



Northeast Site Solutions
Denise Sabo
4 Angela's Way, Burlington CT 06013
203-435-3640
denise@northeastsitesolutions.com

July 20, 2022

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Tower Share Application
1 Deerfield Lane, Ansonia, CT 06401
Latitude: 41.35075
Longitude: -73.04925
Site #: CT13071-A_BOHVN00045A_SBA_DISH

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Dish Wireless LLC. Dish Wireless LLC plans to install antennas and related equipment to the tower site located at 1 Deerfield Lane, Ansonia, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900 MHz 5G antennas and six (6) RRUs, at the 117-foot level of the existing 169-foot monopole tower, one (1) Fiber cable will also be installed. Dish Wireless LLC equipment cabinets will be placed within a 7' x 5' lease area within the fenced compound. Included are plans by B+T, dated June 14, 2022, Exhibit C. Also included is a structural analysis prepared by TES, dated May 27, 2022, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit D. The facility was originally approved by the Connecticut Siting Council, Docket No. 340, on March 26, 2008. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish Wireless LLC intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Mayor David Cassetti, and Ronda Porrini, Land Use Administrator for the Town of Ansonia, as well as the tower owner (SBA) and property owner (Macabee Properties LLC).

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the existing tower is 169-feet and the Dish Wireless LLC antennas will be located at a center line height of 117-feet.
2. The proposed modifications will not result in an increase of the site boundary as depicted on the attached site plan.



NSS **NORTHEAST**
SITE SOLUTIONS

Turnkey Wireless Development

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

4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. The combined site operations will result in a total power density of 32.22% as evidenced by Exhibit F.

Connecticut General Statutes 16-50aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, Dish Wireless LLC respectfully submits that the shared use of this facility satisfies these criteria.

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting Dish Wireless LLC proposed loading. The structural analysis is included as Exhibit D.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this monopole tower in Ansonia. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit Dish Wireless LLC to obtain a building permit for the proposed installation. Further, a Letter of Authorization is included as Exhibit G, authorizing Dish Wireless LLC to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of Dish Wireless LLC equipment at the 117-foot level of the existing 169-foot tower would have an insignificant visual impact on the area around the tower. Dish Wireless LLC ground equipment would be installed within the existing facility compound. Dish Wireless LLC shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. Dish Wireless LLC will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist Dish Wireless LLC with this tower sharing application.

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting Dish Wireless LLC proposed loading. Dish Wireless LLC is not aware of any public safety concerns relative to the proposed sharing of the existing tower. Dish Wireless LLC intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Ansonia.

Sincerely,

Denise Sabo

Denise Sabo

Mobile: 203-435-3640

Fax: 413-521-0558

Office: 4 Angela's Way, Burlington CT 06013

Email: denise@northeastsitesolutions.com



NSS **NORTHEAST**
SITE SOLUTIONS
Turnkey Wireless Development

Attachments

Cc: Mayor David Cassetti
Town of Ansonia
253 Main Street
Ansonia, CT 06401

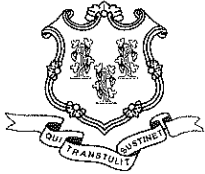
Ronda Porrini, Land Use Administrator
Town of Ansonia
253 Main Street
Ansonia, CT 06401

Macabee Properties LLC – Property Owner
11 Hemlock Hollow Road
Woodbridge, CT 06525

SBA - Tower Owner

Exhibit A

Original Facility Approval



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

April 9, 2008

Carrie L. Larson, Esq.
Cohen and Wolf P.C.
1115 Broad Street
P.O. Box 1821
Bridgeport, CT 06601-1821

RE: **DOCKET NO. 340** - Optasite Towers LLC and Omnipoint Communications, Inc.
Certificate of Environmental Compatibility and Public Need for the construction,
maintenance and operation of a telecommunications facility located at 1 Deerfield Lane,
Ansonia, Connecticut.

Dear Attorney Larson:

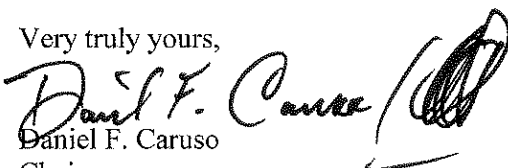
At a public meeting of the Connecticut Siting Council held on March 26, 2008, the Connecticut Siting Council (Council) considered and approved an Amendment to the Decision and Order deleting Condition No. 5. The Council also approved the modification to the Development and Management Plan (D&M Plan) submitted for this project as specified in your correspondence dated February 21, 2008.

This approval applies only to the correspondence submitted on February 21, 2008. Any further changes to the D&M Plan require advance Council notification and approval.

Please be advised that deviations from this plan are enforceable under the provisions of the Connecticut General Statutes § 16-50u. Enclosed is a copy of the staff report, dated March 26, 2008 and the amended Decision and Order dated March 26, 2008.

Thank you for your attention and cooperation.

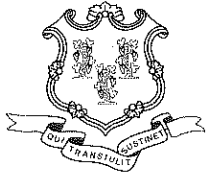
Very truly yours,


Daniel F. Caruso
Chairman

DFC/MP/laf

Enclosure: Staff Report, dated March 26, 2008
Amended Decision and Order, dated March 26, 2008
Service List dated September 19, 2007

c: Parties and Intervenors
The Honorable James T. DellaVolpe, Mayor, City of Ansonia
Peter Crabtree, Zoning Enforcement Officer, City of Ansonia



Daniel F. Caruso
Chairman

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

Internet: ct.gov/csc

Docket No. 340
Optasite and T-Mobile
1 Deerfield Lane, Ansonia
Modification to D&M Plan and Decision and Order
Staff Report
March 26, 2008

On July 7, 2007, the Connecticut Siting Council (Council) received an application (Application) for a Certificate of Environmental Compatibility and Public Need from Optasite and T-Mobile (collectively, the Applicant) for a telecommunications facility to be located at 1 Deerfield Lane, Ansonia. In the Application, the Applicant proposed that the utilities be run overhead. Specifically, utilities would be installed overhead from existing service on Osbourne Lane to the compound. Approximately ten, 30-foot utility poles would be installed along the proposed access roadway with approximately 100-foot spacing. However, during the hearing, Optasite testified that it is amenable to running the utilities underground.

On November 29, 2007, the Council approved the Application and per Order No. 5 of the Decision and Order (D&O), required that the utilities be run underground following the general alignment of the access drive. On January 24, 2008, the Council approved the Development and Management Plan (D&M Plan) which included underground utilities, consistent with the D&O.

Subsequent to the D&M Plan approval, Optasite had discussions with The United Illuminating Company (UI) and the property owner. By letter dated February 21, 2008, Optasite advised the Council that both UI and the property owner have safety concerns regarding the proposed underground utilities. The underground utility run is located immediately adjacent to paddock fencing used in the operation of the horse farm. The fencing is pressure-operated and the digging for the underground utilities would disrupt the operation of the fencing. Also, given the topography, installation of underground utilities could result in the destabilization of the ground and the fence collapsing. Finally, the utility routing runs along an existing roadway that is used on a daily basis for the operation of the horse farm. The installation would also require the disturbance and installation of a second, temporary route to maintain the operation of the farm. Thus, Optasite requests a modification of the D&M Plan to allow the utilities to be run overhead and relief from Order No. 5 (the requirement to underground utilities).

DOCKET NO. 340 - Optasite Towers LLC and Omnipoint } Connecticut
Communications, Inc. application for a Certificate of }
Environmental Compatibility and Public Need for the } Siting
construction, maintenance and operation of a telecommunications }
facility located at 1 Deerfield Lane, Ansonia, Connecticut. } Council

March 26, 2008

Amended Decision and Order
(*Deleted material is in brackets.)

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Optasite Towers LLC (Optasite) and Omnipoint Communications, Inc. (T-Mobile), hereinafter collectively referred to as the Certificate Holder, for a telecommunications facility at 1 Deerfield Lane, Ansonia, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of T-Mobile and other entities, both public and private, but such tower shall not exceed a height of 170 feet above ground level. The height at the top of Certificate Holder's antennas shall not exceed 170 feet above ground level.
2. Such tower shall incorporate a yield point to eliminate the potential fall radius onto the adjacent property.
3. All cellular and PCS antennas shall be attached to the tower with T-arms.
4. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the City of Ansonia for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
 - b) construction plans for site clearing, grading, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
5. [Utilities shall be underground and follow the general alignment of the access drive.]
6. During construction activities, no soils should be removed from the site without proper waste characterization to determine disposal requirements.

7. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
8. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
9. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
10. The Certificate Holder shall provide reasonable space on the tower for no compensation for any City of Ansonia and Town of Woodbridge public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
11. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
12. Any request for extension of the time period referred to in Condition 11 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the City of Ansonia. Any proposed modifications to this Decision and Order shall likewise be so served.
13. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
14. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
15. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The New Haven Register and in the Amity Observer.

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

The parties and intervenors to this proceeding are:

Applicant

Optasite Towers LLC and
Omnipoint Communications, Inc.

Its Representative

Julie Kohler, Esq.
Carrie L. Larson, Esq.
Cohen and Wolf, P.C.
1115 Broad Street
Bridgeport, CT 06604
(203) 368-1821
(203) 394-9901
jkohler@cohenandwolf.com
clarson@cohenandwolf.com

Intervenor

Cellco Partnership d/b/a Verizon Wireless

Its Representative

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
(860) 275-8299 fax
kbaldwin@rc.com

Intervenor

Osborne Lane Associates, LLC

Its Representative

William Fieber
Keith A. Russo
c/o The Fieber Group
47 Elm Street
New Canaan, CT 06840
(203) 972-4975
(203) 972-4977 fax
krusso@fiebergroup.com

Intervenor

Gennaro Savino

Its Representative

Gennaro Savino
128 Ford Road
Woodbridge, CT 06525
(203) 387-1573
savinovineyards@sbcglobal.net

Docket No. 340
Decision and Order
Page 4

Intervenor

Brian Freeman

Its Representative

Brian Freeman
5 Hampton Trail
Wallingford, CT 06492
(203) 793-7505
Brian@sparc.us

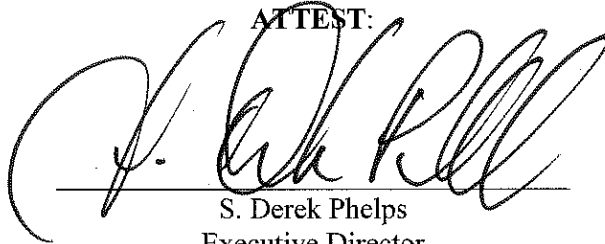
STATE OF CONNECTICUT)

ss. New Britain, Connecticut :

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the amended Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:



S. Derek Phelps
Executive Director
Connecticut Siting Council

I certify that a copy of amended Decision and Order in Docket No. 340 has been forwarded by Certified First Class Return Receipt Requested mail on April 9, 2008, to all parties and intervenors of record as listed on the attached service list, dated September 19, 2007.

ATTEST:



Lisa A. Fontaine
Fiscal Administrative Officer
Connecticut Siting Council

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	Optasite Towers LLC and Omnipoint Communications, Inc.	Julie Kohler, Esq. Carrie L. Larson, Esq. Cohen and Wolf, P.C. 1115 Broad Street Bridgeport, CT 06604 (203) 368-1821 (203) 394-9901 jkohler@cohenandwolf.com clarson@cohenandwolf.com
Intervenor (approved 08/29/07)	Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8200 (860) 275-8299 fax kbaldwin@rc.com
Intervenor (approved 08/29/07)	Osborne Lane Associates, LLC	William Fieber Keith A. Russo c/o The Fieber Group 47 Elm Street New Canaan, CT 06840 (203) 972-4975 (203) 972-4977 fax krusso@fiebergroup.com
Intervenor (approved 09/18/07)	Gennaro Savino	Gennaro Savino 128 Ford Road Woodbridge, CT 06525 (203) 387-1573 savinovineyards@sbcglobal.net
Intervenor (approved 09/18/07)	Brian Freeman	Brian Freeman 5 Hampton Trail Wallingford, CT 06492 (203) 793-7505 Brian@sparc.us

Exhibit B

Property Card



Town of Ansonia, CT

Property Listing Report

Map Block Lot

100 0002 0000

Building # 1

Unique Identifier

16660

Property Information

Property Location	1 DEERFIELD LA
Mailing Address	11 HEMLOCK HOLLOW RD WOODBRIDGE CT 06525
Land Use	Residential
Zoning Code	AA
Neighborhood	X13

Owner	MACABEE PROPERTIES LLC
Co-Owner	
Book / Page	0435/0195
Land Class	Residential
Census Tract	1252
Acreage	17.2

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	240300	168200
Outbuildings	27900	19600
Land	280100	106820
Total	548300	294620

Utility Information

Electric	No
Gas	No
Sewer	No
Public Water	Yes
Well	No



Primary Construction Details

Year Built	1958
Building Desc.	Residential
Building Style	Family Flat 4
Stories	1
Exterior Walls	Concr/Cinder
Exterior Walls 2	
Interior Walls	Plaster
Interior Walls 2	
Interior Floors 1	Carpet
Interior Floors 2	Softwood

Heating Fuel	Oil
Heating Type	Hot Water
AC Type	
Bedrooms	8
Full Bathrooms	4
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	12
Bath Style	NA
Kitchen Style	Typical
Occupancy	4

Building Use	Four Family
Building Condition	Average
Frame Type	Masonry
Fireplaces	0
Bsmt Gar	0
Fin Bsmt Area	0
Fin Bsmt Quality	
Building Grade	0
Roof Style	Flat
Roof Cover	Tar and Gravel

Report Created On

7/20/2022

Town of Ansonia, CT

Property Listing Report

Map Block Lot

100 0002 0000

Building # 1

Unique Identifier

16660

Detached Outbuildings

Type	Description	Area (sq ft)	Condition	Year Built
Barn	1 Story Barn	384	Average	2003
Farm	Stable	800	Average	1958
Garage	Poor	1200	Average	2002
Shed	Frame	800	Average	1958

Attached Extra Features

Type	Description	Area (sq ft)	Condition	Year Built
Utility	Storage	1984	Average	1958
Porch	Unfinished Enclosed Porch	64	Average	1958
Garage	Frame	160	Average	1958
Porch	Unfinished Enclosed Porch	40	Average	1958

Sales History

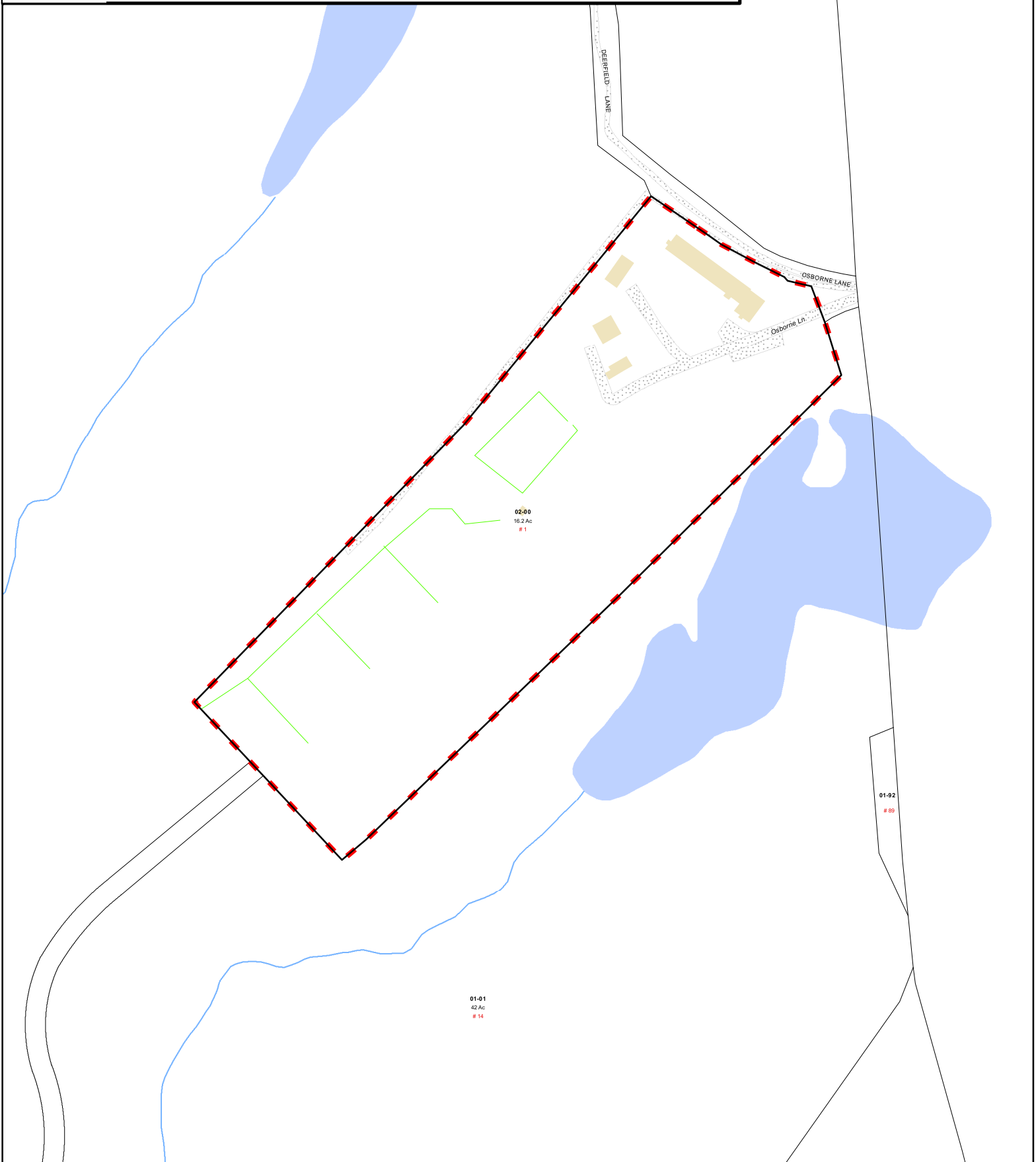
Owner of Record	Book/ Page	Sale Date	Sale Price
MACABEE PROPERTIES LLC	0435_0195	12/28/2005	0
GELERTNER JOEL & CHERYL	0316_0863	12/2/1998	235000



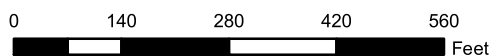
City of Ansonia, Connecticut- Parcel Map

Parcel: 100-0002-0000

Address: 1 DEERFIELD LA



Approximate Scale: 1 inch = 250 feet



Map Produced: February 2022

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

Exhibit C

Construction Drawings



DISH Wireless L.L.C. SITE ID:

BOHVN00045A

DISH Wireless L.L.C. SITE ADDRESS:

**1 DEERFIELD LANE
ANSONIA, CT 06401**

REVIEWED
By Dipesh Parikh at 11:40 am, Jun 24, 2022

APPROVED
By chris.seremet at 9:31 am, Jul 01, 2022

APPROVED WITH REDLINES.

SCOPE OF WORK

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

- TOWER SCOPE OF WORK:**
- REMOVE EXISTING EQUIPMENT AT 117'-0" AGL
 - INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
 - INSTALL (1) PROPOSED ANTENNA PLATFORM MOUNT
 - INSTALL PROPOSED JUMPERS
 - INSTALL (6) PROPOSED RRU_s (2 PER SECTOR)
 - INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
 - INSTALL (1) PROPOSED HYBRID CABLE

- GROUND SCOPE OF WORK:**
- REMOVE (1) EXISTING PLATFORM AND CABINET
 - INSTALL (1) PROPOSED METAL PLATFORM
 - INSTALL (1) PROPOSED ICE BRIDGE
 - INSTALL (1) PROPOSED PPC CABINET
 - INSTALL (1) PROPOSED EQUIPMENT CABINET
 - INSTALL (1) PROPOSED POWER CONDUIT
 - INSTALL (1) PROPOSED TELCO CONDUIT
 - INSTALL (1) PROPOSED TELCO-FIBER BOX
 - INSTALL (1) PROPOSED GPS UNIT
 - INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)
 - INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
 - INSTALL (1) PROPOSED METER SOCKET

SITE INFORMATION	PROJECT DIRECTORY
PROPERTY OWNER: MACABEE PROPERTIES LLC ADDRESS: 11 HEMLOCK HOLLOW RD WOODBIDGE., CT 06525	APPLICANT: DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER TYPE: MONOPOLE	TOWER OWNER: SBA COMMUNICATAIONS CORP. 8051 CONGRESS AVENUE BOCA RATON, FL 33487 (800) 487-7483
TOWER CO SITE ID: CT13071-A	SITE DESIGNER: B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
TOWER APP NUMBER: 198990	SITE ACQUISITION: APRIL PARROTT APRIL.PARROTT@DISH.COM
COUNTY: NEW HAVEN	CONST. MANAGER: RICHARD BUKER RICHARD.BUKER@DISH.COM
LATITUDE (NAD 83): 41° 21' 2.7" N 41.35075	RF ENGINEER: DIPESH PARIKH DIPESH.PARIKH@DISH.COM
LONGITUDE (NAD 83): 73° 2' 57.3" W -73.0492496699	
ZONING JURISDICTION: CITY OF ANSONIA	
ZONING DISTRICT: RESIDENTIAL	
PARCEL NUMBER: 100 0002 0000	
OCCUPANCY GROUP: U	
CONSTRUCTION TYPE: II-B	
POWER COMPANY: UNITED ILLUMINATIONS (UI)	
TELEPHONE COMPANY: AT&T	



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
SP	MRE	MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

CONNECTICUT CODE OF COMPLIANCE

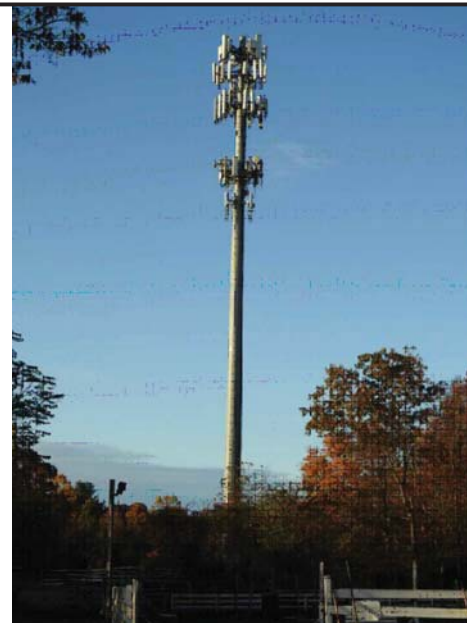
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
LS1	SITE SURVEY
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	EXISTING AND PROPOSED ELEVATIONS
A-2.1	ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES
GN-5	GENERAL NOTES

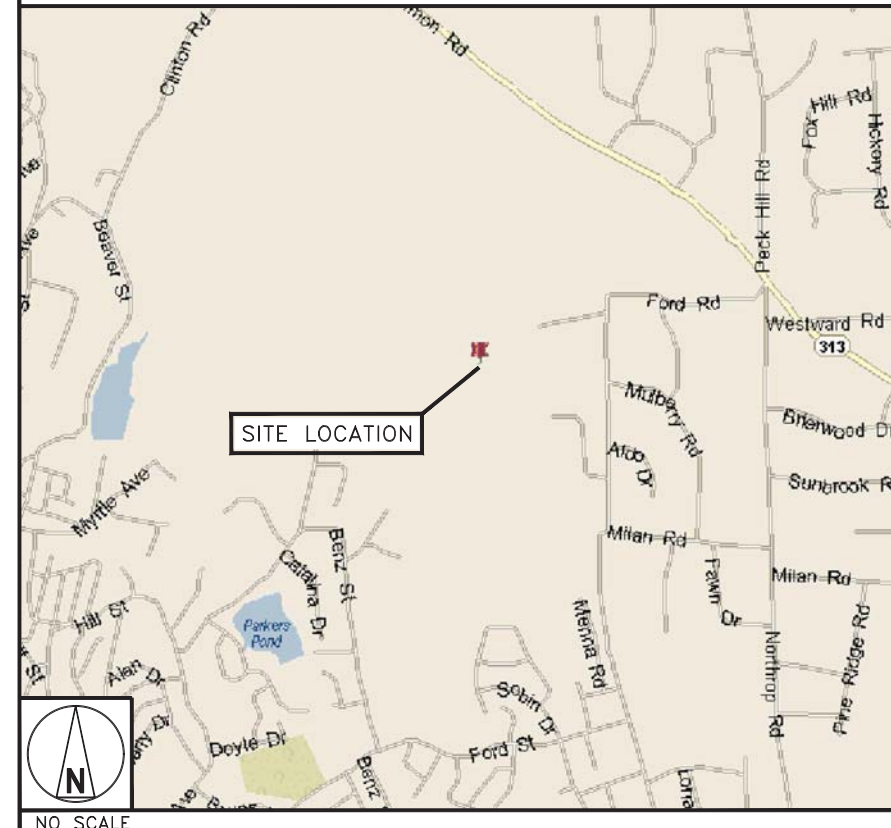
SITE PHOTO



DIRECTIONS

DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT:
HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT, SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT, CONTINUE STRAIGHT, KEEP RIGHT TO CONTINUE TOWARD BRADLEY INTERNATIONAL AIRPORT CON. CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON. CONTINUE ONTO CT-20 E/BRADLEY INTERNATIONAL AIRPORT CON. USE THE RIGHT 2 LANES TO MERGE ONTO I-91 S TOWARD HARTFORD, KEEP LEFT TO STAY ON I-91 S, KEEP LEFT TO STAY ON I91 S, KEEP RIGHT TO STAY ON I-91 S. TAKE EXIT 17 TO MERGE ONTO CT-15 S, KEEP RIGHT TO STAY ON CT-15 S, FOLLOW SIGNS FOR W CROSS PKWY. KEEP LEFT TO STAY ON CT-15 S. TAKE EXIT 59 FOR CT-69 TOWARD CT-63/NEW HAVEN/WOODBRIDGE. TURN LEFT ONTO CT-69 N, TURN LEFT ONTO BRADLEY RD, TURN RIGHT ONTO CT-63 N, TURN LEFT ONTO CT-114 W, SLIGHT LEFT ONTO RACEBROOK RD. TURN RIGHT ONTO CT-313 W, SHARP LEFT ONTO NORTHROP RD, SLIGHT RIGHT ONTO FORD RD, TURN RIGHT ONTO OSBORNE LN.

VICINITY MAP



UNDERGROUND SERVICE ALERT CBYD 811
UTILITY NOTIFICATION CENTER OF CONNECTICUT
(800) 922-4455
WWW.CBYD.COM



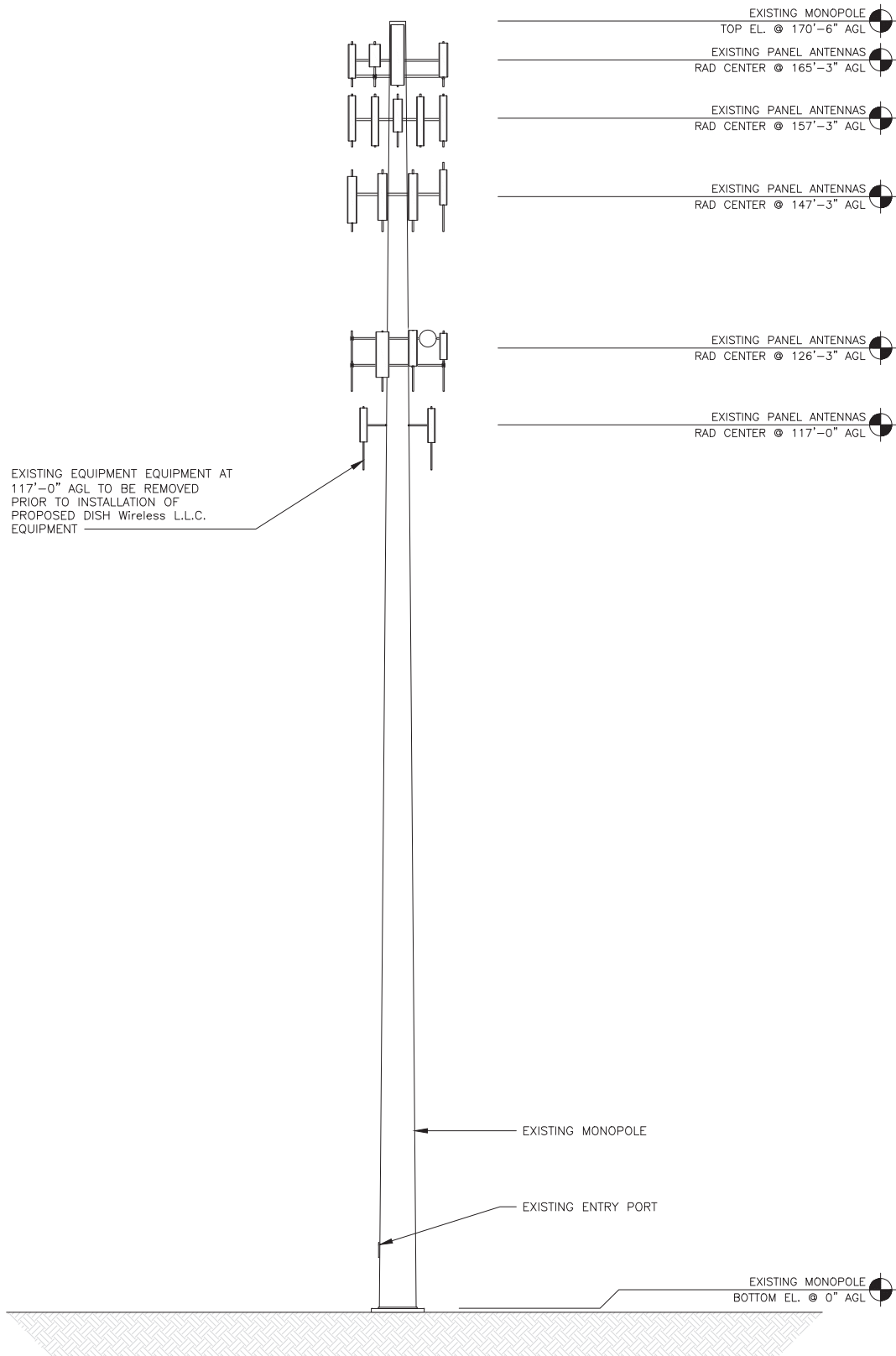
CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE, NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

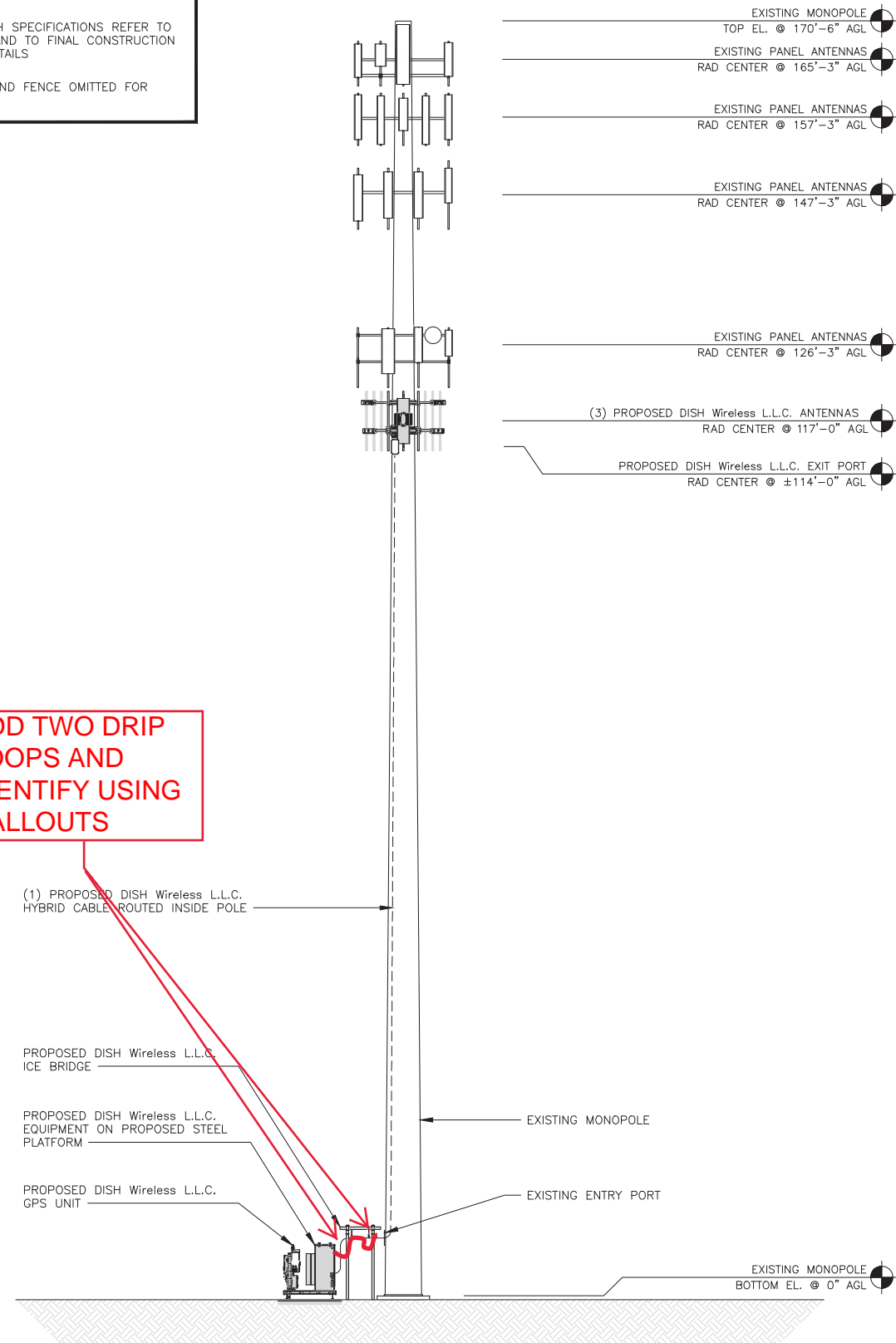
11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.



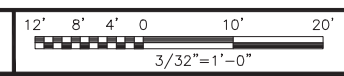
EXISTING EQUIPMENT AT 117'-0" AGL TO BE REMOVED PRIOR TO INSTALLATION OF PROPOSED DISH Wireless L.L.C. EQUIPMENT

- NOTES**
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
 2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
 3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



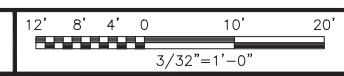
ADD TWO DRIP LOOPS AND IDENTIFY USING CALLOUTS

EXISTING SOUTHEAST ELEVATION



1

PROPOSED SOUTHEAST ELEVATION



2



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
SP	MRE	MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

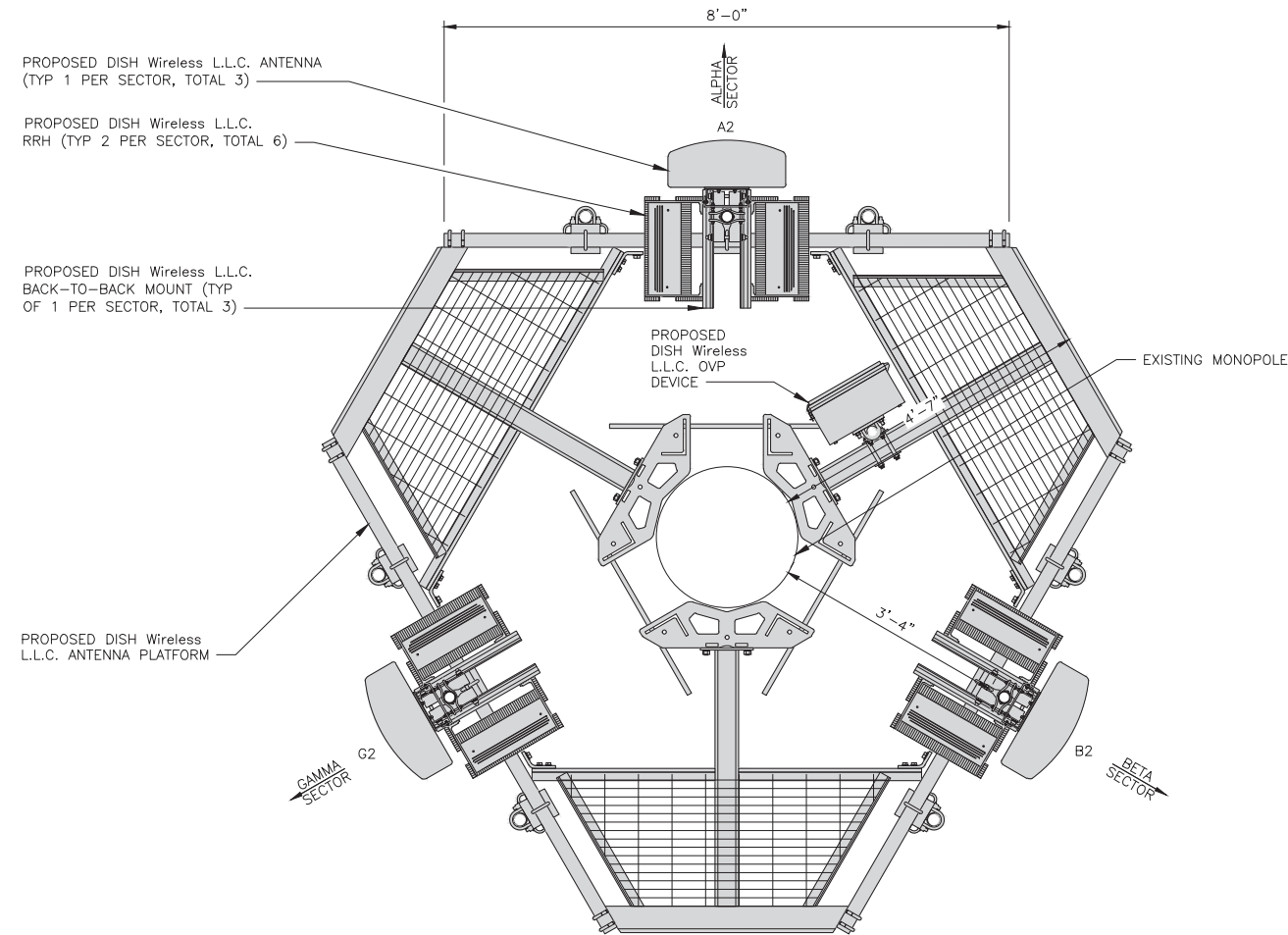
SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

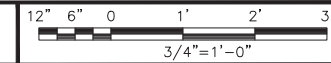
DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
EXISTING AND PROPOSED ELEVATIONS

SHEET NUMBER
A-2



ANTENNA LAYOUT



2

SECTOR POS.	ANTENNA					TRANSMISSION CABLE FEED LINE TYPE AND LENGTH	RRH			OVP MANUFACTURER MODEL
	EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECH	AZIMUTH	RAD CENTER		MANUFACTURER - MODEL NUMBER	TECH	POS.	
A1	--	--	--	--	--	(1) HIGH-CAPACITY HYBRID CABLE (145' LONG)	FUJITSU - TA08025-B604	5G	A2	RAYCAP RDIDC-9181-PF-48
A2	PROPOSED	JMA - MX08FR0665-21	5G	0°	117'-0"		FUJITSU - TA08025-B605	5G	A2	
A3	--	--	--	--	--		--	--	--	
B1	--	--	--	--	--	SHARED W/ALPHA	FUJITSU - TA08025-B604	5G	B2	SHARED W/ALPHA
B2	PROPOSED	JMA - MX08FR0665-21	5G	120°	117'-0"		FUJITSU - TA08025-B605	5G	B2	
B3	--	--	--	--	--		--	--	--	
G1	--	--	--	--	--	SHARED W/ALPHA	FUJITSU - TA08025-B604	5G	C2	SHARED W/ALPHA
G2	PROPOSED	JMA - MX08FR0665-21	5G	240°	117'-0"		FUJITSU - TA08025-B605	5G	C2	
G3	--	--	--	--	--		--	--	--	

NOTES

- CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
- ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.

160'

ANTENNA SCHEDULE

NO SCALE

1



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

SP MRE MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

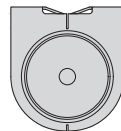
BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
ANTENNA
LAYOUT AND SCHEDULE

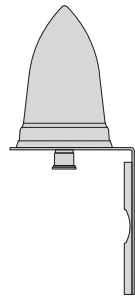
SHEET NUMBER

A-2.1

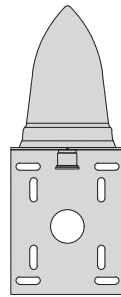
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



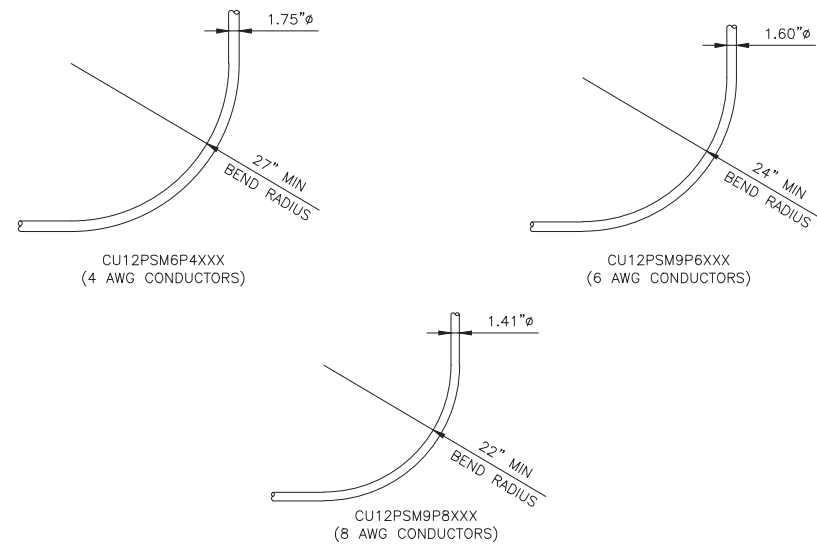
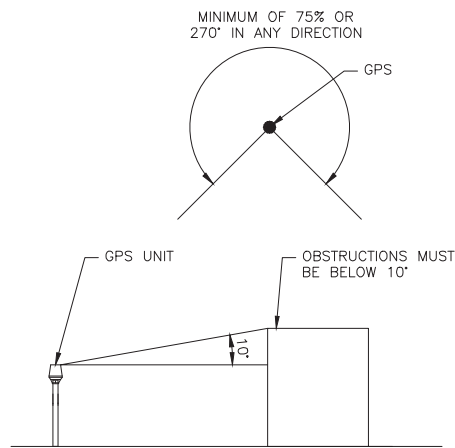
TOP



BACK



SIDE



GPS DETAIL

NO SCALE

1

GPS MINIMUM SKY VIEW REQUIREMENTS

NO SCALE

2

CABLES UNLIMITED HYBRID CABLE
MINIMUM BEND RADIUS

NO SCALE

3

NOT USED

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

SP MRE MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

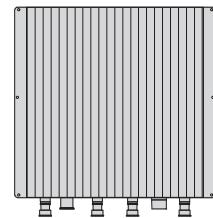
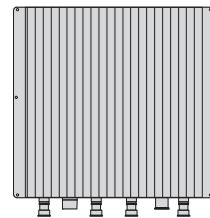
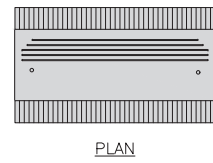
A&E PROJECT NUMBER
149463.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-5

FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



BACK

SIDE

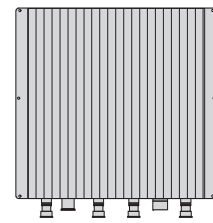
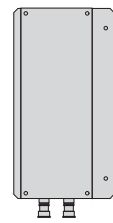
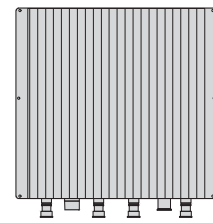
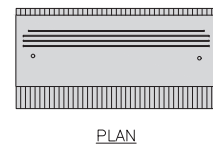
FRONT

RRH DETAIL

NO SCALE

1

FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



BACK

SIDE

FRONT

RRH DETAIL

NO SCALE

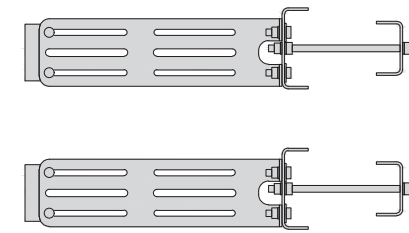
2

COMMSCOPE RR-FA2 LARGE STABILIZER	
DIMENSIONS (HxWxD)	16.4"x8.5"x18"
WEIGHT	39.2 lbs

DESIGN NOTES:
MOUNT WILL FIT LEGS UP TO:
- 5.6" ROUND
- 6.0" 60° ANGLE
- 4.5" 90° ANGLE



PLAN



SIDE

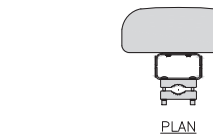
NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

RRH MOUNT DETAIL

NO SCALE

3

JMA MX08FRO665-21	
DIMENSIONS (HxWxD)	72"x20.0"x8.0"
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE
WEIGHT	64.5 lbs
WEIGHT WITH BRACKETS	82.5 lbs



SIDE

FRONT

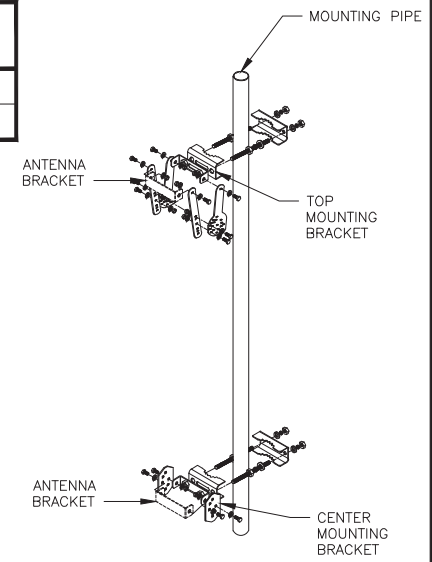
ANTENNA DETAIL

NO SCALE

4

JMA ANTENNA MOUNT BRACKET #91900318	
TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5" TO 4.5"

NOTE:
KIT #91900318: TOP AND BOTTOM BRACKETS
FOR 4-, 6-, AND 8-FOOT ANTENNAS
ANTENNA BRACKET NOT PART OF KIT



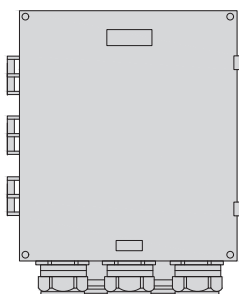
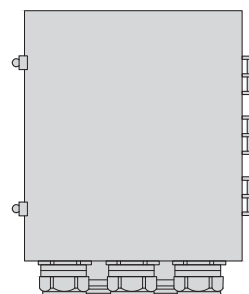
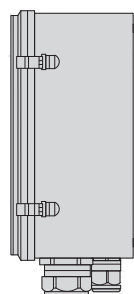
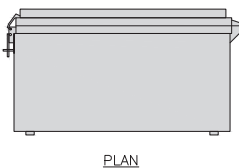
NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

ANTENNA BRACKET DETAIL

NO SCALE

6

RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



SIDE

BACK

FRONT

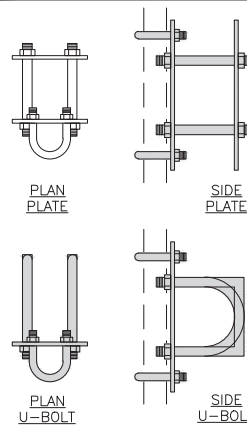
SURGE SUPPRESSION DETAIL (OVP)

NO SCALE

7

COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT



PLAN
PLATE

SIDE
PLATE

PLAN
U-BOLT

SIDE
U-BOLT

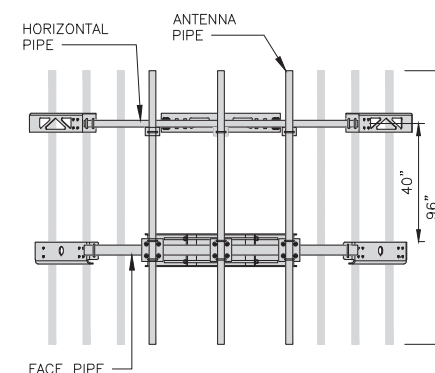
RRH/OVP MOUNT DETAIL

NO SCALE

8

COMMSCOPE MC-PK8-DSH	
FACE WIDTH	96"
WEIGHT	1373.08 lbs
NOTE: 15" TO 38" O.D.	

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT



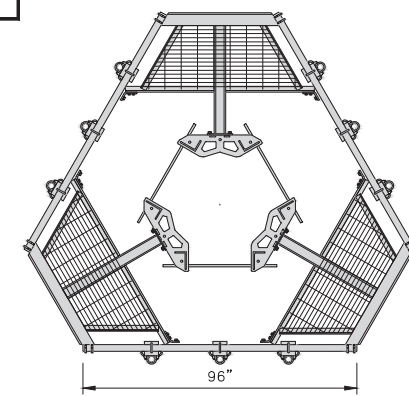
FACE PIPE

HORIZONTAL
PIPE

ANTENNA
PIPE

40"

96"



96"

ANTENNA PLATFORM DETAIL

NO SCALE

9



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

SP MRE MRE

RFDS REV #: 4.0

CONSTRUCTION
DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

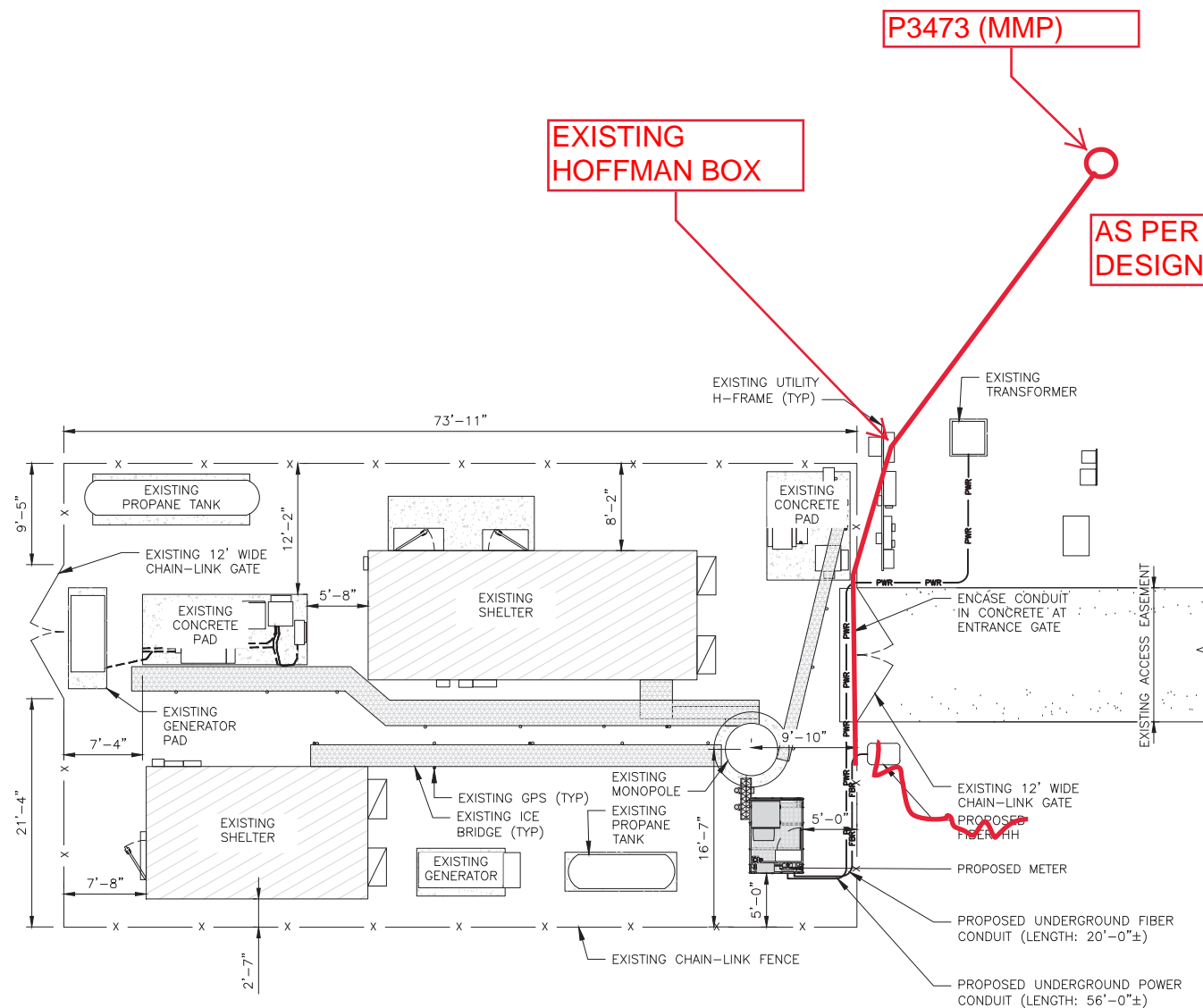
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER

A-6

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. THE GROUND LEASE PROVIDES BROAD/BLANKET UTILITY RIGHTS. "PWR" AND "FBR" PATH DEPICTED ON A-1 AND E-1 ARE BASED ON BEST AVAILABLE INFORMATION INCLUDING BUT NOT LIMITED TO FIELD VERIFICATION, PRIOR PROJECT DOCUMENTATION AND OTHER REAL PROPERTY RIGHTS DOCUMENTS. WHEN INSTALLING THE UTILITIES PLEASE LOCATE AND FOLLOW EXISTING PATH. IF EXISTING PATH IS NOT AN OPTION, PLEASE NOTIFY TOWER OWNER AS FURTHER COORDINATION MAY BE NEEDED.



KEEP THIS POWER ALIGNMENT UNTIL POWER DESIGN IS COMPLETED, THEN VERIFY AND MODIFY AS NECESSARY.

DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND -48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY -48V.

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
3. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
4. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
5. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
6. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
7. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
8. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.
9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.
10. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
11. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.
13. ALL TRENCHES IN COMPOUND TO BE HAND DUG



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



1717 S BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

SP MRE MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

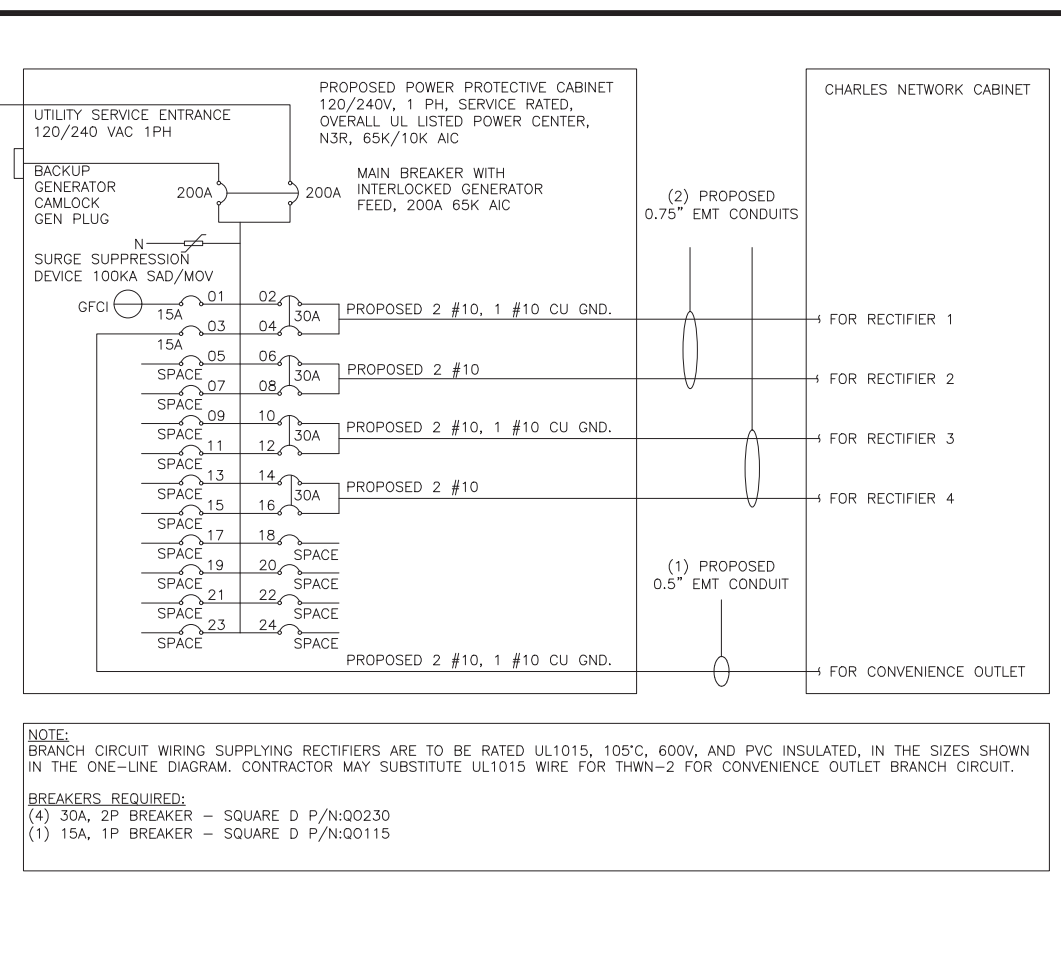
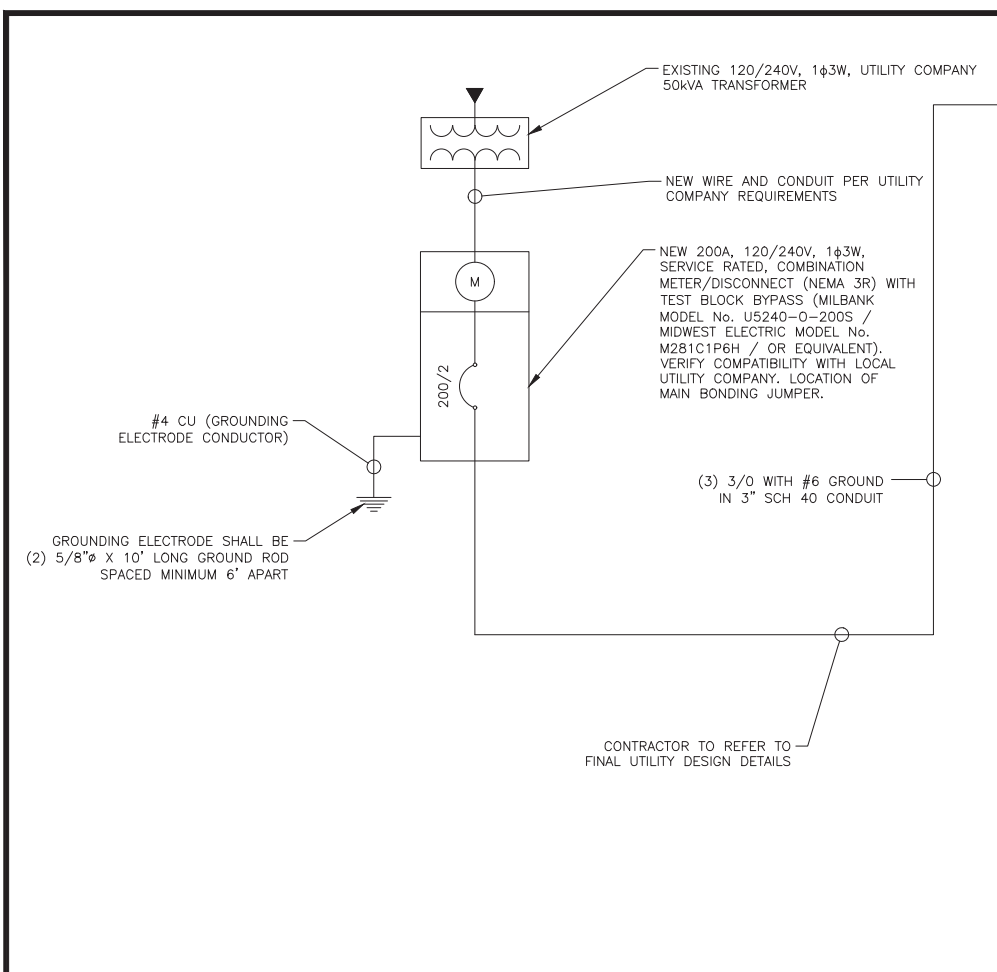
DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
ELECTRICAL/FIBER ROUTE
PLAN AND NOTES

SHEET NUMBER

E-1



NOTES

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE AIC RATINGS FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED VOLTAGE DROP CALCULATIONS AND ALL BRANCH CIRCUIT AND FEEDERS COMPLY WITH THE NEC (LISTED ON T-1) ARTICLE 210.19(A)(1) FPN NO. 4.

THE (2) CONDUITS WITH (4) CURRENT CARRYING CONDUCTORS EACH, SHALL APPLY THE ADJUSTMENT FACTOR OF 80% PER 2014/17 NEC TABLE 310.15(B)(3)(g) OR 2020 NEC TABLE 310.15(C)(1) FOR UL1015 WIRE.

#12 FOR 15A-20A/1P BREAKER: 0.8 x 30A = 24.0A
#10 FOR 25A-30A/2P BREAKER: 0.8 x 40A = 32.0A
#8 FOR 35A-40A/2P BREAKER: 0.8 x 55A = 44.0A
#6 FOR 45A-60A/2P BREAKER: 0.8 x 75A = 60.0A

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.
0.5" CONDUIT - 0.122 SQ. IN AREA
0.75" CONDUIT - 0.213 SQ. IN AREA
2.0" CONDUIT - 1.316 SQ. IN AREA
3.0" CONDUIT - 2.907 SQ. IN AREA

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.
#10 - 0.0211 SQ. IN X 2 = 0.0422 SQ. IN
#10 - 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND
TOTAL = 0.0633 SQ. IN

0.5" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

RECTIFIER CONDUCTORS (2 CONDUITS): USING UL1015, CU.
#10 - 0.0266 SQ. IN X 4 = 0.1064 SQ. IN
#10 - 0.0082 SQ. IN X 1 = 0.0082 SQ. IN <BARE GROUND
TOTAL = 0.1146 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (5) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.
3/0 - 0.2679 SQ. IN X 3 = 0.8037 SQ. IN
#6 - 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND
TOTAL = 0.8544 SQ. IN

3.0" SCH 40 PVC CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (4) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC ONE-LINE DIAGRAM

NO SCALE 1

PROPOSED CHARLES PANEL SCHEDULE

LOAD SERVED	VOLT AMPS (WATTS)		TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS)		LOAD SERVED
	L1	L2						L1	L2	
PPC GFCI OUTLET	180	180	15A	1	A	2	30A	2880	2880	ABB/GE INFINITY RECTIFIER 1
CHARLES GFCI OUTLET			15A	3	B	4				
-SPACE-				5	A	6	30A	2880	2880	ABB/GE INFINITY RECTIFIER 2
-SPACE-				7	B	8				
-SPACE-				9	A	10	30A	2880	2880	ABB/GE INFINITY RECTIFIER 3
-SPACE-				11	B	12				
-SPACE-				13	A	14	30A	2880	2880	ABB/GE INFINITY RECTIFIER 4
-SPACE-				15	B	16				
-SPACE-				17	A	18				-SPACE-
-SPACE-				19	B	20				-SPACE-
-SPACE-				21	A	22				-SPACE-
-SPACE-				23	B	24				-SPACE-
VOLTAGE AMPS	180	180						11520	11520	
200A MCB, 1 ϕ , 24 SPACE, 120/240V				L1	L2					
MB RATING: 65,000 AIC				11700	11700					
				98	98					VOLTAGE AMPS
										AMPS
										MAX AMPS
										MAX 125%

PANEL SCHEDULE

NO SCALE 2

NOT USED

NO SCALE 3

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

6/24/2022

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: SP
CHECKED BY: MRE
APPROVED BY: MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

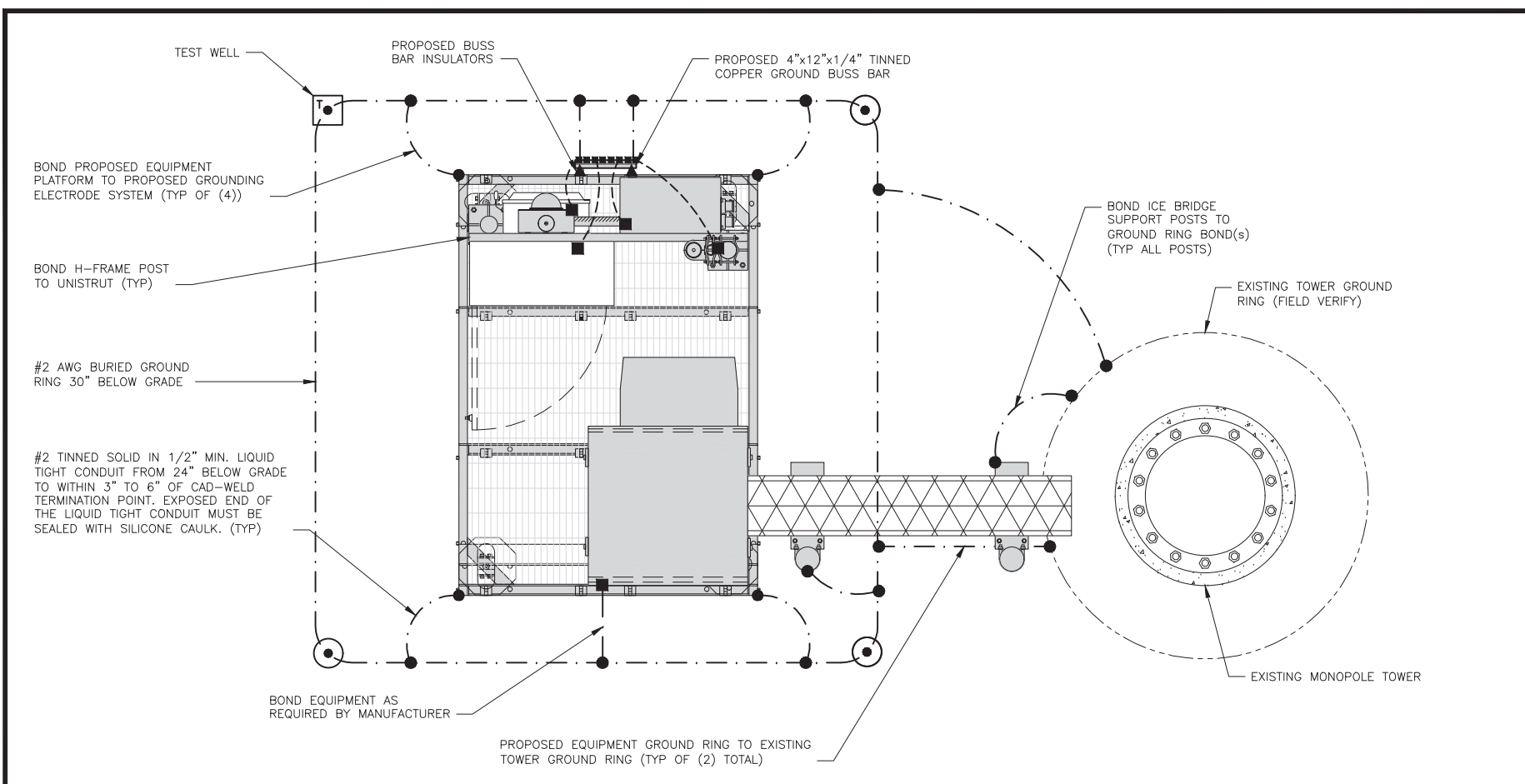
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

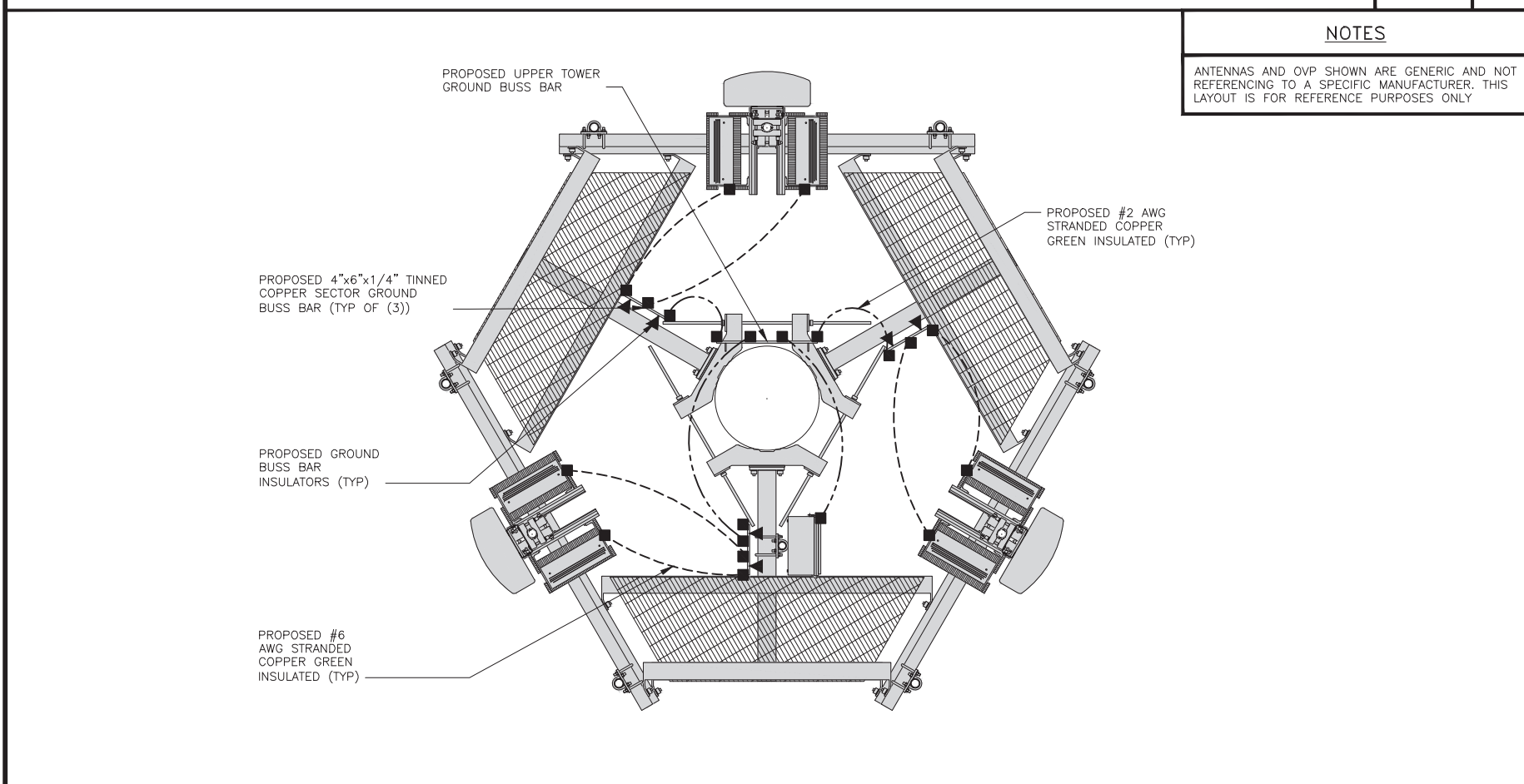
SHEET TITLE
ELECTRICAL ONE-LINE, FAULT
CALCS & PANEL SCHEDULE

SHEET NUMBER
E-3



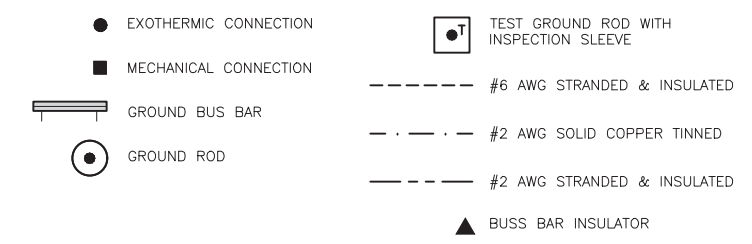
TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2



GROUNDING LEGEND

- GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
- CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH Wireless L.L.C. GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
- ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES

- (A) EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.
- (B) TOWER GROUND RING: THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.
- (C) INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.
- (D) BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.
- (E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.
- (F) CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.
- (G) HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.
- (H) EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE.
- (I) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.
- (J) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.
- (K) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.
- (L) FENCE AND GATE GROUNDING: METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.
- (M) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE
- (N) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.
- (O) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR
- (P) TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR. REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE 3



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
SP	MRE	MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

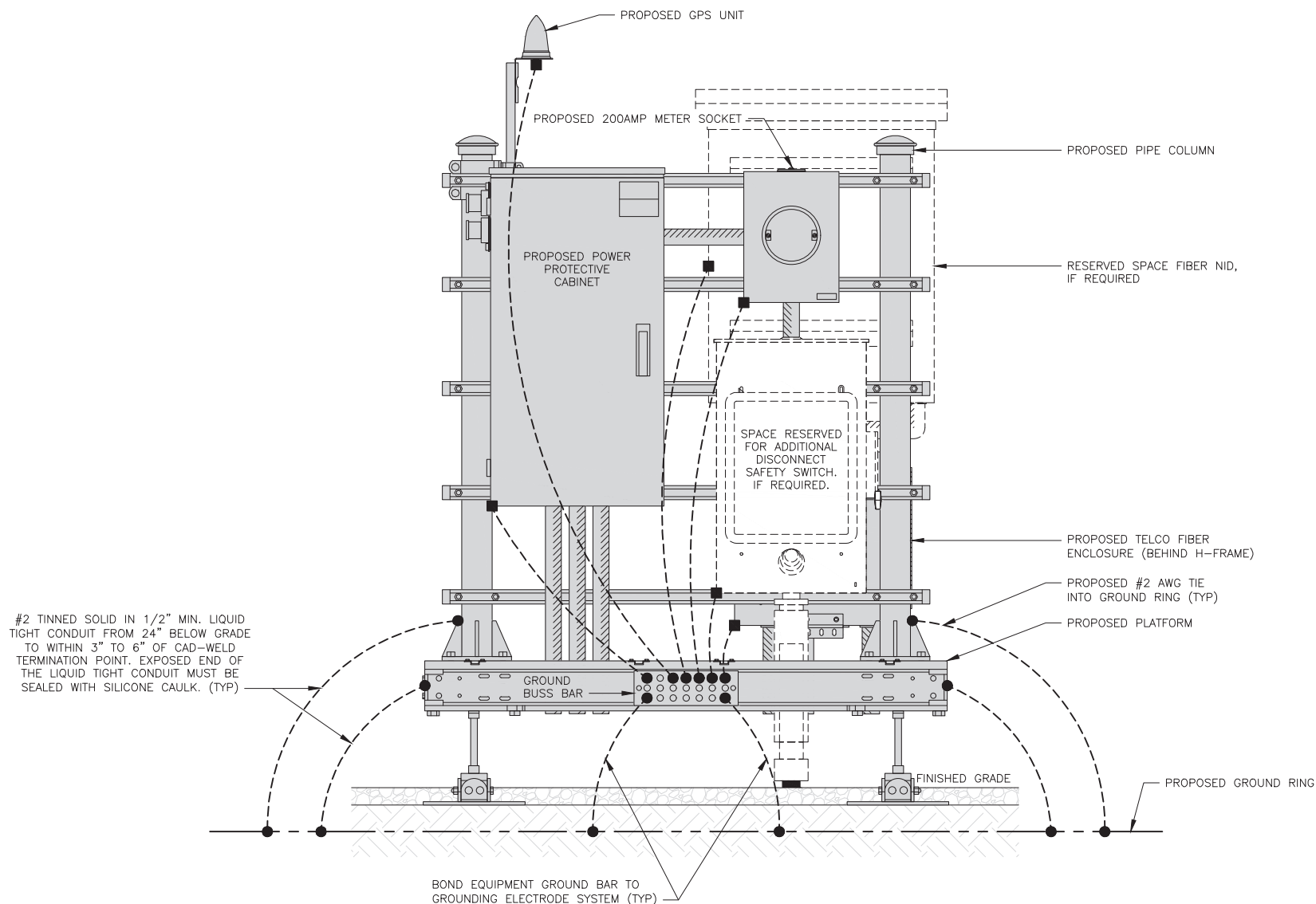
DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
GROUNDING PLANS
AND NOTES

SHEET NUMBER
G-1

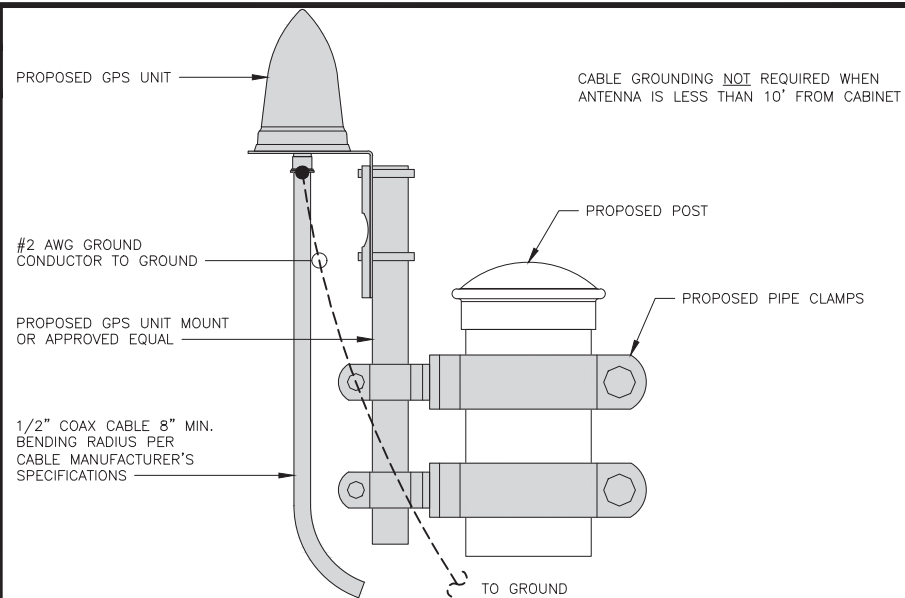
NOTES

EQUIPMENT CABINET OMITTED FOR CLARITY



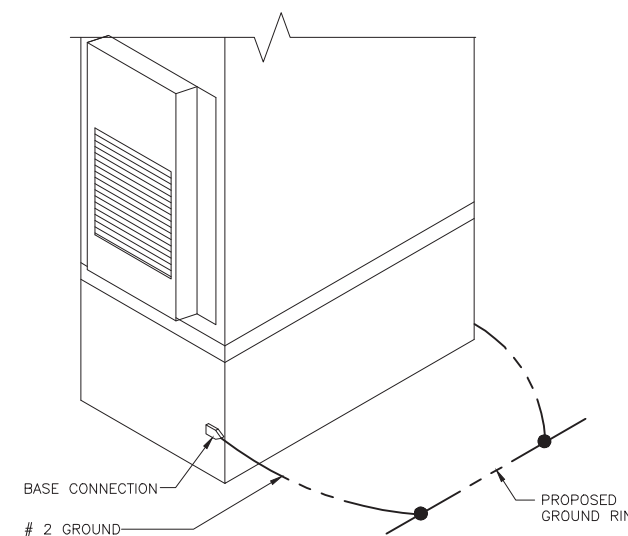
H-FRAME GROUNDING DETAIL

NO SCALE 1



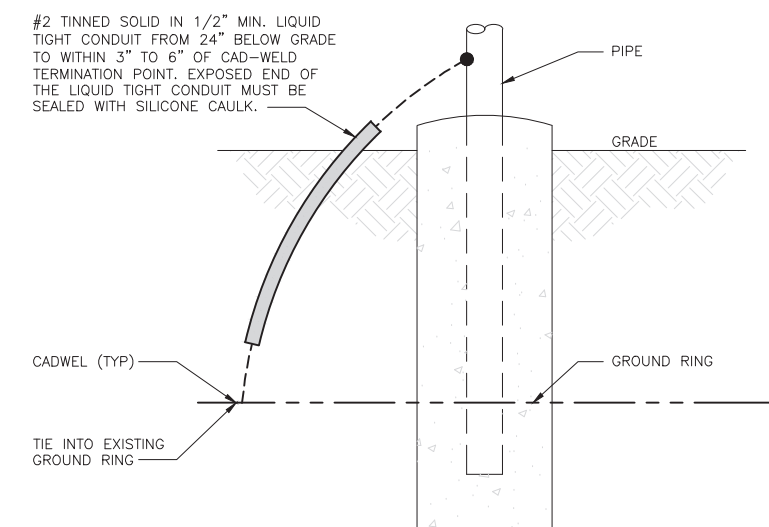
TYPICAL GPS UNIT GROUNDING

NO SCALE 2



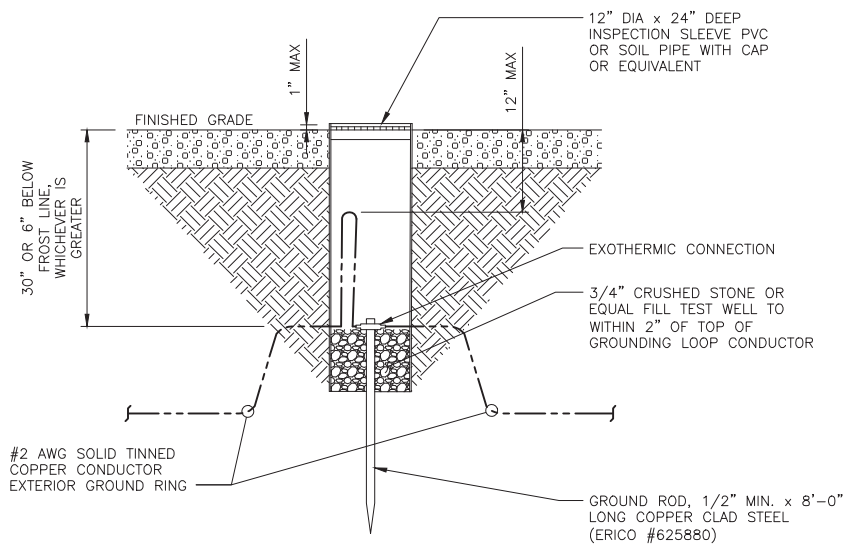
OUTDOOR CABINET GROUNDING

NO SCALE 3



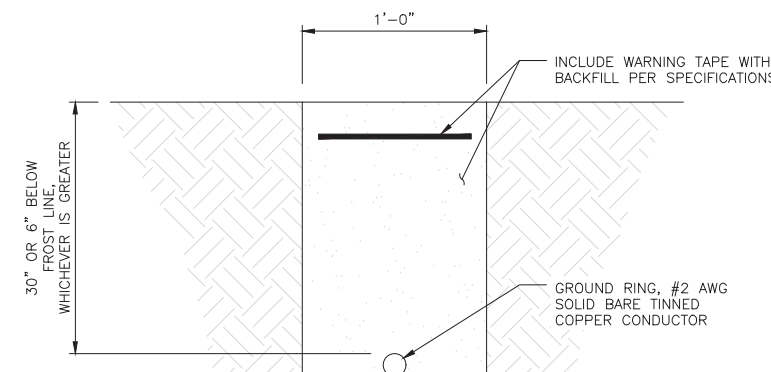
TRANSITIONING GROUND DETAIL

NO SCALE 4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE

NO SCALE 5



TYPICAL GROUND RING TRENCH

NO SCALE 6



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

SP MRE MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

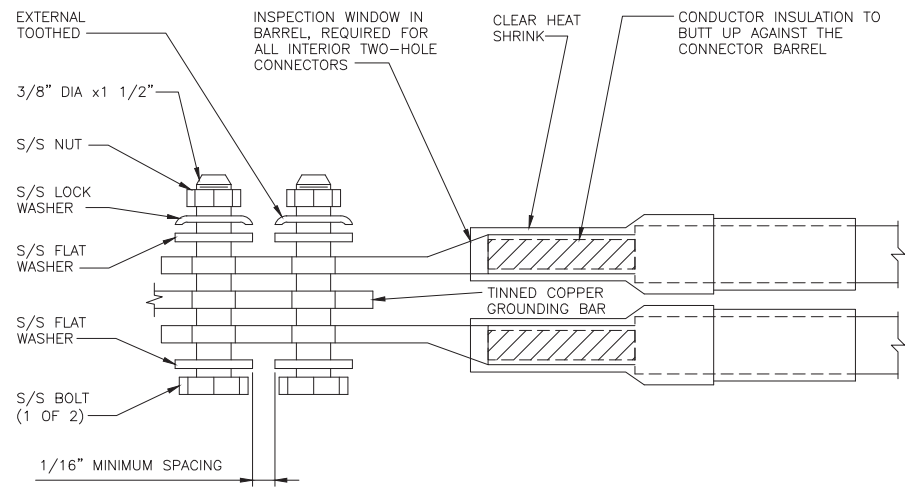
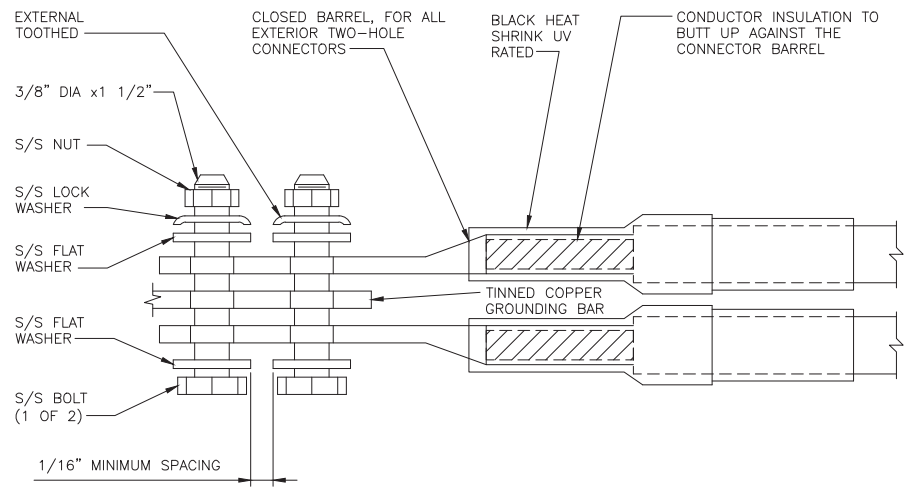
BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER

G-2

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR. ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
8. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).



TYPICAL GROUNDING NOTES

NO SCALE

1

TYPICAL EXTERIOR TWO HOLE LUG

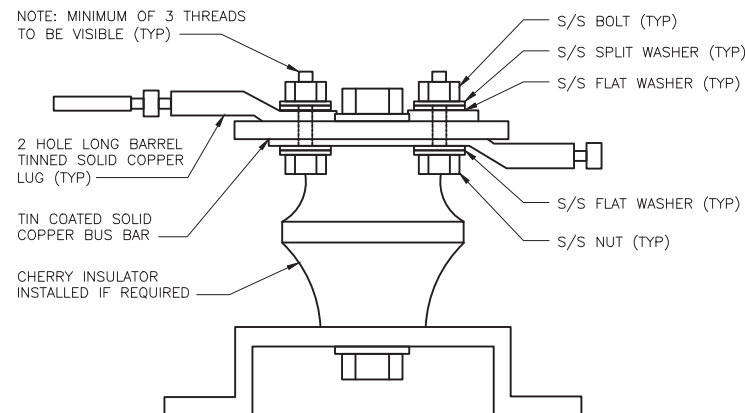
NO SCALE

2

TYPICAL INTERIOR TWO HOLE LUG

NO SCALE

3



LUG DETAIL

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

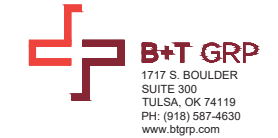
9



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
SP	MRE	MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

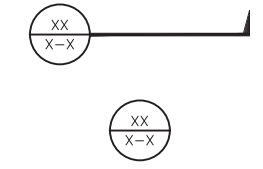
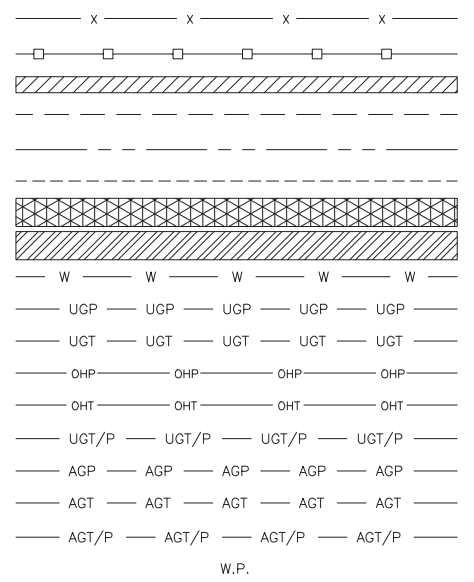
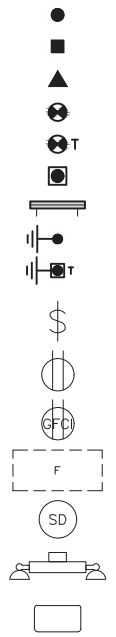
A&E PROJECT NUMBER
149463.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-3

EXOTHERMIC CONNECTION
 MECHANICAL CONNECTION
 BUSS BAR INSULATOR
 CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
 TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
 EXOTHERMIC WITH INSPECTION SLEEVE
 GROUNDING BAR
 GROUND ROD
 TEST GROUND ROD WITH INSPECTION SLEEVE
 SINGLE POLE SWITCH
 DUPLEX RECEPTACLE
 DUPLEX GFCI RECEPTACLE
 FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48-T8
 SMOKE DETECTION (DC)
 EMERGENCY LIGHTING (DC)
 SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW
 LED-1-25A400/51K-SR4-120-PE-DDBTXD
 CHAIN LINK FENCE
 WOOD/WROUGHT IRON FENCE
 WALL STRUCTURE
 LEASE AREA
 PROPERTY LINE (PL)
 SETBACKS
 ICE BRIDGE
 CABLE TRAY
 WATER LINE
 UNDERGROUND POWER
 UNDERGROUND TELCO
 OVERHEAD POWER
 OVERHEAD TELCO
 UNDERGROUND TELCO/POWER
 ABOVE GROUND POWER
 ABOVE GROUND TELCO
 ABOVE GROUND TELCO/POWER
 WORKPOINT



LEGEND

AB ANCHOR BOLT
 ABV ABOVE
 AC ALTERNATING CURRENT
 ADDL ADDITIONAL
 AFF ABOVE FINISHED FLOOR
 AFG ABOVE FINISHED GRADE
 AGL ABOVE GROUND LEVEL
 AIC AMPERAGE INTERRUPTION CAPACITY
 ALUM ALUMINUM
 ALT ALTERNATE
 ANT ANTENNA
 APPROX APPROXIMATE
 ARCH ARCHITECTURAL
 ATS AUTOMATIC TRANSFER SWITCH
 AWG AMERICAN WIRE GAUGE
 BATT BATTERY
 BLDG BUILDING
 BLK BLOCK
 BLKG BLOCKING
 BM BEAM
 BTC BARE TINNED COPPER CONDUCTOR
 BOF BOTTOM OF FOOTING
 CAB CABINET
 CANT CANTILEVERED
 CHG CHARGING
 CLG CEILING
 CLR CLEAR
 COL COLUMN
 COMM COMMON
 CONC CONCRETE
 CONSTR CONSTRUCTION
 DBL DOUBLE
 DC DIRECT CURRENT
 DEPT DEPARTMENT
 DF DOUGLAS FIR
 DIA DIAMETER
 DIAG DIAGONAL
 DIM DIMENSION
 DWG DRAWING
 DWL DOWEL
 EA EACH
 EC ELECTRICAL CONDUCTOR
 EL ELEVATION
 ELEC ELECTRICAL
 EMT ELECTRICAL METALLIC TUBING
 ENG ENGINEER
 EQ EQUAL
 EXP EXPANSION
 EXT EXTERIOR
 EW EACH WAY
 FAB FABRICATION
 FF FINISH FLOOR
 FG FINISH GRADE
 FIF FACILITY INTERFACE FRAME
 FIN FINISH(ED)
 FLR FLOOR
 FDN FOUNDATION
 FOC FACE OF CONCRETE
 FOM FACE OF MASONRY
 FOS FACE OF STUD
 FOW FACE OF WALL
 FS FINISH SURFACE
 FT FOOT
 FTG FOOTING
 GA GAUGE
 GEN GENERATOR
 GFCI GROUND FAULT CIRCUIT INTERRUPTER
 GLB GLUE LAMINATED BEAM
 GLV GALVANIZED
 GPS GLOBAL POSITIONING SYSTEM
 GND GROUND
 GSM GLOBAL SYSTEM FOR MOBILE
 HDG HOT DIPPED GALVANIZED
 HDR HEADER
 HGR HANGER
 HVAC HEAT/VENTILATION/AIR CONDITIONING
 HT HEIGHT
 IGR INTERIOR GROUND RING

IN INCH
 INT INTERIOR
 LB(S) POUND(S)
 LF LINEAR FEET
 LTE LONG TERM EVOLUTION
 MAS MASONRY
 MAX MAXIMUM
 MB MACHINE BOLT
 MECH MECHANICAL
 MFR MANUFACTURER
 MGB MASTER GROUND BAR
 MIN MINIMUM
 MISC MISCELLANEOUS
 MTL METAL
 MTS MANUAL TRANSFER SWITCH
 MW MICROWAVE
 NEC NATIONAL ELECTRIC CODE
 NM NEWTON METERS
 NO. NUMBER
 # NUMBER
 NTS NOT TO SCALE
 OC ON-CENTER
 OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 OPNG OPENING
 P/C PRECAST CONCRETE
 PCS PERSONAL COMMUNICATION SERVICES
 PCU PRIMARY CONTROL UNIT
 PRC PRIMARY RADIO CABINET
 PP POLARIZING PRESERVING
 PSF POUNDS PER SQUARE FOOT
 PSI POUNDS PER SQUARE INCH
 PT PRESSURE TREATED
 PWR POWER CABINET
 QTY QUANTITY
 RAD RADIUS
 RECT RECTIFIER
 REF REFERENCE
 REINF REINFORCEMENT
 REQ'D REQUIRED
 RET REMOTE ELECTRIC TILT
 RF RADIO FREQUENCY
 RMC RIGID METALLIC CONDUIT
 RRH REMOTE RADIO HEAD
 RRU REMOTE RADIO UNIT
 RWY RACEWAY
 SCH SCHEDULE
 SHT SHEET
 SIAD SMART INTEGRATED ACCESS DEVICE
 SIM SIMILAR
 SPEC SPECIFICATION
 SQ SQUARE
 SS STAINLESS STEEL
 STD STANDARD
 STL STEEL
 TEMP TEMPORARY
 THK THICKNESS
 TMA TOWER MOUNTED AMPLIFIER
 TN TOE NAIL
 TOA TOP OF ANTENNA
 TOC TOP OF CURB
 TOF TOP OF FOUNDATION
 TOP TOP OF PLATE (PARAPET)
 TOS TOP OF STEEL
 TOW TOP OF WALL
 TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION
 TYP TYPICAL
 UG UNDERGROUND
 UL UNDERWRITERS LABORATORY
 UNO UNLESS NOTED OTHERWISE
 UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
 UPS UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
 VIF VERIFIED IN FIELD
 W WIDE
 W/ WITH
 WD WOOD
 WP WEATHERPROOF
 WT WEIGHT

ABBREVIATIONS



5701 SOUTH SANTA FE DRIVE
 LITTLETON, CO 80120



8051 CONGRESS AVENUE
 BOCA RATON, FL 33487



MTS ENGINEERING P.L.L.C.
 BER:2386985
 Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON,
 UNLESS THEY ARE ACTING UNDER THE DIRECTION
 OF A LICENSED PROFESSIONAL ENGINEER,
 TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
SP	MRE	MRE
RFDS REV #:		4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

DISH Wireless L.L.C.
 PROJECT INFORMATION
BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
LEGEND AND ABBREVIATIONS

SHEET NUMBER
GN-1

SIGN TYPES		
TYPE	COLOR	COLOR CODE PURPOSE
INFORMATION	GREEN	"INFORMATIONAL SIGN" TO NOTIFY OTHERS OF SITE OWNERSHIP & CONTACT NUMBER AND POTENTIAL RF EXPOSURE.
NOTICE	BLUE	"NOTICE BEYOND THIS POINT" RF FIELDS BEYOND THIS POINT MAY EXCEED THE FCC GENERAL PUBLIC EXPOSURE LIMIT. OBEY ALL POSTED SIGNS AND SITE GUIDELINES FOR WORKING IN RF ENVIRONMENTS. IN ACCORDANCE WITH FEDERAL COMMUNICATIONS COMMISSION RULES ON RADIO FREQUENCY EMISSIONS 47 CFR-1.1307(b)
CAUTION	YELLOW	"CAUTION BEYOND THIS POINT" RF FIELDS BEYOND THIS POINT MAY EXCEED THE FCC GENERAL PUBLIC EXPOSURE LIMIT. OBEY ALL POSTED SIGNS AND SITE GUIDELINES FOR WORKING IN RF ENVIRONMENTS. IN ACCORDANCE WITH FEDERAL COMMUNICATIONS COMMISSION RULES ON RADIO FREQUENCY EMISSIONS 47 CFR-1.1307(b)
WARNING	ORANGE/RED	"WARNING BEYOND THIS POINT" RF FIELDS AT THIS SITE EXCEED FCC RULES FOR HUMAN EXPOSURE. FAILURE TO OBEY ALL POSTED SIGNS AND SITE GUIDELINES FOR WORKING IN RF ENVIRONMENTS COULD RESULT IN SERIOUS INJURY. IN ACCORDANCE WITH FEDERAL COMMUNICATIONS COMMISSION RULES ON RADIO FREQUENCY EMISSIONS 47 CFR-1.1307(b)

SIGN PLACEMENT:

- RF SIGNAGE PLACEMENT SHALL FOLLOW THE RECOMMENDATIONS OF AN EXISTING EME REPORT, CREATED BY A THIRD PARTY PREVIOUSLY AUTHORIZED BY DISH Wireless L.L.C.
- INFORMATION SIGN (GREEN) SHALL BE LOCATED ON EXISTING DISH Wireless L.L.C. EQUIPMENT.
 - A) IF THE INFORMATION SIGN IS A STICKER, IT SHALL BE PLACED ON EXISTING DISH Wireless L.L.C. EQUIPMENT CABINET.
 - B) IF THE INFORMATION SIGN IS A METAL SIGN IT SHALL BE PLACED ON EXISTING DISH Wireless L.L.C. H-FRAME WITH A SECURE ATTACH METHOD.
- IF EME REPORT IS NOT AVAILABLE AT THE TIME OF CREATION OF CONSTRUCTION DOCUMENTS; PLEASE CONTACT DISH Wireless L.L.C. CONSTRUCTION MANAGER FOR FURTHER INSTRUCTION ON HOW TO PROCEED.

NOTES:

1. FOR DISH Wireless L.L.C. LOGO, SEE DISH Wireless L.L.C. DESIGN SPECIFICATIONS (PROVIDED BY DISH Wireless L.L.C.)
2. SITE ID SHALL BE APPLIED TO SIGNS USING "LASER ENGRAVING" OR ANY OTHER WEATHER RESISTANT METHOD (DISH Wireless L.L.C. APPROVAL REQUIRED)
3. TEXT FOR SIGNAGE SHALL INDICATE CORRECT SITE NAME AND NUMBER AS PER DISH Wireless L.L.C. CONSTRUCTION MANAGER RECOMMENDATIONS.
4. CABINET/SHELTER MOUNTING APPLICATION REQUIRES ANOTHER PLATE APPLIED TO THE FACE OF THE CABINET WITH WATER PROOF POLYURETHANE ADHESIVE
5. ALL SIGNS WILL BE SECURED WITH EITHER STAINLESS STEEL ZIP TIES OR STAINLESS STEEL TECH SCREWS
6. ALL SIGNS TO BE 8.5"x11" AND MADE WITH 0.04" OF ALUMINUM MATERIAL

INFORMATION

This is an access point to an area with transmitting antennas.

Obey all signs and barriers beyond this point.
Call the DISH Wireless L.L.C. NOC at 1-866-624-6874

Site ID: _____



THIS SIGN IS FOR REFERENCE PURPOSES ONLY

NOTICE



Transmitting Antenna(s)

Radio frequency fields beyond this point **MAY EXCEED** the FCC Occupational exposure limit.

Obey all posted signs and site guidelines for working in radio frequency environments.

Call the DISH Wireless L.L.C. NOC at 1-866-624-6874 prior to working beyond this point.

Site ID: _____



THIS SIGN IS FOR REFERENCE PURPOSES ONLY

CAUTION



Transmitting Antenna(s)

Radio frequency fields beyond this point **MAY EXCEED** the FCC Occupational exposure limit.

Obey all posted signs and site guidelines for working in radio frequency environments.

Call the DISH Wireless L.L.C. NOC at 1-866-624-6874 prior to working beyond this point.

Site ID: _____



THIS SIGN IS FOR REFERENCE PURPOSES ONLY

WARNING



Transmitting Antenna(s)

Radio frequency fields beyond this point **EXCEED** the FCC Occupational exposure limit.

Obey all posted signs and site guidelines for working in radio frequency environments.

Call the DISH Wireless L.L.C. NOC at 1-866-624-6874 prior to working beyond this point.

Site ID: _____



THIS SIGN IS FOR REFERENCE PURPOSES ONLY



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
SP	MRE	MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-2

GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
SP	MRE	MRE

RFDS REV #: 4.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	5/25/22	ISSUED FOR REVIEW
0	6/14/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149463.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00045A
1 DEERFIELD LANE
ANSONIA, CT 06401

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-5

Exhibit D

Structural Analysis Report



Tower Engineering Solutions

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

Structural Analysis Report

Existing 169 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13071-A

Customer Site Name: Woodbridge

Carrier Name: Dish Network (App#: 198990, V1)

Carrier Site ID / Name: BOHVN00045A / 0

Site Location: 1 Deerfield Lane

Ansonia, Connecticut

New Haven County

Latitude: 41.350750

Longitude: -73.049250

Analysis Result:

Max Structural Usage: 80.2% [Pass]

Max Foundation Usage: 79.0% [Pass]

Additional Usage Caused by New Mount: +1.0%



Report Prepared By: Younus Alkarawi



Tower Engineering Solutions

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

Structural Analysis Report

Existing 169 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13071-A

Customer Site Name: Woodbridge

Carrier Name: Dish Network (App#: 198990, V1)

Carrier Site ID / Name: BOHVN00045A / 0

Site Location: 1 Deerfield Lane

Ansonia, Connecticut

New Haven County

Latitude: 41.350750

Longitude: -73.049250

Analysis Result:

Max Structural Usage: 80.2% [Pass]

Max Foundation Usage: 79.0% [Pass]

Additional Usage Caused by New Mount: +1.0%

Report Prepared By: Younus Alkarawi

Introduction

The purpose of this report is to summarize the analysis results on the 169 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Sabre, DWG # 08-01016-PE, dated 1/7/2008
Foundation Drawing	Sabre, DWG # 08-01016, dated 1/30/2008
Geotechnical Report	JGI Eastern, Inc., Project # J2085109, dated 1/29/2008
Modification Drawings	TES, Project # 17022, dated 9/1/2015 TES, Project # 19194, dated 12/9/2015 TES, Project # 22848 dated 6/23/2016
Mount Analysis	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 125.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 97.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.176$, $S_1 = 0.063$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	167.0	3	RFS - APXVAA24_43-U-A20 - Panel	(3) T-Arms/Commscope VSR-MS-B	(10) 1-5/8" Coax (3) 1-5/8" Fiber (1) 1-1/4" Fiber	T-Mobile
2		3	Air 32 KRD901146-1_B66A_B2A - Panel			
3		3	Ericsson AIR 21 B2A/B4P - Panel			
4		3	Ericsson AIR6449 B41 - Panel			
5		3	Ericsson - KRY 112 144/1			
6		3	Ericsson - Radio 4449 B71+B85			
7		3	Ericsson Radio 4415 B25			
8	157.0	6	JMA Wireless MX06FRO660-03 - Panel	(3) T-Arms w/ (3) JMA Wireless 91900314-02 Brackets	(16) 1 5/8" (1) 1 5/8" Hybrid (1) 1/2"	Verizon
9		3	Samsung MT6407-77A - Panel			
10		3	Samsung RF4439d-25A			
11		3	Samsung RF4440d-13A			
12		1	Raycap DB-C1-12C-24AB-OZ			
13		4	Andrew DB846F65ZAXY - Panel			
14		2	Andrew DB846H80E-SX - Panel			
15	150.0	3	Ericsson Air6419 B77G - Panel	(3) T-Arms w/ (6) 2" STD Steel Pipe Brace Secured Existing Mount & Tower	(7) 1 5/8" (4) 1" DC (2) 1/2" Fiber (2) 3/4" DC	AT&T
16	148.0	1	Quintel QD6616-7 - Panel			
17		2	Quintel QD8616-7 - Panel			
18		2	CCI DMP65R-BU8DA - Panel			
19		1	CCI DMP65R-BU6DA - Panel			
20		6	Powerwave LGP13519 Diplexer			
21		3	Ericsson RRUS 8843 B2 B66A			
22		3	Ericsson RRUS 32			
23		3	Ericsson RRUS 4449 B5/B12			
24		3	Ericsson RRUS 4478 B14			
25		2	Raycap DC9-48-60-24-8C-EV			
26		3	Powerwave 1001940			
27		1	Commscope WCS-IMGQ-AMT			
28	6	Powerwave 21401				
29	146.0	3	Ericsson Air6449 B77D - Panel	(1) SitePro Low Profile Platform w/ handrail (RMQP-4096-HK)	(4) 1/2" Coax (1) 1-5/8" Fiber (4) 1-1/4" Fiber	Sprint Nextel
27	127.0	3	Nokia AAHC - Panel			
28		3	Commscope NNVV-65B-R4 - Panel			
29		4	Dragonwave Horizon Duo			
30		3	ALU 1900 Mhz - RRU			
31		6	ALU 800 Mhz - RRU			
32		3	ALU TD-RRH8x20-25 - RRU			
33		3	Andrew VHLP2-11 - Dish			
34	1	Andrew VHLP800-11 - Dish				
-	117.0	2	Ericsson 4415 RRU	Standoff Sector Frame (3) Commscope SF-SU7-2-96	(1) 1-1/4" Hybrid	Dish Network
-		3	Ericsson 0208 RRU			
-		3	Comba ODI2-065R18K-GQ - Panel			

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
35	117.0	3	JMA MX08FRO665-21 - Panel	Commscope MC-PK8-DSH Platform	(1) 1.6" Hybrid	Dish Network
36		3	Fujitsu TA08025-B605 RRU			
37		3	Fujitsu TA08025-B604 RRU			
38		1	Raycap RDIDC-9181-PF-48-OVP			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	80.2%	74.4%	61.9%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4506.7	35.2	60.4

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

Operational Condition (Rigidity):

The maximum twist and sway of the microwave dishes under the operational wind speed as specified in the Analysis Criteria are listed in the table below:

Elevation (ft)	Antenna / Dish	Carrier	Twist (deg)	Sway (deg)
127.0	Andrew - VHLP2-11 - Dish	Sprint Nextel	0.001	1.435
	Andrew - VHLP800-11 - Dish		0.001	1.435

It is recommended that the carriers review the twist and sway values of the microwave dishes.

Conclusions

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

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 80.25% at 105.0ft

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: B
Gh: 1.1

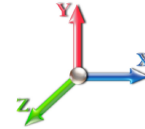
5/27/2022



Page: 1

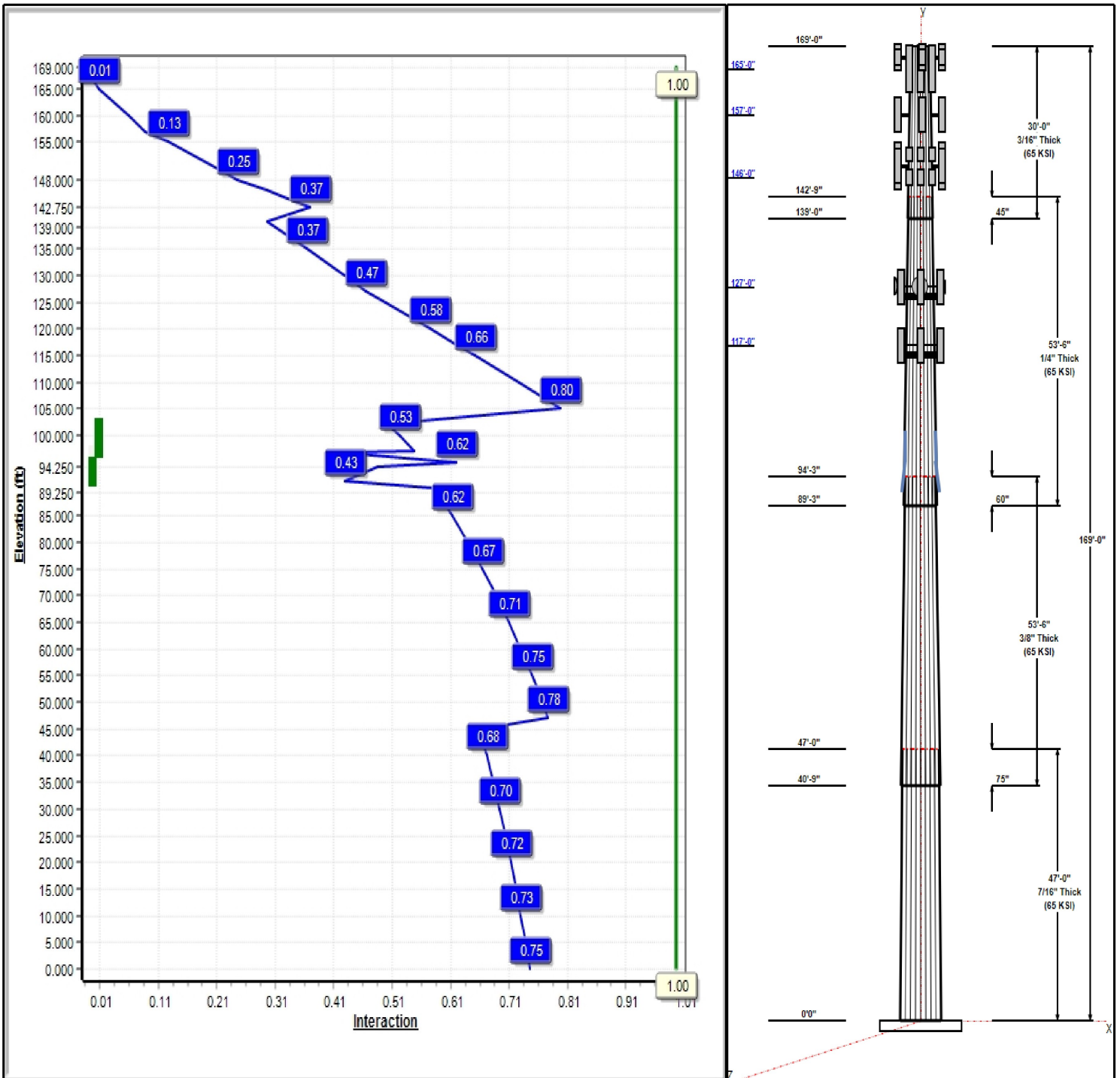
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 97 mph Wind



Iterations: 27

Copyright © 2022 by Tower Engineering Solutions, LLC. All rights reserved.



Structure: CT13071-A-SBA

Type: Tapered
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.20003

5/27/2022

Page: 2

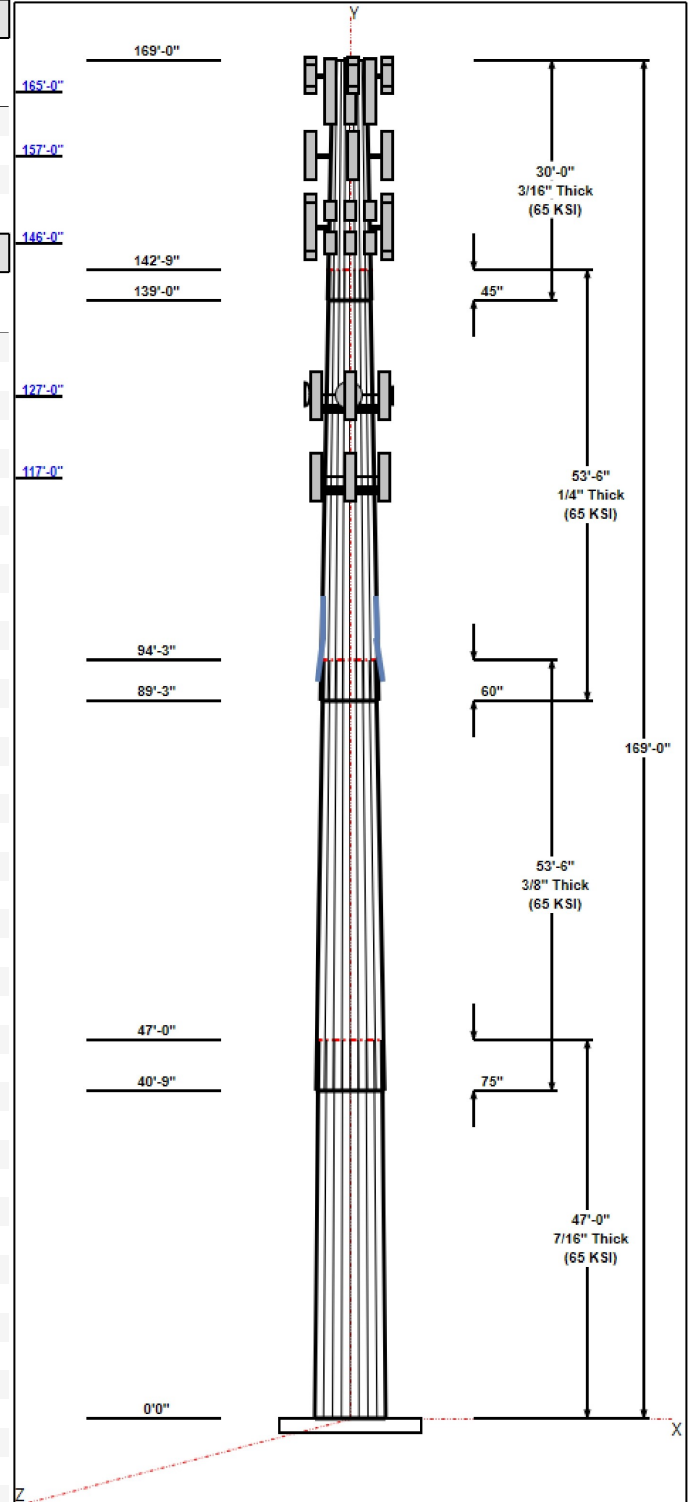


Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	47.00	46.78	56.18	0.438		0.20003	65
2	53.50	38.08	48.78	0.375	Slip	0.20003	65
3	53.50	28.88	39.58	0.250	Slip	0.20003	65
4	30.00	24.00	30.00	0.188	Slip	0.20003	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
167.00	167.50	3	T-Arms/Commscope	T-Mobile
167.00	167.00	3	AIR 21 B2A/B4P	T-Mobile
167.00	167.00	3	Ericsson - KRY 112 144/2	T-Mobile
167.00	167.00	3	RRUS 4415 B25	T-Mobile
167.00	167.00	3	Ericsson - Radio 4449	T-Mobile
167.00	167.00	3	AIR 6449 B41	T-Mobile
165.00	165.00	3	Air 32	T-Mobile
165.00	165.00	3	APXVAA24_43-U-A20	T-Mobile
157.00	157.00	6	MX06FRO660-02	Verizon
157.00	157.00	3	MT6407-77A	Verizon
157.00	157.00	3	T-Arms	Verizon
157.00	157.00	4	DB846F65ZAXY	Verizon
157.00	157.00	2	DB846H80E-SX	Verizon
157.00	157.00	3	RF4439d-25A	Verizon
157.00	157.00	3	RF4440d-13A	Verizon
157.00	157.00	1	DB-C1-12C-24AB-0Z	Verizon
150.00	150.00	3	Ericsson Air6419 B77G	AT&T
150.00	150.00	1	Collar Mount	AT&T
148.00	148.00	3	T-Arms w/ Modifications	AT&T
148.00	148.00	2	CCI DMP65R-BU8DA	AT&T
148.00	148.00	1	CCI DMP65R-BU6DA	AT&T
148.00	148.00	6	Powerwave LGP13519	AT&T
148.00	148.00	3	Ericsson RRUS 8843 B2	AT&T
148.00	148.00	3	Ericsson RRUS 32	AT&T
148.00	148.00	3	Ericsson RRUS 4449	AT&T
148.00	148.00	3	Ericsson RRUS 4478 B14	AT&T
148.00	148.00	2	Raycap	AT&T
148.00	148.00	3	Powerwave 1001940	AT&T
148.00	148.00	1	Commscope	AT&T
148.00	148.00	6	Powerwave 21401	AT&T
148.00	148.00	1	Quintel QD6616-7	AT&T
148.00	148.00	2	Quintel QD8616-7	AT&T
146.00	146.00	3	Ericsson Air6449 B77D	AT&T
127.00	127.00	3	VHLP2-11	Sprint Nextel
127.00	127.00	1	VHLP800-11	Sprint Nextel
127.00	127.00	3	AAHC	Sprint Nextel
127.00	127.00	3	NNVV-65B-R4	Sprint Nextel
127.00	127.00	1	RMQP-4096-HK	Sprint Nextel
127.00	127.00	4	Horizon Duo	Sprint Nextel
127.00	127.00	3	1900MHz RRH	Sprint Nextel
127.00	127.00	3	TD-RRH8x20-25	Sprint Nextel
117.00	117.00	3	JMA MX08FRO665-21	Dish Network
117.00	117.00	1	Commscope MC-PK8-DSH	Dish Network
117.00	117.00	3	Fujitsu TA08025-B605	Dish Network
117.00	117.00	3	Fujitsu TA08025-B604	Dish Network



Structure: CT13071-A-SBA

Type: Tapered
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.20003

5/27/2022

Page: 3



117.00 117.00 1 Raycap Dish Network

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	167.00	Inside	1 5/8" Coax	T-Mobile
0.00	167.00	Inside	1 5/8" Fiber	T-Mobile
0.00	167.00	Inside	1-1/4" Fiber	T-Mobile
0.00	157.00	Inside	1 5/8" Coax	Verizon
0.00	157.00	Outside	1 5/8" Coax	Verizon
0.00	157.00	Inside	1 5/8" Hybrid	Verizon
0.00	157.00	Inside	1/2" Coax	Verizon
0.00	148.00	Inside	1 5/8" Coax	AT&T
0.00	148.00	Inside	1" DC	AT&T
0.00	148.00	Inside	1/2" Fiber	AT&T
0.00	148.00	Inside	3/4" DC	AT&T
0.00	137.00	Inside	1 5/8" Coax	Metro PCS
0.00	127.00	Inside	1 5/8" Fiber	Sprint Nextel
0.00	127.00	Inside	1-1/4" Fiber	Sprint Nextel
0.00	127.00	Inside	1/2" Coax	Sprint Nextel
0.00	117.00	Inside	1.6" Hybrid	Dish Network
99.25	104.50	Outside	1" Reinforcing plate	
89.25	99.25	Outside	1" Reinforcing plate	44 Farms

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
16	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	61.3	60.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	4506.7	35.2	60.4
0.9D + 1.6W 97 mph Wind	4439.4	35.2	45.3
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1220.6	9.5	94.4
1.2D + 1.0E	258.5	2.0	60.5
0.9D + 1.0E	254.3	2.0	45.4
1.0D + 1.0W 60 mph Wind	1069.0	8.4	50.4

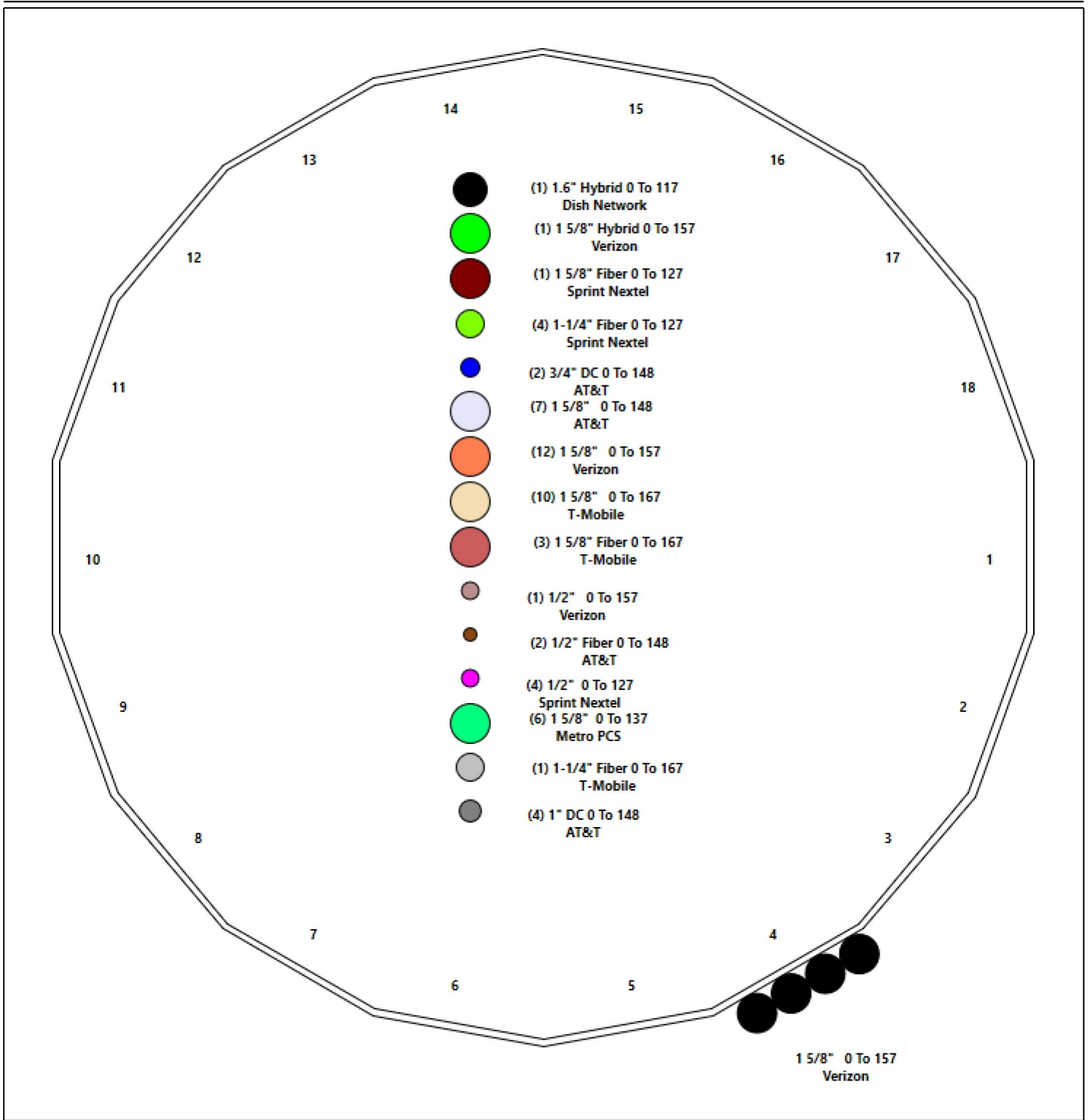
Structure: CT13071-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Woodbridge
Height: 169.00 (ft)

5/27/2022



Page: 4



Shaft Properties

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	47.000	0.4375	65		0.00	11,335
2	18	53.500	0.3750	65	Slip	75.00	9,329
3	18	53.500	0.2500	65	Slip	60.00	4,908
4	18	30.000	0.1875	65	Slip	45.00	1,629
Total Shaft Weight:							27,200

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	56.18	0.00	77.40	30386.58	21.23	128.41	46.78	47.00	64.35	17459.0	17.44	106.9	0.200030
2	48.78	40.75	57.61	17053.51	21.53	130.08	38.08	94.25	44.87	8058.91	16.49	101.5	0.200030
3	39.58	89.25	31.21	6097.74	26.50	158.31	28.88	142.75	22.71	2351.56	18.96	115.5	0.200030
4	30.00	139.0	17.74	1992.41	26.80	160.00	24.00	169.00	14.17	1015.22	21.16	128.0	0.200030

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors			Termination Connectors		
							Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty	
91.50	97.00	3	LNP LP6X100-G-10TT	65	80	0.00	5/8" Hollo Bolt	23.00	5/8" Hollo Bolt		9	9
96.75	102.2	3	LNP LP6X100-G-10TT	65	80	0.00	5/8" Hollo Bolt	23.00	5/8" Hollo Bolt		9	9

Load Summary

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 6

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	167.00	T-Arms/Commscope VSR-MS-B	3	340.00	6.75	0.75	579.91	12.704	0.75	0.00	0.50
2	167.00	AIR 21 B2A/B4P	3	92.00	6.09	0.86	263.11	7.155	0.86	0.00	0.00
3	167.00	Ericsson - KRY 112 144/2	3	11.00	0.41	0.75	21.90	0.890	0.75	0.00	0.00
4	167.00	RRUS 4415 B25	3	46.00	1.64	0.67	87.55	2.161	0.67	0.00	0.00
5	167.00	Ericsson - Radio 4449 B71+B12	3	74.00	1.65	0.75	142.20	2.167	0.75	0.00	0.00
6	167.00	AIR 6449 B41	3	103.00	5.65	0.70	257.84	6.634	0.70	0.00	0.00
7	165.00	Air 32 KRD901146-1_B66A_B2A	3	105.80	6.51	0.87	292.27	7.702	0.87	0.00	0.00
8	165.00	APXVAA24_43-U-A20	3	128.00	20.24	0.73	560.73	22.184	0.73	0.00	0.00
9	157.00	MX06FRO660-02	6	60.00	9.87	0.87	330.39	11.252	0.87	0.00	0.00
10	157.00	MT6407-77A	3	79.40	4.69	0.70	199.60	5.642	0.70	0.00	0.00
11	157.00	T-Arms	3	350.00	8.00	0.75	595.45	15.013	0.75	0.00	0.00
12	157.00	DB846F65ZAXY	4	21.00	7.05	0.92	219.47	8.287	0.93	0.00	0.00
13	157.00	DB846H80E-SX	2	16.00	5.01	1.10	176.40	6.231	1.10	0.00	0.00
14	157.00	RF4439d-25A	3	84.40	1.88	0.83	135.89	2.434	0.83	0.00	0.00
15	157.00	RF4440d-13A	3	84.40	1.88	0.83	135.89	2.434	0.83	0.00	0.00
16	157.00	DB-C1-12C-24AB-OZ	1	32.00	4.06	1.00	146.45	4.886	1.00	0.00	0.00
17	150.00	Ericsson Air6419 B77G	3	66.10	3.80	0.76	162.31	4.596	0.76	0.00	0.00
18	150.00	Collar Mount	1	100.00	3.50	1.00	183.77	5.943	1.00	0.00	0.00
19	148.00	T-Arms w/ Modifications	3	450.00	12.00	0.75	763.72	22.457	0.75	0.00	0.00
20	148.00	CCI DMP65R-BU8DA	2	95.70	17.87	0.73	492.33	19.664	0.73	0.00	0.00
21	148.00	CCi DMP65R-BU6DA	1	79.40	12.71	0.72	373.55	14.172	0.72	0.00	0.00
22	148.00	Powerwave LGP13519 Diplexer	6	14.10	1.29	1.00	39.07	2.125	1.00	0.00	0.00
23	148.00	Ericsson RRUS 8843 B2 B66A	3	75.00	1.65	0.67	149.57	2.187	0.67	0.00	0.00
24	148.00	Ericsson RRUS 32	3	77.00	1.65	0.67	125.40	2.229	0.67	0.00	0.00
25	148.00	Ericsson RRUS 4449 B5/B12	3	71.00	1.97	0.67	124.31	2.517	0.67	0.00	0.00
26	148.00	Ericsson RRUS 4478 B14	3	59.40	1.65	0.67	100.81	2.168	0.67	0.00	0.00
27	148.00	Raycap DC9-48-60-24-8C-EV	2	26.20	1.14	1.00	132.05	2.725	1.00	0.00	0.00
28	148.00	Powerwave 1001940	3	2.20	0.25	0.67	10.03	0.670	0.67	0.00	0.00
29	148.00	Commscope WCS-IMGQ-AMT	1	34.50	0.99	0.67	77.58	1.418	0.67	0.00	0.00
30	148.00	Powerwave 21401	6	14.10	1.29	0.67	39.07	2.125	0.67	0.00	0.00
31	148.00	Quintel QD6616-7	1	111.00	8.13	0.92	337.92	9.427	0.92	0.00	0.00
32	148.00	Quintel QD8616-7	2	111.00	8.13	0.92	337.92	9.427	0.92	0.00	0.00
33	146.00	Ericsson Air6449 B77D	3	88.00	4.13	0.85	225.11	4.985	0.85	0.00	0.00
34	127.00	VHLP2-11	3	27.00	4.68	1.00	123.25	5.933	1.00	0.10	0.00
35	127.00	VHLP800-11	1	48.00	8.43	1.00	219.27	10.108	1.00	0.10	0.00
36	127.00	AAHC	3	103.60	4.21	0.75	207.38	5.008	0.75	0.00	0.00
37	127.00	NNVV-65B-R4	3	77.40	12.27	0.74	358.24	13.702	0.74	0.00	0.00
38	127.00	RMQP-4096-HK	1	2645.00	51.70	1.00	5368.94	89.325	1.00	0.00	0.00
39	127.00	Horizon Duo	4	7.00	0.59	0.75	22.26	1.143	0.75	0.00	0.00
40	127.00	1900MHz RRH	3	60.00	2.77	0.99	142.06	4.018	0.99	0.00	0.00
41	127.00	TD-RRH8x20-25	3	70.00	4.05	0.69	178.26	4.849	0.71	0.00	0.00
42	117.00	JMA MX08FRO665-21	3	64.50	12.49	0.74	348.23	13.919	0.74	0.00	0.00
43	117.00	Commscope MC-PK8-DSH	1	1727.00	37.59	1.00	3373.41	83.665	1.00	0.00	0.00
44	117.00	Fujitsu TA08025-B605 RRU	3	75.00	1.96	0.67	126.02	2.507	0.67	0.00	0.00
45	117.00	Fujitsu TA08025-B604 RRU	3	63.90	1.96	0.67	113.29	2.507	0.67	0.00	0.00
46	117.00	Raycap RDIDC-9181-PF-48-OVP	1	21.90	2.01	1.00	73.84	2.564	1.00	0.00	0.00
Totals:			127	14,722.10			35,441.28				

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	167.00	(10) 1 5/8" Coax	0.00	Inside
0.00	167.00	(3) 1 5/8" Fiber	0.00	Inside
0.00	167.00	(1) 1-1/4" Fiber	0.00	Inside
0.00	157.00	(12) 1 5/8" Coax	0.00	Inside
0.00	157.00	(4) 1 5/8" Coax	1.98	Outside
0.00	157.00	(1) 1 5/8" Hybrid	0.00	Inside
0.00	157.00	(1) 1/2" Coax	0.00	Inside
0.00	148.00	(7) 1 5/8" Coax	0.00	Inside
0.00	148.00	(4) 1" DC	0.00	Inside
0.00	148.00	(2) 1/2" Fiber	0.00	Inside
0.00	148.00	(2) 3/4" DC	0.00	Inside
0.00	137.00	(6) 1 5/8" Coax	0.00	Inside
0.00	127.00	(1) 1 5/8" Fiber	0.00	Inside
0.00	127.00	(4) 1-1/4" Fiber	0.00	Inside
0.00	127.00	(4) 1/2" Coax	0.00	Inside
0.00	117.00	(1) 1.6" Hybrid	0.00	Inside
99.25	104.50	(1) 1" Reinforcing plate	1.00	Outside
89.25	99.25	(1) 1" Reinforcing plate	1.00	Outside

Shaft Section Properties

Structure: CT13071-A-SBA

Code: TIA-222-G

5/27/2022

Site Name: Woodbridge

Exposure: B

Height: 169.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 8



Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00		0.4375	56.180	77.403	30386.6	21.23	128.41	65	76	0.0				
5.00		0.4375	55.180	76.014	28780.1	20.83	126.13	65	77	1305.1				
10.00		0.4375	54.180	74.625	27231.3	20.43	123.84	65	77	1281.5				
15.00		0.4375	53.180	73.236	25739.1	20.02	121.55	65	78	1257.8				
20.00		0.4375	52.179	71.848	24302.4	19.62	119.27	65	78	1234.2				
25.00		0.4375	51.179	70.459	22920.2	19.22	116.98	65	79	1210.6				
30.00		0.4375	50.179	69.070	21591.5	18.81	114.70	65	79	1187.0				
35.00		0.4375	49.179	67.681	20315.1	18.41	112.41	65	80	1163.3				
40.00		0.4375	48.179	66.292	19090.0	18.01	110.12	65	80	1139.7				
40.75	Bot - Section 2	0.4375	48.029	66.084	18910.6	17.95	109.78	65	80	168.9				
45.00		0.4375	47.179	64.904	17915.2	17.60	107.84	65	81	1773.0				
47.00	Top - Section 1	0.3750	47.529	56.123	15766.0	20.94	126.74	65	77	823.4				
50.00		0.3750	46.929	55.408	15171.7	20.66	125.14	65	77	569.3				
55.00		0.3750	45.928	54.218	14214.7	20.19	122.48	65	78	932.6				
60.00		0.3750	44.928	53.028	13298.8	19.71	119.81	65	78	912.3				
65.00		0.3750	43.928	51.837	12423.2	19.24	117.14	65	79	892.1				
70.00		0.3750	42.928	50.647	11586.8	18.77	114.47	65	79	871.8				
75.00		0.3750	41.928	49.456	10788.9	18.30	111.81	65	80	851.6				
80.00		0.3750	40.928	48.266	10028.4	17.83	109.14	65	80	831.3				
85.00		0.3750	39.927	47.076	9304.6	17.36	106.47	65	81	811.1				
89.25	Bot - Section 3	0.3750	39.077	46.064	8717.4	16.96	104.21	65	81	673.5				
90.00		0.3750	38.927	45.885	8616.4	16.89	103.81	65	82	196.8				
91.50	RB1	0.3750	38.627	45.528	8416.8	16.75	103.01	65	82	391.4	18.00	4449.0	2805.1	91.9
94.25	Top - Section 2	0.2500	38.577	30.412	5644.2	25.80	154.31	65	71	709.6	18.00	4328.3	2729.4	168.4
95.00		0.2500	38.427	30.293	5578.2	25.69	153.71	65	71	77.5	18.00	4290.5	2703.4	45.9
96.75	RB2	0.2500	38.077	30.015	5426.2	25.45	152.31	65	71	179.6	36.00	7688.0	6129.7	214.4
97.00	RT1	0.2500	38.027	29.975	5404.7	25.41	152.11	65	72	25.5	18.00	3454.8	3454.8	15.3
100.00		0.2500	37.427	29.499	5151.2	24.99	149.71	65	72	303.6	18.00	3350.2	3350.2	183.7
102.25	RT2	0.2500	36.977	29.142	4966.4	24.67	147.91	65	72	224.5	18.00	3272.8	3272.8	137.8
105.00		0.2500	36.427	28.705	4746.6	24.28	145.71	65	73	270.7				
110.00		0.2500	35.427	27.912	4363.7	23.58	141.71	65	74	481.6				
115.00		0.2500	34.427	27.118	4001.9	22.87	137.71	65	75	468.1				
117.00		0.2500	34.027	26.801	3863.0	22.59	136.11	65	75	183.5				
120.00		0.2500	33.426	26.325	3660.8	22.17	133.71	65	75	271.2				
125.00		0.2500	32.426	25.531	3339.6	21.46	129.71	65	76	441.1				
127.00		0.2500	32.026	25.214	3216.6	21.18	128.10	65	76	172.7				
130.00		0.2500	31.426	24.737	3037.7	20.75	125.70	65	77	255.0				
135.00		0.2500	30.426	23.944	2754.7	20.05	121.70	65	78	414.1				
139.00	Bot - Section 4	0.2500	29.626	23.309	2541.3	19.48	118.50	65	78	321.6				
140.00		0.2500	29.426	23.150	2489.7	19.34	117.70	65	79	139.2				
142.75	Top - Section 3	0.1875	29.251	17.296	1845.8	26.10	156.00	65	71	378.0				
145.00		0.1875	28.801	17.028	1761.3	25.67	153.60	65	71	131.4				
146.00		0.1875	28.601	16.909	1724.7	25.49	152.54	65	71	57.7				
148.00		0.1875	28.201	16.671	1652.8	25.11	150.40	65	72	114.3				
150.00		0.1875	27.801	16.433	1583.0	24.73	148.27	65	72	112.6				
155.00		0.1875	26.800	15.837	1417.2	23.79	142.94	65	73	274.5				
157.00		0.1875	26.400	15.599	1354.2	23.42	140.80	65	74	107.0				
160.00		0.1875	25.800	15.242	1263.3	22.85	137.60	65	75	157.4				
165.00		0.1875	24.800	14.647	1121.0	21.91	132.27	65	76	254.3				
167.00		0.1875	24.400	14.409	1067.3	21.54	130.13	65	76	98.9				

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in ²)	Ixp (in ⁴)	Iyp (in ⁴)	Weight (lb)
169.00		0.1875	24.000	14.171	1015.2	21.16	128.00	65	77	97.3				
Total Weight										27200.5				857.5

Wind Loading - Shaft

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

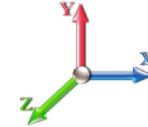
5/27/2022

Page: 10



Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 27

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	16.018	17.62	385.81	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	16.018	17.62	378.94	0.650	0.000	5.00	23.558	15.31	431.7	0.0	1566.1
10.00		1.00	0.70	16.018	17.62	372.07	0.650	0.000	5.00	23.135	15.04	423.9	0.0	1537.8
15.00		1.00	0.70	16.018	17.62	365.20	0.650	0.000	5.00	22.712	14.76	416.2	0.0	1509.4
20.00		1.00	0.70	16.018	17.62	358.33	0.650	0.000	5.00	22.288	14.49	408.4	0.0	1481.1
25.00		1.00	0.70	16.018	17.62	351.46	0.650	0.000	5.00	21.865	14.21	400.7	0.0	1452.7
30.00		1.00	0.70	16.031	17.63	344.74	0.650	0.000	5.00	21.442	13.94	393.2	0.0	1424.4
35.00		1.00	0.73	16.753	18.43	345.39	0.650	0.000	5.00	21.019	13.66	402.8	0.0	1396.0
40.00		1.00	0.76	17.405	19.15	344.89	0.650	0.000	5.00	20.596	13.39	410.1	0.0	1367.6
40.75	Bot - Section 2	1.00	0.76	17.497	19.25	344.73	0.650	0.000	0.75	3.053	1.98	61.1	0.0	202.7
45.00		1.00	0.79	18.000	19.80	343.46	0.650	0.000	4.25	17.389	11.30	358.1	0.0	2127.6
47.00	Top - Section 1	1.00	0.80	18.225	20.05	342.67	0.650	0.000	2.00	8.077	5.25	168.4	0.0	988.1
50.00		1.00	0.81	18.551	20.41	346.82	0.650	0.000	3.00	11.989	7.79	254.4	0.0	683.1
55.00		1.00	0.83	19.063	20.97	344.08	0.650	0.000	5.00	19.644	12.77	428.4	0.0	1119.1
60.00		1.00	0.85	19.543	21.50	340.80	0.650	0.000	5.00	19.220	12.49	429.7	0.0	1094.8
65.00		1.00	0.87	19.995	21.99	337.04	0.650	0.000	5.00	18.797	12.22	430.0	0.0	1070.5
70.00		1.00	0.89	20.422	22.46	332.87	0.650	0.000	5.00	18.374	11.94	429.3	0.0	1046.2
75.00		1.00	0.91	20.829	22.91	328.34	0.650	0.000	5.00	17.951	11.67	427.7	0.0	1021.9
80.00		1.00	0.93	21.217	23.34	323.47	0.650	0.000	5.00	17.528	11.39	425.4	0.0	997.6
85.00		1.00	0.94	21.587	23.75	318.32	0.650	0.000	5.00	17.105	11.12	422.4	0.0	973.3
89.25	Bot - Section 3	1.00	0.96	21.890	24.08	313.72	0.650	0.000	4.25	14.206	9.23	355.8	0.0	808.2
90.00		1.00	0.96	21.943	24.14	312.89	0.650	0.000	0.75	2.507	1.63	62.9	0.0	236.2
91.50	RB1	1.00	0.96	22.047	24.25	311.21	0.650	0.000	1.50	4.985	3.24	125.7	0.0	469.6
94.25	Top - Section 2	1.00	0.97	22.234	24.46	308.08	0.650	0.000	2.75	9.041	5.88	230.0	0.0	851.5
95.00		1.00	0.97	22.284	24.51	311.26	0.650	0.000	0.75	2.444	1.59	62.3	0.0	93.0
96.75	RB2	1.00	0.98	22.401	24.64	309.23	0.650	0.000	1.75	5.664	3.68	145.2	0.0	215.5
97.00	RT1	1.00	0.98	22.417	24.66	308.94	0.650	0.000	0.25	0.805	0.52	20.6	0.0	30.6
100.00		1.00	0.99	22.613	24.87	305.39	0.650	0.000	3.00	9.577	6.23	247.8	0.0	364.3
102.25	RT2	1.00	0.99	22.758	25.03	302.68	0.650	0.000	2.25	7.083	4.60	184.4	0.0	269.4
105.00		1.00	1.00	22.931	25.22	299.31	0.650	0.000	2.75	8.541	5.55	224.0	0.0	324.8
110.00		1.00	1.02	23.238	25.56	293.03	0.650	0.000	5.00	15.200	9.88	404.1	0.0	578.0
115.00		1.00	1.03	23.535	25.89	286.57	0.650	0.000	5.00	14.777	9.61	397.9	0.0	561.8
117.00	Appurtenance(s)	1.00	1.03	23.651	26.02	283.94	0.650	0.000	2.00	5.792	3.77	156.7	0.0	220.2
120.00		1.00	1.04	23.823	26.20	279.94	0.650	0.000	3.00	8.562	5.57	233.3	0.0	325.4
125.00		1.00	1.05	24.102	26.51	273.16	0.650	0.000	5.00	13.931	9.06	384.1	0.0	529.4
127.00	Appurtenance(s)	1.00	1.06	24.212	26.63	270.40	0.650	0.000	2.00	5.454	3.55	151.1	0.0	207.2
130.00		1.00	1.07	24.374	26.81	266.22	0.650	0.000	3.00	8.054	5.24	224.6	0.0	305.9
135.00		1.00	1.08	24.638	27.10	259.14	0.650	0.000	5.00	13.085	8.51	368.8	0.0	497.0
139.00	Bot - Section 4	1.00	1.09	24.844	27.33	253.38	0.650	0.000	4.00	10.163	6.61	288.9	0.0	385.9
140.00		1.00	1.09	24.895	27.38	251.93	0.650	0.000	1.00	2.530	1.64	72.1	0.0	167.1
142.75	Top - Section 3	1.00	1.09	25.034	27.54	247.90	0.650	0.000	2.75	6.871	4.47	196.8	0.0	453.6
145.00		1.00	1.10	25.146	27.66	247.81	0.650	0.000	2.25	5.526	3.59	159.0	0.0	157.7
146.00	Appurtenance(s)	1.00	1.10	25.196	27.72	246.33	0.650	0.000	1.00	2.429	1.58	70.0	0.0	69.3
148.00	Appurtenance(s)	1.00	1.11	25.294	27.82	243.36	0.650	0.000	2.00	4.806	3.12	139.1	0.0	137.1
150.00	Appurtenance(s)	1.00	1.11	25.391	27.93	240.37	0.650	0.000	2.00	4.739	3.08	137.6	0.0	135.2
155.00		1.00	1.12	25.630	28.19	232.81	0.650	0.000	5.00	11.551	7.51	338.7	0.0	329.4
157.00	Appurtenance(s)	1.00	1.12	25.724	28.30	229.75	0.650	0.000	2.00	4.502	2.93	132.5	0.0	128.4

Wind Loading - Shaft

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 11
	Struct Class: II	



160.00	1.00	1.13	25.863	28.45	225.14	0.650	0.000	3.00	6.626	4.31	196.0	0.0	188.9
165.00 Appurtenance(s)	1.00	1.14	26.092	28.70	217.37	0.650	0.000	5.00	10.704	6.96	319.5	0.0	305.1
167.00 Appurtenance(s)	1.00	1.14	26.182	28.80	214.23	0.650	0.000	2.00	4.163	2.71	124.7	0.0	118.6
169.00	1.00	1.15	26.271	28.90	211.07	0.650	0.000	2.00	4.096	2.66	123.1	0.0	116.7
Totals:								169.00			13,399.2		32,640.6

Discrete Appurtenance Forces

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

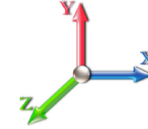
5/27/2022



Page: 12

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	167.00	Ericsson - KRY 112 144/2	3	26.182	28.800	0.60	0.80	0.74	39.60	0.000	0.000	34.01	0.00	0.00
2	167.00	T-Arms/Commscope	3	26.204	28.825	0.56	0.75	11.39	1224.00	0.000	0.500	525.33	0.00	262.66
3	167.00	AIR 21 B2A/B4P	3	26.182	28.800	0.77	0.90	14.14	331.20	0.000	0.000	651.61	0.00	0.00
4	167.00	Ericsson - Radio 4449	3	26.182	28.800	0.60	0.80	2.97	266.40	0.000	0.000	136.86	0.00	0.00
5	167.00	AIR 6449 B41	3	26.182	28.800	0.56	0.80	9.49	370.80	0.000	0.000	437.39	0.00	0.00
6	167.00	RRUS 4415 B25	3	26.182	28.800	0.54	0.80	2.64	165.60	0.000	0.000	121.52	0.00	0.00
7	165.00	APXVAA24_43-U-A20	3	26.092	28.701	0.66	0.90	39.89	460.80	0.000	0.000	1831.95	0.00	0.00
8	165.00	Air 32	3	26.092	28.701	0.78	0.90	15.29	380.88	0.000	0.000	702.23	0.00	0.00
9	157.00	MX06FRO660-02	6	25.724	28.296	0.70	0.80	41.22	432.00	0.000	0.000	1866.07	0.00	0.00
10	157.00	MT6407-77A	3	25.724	28.296	0.56	0.80	7.88	285.84	0.000	0.000	356.72	0.00	0.00
11	157.00	T-Arms	3	25.724	28.296	0.56	0.75	13.50	1260.00	0.000	0.000	611.20	0.00	0.00
12	157.00	DB846F65ZAXY	4	25.724	28.296	0.74	0.80	20.76	100.80	0.000	0.000	939.67	0.00	0.00
13	157.00	DB846H80E-SX	2	25.724	28.296	0.88	0.80	8.82	38.40	0.000	0.000	399.21	0.00	0.00
14	157.00	RF4439d-25A	3	25.724	28.296	0.66	0.80	3.74	303.84	0.000	0.000	169.55	0.00	0.00
15	157.00	RF4440d-13A	3	25.724	28.296	0.66	0.80	3.74	303.84	0.000	0.000	169.55	0.00	0.00
16	157.00	DB-C1-12C-24AB-OZ	1	25.724	28.296	1.00	1.00	4.06	38.40	0.000	0.000	183.81	0.00	0.00
17	150.00	Collar Mount	1	25.391	27.930	1.00	1.00	3.50	120.00	0.000	0.000	156.41	0.00	0.00
18	150.00	Ericsson Air6419 B77G	3	25.391	27.930	0.61	0.80	6.93	237.96	0.000	0.000	309.74	0.00	0.00
19	148.00	Powerwave 21401	6	25.294	27.823	0.54	0.80	4.15	101.52	0.000	0.000	184.68	0.00	0.00
20	148.00	Commscope	1	25.294	27.823	0.54	0.80	0.53	41.40	0.000	0.000	23.62	0.00	0.00
21	148.00	Powerwave 1001940	3	25.294	27.823	0.54	0.80	0.40	7.92	0.000	0.000	17.90	0.00	0.00
22	148.00	Raycap	2	25.294	27.823	0.80	0.80	1.82	62.88	0.000	0.000	81.20	0.00	0.00
23	148.00	Ericsson RRUS 4478 B14	3	25.294	27.823	0.54	0.80	2.65	213.84	0.000	0.000	118.11	0.00	0.00
24	148.00	Ericsson RRUS 4449	3	25.294	27.823	0.54	0.80	3.17	255.60	0.000	0.000	141.02	0.00	0.00
25	148.00	CCI DMP65R-BU8DA	2	25.294	27.823	0.58	0.80	20.87	229.68	0.000	0.000	929.16	0.00	0.00
26	148.00	T-Arms w/ Modifications	3	25.294	27.823	0.56	0.75	20.25	1620.00	0.000	0.000	901.47	0.00	0.00
27	148.00	Quintel QD6616-7	1	25.294	27.823	0.74	0.80	5.98	133.20	0.000	0.000	266.37	0.00	0.00
28	148.00	Quintel QD8616-7	2	25.294	27.823	0.74	0.80	11.97	266.40	0.000	0.000	532.75	0.00	0.00
29	148.00	Ericsson RRUS 32	3	25.294	27.823	0.54	0.80	2.65	277.20	0.000	0.000	118.11	0.00	0.00
30	148.00	CCI DMP65R-BU6DA	1	25.294	27.823	0.58	0.80	7.32	95.28	0.000	0.000	325.91	0.00	0.00
31	148.00	Powerwave LGP13519	6	25.294	27.823	0.80	0.80	6.19	101.52	0.000	0.000	275.65	0.00	0.00
32	148.00	Ericsson RRUS 8843 B2	3	25.294	27.823	0.54	0.80	2.65	270.00	0.000	0.000	118.11	0.00	0.00
33	146.00	Ericsson Air6449 B77D	3	25.196	27.715	0.68	0.80	8.43	316.80	0.000	0.000	373.61	0.00	0.00
34	127.00	Horizon Duo	4	24.212	26.633	0.60	0.80	1.42	33.60	0.000	0.000	60.34	0.00	0.00
35	127.00	VHLP800-11	1	24.212	26.633	1.00	1.00	8.43	57.60	1.455	0.000	359.22	326.67	0.00
36	127.00	1900MHz RRH	3	24.212	26.633	0.74	0.75	6.17	216.00	0.000	0.000	262.93	0.00	0.00
37	127.00	VHLP2-11	3	24.212	26.633	1.00	1.00	14.04	97.20	1.455	0.000	598.28	544.06	0.00
38	127.00	NNVV-65B-R4	3	24.212	26.633	0.55	0.75	20.43	278.64	0.000	0.000	870.55	0.00	0.00
39	127.00	TD-RRH8x20-25	3	24.212	26.633	0.52	0.75	6.29	252.00	0.000	0.000	267.93	0.00	0.00
40	127.00	AAHC	3	24.212	26.633	0.56	0.75	7.10	372.96	0.000	0.000	302.73	0.00	0.00
41	127.00	RMQP-4096-HK	1	24.212	26.633	1.00	1.00	51.70	3174.00	0.000	0.000	2203.06	0.00	0.00
42	117.00	Raycap	1	23.651	26.016	1.00	1.00	2.01	26.28	0.000	0.000	83.67	0.00	0.00
43	117.00	Fujitsu TA08025-B604	3	23.651	26.016	0.50	0.75	2.95	230.04	0.000	0.000	122.99	0.00	0.00
44	117.00	Fujitsu TA08025-B605	3	23.651	26.016	0.50	0.75	2.95	270.00	0.000	0.000	122.99	0.00	0.00
45	117.00	Commscope	1	23.651	26.016	1.00	1.00	37.59	2072.40	0.000	0.000	1564.70	0.00	0.00
46	117.00	JMA MX08FRO665-21	3	23.651	26.016	0.55	0.75	20.80	232.20	0.000	0.000	865.64	0.00	0.00

Totals: 17,666.52

21,695.54

Total Applied Force Summary

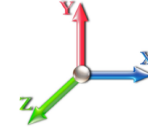
Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 13

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		431.69	1901.95	0.00	0.00
10.00		423.93	1873.59	0.00	0.00
15.00		416.18	1845.24	0.00	0.00
20.00		408.42	1816.88	0.00	0.00
25.00		400.67	1788.53	0.00	0.00
30.00		393.25	1760.18	0.00	0.00
35.00		402.84	1731.82	0.00	0.00
40.00		410.08	1703.47	0.00	0.00
40.75		61.11	253.07	0.00	0.00
45.00		358.09	2413.04	0.00	0.00
47.00		168.42	1122.38	0.00	0.00
50.00		254.43	884.62	0.00	0.00
55.00		428.38	1454.92	0.00	0.00
60.00		429.70	1430.62	0.00	0.00
65.00		429.97	1406.31	0.00	0.00
70.00		429.28	1382.01	0.00	0.00
75.00		427.74	1357.71	0.00	0.00
80.00		425.43	1333.40	0.00	0.00
85.00		422.42	1309.10	0.00	0.00
89.25		355.76	1093.63	0.00	0.00
90.00		62.93	286.55	0.00	0.00
91.50		125.74	570.37	0.00	0.00
94.25		229.96	1036.22	0.00	0.00
95.00		62.29	143.33	0.00	0.00
96.75		145.16	333.01	0.00	0.00
97.00		20.64	47.41	0.00	0.00
100.00		247.76	565.77	0.00	0.00
102.25		184.40	420.50	0.00	0.00
105.00		224.04	509.49	0.00	0.00
110.00		404.09	913.79	0.00	0.00
115.00		397.86	897.58	0.00	0.00
117.00	(11) attachments	2916.72	3185.42	0.00	0.00
120.00		233.33	520.33	0.00	0.00
125.00		384.12	854.26	0.00	0.00
127.00	(21) attachments	5076.11	4819.17	870.74	0.00
130.00		224.57	480.89	0.00	0.00
135.00		368.80	788.52	0.00	0.00
139.00		288.85	604.17	0.00	0.00
140.00		72.06	217.88	0.00	0.00
142.75		196.77	593.33	0.00	0.00
145.00		158.98	272.03	0.00	0.00
146.00	(3) attachments	443.61	436.91	0.00	0.00
148.00	(39) attachments	4173.14	3915.21	0.00	0.00
150.00	(4) attachments	603.80	571.26	0.00	0.00
155.00		338.67	524.75	0.00	0.00
157.00	(25) attachments	4828.26	2969.62	0.00	0.00

Total Applied Force Summary

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 14

160.00		196.04	241.66	0.00	0.00
165.00	(6) attachments	2853.70	1234.72	0.00	0.00
167.00	(18) attachments	2031.41	2551.42	0.00	262.66
169.00		123.09	116.70	0.00	0.00
Totals:		35,094.71	60,484.73	870.74	262.66

Linear Appurtenance Segment Forces (Factored)

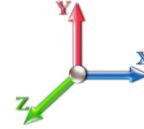
Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.6W 97 mph Wind

Iterations 27

Dead Load Factor 1.20
Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.035	0.000	16.018	0.00	24.96
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	16.018	0.00	24.96
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	16.018	0.00	24.96
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.037	0.000	16.018	0.00	24.96
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	16.018	0.00	24.96
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	16.031	0.00	24.96
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.039	0.000	16.753	0.00	24.96
40.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.040	0.000	17.405	0.00	24.96
40.75	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.041	0.000	17.497	0.00	3.74
45.00	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.041	0.000	18.000	0.00	21.22
47.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.042	0.000	18.225	0.00	9.98
50.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.041	0.000	18.551	0.00	14.98
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.042	0.000	19.063	0.00	24.96
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.043	0.000	19.543	0.00	24.96
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.044	0.000	19.995	0.00	24.96
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.045	0.000	20.422	0.00	24.96
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.046	0.000	20.829	0.00	24.96
80.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.047	0.000	21.217	0.00	24.96
85.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.048	0.000	21.587	0.00	24.96
89.25	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.049	0.000	21.890	0.00	21.22
90.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.075	0.000	21.943	0.00	3.74
90.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.075	0.000	21.943	0.00	0.00
91.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.076	0.000	22.047	0.00	7.49
91.50	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.13	0.00	0.076	0.000	22.047	0.00	0.00
94.25	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.077	0.000	22.234	0.00	13.73
94.25	1" Reinforcing plate	Yes	2.75	0.000	1.00	0.23	0.00	0.077	0.000	22.234	0.00	0.00
95.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.076	0.000	22.284	0.00	3.74
95.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.076	0.000	22.284	0.00	0.00
96.75	1 5/8" Coax	Yes	1.75	0.000	1.98	0.29	0.00	0.077	0.000	22.401	0.00	8.74
96.75	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.077	0.000	22.401	0.00	0.00
97.00	1 5/8" Coax	Yes	0.25	0.000	1.98	0.04	0.00	0.077	0.000	22.417	0.00	1.25
97.00	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.077	0.000	22.417	0.00	0.00
100.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.078	0.000	22.613	0.00	14.98
100.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.078	0.000	22.613	0.00	0.00
100.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.078	0.000	22.613	0.00	0.00
102.25	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.079	0.000	22.758	0.00	11.23
102.25	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.079	0.000	22.758	0.00	0.00
105.00	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.075	0.000	22.931	0.00	13.73
105.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.075	0.000	22.931	0.00	0.00
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.054	0.000	23.238	0.00	24.96
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.056	0.000	23.535	0.00	24.96
117.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.057	0.000	23.651	0.00	9.98
120.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.058	0.000	23.823	0.00	14.98
125.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.059	0.000	24.102	0.00	24.96
127.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.061	0.000	24.212	0.00	9.98
130.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.061	0.000	24.374	0.00	14.98
135.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.063	0.000	24.638	0.00	24.96

Linear Appurtenance Segment Forces (Factored)

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 16

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
139.00	1 5/8" Coax	Yes	4.00	0.000	1.98	0.66	0.00	0.065	0.000	24.844	0.00	19.97
140.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.066	0.000	24.895	0.00	4.99
142.75	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.067	0.000	25.034	0.00	13.73
145.00	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.067	0.000	25.146	0.00	11.23
146.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.068	0.000	25.196	0.00	4.99
148.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.069	0.000	25.294	0.00	9.98
150.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.070	0.000	25.391	0.00	9.98
155.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.071	0.000	25.630	0.00	24.96
157.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.073	0.000	25.724	0.00	9.98
Totals:											0.0	783.7

Calculated Forces

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

5/27/2022



Page: 17

Load Case: 1.2D + 1.6W 97 mph Wind

Iterations 27

Dead Load Factor 1.20
Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-60.42	-35.21	-0.85	-4506.6	-0.02	4506.67	5324.18	2662.09	12195.0	6106.56	0.00	0.000	0.000	0.750
5.00	-58.39	-34.98	-0.85	-4330.6	-0.02	4330.64	5261.08	2630.54	11832.5	5925.09	0.11	-0.207	0.000	0.742
10.00	-56.39	-34.76	-0.85	-4155.7	-0.02	4155.73	5196.80	2598.40	11472.7	5744.92	0.44	-0.417	0.000	0.734
15.00	-54.42	-34.53	-0.85	-3981.9	-0.02	3981.95	5131.34	2565.67	11115.7	5566.13	0.99	-0.629	0.000	0.726
20.00	-52.48	-34.29	-0.85	-3809.3	-0.02	3809.31	5064.69	2532.35	10761.6	5388.80	1.76	-0.844	0.000	0.717
25.00	-50.57	-34.06	-0.85	-3637.8	-0.02	3637.85	4996.86	2498.43	10410.5	5212.99	2.77	-1.062	0.000	0.708
30.00	-48.69	-33.82	-0.85	-3467.5	-0.02	3467.56	4927.84	2463.92	10062.6	5038.79	4.00	-1.283	0.000	0.698
35.00	-46.84	-33.56	-0.85	-3298.4	-0.02	3298.48	4857.63	2428.82	9718.08	4866.26	5.46	-1.506	0.000	0.688
40.00	-45.07	-33.20	-0.85	-3130.7	-0.02	3130.71	4786.24	2393.12	9377.03	4695.49	7.16	-1.731	0.000	0.676
40.75	-44.75	-33.22	-0.85	-3105.8	-0.02	3105.81	4775.43	2387.72	9326.19	4670.03	7.43	-1.766	0.000	0.675
45.00	-42.27	-32.89	-0.85	-2964.6	-0.02	2964.62	4713.67	2356.83	9039.63	4526.53	9.09	-1.960	0.000	0.664
47.00	-41.09	-32.77	-0.85	-2898.8	-0.03	2898.85	3877.89	1938.95	7512.92	3762.05	9.93	-2.053	0.000	0.781
50.00	-40.10	-32.62	-0.85	-2800.5	-0.03	2800.55	3845.09	1922.55	7353.82	3682.38	11.27	-2.192	-0.001	0.771
55.00	-38.52	-32.30	-0.85	-2637.4	-0.03	2637.47	3789.47	1894.74	7090.51	3550.52	13.70	-2.447	-0.001	0.753
60.00	-36.97	-31.97	-0.86	-2475.9	-0.03	2475.96	3732.67	1866.34	6829.63	3419.89	16.40	-2.703	-0.001	0.734
65.00	-35.44	-31.63	-0.86	-2316.0	-0.03	2316.09	3674.68	1837.34	6571.34	3290.55	19.37	-2.959	-0.001	0.714
70.00	-33.95	-31.28	-0.86	-2157.9	-0.03	2157.92	3615.51	1807.76	6315.78	3162.58	22.60	-3.215	-0.001	0.692
75.00	-32.48	-30.92	-0.86	-2001.5	-0.04	2001.51	3555.15	1777.58	6063.10	3036.06	26.11	-3.471	-0.001	0.669
80.00	-31.04	-30.55	-0.86	-1846.9	-0.04	1846.91	3493.61	1746.80	5813.45	2911.05	29.87	-3.724	-0.001	0.644
85.00	-29.64	-30.16	-0.86	-1694.1	-0.04	1694.16	3430.88	1715.44	5566.98	2787.63	33.91	-3.976	-0.001	0.617
89.25	-28.51	-29.79	-0.86	-1565.9	-0.04	1565.98	3376.63	1688.32	5360.08	2684.02	37.54	-4.187	-0.001	0.592
90.00	-28.20	-29.73	-0.86	-1543.6	-0.04	1543.64	3366.97	1683.48	5323.83	2665.87	38.20	-4.226	-0.001	0.588
91.50	-27.60	-29.61	-0.86	-1499.0	-0.04	1499.04	3347.56	1673.78	5251.55	2629.68	39.54	-4.301	-0.001	0.433
94.25	-26.55	-29.33	-0.86	-1417.6	-0.04	1417.62	1944.87	972.44	3066.99	1535.78	42.05	-4.402	-0.001	0.490
95.00	-26.38	-29.28	-0.86	-1395.6	-0.04	1395.62	1940.65	970.33	3048.28	1526.41	42.74	-4.430	-0.002	0.624
96.75	-26.04	-29.13	-0.86	-1344.3	-0.04	1344.37	1930.70	965.35	3004.67	1504.57	44.38	-4.512	-0.002	0.426
97.00	-25.96	-29.14	-0.86	-1337.0	-0.04	1337.09	1929.27	964.63	2998.44	1501.45	44.61	-4.521	-0.002	0.553
100.00	-25.36	-28.89	-0.86	-1249.6	-0.04	1249.68	1911.84	955.92	2923.84	1464.09	47.49	-4.645	-0.002	0.526
102.25	-24.91	-28.72	-0.86	-1184.6	-0.05	1184.67	1898.49	949.24	2868.04	1436.15	49.70	-4.737	-0.002	0.506
102.25	-24.91	-28.72	-0.86	-1184.6	-0.05	1184.67	1898.49	949.24	2868.04	1436.15	49.70	-4.737	-0.002	0.506
105.00	-24.31	-28.54	-0.86	-1105.6	-0.05	1105.69	1881.84	940.92	2800.02	1402.09	52.46	-4.846	-0.002	0.802
110.00	-23.29	-28.19	-0.87	-962.97	-0.05	962.97	1850.66	925.33	2676.97	1340.48	57.70	-5.156	-0.002	0.732
115.00	-22.33	-27.78	-0.87	-822.05	-0.05	822.05	1818.29	909.14	2554.84	1279.32	63.25	-5.447	-0.003	0.656
117.00	-19.38	-24.62	-0.87	-766.48	-0.06	766.48	1805.01	902.50	2506.28	1255.00	65.55	-5.560	-0.003	0.622
120.00	-18.80	-24.41	-0.87	-692.62	-0.06	692.62	1784.73	892.37	2433.78	1218.70	69.09	-5.721	-0.003	0.580
125.00	-17.92	-23.99	-0.87	-570.59	-0.06	570.59	1749.99	875.00	2313.93	1158.68	75.21	-5.966	-0.003	0.503
127.00	-13.63	-18.46	0.00	-522.62	0.03	522.62	1735.77	867.88	2266.36	1134.86	77.73	-6.059	-0.003	0.469
130.00	-13.12	-18.23	0.00	-467.23	0.02	467.23	1714.07	857.04	2195.44	1099.35	81.57	-6.191	-0.003	0.433
135.00	-12.32	-17.81	0.00	-376.11	0.02	376.11	1676.96	838.48	2078.45	1040.77	88.15	-6.388	-0.003	0.369
139.00	-11.73	-17.47	0.00	-304.88	0.02	304.88	1646.42	823.21	1986.05	994.50	93.55	-6.529	-0.003	0.314
140.00	-11.50	-17.39	0.00	-287.41	0.01	287.41	1638.67	819.33	1963.12	983.02	94.92	-6.562	-0.003	0.300
142.75	-10.92	-17.14	0.00	-239.59	0.01	239.59	1100.62	550.31	1316.21	659.08	98.72	-6.645	-0.003	0.374
145.00	-10.65	-16.96	0.00	-201.04	0.01	201.04	1091.20	545.60	1284.61	643.26	101.86	-6.705	-0.003	0.323
146.00	-10.26	-16.47	0.00	-184.08	0.01	184.08	1086.94	543.47	1270.59	636.24	103.26	-6.736	-0.003	0.300
148.00	-6.85	-11.87	0.00	-151.14	0.01	151.14	1078.27	539.14	1242.60	622.22	106.09	-6.791	-0.003	0.250
150.00	-6.34	-11.21	0.00	-127.40	0.01	127.40	1069.42	534.71	1214.68	608.24	108.94	-6.839	-0.003	0.216
155.00	-5.85	-10.82	0.00	-71.34	0.00	71.34	1046.45	523.23	1145.25	573.48	116.14	-6.928	-0.003	0.130
157.00	-3.48	-5.67	0.00	-49.70	0.00	49.70	1036.93	518.47	1117.66	559.66	119.04	-6.953	-0.003	0.092

Calculated Forces

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 18
	Struct Class: II	



160.00	-3.26	-5.45	0.00	-32.69	0.00	32.69	1022.30	511.15	1076.48	539.04	123.41	-6.979	-0.003	0.064
165.00	-2.39	-2.46	0.00	-5.46	0.00	5.46	996.96	498.48	1008.51	505.00	130.71	-7.000	-0.003	0.013
167.00	-0.10	-0.14	0.00	-0.27	0.00	0.27	986.50	493.25	981.58	491.52	133.64	-7.002	-0.003	0.001
169.00	0.00	-0.12	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	136.57	-7.002	-0.003	0.000

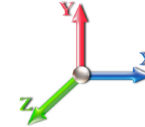
Wind Loading - Shaft

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 27

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	16.018	17.62	385.81	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	16.018	17.62	378.94	0.650	0.000	5.00	23.558	15.31	431.7	0.0	1174.6
10.00		1.00	0.70	16.018	17.62	372.07	0.650	0.000	5.00	23.135	15.04	423.9	0.0	1153.3
15.00		1.00	0.70	16.018	17.62	365.20	0.650	0.000	5.00	22.712	14.76	416.2	0.0	1132.1
20.00		1.00	0.70	16.018	17.62	358.33	0.650	0.000	5.00	22.288	14.49	408.4	0.0	1110.8
25.00		1.00	0.70	16.018	17.62	351.46	0.650	0.000	5.00	21.865	14.21	400.7	0.0	1089.5
30.00		1.00	0.70	16.031	17.63	344.74	0.650	0.000	5.00	21.442	13.94	393.2	0.0	1068.3
35.00		1.00	0.73	16.753	18.43	345.39	0.650	0.000	5.00	21.019	13.66	402.8	0.0	1047.0
40.00		1.00	0.76	17.405	19.15	344.89	0.650	0.000	5.00	20.596	13.39	410.1	0.0	1025.7
40.75	Bot - Section 2	1.00	0.76	17.497	19.25	344.73	0.650	0.000	0.75	3.053	1.98	61.1	0.0	152.0
45.00		1.00	0.79	18.000	19.80	343.46	0.650	0.000	4.25	17.389	11.30	358.1	0.0	1595.7
47.00	Top - Section 1	1.00	0.80	18.225	20.05	342.67	0.650	0.000	2.00	8.077	5.25	168.4	0.0	741.0
50.00		1.00	0.81	18.551	20.41	346.82	0.650	0.000	3.00	11.989	7.79	254.4	0.0	512.3
55.00		1.00	0.83	19.063	20.97	344.08	0.650	0.000	5.00	19.644	12.77	428.4	0.0	839.3
60.00		1.00	0.85	19.543	21.50	340.80	0.650	0.000	5.00	19.220	12.49	429.7	0.0	821.1
65.00		1.00	0.87	19.995	21.99	337.04	0.650	0.000	5.00	18.797	12.22	430.0	0.0	802.9
70.00		1.00	0.89	20.422	22.46	332.87	0.650	0.000	5.00	18.374	11.94	429.3	0.0	784.6
75.00		1.00	0.91	20.829	22.91	328.34	0.650	0.000	5.00	17.951	11.67	427.7	0.0	766.4
80.00		1.00	0.93	21.217	23.34	323.47	0.650	0.000	5.00	17.528	11.39	425.4	0.0	748.2
85.00		1.00	0.94	21.587	23.75	318.32	0.650	0.000	5.00	17.105	11.12	422.4	0.0	730.0
89.25	Bot - Section 3	1.00	0.96	21.890	24.08	313.72	0.650	0.000	4.25	14.206	9.23	355.8	0.0	606.1
90.00		1.00	0.96	21.943	24.14	312.89	0.650	0.000	0.75	2.507	1.63	62.9	0.0	177.1
91.50	RB1	1.00	0.96	22.047	24.25	311.21	0.650	0.000	1.50	4.985	3.24	125.7	0.0	352.2
94.25	Top - Section 2	1.00	0.97	22.234	24.46	308.08	0.650	0.000	2.75	9.041	5.88	230.0	0.0	638.6
95.00		1.00	0.97	22.284	24.51	311.26	0.650	0.000	0.75	2.444	1.59	62.3	0.0	69.7
96.75	RB2	1.00	0.98	22.401	24.64	309.23	0.650	0.000	1.75	5.664	3.68	145.2	0.0	161.6
97.00	RT1	1.00	0.98	22.417	24.66	308.94	0.650	0.000	0.25	0.805	0.52	20.6	0.0	23.0
100.00		1.00	0.99	22.613	24.87	305.39	0.650	0.000	3.00	9.577	6.23	247.8	0.0	273.2
102.25	RT2	1.00	0.99	22.758	25.03	302.68	0.650	0.000	2.25	7.083	4.60	184.4	0.0	202.0
105.00		1.00	1.00	22.931	25.22	299.31	0.650	0.000	2.75	8.541	5.55	224.0	0.0	243.6
110.00		1.00	1.02	23.238	25.56	293.03	0.650	0.000	5.00	15.200	9.88	404.1	0.0	433.5
115.00		1.00	1.03	23.535	25.89	286.57	0.650	0.000	5.00	14.777	9.61	397.9	0.0	421.3
117.00	Appurtenance(s)	1.00	1.03	23.651	26.02	283.94	0.650	0.000	2.00	5.792	3.77	156.7	0.0	165.1
120.00		1.00	1.04	23.823	26.20	279.94	0.650	0.000	3.00	8.562	5.57	233.3	0.0	244.0
125.00		1.00	1.05	24.102	26.51	273.16	0.650	0.000	5.00	13.931	9.06	384.1	0.0	397.0
127.00	Appurtenance(s)	1.00	1.06	24.212	26.63	270.40	0.650	0.000	2.00	5.454	3.55	151.1	0.0	155.4
130.00		1.00	1.07	24.374	26.81	266.22	0.650	0.000	3.00	8.054	5.24	224.6	0.0	229.5
135.00		1.00	1.08	24.638	27.10	259.14	0.650	0.000	5.00	13.085	8.51	368.8	0.0	372.7
139.00	Bot - Section 4	1.00	1.09	24.844	27.33	253.38	0.650	0.000	4.00	10.163	6.61	288.9	0.0	289.4
140.00		1.00	1.09	24.895	27.38	251.93	0.650	0.000	1.00	2.530	1.64	72.1	0.0	125.3
142.75	Top - Section 3	1.00	1.09	25.034	27.54	247.90	0.650	0.000	2.75	6.871	4.47	196.8	0.0	340.2
145.00		1.00	1.10	25.146	27.66	247.81	0.650	0.000	2.25	5.526	3.59	159.0	0.0	118.3
146.00	Appurtenance(s)	1.00	1.10	25.196	27.72	246.33	0.650	0.000	1.00	2.429	1.58	70.0	0.0	52.0
148.00	Appurtenance(s)	1.00	1.11	25.294	27.82	243.36	0.650	0.000	2.00	4.806	3.12	139.1	0.0	102.8
150.00	Appurtenance(s)	1.00	1.11	25.391	27.93	240.37	0.650	0.000	2.00	4.739	3.08	137.6	0.0	101.4
155.00		1.00	1.12	25.630	28.19	232.81	0.650	0.000	5.00	11.551	7.51	338.7	0.0	247.1
157.00	Appurtenance(s)	1.00	1.12	25.724	28.30	229.75	0.650	0.000	2.00	4.502	2.93	132.5	0.0	96.3

Wind Loading - Shaft

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 20
	Struct Class: II	



160.00	1.00	1.13	25.863	28.45	225.14	0.650	0.000	3.00	6.626	4.31	196.0	0.0	141.7
165.00 Appurtenance(s)	1.00	1.14	26.092	28.70	217.37	0.650	0.000	5.00	10.704	6.96	319.5	0.0	228.8
167.00 Appurtenance(s)	1.00	1.14	26.182	28.80	214.23	0.650	0.000	2.00	4.163	2.71	124.7	0.0	89.0
169.00	1.00	1.15	26.271	28.90	211.07	0.650	0.000	2.00	4.096	2.66	123.1	0.0	87.5
Totals:								169.00			13,399.2		24,480.4

Discrete Appurtenance Forces

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

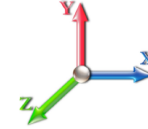
5/27/2022

Page: 21



Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	167.00	Ericsson - KRY 112 144/2	3	26.182	28.800	0.60	0.80	0.74	29.70	0.000	0.000	34.01	0.00	0.00
2	167.00	T-Arms/Commscope	3	26.204	28.825	0.56	0.75	11.39	918.00	0.000	0.500	525.33	0.00	262.66
3	167.00	AIR 21 B2A/B4P	3	26.182	28.800	0.77	0.90	14.14	248.40	0.000	0.000	651.61	0.00	0.00
4	167.00	Ericsson - Radio 4449	3	26.182	28.800	0.60	0.80	2.97	199.80	0.000	0.000	136.86	0.00	0.00
5	167.00	AIR 6449 B41	3	26.182	28.800	0.56	0.80	9.49	278.10	0.000	0.000	437.39	0.00	0.00
6	167.00	RRUS 4415 B25	3	26.182	28.800	0.54	0.80	2.64	124.20	0.000	0.000	121.52	0.00	0.00
7	165.00	APXVAA24_43-U-A20	3	26.092	28.701	0.66	0.90	39.89	345.60	0.000	0.000	1831.95	0.00	0.00
8	165.00	Air 32	3	26.092	28.701	0.78	0.90	15.29	285.66	0.000	0.000	702.23	0.00	0.00
9	157.00	MX06FRO660-02	6	25.724	28.296	0.70	0.80	41.22	324.00	0.000	0.000	1866.07	0.00	0.00
10	157.00	MT6407-77A	3	25.724	28.296	0.56	0.80	7.88	214.38	0.000	0.000	356.72	0.00	0.00
11	157.00	T-Arms	3	25.724	28.296	0.56	0.75	13.50	945.00	0.000	0.000	611.20	0.00	0.00
12	157.00	DB846F65ZAXY	4	25.724	28.296	0.74	0.80	20.76	75.60	0.000	0.000	939.67	0.00	0.00
13	157.00	DB846H80E-SX	2	25.724	28.296	0.88	0.80	8.82	28.80	0.000	0.000	399.21	0.00	0.00
14	157.00	RF4439d-25A	3	25.724	28.296	0.66	0.80	3.74	227.88	0.000	0.000	169.55	0.00	0.00
15	157.00	RF4440d-13A	3	25.724	28.296	0.66	0.80	3.74	227.88	0.000	0.000	169.55	0.00	0.00
16	157.00	DB-C1-12C-24AB-OZ	1	25.724	28.296	1.00	1.00	4.06	28.80	0.000	0.000	183.81	0.00	0.00
17	150.00	Collar Mount	1	25.391	27.930	1.00	1.00	3.50	90.00	0.000	0.000	156.41	0.00	0.00
18	150.00	Ericsson Air6419 B77G	3	25.391	27.930	0.61	0.80	6.93	178.47	0.000	0.000	309.74	0.00	0.00
19	148.00	Powerwave 21401	6	25.294	27.823	0.54	0.80	4.15	76.14	0.000	0.000	184.68	0.00	0.00
20	148.00	Commscope	1	25.294	27.823	0.54	0.80	0.53	31.05	0.000	0.000	23.62	0.00	0.00
21	148.00	Powerwave 1001940	3	25.294	27.823	0.54	0.80	0.40	5.94	0.000	0.000	17.90	0.00	0.00
22	148.00	Raycap	2	25.294	27.823	0.80	0.80	1.82	47.16	0.000	0.000	81.20	0.00	0.00
23	148.00	Ericsson RRUS 4478 B14	3	25.294	27.823	0.54	0.80	2.65	160.38	0.000	0.000	118.11	0.00	0.00
24	148.00	Ericsson RRUS 4449	3	25.294	27.823	0.54	0.80	3.17	191.70	0.000	0.000	141.02	0.00	0.00
25	148.00	CCI DMP65R-BU8DA	2	25.294	27.823	0.58	0.80	20.87	172.26	0.000	0.000	929.16	0.00	0.00
26	148.00	T-Arms w/ Modifications	3	25.294	27.823	0.56	0.75	20.25	1215.00	0.000	0.000	901.47	0.00	0.00
27	148.00	Quintel QD6616-7	1	25.294	27.823	0.74	0.80	5.98	99.90	0.000	0.000	266.37	0.00	0.00
28	148.00	Quintel QD8616-7	2	25.294	27.823	0.74	0.80	11.97	199.80	0.000	0.000	532.75	0.00	0.00
29	148.00	Ericsson RRUS 32	3	25.294	27.823	0.54	0.80	2.65	207.90	0.000	0.000	118.11	0.00	0.00
30	148.00	CCI DMP65R-BU6DA	1	25.294	27.823	0.58	0.80	7.32	71.46	0.000	0.000	325.91	0.00	0.00
31	148.00	Powerwave LGP13519	6	25.294	27.823	0.80	0.80	6.19	76.14	0.000	0.000	275.65	0.00	0.00
32	148.00	Ericsson RRUS 8843 B2	3	25.294	27.823	0.54	0.80	2.65	202.50	0.000	0.000	118.11	0.00	0.00
33	146.00	Ericsson Air6449 B77D	3	25.196	27.715	0.68	0.80	8.43	237.60	0.000	0.000	373.61	0.00	0.00
34	127.00	Horizon Duo	4	24.212	26.633	0.60	0.80	1.42	25.20	0.000	0.000	60.34	0.00	0.00
35	127.00	VHLP800-11	1	24.212	26.633	1.00	1.00	8.43	43.20	1.455	0.000	359.22	326.67	0.00
36	127.00	1900MHz RRH	3	24.212	26.633	0.74	0.75	6.17	162.00	0.000	0.000	262.93	0.00	0.00
37	127.00	VHLP2-11	3	24.212	26.633	1.00	1.00	14.04	72.90	1.455	0.000	598.28	544.06	0.00
38	127.00	NNVV-65B-R4	3	24.212	26.633	0.55	0.75	20.43	208.98	0.000	0.000	870.55	0.00	0.00
39	127.00	TD-RRH8x20-25	3	24.212	26.633	0.52	0.75	6.29	189.00	0.000	0.000	267.93	0.00	0.00
40	127.00	AAHC	3	24.212	26.633	0.56	0.75	7.10	279.72	0.000	0.000	302.73	0.00	0.00
41	127.00	RMQP-4096-HK	1	24.212	26.633	1.00	1.00	51.70	2380.50	0.000	0.000	2203.06	0.00	0.00
42	117.00	Raycap	1	23.651	26.016	1.00	1.00	2.01	19.71	0.000	0.000	83.67	0.00	0.00
43	117.00	Fujitsu TA08025-B604	3	23.651	26.016	0.50	0.75	2.95	172.53	0.000	0.000	122.99	0.00	0.00
44	117.00	Fujitsu TA08025-B605	3	23.651	26.016	0.50	0.75	2.95	202.50	0.000	0.000	122.99	0.00	0.00
45	117.00	Commscope	1	23.651	26.016	1.00	1.00	37.59	1554.30	0.000	0.000	1564.70	0.00	0.00
46	117.00	JMA MX08FRO665-21	3	23.651	26.016	0.55	0.75	20.80	174.15	0.000	0.000	865.64	0.00	0.00

Totals: 13,249.89

21,695.54

Total Applied Force Summary

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 22

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		431.69	1426.46	0.00	0.00
10.00		423.93	1405.19	0.00	0.00
15.00		416.18	1383.93	0.00	0.00
20.00		408.42	1362.66	0.00	0.00
25.00		400.67	1341.40	0.00	0.00
30.00		393.25	1320.13	0.00	0.00
35.00		402.84	1298.87	0.00	0.00
40.00		410.08	1277.60	0.00	0.00
40.75		61.11	189.81	0.00	0.00
45.00		358.09	1809.78	0.00	0.00
47.00		168.42	841.79	0.00	0.00
50.00		254.43	663.46	0.00	0.00
55.00		428.38	1091.19	0.00	0.00
60.00		429.70	1072.96	0.00	0.00
65.00		429.97	1054.74	0.00	0.00
70.00		429.28	1036.51	0.00	0.00
75.00		427.74	1018.28	0.00	0.00
80.00		425.43	1000.05	0.00	0.00
85.00		422.42	981.82	0.00	0.00
89.25		355.76	820.22	0.00	0.00
90.00		62.93	214.92	0.00	0.00
91.50		125.74	427.78	0.00	0.00
94.25		229.96	777.16	0.00	0.00
95.00		62.29	107.49	0.00	0.00
96.75		145.16	249.76	0.00	0.00
97.00		20.64	35.56	0.00	0.00
100.00		247.76	424.33	0.00	0.00
102.25		184.40	315.37	0.00	0.00
105.00		224.04	382.12	0.00	0.00
110.00		404.09	685.34	0.00	0.00
115.00		397.86	673.19	0.00	0.00
117.00	(11) attachments	2916.72	2389.06	0.00	0.00
120.00		233.33	390.25	0.00	0.00
125.00		384.12	640.69	0.00	0.00
127.00	(21) attachments	5076.11	3614.38	870.74	0.00
130.00		224.57	360.67	0.00	0.00
135.00		368.80	591.39	0.00	0.00
139.00		288.85	453.13	0.00	0.00
140.00		72.06	163.41	0.00	0.00
142.75		196.77	445.00	0.00	0.00
145.00		158.98	204.02	0.00	0.00
146.00	(3) attachments	443.61	327.68	0.00	0.00
148.00	(39) attachments	4173.14	2936.40	0.00	0.00
150.00	(4) attachments	603.80	428.45	0.00	0.00
155.00		338.67	393.56	0.00	0.00
157.00	(25) attachments	4828.26	2227.21	0.00	0.00

Total Applied Force Summary

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 23



160.00		196.04	181.24	0.00	0.00
165.00	(6) attachments	2853.70	926.04	0.00	0.00
167.00	(18) attachments	2031.41	1913.56	0.00	262.66
169.00		123.09	87.53	0.00	0.00
	Totals:	35,094.71	45,363.55	870.74	262.66

Linear Appurtenance Segment Forces (Factored)

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



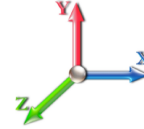
Page: 24

Load Case: 0.9D + 1.6W 97 mph Wind

Iterations 27

Dead Load Factor 0.90

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.035	0.000	16.018	0.00	18.72
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	16.018	0.00	18.72
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	16.018	0.00	18.72
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.037	0.000	16.018	0.00	18.72
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	16.018	0.00	18.72
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	16.031	0.00	18.72
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.039	0.000	16.753	0.00	18.72
40.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.040	0.000	17.405	0.00	18.72
40.75	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.041	0.000	17.497	0.00	2.81
45.00	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.041	0.000	18.000	0.00	15.91
47.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.042	0.000	18.225	0.00	7.49
50.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.041	0.000	18.551	0.00	11.23
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.042	0.000	19.063	0.00	18.72
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.043	0.000	19.543	0.00	18.72
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.044	0.000	19.995	0.00	18.72
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.045	0.000	20.422	0.00	18.72
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.046	0.000	20.829	0.00	18.72
80.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.047	0.000	21.217	0.00	18.72
85.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.048	0.000	21.587	0.00	18.72
89.25	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.049	0.000	21.890	0.00	15.91
90.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.075	0.000	21.943	0.00	2.81
90.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.075	0.000	21.943	0.00	0.00
91.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.076	0.000	22.047	0.00	5.62
91.50	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.13	0.00	0.076	0.000	22.047	0.00	0.00
94.25	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.077	0.000	22.234	0.00	10.30
94.25	1" Reinforcing plate	Yes	2.75	0.000	1.00	0.23	0.00	0.077	0.000	22.234	0.00	0.00
95.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.076	0.000	22.284	0.00	2.81
95.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.076	0.000	22.284	0.00	0.00
96.75	1 5/8" Coax	Yes	1.75	0.000	1.98	0.29	0.00	0.077	0.000	22.401	0.00	6.55
96.75	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.077	0.000	22.401	0.00	0.00
97.00	1 5/8" Coax	Yes	0.25	0.000	1.98	0.04	0.00	0.077	0.000	22.417	0.00	0.94
97.00	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.077	0.000	22.417	0.00	0.00
100.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.078	0.000	22.613	0.00	11.23
100.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.078	0.000	22.613	0.00	0.00
100.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.078	0.000	22.613	0.00	0.00
102.25	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.079	0.000	22.758	0.00	8.42
102.25	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.079	0.000	22.758	0.00	0.00
105.00	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.075	0.000	22.931	0.00	10.30
105.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.075	0.000	22.931	0.00	0.00
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.054	0.000	23.238	0.00	18.72
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.056	0.000	23.535	0.00	18.72
117.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.057	0.000	23.651	0.00	7.49
120.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.058	0.000	23.823	0.00	11.23
125.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.059	0.000	24.102	0.00	18.72
127.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.061	0.000	24.212	0.00	7.49
130.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.061	0.000	24.374	0.00	11.23
135.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.063	0.000	24.638	0.00	18.72

Linear Appurtenance Segment Forces (Factored)

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 25

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
139.00	1 5/8" Coax	Yes	4.00	0.000	1.98	0.66	0.00	0.065	0.000	24.844	0.00	14.98
140.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.066	0.000	24.895	0.00	3.74
142.75	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.067	0.000	25.034	0.00	10.30
145.00	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.067	0.000	25.146	0.00	8.42
146.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.068	0.000	25.196	0.00	3.74
148.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.069	0.000	25.294	0.00	7.49
150.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.070	0.000	25.391	0.00	7.49
155.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.071	0.000	25.630	0.00	18.72
157.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.073	0.000	25.724	0.00	7.49
Totals:											0.0	587.8

Calculated Forces

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

5/27/2022

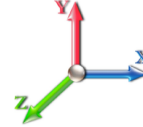


Page: 26

Load Case: 0.9D + 1.6W 97 mph Wind

Iterations 27

Dead Load Factor 0.90
Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.30	-35.18	-0.85	-4439.4	-0.01	4439.42	5324.18	2662.09	12195.0	6106.56	0.00	0.000	0.000	0.736
5.00	-43.75	-34.90	-0.85	-4263.5	-0.01	4263.54	5261.08	2630.54	11832.5	5925.09	0.11	-0.204	0.000	0.728
10.00	-42.22	-34.62	-0.85	-4089.0	-0.02	4089.05	5196.80	2598.40	11472.7	5744.92	0.43	-0.410	0.000	0.720
15.00	-40.72	-34.34	-0.85	-3915.9	-0.02	3915.95	5131.34	2565.67	11115.7	5566.13	0.97	-0.619	0.000	0.712
20.00	-39.23	-34.06	-0.85	-3744.2	-0.02	3744.24	5064.69	2532.35	10761.6	5388.80	1.74	-0.831	0.000	0.703
25.00	-37.77	-33.78	-0.85	-3573.9	-0.02	3573.93	4996.86	2498.43	10410.5	5212.99	2.72	-1.045	0.000	0.693
30.00	-36.33	-33.50	-0.85	-3405.0	-0.02	3405.02	4927.84	2463.92	10062.6	5038.79	3.93	-1.262	0.000	0.683
35.00	-34.91	-33.20	-0.85	-3237.5	-0.02	3237.52	4857.63	2428.82	9718.08	4866.26	5.37	-1.480	0.000	0.673
40.00	-33.58	-32.83	-0.85	-3071.5	-0.02	3071.52	4786.24	2393.12	9377.03	4695.49	7.04	-1.701	0.000	0.661
40.75	-33.32	-32.83	-0.85	-3046.9	-0.02	3046.90	4775.43	2387.72	9326.19	4670.03	7.31	-1.736	0.000	0.660
45.00	-31.45	-32.49	-0.85	-2907.3	-0.02	2907.37	4713.67	2356.83	9039.63	4526.53	8.94	-1.926	0.000	0.649
47.00	-30.55	-32.35	-0.85	-2842.4	-0.02	2842.40	3877.89	1938.95	7512.92	3762.05	9.77	-2.017	0.000	0.764
50.00	-29.78	-32.18	-0.85	-2745.3	-0.02	2745.34	3845.09	1922.55	7353.82	3682.38	11.08	-2.154	-0.001	0.754
55.00	-28.57	-31.83	-0.86	-2584.4	-0.02	2584.45	3789.47	1894.74	7090.51	3550.52	13.47	-2.404	-0.001	0.736
60.00	-27.38	-31.47	-0.86	-2425.3	-0.02	2425.31	3732.67	1866.34	6829.63	3419.89	16.12	-2.654	-0.001	0.717
65.00	-26.21	-31.11	-0.86	-2267.9	-0.03	2267.94	3674.68	1837.34	6571.34	3290.55	19.03	-2.905	-0.001	0.697
70.00	-25.07	-30.73	-0.86	-2112.4	-0.03	2112.40	3615.51	1807.76	6315.78	3162.58	22.21	-3.156	-0.001	0.675
75.00	-23.94	-30.35	-0.86	-1958.7	-0.03	1958.73	3555.15	1777.58	6063.10	3036.06	25.65	-3.406	-0.001	0.652
80.00	-22.84	-29.97	-0.86	-1806.9	-0.03	1806.96	3493.61	1746.80	5813.45	2911.05	29.35	-3.654	-0.001	0.628
85.00	-21.77	-29.57	-0.86	-1657.1	-0.03	1657.13	3430.88	1715.44	5566.98	2787.63	33.30	-3.900	-0.001	0.601
89.25	-20.92	-29.20	-0.86	-1531.4	-0.04	1531.48	3376.63	1688.32	5360.08	2684.02	36.87	-4.107	-0.001	0.577
90.00	-20.68	-29.14	-0.86	-1509.5	-0.04	1509.58	3366.97	1683.48	5323.83	2665.87	37.52	-4.144	-0.001	0.573
91.50	-20.22	-29.01	-0.86	-1465.8	-0.04	1465.87	3347.56	1673.78	5251.55	2629.68	38.83	-4.218	-0.001	0.422
94.25	-19.43	-28.75	-0.86	-1386.0	-0.04	1386.08	1944.87	972.44	3066.99	1535.78	41.29	-4.317	-0.001	0.477
95.00	-19.30	-28.70	-0.86	-1364.5	-0.04	1364.52	1940.65	970.33	3048.28	1526.41	41.97	-4.345	-0.002	0.608
96.75	-19.04	-28.55	-0.86	-1314.3	-0.04	1314.31	1930.70	965.35	3004.67	1504.57	43.57	-4.425	-0.002	0.415
97.00	-18.97	-28.55	-0.86	-1307.1	-0.04	1307.17	1929.27	964.63	2998.44	1501.45	43.80	-4.433	-0.002	0.538
100.00	-18.52	-28.30	-0.86	-1221.5	-0.04	1221.53	1911.84	955.92	2923.84	1464.09	46.63	-4.555	-0.002	0.512
102.25	-18.17	-28.12	-0.86	-1157.8	-0.04	1157.86	1898.49	949.24	2868.04	1436.15	48.79	-4.644	-0.002	0.493
102.25	-18.17	-28.12	-0.86	-1157.8	-0.04	1157.86	1898.49	949.24	2868.04	1436.15	48.79	-4.644	-0.002	0.493
105.00	-17.71	-27.93	-0.86	-1080.5	-0.04	1080.53	1881.84	940.92	2800.02	1402.09	51.50	-4.751	-0.002	0.781
110.00	-16.92	-27.56	-0.87	-940.87	-0.05	940.87	1850.66	925.33	2676.97	1340.48	56.63	-5.054	-0.002	0.712
115.00	-16.19	-27.16	-0.87	-803.09	-0.05	803.09	1818.29	909.14	2554.84	1279.32	62.07	-5.338	-0.003	0.638
117.00	-14.03	-24.06	-0.87	-748.78	-0.05	748.78	1805.01	902.50	2506.28	1255.00	64.33	-5.448	-0.003	0.605
120.00	-13.58	-23.84	-0.87	-676.60	-0.06	676.60	1784.73	892.37	2433.78	1218.70	67.80	-5.606	-0.003	0.564
125.00	-12.92	-23.43	-0.87	-557.42	-0.06	557.42	1749.99	875.00	2313.93	1158.68	73.80	-5.845	-0.003	0.489
127.00	-9.81	-18.03	0.00	-510.56	0.03	510.56	1735.77	867.88	2266.36	1134.86	76.26	-5.936	-0.003	0.456
130.00	-9.42	-17.79	0.00	-456.48	0.02	456.48	1714.07	857.04	2195.44	1099.35	80.03	-6.065	-0.003	0.421
135.00	-8.82	-17.39	0.00	-367.53	0.02	367.53	1676.96	838.48	2078.45	1040.77	86.47	-6.258	-0.003	0.359
139.00	-8.38	-17.06	0.00	-297.98	0.02	297.98	1646.42	823.21	1986.05	994.50	91.77	-6.395	-0.003	0.305
140.00	-8.21	-16.98	0.00	-280.92	0.02	280.92	1638.67	819.33	1963.12	983.02	93.11	-6.427	-0.003	0.291
142.75	-7.77	-16.74	0.00	-234.22	0.01	234.22	1100.62	550.31	1316.21	659.08	96.83	-6.508	-0.003	0.363
145.00	-7.57	-16.57	0.00	-196.54	0.01	196.54	1091.20	545.60	1284.61	643.26	99.90	-6.567	-0.003	0.313
146.00	-7.28	-16.10	0.00	-179.97	0.01	179.97	1086.94	543.47	1270.59	636.24	101.28	-6.597	-0.003	0.290
148.00	-4.84	-11.62	0.00	-147.78	0.01	147.78	1078.27	539.14	1242.60	622.22	104.05	-6.652	-0.003	0.242
150.00	-4.47	-10.97	0.00	-124.55	0.01	124.55	1069.42	534.71	1214.68	608.24	106.84	-6.698	-0.003	0.209
155.00	-4.11	-10.59	0.00	-69.69	0.00	69.69	1046.45	523.23	1145.25	573.48	113.89	-6.786	-0.003	0.126
157.00	-2.47	-5.54	0.00	-48.50	0.00	48.50	1036.93	518.47	1117.66	559.66	116.73	-6.809	-0.003	0.089

Calculated Forces

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 27
	Struct Class: II	



160.00	-2.31	-5.32	0.00	-31.89	0.00	31.89	1022.30	511.15	1076.48	539.04	121.01	-6.835	-0.003	0.062
165.00	-1.73	-2.38	0.00	-5.28	0.00	5.28	996.96	498.48	1008.51	505.00	128.17	-6.856	-0.003	0.012
167.00	-0.07	-0.13	0.00	-0.27	0.00	0.27	986.50	493.25	981.58	491.52	131.03	-6.857	-0.003	0.001
169.00	0.00	-0.12	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	133.90	-6.857	-0.003	0.000

Wind Loading - Shaft

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

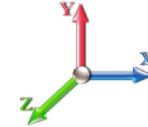
5/27/2022

Page: 28



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.256	4.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.68	0.00	1.200	1.242	5.00	24.593	29.51	138.2	439.0	2005.1
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.331	5.00	24.244	29.09	136.2	462.9	2000.7
15.00		1.00	0.70	4.256	4.68	0.00	1.200	1.386	5.00	23.867	28.64	134.1	473.8	1983.3
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.427	5.00	23.477	28.17	131.9	479.1	1960.2
25.00		1.00	0.70	4.256	4.68	0.00	1.200	1.459	5.00	23.081	27.70	129.7	481.0	1933.8
30.00		1.00	0.70	4.260	4.69	0.00	1.200	1.486	5.00	22.680	27.22	127.5	480.8	1905.2
35.00		1.00	0.73	4.451	4.90	0.00	1.200	1.509	5.00	22.276	26.73	130.9	479.1	1875.1
40.00		1.00	0.76	4.625	5.09	0.00	1.200	1.529	5.00	21.870	26.24	133.5	476.1	1843.8
40.75	Bot - Section 2	1.00	0.76	4.649	5.11	0.00	1.200	1.532	0.75	3.244	3.89	19.9	71.3	274.0
45.00		1.00	0.79	4.783	5.26	0.00	1.200	1.547	4.25	18.485	22.18	116.7	407.6	2535.2
47.00	Top - Section 1	1.00	0.80	4.843	5.33	0.00	1.200	1.554	2.00	8.595	10.31	54.9	191.1	1179.2
50.00		1.00	0.81	4.929	5.42	0.00	1.200	1.564	3.00	12.771	15.33	83.1	285.0	968.1
55.00		1.00	0.83	5.065	5.57	0.00	1.200	1.579	5.00	20.959	25.15	140.1	469.7	1588.8
60.00		1.00	0.85	5.193	5.71	0.00	1.200	1.592	5.00	20.547	24.66	140.8	464.0	1558.8
65.00		1.00	0.87	5.313	5.84	0.00	1.200	1.605	5.00	20.135	24.16	141.2	457.8	1528.3
70.00		1.00	0.89	5.426	5.97	0.00	1.200	1.617	5.00	19.722	23.67	141.3	451.2	1497.4
75.00		1.00	0.91	5.534	6.09	0.00	1.200	1.628	5.00	19.308	23.17	141.1	444.2	1466.1
80.00		1.00	0.93	5.637	6.20	0.00	1.200	1.639	5.00	18.894	22.67	140.6	436.9	1434.5
85.00		1.00	0.94	5.736	6.31	0.00	1.200	1.649	5.00	18.479	22.17	139.9	429.3	1402.6
89.25	Bot - Section 3	1.00	0.96	5.816	6.40	0.00	1.200	1.657	4.25	15.380	18.46	118.1	359.3	1167.5
90.00		1.00	0.96	5.830	6.41	0.00	1.200	1.658	0.75	2.714	3.26	20.9	64.0	300.2
91.50	RB1	1.00	0.96	5.858	6.44	0.00	1.200	1.661	1.50	5.401	6.48	41.8	127.3	596.9
94.25	Top - Section 2	1.00	0.97	5.908	6.50	0.00	1.200	1.666	2.75	9.805	11.77	76.5	230.9	1082.4
95.00		1.00	0.97	5.921	6.51	0.00	1.200	1.667	0.75	2.652	3.18	20.7	62.8	155.8
96.75	RB2	1.00	0.98	5.952	6.55	0.00	1.200	1.670	1.75	6.152	7.38	48.3	145.5	361.0
97.00	RT1	1.00	0.98	5.956	6.55	0.00	1.200	1.671	0.25	0.875	1.05	6.9	20.8	51.4
100.00		1.00	0.99	6.008	6.61	0.00	1.200	1.676	3.00	10.415	12.50	82.6	246.2	610.5
102.25	RT2	1.00	0.99	6.047	6.65	0.00	1.200	1.680	2.25	7.713	9.26	61.6	183.0	452.4
105.00		1.00	1.00	6.093	6.70	0.00	1.200	1.684	2.75	9.312	11.17	74.9	221.1	545.9
110.00		1.00	1.02	6.174	6.79	0.00	1.200	1.692	5.00	16.610	19.93	135.4	393.3	971.2
115.00		1.00	1.03	6.253	6.88	0.00	1.200	1.699	5.00	16.193	19.43	133.7	384.5	946.2
117.00	Appurtenance(s)	1.00	1.03	6.284	6.91	0.00	1.200	1.702	2.00	6.360	7.63	52.8	152.4	372.5
120.00		1.00	1.04	6.330	6.96	0.00	1.200	1.707	3.00	9.415	11.30	78.7	225.3	550.7
125.00		1.00	1.05	6.404	7.04	0.00	1.200	1.714	5.00	15.359	18.43	129.8	366.4	895.7
127.00	Appurtenance(s)	1.00	1.06	6.433	7.08	0.00	1.200	1.716	2.00	6.026	7.23	51.2	145.1	352.3
130.00		1.00	1.07	6.476	7.12	0.00	1.200	1.720	3.00	8.914	10.70	76.2	214.2	520.2
135.00		1.00	1.08	6.546	7.20	0.00	1.200	1.727	5.00	14.524	17.43	125.5	347.7	844.6
139.00	Bot - Section 4	1.00	1.09	6.601	7.26	0.00	1.200	1.732	4.00	11.318	13.58	98.6	272.0	657.9
140.00		1.00	1.09	6.615	7.28	0.00	1.200	1.733	1.00	2.819	3.38	24.6	68.4	235.5
142.75	Top - Section 3	1.00	1.09	6.652	7.32	0.00	1.200	1.737	2.75	7.667	9.20	67.3	185.3	638.9
145.00		1.00	1.10	6.681	7.35	0.00	1.200	1.739	2.25	6.179	7.41	54.5	149.7	307.3
146.00	Appurtenance(s)	1.00	1.10	6.695	7.36	0.00	1.200	1.741	1.00	2.719	3.26	24.0	66.1	135.4
148.00	Appurtenance(s)	1.00	1.11	6.721	7.39	0.00	1.200	1.743	2.00	5.387	6.46	47.8	130.7	267.8
150.00	Appurtenance(s)	1.00	1.11	6.746	7.42	0.00	1.200	1.745	2.00	5.320	6.38	47.4	129.1	264.3
155.00		1.00	1.12	6.810	7.49	0.00	1.200	1.751	5.00	13.010	15.61	116.9	313.0	642.4
157.00	Appurtenance(s)	1.00	1.12	6.835	7.52	0.00	1.200	1.753	2.00	5.086	6.10	45.9	123.6	252.0

Wind Loading - Shaft

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 29
	Struct Class: II	



160.00	1.00	1.13	6.872	7.56	0.00	1.200	1.757	3.00	7.504	9.00	68.1	181.8	370.7
165.00 Appurtenance(s)	1.00	1.14	6.933	7.63	0.00	1.200	1.762	5.00	12.173	14.61	111.4	293.0	598.1
167.00 Appurtenance(s)	1.00	1.14	6.957	7.65	0.00	1.200	1.764	2.00	4.751	5.70	43.6	115.6	234.2
169.00	1.00	1.15	6.980	7.68	0.00	1.200	1.766	2.00	4.684	5.62	43.2	114.0	230.7
Totals:								169.00			4,450.2		46,552.6

Discrete Appurtenance Forces

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

5/27/2022

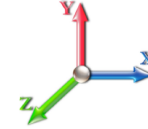
Page: 30



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	167.00	Ericsson - KRY 112 144/2	3	6.957	7.652	0.60	0.80	1.60	62.99	0.000	0.000	12.26	0.00	0.00
2	167.00	T-Arms/Commscope	3	6.963	7.659	0.56	0.75	21.44	1703.73	0.000	0.500	164.18	0.00	82.09
3	167.00	AIR 21 B2A/B4P	3	6.957	7.652	0.77	0.90	16.61	844.54	0.000	0.000	127.14	0.00	0.00
4	167.00	Ericsson - Radio 4449	3	6.957	7.652	0.60	0.80	3.90	471.00	0.000	0.000	29.85	0.00	0.00
5	167.00	AIR 6449 B41	3	6.957	7.652	0.56	0.80	11.15	835.33	0.000	0.000	85.29	0.00	0.00
6	167.00	RRUS 4415 B25	3	6.957	7.652	0.54	0.80	3.47	262.04	0.000	0.000	26.59	0.00	0.00
7	165.00	APXVAA24_43-U-A20	3	6.933	7.626	0.66	0.90	43.73	1758.98	0.000	0.000	333.45	0.00	0.00
8	165.00	Air 32	3	6.933	7.626	0.78	0.90	18.09	940.28	0.000	0.000	137.96	0.00	0.00
9	157.00	MX06FRO660-02	6	6.835	7.518	0.70	0.80	46.99	2054.36	0.000	0.000	353.29	0.00	0.00
10	157.00	MT6407-77A	3	6.835	7.518	0.56	0.80	9.48	646.45	0.000	0.000	71.26	0.00	0.00
11	157.00	T-Arms	3	6.835	7.518	0.56	0.75	25.33	1786.34	0.000	0.000	190.47	0.00	0.00
12	157.00	DB846F65ZAXY	4	6.835	7.518	0.74	0.80	24.66	894.70	0.000	0.000	185.42	0.00	0.00
13	157.00	DB846H80E-SX	2	6.835	7.518	0.88	0.80	10.97	359.21	0.000	0.000	82.45	0.00	0.00
14	157.00	RF4439d-25A	3	6.835	7.518	0.66	0.80	4.85	352.72	0.000	0.000	36.45	0.00	0.00
15	157.00	RF4440d-13A	3	6.835	7.518	0.66	0.80	4.85	352.72	0.000	0.000	36.45	0.00	0.00
16	157.00	DB-C1-12C-24AB-OZ	1	6.835	7.518	1.00	1.00	4.89	124.25	0.000	0.000	36.73	0.00	0.00
17	150.00	Collar Mount	1	6.746	7.421	1.00	1.00	5.94	-146.23	0.000	0.000	44.11	0.00	0.00
18	150.00	Ericsson Air6419 B77G	3	6.746	7.421	0.61	0.80	8.38	458.49	0.000	0.000	62.21	0.00	0.00
19	148.00	Powerwave 21401	6	6.721	7.393	0.54	0.80	6.83	208.73	0.000	0.000	50.51	0.00	0.00
20	148.00	Commscope	1	6.721	7.393	0.54	0.80	0.76	84.48	0.000	0.000	5.62	0.00	0.00
21	148.00	Powerwave 1001940	3	6.721	7.393	0.54	0.80	1.08	24.82	0.000	0.000	7.96	0.00	0.00
22	148.00	Raycap	2	6.721	7.393	0.80	0.80	4.36	240.38	0.000	0.000	32.23	0.00	0.00
23	148.00	Ericsson RRUS 4478 B14	3	6.721	7.393	0.54	0.80	3.49	309.87	0.000	0.000	25.77	0.00	0.00
24	148.00	Ericsson RRUS 4449	3	6.721	7.393	0.54	0.80	4.05	374.73	0.000	0.000	29.92	0.00	0.00
25	148.00	CCI DMP65R-BU8DA	2	6.721	7.393	0.58	0.80	22.97	1214.35	0.000	0.000	169.79	0.00	0.00
26	148.00	T-Arms w/ Modifications	3	6.721	7.393	0.56	0.75	37.90	2651.15	0.000	0.000	280.16	0.00	0.00
27	148.00	Quintel QD6616-7	1	6.721	7.393	0.74	0.80	6.94	360.12	0.000	0.000	51.29	0.00	0.00
28	148.00	Quintel QD8616-7	2	6.721	7.393	0.74	0.80	13.88	720.25	0.000	0.000	102.59	0.00	0.00
29	148.00	Ericsson RRUS 32	3	6.721	7.393	0.54	0.80	3.58	422.41	0.000	0.000	26.49	0.00	0.00
30	148.00	CCI DMP65R-BU6DA	1	6.721	7.393	0.58	0.80	8.16	322.13	0.000	0.000	60.35	0.00	0.00
31	148.00	Powerwave LGP13519	6	6.721	7.393	0.80	0.80	10.20	208.73	0.000	0.000	75.39	0.00	0.00
32	148.00	Ericsson RRUS 8843 B2	3	6.721	7.393	0.54	0.80	3.52	493.72	0.000	0.000	26.00	0.00	0.00
33	146.00	Ericsson Air6449 B77D	3	6.695	7.364	0.68	0.80	10.17	728.12	0.000	0.000	74.89	0.00	0.00
34	127.00	Horizon Duo	4	6.433	7.076	0.60	0.80	2.74	77.05	0.000	0.000	19.40	0.00	0.00
35	127.00	VHLP800-11	1	6.433	7.076	1.00	1.00	10.11	179.87	1.455	0.000	71.53	104.08	0.00
36	127.00	1900MHz RRH	3	6.433	7.076	0.74	0.75	8.95	390.47	0.000	0.000	63.33	0.00	0.00
37	127.00	VHLP2-11	3	6.433	7.076	1.00	1.00	17.80	301.94	1.455	0.000	125.96	183.27	0.00
38	127.00	NNVV-65B-R4	3	6.433	7.076	0.55	0.75	22.81	923.77	0.000	0.000	161.44	0.00	0.00
39	127.00	TD-RRH8x20-25	3	6.433	7.076	0.53	0.75	7.75	576.79	0.000	0.000	54.81	0.00	0.00
40	127.00	AAHC	3	6.433	7.076	0.56	0.75	8.45	608.99	0.000	0.000	59.80	0.00	0.00
41	127.00	RMQP-4096-HK	1	6.433	7.076	1.00	1.00	89.33	5142.94	0.000	0.000	632.10	0.00	0.00
42	117.00	Raycap	1	6.284	6.913	1.00	1.00	2.56	65.52	0.000	0.000	17.73	0.00	0.00
43	117.00	Fujitsu TA08025-B604	3	6.284	6.913	0.50	0.75	3.78	341.90	0.000	0.000	26.13	0.00	0.00
44	117.00	Fujitsu TA08025-B605	3	6.284	6.913	0.50	0.75	3.78	385.26	0.000	0.000	26.13	0.00	0.00
45	117.00	Commscope	1	6.284	6.913	1.00	1.00	83.66	3345.81	0.000	0.000	578.33	0.00	0.00
46	117.00	JMA MX08FRO665-21	3	6.284	6.913	0.55	0.75	23.17	881.80	0.000	0.000	160.20	0.00	0.00

Totals: 35,348.00

5,031.40

Total Applied Force Summary

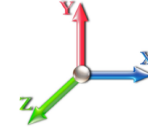
Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 31

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		138.16	2395.18	0.00	0.00
10.00		136.20	2394.87	0.00	0.00
15.00		134.08	2380.06	0.00	0.00
20.00		131.89	2358.90	0.00	0.00
25.00		129.67	2334.06	0.00	0.00
30.00		127.52	2306.80	0.00	0.00
35.00		130.89	2277.80	0.00	0.00
40.00		133.50	2247.50	0.00	0.00
40.75		19.91	334.62	0.00	0.00
45.00		116.70	2879.11	0.00	0.00
47.00		54.94	1341.15	0.00	0.00
50.00		83.09	1211.36	0.00	0.00
55.00		140.13	1995.04	0.00	0.00
60.00		140.83	1965.69	0.00	0.00
65.00		141.20	1935.82	0.00	0.00
70.00		141.26	1905.51	0.00	0.00
75.00		141.05	1874.81	0.00	0.00
80.00		140.59	1843.75	0.00	0.00
85.00		139.91	1812.38	0.00	0.00
89.25		118.08	1516.11	0.00	0.00
90.00		20.89	365.27	0.00	0.00
91.50		41.76	727.15	0.00	0.00
94.25		76.46	1321.41	0.00	0.00
95.00		20.73	220.94	0.00	0.00
96.75		48.33	513.18	0.00	0.00
97.00		6.88	73.13	0.00	0.00
100.00		82.60	871.65	0.00	0.00
102.25		61.56	648.33	0.00	0.00
105.00		74.90	783.14	0.00	0.00
110.00		135.38	1383.21	0.00	0.00
115.00		133.67	1358.58	0.00	0.00
117.00	(11) attachments	861.27	5557.82	0.00	0.00
120.00		78.67	791.76	0.00	0.00
125.00		129.83	1297.87	0.00	0.00
127.00	(21) attachments	1239.54	8715.02	287.35	0.00
130.00		76.20	741.70	0.00	0.00
135.00		125.50	1214.14	0.00	0.00
139.00		98.62	938.79	0.00	0.00
140.00		24.61	301.98	0.00	0.00
142.75		67.31	821.79	0.00	0.00
145.00		54.49	457.06	0.00	0.00
146.00	(3) attachments	98.91	930.09	0.00	0.00
148.00	(39) attachments	991.86	8036.84	0.00	0.00
150.00	(4) attachments	153.70	686.26	0.00	0.00
155.00		116.95	916.94	0.00	0.00
157.00	(25) attachments	1038.42	6932.57	0.00	0.00

Total Applied Force Summary

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 32



160.00		68.07	423.48	0.00	0.00
165.00	(6) attachments	582.80	3385.29	0.00	0.00
167.00	(18) attachments	488.94	4449.03	0.00	82.09
169.00		43.16	230.65	0.00	0.00
Totals:		9,481.62	94,405.62	287.35	82.09

Linear Appurtenance Segment Forces (Factored)

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

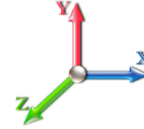


Page: 33

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 26

Dead Load Factor 1.20
Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.86	0.00	0.035	0.000	4.256	0.00	79.18
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.93	0.00	0.036	0.000	4.256	0.00	83.33
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.98	0.00	0.036	0.000	4.256	0.00	85.94
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.01	0.00	0.037	0.000	4.256	0.00	87.88
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.04	0.00	0.038	0.000	4.256	0.00	89.44
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.06	0.00	0.038	0.000	4.260	0.00	90.75
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.08	0.00	0.039	0.000	4.451	0.00	91.88
40.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.10	0.00	0.040	0.000	4.625	0.00	92.88
40.75	1 5/8" Coax	Yes	0.75	0.000	1.98	0.32	0.00	0.041	0.000	4.649	0.00	13.95
45.00	1 5/8" Coax	Yes	4.25	0.000	1.98	1.80	0.00	0.041	0.000	4.783	0.00	79.72
47.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.85	0.00	0.042	0.000	4.843	0.00	37.65
50.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.28	0.00	0.041	0.000	4.929	0.00	56.76
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.14	0.00	0.042	0.000	5.065	0.00	95.35
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.15	0.00	0.043	0.000	5.193	0.00	96.04
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.16	0.00	0.044	0.000	5.313	0.00	96.68
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.17	0.00	0.045	0.000	5.426	0.00	97.29
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.18	0.00	0.046	0.000	5.534	0.00	97.85
80.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.19	0.00	0.047	0.000	5.637	0.00	98.39
85.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.20	0.00	0.048	0.000	5.736	0.00	98.90
89.25	1 5/8" Coax	Yes	4.25	0.000	1.98	1.87	0.00	0.049	0.000	5.816	0.00	84.41
90.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.33	0.00	0.075	0.000	5.830	0.00	14.91
90.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.27	0.00	0.075	0.000	5.830	0.00	3.55
91.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.66	0.00	0.076	0.000	5.858	0.00	29.86
91.50	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.54	0.00	0.076	0.000	5.858	0.00	7.12
94.25	1 5/8" Coax	Yes	2.75	0.000	1.98	1.22	0.00	0.077	0.000	5.908	0.00	54.87
94.25	1" Reinforcing plate	Yes	2.75	0.000	1.00	0.99	0.00	0.077	0.000	5.908	0.00	13.12
95.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.33	0.00	0.076	0.000	5.921	0.00	14.98
95.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.27	0.00	0.076	0.000	5.921	0.00	3.58
96.75	1 5/8" Coax	Yes	1.75	0.000	1.98	0.78	0.00	0.077	0.000	5.952	0.00	35.00
96.75	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.63	0.00	0.077	0.000	5.952	0.00	8.38
97.00	1 5/8" Coax	Yes	0.25	0.000	1.98	0.11	0.00	0.077	0.000	5.956	0.00	5.00
97.00	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.09	0.00	0.077	0.000	5.956	0.00	1.20
100.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.33	0.00	0.078	0.000	6.008	0.00	60.17
100.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.27	0.00	0.078	0.000	6.008	0.00	3.61
100.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.82	0.00	0.078	0.000	6.008	0.00	10.84
102.25	1 5/8" Coax	Yes	2.25	0.000	1.98	1.00	0.00	0.079	0.000	6.047	0.00	45.21
102.25	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.82	0.00	0.079	0.000	6.047	0.00	10.88
105.00	1 5/8" Coax	Yes	2.75	0.000	1.98	1.23	0.00	0.075	0.000	6.093	0.00	55.38
105.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.82	0.00	0.075	0.000	6.093	0.00	10.93
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.23	0.00	0.054	0.000	6.174	0.00	101.10
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.24	0.00	0.056	0.000	6.253	0.00	101.49
117.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.90	0.00	0.057	0.000	6.284	0.00	40.66
120.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.35	0.00	0.058	0.000	6.330	0.00	61.12
125.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.25	0.00	0.059	0.000	6.404	0.00	102.22
127.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.90	0.00	0.061	0.000	6.433	0.00	40.95
130.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.36	0.00	0.061	0.000	6.476	0.00	61.54
135.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.26	0.00	0.063	0.000	6.546	0.00	102.91

Linear Appurtenance Segment Forces (Factored)

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



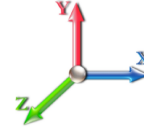
Page: 34

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 26

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
139.00	1 5/8" Coax	Yes	4.00	0.000	1.98	1.81	0.00	0.065	0.000	6.601	0.00	82.54
140.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.45	0.00	0.066	0.000	6.615	0.00	20.65
142.75	1 5/8" Coax	Yes	2.75	0.000	1.98	1.25	0.00	0.067	0.000	6.652	0.00	56.88
145.00	1 5/8" Coax	Yes	2.25	0.000	1.98	1.02	0.00	0.067	0.000	6.681	0.00	46.60
146.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.46	0.00	0.068	0.000	6.695	0.00	20.72
148.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.91	0.00	0.069	0.000	6.721	0.00	41.50
150.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.91	0.00	0.070	0.000	6.746	0.00	41.54
155.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.28	0.00	0.071	0.000	6.810	0.00	104.16
157.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.91	0.00	0.073	0.000	6.835	0.00	41.71
Totals:											0.0	3,111.2

Calculated Forces

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

5/27/2022

Page: 35



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 26

Dead Load Factor 1.20
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-94.40	-9.53	-0.29	-1220.5	0.00	1220.58	5324.18	2662.09	12195.0	6106.56	0.00	0.000	0.000	0.218
5.00	-92.00	-9.48	-0.29	-1172.9	0.00	1172.94	5261.08	2630.54	11832.5	5925.09	0.03	-0.056	0.000	0.215
10.00	-89.59	-9.43	-0.29	-1125.5	0.00	1125.54	5196.80	2598.40	11472.7	5744.92	0.12	-0.113	0.000	0.213
15.00	-87.20	-9.38	-0.29	-1078.4	0.00	1078.40	5131.34	2565.67	11115.7	5566.13	0.27	-0.170	0.000	0.211
20.00	-84.84	-9.32	-0.29	-1031.5	0.00	1031.51	5064.69	2532.35	10761.6	5388.80	0.48	-0.229	0.000	0.208
25.00	-82.49	-9.27	-0.29	-984.89	0.00	984.89	4996.86	2498.43	10410.5	5212.99	0.75	-0.288	0.000	0.205
30.00	-80.18	-9.21	-0.29	-938.55	0.00	938.55	4927.84	2463.92	10062.6	5038.79	1.08	-0.347	0.000	0.203
35.00	-77.89	-9.15	-0.29	-892.49	0.00	892.49	4857.63	2428.82	9718.08	4866.26	1.48	-0.408	0.000	0.199
40.00	-75.64	-9.04	-0.29	-846.74	0.00	846.74	4786.24	2393.12	9377.03	4695.49	1.94	-0.469	0.000	0.196
40.75	-75.30	-9.06	-0.29	-839.96	0.00	839.96	4775.43	2387.72	9326.19	4670.03	2.01	-0.478	0.000	0.196
45.00	-72.41	-8.97	-0.29	-801.44	0.00	801.44	4713.67	2356.83	9039.63	4526.53	2.46	-0.531	0.000	0.192
47.00	-71.07	-8.94	-0.29	-783.50	0.00	783.50	3877.89	1938.95	7512.92	3762.05	2.69	-0.556	0.000	0.227
50.00	-69.85	-8.91	-0.29	-756.68	0.00	756.68	3845.09	1922.55	7353.82	3682.38	3.05	-0.593	0.000	0.224
55.00	-67.85	-8.83	-0.29	-712.12	0.00	712.12	3789.47	1894.74	7090.51	3550.52	3.71	-0.662	0.000	0.218
60.00	-65.87	-8.75	-0.29	-667.97	0.00	667.97	3732.67	1866.34	6829.63	3419.89	4.44	-0.731	0.000	0.213
65.00	-63.93	-8.66	-0.29	-624.24	0.00	624.24	3674.68	1837.34	6571.34	3290.55	5.24	-0.800	0.000	0.207
70.00	-62.01	-8.56	-0.29	-580.97	0.00	580.97	3615.51	1807.76	6315.78	3162.58	6.12	-0.869	0.000	0.201
75.00	-60.13	-8.46	-0.29	-538.16	0.00	538.16	3555.15	1777.58	6063.10	3036.06	7.07	-0.938	0.000	0.194
80.00	-58.28	-8.36	-0.29	-495.85	0.00	495.85	3493.61	1746.80	5813.45	2911.05	8.09	-1.006	0.000	0.187
85.00	-56.46	-8.25	-0.29	-454.05	-0.01	454.05	3430.88	1715.44	5566.98	2787.63	9.18	-1.074	0.000	0.179
89.25	-54.94	-8.13	-0.29	-419.00	-0.01	419.00	3376.63	1688.32	5360.08	2684.02	10.16	-1.130	0.000	0.172
90.00	-54.58	-8.12	-0.29	-412.90	-0.01	412.90	3366.97	1683.48	5323.83	2665.87	10.34	-1.140	0.000	0.171
91.50	-53.85	-8.08	-0.29	-400.73	-0.01	400.73	3347.56	1673.78	5251.55	2629.68	10.70	-1.161	0.000	0.126
94.25	-52.53	-8.00	-0.29	-378.49	-0.01	378.49	1944.87	972.44	3066.99	1535.78	11.37	-1.188	0.000	0.142
95.00	-52.30	-7.99	-0.29	-372.50	-0.01	372.50	1940.65	970.33	3048.28	1526.41	11.56	-1.195	-0.001	0.181
96.75	-51.79	-7.94	-0.29	-358.52	-0.01	358.52	1930.70	965.35	3004.67	1504.57	12.00	-1.217	-0.001	0.124
97.00	-51.71	-7.94	-0.29	-356.54	-0.01	356.54	1929.27	964.63	2998.44	1501.45	12.07	-1.219	-0.001	0.162
100.00	-50.84	-7.87	-0.29	-332.71	-0.01	332.71	1911.84	955.92	2923.84	1464.09	12.84	-1.253	-0.001	0.154
102.25	-50.19	-7.82	-0.29	-315.00	-0.01	315.00	1898.49	949.24	2868.04	1436.15	13.44	-1.277	-0.001	0.149
102.25	-50.19	-7.82	-0.29	-315.00	-0.01	315.00	1898.49	949.24	2868.04	1436.15	13.44	-1.277	-0.001	0.149
105.00	-49.40	-7.77	-0.29	-293.51	-0.01	293.51	1881.84	940.92	2800.02	1402.09	14.18	-1.306	-0.001	0.236
110.00	-48.01	-7.67	-0.29	-254.65	-0.01	254.65	1850.66	925.33	2676.97	1340.48	15.60	-1.388	-0.001	0.216
115.00	-46.65	-7.55	-0.29	-216.30	-0.01	216.30	1818.29	909.14	2554.84	1279.32	17.09	-1.465	-0.001	0.195
117.00	-41.11	-6.57	-0.29	-201.20	-0.01	201.20	1805.01	902.50	2506.28	1255.00	17.71	-1.494	-0.001	0.183
120.00	-40.32	-6.51	-0.29	-181.50	-0.01	181.50	1784.73	892.37	2433.78	1218.70	18.67	-1.537	-0.001	0.172
125.00	-39.02	-6.37	-0.29	-148.97	-0.01	148.97	1749.99	875.00	2313.93	1158.68	20.31	-1.601	-0.001	0.151
127.00	-30.34	-4.90	0.00	-136.23	0.00	136.23	1735.77	867.88	2266.36	1134.86	20.99	-1.625	-0.001	0.138
130.00	-29.60	-4.83	0.00	-121.53	0.00	121.53	1714.07	857.04	2195.44	1099.35	22.02	-1.659	-0.001	0.128
135.00	-28.38	-4.69	0.00	-97.40	0.00	97.40	1676.96	838.48	2078.45	1040.77	23.78	-1.711	-0.001	0.111
139.00	-27.45	-4.57	0.00	-78.65	0.00	78.65	1646.42	823.21	1986.05	994.50	25.23	-1.747	-0.001	0.096
140.00	-27.14	-4.54	0.00	-74.08	0.00	74.08	1638.67	819.33	1963.12	983.02	25.60	-1.756	-0.001	0.092
142.75	-26.32	-4.46	0.00	-61.59	0.00	61.59	1100.62	550.31	1316.21	659.08	26.62	-1.777	-0.001	0.117
145.00	-25.87	-4.40	0.00	-51.56	0.00	51.56	1091.20	545.60	1284.61	643.26	27.46	-1.792	-0.001	0.104
146.00	-24.94	-4.27	0.00	-47.16	0.00	47.16	1086.94	543.47	1270.59	636.24	27.84	-1.800	-0.001	0.097
148.00	-16.94	-3.03	0.00	-38.62	0.00	38.62	1078.27	539.14	1242.60	622.22	28.59	-1.814	-0.001	0.078
150.00	-16.25	-2.86	0.00	-32.55	0.00	32.55	1069.42	534.71	1214.68	608.24	29.36	-1.827	-0.001	0.069
155.00	-15.34	-2.72	0.00	-18.25	0.00	18.25	1046.45	523.23	1145.25	573.48	31.28	-1.849	-0.001	0.047
157.00	-8.45	-1.46	0.00	-12.81	0.00	12.81	1036.93	518.47	1117.66	559.66	32.06	-1.856	-0.001	0.031

Calculated Forces

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 36
	Struct Class: II	



160.00	-8.02	-1.38	0.00	-8.44	0.00	8.44	1022.30	511.15	1076.48	539.04	33.23	-1.862	-0.001	0.024
165.00	-4.66	-0.68	0.00	-1.55	0.00	1.55	996.96	498.48	1008.51	505.00	35.18	-1.868	-0.001	0.008
167.00	-0.23	-0.05	0.00	-0.10	0.00	0.10	986.50	493.25	981.58	491.52	35.96	-1.868	-0.001	0.000
169.00	0.00	-0.04	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	36.75	-1.869	-0.001	0.000

Seismic Segment Forces (Factored)

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 37

Load Case: 1.2D + 1.0E		Iterations 24
Gust Response Factor 1.10	Sds 0.19	Ss 0.18
Dead Load Factor 1.20	Seismic Load Factor 1.00	S1 0.06
Wind Load Factor 0.00	Structure Frequency (f1) 0.27	SA 0.03
		Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1305.1	0.00	0.03	0.02	24.87	
10.00		1281.4	0.01	0.05	0.03	35.24	
15.00		1257.8	0.01	0.06	0.04	40.00	
20.00		1234.2	0.03	0.07	0.04	42.08	
25.00		1210.5	0.04	0.07	0.04	42.86	
30.00		1186.9	0.06	0.07	0.04	43.09	
35.00		1163.3	0.08	0.07	0.04	43.15	
40.00		1139.7	0.11	0.07	0.04	43.20	
40.75	Bot - Section 2	168.92	0.11	0.07	0.04	6.42	
45.00		1773.0	0.13	0.07	0.03	68.66	
47.00	Top - Section 1	823.38	0.15	0.07	0.03	32.13	
50.00		569.27	0.17	0.07	0.03	22.43	
55.00		932.58	0.20	0.06	0.02	36.97	
60.00		912.33	0.24	0.06	0.02	35.58	
65.00		892.08	0.28	0.05	0.01	32.90	
70.00		871.83	0.32	0.04	0.01	28.38	
75.00		851.57	0.37	0.03	0.01	21.56	
80.00		831.32	0.42	0.01	0.01	12.32	
85.00		811.07	0.48	-0.01	0.01	1.30	
89.25	Bot - Section 3	673.48	0.53	-0.03	0.01	-7.11	
90.00		196.82	0.54	-0.03	0.01	-2.49	
91.50	RB1	391.36	0.55	-0.04	0.01	-6.58	
94.25	Top - Section 2	709.60	0.59	-0.05	0.01	-16.97	
95.00		77.46	0.60	-0.05	0.01	-1.99	
96.75	RB2	179.56	0.62	-0.06	0.02	-5.32	
97.00	RT1	25.52	0.62	-0.06	0.02	-0.77	
100.00		303.57	0.66	-0.07	0.02	-10.82	
102.25	RT2	224.48	0.69	-0.08	0.03	-8.71	
105.00		270.66	0.73	-0.10	0.04	-11.23	
110.00		481.64	0.80	-0.11	0.05	-20.73	
115.00		468.14	0.88	-0.12	0.08	-18.93	
117.00	Appurtenance(s)	2542.5	0.91	-0.12	0.09	-97.30	
120.00		271.16	0.95	-0.12	0.11	-9.18	
125.00		441.13	1.03	-0.10	0.15	-10.34	
127.00	Appurtenance(s)	3907.6	1.07	-0.09	0.17	-71.19	
130.00		254.96	1.12	-0.06	0.20	-2.36	
135.00		414.13	1.21	0.01	0.26	3.59	
139.00	Bot - Section 4	321.58	1.28	0.09	0.32	8.27	
140.00		139.21	1.30	0.12	0.33	4.23	
142.75	Top - Section 3	377.97	1.35	0.19	0.38	16.60	
145.00		131.39	1.39	0.27	0.42	7.35	
146.00	Appurtenance(s)	321.74	1.41	0.30	0.44	19.78	
148.00	Appurtenance(s)	3177.9	1.45	0.38	0.48	232.33	
150.00	Appurtenance(s)	410.94	1.49	0.47	0.53	35.08	
155.00		274.52	1.59	0.75	0.66	32.62	

Seismic Segment Forces (Factored)

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 38

157.00	Appurtenance(s)	2409.5	1.63	0.88	0.71	321.37
160.00		157.42	1.69	1.10	0.81	24.62
165.00	Appurtenance(s)	955.67	1.80	1.55	0.98	189.40
167.00	Appurtenance(s)	2096.8	1.85	1.75	1.06	453.10
169.00		97.25	1.89	1.98	1.14	22.82
Totals:		41,922.6				1,682.3
						Total Wind: 35,094.7

Calculated Forces

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

5/27/2022



Page: 39

Load Case: 1.2D + 1.0E

Iterations 24

Gust Response Factor 1.10

Sds 0.19

Ss 0.18

Dead Load Factor 1.20

Seismic Load Factor 1.00

Sd1 0.10

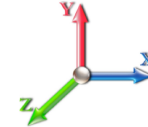
S1 0.06

Wind Load Factor 0.00

Structure Frequency (f1) 0.27

SA 0.03

Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-60.48	-1.99	0.00	-258.47	0.00	258.47	5324.18	2662.09	12195.0	6106.56	0.00	0.00	0.00	0.054
5.00	-58.58	-1.98	0.00	-248.52	0.00	248.52	5261.08	2630.54	11832.5	5925.09	0.01	-0.01	0.053	
10.00	-56.71	-1.95	0.00	-238.64	0.00	238.64	5196.80	2598.40	11472.7	5744.92	0.03	-0.02	0.052	
15.00	-54.86	-1.92	0.00	-228.87	0.00	228.87	5131.34	2565.67	11115.7	5566.13	0.06	-0.04	0.052	
20.00	-53.05	-1.89	0.00	-219.25	0.00	219.25	5064.69	2532.35	10761.6	5388.80	0.10	-0.05	0.051	
25.00	-51.26	-1.86	0.00	-209.80	0.00	209.80	4996.86	2498.43	10410.5	5212.99	0.16	-0.06	0.051	
30.00	-49.50	-1.82	0.00	-200.50	0.00	200.50	4927.84	2463.92	10062.6	5038.79	0.23	-0.07	0.050	
35.00	-47.76	-1.79	0.00	-191.38	0.00	191.38	4857.63	2428.82	9718.08	4866.26	0.31	-0.09	0.049	
40.00	-46.06	-1.75	0.00	-182.43	0.00	182.43	4786.24	2393.12	9377.03	4695.49	0.41	-0.10	0.048	
40.75	-45.81	-1.75	0.00	-181.12	0.00	181.12	4775.43	2387.72	9326.19	4670.03	0.43	-0.10	0.048	
45.00	-43.39	-1.68	0.00	-173.69	0.00	173.69	4713.67	2356.83	9039.63	4526.53	0.52	-0.11	0.048	
47.00	-42.27	-1.65	0.00	-170.32	0.00	170.32	3877.89	1938.95	7512.92	3762.05	0.57	-0.12	0.056	
50.00	-41.39	-1.64	0.00	-165.37	0.00	165.37	3845.09	1922.55	7353.82	3682.38	0.65	-0.13	0.056	
55.00	-39.93	-1.61	0.00	-157.19	0.00	157.19	3789.47	1894.74	7090.51	3550.52	0.79	-0.14	0.055	
60.00	-38.50	-1.58	0.00	-149.15	0.00	149.15	3732.67	1866.34	6829.63	3419.89	0.95	-0.16	0.054	
65.00	-37.09	-1.55	0.00	-141.26	0.00	141.26	3674.68	1837.34	6571.34	3290.55	1.12	-0.17	0.053	
70.00	-35.71	-1.53	0.00	-133.51	0.00	133.51	3615.51	1807.76	6315.78	3162.58	1.31	-0.19	0.052	
75.00	-34.35	-1.51	0.00	-125.87	0.00	125.87	3555.15	1777.58	6063.10	3036.06	1.52	-0.20	0.051	
80.00	-33.02	-1.50	0.00	-118.31	0.00	118.31	3493.61	1746.80	5813.45	2911.05	1.74	-0.22	0.050	
85.00	-31.71	-1.51	0.00	-110.80	0.00	110.80	3430.88	1715.44	5566.98	2787.63	1.98	-0.24	0.049	
89.25	-30.62	-1.51	0.00	-104.40	0.00	104.40	3376.63	1688.32	5360.08	2684.02	2.19	-0.25	0.048	
90.00	-30.33	-1.51	0.00	-103.27	0.00	103.27	3366.97	1683.48	5323.83	2665.87	2.23	-0.25	0.048	
91.50	-29.76	-1.51	0.00	-101.01	0.00	101.01	3347.56	1673.78	5251.55	2629.68	2.31	-0.26	0.035	
94.25	-28.72	-1.50	0.00	-96.87	0.00	96.87	1944.87	972.44	3066.99	1535.78	2.47	-0.27	0.040	
95.00	-28.58	-1.51	0.00	-95.74	0.00	95.74	1940.65	970.33	3048.28	1526.41	2.51	-0.27	0.051	
96.75	-28.25	-1.51	0.00	-93.11	0.00	93.11	1930.70	965.35	3004.67	1504.57	2.61	-0.27	0.036	
97.00	-28.20	-1.51	0.00	-92.73	0.00	92.73	1929.27	964.63	2998.44	1501.45	2.62	-0.27	0.047	
100.00	-27.63	-1.51	0.00	-88.21	0.00	88.21	1911.84	955.92	2923.84	1464.09	2.80	-0.28	0.045	
102.25	-27.21	-1.51	0.00	-84.82	0.00	84.82	1898.49	949.24	2868.04	1436.15	2.93	-0.29	0.044	
102.25	-27.21	-1.51	0.00	-84.82	0.00	84.82	1898.49	949.24	2868.04	1436.15	2.93	-0.29	0.044	
105.00	-26.70	-1.51	0.00	-80.67	0.00	80.67	1881.84	940.92	2800.02	1402.09	3.10	-0.30	0.072	
110.00	-25.79	-1.52	0.00	-73.10	0.00	73.10	1850.66	925.33	2676.97	1340.48	3.42	-0.32	0.068	
115.00	-24.89	-1.52	0.00	-65.50	0.00	65.50	1818.29	909.14	2554.84	1279.32	3.77	-0.34	0.065	
117.00	-21.70	-1.51	0.00	-62.46	0.00	62.46	1805.01	902.50	2506.28	1255.00	3.91	-0.35	0.062	
120.00	-21.18	-1.51	0.00	-57.94	0.00	57.94	1784.73	892.37	2433.78	1218.70	4.14	-0.36	0.059	
125.00	-20.33	-1.51	0.00	-50.39	0.00	50.39	1749.99	875.00	2313.93	1158.68	4.53	-0.39	0.055	
127.00	-15.51	-1.48	0.00	-47.37	0.00	47.37	1735.77	867.88	2266.36	1134.86	4.70	-0.39	0.051	
130.00	-15.03	-1.48	0.00	-42.94	0.00	42.94	1714.07	857.04	2195.44	1099.35	4.95	-0.41	0.048	
135.00	-14.24	-1.47	0.00	-35.54	0.00	35.54	1676.96	838.48	2078.45	1040.77	5.38	-0.42	0.043	
139.00	-13.63	-1.46	0.00	-29.64	0.00	29.64	1646.42	823.21	1986.05	994.50	5.74	-0.44	0.038	
140.00	-13.42	-1.46	0.00	-28.18	0.00	28.18	1638.67	819.33	1963.12	983.02	5.84	-0.44	0.037	
142.75	-12.82	-1.44	0.00	-24.17	0.00	24.17	1100.62	550.31	1316.21	659.08	6.09	-0.45	0.048	
145.00	-12.55	-1.43	0.00	-20.93	0.00	20.93	1091.20	545.60	1284.61	643.26	6.31	-0.46	0.044	
146.00	-12.11	-1.41	0.00	-19.50	0.00	19.50	1086.94	543.47	1270.59	636.24	6.40	-0.46	0.042	
148.00	-8.20	-1.15	0.00	-16.68	0.00	16.68	1078.27	539.14	1242.60	622.22	6.59	-0.46	0.034	
150.00	-7.63	-1.11	0.00	-14.39	0.00	14.39	1069.42	534.71	1214.68	608.24	6.79	-0.47	0.031	
155.00	-7.11	-1.07	0.00	-8.85	0.00	8.85	1046.45	523.23	1145.25	573.48	7.29	-0.48	0.022	

Calculated Forces

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 40
	Struct Class: II	



157.00	-4.14	-0.72	0.00	-6.71	0.00	6.71	1036.93	518.47	1117.66	559.66	7.49	-0.48	0.016
160.00	-3.90	-0.70	0.00	-4.54	0.00	4.54	1022.30	511.15	1076.48	539.04	7.80	-0.49	0.012
165.00	-2.66	-0.50	0.00	-1.04	0.00	1.04	996.96	498.48	1008.51	505.00	8.31	-0.49	0.005
167.00	-0.12	-0.02	0.00	-0.05	0.00	0.05	986.50	493.25	981.58	491.52	8.51	-0.49	0.000
169.00	0.00	-0.02	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	8.72	-0.49	0.000

Seismic Segment Forces (Factored)

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 41

Load Case: 0.9D + 1.0E						Iterations 24
Gust Response Factor	1.10			Sds	0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.27	SA	0.03	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1305.1	0.00	0.03	0.02	24.87	
10.00		1281.4	0.01	0.05	0.03	35.24	
15.00		1257.8	0.01	0.06	0.04	40.00	
20.00		1234.2	0.03	0.07	0.04	42.08	
25.00		1210.5	0.04	0.07	0.04	42.86	
30.00		1186.9	0.06	0.07	0.04	43.09	
35.00		1163.3	0.08	0.07	0.04	43.15	
40.00		1139.7	0.11	0.07	0.04	43.20	
40.75	Bot - Section 2	168.92	0.11	0.07	0.04	6.42	
45.00		1773.0	0.13	0.07	0.03	68.66	
47.00	Top - Section 1	823.38	0.15	0.07	0.03	32.13	
50.00		569.27	0.17	0.07	0.03	22.43	
55.00		932.58	0.20	0.06	0.02	36.97	
60.00		912.33	0.24	0.06	0.02	35.58	
65.00		892.08	0.28	0.05	0.01	32.90	
70.00		871.83	0.32	0.04	0.01	28.38	
75.00		851.57	0.37	0.03	0.01	21.56	
80.00		831.32	0.42	0.01	0.01	12.32	
85.00		811.07	0.48	-0.01	0.01	1.30	
89.25	Bot - Section 3	673.48	0.53	-0.03	0.01	-7.11	
90.00		196.82	0.54	-0.03	0.01	-2.49	
91.50	RB1	391.36	0.55	-0.04	0.01	-6.58	
94.25	Top - Section 2	709.60	0.59	-0.05	0.01	-16.97	
95.00		77.46	0.60	-0.05	0.01	-1.99	
96.75	RB2	179.56	0.62	-0.06	0.02	-5.32	
97.00	RT1	25.52	0.62	-0.06	0.02	-0.77	
100.00		303.57	0.66	-0.07	0.02	-10.82	
102.25	RT2	224.48	0.69	-0.08	0.03	-8.71	
105.00		270.66	0.73	-0.10	0.04	-11.23	
110.00		481.64	0.80	-0.11	0.05	-20.73	
115.00		468.14	0.88	-0.12	0.08	-18.93	
117.00	Appurtenance(s)	2542.5	0.91	-0.12	0.09	-97.30	
120.00		271.16	0.95	-0.12	0.11	-9.18	
125.00		441.13	1.03	-0.10	0.15	-10.34	
127.00	Appurtenance(s)	3907.6	1.07	-0.09	0.17	-71.19	
130.00		254.96	1.12	-0.06	0.20	-2.36	
135.00		414.13	1.21	0.01	0.26	3.59	
139.00	Bot - Section 4	321.58	1.28	0.09	0.32	8.27	
140.00		139.21	1.30	0.12	0.33	4.23	
142.75	Top - Section 3	377.97	1.35	0.19	0.38	16.60	
145.00		131.39	1.39	0.27	0.42	7.35	
146.00	Appurtenance(s)	321.74	1.41	0.30	0.44	19.78	
148.00	Appurtenance(s)	3177.9	1.45	0.38	0.48	232.33	
150.00	Appurtenance(s)	410.94	1.49	0.47	0.53	35.08	
155.00		274.52	1.59	0.75	0.66	32.62	

Seismic Segment Forces (Factored)

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 42

157.00	Appurtenance(s)	2409.5	1.63	0.88	0.71	321.37
160.00		157.42	1.69	1.10	0.81	24.62
165.00	Appurtenance(s)	955.67	1.80	1.55	0.98	189.40
167.00	Appurtenance(s)	2096.8	1.85	1.75	1.06	453.10
169.00		97.25	1.89	1.98	1.14	22.82
Totals:		41,922.6				1,682.3
						Total Wind: 35,094.7

Calculated Forces

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II
Topography: 1

5/27/2022



Page: 43

Load Case: 0.9D + 1.0E

Iterations 24

Gust Response Factor 1.10

Sds 0.19

Ss 0.18

Dead Load Factor 0.90

Seismic Load Factor 1.00

Sd1 0.10

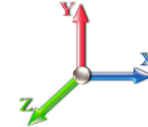
S1 0.06

Wind Load Factor 0.00

Structure Frequency (f1) 0.27

SA 0.03

Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.36	-1.99	0.00	-254.34	0.00	254.34	5324.18	2662.09	12195.0	6106.56	0.00	0.00	0.00	0.050
5.00	-43.94	-1.97	0.00	-244.40	0.00	244.40	5261.08	2630.54	11832.5	5925.09	0.01	-0.01	0.050	
10.00	-42.53	-1.95	0.00	-234.54	0.00	234.54	5196.80	2598.40	11472.7	5744.92	0.02	-0.02	0.049	
15.00	-41.15	-1.91	0.00	-224.81	0.00	224.81	5131.34	2565.67	11115.7	5566.13	0.06	-0.04	0.048	
20.00	-39.78	-1.88	0.00	-215.24	0.00	215.24	5064.69	2532.35	10761.6	5388.80	0.10	-0.05	0.048	
25.00	-38.44	-1.84	0.00	-205.85	0.00	205.85	4996.86	2498.43	10410.5	5212.99	0.16	-0.06	0.047	
30.00	-37.12	-1.81	0.00	-196.64	0.00	196.64	4927.84	2463.92	10062.6	5038.79	0.23	-0.07	0.047	
35.00	-35.82	-1.77	0.00	-187.61	0.00	187.61	4857.63	2428.82	9718.08	4866.26	0.31	-0.09	0.046	
40.00	-34.54	-1.73	0.00	-178.76	0.00	178.76	4786.24	2393.12	9377.03	4695.49	0.40	-0.10	0.045	
40.75	-34.35	-1.73	0.00	-177.46	0.00	177.46	4775.43	2387.72	9326.19	4670.03	0.42	-0.10	0.045	
45.00	-32.54	-1.66	0.00	-170.13	0.00	170.13	4713.67	2356.83	9039.63	4526.53	0.51	-0.11	0.044	
47.00	-31.70	-1.63	0.00	-166.81	0.00	166.81	3877.89	1938.95	7512.92	3762.05	0.56	-0.12	0.053	
50.00	-31.04	-1.61	0.00	-161.93	0.00	161.93	3845.09	1922.55	7353.82	3682.38	0.64	-0.12	0.052	
55.00	-29.95	-1.58	0.00	-153.87	0.00	153.87	3789.47	1894.74	7090.51	3550.52	0.78	-0.14	0.051	
60.00	-28.87	-1.55	0.00	-145.98	0.00	145.98	3732.67	1866.34	6829.63	3419.89	0.93	-0.15	0.050	
65.00	-27.82	-1.52	0.00	-138.23	0.00	138.23	3674.68	1837.34	6571.34	3290.55	1.10	-0.17	0.050	
70.00	-26.78	-1.50	0.00	-130.63	0.00	130.63	3615.51	1807.76	6315.78	3162.58	1.28	-0.18	0.049	
75.00	-25.76	-1.48	0.00	-123.16	0.00	123.16	3555.15	1777.58	6063.10	3036.06	1.49	-0.20	0.048	
80.00	-24.76	-1.47	0.00	-115.77	0.00	115.77	3493.61	1746.80	5813.45	2911.05	1.71	-0.22	0.047	
85.00	-23.78	-1.47	0.00	-108.42	0.00	108.42	3430.88	1715.44	5566.98	2787.63	1.94	-0.23	0.046	
89.25	-22.96	-1.47	0.00	-102.18	0.00	102.18	3376.63	1688.32	5360.08	2684.02	2.15	-0.25	0.045	
90.00	-22.75	-1.47	0.00	-101.08	0.00	101.08	3366.97	1683.48	5323.83	2665.87	2.19	-0.25	0.045	
91.50	-22.32	-1.47	0.00	-98.87	0.00	98.87	3347.56	1673.78	5251.55	2629.68	2.27	-0.25	0.033	
94.25	-21.54	-1.47	0.00	-94.83	0.00	94.83	1944.87	972.44	3066.99	1535.78	2.42	-0.26	0.038	
95.00	-21.43	-1.47	0.00	-93.73	0.00	93.73	1940.65	970.33	3048.28	1526.41	2.46	-0.26	0.048	
96.75	-21.18	-1.47	0.00	-91.16	0.00	91.16	1930.70	965.35	3004.67	1504.57	2.56	-0.27	0.033	
97.00	-21.15	-1.47	0.00	-90.79	0.00	90.79	1929.27	964.63	2998.44	1501.45	2.57	-0.27	0.044	
100.00	-20.72	-1.47	0.00	-86.38	0.00	86.38	1911.84	955.92	2923.84	1464.09	2.74	-0.28	0.042	
102.25	-20.41	-1.47	0.00	-83.06	0.00	83.06	1898.49	949.24	2868.04	1436.15	2.87	-0.28	0.042	
102.25	-20.41	-1.47	0.00	-83.06	0.00	83.06	1898.49	949.24	2868.04	1436.15	2.87	-0.28	0.042	
105.00	-20.02	-1.48	0.00	-79.01	0.00	79.01	1881.84	940.92	2800.02	1402.09	3.04	-0.29	0.067	
110.00	-19.34	-1.48	0.00	-71.63	0.00	71.63	1850.66	925.33	2676.97	1340.48	3.36	-0.31	0.064	
115.00	-18.67	-1.48	0.00	-64.23	0.00	64.23	1818.29	909.14	2554.84	1279.32	3.70	-0.34	0.060	
117.00	-16.28	-1.47	0.00	-61.27	0.00	61.27	1805.01	902.50	2506.28	1255.00	3.84	-0.34	0.058	
120.00	-15.89	-1.47	0.00	-56.86	0.00	56.86	1784.73	892.37	2433.78	1218.70	4.06	-0.36	0.056	
125.00	-15.24	-1.47	0.00	-49.50	0.00	49.50	1749.99	875.00	2313.93	1158.68	4.44	-0.38	0.051	
127.00	-11.63	-1.45	0.00	-46.55	0.00	46.55	1735.77	867.88	2266.36	1134.86	4.60	-0.39	0.048	
130.00	-11.27	-1.45	0.00	-42.20	0.00	42.20	1714.07	857.04	2195.44	1099.35	4.85	-0.40	0.045	
135.00	-10.68	-1.45	0.00	-34.95	0.00	34.95	1676.96	838.48	2078.45	1040.77	5.28	-0.42	0.040	
139.00	-10.22	-1.44	0.00	-29.17	0.00	29.17	1646.42	823.21	1986.05	994.50	5.63	-0.43	0.036	
140.00	-10.06	-1.43	0.00	-27.73	0.00	27.73	1638.67	819.33	1963.12	983.02	5.72	-0.43	0.034	
142.75	-9.62	-1.41	0.00	-23.79	0.00	23.79	1100.62	550.31	1316.21	659.08	5.97	-0.44	0.045	
145.00	-9.41	-1.40	0.00	-20.61	0.00	20.61	1091.20	545.60	1284.61	643.26	6.18	-0.45	0.041	
146.00	-9.08	-1.38	0.00	-19.21	0.00	19.21	1086.94	543.47	1270.59	636.24	6.28	-0.45	0.039	
148.00	-6.15	-1.13	0.00	-16.44	0.00	16.44	1078.27	539.14	1242.60	622.22	6.47	-0.46	0.032	
150.00	-5.72	-1.09	0.00	-14.19	0.00	14.19	1069.42	534.71	1214.68	608.24	6.66	-0.46	0.029	
155.00	-5.33	-1.06	0.00	-8.74	0.00	8.74	1046.45	523.23	1145.25	573.48	7.15	-0.47	0.020	

Calculated Forces

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 44
	Struct Class: II	



157.00	-3.10	-0.72	0.00	-6.63	0.00	6.63	1036.93	518.47	1117.66	559.66	7.34	-0.47	0.015
160.00	-2.92	-0.69	0.00	-4.48	0.00	4.48	1022.30	511.15	1076.48	539.04	7.64	-0.48	0.011
165.00	-2.00	-0.49	0.00	-1.03	0.00	1.03	996.96	498.48	1008.51	505.00	8.15	-0.48	0.004
167.00	-0.09	-0.02	0.00	-0.05	0.00	0.05	986.50	493.25	981.58	491.52	8.35	-0.48	0.000
169.00	0.00	-0.02	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	8.55	-0.48	0.000

Wind Loading - Shaft

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

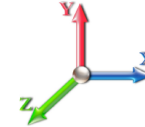


Page: 45

Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 25

Dead Load Factor 1.00
Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.129	6.74	238.64	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	234.39	0.650	0.000	5.00	23.558	15.31	103.2	0.0	1305.1
10.00		1.00	0.70	6.129	6.74	230.15	0.650	0.000	5.00	23.135	15.04	101.4	0.0	1281.5
15.00		1.00	0.70	6.129	6.74	225.90	0.650	0.000	5.00	22.712	14.76	99.5	0.0	1257.8
20.00		1.00	0.70	6.129	6.74	221.65	0.650	0.000	5.00	22.288	14.49	97.7	0.0	1234.2
25.00		1.00	0.70	6.129	6.74	217.40	0.650	0.000	5.00	21.865	14.21	95.8	0.0	1210.6
30.00		1.00	0.70	6.134	6.75	213.24	0.650	0.000	5.00	21.442	13.94	94.0	0.0	1187.0
35.00		1.00	0.73	6.410	7.05	213.65	0.650	0.000	5.00	21.019	13.66	96.3	0.0	1163.3
40.00		1.00	0.76	6.659	7.33	213.33	0.650	0.000	5.00	20.596	13.39	98.1	0.0	1139.7
40.75	Bot - Section 2	1.00	0.76	6.695	7.36	213.23	0.650	0.000	0.75	3.053	1.98	14.6	0.0	168.9
45.00		1.00	0.79	6.887	7.58	212.45	0.650	0.000	4.25	17.389	11.30	85.6	0.0	1773.0
47.00	Top - Section 1	1.00	0.80	6.973	7.67	211.96	0.650	0.000	2.00	8.077	5.25	40.3	0.0	823.4
50.00		1.00	0.81	7.098	7.81	214.53	0.650	0.000	3.00	11.989	7.79	60.8	0.0	569.3
55.00		1.00	0.83	7.294	8.02	212.83	0.650	0.000	5.00	19.644	12.77	102.4	0.0	932.6
60.00		1.00	0.85	7.477	8.22	210.80	0.650	0.000	5.00	19.220	12.49	102.8	0.0	912.3
65.00		1.00	0.87	7.650	8.42	208.48	0.650	0.000	5.00	18.797	12.22	102.8	0.0	892.1
70.00		1.00	0.89	7.814	8.60	205.90	0.650	0.000	5.00	18.374	11.94	102.7	0.0	871.8
75.00		1.00	0.91	7.969	8.77	203.10	0.650	0.000	5.00	17.951	11.67	102.3	0.0	851.6
80.00		1.00	0.93	8.118	8.93	200.09	0.650	0.000	5.00	17.528	11.39	101.7	0.0	831.3
85.00		1.00	0.94	8.260	9.09	196.90	0.650	0.000	5.00	17.105	11.12	101.0	0.0	811.1
89.25	Bot - Section 3	1.00	0.96	8.376	9.21	194.05	0.650	0.000	4.25	14.206	9.23	85.1	0.0	673.5
90.00		1.00	0.96	8.396	9.24	193.54	0.650	0.000	0.75	2.507	1.63	15.0	0.0	196.8
91.50	RB1	1.00	0.96	8.435	9.28	192.50	0.650	0.000	1.50	4.985	3.24	30.1	0.0	391.4
94.25	Top - Section 2	1.00	0.97	8.507	9.36	190.56	0.650	0.000	2.75	9.041	5.88	55.0	0.0	709.6
95.00		1.00	0.97	8.526	9.38	192.53	0.650	0.000	0.75	2.444	1.59	14.9	0.0	77.5
96.75	RB2	1.00	0.98	8.571	9.43	191.28	0.650	0.000	1.75	5.664	3.68	34.7	0.0	179.6
97.00	RT1	1.00	0.98	8.577	9.43	191.10	0.650	0.000	0.25	0.805	0.52	4.9	0.0	25.5
100.00		1.00	0.99	8.652	9.52	188.90	0.650	0.000	3.00	9.577	6.23	59.2	0.0	303.6
102.25	RT2	1.00	0.99	8.707	9.58	187.22	0.650	0.000	2.25	7.083	4.60	44.1	0.0	224.5
105.00		1.00	1.00	8.774	9.65	185.14	0.650	0.000	2.75	8.541	5.55	53.6	0.0	270.7
110.00		1.00	1.02	8.891	9.78	181.26	0.650	0.000	5.00	15.200	9.88	96.6	0.0	481.6
115.00		1.00	1.03	9.005	9.91	177.26	0.650	0.000	5.00	14.777	9.61	95.1	0.0	468.1
117.00	Appurtenance(s)	1.00	1.03	9.049	9.95	175.63	0.650	0.000	2.00	5.792	3.77	37.5	0.0	183.5
120.00		1.00	1.04	9.115	10.03	173.16	0.650	0.000	3.00	8.562	5.57	55.8	0.0	271.2
125.00		1.00	1.05	9.222	10.14	168.96	0.650	0.000	5.00	13.931	9.06	91.9	0.0	441.1
127.00	Appurtenance(s)	1.00	1.06	9.264	10.19	167.26	0.650	0.000	2.00	5.454	3.55	36.1	0.0	172.7
130.00		1.00	1.07	9.326	10.26	164.67	0.650	0.000	3.00	8.054	5.24	53.7	0.0	255.0
135.00		1.00	1.08	9.427	10.37	160.29	0.650	0.000	5.00	13.085	8.51	88.2	0.0	414.1
139.00	Bot - Section 4	1.00	1.09	9.506	10.46	156.73	0.650	0.000	4.00	10.163	6.61	69.1	0.0	321.6
140.00		1.00	1.09	9.525	10.48	155.83	0.650	0.000	1.00	2.530	1.64	17.2	0.0	139.2
142.75	Top - Section 3	1.00	1.09	9.578	10.54	153.34	0.650	0.000	2.75	6.871	4.47	47.1	0.0	378.0
145.00		1.00	1.10	9.621	10.58	153.29	0.650	0.000	2.25	5.526	3.59	38.0	0.0	131.4
146.00	Appurtenance(s)	1.00	1.10	9.640	10.60	152.37	0.650	0.000	1.00	2.429	1.58	16.7	0.0	57.7
148.00	Appurtenance(s)	1.00	1.11	9.678	10.65	150.53	0.650	0.000	2.00	4.806	3.12	33.3	0.0	114.3
150.00	Appurtenance(s)	1.00	1.11	9.715	10.69	148.68	0.650	0.000	2.00	4.739	3.08	32.9	0.0	112.6
155.00		1.00	1.12	9.806	10.79	144.01	0.650	0.000	5.00	11.551	7.51	81.0	0.0	274.5
157.00	Appurtenance(s)	1.00	1.12	9.842	10.83	142.12	0.650	0.000	2.00	4.502	2.93	31.7	0.0	107.0

Wind Loading - Shaft

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 46
	Struct Class: II	



160.00	1.00	1.13	9.896	10.89	139.26	0.650	0.000	3.00	6.626	4.31	46.9	0.0	157.4
165.00 Appurtenance(s)	1.00	1.14	9.983	10.98	134.45	0.650	0.000	5.00	10.704	6.96	76.4	0.0	254.3
167.00 Appurtenance(s)	1.00	1.14	10.017	11.02	132.51	0.650	0.000	2.00	4.163	2.71	29.8	0.0	98.9
169.00	1.00	1.15	10.052	11.06	130.56	0.650	0.000	2.00	4.096	2.66	29.4	0.0	97.3
Totals:								169.00			3,204.2		27,200.5

Discrete Appurtenance Forces

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

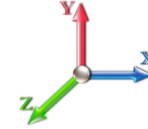
5/27/2022



Page: 47

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	167.00	Ericsson - KRY 112 144/2	3	10.017	11.019	0.60	0.80	0.74	33.00	0.000	0.000	8.13	0.00	0.00
2	167.00	T-Arms/Commscope	3	10.026	11.029	0.56	0.75	11.39	1020.00	0.000	0.500	125.62	0.00	62.81
3	167.00	AIR 21 B2A/B4P	3	10.017	11.019	0.77	0.90	14.14	276.00	0.000	0.000	155.82	0.00	0.00
4	167.00	Ericsson - Radio 4449	3	10.017	11.019	0.60	0.80	2.97	222.00	0.000	0.000	32.73	0.00	0.00
5	167.00	AIR 6449 B41	3	10.017	11.019	0.56	0.80	9.49	309.00	0.000	0.000	104.59	0.00	0.00
6	167.00	RRUS 4415 B25	3	10.017	11.019	0.54	0.80	2.64	138.00	0.000	0.000	29.06	0.00	0.00
7	165.00	APXVAA24_43-U-A20	3	9.983	10.981	0.66	0.90	39.89	384.00	0.000	0.000	438.08	0.00	0.00
8	165.00	Air 32	3	9.983	10.981	0.78	0.90	15.29	317.40	0.000	0.000	167.93	0.00	0.00
9	157.00	MX06FRO660-02	6	9.842	10.827	0.70	0.80	41.22	360.00	0.000	0.000	446.24	0.00	0.00
10	157.00	MT6407-77A	3	9.842	10.827	0.56	0.80	7.88	238.20	0.000	0.000	85.30	0.00	0.00
11	157.00	T-Arms	3	9.842	10.827	0.56	0.75	13.50	1050.00	0.000	0.000	146.16	0.00	0.00
12	157.00	DB846F65ZAXY	4	9.842	10.827	0.74	0.80	20.76	84.00	0.000	0.000	224.71	0.00	0.00
13	157.00	DB846H80E-SX	2	9.842	10.827	0.88	0.80	8.82	32.00	0.000	0.000	95.46	0.00	0.00
14	157.00	RF4439d-25A	3	9.842	10.827	0.66	0.80	3.74	253.20	0.000	0.000	40.54	0.00	0.00
15	157.00	RF4440d-13A	3	9.842	10.827	0.66	0.80	3.74	253.20	0.000	0.000	40.54	0.00	0.00
16	157.00	DB-C1-12C-24AB-OZ	1	9.842	10.827	1.00	1.00	4.06	32.00	0.000	0.000	43.96	0.00	0.00
17	150.00	Collar Mount	1	9.715	10.686	1.00	1.00	3.50	100.00	0.000	0.000	37.40	0.00	0.00
18	150.00	Ericsson Air6419 B77G	3	9.715	10.686	0.61	0.80	6.93	198.30	0.000	0.000	74.07	0.00	0.00
19	148.00	Powerwave 21401	6	9.678	10.645	0.54	0.80	4.15	84.60	0.000	0.000	44.16	0.00	0.00
20	148.00	Commscope	1	9.678	10.645	0.54	0.80	0.53	34.50	0.000	0.000	5.65	0.00	0.00
21	148.00	Powerwave 1001940	3	9.678	10.645	0.54	0.80	0.40	6.60	0.000	0.000	4.28	0.00	0.00
22	148.00	Raycap	2	9.678	10.645	0.80	0.80	1.82	52.40	0.000	0.000	19.42	0.00	0.00
23	148.00	Ericsson RRUS 4478 B14	3	9.678	10.645	0.54	0.80	2.65	178.20	0.000	0.000	28.24	0.00	0.00
24	148.00	Ericsson RRUS 4449	3	9.678	10.645	0.54	0.80	3.17	213.00	0.000	0.000	33.72	0.00	0.00
25	148.00	CCI DMP65R-BU8DA	2	9.678	10.645	0.58	0.80	20.87	191.40	0.000	0.000	222.19	0.00	0.00
26	148.00	T-Arms w/ Modifications	3	9.678	10.645	0.56	0.75	20.25	1350.00	0.000	0.000	215.57	0.00	0.00
27	148.00	Quintel QD6616-7	1	9.678	10.645	0.74	0.80	5.98	111.00	0.000	0.000	63.70	0.00	0.00
28	148.00	Quintel QD8616-7	2	9.678	10.645	0.74	0.80	11.97	222.00	0.000	0.000	127.40	0.00	0.00
29	148.00	Ericsson RRUS 32	3	9.678	10.645	0.54	0.80	2.65	231.00	0.000	0.000	28.24	0.00	0.00
30	148.00	CCI DMP65R-BU6DA	1	9.678	10.645	0.58	0.80	7.32	79.40	0.000	0.000	77.93	0.00	0.00
31	148.00	Powerwave LGP13519	6	9.678	10.645	0.80	0.80	6.19	84.60	0.000	0.000	65.92	0.00	0.00
32	148.00	Ericsson RRUS 8843 B2	3	9.678	10.645	0.54	0.80	2.65	225.00	0.000	0.000	28.24	0.00	0.00
33	146.00	Ericsson Air6449 B77D	3	9.640	10.604	0.68	0.80	8.43	264.00	0.000	0.000	89.34	0.00	0.00
34	127.00	Horizon Duo	4	9.264	10.190	0.60	0.80	1.42	28.00	0.000	0.000	14.43	0.00	0.00
35	127.00	VHLP800-11	1	9.264	10.190	1.00	1.00	8.43	48.00	1.455	0.000	85.90	124.99	0.00
36	127.00	1900MHz RRH	3	9.264	10.190	0.74	0.75	6.17	180.00	0.000	0.000	62.87	0.00	0.00
37	127.00	VHLP2-11	3	9.264	10.190	1.00	1.00	14.04	81.00	1.455	0.000	143.07	208.17	0.00
38	127.00	NNVV-65B-R4	3	9.264	10.190	0.55	0.75	20.43	232.20	0.000	0.000	208.18	0.00	0.00
39	127.00	TD-RRH8x20-25	3	9.264	10.190	0.52	0.75	6.29	210.00	0.000	0.000	64.07	0.00	0.00
40	127.00	AAHC	3	9.264	10.190	0.56	0.75	7.10	310.80	0.000	0.000	72.39	0.00	0.00
41	127.00	RMQP-4096-HK	1	9.264	10.190	1.00	1.00	51.70	2645.00	0.000	0.000	526.82	0.00	0.00
42	117.00	Raycap	1	9.049	9.954	1.00	1.00	2.01	21.90	0.000	0.000	20.01	0.00	0.00
43	117.00	Fujitsu TA08025-B604	3	9.049	9.954	0.50	0.75	2.95	191.70	0.000	0.000	29.41	0.00	0.00
44	117.00	Fujitsu TA08025-B605	3	9.049	9.954	0.50	0.75	2.95	225.00	0.000	0.000	29.41	0.00	0.00
45	117.00	Commscope	1	9.049	9.954	1.00	1.00	37.59	1727.00	0.000	0.000	374.17	0.00	0.00
46	117.00	JMA MX08FRO665-21	3	9.049	9.954	0.55	0.75	20.80	193.50	0.000	0.000	207.00	0.00	0.00

Totals: 14,722.10

5,188.11

Total Applied Force Summary

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 48

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		103.23	1584.96	0.00	0.00
10.00		101.38	1561.33	0.00	0.00
15.00		99.52	1537.70	0.00	0.00
20.00		97.67	1514.07	0.00	0.00
25.00		95.81	1490.44	0.00	0.00
30.00		94.04	1466.81	0.00	0.00
35.00		96.33	1443.18	0.00	0.00
40.00		98.06	1419.56	0.00	0.00
40.75		14.61	210.90	0.00	0.00
45.00		85.63	2010.87	0.00	0.00
47.00		40.27	935.32	0.00	0.00
50.00		60.84	737.18	0.00	0.00
55.00		102.44	1212.43	0.00	0.00
60.00		102.76	1192.18	0.00	0.00
65.00		102.82	1171.93	0.00	0.00
70.00		102.66	1151.68	0.00	0.00
75.00		102.29	1131.42	0.00	0.00
80.00		101.73	1111.17	0.00	0.00
85.00		101.01	1090.92	0.00	0.00
89.25		85.07	911.35	0.00	0.00
90.00		15.05	238.79	0.00	0.00
91.50		30.07	475.31	0.00	0.00
94.25		54.99	863.51	0.00	0.00
95.00		14.90	119.44	0.00	0.00
96.75		34.71	277.51	0.00	0.00
97.00		4.94	39.51	0.00	0.00
100.00		59.25	471.48	0.00	0.00
102.25		44.10	350.42	0.00	0.00
105.00		53.58	424.57	0.00	0.00
110.00		96.63	761.49	0.00	0.00
115.00		95.14	747.99	0.00	0.00
117.00	(11) attachments	697.48	2654.51	0.00	0.00
120.00		55.80	433.61	0.00	0.00
125.00		91.85	711.88	0.00	0.00
127.00	(21) attachments	1213.86	4015.97	333.15	0.00
130.00		53.70	400.74	0.00	0.00
135.00		88.19	657.10	0.00	0.00
139.00		69.07	503.48	0.00	0.00
140.00		17.23	181.57	0.00	0.00
142.75		47.05	494.44	0.00	0.00
145.00		38.02	226.69	0.00	0.00
146.00	(3) attachments	106.08	364.09	0.00	0.00
148.00	(39) attachments	997.94	3262.67	0.00	0.00
150.00	(4) attachments	144.39	476.05	0.00	0.00
155.00		80.99	437.29	0.00	0.00
157.00	(25) attachments	1154.60	2474.68	0.00	0.00

Total Applied Force Summary

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 49



160.00		46.88	201.38	0.00	0.00
165.00	(6) attachments	682.41	1028.94	0.00	0.00
167.00	(18) attachments	485.78	2126.18	0.00	62.81
169.00		29.43	97.25	0.00	0.00
	Totals:	8,392.30	50,403.94	333.15	62.81

Linear Appurtenance Segment Forces (Factored)

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

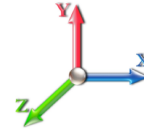


Page: 50

Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 25

Dead Load Factor 1.00
Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.035	0.000	6.129	0.00	20.80
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	6.129	0.00	20.80
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.036	0.000	6.129	0.00	20.80
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.037	0.000	6.129	0.00	20.80
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	6.129	0.00	20.80
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.038	0.000	6.134	0.00	20.80
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.039	0.000	6.410	0.00	20.80
40.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.040	0.000	6.659	0.00	20.80
40.75	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.041	0.000	6.695	0.00	3.12
45.00	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.041	0.000	6.887	0.00	17.68
47.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.042	0.000	6.973	0.00	8.32
50.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.041	0.000	7.098	0.00	12.48
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.042	0.000	7.294	0.00	20.80
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.043	0.000	7.477	0.00	20.80
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.044	0.000	7.650	0.00	20.80
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.045	0.000	7.814	0.00	20.80
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.046	0.000	7.969	0.00	20.80
80.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.047	0.000	8.118	0.00	20.80
85.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.048	0.000	8.260	0.00	20.80
89.25	1 5/8" Coax	Yes	4.25	0.000	1.98	0.70	0.00	0.049	0.000	8.376	0.00	17.68
90.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.075	0.000	8.396	0.00	3.12
90.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.075	0.000	8.396	0.00	0.00
91.50	1 5/8" Coax	Yes	1.50	0.000	1.98	0.25	0.00	0.076	0.000	8.435	0.00	6.24
91.50	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.13	0.00	0.076	0.000	8.435	0.00	0.00
94.25	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.077	0.000	8.507	0.00	11.44
94.25	1" Reinforcing plate	Yes	2.75	0.000	1.00	0.23	0.00	0.077	0.000	8.507	0.00	0.00
95.00	1 5/8" Coax	Yes	0.75	0.000	1.98	0.12	0.00	0.076	0.000	8.526	0.00	3.12
95.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.076	0.000	8.526	0.00	0.00
96.75	1 5/8" Coax	Yes	1.75	0.000	1.98	0.29	0.00	0.077	0.000	8.571	0.00	7.28
96.75	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.077	0.000	8.571	0.00	0.00
97.00	1 5/8" Coax	Yes	0.25	0.000	1.98	0.04	0.00	0.077	0.000	8.577	0.00	1.04
97.00	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.077	0.000	8.577	0.00	0.00
100.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.078	0.000	8.652	0.00	12.48
100.00	1" Reinforcing plate	Yes	0.75	0.000	1.00	0.06	0.00	0.078	0.000	8.652	0.00	0.00
100.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.078	0.000	8.652	0.00	0.00
102.25	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.079	0.000	8.707	0.00	9.36
102.25	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.079	0.000	8.707	0.00	0.00
105.00	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.075	0.000	8.774	0.00	11.44
105.00	1" Reinforcing plate	Yes	2.25	0.000	1.00	0.19	0.00	0.075	0.000	8.774	0.00	0.00
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.054	0.000	8.891	0.00	20.80
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.056	0.000	9.005	0.00	20.80
117.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.057	0.000	9.049	0.00	8.32
120.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.058	0.000	9.115	0.00	12.48
125.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.059	0.000	9.222	0.00	20.80
127.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.061	0.000	9.264	0.00	8.32
130.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.061	0.000	9.326	0.00	12.48
135.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.063	0.000	9.427	0.00	20.80

Linear Appurtenance Segment Forces (Factored)

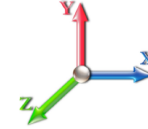
Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 51

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
139.00	1 5/8" Coax	Yes	4.00	0.000	1.98	0.66	0.00	0.065	0.000	9.506	0.00	16.64
140.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.066	0.000	9.525	0.00	4.16
142.75	1 5/8" Coax	Yes	2.75	0.000	1.98	0.45	0.00	0.067	0.000	9.578	0.00	11.44
145.00	1 5/8" Coax	Yes	2.25	0.000	1.98	0.37	0.00	0.067	0.000	9.621	0.00	9.36
146.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.068	0.000	9.640	0.00	4.16
148.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.069	0.000	9.678	0.00	8.32
150.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.070	0.000	9.715	0.00	8.32
155.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.071	0.000	9.806	0.00	20.80
157.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.073	0.000	9.842	0.00	8.32
Totals:											0.0	653.1

Calculated Forces

Structure: CT13071-A-SBA
Site Name: Woodbridge
Height: 169.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

5/27/2022

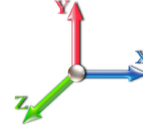


Page: 52

Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 25

Dead Load Factor 1.00
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-50.40	-8.41	-0.33	-1068.9	0.00	1068.97	5324.18	2662.09	12195.0	6106.56	0.00	0.000	0.000	0.185
5.00	-48.81	-8.35	-0.33	-1026.9	0.00	1026.91	5261.08	2630.54	11832.5	5925.09	0.03	-0.049	0.000	0.183
10.00	-47.24	-8.29	-0.33	-985.15	0.00	985.15	5196.80	2598.40	11472.7	5744.92	0.10	-0.099	0.000	0.181
15.00	-45.69	-8.23	-0.33	-943.71	0.00	943.71	5131.34	2565.67	11115.7	5566.13	0.23	-0.149	0.000	0.178
20.00	-44.17	-8.16	-0.33	-902.57	0.00	902.57	5064.69	2532.35	10761.6	5388.80	0.42	-0.200	0.000	0.176
25.00	-42.68	-8.10	-0.33	-861.75	0.00	861.75	4996.86	2498.43	10410.5	5212.99	0.66	-0.252	0.000	0.174
30.00	-41.20	-8.04	-0.33	-821.25	0.00	821.25	4927.84	2463.92	10062.6	5038.79	0.95	-0.304	0.000	0.171
35.00	-39.75	-7.97	-0.33	-781.06	0.00	781.06	4857.63	2428.82	9718.08	4866.26	1.29	-0.357	0.000	0.169
40.00	-38.33	-7.88	-0.33	-741.21	0.00	741.21	4786.24	2393.12	9377.03	4695.49	1.70	-0.410	0.000	0.166
40.75	-38.12	-7.88	-0.33	-735.30	0.00	735.30	4775.43	2387.72	9326.19	4670.03	1.76	-0.418	0.000	0.165
45.00	-36.10	-7.80	-0.33	-701.79	0.00	701.79	4713.67	2356.83	9039.63	4526.53	2.16	-0.464	0.000	0.163
47.00	-35.16	-7.77	-0.33	-686.18	0.00	686.18	3877.89	1938.95	7512.92	3762.05	2.35	-0.486	0.000	0.191
50.00	-34.42	-7.73	-0.33	-662.86	0.00	662.86	3845.09	1922.55	7353.82	3682.38	2.67	-0.519	0.000	0.189
55.00	-33.20	-7.66	-0.33	-624.19	0.00	624.19	3789.47	1894.74	7090.51	3550.52	3.25	-0.580	0.000	0.185
60.00	-32.00	-7.57	-0.33	-585.91	0.00	585.91	3732.67	1866.34	6829.63	3419.89	3.89	-0.640	0.000	0.180
65.00	-30.82	-7.49	-0.33	-548.04	0.00	548.04	3674.68	1837.34	6571.34	3290.55	4.59	-0.701	0.000	0.175
70.00	-29.66	-7.40	-0.33	-510.59	0.00	510.59	3615.51	1807.76	6315.78	3162.58	5.36	-0.761	0.000	0.170
75.00	-28.53	-7.32	-0.33	-473.57	0.00	473.57	3555.15	1777.58	6063.10	3036.06	6.19	-0.822	0.000	0.164
80.00	-27.41	-7.23	-0.33	-436.99	0.00	436.99	3493.61	1746.80	5813.45	2911.05	7.08	-0.882	0.000	0.158
85.00	-26.31	-7.13	-0.33	-400.86	0.00	400.86	3430.88	1715.44	5566.98	2787.63	8.04	-0.941	0.000	0.151
89.25	-25.40	-7.05	-0.33	-370.54	0.00	370.54	3376.63	1688.32	5360.08	2684.02	8.90	-0.991	-0.001	0.146
90.00	-25.16	-7.03	-0.33	-365.26	0.00	365.26	3366.97	1683.48	5323.83	2665.87	9.05	-1.000	-0.001	0.145
91.50	-24.68	-7.00	-0.33	-354.71	0.00	354.71	3347.56	1673.78	5251.55	2629.68	9.37	-1.018	-0.001	0.106
94.25	-23.82	-6.94	-0.33	-335.45	0.00	335.45	1944.87	972.44	3066.99	1535.78	9.96	-1.042	-0.001	0.120
95.00	-23.70	-6.93	-0.33	-330.25	0.00	330.25	1940.65	970.33	3048.28	1526.41	10.13	-1.049	-0.001	0.153
96.75	-23.42	-6.89	-0.33	-318.13	0.00	318.13	1930.70	965.35	3004.67	1504.57	10.52	-1.068	-0.001	0.105
97.00	-23.38	-6.89	-0.33	-316.40	0.00	316.40	1929.27	964.63	2998.44	1501.45	10.57	-1.070	-0.001	0.136
100.00	-22.90	-6.83	-0.33	-295.73	0.00	295.73	1911.84	955.92	2923.84	1464.09	11.25	-1.100	-0.001	0.130
102.25	-22.55	-6.79	-0.33	-280.35	0.00	280.35	1898.49	949.24	2868.04	1436.15	11.78	-1.122	-0.001	0.125
102.25	-22.55	-6.79	-0.33	-280.35	0.00	280.35	1898.49	949.24	2868.04	1436.15	11.78	-1.122	-0.001	0.125
105.00	-22.12	-6.75	-0.33	-261.67	0.00	261.67	1881.84	940.92	2800.02	1402.09	12.43	-1.147	-0.001	0.198
110.00	-21.36	-6.67	-0.33	-227.91	0.00	227.91	1850.66	925.33	2676.97	1340.48	13.67	-1.221	-0.001	0.182
115.00	-20.60	-6.57	-0.33	-194.59	0.00	194.59	1818.29	909.14	2554.84	1279.32	14.99	-1.289	-0.001	0.163
117.00	-17.96	-5.82	-0.33	-181.45	-0.01	181.45	1805.01	902.50	2506.28	1255.00	15.54	-1.316	-0.001	0.155
120.00	-17.53	-5.77	-0.33	-163.98	-0.01	163.98	1784.73	892.37	2433.78	1218.70	16.38	-1.354	-0.001	0.144
125.00	-16.81	-5.67	-0.33	-135.12	-0.01	135.12	1749.99	875.00	2313.93	1158.68	17.83	-1.412	-0.001	0.126
127.00	-12.83	-4.37	0.00	-123.77	0.00	123.77	1735.77	867.88	2266.36	1134.86	18.42	-1.435	-0.001	0.116
130.00	-12.42	-4.31	0.00	-110.67	0.00	110.67	1714.07	857.04	2195.44	1099.35	19.33	-1.466	-0.001	0.108
135.00	-11.77	-4.21	0.00	-89.11	0.00	89.11	1676.96	838.48	2078.45	1040.77	20.89	-1.512	-0.001	0.093
139.00	-11.26	-4.14	0.00	-72.25	0.00	72.25	1646.42	823.21	1986.05	994.50	22.18	-1.546	-0.001	0.080
140.00	-11.08	-4.12	0.00	-68.12	0.00	68.12	1638.67	819.33	1963.12	983.02	22.50	-1.554	-0.001	0.076
142.75	-10.59	-4.06	0.00	-56.79	0.00	56.79	1100.62	550.31	1316.21	659.08	23.40	-1.573	-0.001	0.096
145.00	-10.36	-4.02	0.00	-47.66	0.00	47.66	1091.20	545.60	1284.61	643.26	24.15	-1.587	-0.001	0.084
146.00	-10.00	-3.90	0.00	-43.64	0.00	43.64	1086.94	543.47	1270.59	636.24	24.48	-1.595	-0.001	0.078
148.00	-6.77	-2.82	0.00	-35.84	0.00	35.84	1078.27	539.14	1242.60	622.22	25.15	-1.608	-0.001	0.064
150.00	-6.29	-2.66	0.00	-30.21	0.00	30.21	1069.42	534.71	1214.68	608.24	25.83	-1.619	-0.001	0.056
155.00	-5.86	-2.57	0.00	-16.91	0.00	16.91	1046.45	523.23	1145.25	573.48	27.54	-1.640	-0.001	0.035
157.00	-3.42	-1.34	0.00	-11.77	0.00	11.77	1036.93	518.47	1117.66	559.66	28.22	-1.646	-0.001	0.024

Calculated Forces

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 53
	Struct Class: II	



160.00	-3.22	-1.29	0.00	-7.74	0.00	7.74	1022.30	511.15	1076.48	539.04	29.26	-1.652	-0.001	0.018
165.00	-2.21	-0.58	0.00	-1.29	0.00	1.29	996.96	498.48	1008.51	505.00	30.99	-1.657	-0.001	0.005
167.00	-0.10	-0.03	0.00	-0.06	0.00	0.06	986.50	493.25	981.58	491.52	31.69	-1.658	-0.001	0.000
169.00	0.00	-0.03	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11	32.38	-1.658	-0.001	0.000

Final Analysis Summary

Structure: CT13071-A-SBA	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 54

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 97 mph Wind	35.2	0.00	60.42	0.02	0.85	4506.67
0.9D + 1.6W 97 mph Wind	35.2	0.00	45.30	0.01	0.85	4439.42
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.5	0.00	94.40	0.00	0.29	1220.58
1.2D + 1.0E	2.0	0.00	60.48	0.00	0.00	258.47
0.9D + 1.0E	2.0	0.00	45.36	0.00	0.00	254.34
1.0D + 1.0W 60 mph Wind	8.4	0.00	50.40	0.00	0.33	1068.97

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 97 mph Wind	-24.31	-28.54	-0.86	-1105.6	-0.05	-1105.6	1881.84	940.92	2800.02	1402.09	105.00	0.802
0.9D + 1.6W 97 mph Wind	-17.71	-27.93	-0.86	-1080.5	-0.04	-1080.5	1881.84	940.92	2800.02	1402.09	105.00	0.781
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-49.40	-7.77	-0.29	-293.51	-0.01	-293.51	1881.84	940.92	2800.02	1402.09	105.00	0.236
1.2D + 1.0E	-26.70	-1.51	0.00	-80.67	0.00	-80.67	1881.84	940.92	2800.02	1402.09	105.00	0.072
0.9D + 1.0E	-20.02	-1.48	0.00	-79.01	0.00	-79.01	1881.84	940.92	2800.02	1402.09	105.00	0.067
1.0D + 1.0W 60 mph Wind	-22.12	-6.75	-0.33	-261.67	0.00	-261.67	1881.84	940.92	2800.02	1402.09	105.00	0.198

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
			VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
91.5	97.0	(3) LNP-LP6X100-G-10TT	-395.2	-9.09	25.3	183.2	25.3	8	9	155.3	25.3	7	9	223.81	301.8	288.75	0.775
96.8	102.3	(3) LNP-LP6X100-G-10TT	397.1	9.13	25.3	159.5	25.3	7	9	196.6	25.3	8	9	212.04	301.8	288.75	0.734

Base Plate Summary

Structure: CT13071-A-SB	Code: TIA-222-G	5/27/2022
Site Name: Woodbridge	Exposure: B	
Height: 169.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 55



Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 60.00	Bolt Circle: 62.75
Moment (kip-ft): 4977.00	Width (in): 61.25	Number Bolts: 16.00
Axial (kip): 60.20	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 43.70	Polygon Sides: 0.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 12.00	Yield (ksi): 75.00
Moment (kip-ft): 4506.67	Effective Len (in): 8.31	Ultimate (ksi): 100.00
Axial (kip): 60.42	Moment (kip-in): 625.36	Arrangement: Clustered
Shear (kip): 35.21	Allow Stress (ksi): 81.00	Cluster Dist (in): 6.00
	Applied Stress (ksi): 50.22	Start Angle (deg): 45.00
	Stress Ratio: 0.62	Compression
		Force (kip): 189.03
		Allowable (kip): 260.00
		Ratio: 0.74
		Tension
		Force (kip): 177.23
		Allowable (kip): 260.00
		Ratio: 0.70



Monopole Mat Foundation Design

Date	
5/27/2022	
Customer Name:	Dish Network
EIA/TIA Standard:	TIA-222-G
Site Name:	
Structure Height (Ft.):	169
Site Number:	CT13071-A-SBA
Engineer Name:	H. You
Engr. Number:	129717
Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	60.4	Shear Force (Kips):	35.2
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4506.7

Allowable overstress %: 5.0%

Foundation Geometries:

Diameter of Pier (ft.):	7.0	Mods required -Yes/No ?:	No
Pier Height A. G. (ft.):	0.50	Depth of Base BG (ft.):	6.0
Length of Pad (ft.):	24.5	Thickness of Pad (ft.):	2.00
		Width of Pad (ft.):	24.5
Final Length of pad (ft)	24.5	Final width of pad (ft):	24.5

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	46	Qty. of Rebar in Pad (W):	46
---------------------------	----	---------------------------	----

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	46	Qty. of Rebar in Pad (W):	46
---------------------------	----	---------------------------	----

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

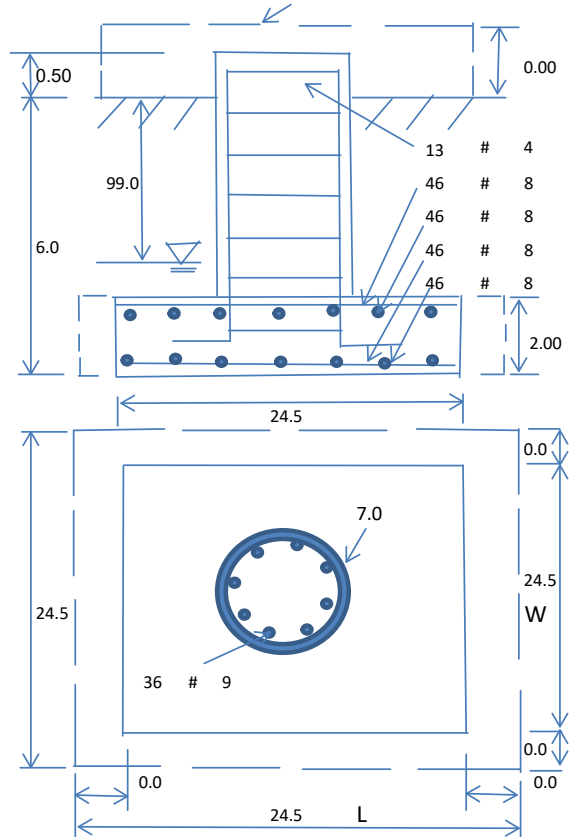
Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf	Angle from Top of Pad:	30
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Bottm of Pad:	25
Ultimate Bearing Pressure (psf):	10000	Ultimate Skin Friction:	200	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Reduction factor on the maximum soil bearing pressure:	1.00
Consider soil hor. resist. for OTM.:	No					

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	2247.06	Total Dry Soil Weight (Kips):	269.65
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	269.65	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1373.68	Total Dry Concrete Weight (Kips):	206.05
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	206.05	Total Vertical Load on Base (Kips):	536.10

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	3777	<	Allowable Factored Soil Bearing (psf):	7500	0.50	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5984.5	>	Design Factored Momont (kips-ft):	4736	0.79	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.26					OK!



Check the capacities of Reinforcing Concrete:

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

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	6026.1	> Design Factored Moment (Mu, Kips-F	4665.1	0.77	OK!
Calculated Shear Capacity (Kips):	794.5	> Design Factored Shear (Kips):	35.2	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	1944.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9734.2	> Design Factored Axial Load (Pu Kips):	60.4	0.01	OK!
Moment & Axial Strength Combination:	0.77	OK! Check Tie Spacing (Design/Required):		0.5	OK!
Pier Reinforcement Ratio:	0.006	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	571.8	> One-Way Factored Shear (L-D. Kips):	304.2	0.53	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	571.8	> One-Way Factored Shear (W-D., Kips)	304.2	0.53	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	565.5	> One-Way Factored Shear (C-C, Kips):	314.4	0.56	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0060	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0060		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	3174.0	> Moment at Bottom (L-Dir. K-Ft):	1438.3	0.45	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	3174.0	> Moment at Bottom (W-Dir. K-Ft):	1438.3	0.45	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	4424.9	> Moment at Bottom (C-C Dir. K-Ft):	2034.1	0.46	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0060	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0060		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	3174.0	> Moment at the top (L-Dir K-Ft):	694.7	0.22	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	3174.0	> Moment at the top (W-Dir K-Ft):	694.7	0.22	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	4424.9	> Moment at the top (C-C Dir. K-Ft):	652.2	0.15	OK!

(3).Check Punching Shear Capacity due to Moment in the Pier:

Moment transferred by punching shear:	1802.7	k-ft.	Max. factored shear stress $v_{u,CD}$:	4.8	Psi
Max. factored shear stress $v_{u,AB}$:	19.8	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	19.8	Psi	Check Usage of Punching Shear Capacity:	0.10	OK!

Exhibit E

Mount Analysis



May 25, 2022

Sherri Knapik
SBA Network Services, LLC.
134 Flanders Road, Suite 125
Westborough, MA 01581
(508) 251-0720 x3805

MTS Engineering, P.L.L.C.
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject: Appurtenance Mount Analysis Report

Carrier Designation: *Dish Wireless Co-Locate*
Site Number: BOHVN00045A
Site Name: N/A

SBA Network Services Designation: **Site Number:** CT13071-A-07
Site Name: Woodbridge
Application Number: 198990, v1

Engineering Firm Designation: **Project Number:** 149463.003.01

Site Data: 1 Deerfield Rd., Ansonia, CT, 06401, New Haven County
Latitude 41.35075°, Longitude -73.04925°
Monopole
8 ft. Platform Mount

Dear Ms. Knapik,

We are pleased to submit this “**Appurtenance Mount Analysis Report**” to determine the structural integrity of the antenna mount on the above-mentioned structure.

The purpose of the analysis is to determine acceptability of the mount’s stress level. Based on our analysis we have determined the stress level for the mount under the following load case to be:

Proposed Equipment
Note: See Table 1 for the final loading configuration

**Sufficient Capacity
(Passing at 45.1%)**

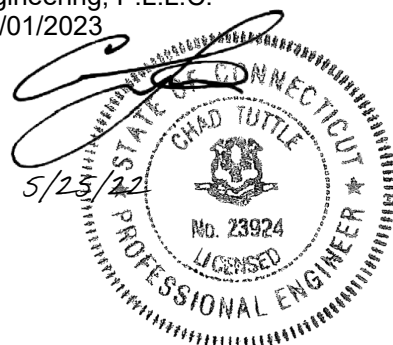
This analysis utilizes an ultimate 3-second gust wind speed of 119 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

All the equipment proposed in this report shall be installed in accordance with the drawings for the determined available structural capacity to be effective.

We appreciate the opportunity of providing our continuing professional services to you and *SBA Network Services, LLC*. If you have any questions or need further assistance on this or any other projects, please give us a call.

Mount structural analysis prepared by: Erika Ruiz

Respectfully submitted by: MTS Engineering, P.L.L.C.
COA: BER:2386985 Expires: 02/01/2023



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Information

Table 2 - Documents Provided

3) ANALYSIS PROCEDURE

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity

5) RECOMMENDATIONS

6) APPENDIX A

RISA-3D Output

7) APPENDIX B

Additional Calculations

1) INTRODUCTION

The appurtenance mount consists of Commscope platform mount, Part# MC-PK8-DSH at 117 ft., attached to monopole at 1 Deerfield Rd., Ansonia, CT, 06401, New Haven County. The proposed antenna loading information was obtained from SBA Network Services, LLC. All information provided to us was assumed accurate and complete.

2) ANALYSIS CRITERIA

The structural analysis was performed for this mount in accordance with the ANSI/TIA-222-H-2017 Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures using a 3-second gust wind speed of 119 mph with no ice and 50 mph with 1 inch escalated ice thickness. Exposure Category B & Topographic Category 1 and Risk Category II were used in this analysis. In addition, the platform mount has been analyzed for various live loading conditions consisting of a 250-lb man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 500-pound man live load applied individually at mount pipe locations using a 3-second gust of 30 mph. The mount was analyzed under 30° increments in the wind direction. The analyzed loading is detailed in Table 1.

Table 1 – Proposed Equipment Information

Loading	RAD Center Elev. (ft.)	Position	Qty.	Description	Note
Proposed	117	1	3	JMA Wireless MX08FRO665-21	1
			3	Fujitsu TA08025-B605	2
			3	Fujitsu TA08025-B604	
		-	1	Raycap RDIDC-9181-PF-48	3

Note:

- (1) Proposed Antenna to be installed on the Proposed Mount Pipe.
- (2) Proposed Equipment to be installed directly behind the Antenna.
- (3) Proposed Equipment to be installed on the mount.

Table 2 – Documents Provided

Documents	Remarks	Reference	Source
SBA Application	Proposed Loading & Mount Info	Date: 05/19/2022	SBA Network Services, LLC.

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 20.0.1), a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses and deflections for various loading cases. Selected output from the analysis is included in Appendix A.

Manufacturers drawing were used to create the model.

3.2) Assumptions

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

6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
9. The following material grades were assumed (Unless Noted Otherwise):
 - a) Connection Bolts : ASTM A325
 - b) Steel Pipe : ASTM A53 (GR. 35)
 - c) HSS (Round) : ASTM 500 (GR. B-42)
 - d) HSS (Rectangular) : ASTM 500 (GR. B-46)
 - e) Channel : ASTM A36 (GR. 36)
 - f) Steel Solid Rod : ASTM A36 (GR. 36)
 - g) Steel Plate : ASTM A36 (GR. 36)
 - h) Steel Angle : ASTM A36 (GR. 36)
 - i) UNISTRUT : ASTM A570 (GR. 33)

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

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity

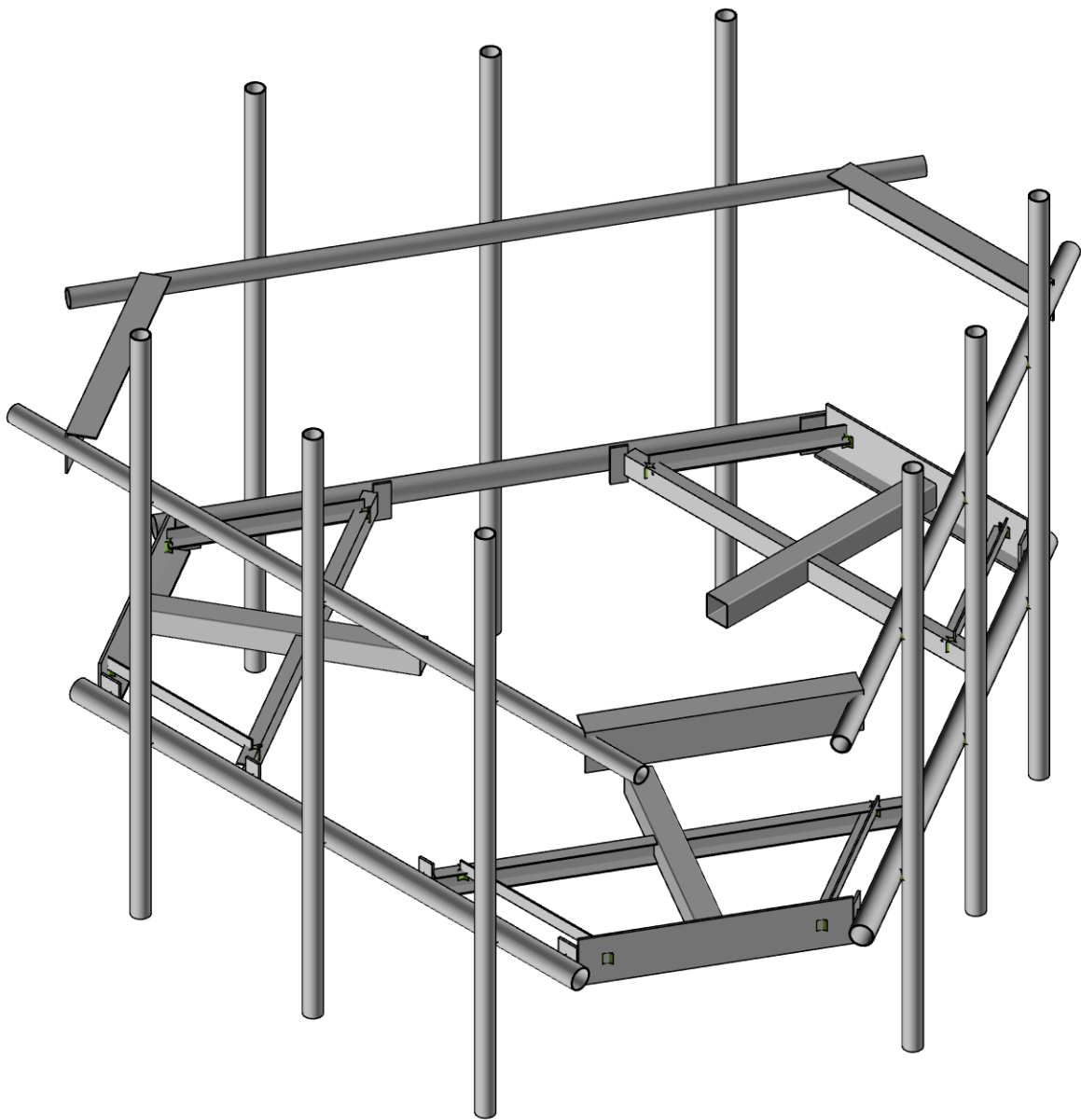
Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
-	Main Horizontals	117	6.9	Pass
-	Support Rails	117	11.6	Pass
-	Support Tubes	117	45.1	Pass
-	Support Channels	117	33.1	Pass
-	Support Angels	117	30.0	Pass
-	Mount Pipes	117	13.0	Pass
-	Connection Plates	117	19.8	Pass
-	Connection Angles	117	19.2	Pass

5) RECOMMENDATIONS

The Commscope platform mount, (Part# MC-PK8-DSH) has sufficient capacity to carry the proposed loads and is in compliance with the ANSI/TIA-222-H standard for the proposed loading. (Refer to the RISA output for the specific members).

APPENDIX A

(RISA-3D Output)



Envelope Only Solution

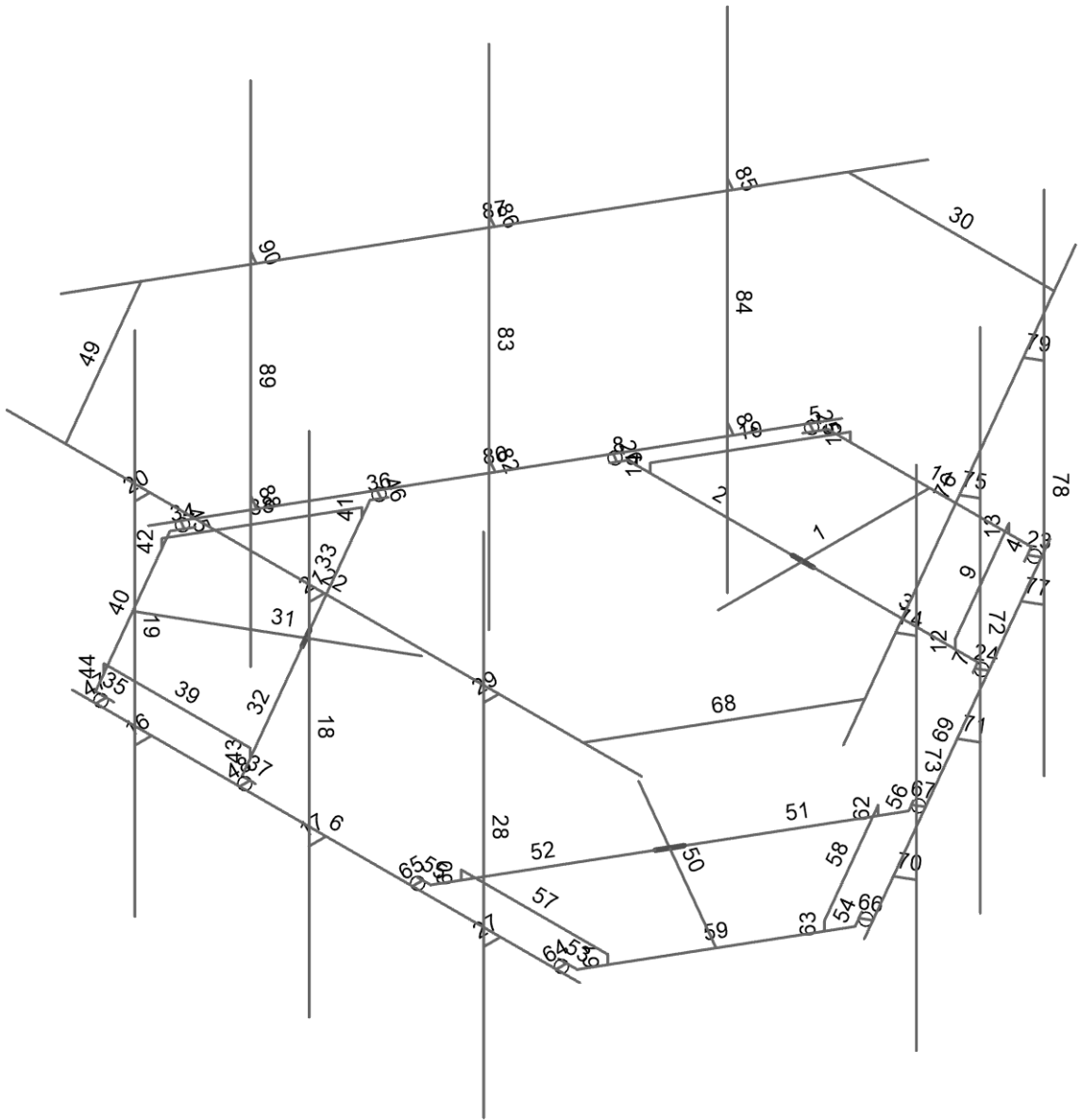
MTS Engineering, P.L.L.C.
MP
149463.003.01

CT13071-A-07 - Woodbridge

SK-1

May 25, 2022

149463_003_01_Woodbridge_CT...



Envelope Only Solution

MTS Engineering, P.L.L.C.

MP

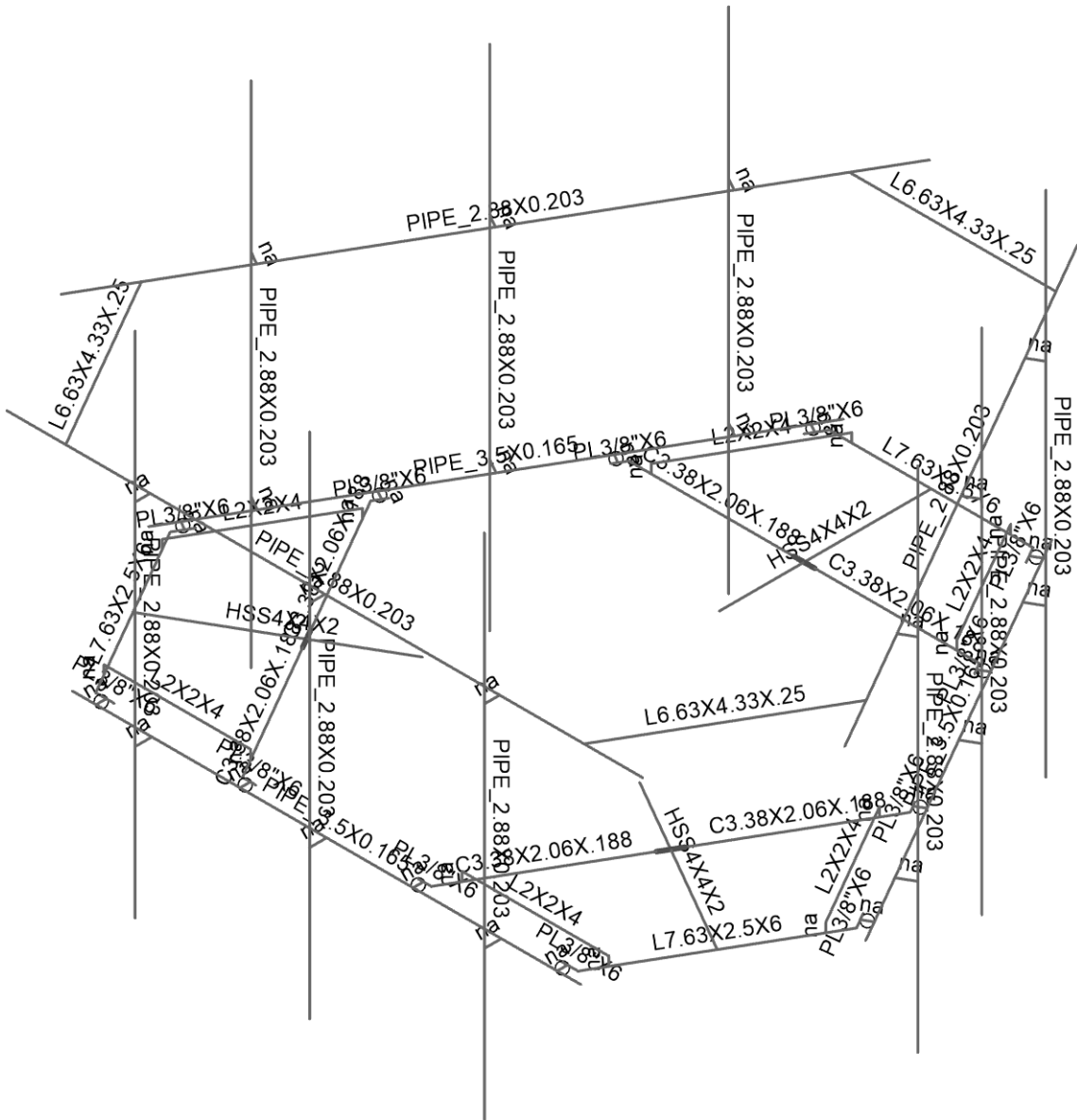
149463.003.01

CT13071-A-07 - Woodbridge

SK-2

May 25, 2022

149463_003_01_Woodbridge_CT...



Envelope Only Solution

MTS Engineering, P.L.L.C.

MP

149463.003.01

CT13071-A-07 - Woodbridge

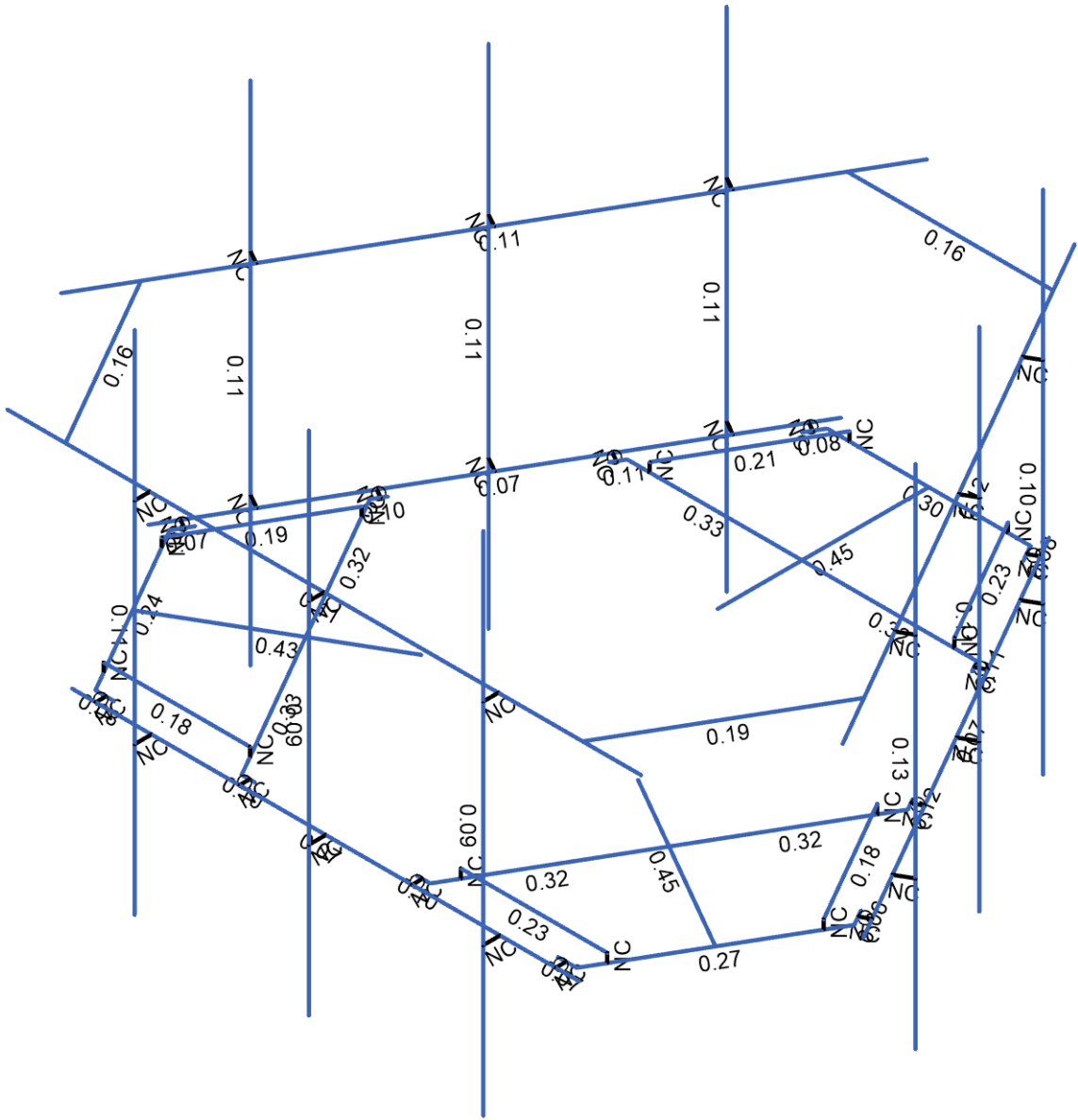
SK-3

May 25, 2022

149463_003_01_Woodbridge_CT...



Code Check (Env)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50

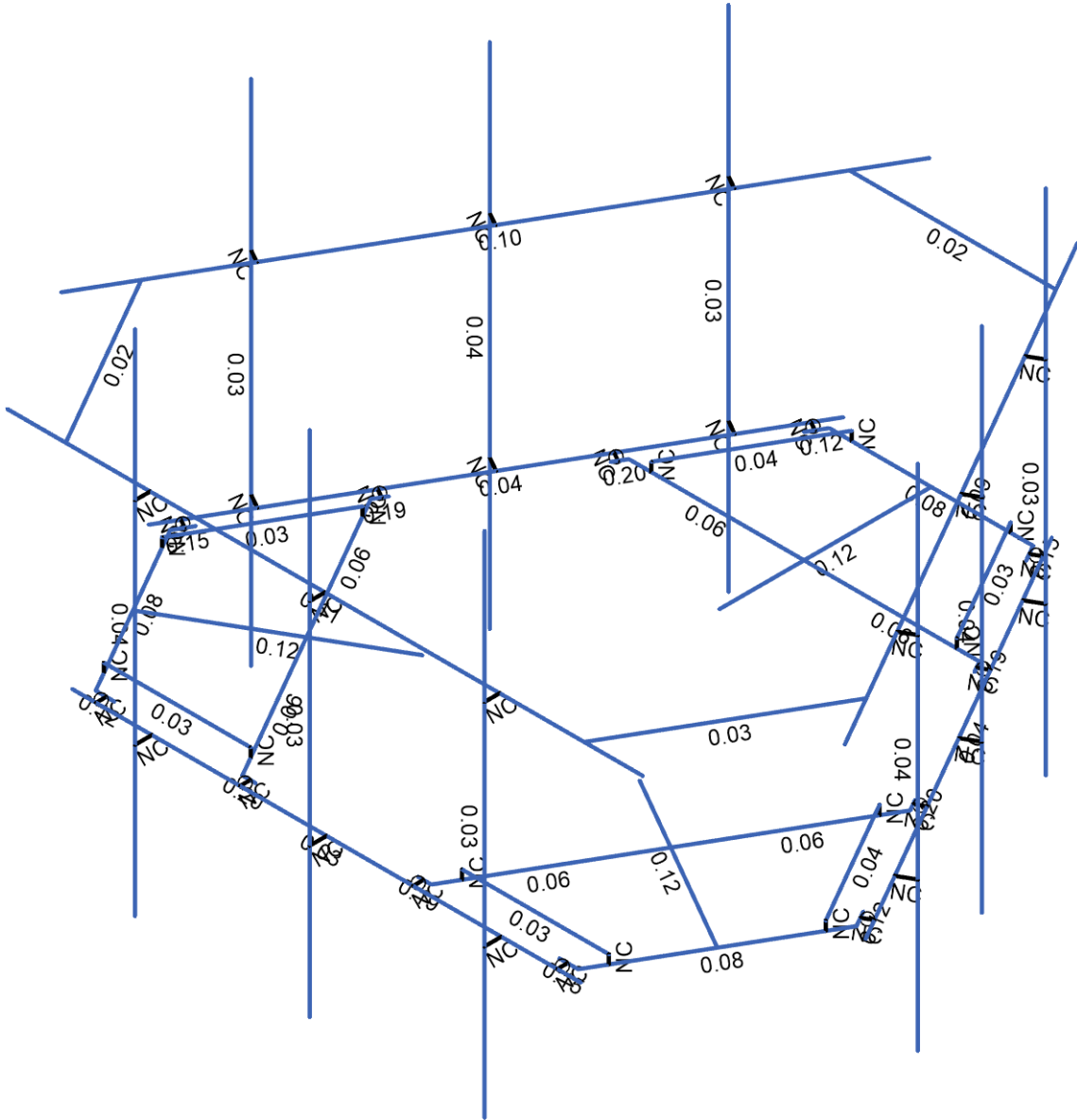
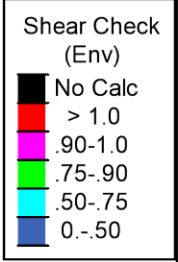
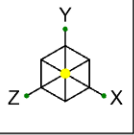


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

MTS Engineering, P.L.L.C.
MP
149463.003.01

CT13071-A-07 - Woodbridge

SK-4
May 25, 2022
149463_003_01_Woodbridge_CT...



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

MTS Engineering, P.L.L.C.

MP

149463.003.01

CT13071-A-07 - Woodbridge

SK-5

May 25, 2022

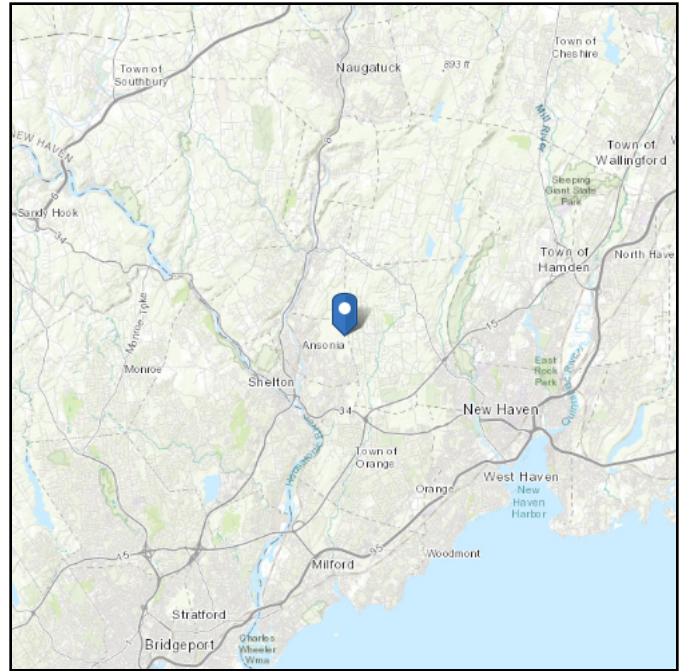
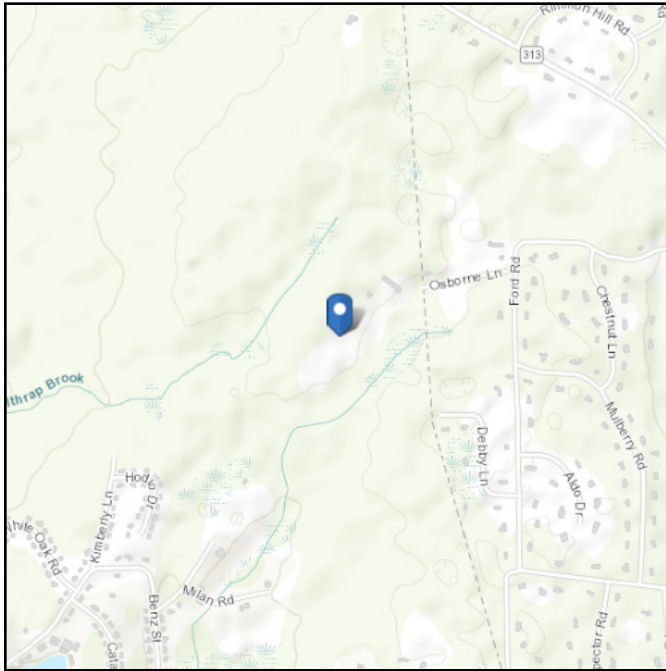
149463_003_01_Woodbridge_CT...

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 483.9 ft (NAVD 88)
Latitude: 41.35075
Longitude: -73.04925



Wind

Results:

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

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

Date Accessed: Tue May 24 2022

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

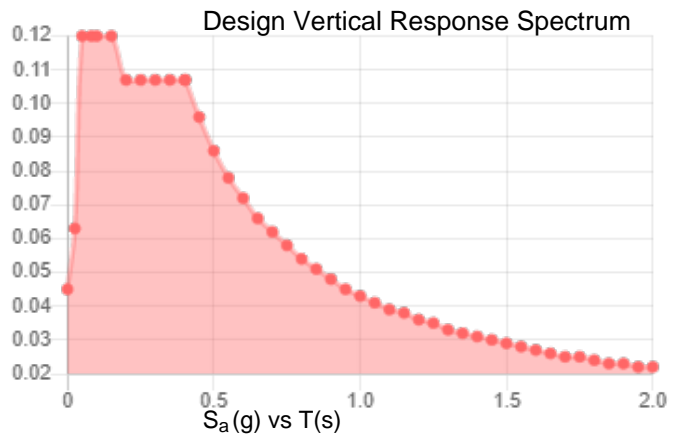
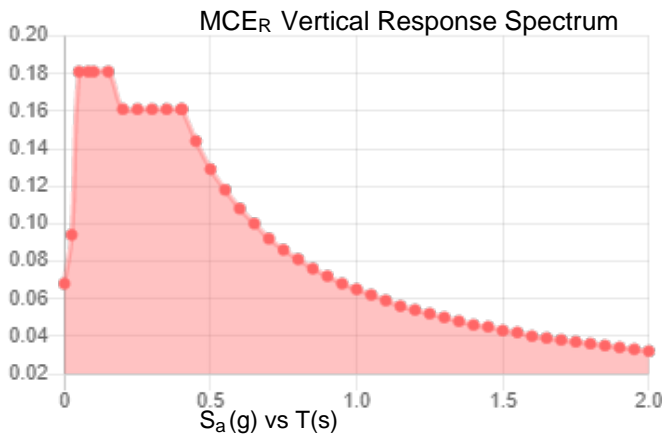
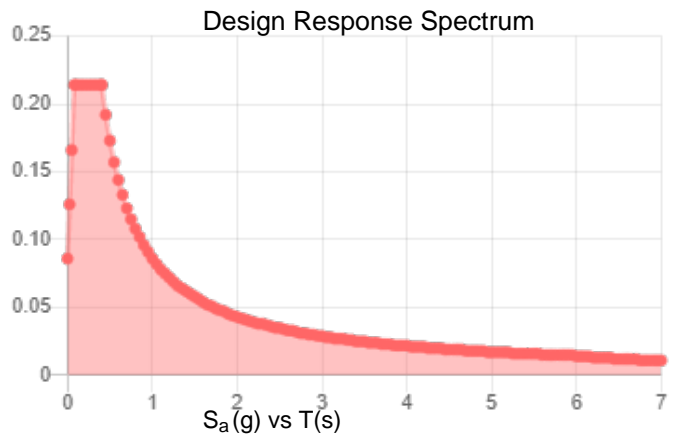
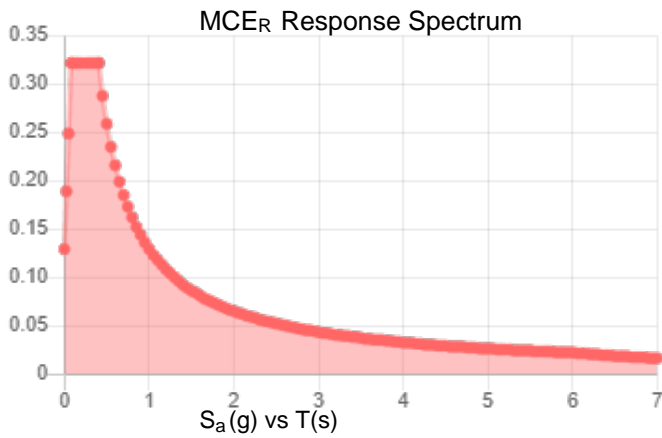
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.201	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.113
F_v :	2.4	PGA _M :	0.177
S_{MS} :	0.322	F_{PGA} :	1.575
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.214	C_v :	0.702

Seismic Design Category B



Data Accessed: Tue May 24 2022

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

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

Date Accessed: Tue May 24 2022

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

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

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

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.

PROJECT	149463.003.01 - Woodbridge, CT	KSC
SUBJECT	Platform Mount Analysis	
DATE	05/25/22	



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

B+T GRP

Tower Type	:	Monopole	
Ground Elevation	z_s :	484 ft	[ASCE7 Hazard Tool]
Tower Height	:	169.00 ft	
Mount Elevation	:	117.00 ft	
Antenna Elevation	:	117.00 ft	
Crest Height	:	0 ft	
Risk Category	:	II	[Table 2-1]
Exposure Category	:	B	[Sec. 2.6.5.1.2]
Topography Category	:	1.00	[Sec. 2.6.6.2]
Wind Velocity	V :	119 mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i :	50 mph	[ASCE7 Hazard Tool]
Service Velocity	V_s :	30 mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i :	1.00 in	[ASCE7 Hazard Tool]
Seismic Design Cat.	:	B	[ASCE7 Hazard Tool]
	S_S :	0.20	
	S_1 :	0.05	
	S_{DS} :	0.21	
	S_{D1} :	0.09	
Gust Factor	G_h :	1.00	[Sec. 16.6]
Pressure Coefficient	K_z :	1.03	[Sec. 2.6.5.2]
Topography Facto	K_{zt} :	1.00	[Sec. 2.6.6]
Elevation Factor	K_e :	0.98	[Sec. 2.6.8]
Directionality Factor	K_d :	0.95	[Sec. 16.6]
Shielding Factor	K_a :	0.90	[Sec. 16.6]
Design Ice Thickness	t_{iz} :	1.13 in	[Sec. 2.6.10]
Importance Factor	I_e :	1	[Table 2-3]
Response Coefficient	C_s :	0.107	[Sec. 2.7.7.1]
Amplification	A_s :	1.769231	[Sec. 16.7]
	q_z :	34.98 psf	

PROJECT	149463.003.01 - Woodbridge, CT	KSC
SUBJECT	Platform Mount Analysis	
DATE	05/25/22	



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

B+T GRP

Manufacturer	Model	Qty	Height (in ²)	Width (in ²)	Depth (in ²)	Weight (lbs)	C _a A _a (N) (ft ²)	C _a A _a (T) (ft ²)	C _a A _a (N) Ice (ft ²)	C _a A _a (T) Ice (ft ²)	F _A (N) (k)	F _A (T) (k)	F _A (N) Ice (k)	F _A (T) Ice (k)
JMA	MX08FRO665-21	0.5	72.0	20.0	8.0	64.5	4.01	1.61	4.53	2.06	0.14	0.06	0.03	0.01
JMA	MX08FRO665-21	0.5					4.01	1.61	4.53	2.06	0.14	0.06	0.03	0.01
Fujitsu	TA08025-B605	1	15.8	15.0	9.1	75.0	1.96	1.19	2.59	1.70	0.06	0.04	0.01	0.01
Fujitsu	TA08025-B604	1	15.8	15.0	7.9	63.9	1.96	1.03	2.59	1.52	0.06	0.03	0.01	0.01
JMA	MX08FRO665-21	0.5	72.0	20.0	8.0	64.5	4.01	1.61	4.53	2.06	0.14	0.06	0.03	0.01
JMA	MX08FRO665-21	0.5					4.01	1.61	4.53	2.06	0.14	0.06	0.03	0.01
Fujitsu	TA08025-B605	1	15.8	15.0	9.1	75.0	1.96	1.19	2.59	1.70	0.06	0.04	0.01	0.01
Fujitsu	TA08025-B604	1	15.8	15.0	7.9	63.9	1.96	1.03	2.59	1.52	0.06	0.03	0.01	0.01
Raycap	RDIDC-9181-PF-48	1	16.6	14.6	8.5	21.9	2.01	1.17	2.64	1.68	0.06	0.04	0.01	0.01



Company : MTS Engineering, P.L.L.C.
 Designer : MP
 Job Number : 149463.003.01
 Model Name : CT13071-A-07 - Woodbridge

5/25/2022
 4:11:50 PM
 Checked By : _____

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0	0	-1.976247	
2	2	0	0	-5.309581	
3	3	0	0	-3.309581	
4	4	2.758333	0	-3.309581	
5	5	-2.758333	0	-3.309581	
6	6	-1.603633	0	-5.309581	
7	7	1.603633	0	-5.309581	
8	8	1.749466	0	-5.05699	
9	9	-1.749466	0	-5.05699	
10	10	1.686966	0	-5.165243	
11	11	1.826845	0	-5.246002	
12	12	-1.686966	0	-5.165243	
13	13	-1.826845	0	-5.246002	
14	14	-3.999998	0	4.205095	
15	15	3.999998	0	4.205095	
16	16	2.8625	0	-3.129159	
17	17	2.820833	0	-3.201328	
18	18	2.960711	0	-3.282087	
19	19	-2.8625	0	-3.129159	
20	20	-2.820833	0	-3.201328	
21	21	-2.960711	0	-3.282087	
22	22	-1.25	0.140833	-5.309581	
23	23	-2.404701	0.140833	-3.309581	
24	24	2.404701	0.140833	-3.309581	
25	25	1.25	0.140833	-5.309581	
26	26	-1.25	0	-5.309581	
27	27	-2.404701	0	-3.309581	
28	28	2.404701	0	-3.309581	
29	29	1.25	0	-5.309581	
30	30	-2.749998	0	4.205095	
31	31	0.000002	0	4.205095	
32	32	-2.749998	0	4.47072	
33	33	0.000002	0	4.47072	
34	34	-2.749998	-2.3337	4.47072	
35	35	0.000002	-2.3337	4.47072	
36	36	-2.749998	5.6663	4.47072	
37	37	0.000002	5.6663	4.47072	
38	38	-2.749998	3.333227	4.47072	
39	39	0.000002	3.333227	4.47072	
40	40	-2.749998	3.333227	4.231595	
41	41	0.000002	3.333227	4.231595	
42	42	-5	3.333227	4.231595	
43	43	5	3.333227	4.231595	
44	44	2.749998	0	4.205095	
45	45	2.749998	0	4.47072	
46	46	2.749998	-2.3337	4.47072	
47	47	2.749998	5.6663	4.47072	
48	48	2.749998	3.333227	4.47072	
49	49	2.749998	3.333227	4.231595	
50	50	0	0	0	
51	51	1.625027	3.333227	-5.648561	
52	52	-1.625027	3.333227	-5.648561	
53	53	-1.71148	0	0.988124	
54	54	-4.598232	0	2.65479	
55	55	-2.866181	0	1.65479	



Company : MTS Engineering, P.L.L.C.
 Designer : MP
 Job Number : 149463.003.01
 Model Name : CT13071-A-07 - Woodbridge

5/25/2022
 4:11:50 PM
 Checked By : _____

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	-4.245348	0	-0.733996	
57	57	-1.487014	0	4.043577	
58	58	-3.796415	0	4.043577	
59	59	-5.400048	0	1.266004	
60	60	-5.254215	0	1.013413	
61	61	-3.504749	0	4.043577	
62	62	-5.316715	0	1.121666	
63	63	-5.456593	0	1.040907	
64	64	-3.629749	0	4.043577	
65	65	-3.629749	0	4.205095	
66	66	-4.141181	0	-0.914418	
67	67	-4.182848	0	-0.842249	
68	68	-4.322727	0	-0.923007	
69	69	-1.278681	0	4.043577	
70	70	-1.362015	0	4.043577	
71	71	-1.362015	0	4.205095	
72	72	-3.973232	0.140833	3.737322	
73	73	-1.663831	0.140833	3.737322	
74	74	-4.068531	0.140833	-0.427741	
75	75	-5.223232	0.140833	1.572259	
76	76	-3.973232	0	3.737322	
77	77	-1.663831	0	3.737322	
78	78	-4.068531	0	-0.427741	
79	79	-5.223232	0	1.572259	
80	80	-5.704311	3.333227	1.416966	
81	81	-4.079284	3.333227	4.231595	
82	82	1.71148	0	0.988124	
83	83	4.598232	0	2.65479	
84	84	2.866181	0	1.65479	
85	85	1.487014	0	4.043577	
86	86	4.245348	0	-0.733996	
87	87	5.400048	0	1.266004	
88	88	3.796415	0	4.043577	
89	89	3.504749	0	4.043577	
90	90	5.254215	0	1.013413	
91	91	3.629749	0	4.043577	
92	92	3.629749	0	4.205095	
93	93	5.316715	0	1.121666	
94	94	5.456593	0	1.040907	
95	95	1.278681	0	4.043577	
96	96	1.362015	0	4.043577	
97	97	1.362015	0	4.205095	
98	98	4.141181	0	-0.914418	
99	99	4.182848	0	-0.842249	
100	100	4.322727	0	-0.923007	
101	101	5.223232	0.140833	1.572259	
102	102	4.068531	0.140833	-0.427741	
103	103	1.663831	0.140833	3.737322	
104	104	3.973232	0.140833	3.737322	
105	105	5.223232	0	1.572259	
106	106	4.068531	0	-0.427741	
107	107	1.663831	0	3.737322	
108	108	3.973232	0	3.737322	
109	109	4.079284	3.333227	4.231595	
110	110	5.704311	3.333227	1.416966	



Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	5.641718	0	1.361553	
112	112	1.64172	0	-5.566647	
113	113	5.016718	0	0.279021	
114	114	3.641718	0	-2.102549	
115	115	5.246756	0	0.146208	
116	116	3.871756	0	-2.235362	
117	117	5.246756	-2.3337	0.146208	
118	118	3.871756	-2.3337	-2.235362	
119	119	5.246756	5.6663	0.146208	
120	120	3.871756	5.6663	-2.235362	
121	121	5.246756	3.333227	0.146208	
122	122	3.871756	3.333227	-2.235362	
123	123	5.039668	3.333227	0.265771	
124	124	3.664668	3.333227	-2.115799	
125	125	6.164669	3.333227	2.21433	
126	126	1.164669	3.333227	-6.445925	
127	127	2.26672	0	-4.484116	
128	128	2.496758	0	-4.616928	
129	129	2.496758	-2.3337	-4.616928	
130	130	2.496758	5.6663	-4.616928	
131	131	2.496758	3.333227	-4.616928	
132	132	2.28967	3.333227	-4.497366	
133	133	-1.64172	0	-5.566647	
134	134	-5.641718	0	1.361553	
135	135	-2.26672	0	-4.484116	
136	136	-3.64172	0	-2.102546	
137	137	-2.496758	0	-4.616928	
138	138	-3.871758	0	-2.235358	
139	139	-2.496758	-2.3337	-4.616928	
140	140	-3.871758	-2.3337	-2.235358	
141	141	-2.496758	5.6663	-4.616928	
142	142	-3.871758	5.6663	-2.235358	
143	143	-2.496758	3.333227	-4.616928	
144	144	-3.871758	3.333227	-2.235358	
145	145	-2.28967	3.333227	-4.497366	
146	146	-3.66467	3.333227	-2.115796	
147	147	-1.164669	3.333227	-6.445925	
148	148	-6.164669	3.333227	2.21433	
149	149	-5.016718	0	0.279021	
150	150	-5.246756	0	0.146208	
151	151	-5.246756	-2.3337	0.146208	
152	152	-5.246756	5.6663	0.146208	
153	153	-5.246756	3.333227	0.146208	
154	154	-5.039668	3.333227	0.265771	

Node Boundary Conditions

	Node 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	1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	2						
3	3						
4	4						
5	5						
6	16						
7	17						
8	19						

Node Boundary Conditions (Continued)

Node 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]
9	20					
10	22					
11	25					
12	26					
13	29					
14	53	Reaction	Reaction	Reaction	Reaction	Reaction
15	54					
16	55					
17	56					
18	57					
19	66					
20	67					
21	69					
22	70					
23	72					
24	75					
25	76					
26	79					
27	82	Reaction	Reaction	Reaction	Reaction	Reaction
28	83					
29	84					
30	85					
31	86					
32	95					
33	96					
34	98					
35	99					
36	101					
37	104					
38	105					
39	108					

Hot Rolled Steel Properties

Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁵ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt	
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
8	A500 Gr.C	29000	11154	0.3	0.65	0.49	46	1.4	62	1.3

Hot Rolled Steel Section Sets

Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	PIPE 3.5X0.165	Beam	Pipe	A500 Gr.C	Typical	1.729	2.409	2.409	4.819
2	PIPE 2.88X0.203	Beam	Pipe	A500 Gr.C	Typical	1.704	1.53	1.53	3.059
3	HSS4X4X2	Beam	Tube	A500 Gr.B Rect	Typical	1.77	4.4	4.4	6.91
4	C3.38X2.06X.188	Beam	Channel	A36 Gr.36	Typical	1.339	0.562	2.4	0.015
5	L2X2X4	Beam	Single Angle	A36 Gr.36	Typical	0.944	0.346	0.346	0.021
6	L7.63X2.5X6	Beam	Single Angle	A36 Gr.36	Typical	3.658	1.307	22.092	0.163
7	PIPE 2.88X0.203	Column	Pipe	A500 Gr.C	Typical	1.704	1.53	1.53	3.059
8	PL3/8"X6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101



Company : MTS Engineering, P.L.L.C.
 Designer : MP
 Job Number : 149463.003.01
 Model Name : CT13071-A-07 - Woodbridge

5/25/2022
 4:11:50 PM
 Checked By : _____

Hot Rolled Steel Section Sets (Continued)

Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
9 MF-H3	L6.63X4.33X.25	Beam	Single Angle	A36 Gr.36	Typical	2.678	4.383	12.502	0.054

Member Primary Data

Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	2		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
2	2	3	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
3	3	4	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
4	4	7		MF-CP1	Beam	RECT	A36 Gr.36	Typical
5	5	6		MF-CP1	Beam	RECT	A36 Gr.36	Typical
6	6	14		MF-H1	Beam	Pipe	A500 Gr.C	Typical
7	7	16		MF-CP1	Beam	RECT	A36 Gr.36	Typical
8	8	5		MF-CP1	Beam	RECT	A36 Gr.36	Typical
9	9	25		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
10	10	23		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
11	11	6		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
12	12	28		RIGID	None	None	RIGID	Typical
13	13	29		RIGID	None	None	RIGID	Typical
14	14	27		RIGID	None	None	RIGID	Typical
15	15	26		RIGID	None	None	RIGID	Typical
16	16	32		RIGID	None	None	RIGID	Typical
17	17	33		RIGID	None	None	RIGID	Typical
18	18	37		MF-P1	Column	Pipe	A500 Gr.C	Typical
19	19	36		MF-P1	Column	Pipe	A500 Gr.C	Typical
20	20	38		RIGID	None	None	RIGID	Typical
21	21	39		RIGID	None	None	RIGID	Typical
22	22	42		MF-H2	Beam	Pipe	A500 Gr.C	Typical
23	23	11		RIGID	None	None	RIGID	Typical
24	24	18		RIGID	None	None	RIGID	Typical
25	25	13		RIGID	None	None	RIGID	Typical
26	26	21		RIGID	None	None	RIGID	Typical
27	27	45		RIGID	None	None	RIGID	Typical
28	28	47		MF-P1	Column	Pipe	A500 Gr.C	Typical
29	29	48		RIGID	None	None	RIGID	Typical
30	30	51	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
31	31	53		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
32	32	57	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
33	33	55	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
34	34	59		MF-CP1	Beam	RECT	A36 Gr.36	Typical
35	35	58		MF-CP1	Beam	RECT	A36 Gr.36	Typical
36	36	66		MF-CP1	Beam	RECT	A36 Gr.36	Typical
37	37	57		MF-CP1	Beam	RECT	A36 Gr.36	Typical
38	38	75		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
39	39	73		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
40	40	58		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
41	41	78		RIGID	None	None	RIGID	Typical
42	42	79		RIGID	None	None	RIGID	Typical
43	43	77		RIGID	None	None	RIGID	Typical
44	44	76		RIGID	None	None	RIGID	Typical
45	45	63		RIGID	None	None	RIGID	Typical
46	46	68		RIGID	None	None	RIGID	Typical
47	47	65		RIGID	None	None	RIGID	Typical
48	48	71		RIGID	None	None	RIGID	Typical
49	49	80	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
50	50	82		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
51	51	86	180	SF-H2	Beam	Channel	A36 Gr.36	Typical



Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
52	52	84	85	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
53	53	88	89		MF-CP1	Beam	RECT	A36 Gr.36	Typical
54	54	87	90		MF-CP1	Beam	RECT	A36 Gr.36	Typical
55	55	95	85		MF-CP1	Beam	RECT	A36 Gr.36	Typical
56	56	86	98		MF-CP1	Beam	RECT	A36 Gr.36	Typical
57	57	104	103		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
58	58	102	101		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
59	59	87	88		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
60	60	107	103		RIGID	None	None	RIGID	Typical
61	61	108	104		RIGID	None	None	RIGID	Typical
62	62	106	102		RIGID	None	None	RIGID	Typical
63	63	105	101		RIGID	None	None	RIGID	Typical
64	64	92	91		RIGID	None	None	RIGID	Typical
65	65	97	96		RIGID	None	None	RIGID	Typical
66	66	94	93		RIGID	None	None	RIGID	Typical
67	67	100	99		RIGID	None	None	RIGID	Typical
68	68	109	110	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
69	69	111	112		MF-H1	Beam	Pipe	A500 Gr.C	Typical
70	70	115	113		RIGID	None	None	RIGID	Typical
71	71	116	114		RIGID	None	None	RIGID	Typical
72	72	120	118		MF-P1	Column	Pipe	A500 Gr.C	Typical
73	73	119	117		MF-P1	Column	Pipe	A500 Gr.C	Typical
74	74	121	123		RIGID	None	None	RIGID	Typical
75	75	122	124		RIGID	None	None	RIGID	Typical
76	76	125	126		MF-H2	Beam	Pipe	A500 Gr.C	Typical
77	77	128	127		RIGID	None	None	RIGID	Typical
78	78	130	129		MF-P1	Column	Pipe	A500 Gr.C	Typical
79	79	131	132		RIGID	None	None	RIGID	Typical
80	80	133	134		MF-H1	Beam	Pipe	A500 Gr.C	Typical
81	81	137	135		RIGID	None	None	RIGID	Typical
82	82	138	136		RIGID	None	None	RIGID	Typical
83	83	142	140		MF-P1	Column	Pipe	A500 Gr.C	Typical
84	84	141	139		MF-P1	Column	Pipe	A500 Gr.C	Typical
85	85	143	145		RIGID	None	None	RIGID	Typical
86	86	144	146		RIGID	None	None	RIGID	Typical
87	87	147	148		MF-H2	Beam	Pipe	A500 Gr.C	Typical
88	88	150	149		RIGID	None	None	RIGID	Typical
89	89	152	151		MF-P1	Column	Pipe	A500 Gr.C	Typical
90	90	153	154		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
1	1				Yes	Default	None
2	2			2	Yes	N/A	None
3	3		2		Yes	N/A	None
4	4				Yes	N/A	None
5	5				Yes	N/A	None
6	6				Yes	N/A	None
7	7				Yes	N/A	None
8	8				Yes	N/A	None
9	9				Yes	N/A	None
10	10				Yes	N/A	None
11	11				Yes	N/A	None
12	12				Yes	** NA **	None
13	13				Yes	** NA **	None



Company : MTS Engineering, P.L.L.C.
 Designer : MP
 Job Number : 149463.003.01
 Model Name : CT13071-A-07 - Woodbridge

5/25/2022
 4:11:50 PM
 Checked By : _____

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
14	14				Yes	** NA **	None
15	15				Yes	** NA **	None
16	16				Yes	** NA **	None
17	17				Yes	** NA **	None
18	18				Yes	** NA **	None
19	19				Yes	** NA **	None
20	20				Yes	** NA **	None
21	21				Yes	** NA **	None
22	22				Yes	N/A	None
23	23	O O O O O X			Yes	** NA **	None
24	24	O O O O O X			Yes	** NA **	None
25	25	O O O O O X			Yes	** NA **	None
26	26	O O O O O X			Yes	** NA **	None
27	27				Yes	** NA **	None
28	28				Yes	** NA **	None
29	29				Yes	** NA **	None
30	30				Yes	N/A	None
31	31				Yes	Default	None
32	32			2	Yes	N/A	None
33	33		2		Yes	N/A	None
34	34				Yes	N/A	None
35	35				Yes	N/A	None
36	36				Yes	N/A	None
37	37				Yes	N/A	None
38	38				Yes	N/A	None
39	39				Yes	N/A	None
40	40				Yes	N/A	None
41	41				Yes	** NA **	None
42	42				Yes	** NA **	None
43	43				Yes	** NA **	None
44	44				Yes	** NA **	None
45	45	O O O O O X			Yes	** NA **	None
46	46	O O O O O X			Yes	** NA **	None
47	47	O O O O O X			Yes	** NA **	None
48	48	O O O O O X			Yes	** NA **	None
49	49				Yes	N/A	None
50	50				Yes	Default	None
51	51			2	Yes	N/A	None
52	52		2		Yes	N/A	None
53	53				Yes	N/A	None
54	54				Yes	N/A	None
55	55				Yes	N/A	None
56	56				Yes	N/A	None
57	57				Yes	N/A	None
58	58				Yes	N/A	None
59	59				Yes	N/A	None
60	60				Yes	** NA **	None
61	61				Yes	** NA **	None
62	62				Yes	** NA **	None
63	63				Yes	** NA **	None
64	64	O O O O O X			Yes	** NA **	None
65	65	O O O O O X			Yes	** NA **	None
66	66	O O O O O X			Yes	** NA **	None
67	67	O O O O O X			Yes	** NA **	None
68	68				Yes	N/A	None



Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
69	69				Yes	N/A	None
70	70				Yes	** NA **	None
71	71				Yes	** NA **	None
72	72				Yes	** NA **	None
73	73				Yes	** NA **	None
74	74				Yes	** NA **	None
75	75				Yes	** NA **	None
76	76				Yes	N/A	None
77	77				Yes	** NA **	None
78	78				Yes	** NA **	None
79	79				Yes	** NA **	None
80	80				Yes	N/A	None
81	81				Yes	** NA **	None
82	82				Yes	** NA **	None
83	83				Yes	** NA **	None
84	84				Yes	** NA **	None
85	85				Yes	** NA **	None
86	86				Yes	** NA **	None
87	87				Yes	N/A	None
88	88				Yes	** NA **	None
89	89				Yes	** NA **	None
90	90				Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Channel Conn.	a [ft]	Function
1	1	SF-H1	3.333	Lbyy	N/A	N/A	Lateral
2	2	SF-H2	2.758	Lbyy	N/A	N/A	Lateral
3	3	SF-H2	2.758	Lbyy	N/A	N/A	Lateral
4	4	MF-CP1	0.292	Lbyy	N/A	N/A	Lateral
5	5	MF-CP1	0.292	Lbyy	N/A	N/A	Lateral
6	6	MF-H1	8	Lbyy	N/A	N/A	Lateral
7	7	MF-CP1	0.208	Lbyy	N/A	N/A	Lateral
8	8	MF-CP1	0.208	Lbyy	N/A	N/A	Lateral
9	9	SF-H3	2.309	Lbyy	N/A	N/A	Lateral
10	10	SF-H3	2.309	Lbyy	N/A	N/A	Lateral
11	11	SF-H4	3.207	Lbyy	N/A	N/A	Lateral
12	18	MF-P1	8	Lbyy	N/A	N/A	Lateral
13	19	MF-P1	8	Lbyy	N/A	N/A	Lateral
14	22	MF-H2	10	Lbyy	N/A	N/A	Lateral
15	28	MF-P1	8	Lbyy	N/A	N/A	Lateral
16	30	MF-H3	3.25	Lbyy	N/A	N/A	Lateral
17	31	SF-H1	3.333	Lbyy	N/A	N/A	Lateral
18	32	SF-H2	2.758	Lbyy	N/A	N/A	Lateral
19	33	SF-H2	2.758	Lbyy	N/A	N/A	Lateral
20	34	MF-CP1	0.292	Lbyy	N/A	N/A	Lateral
21	35	MF-CP1	0.292	Lbyy	N/A	N/A	Lateral
22	36	MF-CP1	0.208	Lbyy	N/A	N/A	Lateral
23	37	MF-CP1	0.208	Lbyy	N/A	N/A	Lateral
24	38	SF-H3	2.309	Lbyy	N/A	N/A	Lateral
25	39	SF-H3	2.309	Lbyy	N/A	N/A	Lateral
26	40	SF-H4	3.207	Lbyy	N/A	N/A	Lateral
27	49	MF-H3	3.25	Lbyy	N/A	N/A	Lateral
28	50	SF-H1	3.333	Lbyy	N/A	N/A	Lateral
29	51	SF-H2	2.758	Lbyy	N/A	N/A	Lateral
30	52	SF-H2	2.758	Lbyy	N/A	N/A	Lateral



Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Channel Conn.	a [ft]	Function
31	53	MF-CP1	0.292	Lbyy	N/A	N/A	Lateral
32	54	MF-CP1	0.292	Lbyy	N/A	N/A	Lateral
33	55	MF-CP1	0.208	Lbyy	N/A	N/A	Lateral
34	56	MF-CP1	0.208	Lbyy	N/A	N/A	Lateral
35	57	SF-H3	2.309	Lbyy	N/A	N/A	Lateral
36	58	SF-H3	2.309	Lbyy	N/A	N/A	Lateral
37	59	SF-H4	3.207	Lbyy	N/A	N/A	Lateral
38	68	MF-H3	3.25	Lbyy	N/A	N/A	Lateral
39	69	MF-H1	8	Lbyy	N/A	N/A	Lateral
40	72	MF-P1	8	Lbyy	N/A	N/A	Lateral
41	73	MF-P1	8	Lbyy	N/A	N/A	Lateral
42	76	MF-H2	10	Lbyy	N/A	N/A	Lateral
43	78	MF-P1	8	Lbyy	N/A	N/A	Lateral
44	80	MF-H1	8	Lbyy	N/A	N/A	Lateral
45	83	MF-P1	8	Lbyy	N/A	N/A	Lateral
46	84	MF-P1	8	Lbyy	N/A	N/A	Lateral
47	87	MF-H2	10	Lbyy	N/A	N/A	Lateral
48	89	MF-P1	8	Lbyy	N/A	N/A	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Y	-0.032	%15
2	28	Y	-0.032	%85
3	28	Y	-0.075	%20
4	28	Y	-0.064	%50
5	28	Y	0	0
6	89	Y	-0.032	%15
7	89	Y	-0.032	%85
8	89	Y	-0.075	%20
9	89	Y	-0.064	%50
10	89	Y	0	0
11	78	Y	-0.032	%15
12	78	Y	-0.032	%85
13	78	Y	-0.075	%20
14	78	Y	-0.064	%50
15	78	Y	0	0
16	31	Y	-0.022	%15
17	31	Y	0	0
18	31	Y	0	0
19	31	Y	0	0
20	31	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.14	%15
2	28	Z	-0.14	%85
3	28	Z	-0.062	%20
4	28	Z	-0.062	%50
5	28	Z	0	0
6	89	Z	-0.14	%15
7	89	Z	-0.14	%85
8	89	Z	-0.062	%20
9	89	Z	-0.062	%50



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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
10	89	Z	0	0
11	78	Z	-0.14	%15
12	78	Z	-0.14	%85
13	78	Z	-0.062	%20
14	78	Z	-0.062	%50
15	78	Z	0	0
16	31	Z	-0.063	%15
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.056	%15
2	28	X	-0.056	%85
3	28	X	-0.037	%20
4	28	X	-0.033	%50
5	28	X	0	0
6	89	X	-0.056	%15
7	89	X	-0.056	%85
8	89	X	-0.037	%20
9	89	X	-0.033	%50
10	89	X	0	0
11	78	X	-0.056	%15
12	78	X	-0.056	%85
13	78	X	-0.037	%20
14	78	X	-0.033	%50
15	78	X	0	0
16	31	X	-0.037	%15
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.028	%15
2	28	Z	-0.028	%85
3	28	Z	-0.011	%20
4	28	Z	-0.011	%50
5	28	Z	0	0
6	89	Z	-0.028	%15
7	89	Z	-0.028	%85
8	89	Z	-0.011	%20
9	89	Z	-0.011	%50
10	89	Z	0	0
11	78	Z	-0.028	%15
12	78	Z	-0.028	%85
13	78	Z	-0.011	%20
14	78	Z	-0.011	%50
15	78	Z	0	0
16	31	Z	-0.011	%15



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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.013	%15
2	28	X	-0.013	%85
3	28	X	-0.007	%20
4	28	X	-0.006	%50
5	28	X	0	0
6	89	X	-0.013	%15
7	89	X	-0.013	%85
8	89	X	-0.007	%20
9	89	X	-0.006	%50
10	89	X	0	0
11	78	X	-0.013	%15
12	78	X	-0.013	%85
13	78	X	-0.007	%20
14	78	X	-0.006	%50
15	78	X	0	0
16	31	X	-0.007	%15
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.009	%15
2	28	Z	-0.009	%85
3	28	Z	-0.004	%20
4	28	Z	-0.004	%50
5	28	Z	0	0
6	89	Z	-0.009	%15
7	89	Z	-0.009	%85
8	89	Z	-0.004	%20
9	89	Z	-0.004	%50
10	89	Z	0	0
11	78	Z	-0.009	%15
12	78	Z	-0.009	%85
13	78	Z	-0.004	%20
14	78	Z	-0.004	%50
15	78	Z	0	0
16	31	Z	-0.004	%15
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0



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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.004	%15
2	28	X	-0.004	%85
3	28	X	-0.002	%20
4	28	X	-0.002	%50
5	28	X	0	0
6	89	X	-0.004	%15
7	89	X	-0.004	%85
8	89	X	-0.002	%20
9	89	X	-0.002	%50
10	89	X	0	0
11	78	X	-0.004	%15
12	78	X	-0.004	%85
13	78	X	-0.002	%20
14	78	X	-0.002	%50
15	78	X	0	0
16	31	X	-0.002	%15
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Y	-0.118	%15
2	28	Y	-0.118	%85
3	28	Y	-0.034	%20
4	28	Y	-0.033	%50
5	28	Y	0	0
6	89	Y	-0.118	%15
7	89	Y	-0.118	%85
8	89	Y	-0.034	%20
9	89	Y	-0.033	%50
10	89	Y	0	0
11	78	Y	-0.118	%15
12	78	Y	-0.118	%85
13	78	Y	-0.034	%20
14	78	Y	-0.033	%50
15	78	Y	0	0
16	31	Y	-0.034	%15
17	31	Y	0	0
18	31	Y	0	0
19	31	Y	0	0
20	31	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.012	%15
2	28	Z	-0.012	%85
3	28	Z	-0.014	%20
4	28	Z	-0.012	%50
5	28	Z	0	0
6	89	Z	-0.012	%15

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
7	89	Z	-0.012	%85
8	89	Z	-0.014	%20
9	89	Z	-0.012	%50
10	89	Z	0	0
11	78	Z	-0.012	%15
12	78	Z	-0.012	%85
13	78	Z	-0.014	%20
14	78	Z	-0.012	%50
15	78	Z	0	0
16	31	Z	-0.004	%15
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.012	%15
2	28	X	-0.012	%85
3	28	X	-0.014	%20
4	28	X	-0.012	%50
5	28	X	0	0
6	89	X	-0.012	%15
7	89	X	-0.012	%85
8	89	X	-0.014	%20
9	89	X	-0.012	%50
10	89	X	0	0
11	78	X	-0.012	%15
12	78	X	-0.012	%85
13	78	X	-0.014	%20
14	78	X	-0.012	%50
15	78	X	0	0
16	31	X	-0.004	%15
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	22	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%5



Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	22	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	31	Y	-0.25	%95



Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	1	Y	-0.25	%95

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	50	Y	-0.25	%95

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.015	-0.015	0	%100
2	2	Z	-0.013	-0.013	0	%100
3	3	Z	-0.013	-0.013	0	%100
4	4	Z	-0.019	-0.019	0	%100
5	5	Z	-0.019	-0.019	0	%100
6	6	Z	-0.011	-0.011	0	%100
7	7	Z	-0.019	-0.019	0	%100
8	8	Z	-0.019	-0.019	0	%100
9	9	Z	-0.008	-0.008	0	%100
10	10	Z	-0.008	-0.008	0	%100
11	11	Z	-0.026	-0.026	0	%100
12	18	Z	-0.009	-0.009	0	%100
13	19	Z	-0.009	-0.009	0	%100
14	22	Z	-0.009	-0.009	0	%100
15	28	Z	-0.009	-0.009	0	%100
16	30	Z	-0.023	-0.023	0	%100
17	31	Z	-0.015	-0.015	0	%100
18	32	Z	-0.013	-0.013	0	%100
19	33	Z	-0.013	-0.013	0	%100
20	34	Z	-0.019	-0.019	0	%100
21	35	Z	-0.019	-0.019	0	%100
22	36	Z	-0.019	-0.019	0	%100
23	37	Z	-0.019	-0.019	0	%100
24	38	Z	-0.008	-0.008	0	%100
25	39	Z	-0.008	-0.008	0	%100
26	40	Z	-0.026	-0.026	0	%100
27	49	Z	-0.023	-0.023	0	%100
28	50	Z	-0.015	-0.015	0	%100
29	51	Z	-0.013	-0.013	0	%100
30	52	Z	-0.013	-0.013	0	%100
31	53	Z	-0.019	-0.019	0	%100
32	54	Z	-0.019	-0.019	0	%100
33	55	Z	-0.019	-0.019	0	%100
34	56	Z	-0.019	-0.019	0	%100
35	57	Z	-0.008	-0.008	0	%100
36	58	Z	-0.008	-0.008	0	%100
37	59	Z	-0.026	-0.026	0	%100
38	68	Z	-0.023	-0.023	0	%100
39	69	Z	-0.011	-0.011	0	%100
40	72	Z	-0.009	-0.009	0	%100
41	73	Z	-0.009	-0.009	0	%100
42	76	Z	-0.009	-0.009	0	%100
43	78	Z	-0.009	-0.009	0	%100
44	80	Z	-0.011	-0.011	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
45	83	Z	-0.009	-0.009	0	%100
46	84	Z	-0.009	-0.009	0	%100
47	87	Z	-0.009	-0.009	0	%100
48	89	Z	-0.009	-0.009	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.015	-0.015	0	%100
2	2	X	-0.013	-0.013	0	%100
3	3	X	-0.013	-0.013	0	%100
4	4	X	-0.019	-0.019	0	%100
5	5	X	-0.019	-0.019	0	%100
6	6	X	-0.011	-0.011	0	%100
7	7	X	-0.019	-0.019	0	%100
8	8	X	-0.019	-0.019	0	%100
9	9	X	-0.008	-0.008	0	%100
10	10	X	-0.008	-0.008	0	%100
11	11	X	-0.026	-0.026	0	%100
12	18	X	-0.009	-0.009	0	%100
13	19	X	-0.009	-0.009	0	%100
14	22	X	-0.009	-0.009	0	%100
15	28	X	-0.009	-0.009	0	%100
16	30	X	-0.023	-0.023	0	%100
17	31	X	-0.015	-0.015	0	%100
18	32	X	-0.013	-0.013	0	%100
19	33	X	-0.013	-0.013	0	%100
20	34	X	-0.019	-0.019	0	%100
21	35	X	-0.019	-0.019	0	%100
22	36	X	-0.019	-0.019	0	%100
23	37	X	-0.019	-0.019	0	%100
24	38	X	-0.008	-0.008	0	%100
25	39	X	-0.008	-0.008	0	%100
26	40	X	-0.026	-0.026	0	%100
27	49	X	-0.023	-0.023	0	%100
28	50	X	-0.015	-0.015	0	%100
29	51	X	-0.013	-0.013	0	%100
30	52	X	-0.013	-0.013	0	%100
31	53	X	-0.019	-0.019	0	%100
32	54	X	-0.019	-0.019	0	%100
33	55	X	-0.019	-0.019	0	%100
34	56	X	-0.019	-0.019	0	%100
35	57	X	-0.008	-0.008	0	%100
36	58	X	-0.008	-0.008	0	%100
37	59	X	-0.026	-0.026	0	%100
38	68	X	-0.023	-0.023	0	%100
39	69	X	-0.011	-0.011	0	%100
40	72	X	-0.009	-0.009	0	%100
41	73	X	-0.009	-0.009	0	%100
42	76	X	-0.009	-0.009	0	%100
43	78	X	-0.009	-0.009	0	%100
44	80	X	-0.011	-0.011	0	%100
45	83	X	-0.009	-0.009	0	%100
46	84	X	-0.009	-0.009	0	%100
47	87	X	-0.009	-0.009	0	%100
48	89	X	-0.009	-0.009	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.005	-0.005	0	%100
2	2	Z	-0.004	-0.004	0	%100
3	3	Z	-0.004	-0.004	0	%100
4	4	Z	-0.008	-0.008	0	%100
5	5	Z	-0.008	-0.008	0	%100
6	6	Z	-0.002	-0.002	0	%100
7	7	Z	-0.009	-0.009	0	%100
8	8	Z	-0.009	-0.009	0	%100
9	9	Z	-0.003	-0.003	0	%100
10	10	Z	-0.003	-0.003	0	%100
11	11	Z	-0.006	-0.006	0	%100
12	18	Z	-0.002	-0.002	0	%100
13	19	Z	-0.002	-0.002	0	%100
14	22	Z	-0.002	-0.002	0	%100
15	28	Z	-0.002	-0.002	0	%100
16	30	Z	-0.006	-0.006	0	%100
17	31	Z	-0.005	-0.005	0	%100
18	32	Z	-0.004	-0.004	0	%100
19	33	Z	-0.004	-0.004	0	%100
20	34	Z	-0.008	-0.008	0	%100
21	35	Z	-0.008	-0.008	0	%100
22	36	Z	-0.009	-0.009	0	%100
23	37	Z	-0.009	-0.009	0	%100
24	38	Z	-0.003	-0.003	0	%100
25	39	Z	-0.003	-0.003	0	%100
26	40	Z	-0.006	-0.006	0	%100
27	49	Z	-0.006	-0.006	0	%100
28	50	Z	-0.005	-0.005	0	%100
29	51	Z	-0.004	-0.004	0	%100
30	52	Z	-0.004	-0.004	0	%100
31	53	Z	-0.008	-0.008	0	%100
32	54	Z	-0.008	-0.008	0	%100
33	55	Z	-0.009	-0.009	0	%100
34	56	Z	-0.009	-0.009	0	%100
35	57	Z	-0.003	-0.003	0	%100
36	58	Z	-0.003	-0.003	0	%100
37	59	Z	-0.006	-0.006	0	%100
38	68	Z	-0.006	-0.006	0	%100
39	69	Z	-0.002	-0.002	0	%100
40	72	Z	-0.002	-0.002	0	%100
41	73	Z	-0.002	-0.002	0	%100
42	76	Z	-0.002	-0.002	0	%100
43	78	Z	-0.002	-0.002	0	%100
44	80	Z	-0.002	-0.002	0	%100
45	83	Z	-0.002	-0.002	0	%100
46	84	Z	-0.002	-0.002	0	%100
47	87	Z	-0.002	-0.002	0	%100
48	89	Z	-0.002	-0.002	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.005	-0.005	0	%100
2	2	X	-0.004	-0.004	0	%100
3	3	X	-0.004	-0.004	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
4	4	X	-0.008	-0.008	0	%100
5	5	X	-0.008	-0.008	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.009	-0.009	0	%100
8	8	X	-0.009	-0.009	0	%100
9	9	X	-0.003	-0.003	0	%100
10	10	X	-0.003	-0.003	0	%100
11	11	X	-0.006	-0.006	0	%100
12	18	X	-0.002	-0.002	0	%100
13	19	X	-0.002	-0.002	0	%100
14	22	X	-0.002	-0.002	0	%100
15	28	X	-0.002	-0.002	0	%100
16	30	X	-0.006	-0.006	0	%100
17	31	X	-0.005	-0.005	0	%100
18	32	X	-0.004	-0.004	0	%100
19	33	X	-0.004	-0.004	0	%100
20	34	X	-0.008	-0.008	0	%100
21	35	X	-0.008	-0.008	0	%100
22	36	X	-0.009	-0.009	0	%100
23	37	X	-0.009	-0.009	0	%100
24	38	X	-0.003	-0.003	0	%100
25	39	X	-0.003	-0.003	0	%100
26	40	X	-0.006	-0.006	0	%100
27	49	X	-0.006	-0.006	0	%100
28	50	X	-0.005	-0.005	0	%100
29	51	X	-0.004	-0.004	0	%100
30	52	X	-0.004	-0.004	0	%100
31	53	X	-0.008	-0.008	0	%100
32	54	X	-0.008	-0.008	0	%100
33	55	X	-0.009	-0.009	0	%100
34	56	X	-0.009	-0.009	0	%100
35	57	X	-0.003	-0.003	0	%100
36	58	X	-0.003	-0.003	0	%100
37	59	X	-0.006	-0.006	0	%100
38	68	X	-0.006	-0.006	0	%100
39	69	X	-0.002	-0.002	0	%100
40	72	X	-0.002	-0.002	0	%100
41	73	X	-0.002	-0.002	0	%100
42	76	X	-0.002	-0.002	0	%100
43	78	X	-0.002	-0.002	0	%100
44	80	X	-0.002	-0.002	0	%100
45	83	X	-0.002	-0.002	0	%100
46	84	X	-0.002	-0.002	0	%100
47	87	X	-0.002	-0.002	0	%100
48	89	X	-0.002	-0.002	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.001	-0.001	0	%100
2	2	Z	-0.0008	-0.0008	0	%100
3	3	Z	-0.0008	-0.0008	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.001	-0.001	0	%100
6	6	Z	-0.0004	-0.0004	0	%100
7	7	Z	-0.001	-0.001	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
8	8	Z	-0.001	-0.001	0	%100
9	9	Z	-0.0005	-0.0005	0	%100
10	10	Z	-0.0005	-0.0005	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	18	Z	-0.0003	-0.0003	0	%100
13	19	Z	-0.0003	-0.0003	0	%100
14	22	Z	-0.0003	-0.0003	0	%100
15	28	Z	-0.0003	-0.0003	0	%100
16	30	Z	-0.002	-0.002	0	%100
17	31	Z	-0.001	-0.001	0	%100
18	32	Z	-0.0008	-0.0008	0	%100
19	33	Z	-0.0008	-0.0008	0	%100
20	34	Z	-0.001	-0.001	0	%100
21	35	Z	-0.001	-0.001	0	%100
22	36	Z	-0.001	-0.001	0	%100
23	37	Z	-0.001	-0.001	0	%100
24	38	Z	-0.0005	-0.0005	0	%100
25	39	Z	-0.0005	-0.0005	0	%100
26	40	Z	-0.002	-0.002	0	%100
27	49	Z	-0.002	-0.002	0	%100
28	50	Z	-0.001	-0.001	0	%100
29	51	Z	-0.0008	-0.0008	0	%100
30	52	Z	-0.0008	-0.0008	0	%100
31	53	Z	-0.001	-0.001	0	%100
32	54	Z	-0.001	-0.001	0	%100
33	55	Z	-0.001	-0.001	0	%100
34	56	Z	-0.001	-0.001	0	%100
35	57	Z	-0.0005	-0.0005	0	%100
36	58	Z	-0.0005	-0.0005	0	%100
37	59	Z	-0.002	-0.002	0	%100
38	68	Z	-0.002	-0.002	0	%100
39	69	Z	-0.0004	-0.0004	0	%100
40	72	Z	-0.0003	-0.0003	0	%100
41	73	Z	-0.0003	-0.0003	0	%100
42	76	Z	-0.0003	-0.0003	0	%100
43	78	Z	-0.0003	-0.0003	0	%100
44	80	Z	-0.0004	-0.0004	0	%100
45	83	Z	-0.0003	-0.0003	0	%100
46	84	Z	-0.0003	-0.0003	0	%100
47	87	Z	-0.0003	-0.0003	0	%100
48	89	Z	-0.0003	-0.0003	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.001	-0.001	0	%100
2	2	X	-0.0008	-0.0008	0	%100
3	3	X	-0.0008	-0.0008	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.001	-0.001	0	%100
6	6	X	-0.0004	-0.0004	0	%100
7	7	X	-0.001	-0.001	0	%100
8	8	X	-0.001	-0.001	0	%100
9	9	X	-0.0005	-0.0005	0	%100
10	10	X	-0.0005	-0.0005	0	%100
11	11	X	-0.002	-0.002	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
12	18	X	-0.0003	-0.0003	0	%100
13	19	X	-0.0003	-0.0003	0	%100
14	22	X	-0.0003	-0.0003	0	%100
15	28	X	-0.0003	-0.0003	0	%100
16	30	X	-0.002	-0.002	0	%100
17	31	X	-0.001	-0.001	0	%100
18	32	X	-0.0008	-0.0008	0	%100
19	33	X	-0.0008	-0.0008	0	%100
20	34	X	-0.001	-0.001	0	%100
21	35	X	-0.001	-0.001	0	%100
22	36	X	-0.001	-0.001	0	%100
23	37	X	-0.001	-0.001	0	%100
24	38	X	-0.0005	-0.0005	0	%100
25	39	X	-0.0005	-0.0005	0	%100
26	40	X	-0.002	-0.002	0	%100
27	49	X	-0.002	-0.002	0	%100
28	50	X	-0.001	-0.001	0	%100
29	51	X	-0.0008	-0.0008	0	%100
30	52	X	-0.0008	-0.0008	0	%100
31	53	X	-0.001	-0.001	0	%100
32	54	X	-0.001	-0.001	0	%100
33	55	X	-0.001	-0.001	0	%100
34	56	X	-0.001	-0.001	0	%100
35	57	X	-0.0005	-0.0005	0	%100
36	58	X	-0.0005	-0.0005	0	%100
37	59	X	-0.002	-0.002	0	%100
38	68	X	-0.002	-0.002	0	%100
39	69	X	-0.0004	-0.0004	0	%100
40	72	X	-0.0003	-0.0003	0	%100
41	73	X	-0.0003	-0.0003	0	%100
42	76	X	-0.0003	-0.0003	0	%100
43	78	X	-0.0003	-0.0003	0	%100
44	80	X	-0.0004	-0.0004	0	%100
45	83	X	-0.0003	-0.0003	0	%100
46	84	X	-0.0003	-0.0003	0	%100
47	87	X	-0.0003	-0.0003	0	%100
48	89	X	-0.0003	-0.0003	0	%100

Member Distributed Loads (BLC 8 : Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.009	-0.009	0	%100
2	2	Y	-0.007	-0.007	0	%100
3	3	Y	-0.007	-0.007	0	%100
4	4	Y	-0.01	-0.01	0	%100
5	5	Y	-0.01	-0.01	0	%100
6	6	Y	-0.006	-0.006	0	%100
7	7	Y	-0.01	-0.01	0	%100
8	8	Y	-0.01	-0.01	0	%100
9	9	Y	-0.005	-0.005	0	%100
10	10	Y	-0.005	-0.005	0	%100
11	11	Y	-0.013	-0.013	0	%100
12	18	Y	-0.006	-0.006	0	%100
13	19	Y	-0.006	-0.006	0	%100
14	22	Y	-0.006	-0.006	0	%100
15	28	Y	-0.006	-0.006	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
16	30	Y	-0.013	-0.013	0	%100
17	31	Y	-0.009	-0.009	0	%100
18	32	Y	-0.007	-0.007	0	%100
19	33	Y	-0.007	-0.007	0	%100
20	34	Y	-0.01	-0.01	0	%100
21	35	Y	-0.01	-0.01	0	%100
22	36	Y	-0.01	-0.01	0	%100
23	37	Y	-0.01	-0.01	0	%100
24	38	Y	-0.005	-0.005	0	%100
25	39	Y	-0.005	-0.005	0	%100
26	40	Y	-0.013	-0.013	0	%100
27	49	Y	-0.013	-0.013	0	%100
28	50	Y	-0.009	-0.009	0	%100
29	51	Y	-0.007	-0.007	0	%100
30	52	Y	-0.007	-0.007	0	%100
31	53	Y	-0.01	-0.01	0	%100
32	54	Y	-0.01	-0.01	0	%100
33	55	Y	-0.01	-0.01	0	%100
34	56	Y	-0.01	-0.01	0	%100
35	57	Y	-0.005	-0.005	0	%100
36	58	Y	-0.005	-0.005	0	%100
37	59	Y	-0.013	-0.013	0	%100
38	68	Y	-0.013	-0.013	0	%100
39	69	Y	-0.006	-0.006	0	%100
40	72	Y	-0.006	-0.006	0	%100
41	73	Y	-0.006	-0.006	0	%100
42	76	Y	-0.006	-0.006	0	%100
43	78	Y	-0.006	-0.006	0	%100
44	80	Y	-0.006	-0.006	0	%100
45	83	Y	-0.006	-0.006	0	%100
46	84	Y	-0.006	-0.006	0	%100
47	87	Y	-0.006	-0.006	0	%100
48	89	Y	-0.006	-0.006	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.001	-0.001	0	%100
2	2	Z	-0.0008	-0.0008	0	%100
3	3	Z	-0.0008	-0.0008	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.001	-0.001	0	%100
6	6	Z	-0.001	-0.001	0	%100
7	7	Z	-0.001	-0.001	0	%100
8	8	Z	-0.001	-0.001	0	%100
9	9	Z	-0.0006	-0.0006	0	%100
10	10	Z	-0.0006	-0.0006	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	18	Z	-0.001	-0.001	0	%100
13	19	Z	-0.001	-0.001	0	%100
14	22	Z	-0.001	-0.001	0	%100
15	28	Z	-0.001	-0.001	0	%100
16	30	Z	-0.002	-0.002	0	%100
17	31	Z	-0.001	-0.001	0	%100
18	32	Z	-0.0008	-0.0008	0	%100
19	33	Z	-0.0008	-0.0008	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
20	34	Z	-0.001	-0.001	0	%100
21	35	Z	-0.001	-0.001	0	%100
22	36	Z	-0.001	-0.001	0	%100
23	37	Z	-0.001	-0.001	0	%100
24	38	Z	-0.0006	-0.0006	0	%100
25	39	Z	-0.0006	-0.0006	0	%100
26	40	Z	-0.002	-0.002	0	%100
27	49	Z	-0.002	-0.002	0	%100
28	50	Z	-0.001	-0.001	0	%100
29	51	Z	-0.0008	-0.0008	0	%100
30	52	Z	-0.0008	-0.0008	0	%100
31	53	Z	-0.001	-0.001	0	%100
32	54	Z	-0.001	-0.001	0	%100
33	55	Z	-0.001	-0.001	0	%100
34	56	Z	-0.001	-0.001	0	%100
35	57	Z	-0.0006	-0.0006	0	%100
36	58	Z	-0.0006	-0.0006	0	%100
37	59	Z	-0.002	-0.002	0	%100
38	68	Z	-0.002	-0.002	0	%100
39	69	Z	-0.001	-0.001	0	%100
40	72	Z	-0.001	-0.001	0	%100
41	73	Z	-0.001	-0.001	0	%100
42	76	Z	-0.001	-0.001	0	%100
43	78	Z	-0.001	-0.001	0	%100
44	80	Z	-0.001	-0.001	0	%100
45	83	Z	-0.001	-0.001	0	%100
46	84	Z	-0.001	-0.001	0	%100
47	87	Z	-0.001	-0.001	0	%100
48	89	Z	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.001	-0.001	0	%100
2	2	X	-0.0008	-0.0008	0	%100
3	3	X	-0.0008	-0.0008	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.001	-0.001	0	%100
6	6	X	-0.001	-0.001	0	%100
7	7	X	-0.001	-0.001	0	%100
8	8	X	-0.001	-0.001	0	%100
9	9	X	-0.0006	-0.0006	0	%100
10	10	X	-0.0006	-0.0006	0	%100
11	11	X	-0.002	-0.002	0	%100
12	18	X	-0.001	-0.001	0	%100
13	19	X	-0.001	-0.001	0	%100
14	22	X	-0.001	-0.001	0	%100
15	28	X	-0.001	-0.001	0	%100
16	30	X	-0.002	-0.002	0	%100
17	31	X	-0.001	-0.001	0	%100
18	32	X	-0.0008	-0.0008	0	%100
19	33	X	-0.0008	-0.0008	0	%100
20	34	X	-0.001	-0.001	0	%100
21	35	X	-0.001	-0.001	0	%100
22	36	X	-0.001	-0.001	0	%100
23	37	X	-0.001	-0.001	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
24	38	X	-0.0006	-0.0006	0	%100
25	39	X	-0.0006	-0.0006	0	%100
26	40	X	-0.002	-0.002	0	%100
27	49	X	-0.002	-0.002	0	%100
28	50	X	-0.001	-0.001	0	%100
29	51	X	-0.0008	-0.0008	0	%100
30	52	X	-0.0008	-0.0008	0	%100
31	53	X	-0.001	-0.001	0	%100
32	54	X	-0.001	-0.001	0	%100
33	55	X	-0.001	-0.001	0	%100
34	56	X	-0.001	-0.001	0	%100
35	57	X	-0.0006	-0.0006	0	%100
36	58	X	-0.0006	-0.0006	0	%100
37	59	X	-0.002	-0.002	0	%100
38	68	X	-0.002	-0.002	0	%100
39	69	X	-0.001	-0.001	0	%100
40	72	X	-0.001	-0.001	0	%100
41	73	X	-0.001	-0.001	0	%100
42	76	X	-0.001	-0.001	0	%100
43	78	X	-0.001	-0.001	0	%100
44	80	X	-0.001	-0.001	0	%100
45	83	X	-0.001	-0.001	0	%100
46	84	X	-0.001	-0.001	0	%100
47	87	X	-0.001	-0.001	0	%100
48	89	X	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	10	Y	-0.02	-0.026	1.27	2.309
2	38	Y	-0.014	-0.02	0	2.078
3	39	Y	0.0006164	-0.016	0	1.155
4	39	Y	-0.016	-0.035	1.155	2.309
5	57	Y	-0.035	-0.016	0	1.155
6	57	Y	-0.016	0.0006163	1.155	2.309
7	58	Y	-0.018	-0.016	0.231	2.309
8	9	Y	-0.015	-0.015	0	2.078
9	10	Y	-0.014	-0.02	0.231	1.27

Member Distributed Loads (BLC 31 : BLC 8 Transient Area Loads)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	9	Y	-0.008	-0.008	0	2.078
2	10	Y	-0.007	-0.01	0.231	1.27
3	10	Y	-0.01	-0.013	1.27	2.309
4	38	Y	-0.007	-0.01	0	2.078
5	39	Y	0.0003082	-0.008	0	1.155
6	39	Y	-0.008	-0.017	1.155	2.309
7	57	Y	-0.017	-0.008	0	1.155
8	57	Y	-0.008	0.0003082	1.155	2.309
9	58	Y	-0.009	-0.008	0.231	2.309

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	23	22	25	24	Y	Two Way	-0.01
2	73	72	75	74	Y	Two Way	-0.01
3	102	101	104	103	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	23	22	25	24	Y	Two Way	-0.005
2	73	72	75	74	Y	Two Way	-0.005
3	102	101	104	103	Y	Two Way	-0.005

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	30	L	Y	-0.5
2	113	L	Y	-0.5
3	135	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	31	L	Y	-0.5
2	114	L	Y	-0.5
3	136	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	44	L	Y	-0.5
2	127	L	Y	-0.5
3	149	L	Y	-0.5

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		20		3
2	0 Wind - No Ice	WLZ			20	48	
3	90 Wind - No Ice	WLX			20	48	
4	0 Wind - Ice	WLZ			20	48	
5	90 Wind - Ice	WLX			20	48	
6	0 Wind - Service	WLZ			20	48	
7	90 Wind - Service	WLX			20	48	
8	Ice	OL1			20	48	3
9	0 Seismic	ELZ			20	48	
10	90 Seismic	ELX			20	48	
11	Live Load a	LL		3			
12	Live Load b	LL		3			
13	Live Load c	LL		3			
14	Live Load d	LL					
15	Maint LL 1	LL			1		
16	Maint LL 2	LL			1		
17	Maint LL 3	LL			1		
18	Maint LL 4	LL			1		



Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
19	Maint LL 5	LL			1		
20	Maint LL 6	LL			1		
21	Maint LL 7	LL			1		
22	Maint LL 8	LL			1		
23	Maint LL 9	LL			1		
24	Maint LL 10	LL			1		
25	Maint LL 11	LL			1		
26	Maint LL 12	LL			1		
27	Maint LL 13	LL			1		
28	Maint LL 14	LL			1		
29	Maint LL 15	LL			1		
30	BLC 1 Transient Area Loads	None				9	
31	BLC 8 Transient Area Loads	None				9	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5



Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					15	1.5
87	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					16	1.5
88	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					17	1.5
89	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					18	1.5
90	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					19	1.5
91	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					20	1.5
92	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					21	1.5
93	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					22	1.5
94	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					23	1.5



Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
95	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					24	1.5
96	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					25	1.5
97	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					26	1.5
98	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					27	1.5
99	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					28	1.5
100	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					29	1.5

Envelope Node Reactions

Node Label	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC		
1	1	max	0.895	5	1.702	14	1.092	2	3.4	14	0.908	11	0.357	96
2		min	-0.896	11	0.066	8	-1.215	8	-0.301	8	-0.908	5	-0.211	88
3	53	max	0.941	5	1.741	18	1.139	2	0.063	13	1.088	3	-0.089	12
4		min	-1.046	11	0.228	12	-1.077	8	-1.726	43	-1.089	9	-3.012	18
5	82	max	0.94	5	1.676	22	1.236	2	0.005	3	1.099	7	2.795	22
6		min	-0.834	11	0.196	4	-1.175	8	-1.865	69	-1.099	13	0.006	4
7	Totals:	max	2.775	5	4.756	19	3.467	2						
8		min	-2.775	11	2.395	13	-3.467	8						

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

Member	Shape	Code Check	Loc [ft]	LC	Shear Check	Loc [ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn	
1	1	HSS4X4X2	0.451	0	13	0.121	0	y	73	70.173	73.278	8.24	8.24	2.027	H1-1b
2	2	C3.38X2.06X.188	0.331	2.592	15	0.06	0.351	y	64	35.676	43.394	1.694	4.483	1.631	H1-1b
3	3	C3.38X2.06X.188	0.322	0	52	0.063	2.241	y	44	35.676	43.394	1.703	4.483	1.62	H1-1b
4	4	PL3/8"X6	0.076	0	2	0.15	0	y	62	68.997	72.9	0.57	9.113	2.269	H1-1b
5	5	PL3/8"X6	0.077	0	3	0.122	0	y	38	68.997	72.9	0.57	9.113	1.842	H1-1b
6	6	PIPE 3.5X0.165	0.069	6.75	67	0.032	5.417		69	45.872	71.57	6.336	6.336	1	H1-1b
7	7	PL3/8"X6	0.108	0.208	8	0.193	0.208	y	50	70.882	72.9	0.57	9.113	1.668	H1-1b
8	8	PL3/8"X6	0.115	0	13	0.196	0	y	51	70.882	72.9	0.57	9.113	2.965	H1-1b
9	9	L2X2X4	0.235	0	8	0.031	2.309	y	48	23.349	30.586	0.691	1.577	1.5	H2-1
10	10	L2X2X4	0.207	2.309	8	0.035	0	y	64	23.349	30.586	0.691	1.577	1.5	H2-1
11	11	L7.63X2.5X6	0.3	1.604	8	0.078	0	z	62	75.414	118.523	1.798	13.842	1.263	H2-1
12	18	PIPE 2.88X0.203	0.091	5.583	5	0.034	5.583		6	35.361	70.548	5.01	5.01	1	H1-1b
13	19	PIPE 2.88X0.203	0.11	2.333	9	0.037	5.583		9	35.361	70.548	5.01	5.01	1	H1-1b
14	22	PIPE 2.88X0.203	0.114	7.813	13	0.105	9.063		2	23.996	70.548	5.01	5.01	1	H1-1b
15	28	PIPE 2.88X0.203	0.089	2.333	7	0.035	5.583		8	35.361	70.548	5.01	5.01	1	H1-1b
16	30	L6.63X4.33X.25	0.157	3.25	6	0.02	3.25	z	12	51.794	86.751	2.311	6.976	1.5	H2-1
17	31	HSS4X4X2	0.434	0	7	0.123	0	y	65	70.173	73.278	8.24	8.24	2.052	H1-1b
18	32	C3.38X2.06X.188	0.33	2.592	19	0.06	0.351	y	68	35.676	43.394	1.694	4.483	1.628	H1-1b
19	33	C3.38X2.06X.188	0.323	0	56	0.063	2.241	y	48	35.676	43.394	1.703	4.483	1.621	H1-1b
20	34	PL3/8"X6	0.066	0	6	0.149	0	y	66	68.997	72.9	0.57	9.113	2.251	H1-1b
21	35	PL3/8"X6	0.076	0	7	0.12	0	y	42	68.997	72.9	0.57	9.113	1.781	H1-1b
22	36	PL3/8"X6	0.097	0.208	13	0.192	0.208	y	54	70.882	72.9	0.57	9.113	2.092	H1-1b
23	37	PL3/8"X6	0.096	0	5	0.198	0	y	55	70.882	72.9	0.57	9.113	3	H1-1b
24	38	L2X2X4	0.187	0	12	0.031	2.309	y	40	23.349	30.586	0.691	1.577	1.5	H2-1
25	39	L2X2X4	0.178	2.309	13	0.035	0	y	68	23.349	30.586	0.691	1.577	1.5	H2-1
26	40	L7.63X2.5X6	0.238	1.604	12	0.078	0	z	66	75.414	118.523	1.798	13.984	1.295	H2-1
27	49	L6.63X4.33X.25	0.164	0	2	0.022	3.25	y	9	51.794	86.751	2.311	6.976	1.5	H2-1
28	50	HSS4X4X2	0.447	0	9	0.123	0	y	69	70.173	73.278	8.24	8.24	2.031	H1-1b
29	51	C3.38X2.06X.188	0.325	2.592	23	0.06	0.351	y	73	35.676	43.394	1.694	4.483	1.631	H1-1b
30	52	C3.38X2.06X.188	0.322	0	61	0.063	2.241	y	39	35.676	43.394	1.703	4.483	1.62	H1-1b
31	53	PL3/8"X6	0.07	0.164	3	0.147	0	y	70	68.997	72.9	0.57	9.113	1.668	H1-1b
32	54	PL3/8"X6	0.064	0	11	0.122	0	y	45	68.997	72.9	0.57	9.113	1.774	H1-1b
33	55	PL3/8"X6	0.1	0.085	3	0.193	0.208	y	57	70.882	72.9	0.57	9.113	1.749	H1-1b



Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	C	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn	
34	56	PL3/8"X6	0.116	0	9	0.195	0	y	59	70.882	72.9	0.57	9.113	2.984	H1-1b
35	57	L2X2X4	0.227	0	3	0.03	2.309	y	44	23.349	30.586	0.691	1.577	1.5	H2-1
36	58	L2X2X4	0.178	2.309	4	0.035	0	y	72	23.349	30.586	0.691	1.577	1.5	H2-1
37	59	L7.63X2.5X6	0.267	1.604	3	0.079	0	z	70	75.414	118.523	1.798	14.486	1.419	H2-1
38	68	L6.63X4.33X.25	0.192	3.25	2	0.025	3.25	z	8	51.794	86.751	2.311	6.976	1.5	H2-1
39	69	PIPE 3.5X0.165	0.069	6.75	71	0.04	4		9	45.872	71.57	6.336	6.336	1	H1-1b
40	72	PIPE 2.88X0.203	0.11	5.583	9	0.039	5.583		9	35.361	70.548	5.01	5.01	1	H1-1b
41	73	PIPE 2.88X0.203	0.13	2.333	2	0.037	5.583		13	35.361	70.548	5.01	5.01	1	H1-1b
42	76	PIPE 2.88X0.203	0.116	2.188	13	0.089	2.188		13	23.996	70.548	5.01	5.01	1	H1-1b
43	78	PIPE 2.88X0.203	0.099	5.583	9	0.035	5.583		2	35.361	70.548	5.01	5.01	1	H1-1b
44	80	PIPE 3.5X0.165	0.069	6.75	62	0.038	2.667		13	45.872	71.57	6.336	6.336	1	H1-1b
45	83	PIPE 2.88X0.203	0.11	5.583	13	0.043	5.583		13	35.361	70.548	5.01	5.01	1	H1-1b
46	84	PIPE 2.88X0.203	0.107	2.333	6	0.029	5.583		5	35.361	70.548	5.01	5.01	1	H1-1b
47	87	PIPE 2.88X0.203	0.106	7.813	9	0.096	9.063		9	23.996	70.548	5.01	5.01	1	H1-1b
48	89	PIPE 2.88X0.203	0.11	5.583	2	0.029	5.583		6	35.361	70.548	5.01	5.01	1	H1-1b

APPENDIX B

(Additional Calculations)

PROJECT	149463.003.01 - Woodbridge, CT			KSC
SUBJECT	Platform Mount Analysis			
DATE	05/25/22	PAGE	1	OF 1



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

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	1.214	k
Vertical Shear	:	1.703	k
Horizontal Shear	:	0.896	k
Torsion	:	0.356	k.ft
Moment from Horizontal Forces	:	0.908	k.ft
Moment from Vertical Forces	:	3.4	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in ²
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1.5	in
Bolt edge distance, plate width	:	1.5	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	1.92	k
Force from Horz. Moment	:	1.64	k
Force from Vert. Moment	:	6.16	k
Shear Load / Bolt	:	0.48	k
Tension Load / Bolt	:	0.30	k
Resultant from Moments / Bolt	:	3.19	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	16.84%		OKAY
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	7.10%		OKAY
Unity Check, Combined	:	23.94%		OKAY
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	1.39%		OKAY

PROJECT	149463.003.01 - Woodbridge, CT	KSC
SUBJECT	Platform Mount Analysis	
DATE	05/25/22	PAGE 1 OF 1



[REF: AISC 360-05]

Connecting Member Parameters

Plate Yield Strength, F_y	:	36.00	ksi	[AISC Table 2-5]
Plate Tensile Strength, F_u	:	58.00	ksi	[AISC Table 2-5]
Plate Height	:	9.00	in	
Plate Width	:	9.00	in	
Plate Thickness	:	0.50	in	
Edge Distance	:	1.06	in	
Gross Tension Area, A_{gt}	:	4.50	in ²	
Gross Shear Area, A_{gv}	:	0.75	in ²	
Net Area for tension, A_{nt}	:	4.16	in ²	
Net Area for shear, A_{nt}	:	3.00	in ²	

Plate Check

Available Tensile Yield	:	145.80	k	[Eq. J4-1]
Available Tensile Rupture	:	180.80	k	[Eq. J4-2]
Unity Check, Plate Tension	:	2.39%		OKAY
Available Shear Yield	:	16.20	k	[Eq. J4-3]
Available Shear Rupture	:	104.40	k	[Eq. J4-4]
Unity Check, Plate Shear	:	11.88%		OKAY
Available Block Shear, ΦR_n	:	77.40	k	[Eq. J4-5]
Unity Check, Block Shear	:	2.49%		OKAY

Exhibit F

Power Density/RF Emissions Report



Radio Frequency Emissions Analysis Report



Site ID: BOHVN00045A

SBA - Deerfield Lane
1 Deerfield Lane
Ansonia, CT 06401

July 8, 2022

Fox Hill Telecom Project Number: 221177

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	32.22 %

July 8, 2022

Dish Wireless
5701 South Santa Fe Drive
Littleton, CO 80120

Emissions Analysis for Site: **BOHVN00045A – SBA - Deerfield Lane**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed radio installation for Dish Wireless, LLC (Dish) facility located at **1 Deerfield Lane, Ansonia, CT**, for the purpose of determining whether the emissions from the Proposed Dish radio and antenna installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz & 700 MHz bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS / AWS-4) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed radio system installation for **Dish** on the subject site located at **1 Deerfield Lane, Ansonia, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since **Dish** is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
5G	n71 (600 MHz)	4	61.5
5G	n70 (AWS-4 / 1995-2020)	4	40
5G	n66 (AWS-4 / 2180-2200)	4	40

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz (n71) frequency band, and the 2100 MHz (AWS 4) frequency bands at 1995-2020 MHz (n70) and 2180-2200 MHz (n66). This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	JMA MX08FRO665-21	117
B	1	JMA MX08FRO665-21	117
C	1	JMA MX08FRO665-21	117

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.



RESULTS

Per the calculations completed for the proposed **Dish** configurations *Table 3* shows resulting emissions power levels and percentages of the FCC’s allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	JMA MX08FRO665-21	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	11.45 / 16.15 / 16.65	12	566	17,426.72	6.59
Sector A Composite MPE%							6.59
Antenna B1	JMA MX08FRO665-21	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	11.45 / 16.15 / 16.65	12	566	17,426.72	6.59
Sector B Composite MPE%							6.59
Antenna C1	JMA MX08FRO665-21	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	11.45 / 16.15 / 16.65	12	566	17,426.72	6.59
Sector C Composite MPE%							6.59

Table 3: Dish Emissions Levels



The Following table (*Table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum **Dish** MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each **Dish** Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
Dish – Max Per Sector Value	6.59 %
T-Mobile	7.87 %
Sprint	3.14 %
Clearwire	0.05 %
Verizon	10.56 %
Pocket (now MetroPCS)	0.40 %
AT&T	3.61 %
Site Total MPE %:	32.22 %

Table 4: All Carrier MPE Contributions

Dish Sector A Total:	6.59 %
Dish Sector B Total:	6.59 %
Dish Sector C Total:	6.59 %
<hr/>	
Site Total:	32.22 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated **Dish** sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

Dish _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Dish n71 (600 MHz) 5G	4	858.77	117	10.02	n71 (600 MHz)	400	2.51%
Dish n70 (AWS-4 / 1995-2020) 5G	4	1,648.39	117	19.24	n70 (AWS-4 / 1995-2020)	1000	1.92%
Dish n66 (AWS-4 / 2180-2200) 5G	4	1,849.52	117	21.59	n66 (AWS-4 / 2180-2200)	1000	2.16%
						Total:	6.59%

Table 6: Dish Maximum Sector MPE Power Values



Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the Dish facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

Dish Sector	Power Density Value (%)
Sector A:	6.59 %
Sector B:	6.59 %
Sector C:	6.59 %
Dish Maximum Total (per sector):	6.59 %
Site Total:	32.22 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **32.22 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Holden, MA 01520
(978)660-3998

Exhibit G

Letter of Authorization

SBA Letter of Authorization

CT - CONNECTICUT SITING COUNCIL

Melanie A. Bachman

Executive Director

Connecticut Siting Council

10 Franklin Square

New Britain, CT 06051

Re: Tower Share Application

SBA COMMUNICATIONS CORPORATION hereby authorizes DISH Wireless LLC, including their Agent, to act as our Agent in the processing of all zoning applications, building permits and approvals through the CONNECTICUT SITING COUNCIL for existing wireless communications towers.

Kri Pelletier

Site Development Manager


SBA COMMUNICATIONS CORPORATION

134 Flanders Road, Suite 125

Westboro, MA 01581

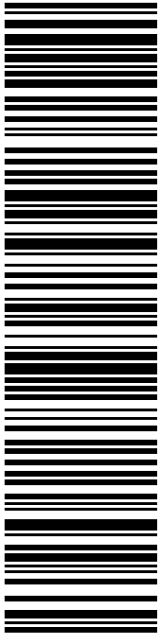
Exhibit H

Recipient Mailings



MAYOR DAVID S CASSETTI
234 MAIN ST
ANSONIA CT 06401

USPS TRACKING #



9405 5036 9930 0300 3193 44

P

07/20/2022

PRIORITY MAIL®

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Expected Delivery Date: 07/22/22
Ref#: SBDS-00045
0000

C001


UNITED STATES POSTAL SERVICE®

Click-N-Ship®

usps.com
9405 5036 9930 0300 3193 44 0079 0000 0020 6401
\$8.95
US POSTAGE
Flat Rate Env
U.S. POSTAGE PAID
Click-N-Ship®

Mailed from 01566

Electronic Rate Approved #038555749




Cut on dotted line.

Instructions

- Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- Place your label so it does not wrap around the edge of the package.
- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
- Mail your package on the "Ship Date" you selected when creating this label.


Click-N-Ship® Label Record

USPS TRACKING # :	
9405 5036 9930 0300 3193 44	
Trans. #:	567930619
Print Date:	07/20/2022
Ship Date:	07/20/2022
Expected Delivery Date:	07/22/2022
Priority Mail® Postage:	\$8.95
Total:	\$8.95
From:	DEBORAH CHASE NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359
To:	MAYOR DAVID S CASSETTI 234 MAIN ST ANSONIA CT 06401
Ref#:	SBDS-00045

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

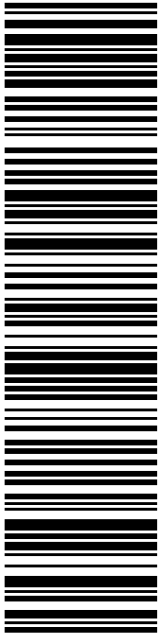


Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



RONDA PORRINI
LAND USE ADMINISTRATOR
234 MAIN ST
ANSONIA CT 06401

USPS TRACKING #



9405 5036 9930 0300 3193 51

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Expected Delivery Date: 07/22/22
Ref#: SBDS-00045
0000

C001

P

07/20/2022

PRIORITY MAIL®

usps.com
\$8.95
US POSTAGE
Flat Rate Env

9405 5036 9930 0300 3193 51 0079 0000 0020 6401


U.S. POSTAGE PAID
click-n-ship®

UNITED STATES
POSTAL SERVICE®

Click-N-Ship®

Mailed from 01566

Electronic Rate Approved #038555749





Cut on dotted line.

Instructions

1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0300 3193 51

Trans. #:	567930619	Priority Mail® Postage:	\$8.95
Print Date:	07/20/2022	Total:	\$8.95
Ship Date:	07/20/2022		
Expected			
Delivery Date:	07/22/2022		

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359


Ref#: SBDS-00045

To: RONDA PORRINI
LAND USE ADMINISTRATOR
234 MAIN ST
ANSONIA CT 06401

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

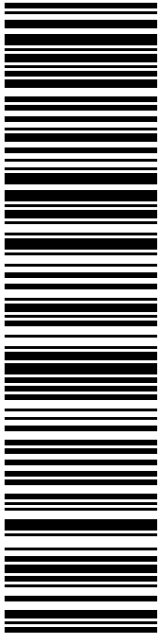


Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



SBA COMMUNICATIONS CORPORATION
STE 125
13 FLANDERS RD
WESTBOROUGH MA 01581

USPS TRACKING #



9405 5036 9930 0300 3193 68

P

USPS.com
US POSTAGE
Flat Rate Env

9405 5036 9930 0300 3193 68 0079 0000 0010 1581

U.S. POSTAGE PAID
click-n-ship®

07/20/2022 Mailed from 01566


DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

PRIORITY MAIL®

Expected Delivery Date: 07/21/22
Ref#: SBDS-00045
0000

R005

Electronic Rate Approved #038555749





Cut on dotted line.

Instructions

1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0300 3193 68

Trans. #: 567930619	Priority Mail® Postage: \$8.95
Print Date: 07/20/2022	Total: \$8.95
Ship Date: 07/20/2022	
Expected Delivery Date: 07/21/2022	


From: DEBORAH CHASE Ref#: SBDS-00045
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

To: SBA COMMUNICATIONS CORPORATION
STE 125
13 FLANDERS RD
WESTBOROUGH MA 01581

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

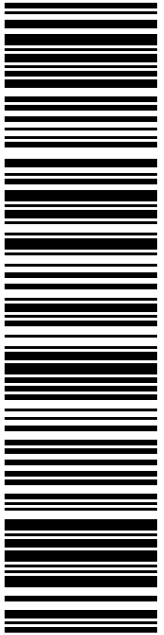


Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



MACABEE PROPERTIES LLC
11 HEMLOCK HOLLOW RD
WOODBIDGE CT 06525-1313

USPS TRACKING #



9405 5036 9930 0300 3193 99

P

USPS.com
\$8.95
US POSTAGE
Flat Rate Env

U.S. POSTAGE PAID
click-n-ship®

07/20/2022 Mailed from 01566


PRIORITY MAIL®

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Expected Delivery Date: 07/22/22
Ref#: SBDS-00045
0000

R013

Electronic Rate Approved #038555749



✂ ————— Cut on dotted line. —————

Instructions

1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0300 3193 99


Trans. #: 567930619	Priority Mail® Postage: \$8.95
Print Date: 07/20/2022	Total: \$8.95
Ship Date: 07/20/2022	
Expected Delivery Date: 07/22/2022	

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: SBDS-00045

To: MACABEE PROPERTIES LLC
11 HEMLOCK HOLLOW RD
WOODBIDGE CT 06525-1313

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.


 Thank you for shipping with the United States Postal Service!
 Check the status of your shipment on the USPS Tracking® page at usps.com

50HVN00045A -SBA D15H



LINCOLN MALL
560 LINCOLN ST STE 8
WORCESTER, MA 01605-1925
(800)275-8777

07/21/2022

09:26 AM

Product	Qty	Unit Price	Price
Prepaid Mail	1		\$0.00
Ansonia, CT 06401			
Weight: 1 lb 0.80 oz			
Acceptance Date:			
Thu 07/21/2022			
Tracking #:			
9405 5036 9930 0300 3193 51			
Prepaid Mail	1		\$0.00
Westborough, MA 01581			
Weight: 0 lb 2.00 oz			
Acceptance Date:			
Thu 07/21/2022			
Tracking #:			
9405 5036 9930 0300 3193 68			
Prepaid Mail	1		\$0.00
Woodbridge, CT 06525			
Weight: 1 lb 0.70 oz			
Acceptance Date:			
Thu 07/21/2022			
Tracking #:			
9405 5036 9930 0300 3193 99			
Prepaid Mail	1		\$0.00
Ansonia, CT 06401			
Weight: 1 lb 0.80 oz			
Acceptance Date:			
Thu 07/21/2022			
Tracking #:			
9405 5036 9930 0300 3193 44			