NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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

May 26, 2022

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

RE: Tower Share Application
60 Rice Lane, Beacon Falls, CT 06403
Latitude: 41.455722
Longitude: -73.039777
Site #: CT02049-S_BOHVN00177A_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 60 Rice Lane, Beacon Falls, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900 MHz 5G antennas and six (6) RRUs, at the 152-foot level of the existing 160-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 April 29, 2022, Exhibit C. Also included is a structural analysis prepared by TES, dated May 24, 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 Town of Beacon Falls Planning & Zoning Commission on December 16, 1999. 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 Gerard Smith, First Selectman and Mike Mormile, Zoning Enforcement Officer for the Town of Beacon Falls, as well as the tower owner (SBA) and property owner (Charles Edwards).

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 160-feet and the Dish Wireless LLC antennas will be located at a center line height of 152-feet.

2. The proposed modifications will not result in an increase of the site boundary as depicted on the attached site plan.

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 30.10% 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 Beacon Falls. 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 152-foot level of the existing 160-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 Beacon Falls.

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

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Attachments

Cc: Gerard Smith, First Selectman
Beacon Falls Town Hall
10 Maple Avenue
Beacon Falls, CT 06403

Mike Mormile, Zoning Enforcement Officer
Beacon Falls Town Hall
10 Maple Avenue
Beacon Falls, CT 06403

Charles Edwards – Property Owner
30 Lorraine Drive
Beacon Falls, CT 06403

SBA - Tower Owner

Exhibit A

Original Facility Approval

TOWN OF BEACON FALLS
Planning & Zoning Commission
10 Maple Avenue
Beacon Falls CT 06403

DEC 20 1999
3:40 P.M.
Paula D'Blair

Regular Meeting
December 16, 1999
Minutes

Draft Minutes Subject to Modification Prior to Approval

I. Call to Order
Chairman Harvey called the Regular Meeting of the Beacon Falls Planning and Zoning Commission to order at 7:30 PM in the Public Meeting Room.

Chairman Harvey recessed the Regular Meeting at 7:31 PM to continue the Public Hearing.

Present: Chairman Mary Harvey, Commissioners Evan Betts, David Moran, Donald Perkins and Lynn Sirowich

Absent: Commissioners David D'Amico, Ellen Schultz and William Ambromaitis.

Chairman Harvey reconvened the Regular Meeting at 7:55 PM

II. Approval of Minutes
November 18, 1999 Public Hearing-Application P-99-86, Frank Kerski
Correction: Page 1, Commissioner Sirowich was not present at the meeting.

Motion: Commissioner Moran made a motion seconded by Commissioner Perkins to approve as Submitted the revised minutes of the November 18, 1999 Public Hearing. All voted in favor and the motion was carried 5-0.

November 18, 1999 Regular Meeting
Correction: Page 1, Section II should reflect that the motion was carried 5-0-1.

Motion: Commissioner Perkins made a motion seconded by Commissioner Betts to approve as submitted the revised minutes of the November 18, 1999 meeting. All voted in favor and the motion was carried 5-0.

III. Correspondence and Payment of Bills
Correspondence and Payment of Bills was tabled until the January 21, 1999 meeting.

IV. Comments from the Public
There were no comments from the Public

V. Zoning Enforcement Officer's Report
ZEO Tarascio was not present and therefore no report was submitted.

VI. Town Engineer's Report

Beacon Falls

SITE # 10125-003
FILE TYPE Zoning
SECTION Zoning

Town Engineer Sudimick distributed his report dated December 16, 1999 and reviewed activity pertaining to the Stop & Shop Development

I. Town Engineer's Report (Continued)

Motion: Commissioner Betts made a motion seconded by Commission Sirowich to approve and include the Town Engineer's Report in the minutes. All voted in favor and the motion carried 5-0.

II. Gravel
No Activity, no discussion

Motion: Commissioner Perkins made a motion to add to the agenda under Old Business the Sprint Application as #5 and Doug Crossley as #6. Seconded by Commissioner Betts.

III. Old Business:

1. Application P-94-30, Hockanum Glen Subdivision (Monthly Report)
No one was present representing the applicant. Town Engineer Sudimick asked if the Planning and Zoning Commission had ever sent correspondence to the First Selectman's Office regarding the acceptance of the road in Hockanum Glen. Commissioner Harvey said she would look into the matter.

2. Application P-98-67, Haley Ridge Subdivision, James Martin (Monthly Report)
Mr. Martin stated that the Driveway Maintenance & Easement Agreements were filed today at the Town Hall for Lots 19, 20, 21 & 22.
Mr. Martin requested his bond be reduced to 10%. He was referred to the Town Engineer's Report which notes items to be completed prior to approval of a reduction in the bond.

3. Application P-99-85, Rebecca Betkowski, Proposed Child Development Center
Discussion by the Commissioners

Motion: Commissioner Perkins made a motion seconded by Commissioner Sirowich to table this application to the January 21, 1999 Regular Meeting to allow the members of the Planning & Zoning Commission to investigate the concerns of the Beacon Street residents.

4. Application P-99-83, C.B.L., Inc., Wood Ridge Section 2 Subdivision.
Tabled until the January 21, 1999 Regular Meeting.

5. Sprint PCS
Steven T. Carty, representing Sprint as the Engineer for the project submitted revised plans that have addressed concerns of Town Engineer Sudimick.

Motion: Commissioner Sirowich made a motion seconded by Commission Betts that the plans as submitted be approved with conditions that the Easement must be filed in the Beacon Falls Land Records and that a Performance Bond be set. All voted in favor and the motion was carried 5-0.

6. Mr. Doug Crossley, represented by Attorney Mark Malloy. Mr. Malley presented a lot line revision for a parcel of land on Bethany Road. Mr. Crossley currently owns three parcel of land which are adjacent to one another. Two of the lots are on Bethany Road and are each 75 feet wide by 150 feet deep. These two parcels are one behind the other so that there is only 75foot frontage on

SPRINT ASSIGNED LEASE TO SBA - 12/99

DEC 2 2 '99

Beacon Falls
CT02049-S

Zoning

November 28, 1999

Ted Smith
Chief
Beacon Hose Co. #1
35 North Main St.
Beacon Falls, CT 06403

RE: 10125-003/Beacon Falls (11/23/99 meeting)

Dear Ted,

As per our meeting last Tuesday, the following is a summary of the issues we discussed:

1) SBA Inc. will provide space on our monopole tower for your **12ft. whip antenna** at **80ft. AGL** (Above Ground Level). Rent for this space on the tower will be $0 per month.

2) SBA Inc. will install your antenna and the approx. 6ft. side mount on to our tower at no cost to Beacon Hose Co. #1 .

3) SBA Inc. will pay for your 12ft. whip antenna and coax cable, which the total shall not exceed $1000.

4) Beacon Hose Co. #1 will be responsible for : a) equipment shed b) emergency power* c) utilities to power your antenna.

- I understand that emergency power is a concern for you. However, there probably will not be a generator at the site for some time.
- Please mail me back the completed "Collocation Application" as soon as possible so we can begin to make the appropriate arrangements. Thank you for your cooperation. SBA Inc. looks forward to building a relationship with Beacon Hose Co. #1.
- I look forward to seeing you again at the **Dec. 16, 1999** Beacon Falls Zoning Commission meeting .

Sincerely yours,

Joe Tassone
Project Manager
SBA, Inc.

cc. Julie Reibold (NE Communications)
Randy Freschlin (SBA)
Steven Carty (SEA Consultants)
Charlie Edwards (Land Owner)
Paul McGinn (SBA)

JFT:jft

Petition No. 911
Cellco Partnership d/b/a Verizon Wireless
Beacon Falls, Connecticut
Staff Report
August 27, 2009

On July 7, 2009, the Connecticut Siting Council (Council) received a petition from Cellco Partnership LLC d/b/a Verizon Wireless (Verizon) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for a ten-foot extension of an existing 150-foot monopole telecommunications tower at 60 Rice Lane in Beacon Falls, Connecticut. Council member Ed Wilensky and staff member David Martin visited the property on July 31, 2009 to review the proposal. Attorney Joey Lee Miranda represented Verizon at the field review.

The existing tower is owned by SBA Communications. There are currently 3 carriers on the tower: Sprint at a centerline height of 152 feet, T-Mobile at 143.5 feet, and AT&T at 134.5 feet. The Town of Beacon Falls also has emergency service antennas at the 86-foot level. Verizon wants to go on this tower in order to fill existing coverage gaps on portions of Routes 63, 42 and 8, as well as local roads in northeast Beacon Falls, south Naugatuck, and northwest Bethany. Verizon investigated putting its antennas at the 124-foot level of the tower but found it could not achieve its coverage objectives at this height. With its antennas at a centerline height of 162 feet, Verizon could cover the gaps it could not reach at 124 feet.

In order to successfully cover its target area, Verizon seeks to add ten feet to the existing tower and install a platform with 15 antennas at a centerline height of 162 feet. The structural analysis of this proposed extension concludes that the tower's shaft needs reinforcement and base transfer stiffeners to support the additional height and antennas. The addition of Verizon's antennas would bring the tower's aggregate power density to 29.87% of the FCC's Maximum Permissible Emission.

The existing tower is located deep in the woods near the end of a long gravel road. The topography and thick growth of mature, deciduous trees around the site minimize near-field views of the tower. Other than from a very, short distance on Rice Lane Extension, the tower is scarcely visible from the nearest residential streets. In fact, the tower's lack of visibility made it difficult for the representatives of both the Council and Verizon to find it. There are neighborhoods farther away from the tower that have far-field views of the tower. From these areas, the tower rises noticeably above the tree line, but the distance of the views lessens the tower's presence in the landscape.

Prior to submitting its petition to the Council, Verizon sent notices of its plans to abutting property owners. Neither Verizon nor the Council received any adverse comments regarding this proposal.

Exhibit B

Property Card

Town of Beacon Falls, Connecticut - Assessment Parcel Map

Parcel: 017-002-0002 **Address:** 60 RICE LN

N

Approximate Scale: 1 inch = 450 feet

0 130 260 390 520 Feet

Map Produced May 2021

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

Tax ID 017-002-0002 Printed 03/30/2020 Card No. 1 of 1

EDWARDS CHARLES
30 LORRAINE DRIVE
BEACON FALLS, CT 06403
Census: 3411

Neighborhood Number
5
Neighborhood Name
East Side
TAXING DISTRICT INFORMATION

Jurisdiction Name	BEACON FALLS
Area	006
Routing Number	017-002-0002

Transfer of Ownership

Owner	Consideration	Transfer Date	Deed Type	Deed Book/Page
EDWARDS	0	08/29/2002		131 14 &30
NA	0	05/25/1999		112 411

Site Description

Topography
High
Public Utilities
Sewer
Street or Road
Unpaved
Neighborhood
Static
Zoning:
R-1
Legal Acres:
49.7600

Valuation Record

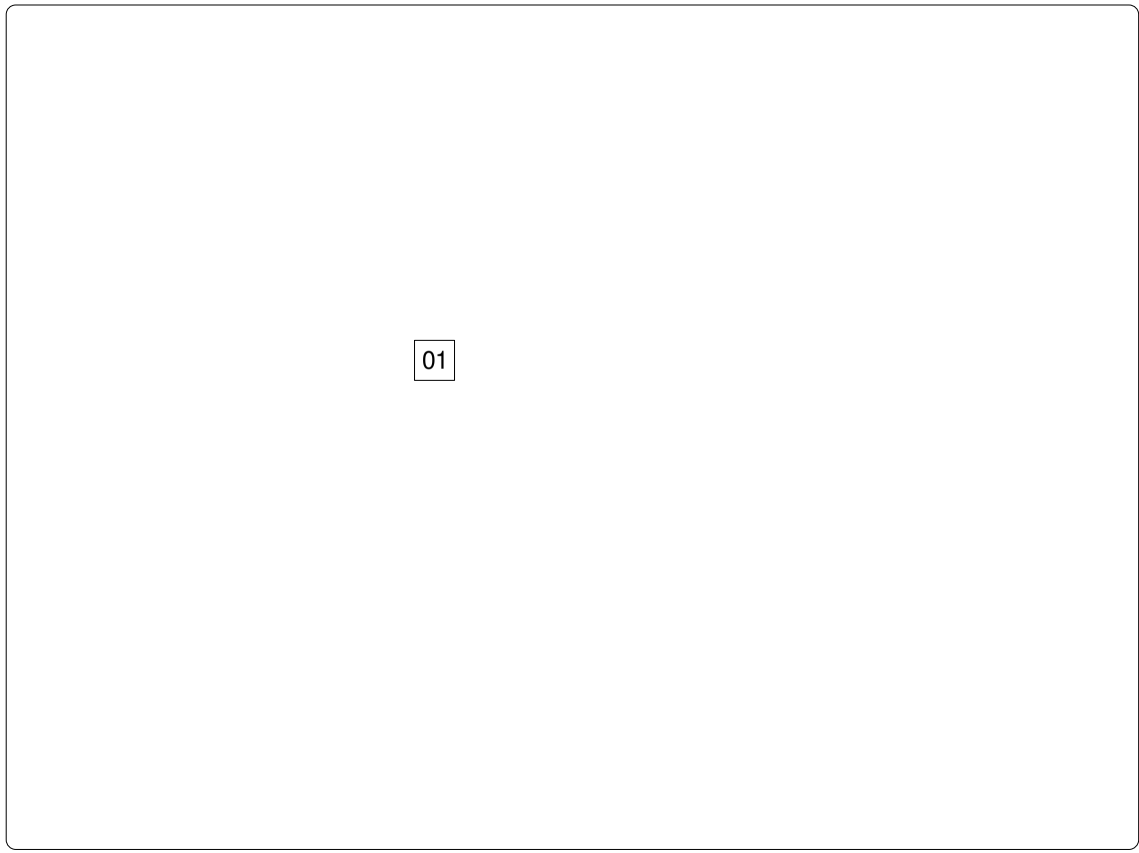
Assessment Year		2006	2007	2011	2016				
Reason for Change		2006 Reval	2007	2011 Reval	2016 Reval				
2016 Market	L	348520	348520	259360	202480				
	I	0	0	0	0				
	T	348520	348520	259360	202480				
70% Assessed	L	78170	78170	48160	81070				
	I	0	0	0	0				
	T	78170	78170	48160	81070				

Land Size

Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor
Primary Commercial		0.5200		U 100%
Res Excess Acres		49.2400		
PA490 Forest		49.2400		

Tax ID 017-002-0002 Printed 03/30/2020

Physical Characteristics



Special Features

Description

Summary of Improvements

ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
01	TOWERMON	0.00		AVG	2011	2011	AV	160

Exhibit C

Construction Drawings

REVIEWED
By Dipesh Parikh at 10:15 am, May 09, 2022

APPROVED
By chris.seremet at 1:51 pm, May 12, 2022

APPROVED WITH REDLINES.

DISH Wireless L.L.C. SITE ID:

BOHVN00177A

DISH Wireless L.L.C. SITE ADDRESS:

60 RICE LANE
BEACON FALLS, CT 06403

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 MOUNTS AND ANTENNAS AT 152'-0" AGL
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (1) PROPOSED ANTENNA PLATFORM MOUNT
- INSTALL PROPOSED JUMPERS
- INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
- INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
- INSTALL (1) PROPOSED HYBRID CABLE

GROUND SCOPE OF WORK:
- 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 FIBER NID (IF REQUIRED)

SITE INFORMATION

PROPERTY OWNER:	EDWARDS CHARLES
ADDRESS:	60 RICE LN BEACON FALLS, 06403
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	CT02049-S
TOWER APP NUMBER:	169195
COUNTY:	NEW HAVEN
LATITUDE (NAD 83):	41° 27' 20.5" N 41.45568889
LONGITUDE (NAD 83):	73° 02' 23.5" W -73.03986633
ZONING JURISDICTION:	NEW HAVEN COUNTY
ZONING DISTRICT:	X
PARCEL NUMBER:	017-002-0002
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	EVERSOURCE
TELEPHONE COMPANY:	AT&T

PROJECT DIRECTORY

APPLICANT:	DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	SBA COMMUNICATAIONS CORP. 8051 CONGRESS AVENUE BOCA RATON, FL 33487 (800) 487-7483
SITE DESIGNER:	B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
SITE ACQUISITION:	DAVE EVANS devans@sbasite.com
CONST. MANAGER:	CHAD WILCOX chad.wilcox@dish.com
RF ENGINEER:	DIPESH PARIKH dipesh.parikh@dish.com

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

SITE PHOTO

DIRECTIONS

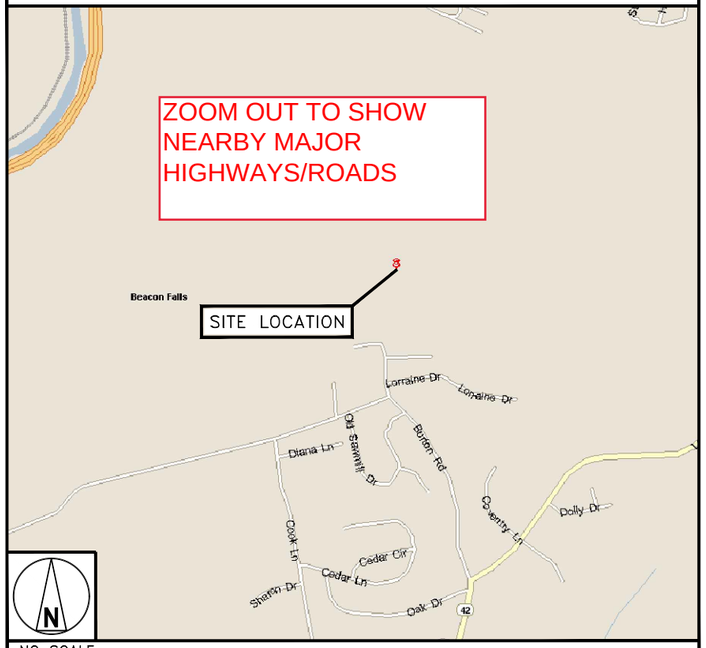
DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT:
GET ON BRADLEY INTERNATIONAL AIRPORT CON IN EAST GRANBY FROM BRADLEY INTERNATIONAL AIRPORT, HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT, SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT, CONTINUE STRAIGHT, KEEP RIGHT TO CONTINUE TOWARD BRADLEY INTERNATIONAL AIRPORT CON, TAKE I-91 S, I-84 AND CT-8 S TO STATE HWY 852 IN BEACON FALLS. TAKE EXIT 24 FROM CT-8 S, CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON, KEEP LEFT TO STAY ON BRADLEY INTERNATIONAL AIRPORT CON, CONTINUE ONTO CT-20 E/BRADLEY INTERNATIONAL AIRPORT CON, USE THE RIGHT 2 LANES TO MERGE WITH I-91 S TOWARD HARTFORD, TAKE EXIT 32A-32B FOR I-84 W TOWARD WATERBURY, MERGE WITH I-84, USE THE LEFT LANE TO TAKE EXIT 19 TO MERGE WITH CT-8 S TOWARD NAUGATUCK/BRIDGEPORT, TAKE EXIT 24 TOWARD STATE HWY 852, TAKE BURTON RD TO YOUR DESTINATION, TURN RIGHT ONTO STATE HWY 852, TURN LEFT ONTO BURTON RD, TURN LEFT ONTO RICE LN, TURN LEFT ONTO SPRUCE LN, TURN RIGHT - ARRIVE AT BOHVN00177A.

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
LS1	SITE SURVEY
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	TOWER 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

VICINITY MAP

ZOOM OUT TO SHOW NEARBY MAJOR HIGHWAYS/ROADS



NO SCALE

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

811

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.

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

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

STATE OF CONNECTICUT
CHAD WILCOX
No. 23924
LICENSED
PROFESSIONAL ENGINEER
4/29/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	MRE	RMC

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	3/30/22	ISSUED FOR REVIEW
0	4/29/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149539.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00177A
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

CT 2049-3

CT 0049-5

LEGEND

PROPERTY LINE
ACCESS AND UTILITY EASEMENT LINE
LIMITS OF WETLANDS
EXISTING EDGE OF PAVEMENT

PROPOSED 100'x100' SPRINT PCS LEASE AREA

PROPOSED 150' MONOPOLE

OPEL ANTENNA

686'± TO PROPERTY LINE

PPC MH

PROPOSED TRANSFORMER

UTILITY BACKBOARD

N/F
STEVEN VARDON

N/F
CHARLES EDWARDS

ELEC AND TELCO FROM EXIST. POLE TO UTILITY EQUIPMENT WITHIN A 20' WIDE ACCESS AND UTILITY EASEMENT (FULL BOXES TO BE INSTALLED AS REQUIRED)

20' WIDE ACCESS AND UTILITY EASEMENT (TYP.)

ELEC AND TELCO FROM EXIST. POLE TO UTILITY EQUIPMENT WITHIN A 20' WIDE ACCESS AND UTILITY EASEMENT (FULL BOXES TO BE INSTALLED AS REQUIRED)

N/F
ARTHUR STEVEN KOELLER

OLD HOPMAN ROAD

DIRT ROAD

N/F
PATRICK F. GUFFNEY, ET AL

DWST HOUSE

POND

WATER EL=525

LIMIT OF INLAND WETLANDS AS DELINEATED IN THE FIELD

BRUCE LANE
GAC PAVEMENT

RICE LANE

POLE #25

N/F
KENNETH C. DAHN JR. ET AL

CLIFF

ELEC AND TELCO TO TIE IN FROM EXIST. POLE (TO BE DETERMINED BY UTILITY COMPANIES)

LOCATION MAP

SITE

1 SURVEY NOTES

1. THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATION OF CONNECTICUT AGENCIES SECTIONS 20-300B-1 THROUGH 20-300B-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.
   - TYPE OF SURVEY: EASEMENT MAP
   - BOUNDARY DETERMINATION CATEGORY: DEPENDENT RESURVEY (SEE MAP REFERENCE 4
   - CLASS OF ACCURACY: D
2. PROPERTY MAY BE SUBJECT TO AN A.T.&T. EASEMENT IN VOL. 29, PG. 81 OF THE BEACON FALLS LAND RECORDS.
3. PROPERTY IS ZONED R-1
4. MAP REFERENCE:
   "SPRINT PCS PROJECT, BEACON FALLS SURVEY" SCALE: 1"=50', DATED: 1/18/99. LAST REVISED: 1/10/2000, PREPARED BY COMPASS ENGINEERING GROUP, L.L.C.
5. ELEVATIONS ARE BASED ON NGVD 29.
6. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM FIELD TESTIMONY AND OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE. BY NATURE, ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO HERBERT & PROVOOST. THE LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. "CALL BEFORE YOU DIG 1-800-922-4455"
7. HORIZONTAL DATUM BASED ON NAD 83.
8. STATUS OF RICE LANE AS TO OWNERSHIP, WIDTH & EXACT LOCATION UNKNOWN AS OF 9/29/99.

GRAPHIC SCALE

1 inch = 50 ft.

To the best of my knowledge and belief, this map is substantially correct as noted hereon.

Kenneth Herbert 1/19/00
KENNETH HERBERT LIC. NO. 18195 DATE

Title, drawing and matter thereof are valid only if bear the signature and embossed seal of the designated licensed professional. Unauthorized alterations to this plan rendering the same null and void.

COMPASS ENGINEERING GROUP, LLC
950 SILAS DEANE HIGHWAY, ROCKY HILL, CT. 860-529-9922
120 EXANDALE ROAD, WATERTOWN, CT. 860-274-5053
1800 WEST MAIN STREET, WATERBURY, CT. 203-753-0032

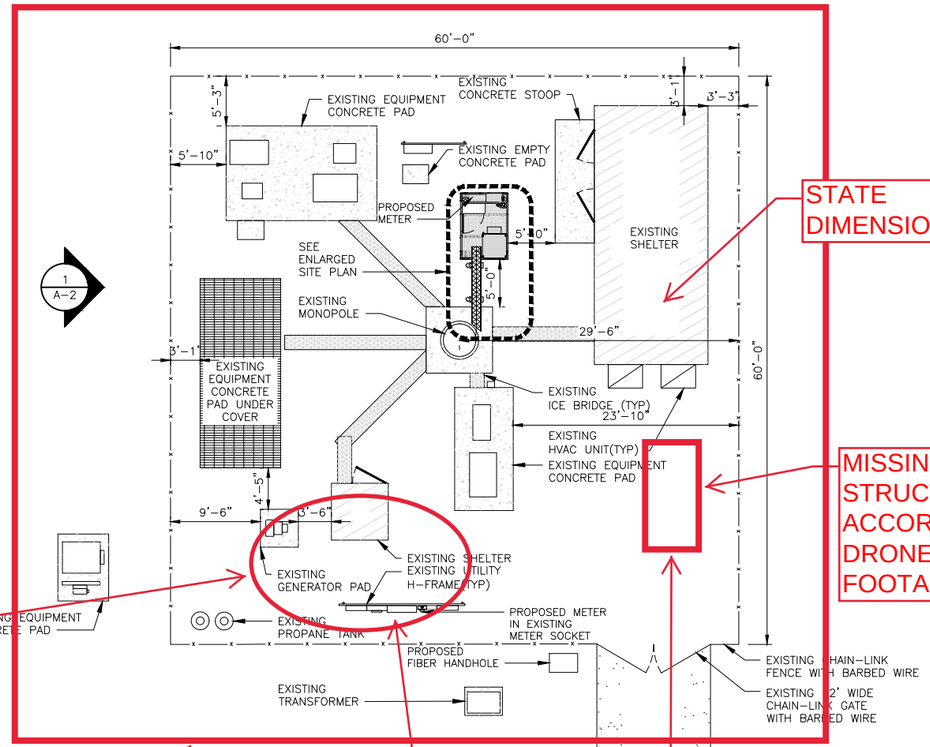
EASEMENT MAP
MAP SHOWING EASEMENT AREA TO BE GRANTED TO THE CONNECTICUT LIGHT AND POWER COMPANY ACROSS THE PROPERTY OF STEVEN VARDON AND CHARLES EDWARDS
RICE LANE
BEACON FALLS CONNECTICUT

DRAWN	MJS
CHECKED	KH
DATE	JAN. 13, 2000
SCALE	1" = 50 FT.
SHEET	1 OF 1
JOB NO.	2368
C.L.&P. DWG. NUMBER	DW-7104-3950
COMPASS FILE	2368-CLP.DWG
C.L.&P. FILE NUMBER	M9086Z
REVISIONS:	-

\\Tom\AUTOCAD\2368-clp.dwg wed Jan 19 15:04:25 2000

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.

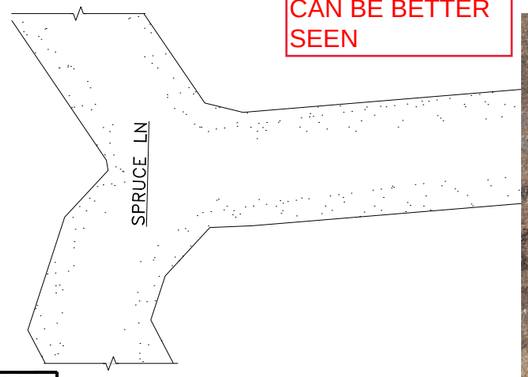


STATE DIMENSIONS

MISSING STRUCTURE ACCORDING TO DRONE FOOTAGE.

NOT QUITE ACCURATE

ZOOM IN TO THE SITE SO DETAILS CAN BE BETTER SEEN



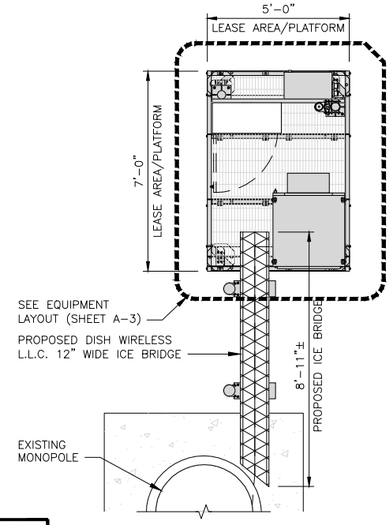
OVERALL SITE PLAN

8' 4' 0 8' 16'
1/8"=1'-0"

1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



ENLARGED SITE PLAN

12" 6" 0 1' 2' 3' 4' 5' 6' 7'
3/8"=1'-0"

2

THIS SHOULD BE AN AERIAL IMAGE SHOWING THE POWER AND FIBER DESIGN IN THE OVERALL SITE PLAN (COMPOUND).

USE LEGIBLE COLORS SO THE DETAILS STAND OUT.

UTILITY AERIAL VIEW

NO SCALE

3

dish wireless.

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SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
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STATE OF CONNECTICUT
CHAD M. WHITE
No. 23924
LICENSED PROFESSIONAL ENGINEER
4/29/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	MRE	RMC

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	3/30/22	ISSUED FOR REVIEW
0	4/29/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149539.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00177A
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE

OVERALL AND ENLARGED SITE PLAN

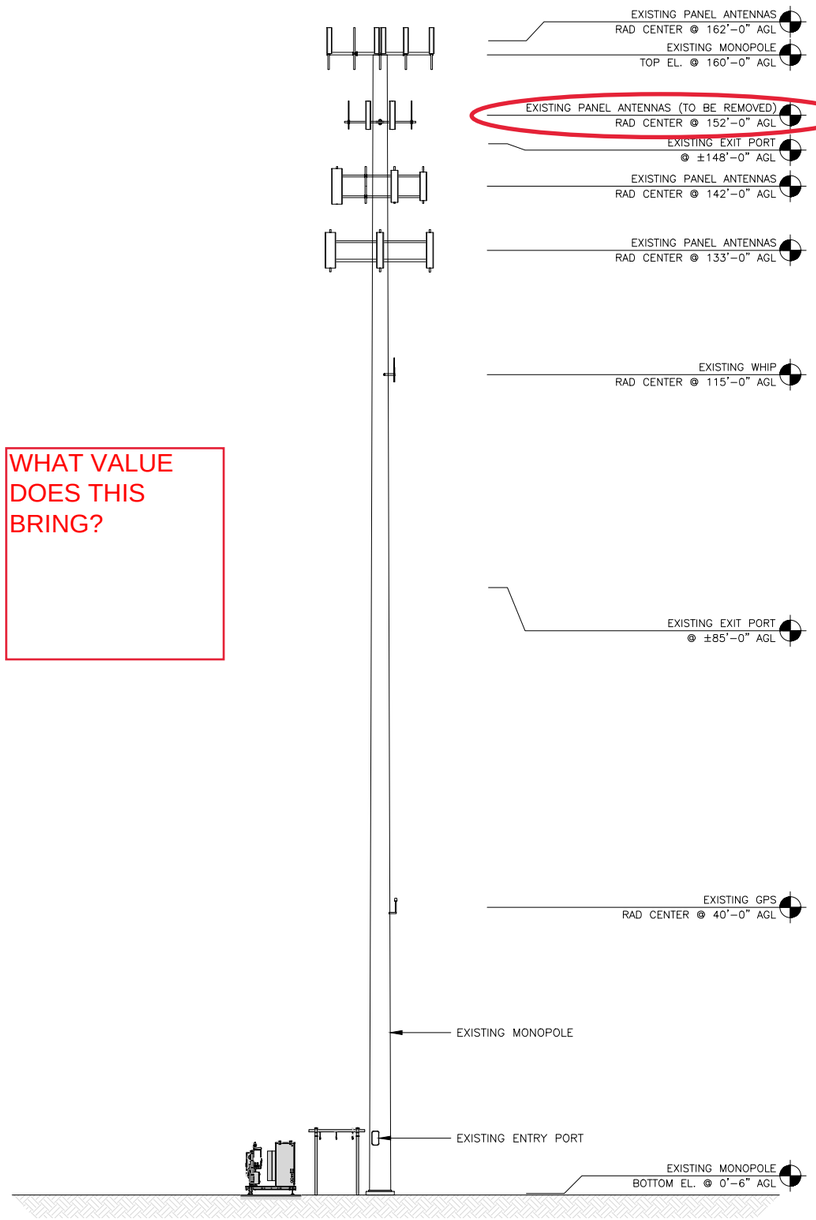
SHEET NUMBER

A-1

NOTES

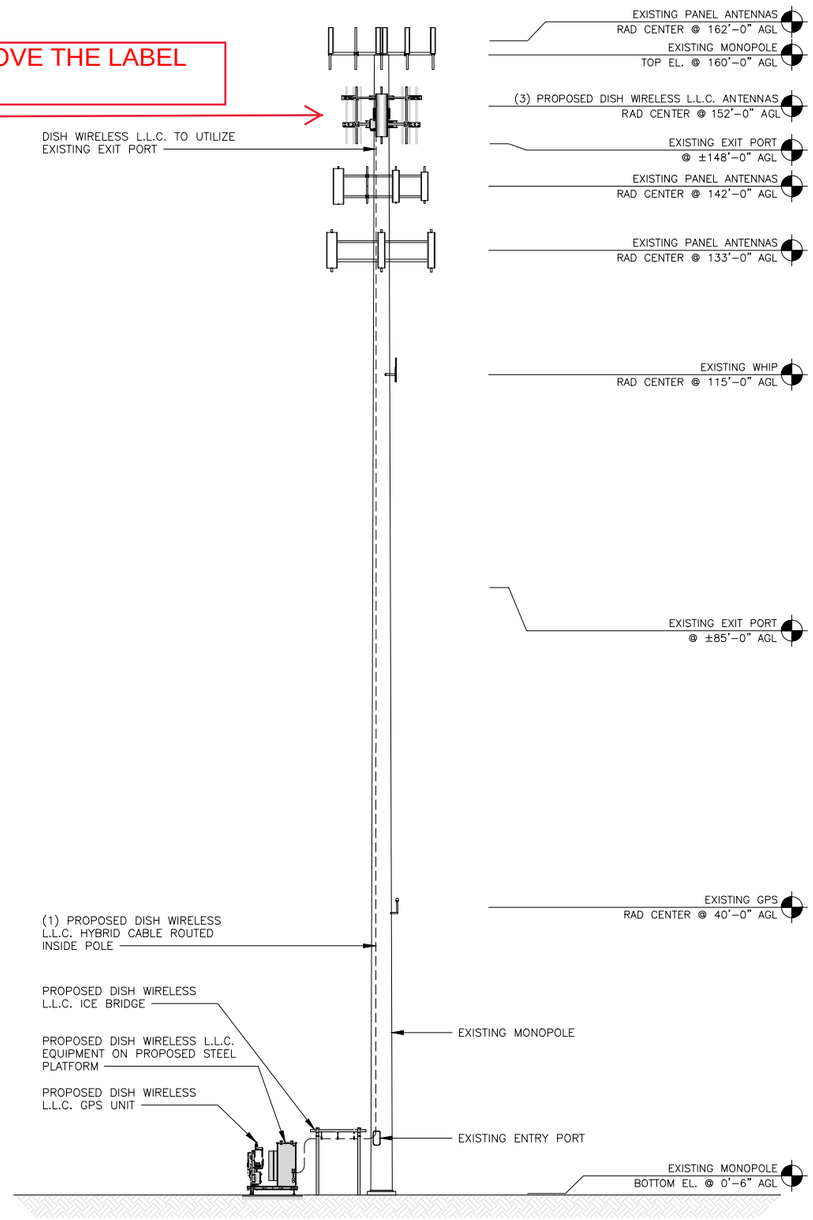
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.
4. EXISTING MOUNT AND ANTENNAS AT 152'-0" AGL TO BE REMOVED.

WHAT VALUE DOES THIS BRING?



PROPOSED WEST ELEVATION - WITH EXISTING ANTENNAS TO BE REMOVED

WHY NOT MOVE THE LABEL HERE?



PROPOSED WEST ELEVATION - WITH PROPOSED DISH ANTENNAS

dish wireless.

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PROJECT INFORMATION

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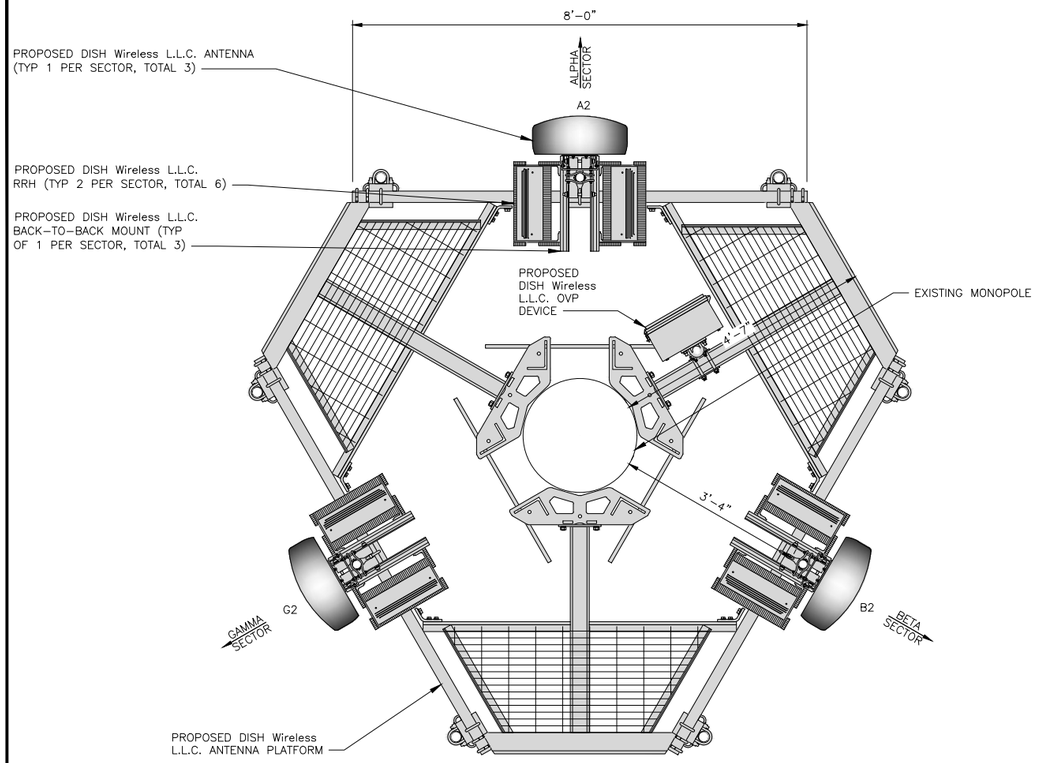
BEACON FALLS, CT 06403

SHEET TITLE

TOWER ELEVATIONS

SHEET NUMBER

A-2



N

ANTENNA LAYOUT

12" 6" 0 1' 2' 3'
3/4"=1'-0"

2

SECTOR POS.	ANTENNA					TRANSMISSION CABLE	RRH			OVP
	EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECH	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH	MANUFACTURER – MODEL NUMBER	TECH	POS.	MANUFACTURER MODEL
A1	--	--	--	--	--	(1) HIGH-CAPACITY HYBRID CABLE (200' LONG)	FUJITSU – TA08025-B605	5G	A2	RAYCAP-RDIDC-9181-PF-48
A2	PROPOSED	JMA – MX08FRO665-21	5G	0°	152'-0"		FUJITSU – TA08025-B604	5G	A2	
A3	--	--	--	--	--		--	--	--	
B1	--	--	--	--	--	SHARED W/ALPHA	FUJITSU – TA08025-B605	5G	B2	SHARED W/ALPHA
B2	PROPOSED	JMA – MX08FRO665-21	5G	120°	152'-0"		FUJITSU – TA08025-B604	5G	B2	
B3	--	--	--	--	--		--	--	--	
C1	--	--	--	--	--	SHARED W/ALPHA	FUJITSU – TA08025-B605	5G	C2	SHARED W/ALPHA
C2	PROPOSED	JMA – MX08FRO665-21	5G	240°	152'-0"		FUJITSU – TA08025-B604	5G	C2	
C3	--	--	--	--	--		--	--	--	

NOTES

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. 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.

ANTENNA SCHEDULE

NO SCALE

3

NOT USED

NO SCALE

1

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PROJECT INFORMATION

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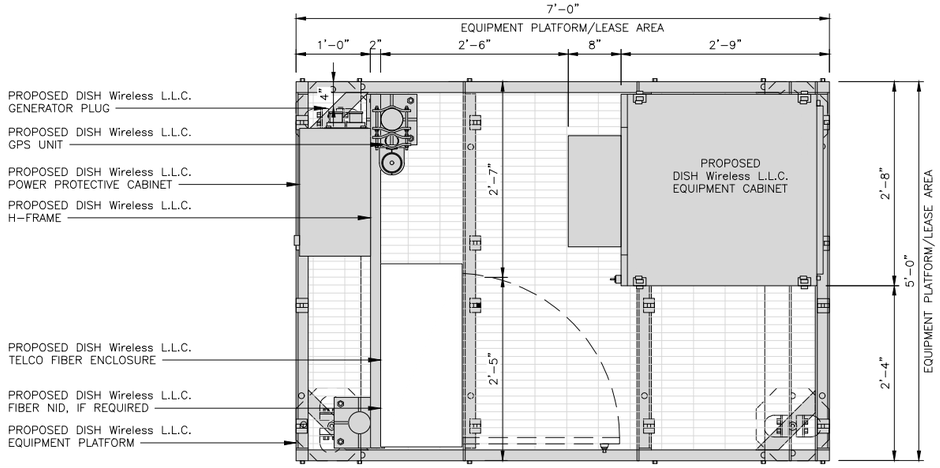
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE

ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER

A-2.1



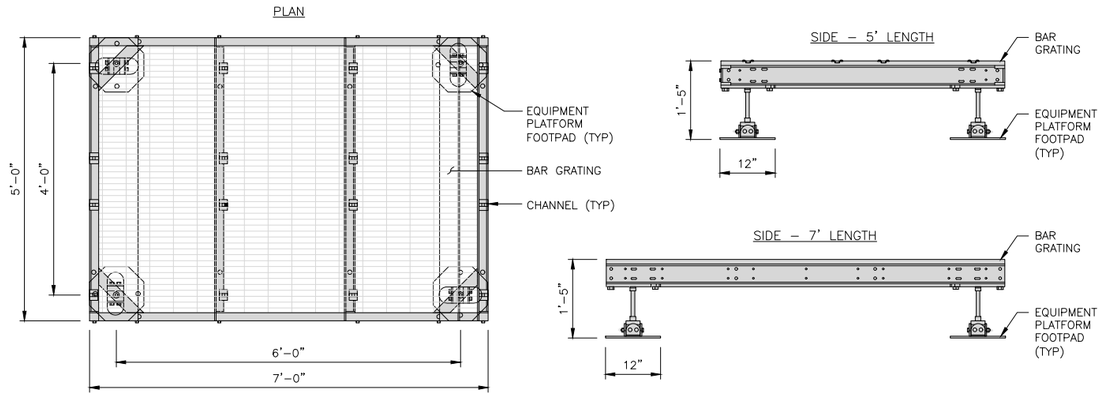
PLATFORM EQUIPMENT PLAN

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

1

COMMSCOPE MTC4045LP 5X7 PLATFORM	
DIMENSIONS (HxWxD)	16"x84"x60"
TOTAL WEIGHT	423 LBS

NOTE:
GC TO PROVIDE EXTENDED THREAD FOR PLATFORM IF REQUIRED HEIGHT EXCEEDS 17"

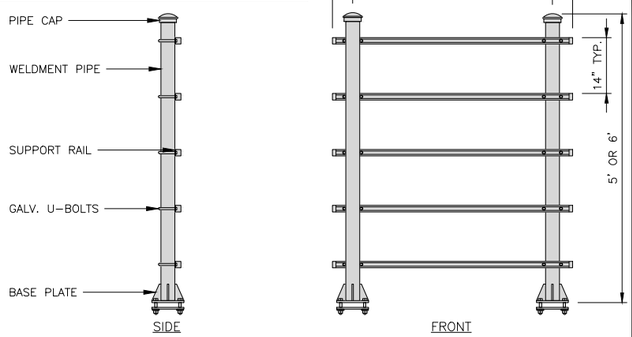


PLATFORM DETAIL

NO SCALE

2

COMMSCOPE MTC4045HFLD H-FRAME	
UNISTRUT/SUPPORT RAILS QTY	5
WEIGHT	59.74 lbs



H-FRAME DETAIL

NO SCALE

3

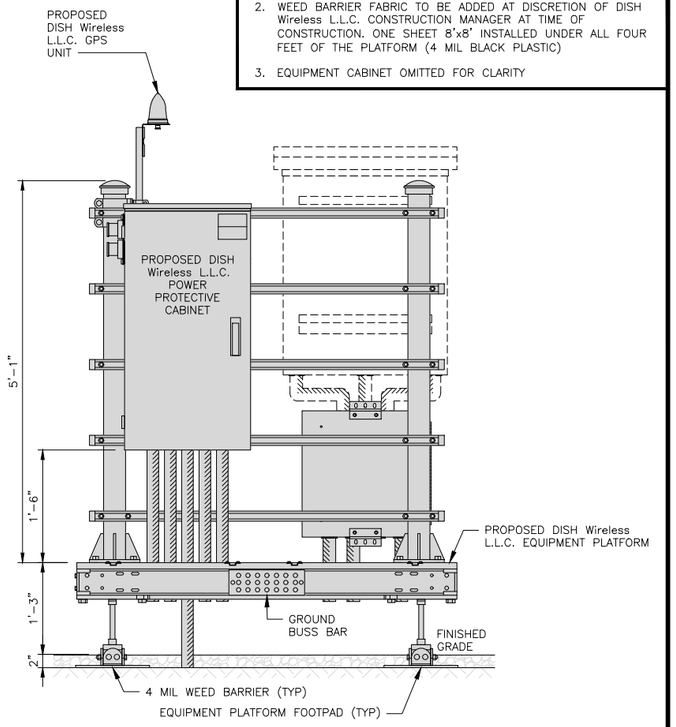
NOT USED

NO SCALE

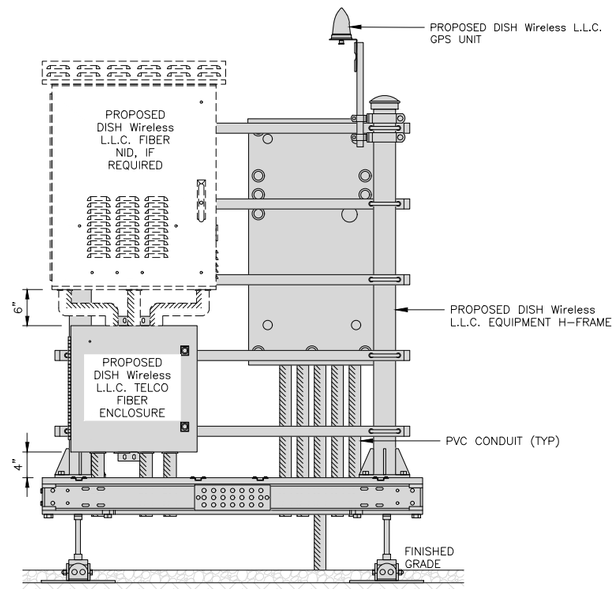
4

NOTES

1. CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
2. WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH Wireless L.L.C. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
3. EQUIPMENT CABINET OMITTED FOR CLARITY



FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

5

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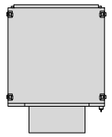
60 RICE LANE
BEACON FALLS, CT 06403

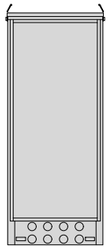
SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER
A-3

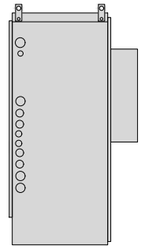
ENERSYS HVAC 2000005995	
DIMENSIONS (HxWxD)	73"x30"x32"
POWER SYSTEM	-48V ALPHA/600A
HVAC	600W
TOTAL WEIGHT (EMPTY)	371 lbs



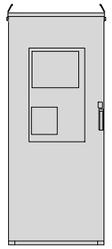
PLAN



BACK



SIDE

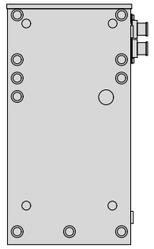


FRONT

CABINET DETAIL | NO SCALE | 1

RAYCAP PPC RDIAC-2465-P-240-MTS	
ENCLOSURE DIMENSIONS (HxWxD):	39"x22.855"x12.593
WEIGHT:	80 lbs
OPERATING AC VOLTAGE	240/120 1 PHASE 3W+G

TOP



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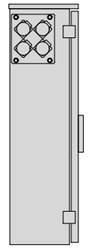
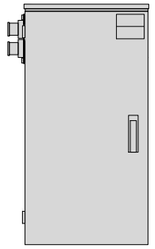
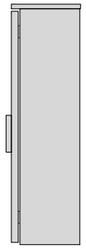


SIDE



FRONT

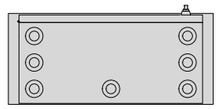


SIDE

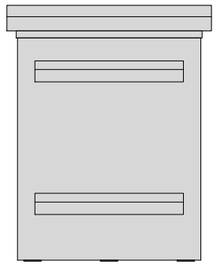
POWER PROTECTION CABINET (PPC) DETAIL | NO SCALE | 2

NOT USED | NO SCALE | 3

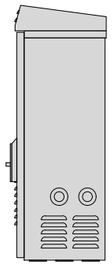
ZAYO 5RU (LEFT SWING DOOR) FIBER NID ENCLOSURE	
DIMENSIONS (HxWxD)	36.1"x29"x12.9"
WEIGHT	85 lbs



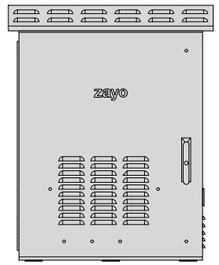
BOTTOM



BACK



SIDE

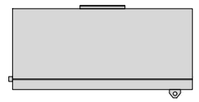


FRONT

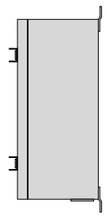
NOT USED | NO SCALE | 4

FIBER NID ENCLOSURE DETAIL | NO SCALE | 5

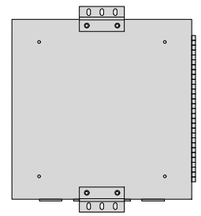
CHARLES CFIT-PF2020DSH1 FIBER TELCO ENCLOSURE	
ENCLOSURE DIMS (HxWxD)	20"x20"x9"
ENCLOSURE WEIGHT	20 lbs
MOUNTING	WALL
COMPLIANCE	TYPE 4



FRONT



SIDE



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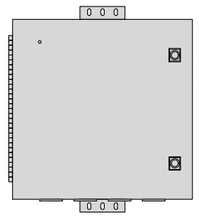
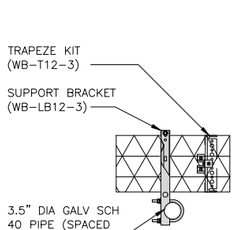


FRONT

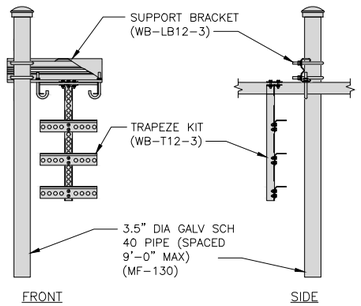
FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

COMMSCOPE WB-K110-B WAVEGUIDE BRIDGE KIT	
DIMENSIONS (HxL)	160"x10'
WEIGHT/ VOLUME	325.0 LBS
CABLE RUN (QTY)	12

INCLUDED PRODUCTS:	WB-T12-3 TRAPEZE KIT, 3 RUNGS
	WB-LB12-3 SUPPORT BRACKET
	MF-130 DIRECT BURIAL PIPE COLUMN, 13'-4"

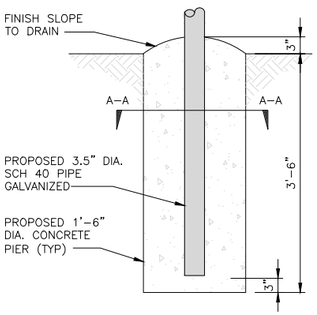


PLAN

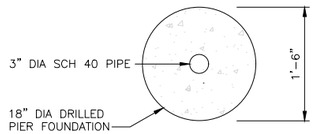


FRONT SIDE

ICE BRIDGE DETAIL | NO SCALE | 7

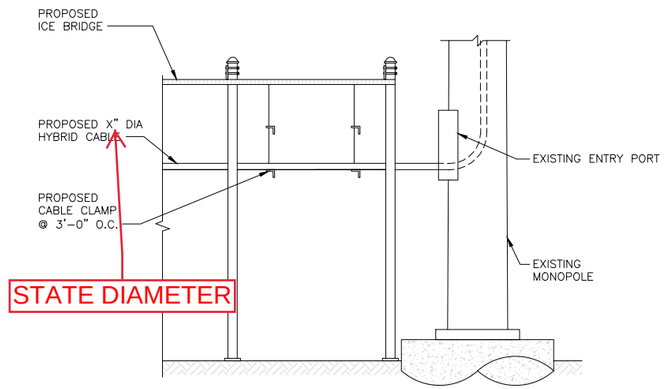


CONCRETE PIER



A-A SECTION

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL | NO SCALE | 8



HYBRID CABLE RUN | NO SCALE | 9

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YN	MRE	RMC

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	3/30/22	ISSUED FOR REVIEW
0	4/29/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149539.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00177A
60 RICE LANE
BEACON FALLS, CT 06403

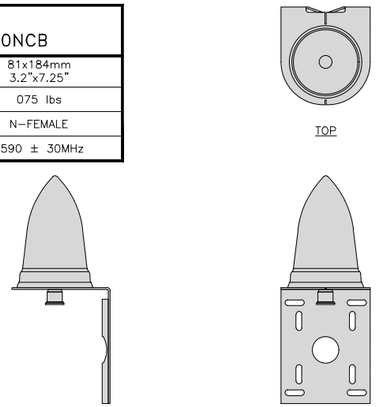
SHEET TITLE

EQUIPMENT DETAILS

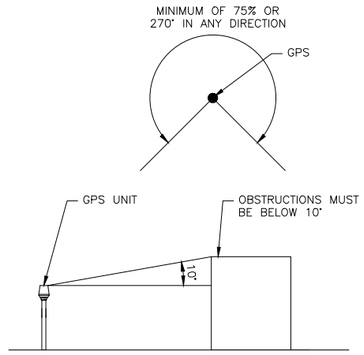
SHEET NUMBER

A-4

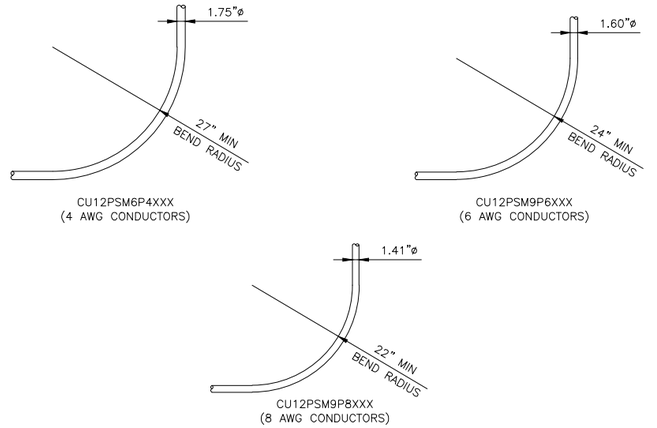
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



GPS DETAIL — NO SCALE — 1



GPS MINIMUM SKY VIEW REQUIREMENTS — NO SCALE — 2



CABLES UNLIMITED HYBRID CABLE MINIMUM BEND RADIUSES — 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

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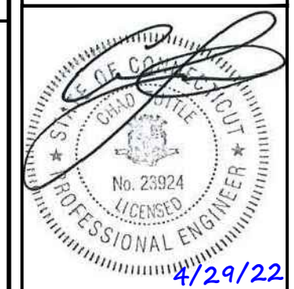

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Expires 2/10/23

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SHEET TITLE

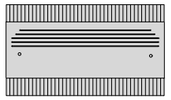
EQUIPMENT DETAILS

SHEET NUMBER

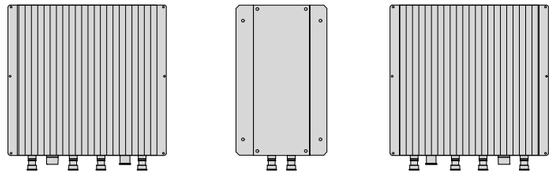
A-5

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



PLAN

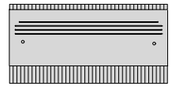


BACK SIDE FRONT

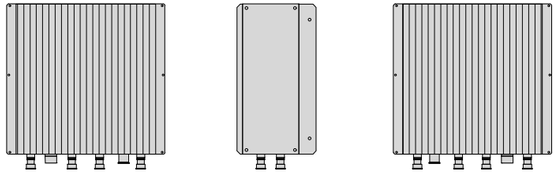
RRH DETAIL | NO SCALE | 1

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



PLAN



BACK SIDE FRONT

RRH DETAIL | NO SCALE | 2

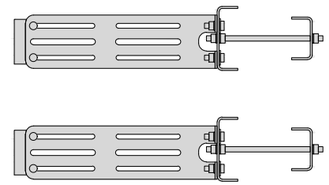
COMMSCOPE RR-FA2 LARGE STABILIZER

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

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

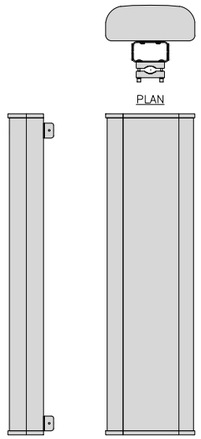


SIDE

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



PLAN SIDE FRONT

ANTENNA DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

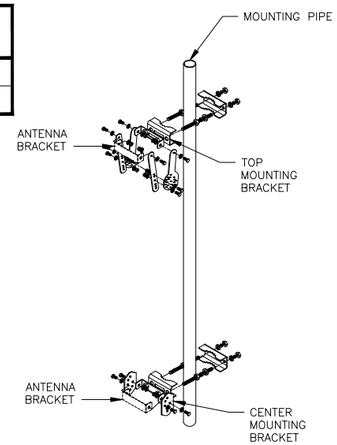
JMA ANTENNA MOUNT BRACKET #91900318

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

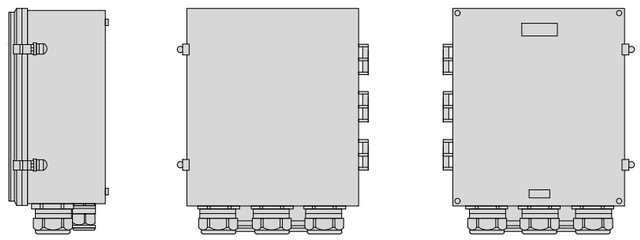


ANTENNA BRACKET DETAIL | NO SCALE | 6

RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)

DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS

PLAN



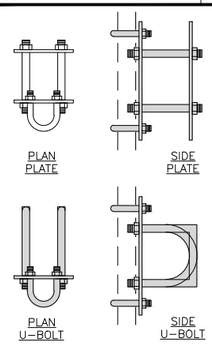
SIDE BACK FRONT

SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

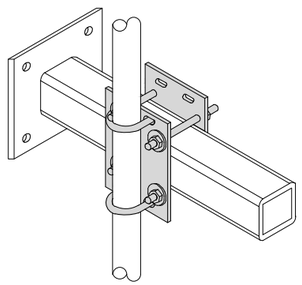
COMMSCOPE XP-2040 CROSSOVER PLATE

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

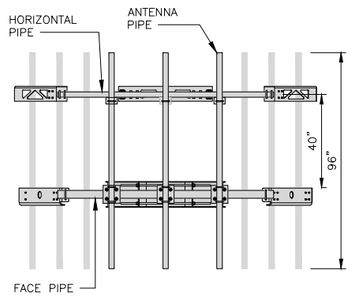


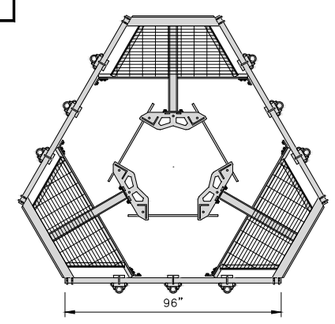
RRH/OVP MOUNT DETAIL | NO SCALE | 8

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





ANTENNA PLATFORM DETAIL | NO SCALE | 9

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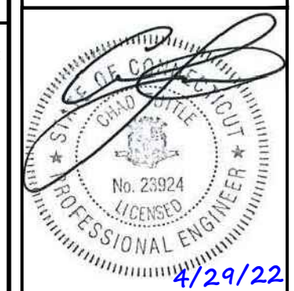

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00177A
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE

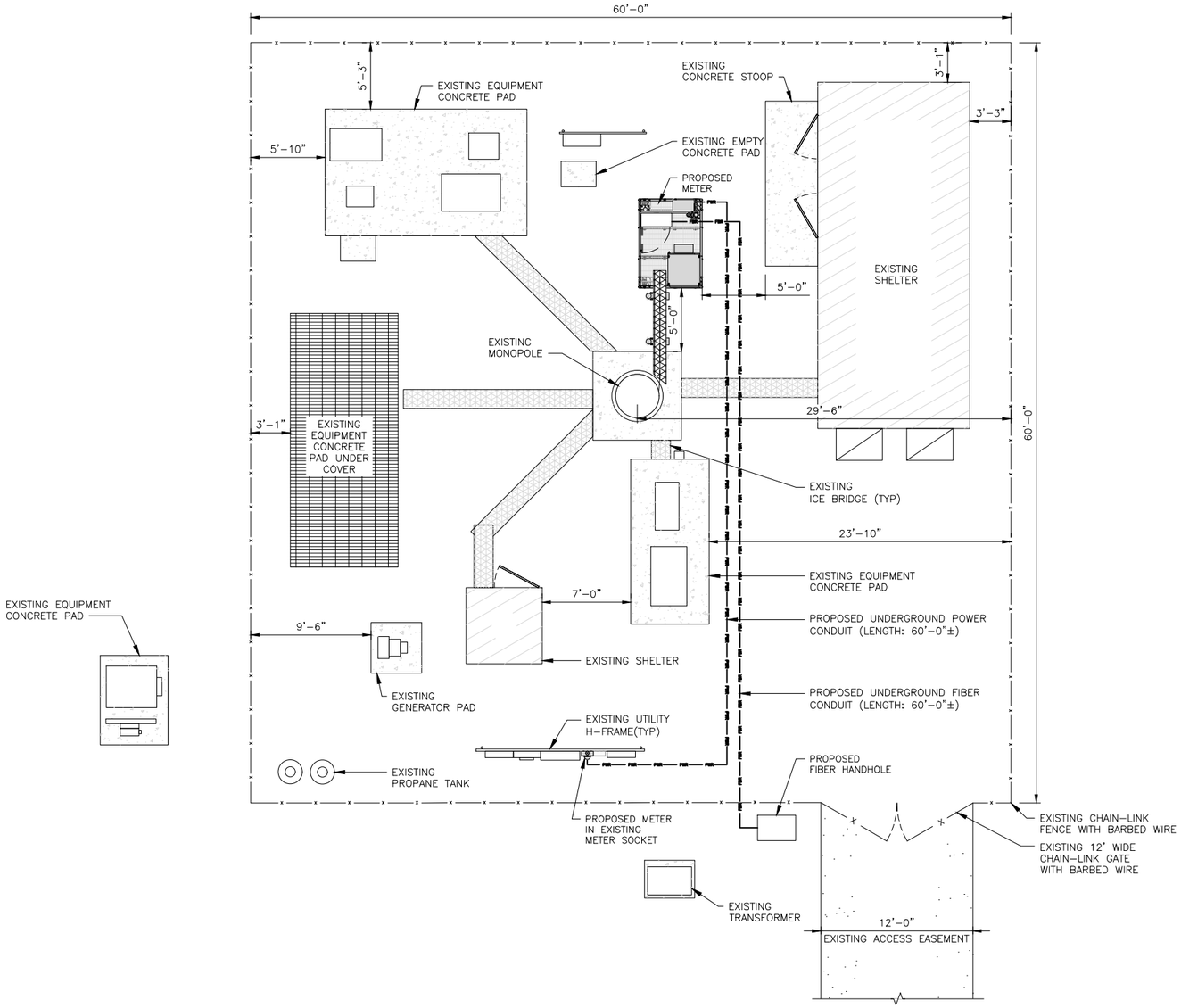
EQUIPMENT DETAILS

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.



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

THIS SHOULD BE AN AERIAL IMAGE SHOWING UTILITY ROUTE FROM THE COMPOUND THROUGH THE EASEMENT. DO NOT USE A SKETCH HERE.

USE LEGIBLE COLORS SO THE DETAILS STAND OUT.

UTILITY ROUTE PLAN

6' 4' 2' 0 5' 10'
3/16"=1'-0"

1

OVERALL UTILITY EASEMENT AERIAL VIEW

NO SCALE

2

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STATE OF CONNECTICUT
CHAD M. WHITE
No. 23924
LICENSED PROFESSIONAL ENGINEER
4/29/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

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SHEET TITLE

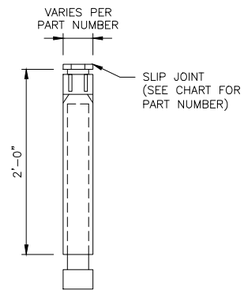
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER

E-1

CARLON EXPANSION FITTINGS

COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N	E945NX	4"	5	8"
E945P	E945PX	5"	1	8"
E945R	E945RX	6"	1	8"

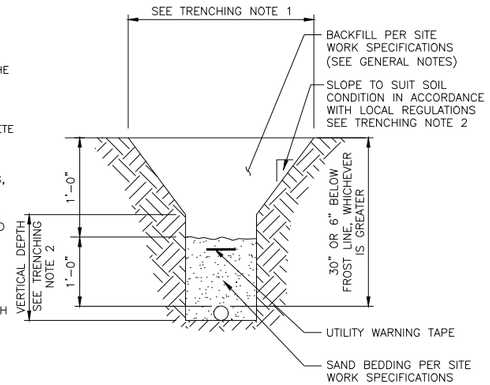


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

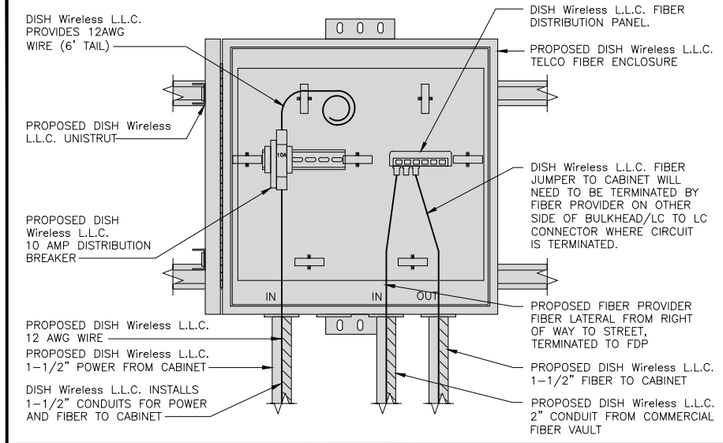
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

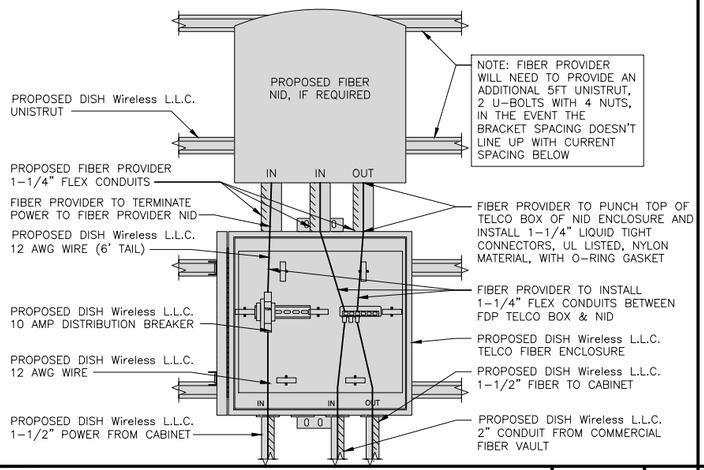
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
3. ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS THE MOST STRINGENT.



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



DARK TELCO BOX – INTERIOR WIRING LAYOUT | NO SCALE | 3



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL) | 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

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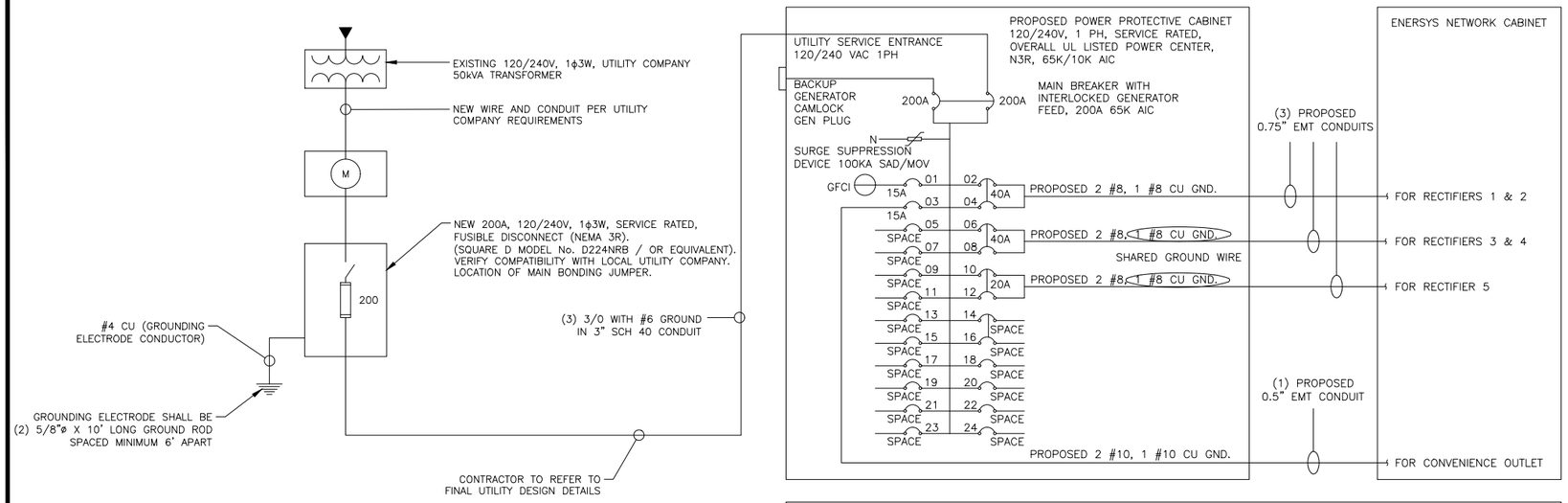
SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E-2



NOTE:
BRANCH CIRCUIT WIRING SUPPLYING RECTIFIERS ARE TO BE RATED UL1015, 105°C, 600V, AND PVC INSULATED, IN THE SIZES SHOWN IN THE ONE-LINE DIAGRAM. CONTRACTOR MAY SUBSTITUTE UL1015 WIRE FOR THWN-2 FOR CONVENIENCE OUTLET BRANCH CIRCUIT.

BREAKERS REQUIRED:
(2) 40A, 2P BREAKER - SQUARE D P/N:QO240
(1) 20A, 2P BREAKER - SQUARE D P/N:QO220
(1) 20A, 1P BREAKER - SQUARE D P/N:QO120

PPC ONE-LINE DIAGRAM

NO SCALE | 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.

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 (3 CONDUITS): USING UL1015, CU.

#8 - 0.0552 SQ. IN X 2 = 0.1103 SQ. IN
#8 - 0.0131 SQ. IN X 1 = 0.0131 SQ. IN <BARE GROUND
TOTAL = 0.1234 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) 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.

PROPOSED ENERSYS PANEL SCHEDULE

LOAD SERVED	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	LOAD SERVED
PPC GFCI OUTLET	180		15A	1	A	2	40A	3840		ENERSYS ALPHA CORDEX RECTIFIERS 1 & 2
ENERSYS GFCI OUTLET		180	15A	3	B	4			3840	
-SPACE-				5	A	6	40A	3840		ENERSYS ALPHA CORDEX RECTIFIER 3 & 4
-SPACE-				7	B	8			3840	
-SPACE-				9	A	10	20A	1920		ENERSYS ALPHA CORDEX RECTIFIER 5
-SPACE-				11	B	12			1920	
-SPACE-				13	A	14				-SPACE-
-SPACE-				15	B	16				-SPACE-
-SPACE-				17	A	18				-SPACE-
-SPACE-				19	B	20				-SPACE-
-SPACE-				21	A	22				-SPACE-
-SPACE-				23	B	24				-SPACE-
VOLTAGE AMPS	180	180						9500	9500	
200A MCB, 1ϕ, 24 SPACE, 120/240V			L1		L2					
MB RATING: 65,000 AIC			9680		9680		VOLTAGE AMPS			
			81		81		AMPS			
			81				MAX AMPS			
			102				MAX 125%			

PANEL SCHEDULE

NO SCALE | 2

NOT USED

NO SCALE | 3

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4/29/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

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RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

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A&E PROJECT NUMBER

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DISH Wireless L.L.C.
PROJECT INFORMATION

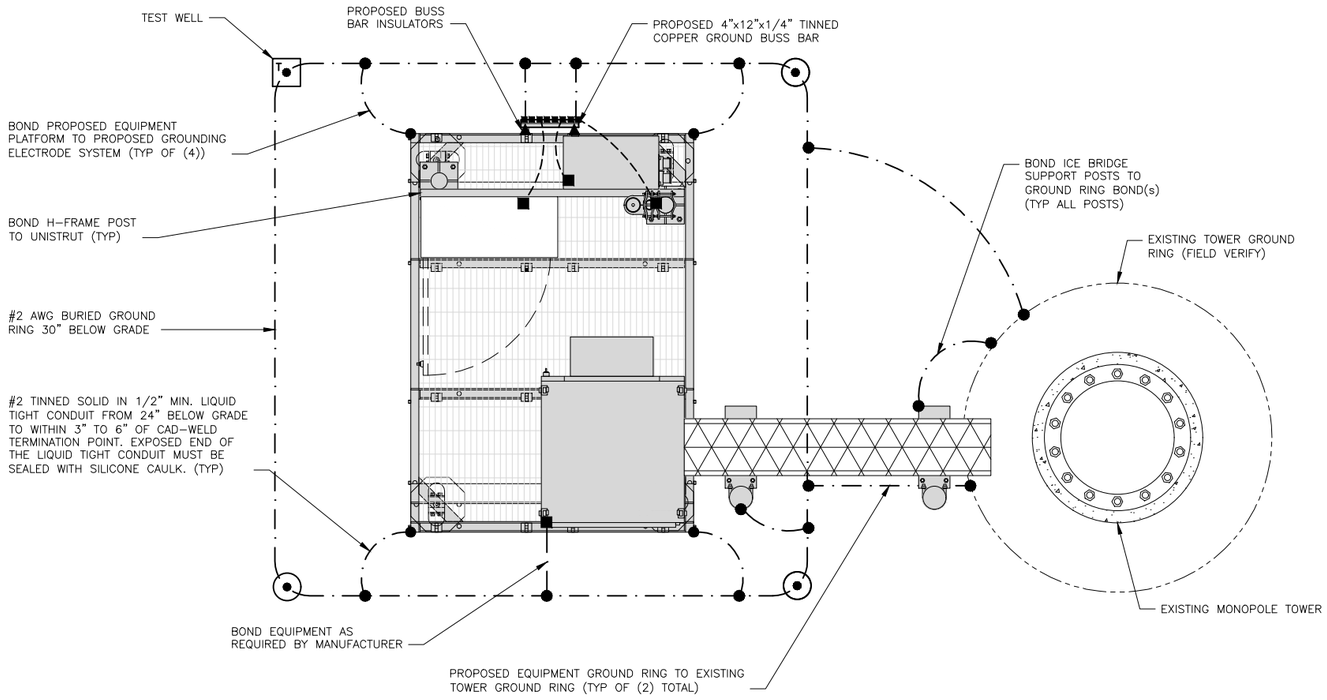
BOHVN00177A
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE

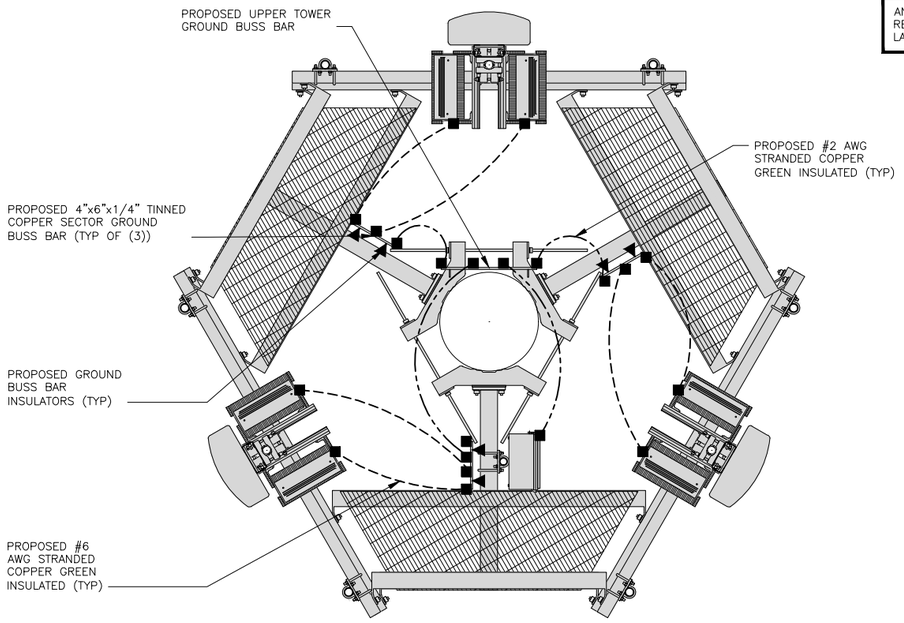
ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE

SHEET NUMBER

E-3



TYPICAL EQUIPMENT GROUNDING PLAN | NO SCALE | 1



TYPICAL ANTENNA GROUNDING PLAN | NO SCALE | 2

NOTES

ANTENNAS AND OVP SHOWN ARE GENERIC AND NOT REFERENCING TO A SPECIFIC MANUFACTURER. THIS LAYOUT IS FOR REFERENCE PURPOSES ONLY

- EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION
- GROUND BUS BAR
- GROUND ROD
- TEST GROUND ROD WITH INSPECTION SLEEVE
- #6 AWG STRANDED & INSULATED
- #2 AWG SOLID COPPER TINNED
- #2 AWG STRANDED & INSULATED
- BUSS BAR INSULATOR

GROUNDING LEGEND

1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. 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.
3. 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

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4/29/22

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PROJECT INFORMATION

BOHVN00177A
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE

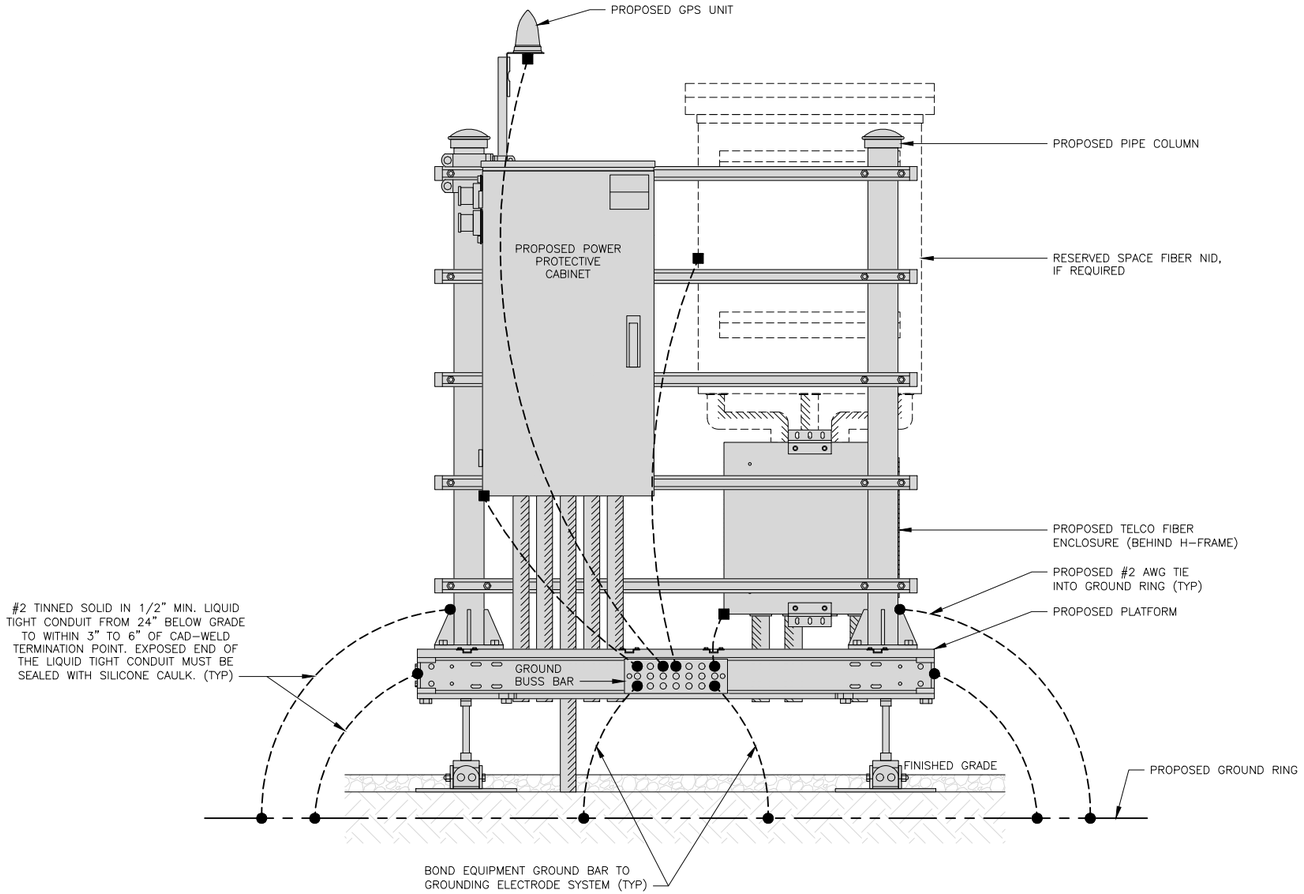
GROUNDING PLANS AND NOTES

SHEET NUMBER

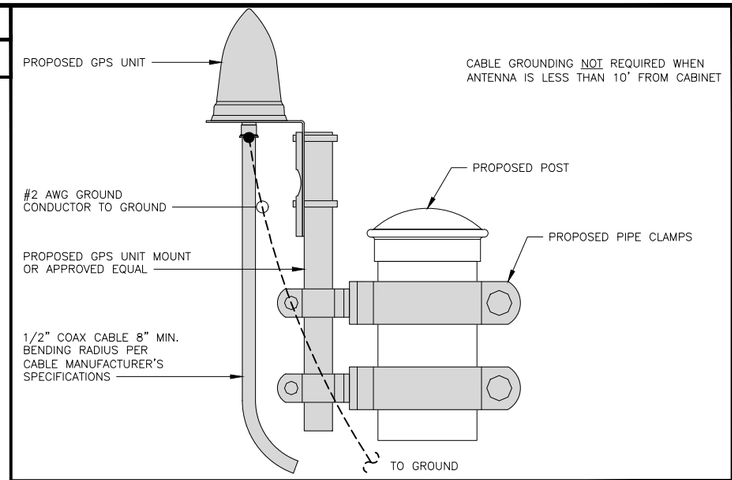
G-1

NOTES

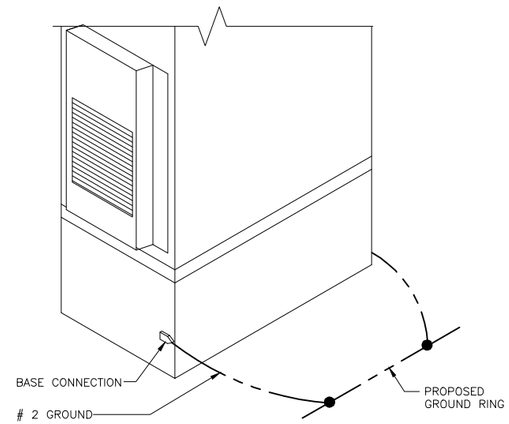
EQUIPMENT CABINET OMITTED FOR CLARITY



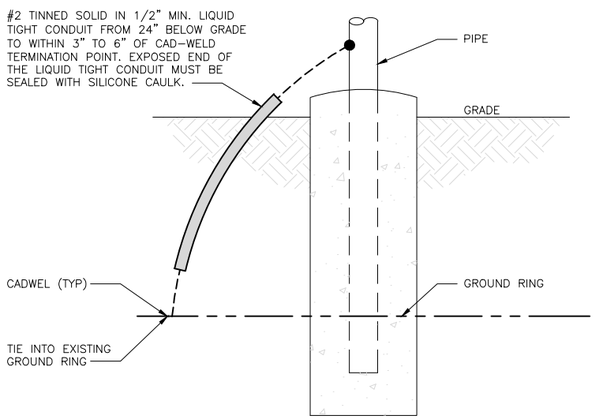
H-FRAME GROUNDING DETAIL | NO SCALE | 1



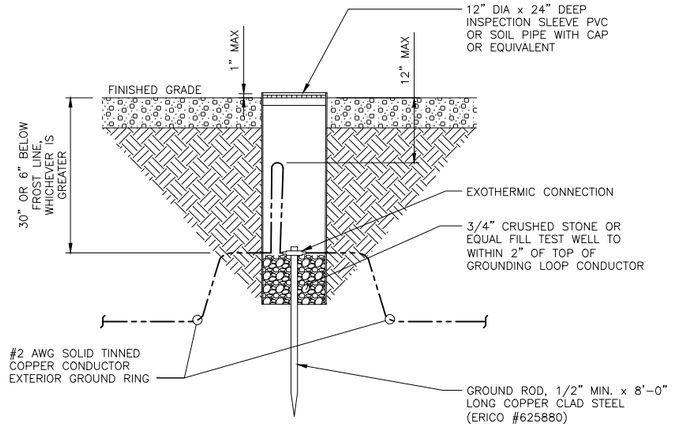
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



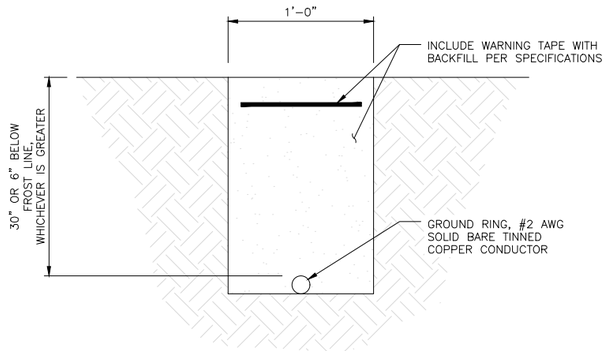
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE | NO SCALE | 5



TYPICAL GROUND RING TRENCH | NO SCALE | 6

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SHEET TITLE

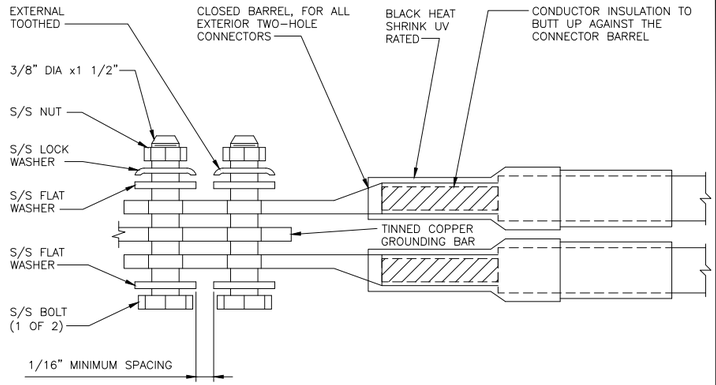
GROUNDING DETAILS

SHEET NUMBER

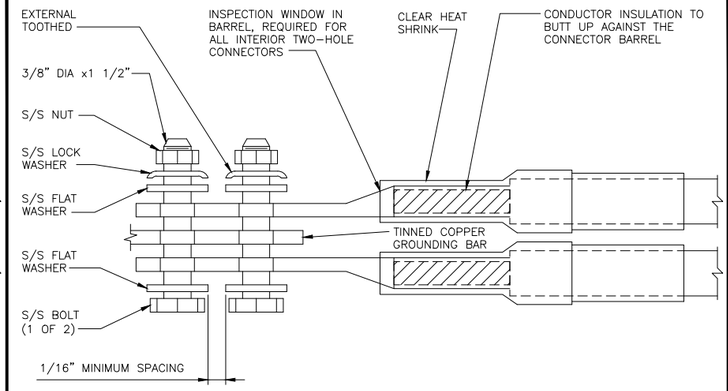
G-2

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).

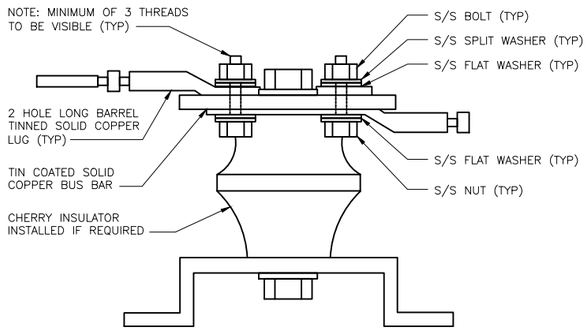
TYPICAL GROUNDING NOTES | NO SCALE | 1



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

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BEACON FALLS, CT 06403

SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

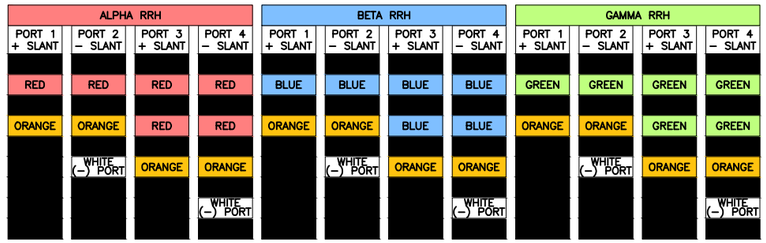
G-3

HYBRID/DISCREET CABLES

3/4" TAPE WIDTHS WITH 3/4" SPACING

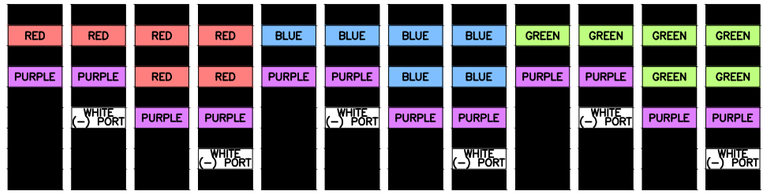
LOW-BAND RRH
(600 MHz N71 BASEBAND) +
(850 MHz N26 BAND) +
(700 MHz N29 BAND) – OPTIONAL PER MARKET

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BAND)



MID-BAND RRH
(AWS BANDS N66+N70)

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)



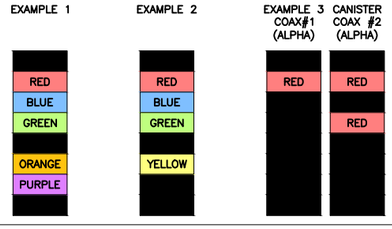
HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS.

EXAMPLE 1 – HYBRID, OR DISCREET, SUPPORTS ALL SECTORS, BOTH LOW-BANDS AND MID-BANDS.

EXAMPLE 2 – HYBRID, OR DISCREET, SUPPORTS CBRS ONLY, ALL SECTORS.

EXAMPLE 3 – MAIN COAX WITH GROUND MOUNTED RRHs.



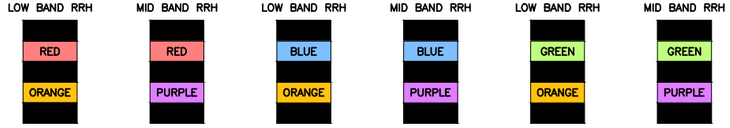
CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RD DETAILS. FINAL RFDS IS IN NEXSYSONE.

FIBER JUMPERS TO RRHs

LOW-BAND HHR FIBER CABLES HAVE SECTOR STRIPE ONLY.

POWER CABLES TO RRHs

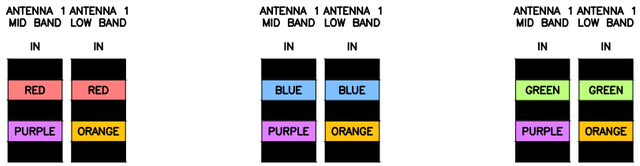
LOW-BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY



RET MOTORS AT ANTENNAS

RET CONTROL IS HANDLED BY THE MID-BAND RRH WHEN ONE SET OF RET PORTS EXIST ON ANTENNA.

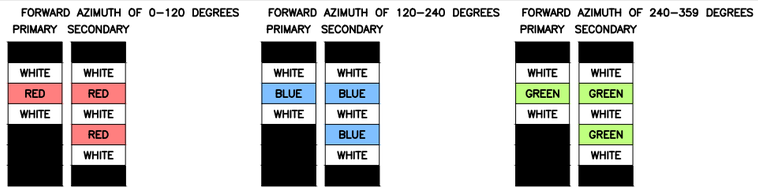
SEPARATE RET CABLES ARE USED WHEN ANTENNA PORTS PROVIDE INPUTS FOR BOTH LOW AND MID BANDS.



MICROWAVE RADIO LINKS

LINKS WILL HAVE A 1.5–2 INCH WHITE WRAP WITH THE AZIMUTH COLOR OVERLAPPING IN THE MIDDLE.
ADD ADDITIONAL SECTOR COLOR BANDS FOR EACH ADDITIONAL MW RADIO.

MICROWAVE CABLES WILL REQUIRE P-TOUCH LABELS INSIDE THE CABINET TO IDENTIFY THE LOCAL AND REMOTE SITE ID's.



LOW BANDS (N71+N26) OPTIONAL – (N29): ORANGE

AWS (N66+N70+H-BLOCK): PURPLE

CBRS TECH (3 GHz): YELLOW

NEGATIVE SLANT PORT ON ANT/RRH: WHITE

ALPHA SECTOR: RED

BETA SECTOR: BLUE

GAMMA SECTOR: GREEN

COLOR IDENTIFIER | NO SCALE | 2

NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4

RF CABLE COLOR CODES | NO SCALE | 1

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60 RICE LANE
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SHEET TITLE

RF
CABLE COLOR CODES

SHEET NUMBER

RF-1

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

W.P.

SECTION REFERENCE

XX
X–X

DETAIL REFERENCE

XX
X–X

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	UNITERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
WP	WEATHERPROOF
WT	WEIGHT

ABBREVIATIONS

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

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BOCA RATON, FL 33487

B+T GRP

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CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

4/29/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	MRE	RMC

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	3/30/22	ISSUED FOR REVIEW
0	4/29/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149539.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00177A
60 RICE LANE
BEACON FALLS, CT 06403

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 SIGH 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: _____

dish

THIS SIGN IS FOR REFERENCE PURPOSES ONLY

CAUTION

Transmitting Antenna(s)

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

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

Site ID: _____

dish

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RF SIGNAGE

dish wireless.
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60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-3

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH Wireless L.L.C. AND TOWER OWNER NOC & THE DISH Wireless L.L.C. AND TOWER OWNER CONSTRUCTION MANAGER.

2. "LOOK UP" – DISH Wireless L.L.C. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH Wireless L.L.C. AND DISH Wireless L.L.C. AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.

4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH Wireless L.L.C. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).

5. ALL SITE WORK TO COMPLY WITH DISH Wireless L.L.C. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH Wireless L.L.C. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."

6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH Wireless L.L.C. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.

10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.

11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.

12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH Wireless L.L.C. AND TOWER OWNER, AND/OR LOCAL UTILITIES.

14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.

15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.

16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.

18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1.FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH Wireless L.L.C.

TOWER OWNER:TOWER OWNER

2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.

3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.

4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.

5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.

6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.

12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER

13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

dish wireless.

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SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-3

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.

3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.

4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.

5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

- CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
- CONCRETE EXPOSED TO EARTH OR WEATHER:
- #6 BARS AND LARGER 2"
- #5 BARS AND SMALLER 1-1/2"
- CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
- SLAB AND WALLS 3/4"
- BEAMS AND COLUMNS 1-1/2"

7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.

2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.

3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.

4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.

4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.

4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.

5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.

6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).

7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.

8. TIE WRAPS ARE NOT ALLOWED.

9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.

12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).

14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.

18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.

20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.

21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).

22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).

23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.

25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.

29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.".

30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

dish wireless.

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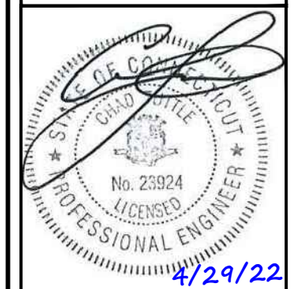

4/29/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	MRE	RMC

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	3/30/22	ISSUED FOR REVIEW
0	4/29/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149539.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00177A
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-4

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.

dish wireless.

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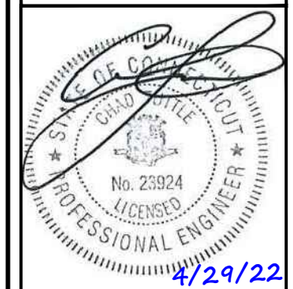

4/29/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

DRAWN BY:	CHECKED BY:	APPROVED BY:
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DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00177A
60 RICE LANE
BEACON FALLS, CT 06403

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 160 ft Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT02049-S

Customer Site Name: Beacon Falls

Carrier Name: Dish Wireless (App#: 197474, v1)

Carrier Site ID / Name: BOHVN00177A

Site Location: 60 Rice Lane

Beacon Falls, Connecticut

New Haven County

Latitude: 41.455689

Longitude: -73.039866

Analysis Result:

Max Structural Usage: 92.7% [Pass]

Max Foundation Usage: 72.0% [Pass]

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

Report Prepared by: Matthew Baker, PE

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

Structural Analysis Report

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Report Prepared by: Matthew Baker, PE

Introduction

The purpose of this report is to summarize the analysis results on the 160 ft Nudd Corporation 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	Nudd Project # 7342, dated 01/14/2000
Foundation Drawing	Nudd Project # 7342, dated 01/14/2000
Geotechnical Report	SEA Consultants Ref # 99339.02-A, dated 08/02/1999
Modification Drawings	O2 Wireless Solutions Job # 2230-022, dated 05/23/2002; FDH Project # 09-04232E S2, dated 01/03/2009; FDH Project # 12-04772E S3, dated 10/15/2013; TES Job # 20939 rev.3, dated 09/28/2016; TES Job# 80199, dated 04/30/2020
Mount Analysis	N/A

Analysis Criteria

The comprehensive analysis was performed in accordance with the requirements and stipulations of the TIA-222-H**.** 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:	125.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.198, S_1 = 0.054

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	165.0	1	Andrew - DB222 - Whip	Low Profile Platform	(1) 7/8"	BFFD
2	162.0	6	Andrew DB846F65ZAXY - Panel		(2) 1 5/8" Hybrid (17) 1 5/8"	Verizon
3		6	Andrew JAHH-65B-R3B - Panel			
4		3	Samsung VZS01 - Panel			
5		1	Commscope CBC78T-DS-43-2X - Diplexer			
6		3	Samsung B2/B66A RRH-BR049 - RRU			
7		3	Samsung Telecommunications B5/B13 RRH-BR04C - RRU			
8		1	Commscope FE-16148-OVP-B12 - OVP			
-	**152.0***	3	RFS - APXVSPP18-C-A20 - Panel	Low Profile Platform	(3) 1-1/4" (1) 1-1/4"	**Sprint***
-		3	ALU - 1900MHz - RRU			
-		3	ALU - 800MHz - Filter			
-		3	ALU - 800 MHz - RRU			
-		4	RFS - ACU-A20-N - RET			
-	**150.0***	3	RFS - APXVTM14-C-120 - Panel			
-		3	Alcatel Lucent - TD-RRH8x20-25 - RRU			
13	142.0	3	Ericsson KRY 112 144/1 TMA	Platform w/ HR & Bracing	(10) 1 5/8" (2) 1 5/8" Fiber (2) 1-1/4" Fiber	T-Mobile
14		3	Ericsson AIR 21 B2A/B4P - Panel			
15		4	Ericsson Air 32 KRD901146-1_B66A_B2A - Panel			
16		3	RFS APXVAARR24_43-U-NA20 - Panel			
17		1	RFS APXVAARR18_43-U-NA20 - Panel			
18		4	Ericsson Radio 4449 B71+B12 RRUs			
19		1	Ericsson Radio 4415 B66A RRUs			
20	133.0	3	Raycap DC6-48-60-18-8F Junction Box	T-Frames (3) SitePro 1 P/N RMV12-NP W/ (3) 2-1/2" (2.88" O.D.) Pipe Masts	(6) 1 1/4" (6) 1 5/8" (6) 3/4" DC Power** (2) 3/8" Fiber	AT&T
21		3	Kathrein 800 10121 - Panel			
22		3	Kathrein 800-10965 - Panel			
23		1	Cci TPA-65R-LCUUUU-H8 - Panel			
24		2	Quintel QS66512-2 - Panel			
25		6	Powerwave LGP21401 TMA			
26		3	Ericsson RRUS-32 RRU			
27		3	Ericsson B2/B66A 8843 RRU			
28		3	Ericsson B5/B12 4449 RRU			
29	115.0	1	DB222 - Whip	(1) 3 ft. Standoff	(1) 7/8"	BFFD
-	85.0	3	JMA Wireless MX08FRO665-21 - Panel	Platform w/ Handrail Commscope MC-PK8-DSH	(1) 1.411" Hybrid	Dish Wireless
-		3	Fujitsu TA08025-B605 - RRU			
-		3	Fujitsu TA08025-B604 - RRU			
-		1	Raycap RDIDC-9181-PF-48 - OVP			
30	40.0	1	GPS	Standoff	(1) 1/2"	Sprint

*Sprint has terminated and is to be removed, and was not considered in this analysis.
**(4) 3/4" DC inside 3" Conduit.

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
9	152.0	3	JMA Wireless - MX08FRO665-21 - Panel	Platform w/ Handrail (Commscope MC-PK8-DSH)	(1) 1.75" Hybrid	Dish Wireless
10		3	Fujitsu - TA08025-B605 - RRU			
11		3	Fujitsu - TA08025-B604 - RRU			
12		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	Flanges
Max. Usage:	**92.7%**	**65.9%**	**68.9%**	**88.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4187.7	35.3	77.9

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

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.4016 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the 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 80.10% at 96.0ft

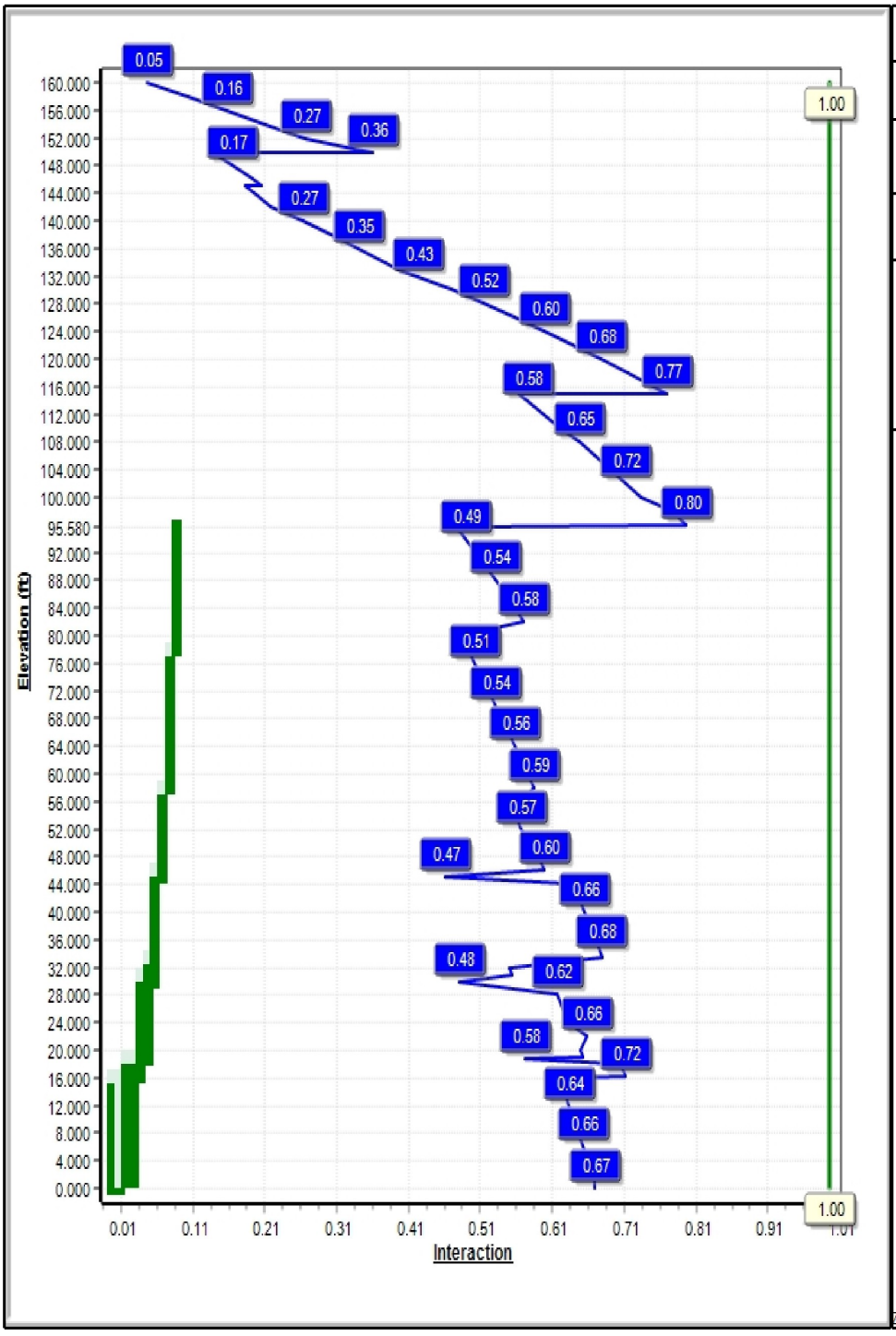
Structure:	CT02049-S-SBA	**Code:**	EIA/TIA-222-H	5/24/2022
Site Name:	Beacon Falls	**Exposure:**	B	
Height:	160.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

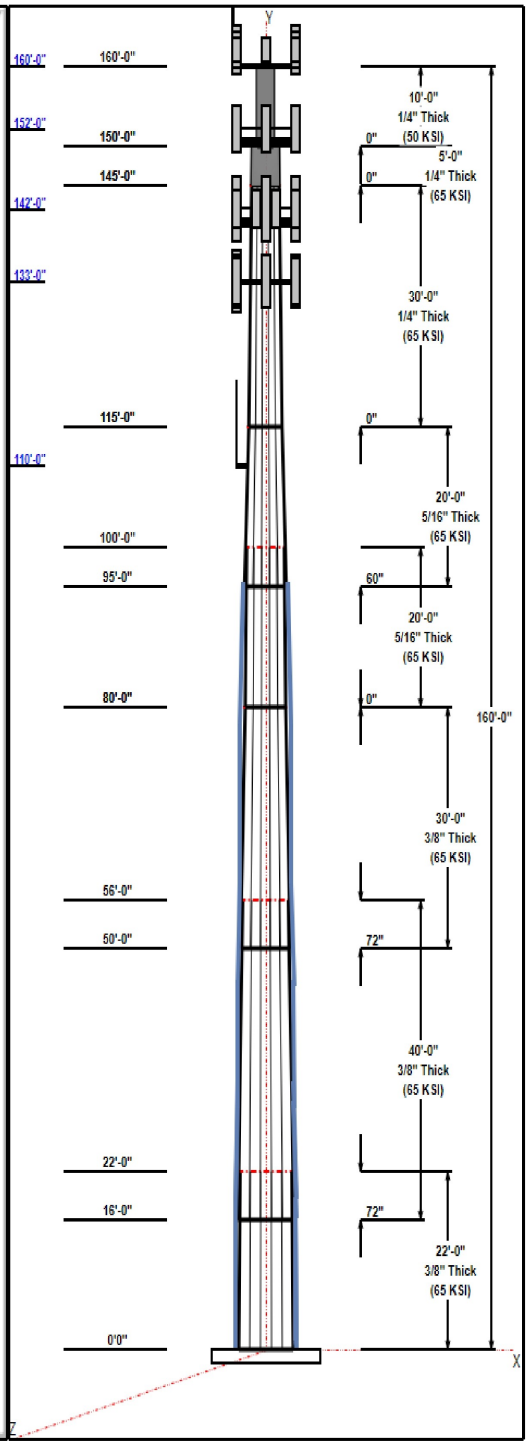
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.00

Load Case : 1.2D + 1.0W 125 mph Wind

Iterations: 27





Structure: CT02049-S-SBA

Type: Custom
Site Name: Beacon Falls
Height: 160.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.19400

5/24/2022

Tower Engineering Solutions

Shaft Properties

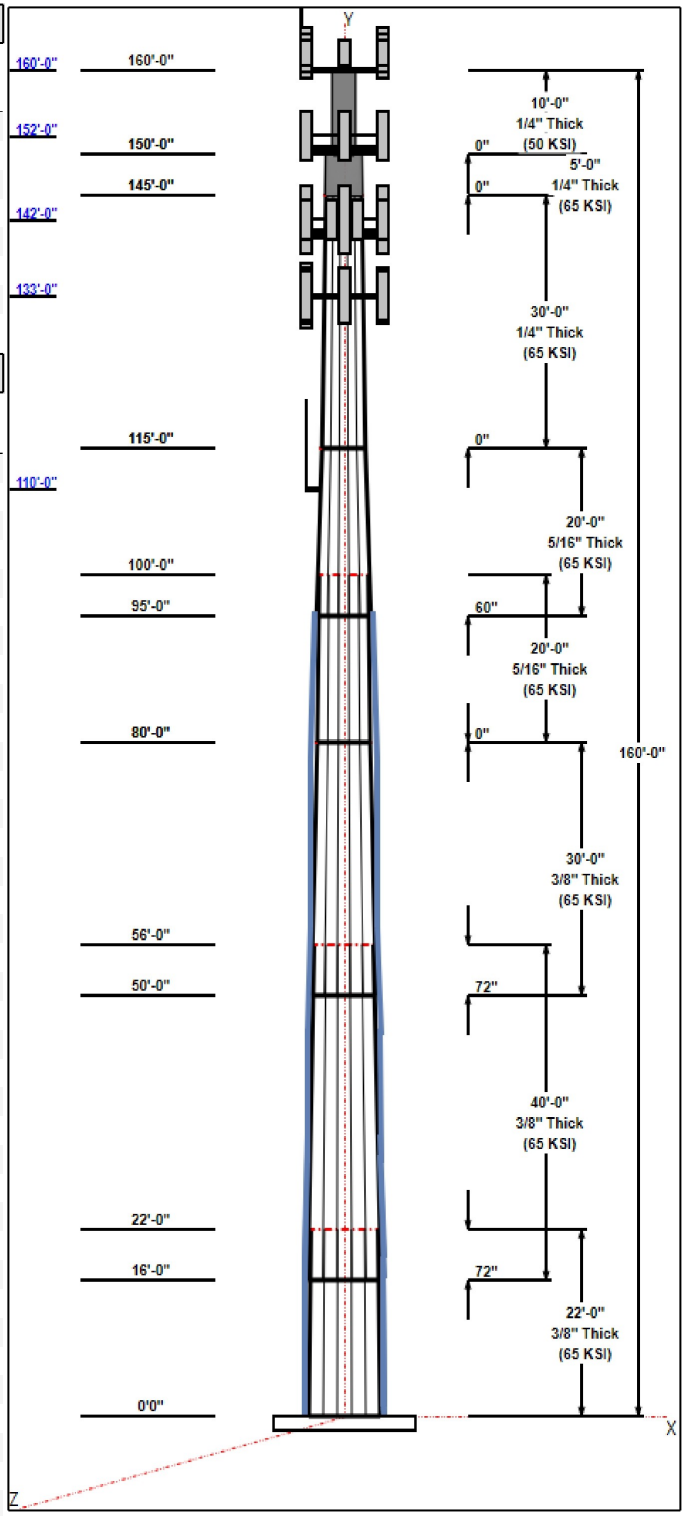
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	22.00	46.11	50.38	0.375		0.19400	65
2	40.00	40.26	48.02	0.375	Slip	0.19400	65
3	30.00	36.35	42.17	0.375	Slip	0.19400	65
4	20.00	32.48	36.35	0.313	Butt	0.19400	65
5	20.00	30.19	34.07	0.313	Slip	0.19400	65
6	30.00	24.38	30.19	0.250	Butt	0.19400	65
7	5.00	24.38	24.38	0.250	Butt	0.19400	65
8	10.00	16.00	16.00	0.250	Butt	0.00000	50

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
160.00	165.00	1	DB222	BFFD
160.00	162.00	6	DB846F65ZAXY	Verizon
160.00	162.00	1	Low Profile Platform	Verizon
160.00	163.00	1	6' Lightning rod	--
160.00	162.00	6	JAHH-65B-R3B	Verizon
160.00	162.00	3	VZS01	Verizon
160.00	162.00	1	CBC78T-DS-43	Verizon
160.00	162.00	3	B2/B66A RRH-BR049	Verizon
160.00	162.00	3	B5/B13 RRH-BR04C	Verizon
160.00	162.00	1	Commscope	Verizon
152.00	152.00	1	MC-PK8-DSH	Dish Wireless
152.00	152.00	3	MX08FRO665-21	Dish Wireless
152.00	152.00	3	TA08025-B605	Dish Wireless
152.00	152.00	3	TA08025-B604	Dish Wireless
152.00	152.00	1	RDIDC-9181-OF-48	Dish Wireless
142.00	142.00	1	Mod	T-Mobile
142.00	142.00	1	Platform w/ HR & Bracing	T-Mobile
142.00	142.00	4	KRD 9011461-B66A-B2A	T-Mobile
142.00	142.00	3	APXVAARR24_43-U-NA20	T-Mobile
142.00	142.00	1	APXVA18-43-C-A20	T-Mobile
142.00	142.00	3	KRY 112 144/1	T-Mobile
142.00	142.00	4	4449 B71 + B85	T-Mobile
142.00	142.00	1	4415	T-Mobile
142.00	142.00	3	AIR 21, 1.3M, B2A B4P	T-Mobile
133.00	133.00	3	Kathrein 800 10121	AT&T
133.00	133.00	3	Kathrein 800-10965	AT&T
133.00	133.00	1	Cci TPA-65R-LCUUUU-H8	AT&T
133.00	133.00	2	Quintel QS66512-2	AT&T
133.00	133.00	2	(3) SitePro 1 P/N	AT&T
133.00	133.00	6	Powerwave LGP21401	AT&T
133.00	133.00	3	Ericsson RRUS-32 RRU	AT&T
133.00	133.00	3	Ericsson B2/B66A 8843	AT&T
133.00	133.00	3	Ericsson B5/B12 4449	AT&T
133.00	133.00	3	Raycap DC6-48-60-18-8F	AT&T
110.00	115.29	1	DB222	BFFD
110.00	110.00	1	3 ft Standoff	BFFD
40.00	40.00	1	GPS	Sprint

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	160.00	Inside	1 5/8" Coax	Verizon



0.00	160.00	Outside	1 5/8" Hybrid	Verizon
0.00	160.00	Outside	7/8" Coax	BFFD
0.00	152.00	Outside	1.75" Hybrid	Dish Wireless
0.00	142.00	Inside	1 5/8" Coax	T-Mobile
0.00	142.00	Outside	1 5/8" Fiber	T-Mobile
0.00	142.00	Outside	1-1/4" Fiber	T-Mobile
0.00	133.00	Inside	1 1/4" Coax	AT&T
0.00	133.00	Inside	1 5/8" Coax	AT&T
0.00	133.00	Inside	3/4" DC Power	AT&T
0.00	133.00	Inside	3/8" Fiber	AT&T
0.00	110.00	Outside	7/8" Coax	BFFD
28.00	98.00	Outside	1.25" Reinforcing plate	
0.00	40.00	Inside	1/2" Coax	Sprint
0.00	32.00	Outside	1" Reinforcing plate	
0.00	32.00	Outside	C10x15.3	

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
18	2.00" F1554 105	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	63.0	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 125 mph Wind	4186.7	35.3	77.5
0.9D + 1.0W 125 mph Wind	4127.1	35.3	58.1
1.2D + 1.0Di + 1.0Wi 50 mph Wind	939.2	7.6	99.2
1.2D + 1.0Ev + 1.0Eh	77.0	0.5	80.5
0.9D + 1.0Ev + 1.0Eh	76.8	0.5	60.8
1.0D + 1.0W 60 mph Wind	856.3	7.3	64.6

Structure: CT02049-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Beacon Falls
Height: 160.00 (ft)

5/24/2022

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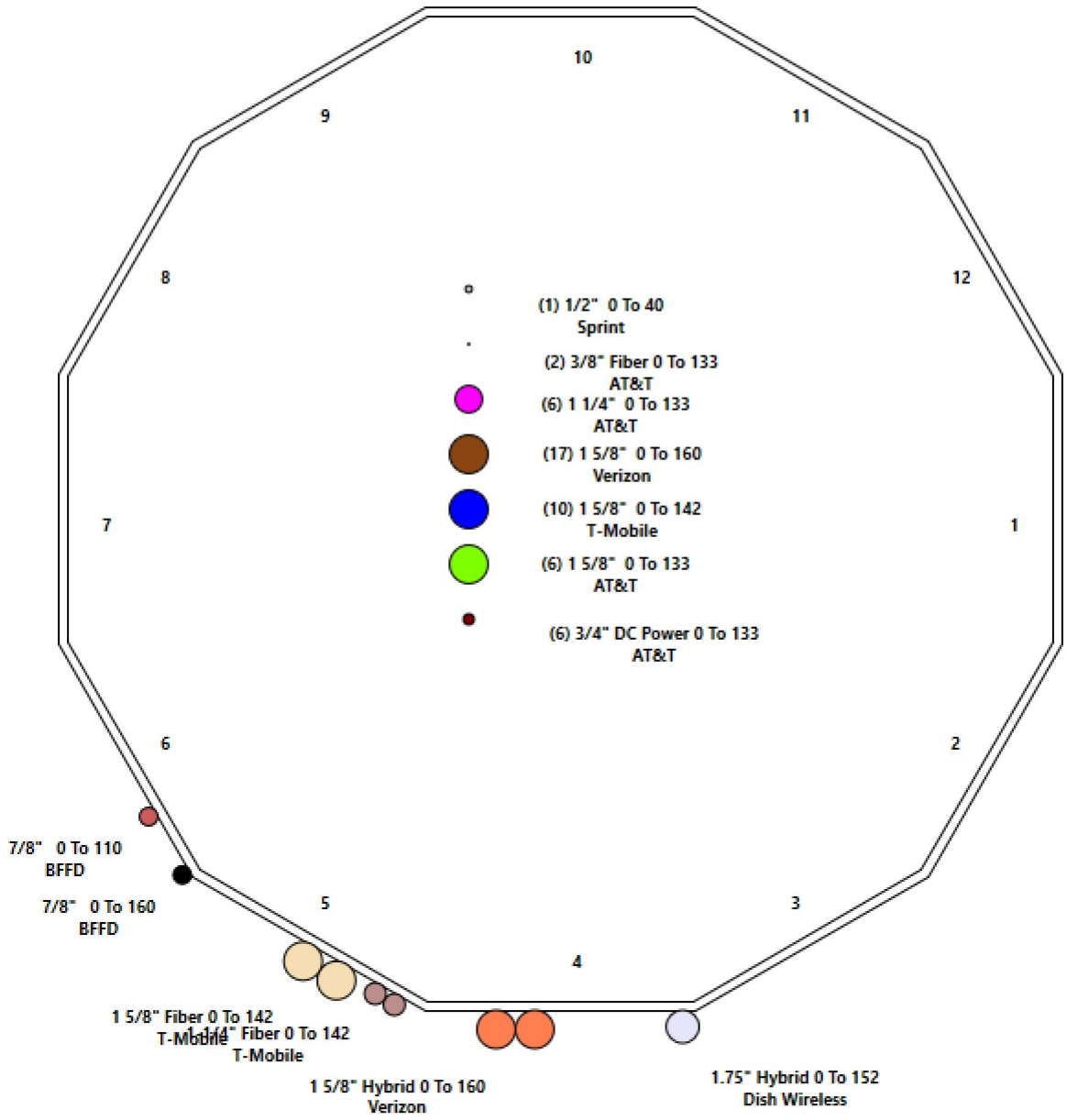

Shaft Properties

Structure:	CT02049-S-SBA		**Code:**	TIA-222-H	5/24/2022
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (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

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	12	22.000	0.3750	65		0.00	4,327
2	12	40.000	0.3750	65	Slip	72.00	7,193
3	12	30.000	0.3750	65	Slip	72.00	4,794
4	12	20.000	0.3125	65	Flange	0.00	2,335
5	12	20.000	0.3125	65	Slip	60.00	2,179
6	12	30.000	0.2500	65	Flange	0.00	2,221
7	R	5.000	0.2500	65	Flange	0.00	316
8	R	10.000	0.2500	50	Flange	0.00	421
					Total Shaft Weight:		**23,786**

	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	50.38	0.00	60.38	19265.63	33.85	134.33	46.11	22.00	55.22	14741.2	30.80	122.9	0.194000
2	48.02	16.00	57.53	16670.65	32.17	128.06	40.26	56.00	48.16	9779.90	26.62	107.3	0.194000
3	42.17	50.00	50.47	11256.46	27.99	112.47	36.35	80.00	43.45	7178.88	23.83	96.95	0.194000
4	36.35	80.00	36.27	6013.63	29.03	116.34	32.48	100.00	32.36	4273.08	25.70	103.9	0.194000
5	34.07	95.00	33.97	4940.86	27.07	109.02	30.19	115.00	30.06	3425.51	23.74	96.61	0.194000
6	30.19	115.0	24.10	2757.64	30.21	120.76	24.38	145.00	19.42	1441.83	23.98	97.50	0.194000
7	24.38	145.0	18.95	1379.54	0.00	97.50	24.38	150.00	18.19	1219.74	0.00	97.50	0.194000
8	16.00	150.0	12.37	383.86	0.00	64.00	16.00	160.00	12.37	383.86	0.00	64.00	0.000000

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors: Description	Intermediate Connectors: Spacing (in)	Termination Connectors: Description	Termination Connectors: Spacing (in)	Termination Connectors: Lower Qty	Termination Connectors: Upper Qty
0.00	16.25	3	PLT C10x30(1.5" Hole)	65	80	0.00	AJM20&sleeve	20.00	AJM20&sleeve	3.00		
0.00	1.00	3	SOL 2 1/4" William R71	128	150	5.62	5/8" Hollo Bolt	12.00	5/8" Hollo Bolt	3.00		
1.00	18.88	2	LNP LP6X100-BW-20T	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		9
1.00	18.88	1	LNP LP6x100-B2-20T	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		9
16.25	31.00	3	PLT C10x15.3(1.5" Hole)	65	80	0.00	AJM20&sleeve	20.00	AJM20&sleeve	3.00		
18.63	33.38	3	LNP LP6X100-G-20TT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	10	10
30.00	46.00	3	PLT 6"X1-1/4"(1.25" Hole	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00	8	8
45.16	58.00	3	PLT 7" x 1.25"(1.25"Hole	65	80	0.00	AJM20&sleeve	12.00	AJM20&sleeve	3.00	13	
58.00	78.00	3	PLT 5.5"x1 1/4"(1.25"hol	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		
78.00	95.58	3	PLT 5.5"x1 1/4"(1.25"hol	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		10

Load Summary

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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	

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Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	160.00	DB222	1	16.00	2.25	1.00	62.50	6.317	1.00	0.00	5.00
2	160.00	DB846F65ZAXY	6	21.00	7.05	0.93	145.05	7.851	0.93	0.00	2.00
3	160.00	Low Profile Platform	1	1200.00	22.00	1.00	1902.61	33.851	1.00	0.00	2.00
4	160.00	6' Lightning rod	1	6.50	0.38	1.00	30.86	1.110	1.00	0.00	3.00
5	160.00	JAHH-65B-R3B	6	54.00	9.11	0.83	168.75	7.426	0.83	0.00	2.00
6	160.00	VZS01	3	87.10	4.30	0.69	161.90	5.322	0.69	0.00	2.00
7	160.00	CBC78T-DS-43	1	20.70	0.37	1.00	38.29	0.546	1.00	0.00	2.00
8	160.00	B2/B66A RRH-BR049	3	70.00	1.87	0.67	112.71	2.243	0.67	0.00	2.00
9	160.00	B5/B13 RRH-BR04C (RFV01U-D2A)	3	84.40	1.87	0.67	131.77	2.243	0.67	0.00	2.00
10	160.00	Commscope FE-16148-OVP-B12 -	1	15.00	2.51	1.00	57.39	2.235	1.00	0.00	2.00
11	152.00	MC-PK8-DSH	1	1727.00	37.59	1.00	2853.71	69.121	1.00	0.00	0.00
12	152.00	MX08FRO665-21	3	64.50	12.49	0.74	258.67	13.468	0.74	0.00	0.00
13	152.00	TA08025-B605	3	75.00	1.96	0.67	109.92	2.334	0.67	0.00	0.00
14	152.00	TA08025-B604	3	63.90	1.96	0.67	97.70	2.334	0.67	0.00	0.00
15	152.00	RDIDC-9181-OF-48	1	21.90	2.01	0.50	57.45	2.389	0.50	0.00	0.00
16	142.00	Mod	1	300.00	12.00	1.00	577.71	20.331	1.00	0.00	0.00
17	142.00	Platform w/ HR & Bracing	1	2246.00	52.00	1.00	4325.11	77.512	1.00	0.00	0.00
18	142.00	KRD 9011461-B66A-B2A	4	132.20	6.51	0.87	438.14	8.017	0.89	0.00	0.00
19	142.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	424.22	24.924	0.72	0.00	0.00
20	142.00	APXVA18-43-C-A20	1	45.40	9.65	0.82	202.26	10.525	0.84	0.00	0.00
21	142.00	KRY 112 144/1	3	11.00	0.41	0.50	18.15	0.725	0.50	0.00	0.00
22	142.00	4449 B71 + B85	4	73.20	1.97	0.67	111.48	2.348	0.67	0.00	0.00
23	142.00	4415	1	44.10	1.86	0.67	75.55	2.240	0.67	0.00	0.00
24	142.00	AIR 21, 1.3M, B2A B4P	3	91.50	6.09	0.86	303.25	7.499	0.88	0.00	0.00
25	133.00	Kathrein 800 10121	3	46.30	5.15	0.79	121.96	6.538	0.79	0.00	0.00
26	133.00	Kathrein 800-10965	3	108.60	13.81	0.71	295.10	14.836	0.71	0.00	0.00
27	133.00	Cci TPA-65R-LCUUUU-H8	1	105.00	12.75	0.79	280.26	13.784	0.79	0.00	0.00
28	133.00	Quintel QS66512-2	2	111.00	8.13	0.92	251.89	8.966	0.92	0.00	0.00
29	133.00	(3) SitePro 1 P/N RMV12-NP W/3	2	1357.77	21.34	0.75	2231.84	39.003	0.75	0.00	0.00
30	133.00	Powerwave LGP21401 TMA	6	14.10	1.29	0.67	30.57	1.841	0.67	0.00	0.00
31	133.00	Ericsson RRUS-32 RRU	3	77.00	3.87	0.67	146.63	3.822	0.67	0.00	0.00
32	133.00	Ericsson B2/B66A 8843 RRU	3	72.00	1.64	0.67	102.86	1.967	0.67	0.00	0.00
33	133.00	Ericsson B5/B12 4449 RRU	3	71.00	1.97	0.67	106.16	2.330	0.67	0.00	0.00
34	133.00	Raycap DC6-48-60-18-8F Junction	3	31.80	0.92	0.67	72.52	1.208	0.67	0.00	0.00
35	110.00	DB222	1	16.00	2.65	1.00	60.79	7.264	1.00	0.00	5.29
36	110.00	3 ft Standoff	1	40.00	2.63	1.00	91.89	6.488	1.00	0.00	0.00
37	40.00	GPS	1	10.00	1.00	1.00	27.13	1.416	1.00	0.00	0.00
		Totals:	**90**	**13,353.64**			**27,266.28**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	160.00	(17) 1 5/8" Coax	0.00	Inside
0.00	160.00	(2) 1 5/8" Hybrid	2.00	Outside
0.00	160.00	(1) 7/8" Coax	0.00	Outside
0.00	152.00	(1) 1.75" Hybrid	0.00	Outside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
0.00	142.00	(10) 1 5/8" Coax			0.00	Inside					
0.00	142.00	(2) 1 5/8" Fiber			0.00	Outside					
0.00	142.00	(2) 1-1/4" Fiber			0.00	Outside					
0.00	133.00	(6) 1 1/4" Coax			0.00	Inside					
0.00	133.00	(6) 1 5/8" Coax			0.00	Inside					
0.00	133.00	(6) 3/4" DC Power			0.00	Inside					
0.00	133.00	(2) 3/8" Fiber			0.00	Inside					
0.00	110.00	(1) 7/8" Coax			0.00	Outside					
28.00	98.00	(3) 1.25" Reinforcing plate			1.25	Outside					
0.00	40.00	(1) 1/2" Coax			0.00	Inside					
0.00	32.00	(3) 1" Reinforcing plate			1.00	Outside					
0.00	32.00	(3) C10x15.3			2.60	Outside					

Shaft Section Properties

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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	

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Increment Length: **2 (ft)**

											Additional Reinforcing			
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)	Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00	RB1 RB2	0.3750	50.375	60.375	19265.6	33.85	134.33	65	68	0.0	38.70	17446.6	13285.7	
1.00	RT2 RB3 RB4	0.3750	50.181	60.141	19042.2	33.71	133.82	65	68	205.0	44.46	16928.4	13002.7	151.2
2.00		0.3750	49.987	59.906	18820.6	33.57	133.30	65	68	204.2	44.46	16802.1	12906.2	151.2
4.00		0.3750	49.599	59.438	18382.5	33.30	132.26	65	68	406.1	44.46	16551.1	12714.2	302.5
6.00		0.3750	49.211	58.969	17951.2	33.02	131.23	65	69	402.9	44.46	16301.9	12523.7	302.5
8.00		0.3750	48.823	58.501	17526.7	32.74	130.19	65	69	399.7	44.46	16054.6	12334.6	302.5
10.00		0.3750	48.435	58.032	17109.0	32.46	129.16	65	69	396.5	44.46	15809.2	12147.0	302.5
12.00		0.3750	48.047	57.564	16698.0	32.19	128.13	65	70	393.3	44.46	15565.7	11960.8	302.5
14.00		0.3750	47.659	57.095	16293.5	31.91	127.09	65	70	390.2	44.46	15324.1	11776.1	302.5
16.00	Bot - Section 2	0.3750	47.271	56.627	15895.7	31.63	126.06	65	70	387.0	44.46	15084.3	11592.8	302.5
16.25	RT1 RB5	0.3750	47.222	56.568	15846.5	31.60	125.93	65	70	97.1	31.47	11629.5	8035.3	26.8
18.00		0.3750	46.883	56.158	15504.4	31.36	125.02	65	71	676.7	31.47	11472.0	7927.5	187.5
18.63	RB6	0.3750	46.761	56.011	15382.5	31.27	124.70	65	71	242.4	49.47	16750.0	13223.8	106.1
18.88	RT3 RT4	0.3750	46.712	55.952	15334.3	31.23	124.57	65	71	96.0	31.47	9686.5	9686.5	26.8
20.00		0.3750	46.495	55.690	15119.6	31.08	123.99	65	71	428.9	31.47	9602.0	9602.0	120.0
22.00	Top - Section 1	0.3750	46.857	56.127	15478.5	31.34	124.95	65	71	761.0	31.47	9452.1	9452.1	214.3
24.00		0.3750	46.469	55.659	15094.1	31.06	123.92	65	71	380.4	31.47	9303.4	9303.4	214.3
26.00		0.3750	46.081	55.190	14716.1	30.78	122.88	65	71	377.2	31.47	9155.8	9155.8	214.3
28.00		0.3750	45.693	54.721	14344.5	30.51	121.85	65	71	374.0	31.47	9009.5	9009.5	214.3
30.00	RB7	0.3750	45.305	54.253	13979.2	30.23	120.81	65	72	370.8	53.97	14995.2	14995.2	367.4
31.00	RT5	0.3750	45.111	54.019	13798.9	30.09	120.30	65	72	184.2	40.50	10892.0	10892.0	137.8
32.00		0.3750	44.917	53.784	13620.2	29.95	119.78	65	72	183.4	40.50	10801.3	10801.3	137.8
33.38	RT6	0.3750	44.649	53.461	13376.0	29.76	119.06	65	72	251.8	22.50	5960.4	5960.4	105.7
34.00		0.3750	44.529	53.316	13267.3	29.67	118.74	65	72	112.6	22.50	5929.4	5929.4	47.5
36.00		0.3750	44.141	52.847	12920.6	29.40	117.71	65	73	361.3	22.50	5829.9	5829.9	153.1
38.00		0.3750	43.753	52.379	12580.0	29.12	116.67	65	73	358.1	22.50	5731.3	5731.3	153.1
40.00		0.3750	43.365	51.910	12245.5	28.84	115.64	65	73	354.9	22.50	5633.5	5633.5	153.1
42.00		0.3750	42.977	51.442	11916.9	28.56	114.61	65	74	351.7	22.50	5536.5	5536.5	153.1
44.00		0.3750	42.589	50.973	11594.2	28.29	113.57	65	74	348.5	22.50	5440.4	5440.4	153.1
45.16	RB8	0.3750	42.364	50.702	11409.8	28.13	112.97	65	74	200.7	48.75	11681.9	11681.9	192.4
46.00	RT7	0.3750	42.201	50.505	11277.5	28.01	112.54	65	74	144.6	26.25	6250.3	6250.3	75.0
48.00		0.3750	41.813	50.036	10966.5	27.73	111.50	65	74	342.1	26.25	6140.1	6140.1	178.6
50.00	Bot - Section 3	0.3750	41.425	49.568	10661.4	27.46	110.47	65	75	338.9	26.25	6031.0	6031.0	178.6
52.00		0.3750	41.037	49.099	10361.9	27.18	109.43	65	75	677.6	26.25	6132.8	6132.8	178.6
54.00		0.3750	40.649	48.631	10068.1	26.90	108.40	65	75	671.3	26.25	6023.7	6023.7	178.6
56.00	Top - Section 2	0.3750	41.011	49.068	10342.0	27.16	109.36	65	75	664.9	26.25	5915.6	5915.6	178.6
58.00	RT8 RB9	0.3750	40.623	48.599	10048.6	26.88	108.33	65	75	332.3	20.63	4547.7	4547.7	140.4
60.00		0.3750	40.235	48.131	9760.8	26.61	107.29	65	76	329.2	20.63	4464.3	4464.3	140.4
62.00		0.3750	39.847	47.662	9478.5	26.33	106.26	65	76	326.0	20.63	4381.7	4381.7	140.4
64.00		0.3750	39.459	47.194	9201.7	26.05	105.22	65	76	322.8	20.63	4299.9	4299.9	140.4
66.00		0.3750	39.071	46.725	8930.4	25.77	104.19	65	77	319.6	20.63	4218.8	4218.8	140.4
68.00		0.3750	38.683	46.257	8664.5	25.50	103.15	65	77	316.4	20.63	4138.5	4138.5	140.4
70.00		0.3750	38.295	45.788	8403.8	25.22	102.12	65	77	313.2	20.63	4059.0	4059.0	140.4
72.00		0.3750	37.907	45.320	8148.5	24.94	101.09	65	78	310.0	20.63	3980.3	3980.3	140.4
74.00		0.3750	37.519	44.851	7898.4	24.66	100.05	65	78	306.8	20.63	3902.4	3902.4	140.4
76.00		0.3750	37.131	44.383	7653.5	24.39	99.02	65	78	303.6	20.63	3825.2	3825.2	140.4
78.00	RT9 RB10	0.3750	36.743	43.914	7413.6	24.11	97.98	65	78	300.5	20.63	3748.8	3748.8	140.4
80.00	Top - Section 3	0.3750	36.355	43.446	7178.9	23.83	96.95	65	79	297.3	20.63	3673.2	3673.2	140.4
80.00	Bot - Section 4	0.3125	36.355	36.268	6013.6	28.60	116.34	65	73					
82.00		0.3125	35.967	35.877	5821.5	28.70	115.09	65	73	245.5	20.63	3598.3	3598.3	140.4

Increment Length: **2 (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)
84.00		0.3125	35.579	35.487	5633.5	28.36	113.85	65	74	242.8	20.63	3524.2	3524.2	140.4
86.00		0.3125	35.191	35.096	5449.6	28.03	112.61	65	74	240.2	20.63	3451.0	3451.0	140.4
88.00		0.3125	34.803	34.706	5269.8	27.70	111.37	65	75	237.5	20.63	3378.4	3378.4	140.4
90.00		0.3125	34.415	34.316	5093.9	27.37	110.13	65	75	234.9	20.63	3306.7	3306.7	140.4
92.00		0.3125	34.027	33.925	4922.0	27.03	108.89	65	75	232.2	20.63	3235.7	3235.7	140.4
94.00		0.3125	33.639	33.535	4754.0	26.70	107.64	65	76	229.6	20.63	3165.5	3165.5	140.4
95.00	Bot - Section 5	0.3125	33.445	33.340	4671.5	26.53	107.02	65	76	113.8	20.63	3130.7	3130.7	70.2
95.58	RT10	0.3125	33.332	33.226	4624.0	26.44	106.66	65	76	132.6	20.63	3223.1	3223.1	40.7
96.00		0.3125	33.251	33.144	4589.9	26.37	106.40	65	76	95.8				
98.00		0.3125	32.863	32.754	4429.6	26.03	105.16	65	76	452.8				
100.00	Top - Section 4	0.3125	33.100	32.992	4527.1	26.24	105.92	65	76	447.4				
102.00		0.3125	32.712	32.602	4368.2	25.90	104.68	65	76	223.2				
104.00		0.3125	32.324	32.212	4213.2	25.57	103.44	65	77	220.5				
106.00		0.3125	31.936	31.821	4061.8	25.24	102.20	65	77	217.9				
108.00		0.3125	31.548	31.431	3914.1	24.91	100.95	65	78	215.2				
110.00		0.3125	31.160	31.040	3770.1	24.57	99.71	65	78	212.6				
112.00		0.3125	30.772	30.650	3629.6	24.24	98.47	65	78	209.9				
114.00		0.3125	30.384	30.259	3492.7	23.91	97.23	65	79	207.3				
115.00	Top - Section 5	0.3125	30.190	30.064	3425.5	23.74	96.61	65	79	102.6				
115.00	Bot - Section 6	0.2500	30.190	24.102	2757.6	29.68	120.76	65	72					
116.00		0.2500	29.996	23.946	2704.4	30.01	119.98	65	72	81.7				
118.00		0.2500	29.608	23.633	2599.9	29.59	118.43	65	72	161.9				
120.00		0.2500	29.220	23.321	2498.2	29.17	116.88	65	73	159.8				
122.00		0.2500	28.832	23.009	2399.2	28.76	115.33	65	73	157.6				
124.00		0.2500	28.444	22.696	2302.8	28.34	113.78	65	74	155.5				
126.00		0.2500	28.056	22.384	2209.0	27.93	112.22	65	74	153.4				
128.00		0.2500	27.668	22.071	2117.8	27.51	110.67	65	75	151.3				
130.00		0.2500	27.280	21.759	2029.2	27.10	109.12	65	75	149.1				
132.00		0.2500	26.892	21.447	1943.0	26.68	107.57	65	76	147.0				
133.00		0.2500	26.698	21.291	1900.9	26.47	106.79	65	76	72.7				
134.00		0.2500	26.504	21.134	1859.4	26.26	106.02	65	76	72.2				
136.00		0.2500	26.116	20.822	1778.2	25.85	104.46	65	77	142.8				
138.00		0.2500	25.728	20.510	1699.3	25.43	102.91	65	77	140.6				
140.00		0.2500	25.340	20.197	1622.9	25.02	101.36	65	77	138.5				
142.00		0.2500	24.952	19.885	1548.7	24.60	99.81	65	78	136.4				
144.00		0.2500	24.564	19.573	1476.9	24.18	98.26	65	78	134.3				
145.00	Top - Section 6	0.2500	24.370	19.417	1441.8	23.98	97.48	65	79	66.3				
145.00	Bot - Section 7	0.2500	24.375	18.948	1379.5	23.98	97.48	65	55					
146.00		0.2500	24.181	18.795	1346.5	0.00	96.72	65	55	64.2				
148.00		0.2500	23.793	18.491	1282.1	0.00	95.17	65	55	126.9				
150.00	Top - Section 7	0.2500	23.405	18.186	1219.7	0.00	93.62	65	55	124.8				
150.00	Bot - Section 8	0.2500	16.000	12.370	383.9	0.00	93.62	50	50					
152.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	84.2				
154.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	84.2				
156.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	84.2				
158.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	84.2				
160.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	84.2				
									Total Weight	**23786.1**				**9244.5**

Wind Loading - Shaft

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

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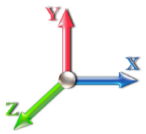
Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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	RB1 RB2	1.00	0.70	26.005	28.61	449.40	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT2 RB3 RB4	1.00	0.70	26.005	28.61	447.67	0.972 *	0.000	1.00	4.338	4.21	120.6	0.0	246.1
2.00		1.00	0.70	26.005	28.61	445.94	0.973 *	0.000	1.00	4.321	4.20	120.2	0.0	245.1
4.00		1.00	0.70	26.005	28.61	442.48	0.975 *	0.000	2.00	8.592	8.37	239.5	0.0	487.3
6.00		1.00	0.70	26.005	28.61	439.02	0.977 *	0.000	2.00	8.525	8.33	238.2	0.0	483.5
8.00		1.00	0.70	26.005	28.61	435.56	0.980 *	0.000	2.00	8.458	8.28	237.0	0.0	479.7
10.00		1.00	0.70	26.005	28.61	432.09	0.982 *	0.000	2.00	8.391	8.24	235.7	0.0	475.8
12.00		1.00	0.70	26.005	28.61	428.63	0.985 *	0.000	2.00	8.324	8.20	234.4	0.0	472.0
14.00		1.00	0.70	26.005	28.61	425.17	0.987 *	0.000	2.00	8.257	8.15	233.2	0.0	468.2
16.00	Bot - Section 2	1.00	0.70	26.005	28.61	421.71	0.990 *	0.000	2.00	8.190	8.11	231.9	0.0	464.4
16.25	RT1 RB5	1.00	0.70	26.005	28.61	421.28	0.991 *	0.000	0.25	1.035	1.03	29.4	0.0	116.5
18.00		1.00	0.70	26.005	28.61	418.25	0.993 *	0.000	1.75	7.217	7.16	204.9	0.0	812.0
18.63	RB6	1.00	0.70	26.005	28.61	417.16	0.994 *	0.000	0.63	2.586	2.57	73.5	0.0	290.9
18.88	RT3 RT4	1.00	0.70	26.005	28.61	416.73	0.995 *	0.000	0.25	1.024	1.02	29.1	0.0	115.2
20.00		1.00	0.70	26.005	28.61	414.79	0.996 *	0.000	1.12	4.576	4.56	130.3	0.0	514.7
22.00	Top - Section 1	1.00	0.70	26.005	28.61	411.33	0.998 *	0.000	2.00	8.118	8.10	231.8	0.0	913.2
24.00		1.00	0.70	26.005	28.61	414.56	0.995 *	0.000	2.00	8.052	8.01	229.2	0.0	456.5
26.00		1.00	0.70	26.005	28.61	411.09	0.998 *	0.000	2.00	7.985	7.97	228.0	0.0	452.6
28.00		1.00	0.70	26.005	28.61	407.63	1.001 *	0.000	2.00	7.918	7.93	226.7	0.0	448.8
30.00	RB7	1.00	0.70	26.027	28.63	404.34	1.079 *	0.000	2.00	7.851	8.47	242.6	0.0	445.0
31.00	RT5	1.00	0.71	26.272	28.90	404.50	1.082 *	0.000	1.00	3.900	4.22	122.0	0.0	221.1
32.00		1.00	0.71	26.511	29.16	404.59	1.084 *	0.000	1.00	3.883	4.21	122.8	0.0	220.1
33.38	RT6	1.00	0.72	26.833	29.52	404.61	0.950	0.000	1.38	5.332	5.07	149.5	0.0	302.2
34.00		1.00	0.73	26.974	29.67	404.59	0.950	0.000	0.62	2.385	2.27	67.2	0.0	135.2
36.00		1.00	0.74	27.418	30.16	404.35	0.950	0.000	2.00	7.650	7.27	219.2	0.0	433.5
38.00		1.00	0.75	27.845	30.63	403.90	0.950	0.000	2.00	7.583	7.20	220.6	0.0	429.7
40.00	Appurtenance(s)	1.00	0.76	28.256	31.08	403.26	0.950	0.000	2.00	7.516	7.14	221.9	0.0	425.8
42.00		1.00	0.77	28.653	31.52	402.45	0.950	0.000	2.00	7.449	7.08	223.0	0.0	422.0
44.00		1.00	0.78	29.036	31.94	401.48	0.950	0.000	2.00	7.382	7.01	224.0	0.0	418.2
45.16	RB8	1.00	0.79	29.253	32.18	400.84	0.950	0.000	1.16	4.251	4.04	129.9	0.0	240.8
46.00	RT7	1.00	0.79	29.407	32.35	400.35	0.950	0.000	0.84	3.064	2.91	94.2	0.0	173.6
48.00		1.00	0.80	29.767	32.74	399.09	0.950	0.000	2.00	7.248	6.89	225.5	0.0	410.5
50.00	Bot - Section 3	1.00	0.81	30.116	33.13	397.70	0.950	0.000	2.00	7.181	6.82	226.0	0.0	406.7
52.00		1.00	0.82	30.456	33.50	396.19	0.950	0.000	2.00	7.244	6.88	230.5	0.0	813.2
54.00		1.00	0.83	30.786	33.86	394.57	0.950	0.000	2.00	7.177	6.82	230.9	0.0	805.5
56.00	Top - Section 2	1.00	0.84	31.108	34.22	392.84	0.950	0.000	2.00	7.110	6.75	231.1	0.0	797.9
58.00	RT8 RB9	1.00	0.85	31.421	34.56	398.36	0.950	0.000	2.00	7.043	6.69	231.3	0.0	398.8
60.00		1.00	0.85	31.727	34.90	396.47	0.950	0.000	2.00	6.976	6.63	231.3	0.0	395.0
62.00		1.00	0.86	32.025	35.23	394.49	0.950	0.000	2.00	6.909	6.56	231.2	0.0	391.2
64.00		1.00	0.87	32.317	35.55	392.43	0.950	0.000	2.00	6.842	6.50	231.1	0.0	387.3
66.00		1.00	0.88	32.603	35.86	390.28	0.950	0.000	2.00	6.775	6.44	230.8	0.0	383.5
68.00		1.00	0.89	32.882	36.17	388.05	0.950	0.000	2.00	6.708	6.37	230.5	0.0	379.7
70.00		1.00	0.89	33.155	36.47	385.76	0.950	0.000	2.00	6.641	6.31	230.1	0.0	375.9
72.00		1.00	0.90	33.423	36.77	383.39	0.950	0.000	2.00	6.574	6.25	229.6	0.0	372.0
74.00		1.00	0.91	33.686	37.05	380.95	0.950	0.000	2.00	6.507	6.18	229.1	0.0	368.2
76.00		1.00	0.91	33.944	37.34	378.45	0.950	0.000	2.00	6.440	6.12	228.4	0.0	364.4
78.00	RT9 RB10	1.00	0.92	34.197	37.62	375.89	0.950	0.000	2.00	6.373	6.05	227.8	0.0	360.5

Wind Loading - Shaft

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

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80.00	Top - Section 3	1.00	0.93	34.445	37.89	373.27	0.950	0.000	2.00	6.306	5.99	227.0	0.0	356.7
82.00		1.00	0.93	34.689	38.16	370.59	0.950	0.000	2.00	6.239	5.93	226.2	0.0	294.6
84.00		1.00	0.94	34.928	38.42	367.85	0.950	0.000	2.00	6.172	5.86	225.3	0.0	291.4
86.00		1.00	0.95	35.164	38.68	365.07	0.950	0.000	2.00	6.106	5.80	224.4	0.0	288.2
88.00		1.00	0.95	35.396	38.94	362.23	0.950	0.000	2.00	6.039	5.74	223.4	0.0	285.0
90.00		1.00	0.96	35.624	39.19	359.34	0.950	0.000	2.00	5.972	5.67	222.3	0.0	281.8
92.00		1.00	0.96	35.848	39.43	356.41	0.950	0.000	2.00	5.905	5.61	221.2	0.0	278.7
94.00		1.00	0.97	36.069	39.68	353.43	0.950	0.000	2.00	5.838	5.55	220.0	0.0	275.5
95.00	Bot - Section 5	1.00	0.97	36.178	39.80	351.92	0.950	0.000	1.00	2.894	2.75	109.4	0.0	136.5
95.58	RT10	1.00	0.98	36.241	39.87	351.04	0.950	0.000	0.58	1.702	1.62	64.5	0.0	159.1
96.00		1.00	0.98	36.287	39.92	350.41	0.950	0.000	0.42	1.229	1.17	46.6	0.0	114.9
98.00		1.00	0.98	36.501	40.15	347.34	0.950	0.000	2.00	5.812	5.52	221.7	0.0	543.3
100.00	Top - Section 4	1.00	0.99	36.712	40.38	344.23	0.950	0.000	2.00	5.745	5.46	220.4	0.0	536.9
102.00		1.00	0.99	36.921	40.61	347.72	0.950	0.000	2.00	5.678	5.39	219.1	0.0	267.8
104.00		1.00	1.00	37.126	40.84	344.55	0.950	0.000	2.00	5.611	5.33	217.7	0.0	264.7
106.00		1.00	1.00	37.329	41.06	341.35	0.950	0.000	2.00	5.544	5.27	216.3	0.0	261.5
108.00		1.00	1.01	37.529	41.28	338.10	0.950	0.000	2.00	5.477	5.20	214.8	0.0	258.3
110.00	Appurtenance(s)	1.00	1.02	37.726	41.50	334.82	0.950	0.000	2.00	5.410	5.14	213.3	0.0	255.1
112.00		1.00	1.02	37.921	41.71	331.50	0.950	0.000	2.00	5.343	5.08	211.7	0.0	251.9
114.00		1.00	1.03	38.113	41.92	328.15	0.950	0.000	2.00	5.276	5.01	210.1	0.0	248.7
115.00	Top - Section 5	1.00	1.03	38.208	42.03	326.46	0.950	0.000	1.00	2.613	2.48	104.3	0.0	123.2
116.00		1.00	1.03	38.303	42.13	324.77	0.950	0.000	1.00	2.596	2.47	103.9	0.0	98.1
118.00		1.00	1.04	38.490	42.34	321.35	0.950	0.000	2.00	5.142	4.89	206.8	0.0	194.3
120.00		1.00	1.04	38.675	42.54	317.90	0.950	0.000	2.00	5.075	4.82	205.1	0.0	191.7
122.00		1.00	1.05	38.859	42.74	314.42	0.950	0.000	2.00	5.008	4.76	203.4	0.0	189.2
124.00		1.00	1.05	39.040	42.94	310.91	0.950	0.000	2.00	4.941	4.69	201.6	0.0	186.6
126.00		1.00	1.06	39.218	43.14	307.37	0.950	0.000	2.00	4.874	4.63	199.8	0.0	184.1
128.00		1.00	1.06	39.395	43.33	303.80	0.950	0.000	2.00	4.807	4.57	197.9	0.0	181.5
130.00		1.00	1.07	39.570	43.53	300.21	0.950	0.000	2.00	4.741	4.50	196.0	0.0	179.0
132.00		1.00	1.07	39.743	43.72	296.58	0.950	0.000	2.00	4.674	4.44	194.1	0.0	176.4
133.00	Appurtenance(s)	1.00	1.07	39.829	43.81	294.76	0.950	0.000	1.00	2.312	2.20	96.2	0.0	87.3
134.00		1.00	1.07	39.914	43.91	292.93	0.950	0.000	1.00	2.295	2.18	95.7	0.0	86.6
136.00		1.00	1.08	40.084	44.09	289.26	0.950	0.000	2.00	4.540	4.31	190.2	0.0	171.3
138.00		1.00	1.08	40.251	44.28	285.55	0.950	0.000	2.00	4.473	4.25	188.1	0.0	168.8
140.00		1.00	1.09	40.417	44.46	281.83	0.950	0.000	2.00	4.406	4.19	186.1	0.0	166.2
142.00	Appurtenance(s)	1.00	1.09	40.581	44.64	278.07	0.950	0.000	2.00	4.339	4.12	184.0	0.0	163.7
144.00		1.00	1.10	40.744	44.82	274.30	0.950	0.000	2.00	4.272	4.06	181.9	0.0	161.1
145.00	Top - Section 6	1.00	1.10	40.824	44.91	272.40	0.950	0.000	1.00	2.111	2.01	90.1	0.0	79.6
146.00		1.00	1.10	40.904	44.99	261.33	0.600	0.000	1.00	2.023	1.21	54.6	0.0	77.1
148.00		1.00	1.11	41.064	45.17	257.64	0.600	0.000	2.00	3.998	2.40	108.3	0.0	152.3
150.00	Top - Section 7	1.00	1.11	41.222	45.34	253.93	0.600	0.000	2.00	3.933	2.36	107.0	0.0	149.8
152.00	Appurtenance(s)	1.00	1.11	41.378	45.52	173.92	0.645 *	0.000	2.00	2.667	1.72	78.3	0.0	101.0
154.00		1.00	1.12	41.533	45.69	174.24	0.645 *	0.000	2.00	2.667	1.72	78.6	0.0	101.0
156.00		1.00	1.12	41.686	45.85	174.56	0.645 *	0.000	2.00	2.667	1.72	78.9	0.0	101.0
158.00		1.00	1.13	41.838	46.02	174.88	0.645 *	0.000	2.00	2.667	1.72	79.2	0.0	101.0
160.00	Appurtenance(s)	1.00	1.13	41.989	46.19	175.20	0.645 *	0.000	2.00	2.667	1.72	79.4	0.0	101.0
								Totals:	**160.00**			**16,630.5**		**28,543.3**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

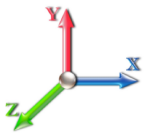
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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	160.00	JAHH-65B-R3B	6	42.138	46.352	0.66	0.80	36.29	388.80	0.000	2.000	1682.30	0.00	3364.61
2	160.00	DB222	1	42.359	46.595	1.00	1.00	2.25	19.20	0.000	5.000	104.84	0.00	524.20
3	160.00	DB846F65ZAXY	6	42.138	46.352	0.74	0.80	31.47	151.20	0.000	2.000	1458.75	0.00	2917.49
4	160.00	Low Profile Platform	1	42.138	46.352	1.00	1.00	22.00	1440.00	0.000	2.000	1019.74	0.00	2039.48
5	160.00	6' Lightning rod	1	42.212	46.433	1.00	1.00	0.38	7.80	0.000	3.000	17.64	0.00	52.93
6	160.00	Commscope	1	42.138	46.352	1.00	1.00	2.51	18.00	0.000	2.000	116.34	0.00	232.69
7	160.00	CBC78T-DS-43	1	42.138	46.352	1.00	1.00	0.37	24.84	0.000	2.000	17.15	0.00	34.30
8	160.00	B2/B66A RRH-BR049	3	42.138	46.352	0.67	1.00	3.76	252.00	0.000	2.000	174.22	0.00	348.44
9	160.00	B5/B13 RRH-BR04C	3	42.138	46.352	0.67	1.00	3.76	303.84	0.000	2.000	174.22	0.00	348.44
10	160.00	VZS01	3	42.138	46.352	0.69	1.00	8.90	313.56	0.000	2.000	412.58	0.00	825.15
11	152.00	MX08FRO665-21	3	41.378	45.516	0.55	0.75	20.80	232.20	0.000	0.000	946.54	0.00	0.00
12	152.00	MC-PK8-DSH	1	41.378	45.516	1.00	1.00	37.59	2072.40	0.000	0.000	1710.93	0.00	0.00
13	152.00	TA08025-B604	3	41.378	45.516	0.50	0.75	2.95	230.04	0.000	0.000	134.48	0.00	0.00
14	152.00	TA08025-B605	3	41.378	45.516	0.50	0.75	2.95	270.00	0.000	0.000	134.48	0.00	0.00
15	152.00	RDIDC-9181-OF-48	1	41.378	45.516	0.38	0.75	0.75	26.28	0.000	0.000	34.31	0.00	0.00
16	142.00	AIR 21, 1.3M, B2A B4P	3	40.581	44.639	0.65	0.75	11.78	329.40	0.000	0.000	526.03	0.00	0.00
17	142.00	4415	1	40.581	44.639	0.54	0.80	1.00	52.92	0.000	0.000	44.50	0.00	0.00
18	142.00	4449 B71 + B85	4	40.581	44.639	0.54	0.80	4.22	351.36	0.000	0.000	188.54	0.00	0.00
19	142.00	KRY 112 144/1	3	40.581	44.639	0.40	0.80	0.49	39.60	0.000	0.000	21.96	0.00	0.00
20	142.00	APXVAARR24_43-U-NA2	3	40.581	44.639	0.52	0.75	31.88	460.80	0.000	0.000	1423.01	0.00	0.00
21	142.00	KRD 9011461-B66A-B2A	4	40.581	44.639	0.65	0.75	16.99	634.56	0.000	0.000	758.47	0.00	0.00
22	142.00	Platform w/ HR & Bracing	1	40.581	44.639	1.00	1.00	52.00	2695.20	0.000	0.000	2321.24	0.00	0.00
23	142.00	Mod	1	40.581	44.639	1.00	1.00	12.00	360.00	0.000	0.000	535.67	0.00	0.00
24	142.00	APXVA18-43-C-A20	1	40.581	44.639	0.61	0.75	5.93	54.48	0.000	0.000	264.92	0.00	0.00
25	133.00	(3) SitePro 1 P/N	2	39.829	43.812	0.56	0.75	24.01	3258.65	0.000	0.000	1051.81	0.00	0.00
26	133.00	Kathrein 800 10121	3	39.829	43.812	0.63	0.80	9.76	166.68	0.000	0.000	427.80	0.00	0.00
27	133.00	Kathrein 800-10965	3	39.829	43.812	0.57	0.80	23.53	390.96	0.000	0.000	1030.99	0.00	0.00
28	133.00	Cci TPA-65R-LCUUUU-H8	1	39.829	43.812	0.63	0.80	8.06	126.00	0.000	0.000	353.04	0.00	0.00
29	133.00	Quintel QS66512-2	2	39.829	43.812	0.74	0.80	11.97	266.40	0.000	0.000	524.31	0.00	0.00
30	133.00	Ericsson RRUS-32 RRU	3	39.829	43.812	0.54	0.80	6.22	277.20	0.000	0.000	272.64	0.00	0.00
31	133.00	Powerwave LGP21401	6	39.829	43.812	0.54	0.80	4.15	101.52	0.000	0.000	181.76	0.00	0.00
32	133.00	Ericsson B2/B66A 8843	3	39.829	43.812	0.54	0.80	2.64	259.20	0.000	0.000	115.54	0.00	0.00
33	133.00	Ericsson B5/B12 4449	3	39.829	43.812	0.54	0.80	3.17	255.60	0.000	0.000	138.79	0.00	0.00
34	133.00	Raycap DC6-48-60-18-8F	3	39.829	43.812	0.54	0.80	1.48	114.48	0.000	0.000	64.81	0.00	0.00
35	110.00	3 ft Standoff	1	37.726	41.498	1.00	1.00	2.63	48.00	0.000	0.000	109.14	0.00	0.00
36	110.00	DB222	1	38.236	42.059	1.00	1.00	2.65	19.20	0.000	5.292	111.46	0.00	589.80
37	40.00	GPS	1	28.256	31.082	1.00	1.00	1.00	12.00	0.000	0.000	31.08	0.00	0.00
							Totals:		**16,024.37**			**18,636.04**		

Total Applied Force Summary

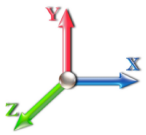
Structure:	CT02049-S-SBA		**Code:**	TIA-222-H	5/24/2022
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 13

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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
1.00		120.56	666.41	0.00	0.00
2.00		120.24	665.46	0.00	0.00
4.00		239.52	1328.04	0.00	0.00
6.00		238.25	1324.21	0.00	0.00
8.00		236.98	1320.39	0.00	0.00
10.00		235.70	1316.56	0.00	0.00
12.00		234.43	1312.74	0.00	0.00
14.00		233.16	1308.91	0.00	0.00
16.00		231.88	1305.08	0.00	0.00
16.25		29.35	221.57	0.00	0.00
18.00		204.93	1547.63	0.00	0.00
18.63		73.54	555.71	0.00	0.00
18.88		29.15	220.31	0.00	0.00
20.00		130.33	985.52	0.00	0.00
22.00		231.76	1753.89	0.00	0.00
24.00		229.25	1297.18	0.00	0.00
26.00		227.98	1293.35	0.00	0.00
28.00		226.70	1289.52	0.00	0.00
30.00		242.62	1645.70	0.00	0.00
31.00		121.97	821.41	0.00	0.00
32.00		122.76	820.46	0.00	0.00
33.38		149.50	633.86	0.00	0.00
34.00		67.23	284.18	0.00	0.00
36.00		219.18	914.22	0.00	0.00
38.00		220.65	910.39	0.00	0.00
40.00	(1) attachments	253.01	918.57	0.00	0.00
42.00		223.04	902.36	0.00	0.00
44.00		223.99	898.53	0.00	0.00
45.16		129.95	519.39	0.00	0.00
46.00		94.16	375.31	0.00	0.00
48.00		225.47	890.88	0.00	0.00
50.00		226.00	887.05	0.00	0.00
52.00		230.54	1293.51	0.00	0.00
54.00		230.88	1285.86	0.00	0.00
56.00		231.12	1278.21	0.00	0.00
58.00		231.25	879.14	0.00	0.00
60.00		231.28	875.32	0.00	0.00
62.00		231.22	871.49	0.00	0.00
64.00		231.06	867.66	0.00	0.00
66.00		230.82	863.84	0.00	0.00
68.00		230.50	860.01	0.00	0.00
70.00		230.10	856.19	0.00	0.00
72.00		229.62	852.36	0.00	0.00
74.00		229.07	848.53	0.00	0.00
76.00		228.44	844.71	0.00	0.00
78.00		227.75	840.88	0.00	0.00

Total Applied Force Summary

Structure:	CT02049-S-SBA		**Code:**	TIA-222-H	5/24/2022
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (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

80.00		227.00	837.05	0.00	0.00
82.00		226.18	774.93	0.00	0.00
84.00		225.30	771.74	0.00	0.00
86.00		224.36	768.55	0.00	0.00
88.00		223.36	765.36	0.00	0.00
90.00		222.30	762.17	0.00	0.00
92.00		221.20	758.98	0.00	0.00
94.00		220.04	755.80	0.00	0.00
95.00		109.40	376.70	0.00	0.00
95.58		64.46	298.44	0.00	0.00
96.00		46.60	215.77	0.00	0.00
98.00		221.68	1023.64	0.00	0.00
100.00		220.39	657.26	0.00	0.00
102.00		219.06	388.18	0.00	0.00
104.00		217.68	384.99	0.00	0.00
106.00		216.26	381.80	0.00	0.00
108.00		214.79	378.61	0.00	0.00
110.00	(2) attachments	433.88	442.62	0.00	589.80
112.00		211.73	370.99	0.00	0.00
114.00		210.14	367.80	0.00	0.00
115.00		104.33	182.70	0.00	0.00
116.00		103.92	157.64	0.00	0.00
118.00		206.83	313.37	0.00	0.00
120.00		205.12	310.81	0.00	0.00
122.00		203.37	308.26	0.00	0.00
124.00		201.59	305.71	0.00	0.00
126.00		199.77	303.16	0.00	0.00
128.00		197.91	300.61	0.00	0.00
130.00		196.02	298.06	0.00	0.00
132.00		194.10	295.51	0.00	0.00
133.00	(29) attachments	4257.70	5363.49	0.00	0.00
134.00		95.72	130.90	0.00	0.00
136.00		190.16	259.88	0.00	0.00
138.00		188.13	257.33	0.00	0.00
140.00		186.08	254.78	0.00	0.00
142.00	(21) attachments	6268.34	5230.55	0.00	0.00
144.00		181.88	214.86	0.00	0.00
145.00		90.05	106.47	0.00	0.00
146.00		54.62	103.93	0.00	0.00
148.00		108.35	205.99	0.00	0.00
150.00		107.01	203.50	0.00	0.00
152.00	(11) attachments	3039.03	2985.68	0.00	0.00
154.00		78.58	149.98	0.00	0.00
156.00		78.87	149.98	0.00	0.00
158.00		79.16	149.98	0.00	0.00
160.00	(26) attachments	5257.23	3069.22	0.00	10687.74
	Totals:	**35,266.58**	**77,546.23**	**0.00**	**11,277.54**

Linear Appurtenance Segment Forces (Factored)

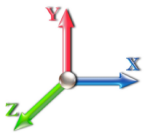
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
1.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.108	1.023	26.005	0.00	2.64
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	26.005	0.00	0.62
1.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	26.005	0.00	2.39
1.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	26.005	0.00	2.64
1.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	26.005	0.00	2.29
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	26.005	0.00	0.62
1.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.108	1.023	26.005	0.00	144.00
1.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.108	1.023	26.005	0.00	216.00
2.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.108	1.024	26.005	0.00	2.64
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	26.005	0.00	0.62
2.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	26.005	0.00	2.39
2.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	26.005	0.00	2.64
2.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	26.005	0.00	2.29
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	26.005	0.00	0.62
2.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.108	1.024	26.005	0.00	144.00
2.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.108	1.024	26.005	0.00	216.00
4.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.109	1.026	26.005	0.00	5.28
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	26.005	0.00	1.25
4.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	26.005	0.00	4.78
4.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	26.005	0.00	5.28
4.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	26.005	0.00	4.58
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	26.005	0.00	1.25
4.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.109	1.026	26.005	0.00	288.00
4.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.109	1.026	26.005	0.00	432.00
6.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.109	1.028	26.005	0.00	5.28
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	26.005	0.00	1.25
6.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	26.005	0.00	4.78
6.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	26.005	0.00	5.28
6.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	26.005	0.00	4.58
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	26.005	0.00	1.25
6.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.109	1.028	26.005	0.00	288.00
6.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.109	1.028	26.005	0.00	432.00
8.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.110	1.031	26.005	0.00	5.28
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	26.005	0.00	1.25
8.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	26.005	0.00	4.78
8.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	26.005	0.00	5.28
8.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	26.005	0.00	4.58
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	26.005	0.00	1.25
8.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.110	1.031	26.005	0.00	288.00
8.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.110	1.031	26.005	0.00	432.00
10.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.034	26.005	0.00	5.28
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	26.005	0.00	1.25
10.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	26.005	0.00	4.78
10.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	26.005	0.00	5.28
10.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	26.005	0.00	4.58
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	26.005	0.00	1.25
10.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.111	1.034	26.005	0.00	288.00

Linear Appurtenance Segment Forces (Factored)

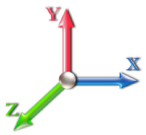
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
10.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.111	1.034	26.005	0.00	432.00
12.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.112	1.036	26.005	0.00	5.28
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	26.005	0.00	1.25
12.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	26.005	0.00	4.78
12.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	26.005	0.00	5.28
12.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	26.005	0.00	4.58
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	26.005	0.00	1.25
12.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.112	1.036	26.005	0.00	288.00
12.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.112	1.036	26.005	0.00	432.00
14.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.113	1.039	26.005	0.00	5.28
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	26.005	0.00	1.25
14.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	26.005	0.00	4.78
14.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	26.005	0.00	5.28
14.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	26.005	0.00	4.58
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	26.005	0.00	1.25
14.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.113	1.039	26.005	0.00	288.00
14.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.113	1.039	26.005	0.00	432.00
16.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.114	1.042	26.005	0.00	5.28
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	26.005	0.00	1.25
16.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	26.005	0.00	4.78
16.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	26.005	0.00	5.28
16.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	26.005	0.00	4.58
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	26.005	0.00	1.25
16.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.114	1.042	26.005	0.00	288.00
16.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.114	1.042	26.005	0.00	432.00
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.114	1.043	26.005	0.00	0.66
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	26.005	0.00	0.16
16.25	1.75" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	26.005	0.00	0.60
16.25	1 5/8" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	26.005	0.00	0.66
16.25	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	26.005	0.00	0.57
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	26.005	0.00	0.16
16.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.114	1.043	26.005	0.00	36.00
16.25	C10x15.3	Yes	0.25	0.000	2.60	0.05	0.00	0.114	1.043	26.005	0.00	54.00
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.115	1.045	26.005	0.00	4.62
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	26.005	0.00	1.09
18.00	1.75" Hybrid	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	26.005	0.00	4.18
18.00	1 5/8" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	26.005	0.00	4.62
18.00	1-1/4" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	26.005	0.00	4.01
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	26.005	0.00	1.09
18.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.115	1.045	26.005	0.00	252.00
18.00	C10x15.3	Yes	1.75	0.000	2.60	0.38	0.00	0.115	1.045	26.005	0.00	378.00
18.63	1 5/8" Hybrid	Yes	0.63	0.000	2.00	0.10	0.00	0.116	1.047	26.005	0.00	1.66
18.63	7/8" Coax	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.39
18.63	1.75" Hybrid	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	1.51
18.63	1 5/8" Fiber	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	1.66
18.63	1-1/4" Fiber	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	1.44
18.63	7/8" Coax	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.39

Linear Appurtenance Segment Forces (Factored)

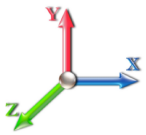
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
18.63	1" Reinforcing plate	Yes	0.63	0.000	1.00	0.05	0.00	0.116	1.047	26.005	0.00	90.72
18.63	C10x15.3	Yes	0.63	0.000	2.60	0.14	0.00	0.116	1.047	26.005	0.00	136.08
18.88	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.116	1.047	26.005	0.00	0.66
18.88	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.16
18.88	1.75" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.60
18.88	1 5/8" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.66
18.88	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.57
18.88	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.16
18.88	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.116	1.047	26.005	0.00	36.00
18.88	C10x15.3	Yes	0.25	0.000	2.60	0.05	0.00	0.116	1.047	26.005	0.00	54.00
20.00	1 5/8" Hybrid	Yes	1.12	0.000	2.00	0.19	0.00	0.116	1.048	26.005	0.00	2.96
20.00	7/8" Coax	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	0.70
20.00	1.75" Hybrid	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	2.68
20.00	1 5/8" Fiber	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	2.96
20.00	1-1/4" Fiber	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	2.56
20.00	7/8" Coax	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	0.70
20.00	1" Reinforcing plate	Yes	1.12	0.000	1.00	0.09	0.00	0.116	1.048	26.005	0.00	161.28
20.00	C10x15.3	Yes	1.12	0.000	2.60	0.24	0.00	0.116	1.048	26.005	0.00	241.92
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.050	26.005	0.00	5.28
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	26.005	0.00	1.25
22.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	26.005	0.00	4.78
22.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	26.005	0.00	5.28
22.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	26.005	0.00	4.58
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	26.005	0.00	1.25
22.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.117	1.050	26.005	0.00	288.00
22.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.117	1.050	26.005	0.00	432.00
24.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.116	1.048	26.005	0.00	5.28
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	1.25
24.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	4.78
24.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	5.28
24.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	4.58
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	1.25
24.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.116	1.048	26.005	0.00	288.00
24.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.116	1.048	26.005	0.00	432.00
26.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.051	26.005	0.00	5.28
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	26.005	0.00	1.25
26.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	26.005	0.00	4.78
26.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	26.005	0.00	5.28
26.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	26.005	0.00	4.58
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	26.005	0.00	1.25
26.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.117	1.051	26.005	0.00	288.00
26.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.117	1.051	26.005	0.00	432.00
28.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.118	1.054	26.005	0.00	5.28
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	26.005	0.00	1.25
28.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	26.005	0.00	4.78
28.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	26.005	0.00	5.28
28.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	26.005	0.00	4.58

Linear Appurtenance Segment Forces (Factored)

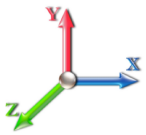
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	26.005	0.00	1.25
28.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.118	1.054	26.005	0.00	288.00
28.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.118	1.054	26.005	0.00	432.00
30.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.145	1.136	26.027	0.00	5.28
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	26.027	0.00	1.25
30.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	26.027	0.00	4.78
30.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	26.027	0.00	5.28
30.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	26.027	0.00	4.58
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	26.027	0.00	1.25
30.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.145	1.136	26.027	0.00	360.00
30.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.145	1.136	26.027	0.00	288.00
30.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.145	1.136	26.027	0.00	432.00
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.146	1.139	26.272	0.00	2.64
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	26.272	0.00	0.62
31.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	26.272	0.00	2.39
31.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	26.272	0.00	2.64
31.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	26.272	0.00	2.29
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	26.272	0.00	0.62
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.146	1.139	26.272	0.00	180.00
31.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.146	1.139	26.272	0.00	144.00
31.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.146	1.139	26.272	0.00	216.00
32.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.147	1.141	26.511	0.00	2.64
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	26.511	0.00	0.62
32.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	26.511	0.00	2.39
32.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	26.511	0.00	2.64
32.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	26.511	0.00	2.29
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	26.511	0.00	0.62
32.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.147	1.141	26.511	0.00	180.00
32.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.147	1.141	26.511	0.00	144.00
32.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.147	1.141	26.511	0.00	216.00
33.38	1 5/8" Hybrid	Yes	1.38	0.000	2.00	0.23	0.00	0.070	0.000	26.833	0.00	3.64
33.38	7/8" Coax	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	26.833	0.00	0.86
33.38	1.75" Hybrid	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	26.833	0.00	3.30
33.38	1 5/8" Fiber	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	26.833	0.00	3.64
33.38	1-1/4" Fiber	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	26.833	0.00	3.16
33.38	7/8" Coax	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	26.833	0.00	0.86
33.38	1.25" Reinforcing	Yes	1.38	0.000	1.25	0.14	0.00	0.070	0.000	26.833	0.00	248.40
34.00	1 5/8" Hybrid	Yes	0.62	0.000	2.00	0.10	0.00	0.070	0.000	26.974	0.00	1.64
34.00	7/8" Coax	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	26.974	0.00	0.39
34.00	1.75" Hybrid	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	26.974	0.00	1.48
34.00	1 5/8" Fiber	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	26.974	0.00	1.64
34.00	1-1/4" Fiber	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	26.974	0.00	1.42
34.00	7/8" Coax	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	26.974	0.00	0.39
34.00	1.25" Reinforcing	Yes	0.62	0.000	1.25	0.06	0.00	0.070	0.000	26.974	0.00	111.60
36.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	27.418	0.00	5.28
36.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.418	0.00	1.25
36.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.418	0.00	4.78

Linear Appurtenance Segment Forces (Factored)

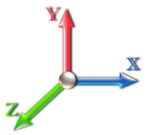
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
36.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.418	0.00	5.28
36.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.418	0.00	4.58
36.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.418	0.00	1.25
36.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.071	0.000	27.418	0.00	360.00
38.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	27.845	0.00	5.28
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.845	0.00	1.25
38.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.845	0.00	4.78
38.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.845	0.00	5.28
38.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.845	0.00	4.58
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.845	0.00	1.25
38.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.071	0.000	27.845	0.00	360.00
40.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.072	0.000	28.256	0.00	5.28
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	28.256	0.00	1.25
40.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	28.256	0.00	4.78
40.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	28.256	0.00	5.28
40.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	28.256	0.00	4.58
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	28.256	0.00	1.25
40.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.072	0.000	28.256	0.00	360.00
42.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	28.653	0.00	5.28
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	28.653	0.00	1.25
42.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	28.653	0.00	4.78
42.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	28.653	0.00	5.28
42.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	28.653	0.00	4.58
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	28.653	0.00	1.25
42.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.073	0.000	28.653	0.00	360.00
44.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	29.036	0.00	5.28
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	29.036	0.00	1.25
44.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	29.036	0.00	4.78
44.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	29.036	0.00	5.28
44.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	29.036	0.00	4.58
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	29.036	0.00	1.25
44.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.073	0.000	29.036	0.00	360.00
45.16	1 5/8" Hybrid	Yes	1.16	0.000	2.00	0.19	0.00	0.074	0.000	29.253	0.00	3.06
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	29.253	0.00	0.72
45.16	1.75" Hybrid	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	29.253	0.00	2.77
45.16	1 5/8" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	29.253	0.00	3.06
45.16	1-1/4" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	29.253	0.00	2.66
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	29.253	0.00	0.72
45.16	1.25" Reinforcing	Yes	1.16	0.000	1.25	0.12	0.00	0.074	0.000	29.253	0.00	208.80
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.074	0.000	29.407	0.00	2.22
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	29.407	0.00	0.52
46.00	1.75" Hybrid	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	29.407	0.00	2.01
46.00	1 5/8" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	29.407	0.00	2.22
46.00	1-1/4" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	29.407	0.00	1.92
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	29.407	0.00	0.52
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.09	0.00	0.074	0.000	29.407	0.00	151.20
48.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	29.767	0.00	5.28

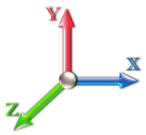
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	29.767	0.00	1.25
48.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	29.767	0.00	4.78
48.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	29.767	0.00	5.28
48.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	29.767	0.00	4.58
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	29.767	0.00	1.25
48.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.075	0.000	29.767	0.00	360.00
50.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	30.116	0.00	5.28
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	30.116	0.00	1.25
50.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	30.116	0.00	4.78
50.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	30.116	0.00	5.28
50.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	30.116	0.00	4.58
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	30.116	0.00	1.25
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.075	0.000	30.116	0.00	360.00
52.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	30.456	0.00	5.28
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	30.456	0.00	1.25
52.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	30.456	0.00	4.78
52.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	30.456	0.00	5.28
52.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	30.456	0.00	4.58
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	30.456	0.00	1.25
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.076	0.000	30.456	0.00	360.00
54.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	30.786	0.00	5.28
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	30.786	0.00	1.25
54.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	30.786	0.00	4.78
54.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	30.786	0.00	5.28
54.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	30.786	0.00	4.58
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	30.786	0.00	1.25
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.077	0.000	30.786	0.00	360.00
56.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	31.108	0.00	5.28
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.108	0.00	1.25
56.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.108	0.00	4.78
56.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.108	0.00	5.28
56.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.108	0.00	4.58
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.108	0.00	1.25
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.078	0.000	31.108	0.00	360.00
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	31.421	0.00	5.28
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	31.421	0.00	1.25
58.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	31.421	0.00	4.78
58.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	31.421	0.00	5.28
58.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	31.421	0.00	4.58
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	31.421	0.00	1.25
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.077	0.000	31.421	0.00	360.00
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	31.727	0.00	5.28
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.727	0.00	1.25
60.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.727	0.00	4.78
60.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.727	0.00	5.28
60.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.727	0.00	4.58
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.727	0.00	1.25

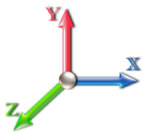
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.078	0.000	31.727	0.00	360.00
62.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	32.025	0.00	5.28
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	32.025	0.00	1.25
62.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	32.025	0.00	4.78
62.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	32.025	0.00	5.28
62.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	32.025	0.00	4.58
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	32.025	0.00	1.25
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.078	0.000	32.025	0.00	360.00
64.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	32.317	0.00	5.28
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	32.317	0.00	1.25
64.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	32.317	0.00	4.78
64.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	32.317	0.00	5.28
64.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	32.317	0.00	4.58
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	32.317	0.00	1.25
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.079	0.000	32.317	0.00	360.00
66.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.080	0.000	32.603	0.00	5.28
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	32.603	0.00	1.25
66.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	32.603	0.00	4.78
66.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	32.603	0.00	5.28
66.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	32.603	0.00	4.58
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	32.603	0.00	1.25
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.080	0.000	32.603	0.00	360.00
68.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.081	0.000	32.882	0.00	5.28
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	32.882	0.00	1.25
68.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	32.882	0.00	4.78
68.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	32.882	0.00	5.28
68.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	32.882	0.00	4.58
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	32.882	0.00	1.25
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.081	0.000	32.882	0.00	360.00
70.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.082	0.000	33.155	0.00	5.28
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.155	0.00	1.25
70.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.155	0.00	4.78
70.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.155	0.00	5.28
70.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.155	0.00	4.58
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.155	0.00	1.25
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.082	0.000	33.155	0.00	360.00
72.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.082	0.000	33.423	0.00	5.28
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.423	0.00	1.25
72.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.423	0.00	4.78
72.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.423	0.00	5.28
72.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.423	0.00	4.58
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.423	0.00	1.25
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.082	0.000	33.423	0.00	360.00
74.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	33.686	0.00	5.28
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	33.686	0.00	1.25
74.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	33.686	0.00	4.78
74.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	33.686	0.00	5.28

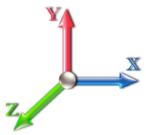
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
74.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	33.686	0.00	4.58
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	33.686	0.00	1.25
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.083	0.000	33.686	0.00	360.00
76.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.084	0.000	33.944	0.00	5.28
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	33.944	0.00	1.25
76.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	33.944	0.00	4.78
76.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	33.944	0.00	5.28
76.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	33.944	0.00	4.58
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	33.944	0.00	1.25
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.084	0.000	33.944	0.00	360.00
78.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.085	0.000	34.197	0.00	5.28
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	34.197	0.00	1.25
78.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	34.197	0.00	4.78
78.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	34.197	0.00	5.28
78.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	34.197	0.00	4.58
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	34.197	0.00	1.25
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.085	0.000	34.197	0.00	360.00
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.086	0.000	34.445	0.00	5.28
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	34.445	0.00	1.25
80.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	34.445	0.00	4.78
80.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	34.445	0.00	5.28
80.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	34.445	0.00	4.58
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	34.445	0.00	1.25
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.086	0.000	34.445	0.00	360.00
82.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	34.689	0.00	5.28
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	34.689	0.00	1.25
82.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	34.689	0.00	4.78
82.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	34.689	0.00	5.28
82.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	34.689	0.00	4.58
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	34.689	0.00	1.25
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.087	0.000	34.689	0.00	360.00
84.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.088	0.000	34.928	0.00	5.28
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	34.928	0.00	1.25
84.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	34.928	0.00	4.78
84.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	34.928	0.00	5.28
84.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	34.928	0.00	4.58
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	34.928	0.00	1.25
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.088	0.000	34.928	0.00	360.00
86.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.089	0.000	35.164	0.00	5.28
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	35.164	0.00	1.25
86.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	35.164	0.00	4.78
86.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	35.164	0.00	5.28
86.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	35.164	0.00	4.58
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	35.164	0.00	1.25
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.089	0.000	35.164	0.00	360.00
88.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.090	0.000	35.396	0.00	5.28
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	35.396	0.00	1.25

Linear Appurtenance Segment Forces (Factored)

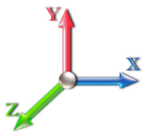
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
88.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	35.396	0.00	4.78
88.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	35.396	0.00	5.28
88.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	35.396	0.00	4.58
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	35.396	0.00	1.25
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.090	0.000	35.396	0.00	360.00
90.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.091	0.000	35.624	0.00	5.28
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	35.624	0.00	1.25
90.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	35.624	0.00	4.78
90.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	35.624	0.00	5.28
90.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	35.624	0.00	4.58
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	35.624	0.00	1.25
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.091	0.000	35.624	0.00	360.00
92.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.092	0.000	35.848	0.00	5.28
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	35.848	0.00	1.25
92.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	35.848	0.00	4.78
92.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	35.848	0.00	5.28
92.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	35.848	0.00	4.58
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	35.848	0.00	1.25
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.092	0.000	35.848	0.00	360.00
94.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.093	0.000	36.069	0.00	5.28
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	36.069	0.00	1.25
94.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	36.069	0.00	4.78
94.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	36.069	0.00	5.28
94.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	36.069	0.00	4.58
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	36.069	0.00	1.25
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.093	0.000	36.069	0.00	360.00
95.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.094	0.000	36.178	0.00	2.64
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	36.178	0.00	0.62
95.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	36.178	0.00	2.39
95.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	36.178	0.00	2.64
95.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	36.178	0.00	2.29
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	36.178	0.00	0.62
95.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.094	0.000	36.178	0.00	180.00
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.094	0.000	36.241	0.00	1.53
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	36.241	0.00	0.36
95.58	1.75" Hybrid	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	36.241	0.00	1.39
95.58	1 5/8" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	36.241	0.00	1.53
95.58	1-1/4" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	36.241	0.00	1.33
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	36.241	0.00	0.36
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.094	0.000	36.241	0.00	104.40
96.00	1 5/8" Hybrid	Yes	0.42	0.000	2.00	0.07	0.00	0.094	0.000	36.287	0.00	1.11
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	36.287	0.00	0.26
96.00	1.75" Hybrid	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	36.287	0.00	1.00
96.00	1 5/8" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	36.287	0.00	1.11
96.00	1-1/4" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	36.287	0.00	0.96
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	36.287	0.00	0.26
96.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.04	0.00	0.094	0.000	36.287	0.00	75.60

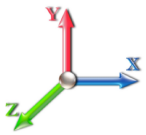
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
98.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	36.501	0.00	5.28
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	36.501	0.00	1.25
98.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	36.501	0.00	4.78
98.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	36.501	0.00	5.28
98.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	36.501	0.00	4.58
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	36.501	0.00	1.25
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.095	0.000	36.501	0.00	360.00
100.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	36.712	0.00	5.28
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.712	0.00	1.25
100.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.712	0.00	4.78
100.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.712	0.00	5.28
100.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.712	0.00	4.58
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.712	0.00	1.25
102.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	36.921	0.00	5.28
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.921	0.00	1.25
102.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.921	0.00	4.78
102.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.921	0.00	5.28
102.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.921	0.00	4.58
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.921	0.00	1.25
104.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	37.126	0.00	5.28
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	37.126	0.00	1.25
104.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	37.126	0.00	4.78
104.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	37.126	0.00	5.28
104.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	37.126	0.00	4.58
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	37.126	0.00	1.25
106.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.060	0.000	37.329	0.00	5.28
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	37.329	0.00	1.25
106.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	37.329	0.00	4.78
106.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	37.329	0.00	5.28
106.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	37.329	0.00	4.58
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	37.329	0.00	1.25
108.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.061	0.000	37.529	0.00	5.28
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	37.529	0.00	1.25
108.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	37.529	0.00	4.78
108.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	37.529	0.00	5.28
108.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	37.529	0.00	4.58
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	37.529	0.00	1.25
110.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	37.726	0.00	5.28
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.726	0.00	1.25
110.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.726	0.00	4.78
110.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.726	0.00	5.28
110.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.726	0.00	4.58
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.726	0.00	1.25
112.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	37.921	0.00	5.28
112.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.921	0.00	1.25
112.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.921	0.00	4.78
112.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.921	0.00	5.28

Linear Appurtenance Segment Forces (Factored)

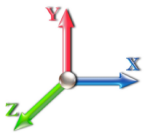
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
112.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.921	0.00	4.58
114.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	38.113	0.00	5.28
114.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	38.113	0.00	1.25
114.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	38.113	0.00	4.78
114.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	38.113	0.00	5.28
114.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	38.113	0.00	4.58
115.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.064	0.000	38.208	0.00	2.64
115.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.208	0.00	0.62
115.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.208	0.00	2.39
115.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.208	0.00	2.64
115.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.208	0.00	2.29
116.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.064	0.000	38.303	0.00	2.64
116.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.303	0.00	0.62
116.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.303	0.00	2.39
116.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.303	0.00	2.64
116.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.303	0.00	2.29
118.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	38.490	0.00	5.28
118.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	38.490	0.00	1.25
118.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	38.490	0.00	4.78
118.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	38.490	0.00	5.28
118.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	38.490	0.00	4.58
120.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	38.675	0.00	5.28
120.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	38.675	0.00	1.25
120.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	38.675	0.00	4.78
120.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	38.675	0.00	5.28
120.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	38.675	0.00	4.58
122.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	38.859	0.00	5.28
122.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	38.859	0.00	1.25
122.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	38.859	0.00	4.78
122.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	38.859	0.00	5.28
122.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	38.859	0.00	4.58
124.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	39.040	0.00	5.28
124.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	39.040	0.00	1.25
124.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	39.040	0.00	4.78
124.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	39.040	0.00	5.28
124.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	39.040	0.00	4.58
126.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	39.218	0.00	5.28
126.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	39.218	0.00	1.25
126.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	39.218	0.00	4.78
126.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	39.218	0.00	5.28
126.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	39.218	0.00	4.58
128.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.069	0.000	39.395	0.00	5.28
128.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	39.395	0.00	1.25
128.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	39.395	0.00	4.78
128.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	39.395	0.00	5.28
128.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	39.395	0.00	4.58
130.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	39.570	0.00	5.28

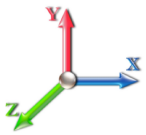
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
130.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	39.570	0.00	1.25
130.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	39.570	0.00	4.78
130.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	39.570	0.00	5.28
130.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	39.570	0.00	4.58
132.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	39.743	0.00	5.28
132.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	39.743	0.00	1.25
132.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	39.743	0.00	4.78
132.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	39.743	0.00	5.28
132.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	39.743	0.00	4.58
133.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.072	0.000	39.829	0.00	2.64
133.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	39.829	0.00	0.62
133.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	39.829	0.00	2.39
133.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	39.829	0.00	2.64
133.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	39.829	0.00	2.29
134.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.073	0.000	39.914	0.00	2.64
134.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	39.914	0.00	0.62
134.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	39.914	0.00	2.39
134.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	39.914	0.00	2.64
134.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	39.914	0.00	2.29
136.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	40.084	0.00	5.28
136.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	40.084	0.00	1.25
136.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	40.084	0.00	4.78
136.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	40.084	0.00	5.28
136.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	40.084	0.00	4.58
138.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	40.251	0.00	5.28
138.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	40.251	0.00	1.25
138.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	40.251	0.00	4.78
138.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	40.251	0.00	5.28
138.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	40.251	0.00	4.58
140.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	40.417	0.00	5.28
140.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	40.417	0.00	1.25
140.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	40.417	0.00	4.78
140.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	40.417	0.00	5.28
140.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	40.417	0.00	4.58
142.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	40.581	0.00	5.28
142.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	40.581	0.00	1.25
142.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	40.581	0.00	4.78
142.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	40.581	0.00	5.28
142.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	40.581	0.00	4.58
144.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	40.744	0.00	5.28
144.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	40.744	0.00	1.25
144.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	40.744	0.00	4.78
145.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.079	0.000	40.824	0.00	2.64
145.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	40.824	0.00	0.62
145.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	40.824	0.00	2.39
146.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.082	0.000	40.904	0.00	2.64
146.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	40.904	0.00	0.62

Linear Appurtenance Segment Forces (Factored)

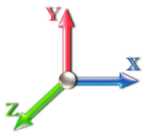
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
146.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	40.904	0.00	2.39
148.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	41.064	0.00	5.28
148.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	41.064	0.00	1.25
148.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	41.064	0.00	4.78
150.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.085	0.000	41.222	0.00	5.28
150.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	41.222	0.00	1.25
150.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	41.222	0.00	4.78
152.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	41.378	0.00	5.28
152.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.378	0.00	1.25
152.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.378	0.00	4.78
154.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	41.533	0.00	5.28
154.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.533	0.00	1.25
156.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	41.686	0.00	5.28
156.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.686	0.00	1.25
158.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	41.838	0.00	5.28
158.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.838	0.00	1.25
160.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	41.989	0.00	5.28
160.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.989	0.00	1.25
										Totals:	**0.0**	**25,774.0**

Calculated Forces

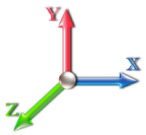
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 27

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	-77.53	-35.29	0.00	-4186.6	0.00	4186.67	3683.82	1059.58	4414.92	3756.66	0.00	0.000	0.000	0.673
1.00	-76.85	-35.22	0.00	-4151.3	0.00	4151.38	3677.71	1055.47	4380.73	3735.77	0.00	-0.036	0.000	0.673
2.00	-76.15	-35.17	0.00	-4116.1	0.00	4116.17	3671.54	1051.36	4346.67	3714.86	0.02	-0.073	0.000	0.670
4.00	-74.77	-35.02	0.00	-4045.8	0.00	4045.83	3659.00	1043.14	4278.95	3673.00	0.06	-0.146	0.000	0.664
6.00	-73.41	-34.88	0.00	-3975.7	0.00	3975.78	3646.20	1034.91	4211.76	3631.09	0.14	-0.220	0.000	0.657
8.00	-72.04	-34.73	0.00	-3906.0	0.00	3906.03	3633.16	1026.69	4145.10	3589.13	0.25	-0.293	0.000	0.651
10.00	-70.68	-34.57	0.00	-3836.5	0.00	3836.58	3619.85	1018.47	4078.97	3547.13	0.39	-0.367	0.000	0.644
12.00	-69.33	-34.42	0.00	-3767.4	0.00	3767.43	3606.29	1010.25	4013.38	3505.10	0.56	-0.441	0.000	0.638
14.00	-67.98	-34.26	0.00	-3698.5	0.00	3698.59	3592.48	1002.02	3948.31	3463.03	0.76	-0.515	0.000	0.631
16.00	-66.65	-34.07	0.00	-3630.0	0.00	3630.07	3578.41	993.80	3883.78	3420.94	0.99	-0.589	0.000	0.625
16.25	-66.40	-34.09	0.00	-3621.5	0.00	3621.55	3576.63	992.77	3875.75	3415.68	1.02	-0.598	0.000	0.716
18.00	-64.83	-33.92	0.00	-3561.9	0.00	3561.90	3564.09	985.58	3819.78	3378.83	1.25	-0.673	0.000	0.710
18.63	-64.26	-33.86	0.00	-3540.5	0.00	3540.53	3559.52	982.99	3799.73	3365.57	1.34	-0.700	0.000	0.576
18.88	-64.03	-33.86	0.00	-3532.0	0.00	3532.07	3557.70	981.96	3791.79	3360.30	1.38	-0.709	0.000	0.657
20.00	-63.00	-33.78	0.00	-3494.1	0.00	3494.15	3549.51	977.36	3756.31	3336.71	1.55	-0.754	0.000	0.653
22.00	-61.21	-33.61	0.00	-3426.5	0.00	3426.58	3563.12	985.03	3815.51	3376.01	1.89	-0.834	0.000	0.662
24.00	-59.87	-33.45	0.00	-3359.3	0.00	3359.35	3548.52	976.81	3752.08	3333.89	2.25	-0.913	0.000	0.635
26.00	-58.53	-33.28	0.00	-3292.4	0.00	3292.46	3533.67	968.58	3689.18	3291.77	2.65	-0.991	0.000	0.628
28.00	-57.20	-33.10	0.00	-3225.9	0.00	3225.91	3518.56	960.36	3626.81	3249.64	3.08	-1.069	0.000	0.621
30.00	-55.53	-32.88	0.00	-3159.7	0.00	3159.70	3503.20	952.14	3564.97	3207.53	3.55	-1.146	0.000	0.484
31.00	-54.69	-32.78	0.00	-3126.8	0.00	3126.82	3495.43	948.03	3534.25	3186.48	3.79	-1.177	0.000	0.559
32.00	-53.85	-32.68	0.00	-3094.0	0.00	3094.05	3487.59	943.92	3503.66	3165.43	4.04	-1.213	0.000	0.555
33.38	-53.20	-32.55	0.00	-3048.9	0.00	3048.96	3476.66	938.24	3461.67	3136.39	4.40	-1.263	0.000	0.684
34.00	-52.88	-32.53	0.00	-3028.7	0.00	3028.78	3471.72	935.70	3442.89	3123.35	4.57	-1.290	0.000	0.682
36.00	-51.92	-32.37	0.00	-2963.7	0.00	2963.72	3455.59	927.47	3382.65	3081.29	5.13	-1.379	0.000	0.675
38.00	-50.97	-32.21	0.00	-2898.9	0.00	2898.98	3439.21	919.25	3322.94	3039.26	5.72	-1.468	0.000	0.667
40.00	-50.01	-32.01	0.00	-2834.5	0.00	2834.57	3422.57	911.03	3263.76	2997.28	6.36	-1.557	0.000	0.659
42.00	-49.06	-31.83	0.00	-2770.5	0.00	2770.56	3405.68	902.81	3205.11	2955.34	7.03	-1.646	0.000	0.651
44.00	-48.13	-31.64	0.00	-2706.9	0.00	2706.90	3388.54	894.58	3146.99	2913.44	7.74	-1.736	0.000	0.643
45.16	-47.60	-31.53	0.00	-2670.1	0.00	2670.19	3378.48	889.81	3113.53	2889.17	8.17	-1.788	0.000	0.465
46.00	-47.19	-31.47	0.00	-2643.7	0.00	2643.71	3371.14	886.36	3089.41	2871.61	8.48	-1.815	0.000	0.603
48.00	-46.26	-31.28	0.00	-2580.7	0.00	2580.77	3353.48	878.14	3032.36	2829.83	9.26	-1.900	0.000	0.595
50.00	-45.34	-31.10	0.00	-2518.2	0.00	2518.20	3335.57	869.92	2975.84	2788.13	10.08	-1.985	0.000	0.587
52.00	-44.01	-30.88	0.00	-2456.0	0.00	2456.01	3317.41	861.69	2919.85	2746.50	10.93	-2.070	0.000	0.572
54.00	-42.69	-30.67	0.00	-2394.2	0.00	2394.24	3298.98	853.47	2864.39	2704.94	11.81	-2.153	0.000	0.563
56.00	-41.38	-30.45	0.00	-2332.9	0.00	2332.91	3316.18	861.14	2916.12	2743.71	12.73	-2.237	0.000	0.570
58.00	-40.46	-30.24	0.00	-2272.0	0.00	2272.01	3297.74	852.92	2860.70	2702.16	13.69	-2.320	0.000	0.589
60.00	-39.55	-30.04	0.00	-2211.5	0.00	2211.52	3279.05	844.70	2805.81	2660.71	14.68	-2.408	0.000	0.580
62.00	-38.64	-29.83	0.00	-2151.4	0.00	2151.45	3260.10	836.48	2751.45	2619.34	15.70	-2.495	0.000	0.571
64.00	-37.74	-29.62	0.00	-2091.8	0.00	2091.80	3240.90	828.25	2697.62	2578.08	16.77	-2.582	0.000	0.562
66.00	-36.85	-29.40	0.00	-2032.5	0.00	2032.57	3221.44	820.03	2644.33	2536.92	17.87	-2.669	0.000	0.553
68.00	-35.95	-29.18	0.00	-1973.7	0.00	1973.77	3201.73	811.81	2591.56	2495.87	19.01	-2.756	0.000	0.544
70.00	-35.07	-28.97	0.00	-1915.4	0.00	1915.40	3181.76	803.59	2539.33	2454.94	20.18	-2.842	0.000	0.535
72.00	-34.18	-28.74	0.00	-1857.4	0.00	1857.47	3161.54	795.36	2487.63	2414.13	21.39	-2.928	0.000	0.526
74.00	-33.30	-28.52	0.00	-1799.9	0.00	1799.98	3141.06	787.14	2436.47	2373.45	22.63	-3.014	0.000	0.516
76.00	-32.43	-28.30	0.00	-1742.9	0.00	1742.94	3120.33	778.92	2385.83	2332.91	23.91	-3.099	0.000	0.507
78.00	-31.56	-28.07	0.00	-1686.3	0.00	1686.35	3099.34	770.70	2335.73	2292.51	25.23	-3.184	0.000	0.497
80.00	-30.70	-27.84	0.00	-1630.2	0.00	1630.21	3078.09	762.47	2286.15	2252.26	26.58	-3.269	0.000	0.487

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 29

TES Tower Engineering Solutions

80.00	-30.70	-27.84	0.00	-1630.2	0.00	1630.21	2384.58	636.50	1911.75	1750.88	26.58	-3.269	0.000	0.525
82.00	-29.90	-27.62	0.00	-1574.5	0.00	1574.53	2370.62	629.65	1870.81	1721.73	27.97	-3.353	0.000	0.575
84.00	-29.09	-27.39	0.00	-1519.2	0.00	1519.29	2356.42	622.80	1830.32	1692.63	29.39	-3.446	0.000	0.562
86.00	-28.30	-27.17	0.00	-1464.5	0.00	1464.51	2341.95	615.94	1790.27	1663.57	30.85	-3.539	0.000	0.549
88.00	-27.50	-26.94	0.00	-1410.1	0.00	1410.17	2327.23	609.09	1750.66	1634.56	32.36	-3.631	0.000	0.535
90.00	-26.72	-26.71	0.00	-1356.2	0.00	1356.29	2312.26	602.24	1711.49	1605.61	33.89	-3.722	0.000	0.521
92.00	-25.93	-26.48	0.00	-1302.8	0.00	1302.86	2297.03	595.39	1672.77	1576.72	35.47	-3.812	0.000	0.508
94.00	-25.16	-26.24	0.00	-1249.9	0.00	1249.90	2281.55	588.54	1634.49	1547.90	37.09	-3.901	0.000	0.494
95.00	-24.78	-26.12	0.00	-1223.6	0.00	1223.66	2273.71	585.11	1615.51	1533.52	37.91	-3.945	0.000	0.486
95.58	-24.47	-26.05	0.00	-1208.5	0.00	1208.50	2269.13	583.12	1604.56	1525.19	38.39	-3.971	0.000	0.476
95.58	-24.47	-26.05	0.00	-1208.5	0.00	1208.50	2269.13	583.12	1604.56	1525.19	38.39	-3.971	0.000	0.476
96.00	-24.22	-26.02	0.00	-1197.5	0.00	1197.57	2265.81	581.68	1596.65	1519.16	38.74	-3.989	0.000	0.801
98.00	-23.15	-25.79	0.00	-1145.5	0.00	1145.53	2249.81	574.83	1559.25	1490.50	40.44	-4.135	0.000	0.781
100.00	-22.45	-25.57	0.00	-1093.9	0.00	1093.96	2259.61	579.02	1582.04	1508.00	42.20	-4.279	0.000	0.737
102.00	-22.02	-25.38	0.00	-1042.8	0.00	1042.81	2243.52	572.17	1544.82	1479.37	44.03	-4.421	0.000	0.717
104.00	-21.60	-25.18	0.00	-992.05	0.00	992.05	2227.17	565.31	1508.04	1450.84	45.90	-4.553	0.000	0.695
106.00	-21.18	-24.98	0.00	-941.69	0.00	941.69	2210.57	558.46	1471.71	1422.40	47.84	-4.684	0.000	0.674
108.00	-20.76	-24.78	0.00	-891.73	0.00	891.73	2193.71	551.61	1435.82	1394.06	49.83	-4.812	0.000	0.651
110.00	-20.30	-24.36	0.00	-841.57	0.00	841.57	2176.60	544.76	1400.37	1365.84	51.87	-4.938	0.000	0.627
112.00	-19.90	-24.16	0.00	-792.86	0.00	792.86	2159.23	537.91	1365.36	1337.73	53.96	-5.062	0.000	0.604
114.00	-19.52	-23.95	0.00	-744.54	0.00	744.54	2141.61	531.05	1330.80	1309.73	56.11	-5.182	0.000	0.580
115.00	-19.32	-23.85	0.00	-720.60	0.00	720.60	2132.70	527.63	1313.68	1295.79	57.20	-5.242	0.000	0.567
115.00	-19.32	-23.85	0.00	-720.60	0.00	720.60	1556.62	422.98	1055.35	949.74	57.20	-5.242	0.000	0.774
116.00	-19.13	-23.76	0.00	-696.75	0.00	696.75	1551.43	420.24	1041.71	940.38	58.30	-5.301	0.000	0.756
118.00	-18.78	-23.57	0.00	-649.23	0.00	649.23	1540.84	414.76	1014.72	921.68	60.55	-5.442	0.000	0.720
120.00	-18.44	-23.38	0.00	-602.09	0.00	602.09	1529.99	409.28	988.07	902.99	62.85	-5.579	0.000	0.682
122.00	-18.10	-23.19	0.00	-555.33	0.00	555.33	1518.89	403.80	961.78	884.33	65.22	-5.711	0.000	0.643
124.00	-17.76	-23.00	0.00	-508.95	0.00	508.95	1507.54	398.32	935.85	865.70	67.63	-5.837	0.000	0.603
126.00	-17.44	-22.80	0.00	-462.96	0.00	462.96	1495.93	392.84	910.27	847.11	70.10	-5.957	0.000	0.562
128.00	-17.11	-22.61	0.00	-417.36	0.00	417.36	1484.06	387.35	885.04	828.56	72.62	-6.071	0.000	0.519
130.00	-16.80	-22.41	0.00	-372.15	0.00	372.15	1471.95	381.87	860.17	810.06	75.18	-6.177	0.000	0.474
132.00	-16.50	-22.21	0.00	-327.33	0.00	327.33	1459.57	376.39	835.65	791.62	77.79	-6.275	0.000	0.428
133.00	-11.62	-17.39	0.00	-305.12	0.00	305.12	1453.29	373.65	823.53	782.42	79.10	-6.321	0.000	0.400
134.00	-11.48	-17.30	0.00	-287.73	0.00	287.73	1446.94	370.91	811.49	773.23	80.43	-6.366	0.000	0.382
136.00	-11.22	-17.09	0.00	-253.14	0.00	253.14	1434.06	365.43	787.68	754.91	83.11	-6.448	0.000	0.345
138.00	-10.97	-16.89	0.00	-218.95	0.00	218.95	1420.92	359.95	764.23	736.67	85.82	-6.524	0.000	0.307
140.00	-10.72	-16.69	0.00	-185.17	0.00	185.17	1407.52	354.47	741.13	718.50	88.56	-6.591	0.000	0.268
142.00	-6.23	-9.87	0.00	-151.79	0.00	151.79	1393.87	348.98	718.38	700.42	91.33	-6.651	0.000	0.222
144.00	-6.04	-9.66	0.00	-132.05	0.00	132.05	1379.97	343.50	695.99	682.44	94.12	-6.703	0.000	0.199
145.00	-5.94	-9.57	0.00	-122.39	0.00	122.39	1372.92	340.76	684.93	673.48	95.53	-6.727	0.000	0.187
145.00	-5.94	-9.57	0.00	-122.39	0.00	122.39	931.20	332.53	24157.3	604.09	95.53	-6.727	0.000	0.210
146.00	-5.83	-9.50	0.00	-112.82	0.00	112.82	925.24	329.86	23770.3	594.77	96.94	-6.750	0.000	0.197
148.00	-5.64	-9.37	0.00	-93.82	0.00	93.82	913.32	324.51	23005.8	576.36	99.77	-6.794	0.000	0.170
150.00	-5.44	-9.25	0.00	-75.07	0.00	75.07	901.40	319.16	22253.7	558.24	102.62	-6.832	0.000	0.141
150.00	-5.44	-9.25	0.00	-75.07	0.00	75.07	556.65	167.00	10296.1	213.69	102.62	-6.832	0.000	0.364
152.00	-2.83	-5.88	0.00	-56.58	0.00	56.58	556.65	167.00	10296.1	213.69	105.48	-6.862	0.000	0.271
154.00	-2.69	-5.78	0.00	-44.82	0.00	44.82	556.65	167.00	10296.1	213.69	108.36	-6.937	0.000	0.216
156.00	-2.54	-5.69	0.00	-33.26	0.00	33.26	556.65	167.00	10296.1	213.69	111.28	-6.995	0.000	0.161
158.00	-2.40	-5.59	0.00	-21.88	0.00	21.88	556.65	167.00	10296.1	213.69	114.21	-7.036	0.000	0.108
160.00	0.00	-5.26	0.00	-10.69	0.00	10.69	556.65	167.00	10296.1	213.69	117.15	-7.060	0.000	0.051

Wind Loading - Shaft

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

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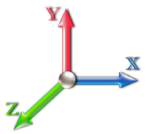
Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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	RB1 RB2	1.00	0.70	26.005	28.61	449.40	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT2 RB3 RB4	1.00	0.70	26.005	28.61	447.67	0.972 *	0.000	1.00	4.338	4.21	120.6	0.0	184.5
2.00		1.00	0.70	26.005	28.61	445.94	0.973 *	0.000	1.00	4.321	4.20	120.2	0.0	183.8
4.00		1.00	0.70	26.005	28.61	442.48	0.975 *	0.000	2.00	8.592	8.37	239.5	0.0	365.5
6.00		1.00	0.70	26.005	28.61	439.02	0.977 *	0.000	2.00	8.525	8.33	238.2	0.0	362.6
8.00		1.00	0.70	26.005	28.61	435.56	0.980 *	0.000	2.00	8.458	8.28	237.0	0.0	359.8
10.00		1.00	0.70	26.005	28.61	432.09	0.982 *	0.000	2.00	8.391	8.24	235.7	0.0	356.9
12.00		1.00	0.70	26.005	28.61	428.63	0.985 *	0.000	2.00	8.324	8.20	234.4	0.0	354.0
14.00		1.00	0.70	26.005	28.61	425.17	0.987 *	0.000	2.00	8.257	8.15	233.2	0.0	351.1
16.00	Bot - Section 2	1.00	0.70	26.005	28.61	421.71	0.990 *	0.000	2.00	8.190	8.11	231.9	0.0	348.3
16.25	RT1 RB5	1.00	0.70	26.005	28.61	421.28	0.991 *	0.000	0.25	1.035	1.03	29.4	0.0	87.4
18.00		1.00	0.70	26.005	28.61	418.25	0.993 *	0.000	1.75	7.217	7.16	204.9	0.0	609.0
18.63	RB6	1.00	0.70	26.005	28.61	417.16	0.994 *	0.000	0.63	2.586	2.57	73.5	0.0	218.2
18.88	RT3 RT4	1.00	0.70	26.005	28.61	416.73	0.995 *	0.000	0.25	1.024	1.02	29.1	0.0	86.4
20.00		1.00	0.70	26.005	28.61	414.79	0.996 *	0.000	1.12	4.576	4.56	130.3	0.0	386.0
22.00	Top - Section 1	1.00	0.70	26.005	28.61	411.33	0.998 *	0.000	2.00	8.118	8.10	231.8	0.0	684.9
24.00		1.00	0.70	26.005	28.61	414.56	0.995 *	0.000	2.00	8.052	8.01	229.2	0.0	342.3
26.00		1.00	0.70	26.005	28.61	411.09	0.998 *	0.000	2.00	7.985	7.97	228.0	0.0	339.5
28.00		1.00	0.70	26.005	28.61	407.63	1.001 *	0.000	2.00	7.918	7.93	226.7	0.0	336.6
30.00	RB7	1.00	0.70	26.027	28.63	404.34	1.079 *	0.000	2.00	7.851	8.47	242.6	0.0	333.7
31.00	RT5	1.00	0.71	26.272	28.90	404.50	1.082 *	0.000	1.00	3.900	4.22	122.0	0.0	165.8
32.00		1.00	0.71	26.511	29.16	404.59	1.084 *	0.000	1.00	3.883	4.21	122.8	0.0	165.1
33.38	RT6	1.00	0.72	26.833	29.52	404.61	0.950	0.000	1.38	5.332	5.07	149.5	0.0	226.6
34.00		1.00	0.73	26.974	29.67	404.59	0.950	0.000	0.62	2.385	2.27	67.2	0.0	101.4
36.00		1.00	0.74	27.418	30.16	404.35	0.950	0.000	2.00	7.650	7.27	219.2	0.0	325.1
38.00		1.00	0.75	27.845	30.63	403.90	0.950	0.000	2.00	7.583	7.20	220.6	0.0	322.3
40.00	Appurtenance(s)	1.00	0.76	28.256	31.08	403.26	0.950	0.000	2.00	7.516	7.14	221.9	0.0	319.4
42.00		1.00	0.77	28.653	31.52	402.45	0.950	0.000	2.00	7.449	7.08	223.0	0.0	316.5
44.00		1.00	0.78	29.036	31.94	401.48	0.950	0.000	2.00	7.382	7.01	224.0	0.0	313.6
45.16	RB8	1.00	0.79	29.253	32.18	400.84	0.950	0.000	1.16	4.251	4.04	129.9	0.0	180.6
46.00	RT7	1.00	0.79	29.407	32.35	400.35	0.950	0.000	0.84	3.064	2.91	94.2	0.0	130.2
48.00		1.00	0.80	29.767	32.74	399.09	0.950	0.000	2.00	7.248	6.89	225.5	0.0	307.9
50.00	Bot - Section 3	1.00	0.81	30.116	33.13	397.70	0.950	0.000	2.00	7.181	6.82	226.0	0.0	305.0
52.00		1.00	0.82	30.456	33.50	396.19	0.950	0.000	2.00	7.244	6.88	230.5	0.0	609.9
54.00		1.00	0.83	30.786	33.86	394.57	0.950	0.000	2.00	7.177	6.82	230.9	0.0	604.1
56.00	Top - Section 2	1.00	0.84	31.108	34.22	392.84	0.950	0.000	2.00	7.110	6.75	231.1	0.0	598.4
58.00	RT8 RB9	1.00	0.85	31.421	34.56	398.36	0.950	0.000	2.00	7.043	6.69	231.3	0.0	299.1
60.00		1.00	0.85	31.727	34.90	396.47	0.950	0.000	2.00	6.976	6.63	231.3	0.0	296.2
62.00		1.00	0.86	32.025	35.23	394.49	0.950	0.000	2.00	6.909	6.56	231.2	0.0	293.4
64.00		1.00	0.87	32.317	35.55	392.43	0.950	0.000	2.00	6.842	6.50	231.1	0.0	290.5
66.00		1.00	0.88	32.603	35.86	390.28	0.950	0.000	2.00	6.775	6.44	230.8	0.0	287.6
68.00		1.00	0.89	32.882	36.17	388.05	0.950	0.000	2.00	6.708	6.37	230.5	0.0	284.8
70.00		1.00	0.89	33.155	36.47	385.76	0.950	0.000	2.00	6.641	6.31	230.1	0.0	281.9
72.00		1.00	0.90	33.423	36.77	383.39	0.950	0.000	2.00	6.574	6.25	229.6	0.0	279.0
74.00		1.00	0.91	33.686	37.05	380.95	0.950	0.000	2.00	6.507	6.18	229.1	0.0	276.1
76.00		1.00	0.91	33.944	37.34	378.45	0.950	0.000	2.00	6.440	6.12	228.4	0.0	273.3
78.00	RT9 RB10	1.00	0.92	34.197	37.62	375.89	0.950	0.000	2.00	6.373	6.05	227.8	0.0	270.4

Wind Loading - Shaft

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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

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80.00	Top - Section 3	1.00	0.93	34.445	37.89	373.27	0.950	0.000	2.00	6.306	5.99	227.0	0.0	267.5
82.00		1.00	0.93	34.689	38.16	370.59	0.950	0.000	2.00	6.239	5.93	226.2	0.0	220.9
84.00		1.00	0.94	34.928	38.42	367.85	0.950	0.000	2.00	6.172	5.86	225.3	0.0	218.6
86.00		1.00	0.95	35.164	38.68	365.07	0.950	0.000	2.00	6.106	5.80	224.4	0.0	216.2
88.00		1.00	0.95	35.396	38.94	362.23	0.950	0.000	2.00	6.039	5.74	223.4	0.0	213.8
90.00		1.00	0.96	35.624	39.19	359.34	0.950	0.000	2.00	5.972	5.67	222.3	0.0	211.4
92.00		1.00	0.96	35.848	39.43	356.41	0.950	0.000	2.00	5.905	5.61	221.2	0.0	209.0
94.00		1.00	0.97	36.069	39.68	353.43	0.950	0.000	2.00	5.838	5.55	220.0	0.0	206.6
95.00	Bot - Section 5	1.00	0.97	36.178	39.80	351.92	0.950	0.000	1.00	2.894	2.75	109.4	0.0	102.4
95.58	RT10	1.00	0.98	36.241	39.87	351.04	0.950	0.000	0.58	1.702	1.62	64.5	0.0	119.4
96.00		1.00	0.98	36.287	39.92	350.41	0.950	0.000	0.42	1.229	1.17	46.6	0.0	86.2
98.00		1.00	0.98	36.501	40.15	347.34	0.950	0.000	2.00	5.812	5.52	221.7	0.0	407.5
100.00	Top - Section 4	1.00	0.99	36.712	40.38	344.23	0.950	0.000	2.00	5.745	5.46	220.4	0.0	402.7
102.00		1.00	0.99	36.921	40.61	347.72	0.950	0.000	2.00	5.678	5.39	219.1	0.0	200.9
104.00		1.00	1.00	37.126	40.84	344.55	0.950	0.000	2.00	5.611	5.33	217.7	0.0	198.5
106.00		1.00	1.00	37.329	41.06	341.35	0.950	0.000	2.00	5.544	5.27	216.3	0.0	196.1
108.00		1.00	1.01	37.529	41.28	338.10	0.950	0.000	2.00	5.477	5.20	214.8	0.0	193.7
110.00	Appurtenance(s)	1.00	1.02	37.726	41.50	334.82	0.950	0.000	2.00	5.410	5.14	213.3	0.0	191.3
112.00		1.00	1.02	37.921	41.71	331.50	0.950	0.000	2.00	5.343	5.08	211.7	0.0	188.9
114.00		1.00	1.03	38.113	41.92	328.15	0.950	0.000	2.00	5.276	5.01	210.1	0.0	186.5
115.00	Top - Section 5	1.00	1.03	38.208	42.03	326.46	0.950	0.000	1.00	2.613	2.48	104.3	0.0	92.4
116.00		1.00	1.03	38.303	42.13	324.77	0.950	0.000	1.00	2.596	2.47	103.9	0.0	73.6
118.00		1.00	1.04	38.490	42.34	321.35	0.950	0.000	2.00	5.142	4.89	206.8	0.0	145.7
120.00		1.00	1.04	38.675	42.54	317.90	0.950	0.000	2.00	5.075	4.82	205.1	0.0	143.8
122.00		1.00	1.05	38.859	42.74	314.42	0.950	0.000	2.00	5.008	4.76	203.4	0.0	141.9
124.00		1.00	1.05	39.040	42.94	310.91	0.950	0.000	2.00	4.941	4.69	201.6	0.0	140.0
126.00		1.00	1.06	39.218	43.14	307.37	0.950	0.000	2.00	4.874	4.63	199.8	0.0	138.1
128.00		1.00	1.06	39.395	43.33	303.80	0.950	0.000	2.00	4.807	4.57	197.9	0.0	136.1
130.00		1.00	1.07	39.570	43.53	300.21	0.950	0.000	2.00	4.741	4.50	196.0	0.0	134.2
132.00		1.00	1.07	39.743	43.72	296.58	0.950	0.000	2.00	4.674	4.44	194.1	0.0	132.3
133.00	Appurtenance(s)	1.00	1.07	39.829	43.81	294.76	0.950	0.000	1.00	2.312	2.20	96.2	0.0	65.4
134.00		1.00	1.07	39.914	43.91	292.93	0.950	0.000	1.00	2.295	2.18	95.7	0.0	65.0
136.00		1.00	1.08	40.084	44.09	289.26	0.950	0.000	2.00	4.540	4.31	190.2	0.0	128.5
138.00		1.00	1.08	40.251	44.28	285.55	0.950	0.000	2.00	4.473	4.25	188.1	0.0	126.6
140.00		1.00	1.09	40.417	44.46	281.83	0.950	0.000	2.00	4.406	4.19	186.1	0.0	124.7
142.00	Appurtenance(s)	1.00	1.09	40.581	44.64	278.07	0.950	0.000	2.00	4.339	4.12	184.0	0.0	122.8
144.00		1.00	1.10	40.744	44.82	274.30	0.950	0.000	2.00	4.272	4.06	181.9	0.0	120.8
145.00	Top - Section 6	1.00	1.10	40.824	44.91	272.40	0.950	0.000	1.00	2.111	2.01	90.1	0.0	59.7
146.00		1.00	1.10	40.904	44.99	261.33	0.600	0.000	1.00	2.023	1.21	54.6	0.0	57.8
148.00		1.00	1.11	41.064	45.17	257.64	0.600	0.000	2.00	3.998	2.40	108.3	0.0	114.2
150.00	Top - Section 7	1.00	1.11	41.222	45.34	253.93	0.600	0.000	2.00	3.933	2.36	107.0	0.0	112.3
152.00	Appurtenance(s)	1.00	1.11	41.378	45.52	173.92	0.645 *	0.000	2.00	2.667	1.72	78.3	0.0	75.8
154.00		1.00	1.12	41.533	45.69	174.24	0.645 *	0.000	2.00	2.667	1.72	78.6	0.0	75.8
156.00		1.00	1.12	41.686	45.85	174.56	0.645 *	0.000	2.00	2.667	1.72	78.9	0.0	75.8
158.00		1.00	1.13	41.838	46.02	174.88	0.645 *	0.000	2.00	2.667	1.72	79.2	0.0	75.8
160.00	Appurtenance(s)	1.00	1.13	41.989	46.19	175.20	0.645 *	0.000	2.00	2.667	1.72	79.4	0.0	75.8
								Totals:	**160.00**			**16,630.5**		**21,407.5**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

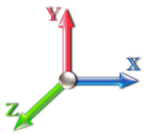
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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	160.00	JAHH-65B-R3B	6	42.138	46.352	0.66	0.80	36.29	291.60	0.000	2.000	1682.30	0.00	3364.61
2	160.00	DB222	1	42.359	46.595	1.00	1.00	2.25	14.40	0.000	5.000	104.84	0.00	524.20
3	160.00	DB846F65ZAXY	6	42.138	46.352	0.74	0.80	31.47	113.40	0.000	2.000	1458.75	0.00	2917.49
4	160.00	Low Profile Platform	1	42.138	46.352	1.00	1.00	22.00	1080.00	0.000	2.000	1019.74	0.00	2039.48
5	160.00	6' Lightning rod	1	42.212	46.433	1.00	1.00	0.38	5.85	0.000	3.000	17.64	0.00	52.93
6	160.00	Commscope	1	42.138	46.352	1.00	1.00	2.51	13.50	0.000	2.000	116.34	0.00	232.69
7	160.00	CBC78T-DS-43	1	42.138	46.352	1.00	1.00	0.37	18.63	0.000	2.000	17.15	0.00	34.30
8	160.00	B2/B66A RRH-BR049	3	42.138	46.352	0.67	1.00	3.76	189.00	0.000	2.000	174.22	0.00	348.44
9	160.00	B5/B13 RRH-BR04C	3	42.138	46.352	0.67	1.00	3.76	227.88	0.000	2.000	174.22	0.00	348.44
10	160.00	VZS01	3	42.138	46.352	0.69	1.00	8.90	235.17	0.000	2.000	412.58	0.00	825.15
11	152.00	MX08FRO665-21	3	41.378	45.516	0.55	0.75	20.80	174.15	0.000	0.000	946.54	0.00	0.00
12	152.00	MC-PK8-DSH	1	41.378	45.516	1.00	1.00	37.59	1554.30	0.000	0.000	1710.93	0.00	0.00
13	152.00	TA08025-B604	3	41.378	45.516	0.50	0.75	2.95	172.53	0.000	0.000	134.48	0.00	0.00
14	152.00	TA08025-B605	3	41.378	45.516	0.50	0.75	2.95	202.50	0.000	0.000	134.48	0.00	0.00
15	152.00	RDIDC-9181-OF-48	1	41.378	45.516	0.38	0.75	0.75	19.71	0.000	0.000	34.31	0.00	0.00
16	142.00	AIR 21, 1.3M, B2A B4P	3	40.581	44.639	0.65	0.75	11.78	247.05	0.000	0.000	526.03	0.00	0.00
17	142.00	4415	1	40.581	44.639	0.54	0.80	1.00	39.69	0.000	0.000	44.50	0.00	0.00
18	142.00	4449 B71 + B85	4	40.581	44.639	0.54	0.80	4.22	263.52	0.000	0.000	188.54	0.00	0.00
19	142.00	KRY 112 144/1	3	40.581	44.639	0.40	0.80	0.49	29.70	0.000	0.000	21.96	0.00	0.00
20	142.00	APXVAARR24_43-U-NA2	3	40.581	44.639	0.52	0.75	31.88	345.60	0.000	0.000	1423.01	0.00	0.00
21	142.00	KRD 9011461-B66A-B2A	4	40.581	44.639	0.65	0.75	16.99	475.92	0.000	0.000	758.47	0.00	0.00
22	142.00	Platform w/ HR & Bracing	1	40.581	44.639	1.00	1.00	52.00	2021.40	0.000	0.000	2321.24	0.00	0.00
23	142.00	Mod	1	40.581	44.639	1.00	1.00	12.00	270.00	0.000	0.000	535.67	0.00	0.00
24	142.00	APXVA18-43-C-A20	1	40.581	44.639	0.61	0.75	5.93	40.86	0.000	0.000	264.92	0.00	0.00
25	133.00	(3) SitePro 1 P/N	2	39.829	43.812	0.56	0.75	24.01	2443.99	0.000	0.000	1051.81	0.00	0.00
26	133.00	Kathrein 800 10121	3	39.829	43.812	0.63	0.80	9.76	125.01	0.000	0.000	427.80	0.00	0.00
27	133.00	Kathrein 800-10965	3	39.829	43.812	0.57	0.80	23.53	293.22	0.000	0.000	1030.99	0.00	0.00
28	133.00	Cci TPA-65R-LCUUUU-H8	1	39.829	43.812	0.63	0.80	8.06	94.50	0.000	0.000	353.04	0.00	0.00
29	133.00	Quintel QS66512-2	2	39.829	43.812	0.74	0.80	11.97	199.80	0.000	0.000	524.31	0.00	0.00
30	133.00	Ericsson RRUS-32 RRU	3	39.829	43.812	0.54	0.80	6.22	207.90	0.000	0.000	272.64	0.00	0.00
31	133.00	Powerwave LGP21401	6	39.829	43.812	0.54	0.80	4.15	76.14	0.000	0.000	181.76	0.00	0.00
32	133.00	Ericsson B2/B66A 8843	3	39.829	43.812	0.54	0.80	2.64	194.40	0.000	0.000	115.54	0.00	0.00
33	133.00	Ericsson B5/B12 4449	3	39.829	43.812	0.54	0.80	3.17	191.70	0.000	0.000	138.79	0.00	0.00
34	133.00	Raycap DC6-48-60-18-8F	3	39.829	43.812	0.54	0.80	1.48	85.86	0.000	0.000	64.81	0.00	0.00
35	110.00	3 ft Standoff	1	37.726	41.498	1.00	1.00	2.63	36.00	0.000	0.000	109.14	0.00	0.00
36	110.00	DB222	1	38.236	42.059	1.00	1.00	2.65	14.40	0.000	5.292	111.46	0.00	589.80
37	40.00	GPS	1	28.256	31.082	1.00	1.00	1.00	9.00	0.000	0.000	31.08	0.00	0.00
							Totals:		**12,018.28**			**18,636.04**		

Total Applied Force Summary

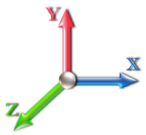
Structure:	CT02049-S-SBA		**Code:**	TIA-222-H	5/24/2022
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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
1.00		120.56	499.81	0.00	0.00
2.00		120.24	499.09	0.00	0.00
4.00		239.52	996.03	0.00	0.00
6.00		238.25	993.16	0.00	0.00
8.00		236.98	990.29	0.00	0.00
10.00		235.70	987.42	0.00	0.00
12.00		234.43	984.55	0.00	0.00
14.00		233.16	981.68	0.00	0.00
16.00		231.88	978.81	0.00	0.00
16.25		29.35	166.18	0.00	0.00
18.00		204.93	1160.72	0.00	0.00
18.63		73.54	416.78	0.00	0.00
18.88		29.15	165.23	0.00	0.00
20.00		130.33	739.14	0.00	0.00
22.00		231.76	1315.42	0.00	0.00
24.00		229.25	972.88	0.00	0.00
26.00		227.98	970.01	0.00	0.00
28.00		226.70	967.14	0.00	0.00
30.00		242.62	1234.27	0.00	0.00
31.00		121.97	616.06	0.00	0.00
32.00		122.76	615.34	0.00	0.00
33.38		149.50	475.39	0.00	0.00
34.00		67.23	213.14	0.00	0.00
36.00		219.18	685.66	0.00	0.00
38.00		220.65	682.79	0.00	0.00
40.00	(1) attachments	253.01	688.92	0.00	0.00
42.00		223.04	676.77	0.00	0.00
44.00		223.99	673.90	0.00	0.00
45.16		129.95	389.55	0.00	0.00
46.00		94.16	281.48	0.00	0.00
48.00		225.47	668.16	0.00	0.00
50.00		226.00	665.29	0.00	0.00
52.00		230.54	970.13	0.00	0.00
54.00		230.88	964.39	0.00	0.00
56.00		231.12	958.66	0.00	0.00
58.00		231.25	659.36	0.00	0.00
60.00		231.28	656.49	0.00	0.00
62.00		231.22	653.62	0.00	0.00
64.00		231.06	650.75	0.00	0.00
66.00		230.82	647.88	0.00	0.00
68.00		230.50	645.01	0.00	0.00
70.00		230.10	642.14	0.00	0.00
72.00		229.62	639.27	0.00	0.00
74.00		229.07	636.40	0.00	0.00
76.00		228.44	633.53	0.00	0.00
78.00		227.75	630.66	0.00	0.00

Total Applied Force Summary

Structure:	CT02049-S-SBA		**Code:**	TIA-222-H	5/24/2022
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (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

80.00		227.00	627.79	0.00	0.00
82.00		226.18	581.19	0.00	0.00
84.00		225.30	578.80	0.00	0.00
86.00		224.36	576.41	0.00	0.00
88.00		223.36	574.02	0.00	0.00
90.00		222.30	571.63	0.00	0.00
92.00		221.20	569.24	0.00	0.00
94.00		220.04	566.85	0.00	0.00
95.00		109.40	282.53	0.00	0.00
95.58		64.46	223.83	0.00	0.00
96.00		46.60	161.83	0.00	0.00
98.00		221.68	767.73	0.00	0.00
100.00		220.39	492.95	0.00	0.00
102.00		219.06	291.13	0.00	0.00
104.00		217.68	288.74	0.00	0.00
106.00		216.26	286.35	0.00	0.00
108.00		214.79	283.96	0.00	0.00
110.00	(2) attachments	433.88	331.97	0.00	589.80
112.00		211.73	278.24	0.00	0.00
114.00		210.14	275.85	0.00	0.00
115.00		104.33	137.03	0.00	0.00
116.00		103.92	118.23	0.00	0.00
118.00		206.83	235.02	0.00	0.00
120.00		205.12	233.11	0.00	0.00
122.00		203.37	231.20	0.00	0.00
124.00		201.59	229.28	0.00	0.00
126.00		199.77	227.37	0.00	0.00
128.00		197.91	225.46	0.00	0.00
130.00		196.02	223.55	0.00	0.00
132.00		194.10	221.63	0.00	0.00
133.00	(29) attachments	4257.70	4022.61	0.00	0.00
134.00		95.72	98.17	0.00	0.00
136.00		190.16	194.91	0.00	0.00
138.00		188.13	193.00	0.00	0.00
140.00		186.08	191.08	0.00	0.00
142.00	(21) attachments	6268.34	3922.91	0.00	0.00
144.00		181.88	161.14	0.00	0.00
145.00		90.05	79.85	0.00	0.00
146.00		54.62	77.95	0.00	0.00
148.00		108.35	154.49	0.00	0.00
150.00		107.01	152.63	0.00	0.00
152.00	(11) attachments	3039.03	2239.26	0.00	0.00
154.00		78.58	112.49	0.00	0.00
156.00		78.87	112.49	0.00	0.00
158.00		79.16	112.49	0.00	0.00
160.00	(26) attachments	5257.23	2301.92	0.00	10687.74
	Totals:	**35,266.58**	**58,159.67**	**0.00**	**11,277.54**

Linear Appurtenance Segment Forces (Factored)

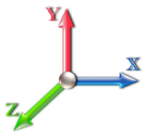
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
1.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.108	1.023	26.005	0.00	1.98
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	26.005	0.00	0.47
1.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	26.005	0.00	1.79
1.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	26.005	0.00	1.98
1.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	26.005	0.00	1.72
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	26.005	0.00	0.47
1.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.108	1.023	26.005	0.00	108.00
1.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.108	1.023	26.005	0.00	162.00
2.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.108	1.024	26.005	0.00	1.98
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	26.005	0.00	0.47
2.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	26.005	0.00	1.79
2.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	26.005	0.00	1.98
2.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	26.005	0.00	1.72
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	26.005	0.00	0.47
2.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.108	1.024	26.005	0.00	108.00
2.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.108	1.024	26.005	0.00	162.00
4.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.109	1.026	26.005	0.00	3.96
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	26.005	0.00	0.94
4.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	26.005	0.00	3.58
4.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	26.005	0.00	3.96
4.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	26.005	0.00	3.43
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	26.005	0.00	0.94
4.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.109	1.026	26.005	0.00	216.00
4.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.109	1.026	26.005	0.00	324.00
6.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.109	1.028	26.005	0.00	3.96
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	26.005	0.00	0.94
6.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	26.005	0.00	3.58
6.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	26.005	0.00	3.96
6.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	26.005	0.00	3.43
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	26.005	0.00	0.94
6.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.109	1.028	26.005	0.00	216.00
6.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.109	1.028	26.005	0.00	324.00
8.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.110	1.031	26.005	0.00	3.96
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	26.005	0.00	0.94
8.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	26.005	0.00	3.58
8.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	26.005	0.00	3.96
8.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	26.005	0.00	3.43
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	26.005	0.00	0.94
8.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.110	1.031	26.005	0.00	216.00
8.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.110	1.031	26.005	0.00	324.00
10.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.034	26.005	0.00	3.96
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	26.005	0.00	0.94
10.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	26.005	0.00	3.58
10.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	26.005	0.00	3.96
10.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	26.005	0.00	3.43
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	26.005	0.00	0.94
10.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.111	1.034	26.005	0.00	216.00

Linear Appurtenance Segment Forces (Factored)

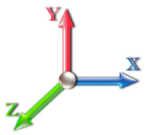
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 36	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
10.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.111	1.034	26.005	0.00	324.00
12.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.112	1.036	26.005	0.00	3.96
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	26.005	0.00	0.94
12.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	26.005	0.00	3.58
12.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	26.005	0.00	3.96
12.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	26.005	0.00	3.43
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	26.005	0.00	0.94
12.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.112	1.036	26.005	0.00	216.00
12.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.112	1.036	26.005	0.00	324.00
14.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.113	1.039	26.005	0.00	3.96
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	26.005	0.00	0.94
14.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	26.005	0.00	3.58
14.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	26.005	0.00	3.96
14.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	26.005	0.00	3.43
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	26.005	0.00	0.94
14.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.113	1.039	26.005	0.00	216.00
14.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.113	1.039	26.005	0.00	324.00
16.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.114	1.042	26.005	0.00	3.96
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	26.005	0.00	0.94
16.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	26.005	0.00	3.58
16.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	26.005	0.00	3.96
16.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	26.005	0.00	3.43
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	26.005	0.00	0.94
16.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.114	1.042	26.005	0.00	216.00
16.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.114	1.042	26.005	0.00	324.00
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.114	1.043	26.005	0.00	0.50
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	26.005	0.00	0.12
16.25	1.75" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	26.005	0.00	0.45
16.25	1 5/8" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	26.005	0.00	0.50
16.25	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	26.005	0.00	0.43
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	26.005	0.00	0.12
16.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.114	1.043	26.005	0.00	27.00
16.25	C10x15.3	Yes	0.25	0.000	2.60	0.05	0.00	0.114	1.043	26.005	0.00	40.50
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.115	1.045	26.005	0.00	3.47
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	26.005	0.00	0.82
18.00	1.75" Hybrid	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	26.005	0.00	3.14
18.00	1 5/8" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	26.005	0.00	3.47
18.00	1-1/4" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	26.005	0.00	3.01
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	26.005	0.00	0.82
18.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.115	1.045	26.005	0.00	189.00
18.00	C10x15.3	Yes	1.75	0.000	2.60	0.38	0.00	0.115	1.045	26.005	0.00	283.50
18.63	1 5/8" Hybrid	Yes	0.63	0.000	2.00	0.10	0.00	0.116	1.047	26.005	0.00	1.25
18.63	7/8" Coax	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.29
18.63	1.75" Hybrid	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	1.13
18.63	1 5/8" Fiber	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	1.25
18.63	1-1/4" Fiber	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	1.08
18.63	7/8" Coax	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.29

Linear Appurtenance Segment Forces (Factored)

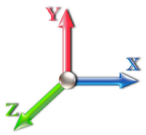
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 37	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
18.63	1" Reinforcing plate	Yes	0.63	0.000	1.00	0.05	0.00	0.116	1.047	26.005	0.00	68.04
18.63	C10x15.3	Yes	0.63	0.000	2.60	0.14	0.00	0.116	1.047	26.005	0.00	102.06
18.88	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.116	1.047	26.005	0.00	0.50
18.88	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.12
18.88	1.75" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.45
18.88	1 5/8" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.50
18.88	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.43
18.88	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	26.005	0.00	0.12
18.88	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.116	1.047	26.005	0.00	27.00
18.88	C10x15.3	Yes	0.25	0.000	2.60	0.05	0.00	0.116	1.047	26.005	0.00	40.50
20.00	1 5/8" Hybrid	Yes	1.12	0.000	2.00	0.19	0.00	0.116	1.048	26.005	0.00	2.22
20.00	7/8" Coax	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	0.52
20.00	1.75" Hybrid	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	2.01
20.00	1 5/8" Fiber	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	2.22
20.00	1-1/4" Fiber	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	1.92
20.00	7/8" Coax	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	0.52
20.00	1" Reinforcing plate	Yes	1.12	0.000	1.00	0.09	0.00	0.116	1.048	26.005	0.00	120.96
20.00	C10x15.3	Yes	1.12	0.000	2.60	0.24	0.00	0.116	1.048	26.005	0.00	181.44
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.050	26.005	0.00	3.96
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	26.005	0.00	0.94
22.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	26.005	0.00	3.58
22.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	26.005	0.00	3.96
22.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	26.005	0.00	3.43
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	26.005	0.00	0.94
22.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.117	1.050	26.005	0.00	216.00
22.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.117	1.050	26.005	0.00	324.00
24.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.116	1.048	26.005	0.00	3.96
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	0.94
24.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	3.58
24.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	3.96
24.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	3.43
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	26.005	0.00	0.94
24.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.116	1.048	26.005	0.00	216.00
24.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.116	1.048	26.005	0.00	324.00
26.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.051	26.005	0.00	3.96
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	26.005	0.00	0.94
26.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	26.005	0.00	3.58
26.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	26.005	0.00	3.96
26.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	26.005	0.00	3.43
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	26.005	0.00	0.94
26.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.117	1.051	26.005	0.00	216.00
26.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.117	1.051	26.005	0.00	324.00
28.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.118	1.054	26.005	0.00	3.96
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	26.005	0.00	0.94
28.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	26.005	0.00	3.58
28.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	26.005	0.00	3.96
28.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	26.005	0.00	3.43

Linear Appurtenance Segment Forces (Factored)

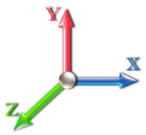
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 38	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	26.005	0.00	0.94
28.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.118	1.054	26.005	0.00	216.00
28.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.118	1.054	26.005	0.00	324.00
30.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.145	1.136	26.027	0.00	3.96
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	26.027	0.00	0.94
30.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	26.027	0.00	3.58
30.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	26.027	0.00	3.96
30.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	26.027	0.00	3.43
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	26.027	0.00	0.94
30.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.145	1.136	26.027	0.00	270.00
30.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.145	1.136	26.027	0.00	216.00
30.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.145	1.136	26.027	0.00	324.00
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.146	1.139	26.272	0.00	1.98
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	26.272	0.00	0.47
31.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	26.272	0.00	1.79
31.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	26.272	0.00	1.98
31.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	26.272	0.00	1.72
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	26.272	0.00	0.47
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.146	1.139	26.272	0.00	135.00
31.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.146	1.139	26.272	0.00	108.00
31.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.146	1.139	26.272	0.00	162.00
32.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.147	1.141	26.511	0.00	1.98
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	26.511	0.00	0.47
32.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	26.511	0.00	1.79
32.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	26.511	0.00	1.98
32.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	26.511	0.00	1.72
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	26.511	0.00	0.47
32.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.147	1.141	26.511	0.00	135.00
32.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.147	1.141	26.511	0.00	108.00
32.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.147	1.141	26.511	0.00	162.00
33.38	1 5/8" Hybrid	Yes	1.38	0.000	2.00	0.23	0.00	0.070	0.000	26.833	0.00	2.73
33.38	7/8" Coax	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	26.833	0.00	0.65
33.38	1.75" Hybrid	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	26.833	0.00	2.47
33.38	1 5/8" Fiber	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	26.833	0.00	2.73
33.38	1-1/4" Fiber	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	26.833	0.00	2.37
33.38	7/8" Coax	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	26.833	0.00	0.65
33.38	1.25" Reinforcing	Yes	1.38	0.000	1.25	0.14	0.00	0.070	0.000	26.833	0.00	186.30
34.00	1 5/8" Hybrid	Yes	0.62	0.000	2.00	0.10	0.00	0.070	0.000	26.974	0.00	1.23
34.00	7/8" Coax	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	26.974	0.00	0.29
34.00	1.75" Hybrid	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	26.974	0.00	1.11
34.00	1 5/8" Fiber	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	26.974	0.00	1.23
34.00	1-1/4" Fiber	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	26.974	0.00	1.06
34.00	7/8" Coax	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	26.974	0.00	0.29
34.00	1.25" Reinforcing	Yes	0.62	0.000	1.25	0.06	0.00	0.070	0.000	26.974	0.00	83.70
36.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	27.418	0.00	3.96
36.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.418	0.00	0.94
36.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.418	0.00	3.58

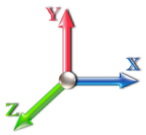
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 39	

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
36.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.418	0.00	3.96
36.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.418	0.00	3.43
36.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.418	0.00	0.94
36.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.071	0.000	27.418	0.00	270.00
38.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	27.845	0.00	3.96
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.845	0.00	0.94
38.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.845	0.00	3.58
38.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.845	0.00	3.96
38.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.845	0.00	3.43
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	27.845	0.00	0.94
38.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.071	0.000	27.845	0.00	270.00
40.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.072	0.000	28.256	0.00	3.96
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	28.256	0.00	0.94
40.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	28.256	0.00	3.58
40.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	28.256	0.00	3.96
40.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	28.256	0.00	3.43
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	28.256	0.00	0.94
40.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.072	0.000	28.256	0.00	270.00
42.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	28.653	0.00	3.96
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	28.653	0.00	0.94
42.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	28.653	0.00	3.58
42.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	28.653	0.00	3.96
42.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	28.653	0.00	3.43
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	28.653	0.00	0.94
42.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.073	0.000	28.653	0.00	270.00
44.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	29.036	0.00	3.96
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	29.036	0.00	0.94
44.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	29.036	0.00	3.58
44.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	29.036	0.00	3.96
44.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	29.036	0.00	3.43
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	29.036	0.00	0.94
44.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.073	0.000	29.036	0.00	270.00
45.16	1 5/8" Hybrid	Yes	1.16	0.000	2.00	0.19	0.00	0.074	0.000	29.253	0.00	2.30
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	29.253	0.00	0.54
45.16	1.75" Hybrid	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	29.253	0.00	2.08
45.16	1 5/8" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	29.253	0.00	2.30
45.16	1-1/4" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	29.253	0.00	1.99
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	29.253	0.00	0.54
45.16	1.25" Reinforcing	Yes	1.16	0.000	1.25	0.12	0.00	0.074	0.000	29.253	0.00	156.60
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.074	0.000	29.407	0.00	1.66
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	29.407	0.00	0.39
46.00	1.75" Hybrid	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	29.407	0.00	1.51
46.00	1 5/8" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	29.407	0.00	1.66
46.00	1-1/4" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	29.407	0.00	1.44
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	29.407	0.00	0.39
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.09	0.00	0.074	0.000	29.407	0.00	113.40
48.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	29.767	0.00	3.96

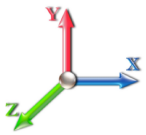
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 40	

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	29.767	0.00	0.94
48.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	29.767	0.00	3.58
48.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	29.767	0.00	3.96
48.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	29.767	0.00	3.43
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	29.767	0.00	0.94
48.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.075	0.000	29.767	0.00	270.00
50.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	30.116	0.00	3.96
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	30.116	0.00	0.94
50.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	30.116	0.00	3.58
50.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	30.116	0.00	3.96
50.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	30.116	0.00	3.43
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	30.116	0.00	0.94
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.075	0.000	30.116	0.00	270.00
52.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	30.456	0.00	3.96
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	30.456	0.00	0.94
52.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	30.456	0.00	3.58
52.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	30.456	0.00	3.96
52.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	30.456	0.00	3.43
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	30.456	0.00	0.94
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.076	0.000	30.456	0.00	270.00
54.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	30.786	0.00	3.96
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	30.786	0.00	0.94
54.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	30.786	0.00	3.58
54.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	30.786	0.00	3.96
54.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	30.786	0.00	3.43
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	30.786	0.00	0.94
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.077	0.000	30.786	0.00	270.00
56.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	31.108	0.00	3.96
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.108	0.00	0.94
56.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.108	0.00	3.58
56.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.108	0.00	3.96
56.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.108	0.00	3.43
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.108	0.00	0.94
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.078	0.000	31.108	0.00	270.00
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	31.421	0.00	3.96
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	31.421	0.00	0.94
58.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	31.421	0.00	3.58
58.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	31.421	0.00	3.96
58.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	31.421	0.00	3.43
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	31.421	0.00	0.94
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.077	0.000	31.421	0.00	270.00
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	31.727	0.00	3.96
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.727	0.00	0.94
60.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.727	0.00	3.58
60.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.727	0.00	3.96
60.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.727	0.00	3.43
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	31.727	0.00	0.94

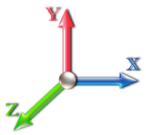
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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 + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.078	0.000	31.727	0.00	270.00
62.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	32.025	0.00	3.96
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	32.025	0.00	0.94
62.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	32.025	0.00	3.58
62.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	32.025	0.00	3.96
62.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	32.025	0.00	3.43
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	32.025	0.00	0.94
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.078	0.000	32.025	0.00	270.00
64.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	32.317	0.00	3.96
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	32.317	0.00	0.94
64.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	32.317	0.00	3.58
64.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	32.317	0.00	3.96
64.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	32.317	0.00	3.43
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	32.317	0.00	0.94
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.079	0.000	32.317	0.00	270.00
66.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.080	0.000	32.603	0.00	3.96
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	32.603	0.00	0.94
66.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	32.603	0.00	3.58
66.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	32.603	0.00	3.96
66.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	32.603	0.00	3.43
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	32.603	0.00	0.94
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.080	0.000	32.603	0.00	270.00
68.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.081	0.000	32.882	0.00	3.96
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	32.882	0.00	0.94
68.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	32.882	0.00	3.58
68.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	32.882	0.00	3.96
68.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	32.882	0.00	3.43
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	32.882	0.00	0.94
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.081	0.000	32.882	0.00	270.00
70.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.082	0.000	33.155	0.00	3.96
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.155	0.00	0.94
70.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.155	0.00	3.58
70.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.155	0.00	3.96
70.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.155	0.00	3.43
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.155	0.00	0.94
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.082	0.000	33.155	0.00	270.00
72.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.082	0.000	33.423	0.00	3.96
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.423	0.00	0.94
72.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.423	0.00	3.58
72.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.423	0.00	3.96
72.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.423	0.00	3.43
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	33.423	0.00	0.94
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.082	0.000	33.423	0.00	270.00
74.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	33.686	0.00	3.96
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	33.686	0.00	0.94
74.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	33.686	0.00	3.58
74.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	33.686	0.00	3.96

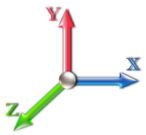
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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	

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
74.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	33.686	0.00	3.43
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	33.686	0.00	0.94
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.083	0.000	33.686	0.00	270.00
76.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.084	0.000	33.944	0.00	3.96
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	33.944	0.00	0.94
76.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	33.944	0.00	3.58
76.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	33.944	0.00	3.96
76.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	33.944	0.00	3.43
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	33.944	0.00	0.94
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.084	0.000	33.944	0.00	270.00
78.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.085	0.000	34.197	0.00	3.96
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	34.197	0.00	0.94
78.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	34.197	0.00	3.58
78.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	34.197	0.00	3.96
78.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	34.197	0.00	3.43
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	34.197	0.00	0.94
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.085	0.000	34.197	0.00	270.00
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.086	0.000	34.445	0.00	3.96
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	34.445	0.00	0.94
80.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	34.445	0.00	3.58
80.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	34.445	0.00	3.96
80.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	34.445	0.00	3.43
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	34.445	0.00	0.94
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.086	0.000	34.445	0.00	270.00
82.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	34.689	0.00	3.96
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	34.689	0.00	0.94
82.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	34.689	0.00	3.58
82.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	34.689	0.00	3.96
82.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	34.689	0.00	3.43
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	34.689	0.00	0.94
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.087	0.000	34.689	0.00	270.00
84.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.088	0.000	34.928	0.00	3.96
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	34.928	0.00	0.94
84.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	34.928	0.00	3.58
84.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	34.928	0.00	3.96
84.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	34.928	0.00	3.43
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	34.928	0.00	0.94
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.088	0.000	34.928	0.00	270.00
86.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.089	0.000	35.164	0.00	3.96
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	35.164	0.00	0.94
86.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	35.164	0.00	3.58
86.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	35.164	0.00	3.96
86.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	35.164	0.00	3.43
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	35.164	0.00	0.94
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.089	0.000	35.164	0.00	270.00
88.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.090	0.000	35.396	0.00	3.96
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	35.396	0.00	0.94

Linear Appurtenance Segment Forces (Factored)

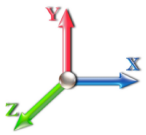
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 43	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
88.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	35.396	0.00	3.58
88.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	35.396	0.00	3.96
88.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	35.396	0.00	3.43
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	35.396	0.00	0.94
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.090	0.000	35.396	0.00	270.00
90.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.091	0.000	35.624	0.00	3.96
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	35.624	0.00	0.94
90.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	35.624	0.00	3.58
90.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	35.624	0.00	3.96
90.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	35.624	0.00	3.43
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	35.624	0.00	0.94
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.091	0.000	35.624	0.00	270.00
92.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.092	0.000	35.848	0.00	3.96
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	35.848	0.00	0.94
92.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	35.848	0.00	3.58
92.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	35.848	0.00	3.96
92.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	35.848	0.00	3.43
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	35.848	0.00	0.94
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.092	0.000	35.848	0.00	270.00
94.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.093	0.000	36.069	0.00	3.96
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	36.069	0.00	0.94
94.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	36.069	0.00	3.58
94.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	36.069	0.00	3.96
94.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	36.069	0.00	3.43
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	36.069	0.00	0.94
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.093	0.000	36.069	0.00	270.00
95.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.094	0.000	36.178	0.00	1.98
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	36.178	0.00	0.47
95.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	36.178	0.00	1.79
95.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	36.178	0.00	1.98
95.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	36.178	0.00	1.72
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	36.178	0.00	0.47
95.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.094	0.000	36.178	0.00	135.00
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.094	0.000	36.241	0.00	1.15
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	36.241	0.00	0.27
95.58	1.75" Hybrid	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	36.241	0.00	1.04
95.58	1 5/8" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	36.241	0.00	1.15
95.58	1-1/4" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	36.241	0.00	1.00
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	36.241	0.00	0.27
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.094	0.000	36.241	0.00	78.30
96.00	1 5/8" Hybrid	Yes	0.42	0.000	2.00	0.07	0.00	0.094	0.000	36.287	0.00	0.83
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	36.287	0.00	0.20
96.00	1.75" Hybrid	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	36.287	0.00	0.75
96.00	1 5/8" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	36.287	0.00	0.83
96.00	1-1/4" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	36.287	0.00	0.72
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	36.287	0.00	0.20
96.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.04	0.00	0.094	0.000	36.287	0.00	56.70

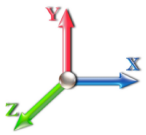
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 44	

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
98.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	36.501	0.00	3.96
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	36.501	0.00	0.94
98.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	36.501	0.00	3.58
98.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	36.501	0.00	3.96
98.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	36.501	0.00	3.43
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	36.501	0.00	0.94
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.095	0.000	36.501	0.00	270.00
100.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	36.712	0.00	3.96
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.712	0.00	0.94
100.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.712	0.00	3.58
100.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.712	0.00	3.96
100.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.712	0.00	3.43
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.712	0.00	0.94
102.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	36.921	0.00	3.96
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.921	0.00	0.94
102.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.921	0.00	3.58
102.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.921	0.00	3.96
102.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.921	0.00	3.43
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	36.921	0.00	0.94
104.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	37.126	0.00	3.96
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	37.126	0.00	0.94
104.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	37.126	0.00	3.58
104.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	37.126	0.00	3.96
104.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	37.126	0.00	3.43
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	37.126	0.00	0.94
106.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.060	0.000	37.329	0.00	3.96
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	37.329	0.00	0.94
106.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	37.329	0.00	3.58
106.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	37.329	0.00	3.96
106.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	37.329	0.00	3.43
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	37.329	0.00	0.94
108.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.061	0.000	37.529	0.00	3.96
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	37.529	0.00	0.94
108.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	37.529	0.00	3.58
108.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	37.529	0.00	3.96
108.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	37.529	0.00	3.43
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	37.529	0.00	0.94
110.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	37.726	0.00	3.96
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.726	0.00	0.94
110.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.726	0.00	3.58
110.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.726	0.00	3.96
110.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.726	0.00	3.43
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.726	0.00	0.94
112.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	37.921	0.00	3.96
112.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.921	0.00	0.94
112.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.921	0.00	3.58
112.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.921	0.00	3.96

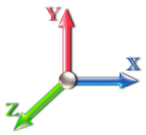
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
112.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	37.921	0.00	3.43
114.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	38.113	0.00	3.96
114.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	38.113	0.00	0.94
114.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	38.113	0.00	3.58
114.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	38.113	0.00	3.96
114.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	38.113	0.00	3.43
115.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.064	0.000	38.208	0.00	1.98
115.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.208	0.00	0.47
115.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.208	0.00	1.79
115.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.208	0.00	1.98
115.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.208	0.00	1.72
116.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.064	0.000	38.303	0.00	1.98
116.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.303	0.00	0.47
116.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.303	0.00	1.79
116.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.303	0.00	1.98
116.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	38.303	0.00	1.72
118.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	38.490	0.00	3.96
118.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	38.490	0.00	0.94
118.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	38.490	0.00	3.58
118.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	38.490	0.00	3.96
118.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	38.490	0.00	3.43
120.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	38.675	0.00	3.96
120.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	38.675	0.00	0.94
120.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	38.675	0.00	3.58
120.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	38.675	0.00	3.96
120.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	38.675	0.00	3.43
122.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	38.859	0.00	3.96
122.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	38.859	0.00	0.94
122.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	38.859	0.00	3.58
122.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	38.859	0.00	3.96
122.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	38.859	0.00	3.43
124.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	39.040	0.00	3.96
124.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	39.040	0.00	0.94
124.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	39.040	0.00	3.58
124.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	39.040	0.00	3.96
124.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	39.040	0.00	3.43
126.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	39.218	0.00	3.96
126.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	39.218	0.00	0.94
126.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	39.218	0.00	3.58
126.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	39.218	0.00	3.96
126.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	39.218	0.00	3.43
128.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.069	0.000	39.395	0.00	3.96
128.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	39.395	0.00	0.94
128.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	39.395	0.00	3.58
128.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	39.395	0.00	3.96
128.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	39.395	0.00	3.43
130.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	39.570	0.00	3.96

Linear Appurtenance Segment Forces (Factored)

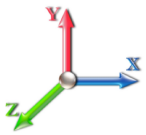
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 46	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
130.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	39.570	0.00	0.94
130.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	39.570	0.00	3.58
130.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	39.570	0.00	3.96
130.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	39.570	0.00	3.43
132.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	39.743	0.00	3.96
132.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	39.743	0.00	0.94
132.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	39.743	0.00	3.58
132.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	39.743	0.00	3.96
132.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	39.743	0.00	3.43
133.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.072	0.000	39.829	0.00	1.98
133.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	39.829	0.00	0.47
133.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	39.829	0.00	1.79
133.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	39.829	0.00	1.98
133.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	39.829	0.00	1.72
134.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.073	0.000	39.914	0.00	1.98
134.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	39.914	0.00	0.47
134.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	39.914	0.00	1.79
134.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	39.914	0.00	1.98
134.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	39.914	0.00	1.72
136.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	40.084	0.00	3.96
136.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	40.084	0.00	0.94
136.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	40.084	0.00	3.58
136.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	40.084	0.00	3.96
136.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	40.084	0.00	3.43
138.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	40.251	0.00	3.96
138.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	40.251	0.00	0.94
138.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	40.251	0.00	3.58
138.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	40.251	0.00	3.96
138.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	40.251	0.00	3.43
140.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	40.417	0.00	3.96
140.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	40.417	0.00	0.94
140.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	40.417	0.00	3.58
140.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	40.417	0.00	3.96
140.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	40.417	0.00	3.43
142.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	40.581	0.00	3.96
142.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	40.581	0.00	0.94
142.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	40.581	0.00	3.58
142.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	40.581	0.00	3.96
142.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	40.581	0.00	3.43
144.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	40.744	0.00	3.96
144.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	40.744	0.00	0.94
144.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	40.744	0.00	3.58
145.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.079	0.000	40.824	0.00	1.98
145.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	40.824	0.00	0.47
145.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	40.824	0.00	1.79
146.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.082	0.000	40.904	0.00	1.98
146.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	40.904	0.00	0.47

Linear Appurtenance Segment Forces (Factored)

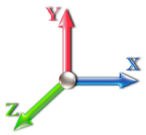
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 47	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



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)
146.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	40.904	0.00	1.79
148.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	41.064	0.00	3.96
148.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	41.064	0.00	0.94
148.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	41.064	0.00	3.58
150.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.085	0.000	41.222	0.00	3.96
150.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	41.222	0.00	0.94
150.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	41.222	0.00	3.58
152.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	41.378	0.00	3.96
152.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.378	0.00	0.94
152.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.378	0.00	3.58
154.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	41.533	0.00	3.96
154.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.533	0.00	0.94
156.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	41.686	0.00	3.96
156.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.686	0.00	0.94
158.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	41.838	0.00	3.96
158.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.838	0.00	0.94
160.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	41.989	0.00	3.96
160.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	41.989	0.00	0.94
										Totals:	**0.0**	**19,330.5**

Calculated Forces

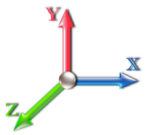
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 48

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 125 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 27

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	-58.15	-35.28	0.00	-4127.1	0.00	4127.13	3683.82	1059.58	4414.92	3756.66	0.00	0.000	0.000	0.661
1.00	-57.63	-35.20	0.00	-4091.8	0.00	4091.85	3677.71	1055.47	4380.73	3735.77	0.00	-0.036	0.000	0.661
2.00	-57.09	-35.13	0.00	-4056.6	0.00	4056.65	3671.54	1051.36	4346.67	3714.86	0.02	-0.072	0.000	0.657
4.00	-56.05	-34.96	0.00	-3986.3	0.00	3986.38	3659.00	1043.14	4278.95	3673.00	0.06	-0.144	0.000	0.651
6.00	-55.02	-34.79	0.00	-3916.4	0.00	3916.46	3646.20	1034.91	4211.76	3631.09	0.14	-0.216	0.000	0.645
8.00	-53.98	-34.62	0.00	-3846.8	0.00	3846.88	3633.16	1026.69	4145.10	3589.13	0.24	-0.289	0.000	0.638
10.00	-52.96	-34.44	0.00	-3777.6	0.00	3777.65	3619.85	1018.47	4078.97	3547.13	0.38	-0.361	0.000	0.632
12.00	-51.93	-34.27	0.00	-3708.7	0.00	3708.76	3606.29	1010.25	4013.38	3505.10	0.55	-0.434	0.000	0.625
14.00	-50.91	-34.09	0.00	-3640.2	0.00	3640.23	3592.48	1002.02	3948.31	3463.03	0.75	-0.507	0.000	0.619
16.00	-49.90	-33.89	0.00	-3572.0	0.00	3572.04	3578.41	993.80	3883.78	3420.94	0.97	-0.580	0.000	0.612
16.25	-49.71	-33.89	0.00	-3563.5	0.00	3563.57	3576.63	992.77	3875.75	3415.68	1.00	-0.589	0.000	0.702
18.00	-48.53	-33.72	0.00	-3504.2	0.00	3504.26	3564.09	985.58	3819.78	3378.83	1.23	-0.663	0.000	0.696
18.63	-48.10	-33.65	0.00	-3483.0	0.00	3483.02	3559.52	982.99	3799.73	3365.57	1.32	-0.690	0.000	0.565
18.88	-47.92	-33.64	0.00	-3474.6	0.00	3474.61	3557.70	981.96	3791.79	3360.30	1.36	-0.698	0.000	0.644
20.00	-47.15	-33.55	0.00	-3436.9	0.00	3436.93	3549.51	977.36	3756.31	3336.71	1.53	-0.742	0.000	0.640
22.00	-45.79	-33.37	0.00	-3369.8	0.00	3369.82	3563.12	985.03	3815.51	3376.01	1.86	-0.821	0.000	0.648
24.00	-44.77	-33.18	0.00	-3303.0	0.00	3303.09	3548.52	976.81	3752.08	3333.89	2.22	-0.899	0.000	0.622
26.00	-43.76	-33.00	0.00	-3236.7	0.00	3236.72	3533.67	968.58	3689.18	3291.77	2.61	-0.975	0.000	0.615
28.00	-42.76	-32.81	0.00	-3170.7	0.00	3170.73	3518.56	960.36	3626.81	3249.64	3.04	-1.052	0.000	0.608
30.00	-41.50	-32.58	0.00	-3105.1	0.00	3105.11	3503.20	952.14	3564.97	3207.53	3.49	-1.128	0.000	0.474
31.00	-40.87	-32.47	0.00	-3072.5	0.00	3072.52	3495.43	948.03	3534.25	3186.48	3.73	-1.159	0.000	0.547
32.00	-40.23	-32.37	0.00	-3040.0	0.00	3040.05	3487.59	943.92	3503.66	3165.43	3.98	-1.194	0.000	0.543
33.38	-39.74	-32.23	0.00	-2995.3	0.00	2995.38	3476.66	938.24	3461.67	3136.39	4.33	-1.242	0.000	0.670
34.00	-39.49	-32.20	0.00	-2975.4	0.00	2975.40	3471.72	935.70	3442.89	3123.35	4.50	-1.270	0.000	0.668
36.00	-38.76	-32.03	0.00	-2911.0	0.00	2911.00	3455.59	927.47	3382.65	3081.29	5.05	-1.357	0.000	0.660
38.00	-38.04	-31.85	0.00	-2846.9	0.00	2846.95	3439.21	919.25	3322.94	3039.26	5.63	-1.444	0.000	0.652
40.00	-37.31	-31.63	0.00	-2783.2	0.00	2783.25	3422.57	911.03	3263.76	2997.28	6.26	-1.532	0.000	0.645
42.00	-36.59	-31.45	0.00	-2719.9	0.00	2719.99	3405.68	902.81	3205.11	2955.34	6.92	-1.619	0.000	0.637
44.00	-35.88	-31.25	0.00	-2657.1	0.00	2657.10	3388.54	894.58	3146.99	2913.44	7.62	-1.707	0.000	0.629
45.16	-35.48	-31.13	0.00	-2620.8	0.00	2620.85	3378.48	889.81	3113.53	2889.17	8.04	-1.758	0.000	0.455
46.00	-35.17	-31.06	0.00	-2594.7	0.00	2594.70	3371.14	886.36	3089.41	2871.61	8.35	-1.785	0.000	0.589
48.00	-34.46	-30.86	0.00	-2532.5	0.00	2532.58	3353.48	878.14	3032.36	2829.83	9.12	-1.868	0.000	0.582
50.00	-33.76	-30.67	0.00	-2470.8	0.00	2470.85	3335.57	869.92	2975.84	2788.13	9.92	-1.951	0.000	0.574
52.00	-32.76	-30.45	0.00	-2409.5	0.00	2409.52	3317.41	861.69	2919.85	2746.50	10.75	-2.035	0.000	0.559
54.00	-31.76	-30.23	0.00	-2348.6	0.00	2348.63	3298.98	853.47	2864.39	2704.94	11.62	-2.117	0.000	0.551
56.00	-30.77	-30.01	0.00	-2288.1	0.00	2288.17	3316.18	861.14	2916.12	2743.71	12.53	-2.199	0.000	0.557
58.00	-30.07	-29.79	0.00	-2228.1	0.00	2228.16	3297.74	852.92	2860.70	2702.16	13.46	-2.280	0.000	0.575
60.00	-29.38	-29.58	0.00	-2168.5	0.00	2168.58	3279.05	844.70	2805.81	2660.71	14.44	-2.366	0.000	0.567
62.00	-28.69	-29.36	0.00	-2109.4	0.00	2109.42	3260.10	836.48	2751.45	2619.34	15.45	-2.452	0.000	0.558
64.00	-28.01	-29.15	0.00	-2050.7	0.00	2050.70	3240.90	828.25	2697.62	2578.08	16.49	-2.537	0.000	0.549
66.00	-27.33	-28.93	0.00	-1992.4	0.00	1992.41	3221.44	820.03	2644.33	2536.92	17.57	-2.622	0.000	0.541
68.00	-26.66	-28.71	0.00	-1934.5	0.00	1934.56	3201.73	811.81	2591.56	2495.87	18.69	-2.707	0.000	0.532
70.00	-25.98	-28.48	0.00	-1877.1	0.00	1877.15	3181.76	803.59	2539.33	2454.94	19.84	-2.792	0.000	0.522
72.00	-25.31	-28.26	0.00	-1820.1	0.00	1820.18	3161.54	795.36	2487.63	2414.13	21.03	-2.876	0.000	0.513
74.00	-24.65	-28.03	0.00	-1763.6	0.00	1763.66	3141.06	787.14	2436.47	2373.45	22.25	-2.960	0.000	0.504
76.00	-23.99	-27.81	0.00	-1707.5	0.00	1707.59	3120.33	778.92	2385.83	2332.91	23.51	-3.044	0.000	0.495
78.00	-23.33	-27.58	0.00	-1651.9	0.00	1651.98	3099.34	770.70	2335.73	2292.51	24.80	-3.127	0.000	0.485
80.00	-22.68	-27.35	0.00	-1596.8	0.00	1596.82	3078.09	762.47	2286.15	2252.26	26.13	-3.210	0.000	0.475

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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

Tower Engineering Solutions

80.00	-22.68	-27.35	0.00	-1596.8	0.00	1596.82	2384.58	636.50	1911.75	1750.88	26.13	-3.210	0.000	0.513
82.00	-22.07	-27.13	0.00	-1542.1	0.00	1542.11	2370.62	629.65	1870.81	1721.73	27.49	-3.293	0.000	0.561
84.00	-21.46	-26.90	0.00	-1487.8	0.00	1487.86	2356.42	622.80	1830.32	1692.63	28.89	-3.384	0.000	0.548
86.00	-20.86	-26.68	0.00	-1434.0	0.00	1434.06	2341.95	615.94	1790.27	1663.57	30.33	-3.475	0.000	0.535
88.00	-20.26	-26.45	0.00	-1380.7	0.00	1380.70	2327.23	609.09	1750.66	1634.56	31.80	-3.565	0.000	0.522
90.00	-19.66	-26.22	0.00	-1327.8	0.00	1327.80	2312.26	602.24	1711.49	1605.61	33.31	-3.654	0.000	0.509
92.00	-19.07	-25.99	0.00	-1275.3	0.00	1275.36	2297.03	595.39	1672.77	1576.72	34.86	-3.742	0.000	0.495
94.00	-18.49	-25.76	0.00	-1223.3	0.00	1223.37	2281.55	588.54	1634.49	1547.90	36.45	-3.829	0.000	0.481
95.00	-18.20	-25.64	0.00	-1197.6	0.00	1197.61	2273.71	585.11	1615.51	1533.52	37.25	-3.873	0.000	0.474
95.58	-17.97	-25.57	0.00	-1182.7	0.00	1182.74	2269.13	583.12	1604.56	1525.19	37.73	-3.898	0.000	0.464
95.58	-17.97	-25.57	0.00	-1182.7	0.00	1182.74	2269.13	583.12	1604.56	1525.19	37.73	-3.898	0.000	0.464
96.00	-17.77	-25.54	0.00	-1172.0	0.00	1172.00	2265.81	581.68	1596.65	1519.16	38.07	-3.916	0.000	0.781
98.00	-16.96	-25.30	0.00	-1120.9	0.00	1120.93	2249.81	574.83	1559.25	1490.50	39.74	-4.058	0.000	0.762
100.00	-16.42	-25.09	0.00	-1070.3	0.00	1070.32	2259.61	579.02	1582.04	1508.00	41.47	-4.199	0.000	0.719
102.00	-16.09	-24.89	0.00	-1020.1	0.00	1020.14	2243.52	572.17	1544.82	1479.37	43.26	-4.338	0.000	0.699
104.00	-15.76	-24.68	0.00	-970.37	0.00	970.37	2227.17	565.31	1508.04	1450.84	45.10	-4.467	0.000	0.678
106.00	-15.44	-24.48	0.00	-921.01	0.00	921.01	2210.57	558.46	1471.71	1422.40	47.00	-4.595	0.000	0.656
108.00	-15.12	-24.27	0.00	-872.05	0.00	872.05	2193.71	551.61	1435.82	1394.06	48.95	-4.721	0.000	0.634
110.00	-14.78	-23.85	0.00	-822.91	0.00	822.91	2176.60	544.76	1400.37	1365.84	50.95	-4.844	0.000	0.611
112.00	-14.47	-23.64	0.00	-775.22	0.00	775.22	2159.23	537.91	1365.36	1337.73	53.00	-4.965	0.000	0.588
114.00	-14.18	-23.43	0.00	-727.94	0.00	727.94	2141.61	531.05	1330.80	1309.73	55.11	-5.082	0.000	0.564
115.00	-14.03	-23.33	0.00	-704.51	0.00	704.51	2132.70	527.63	1313.68	1295.79	56.18	-5.141	0.000	0.552
115.00	-14.03	-23.33	0.00	-704.51	0.00	704.51	1556.62	422.98	1055.35	949.74	56.18	-5.141	0.000	0.754
116.00	-13.88	-23.24	0.00	-681.18	0.00	681.18	1551.43	420.24	1041.71	940.38	57.26	-5.198	0.000	0.736
118.00	-13.61	-23.04	0.00	-634.71	0.00	634.71	1540.84	414.76	1014.72	921.68	59.46	-5.337	0.000	0.701
120.00	-13.34	-22.85	0.00	-588.62	0.00	588.62	1529.99	409.28	988.07	902.99	61.73	-5.471	0.000	0.664
122.00	-13.08	-22.65	0.00	-542.93	0.00	542.93	1518.89	403.80	961.78	884.33	64.04	-5.599	0.000	0.626
124.00	-12.83	-22.46	0.00	-497.63	0.00	497.63	1507.54	398.32	935.85	865.70	66.41	-5.723	0.000	0.587
126.00	-12.58	-22.26	0.00	-452.72	0.00	452.72	1495.93	392.84	910.27	847.11	68.83	-5.840	0.000	0.546
128.00	-12.33	-22.06	0.00	-408.20	0.00	408.20	1484.06	387.35	885.04	828.56	71.30	-5.951	0.000	0.504
130.00	-12.09	-21.86	0.00	-364.08	0.00	364.08	1471.95	381.87	860.17	810.06	73.81	-6.055	0.000	0.461
132.00	-11.87	-21.66	0.00	-320.35	0.00	320.35	1459.57	376.39	835.65	791.62	76.37	-6.151	0.000	0.416
133.00	-8.31	-17.00	0.00	-298.69	0.00	298.69	1453.29	373.65	823.53	782.42	77.66	-6.196	0.000	0.390
134.00	-8.21	-16.91	0.00	-281.68	0.00	281.68	1446.94	370.91	811.49	773.23	78.96	-6.240	0.000	0.372
136.00	-8.01	-16.71	0.00	-247.87	0.00	247.87	1434.06	365.43	787.68	754.91	81.58	-6.321	0.000	0.336
138.00	-7.82	-16.51	0.00	-214.46	0.00	214.46	1420.92	359.95	764.23	736.67	84.24	-6.395	0.000	0.299
140.00	-7.63	-16.31	0.00	-181.44	0.00	181.44	1407.52	354.47	741.13	718.50	86.93	-6.461	0.000	0.260
142.00	-4.43	-9.64	0.00	-148.82	0.00	148.82	1393.87	348.98	718.38	700.42	89.65	-6.519	0.000	0.216
144.00	-4.29	-9.45	0.00	-129.54	0.00	129.54	1379.97	343.50	695.99	682.44	92.38	-6.570	0.000	0.194
145.00	-4.22	-9.35	0.00	-120.09	0.00	120.09	1372.92	340.76	684.93	673.48	93.76	-6.594	0.000	0.182
145.00	-4.22	-9.35	0.00	-120.09	0.00	120.09	931.20	332.53	24157.3	604.09	93.76	-6.594	0.000	0.204
146.00	-4.14	-9.29	0.00	-110.74	0.00	110.74	925.24	329.86	23770.3	594.77	95.14	-6.617	0.000	0.191
148.00	-3.99	-9.17	0.00	-92.16	0.00	92.16	913.32	324.51	23005.8	576.36	97.91	-6.660	0.000	0.165
150.00	-3.85	-9.04	0.00	-73.83	0.00	73.83	901.40	319.16	22253.7	558.24	100.71	-6.696	0.000	0.137
150.00	-3.85	-9.04	0.00	-73.83	0.00	73.83	556.65	167.00	10296.1	213.69	100.71	-6.696	0.000	0.355
152.00	-1.97	-5.77	0.00	-55.74	0.00	55.74	556.65	167.00	10296.1	213.69	103.51	-6.727	0.000	0.266
154.00	-1.86	-5.68	0.00	-44.21	0.00	44.21	556.65	167.00	10296.1	213.69	106.34	-6.801	0.000	0.211
156.00	-1.76	-5.59	0.00	-32.85	0.00	32.85	556.65	167.00	10296.1	213.69	109.20	-6.858	0.000	0.158
158.00	-1.65	-5.50	0.00	-21.68	0.00	21.68	556.65	167.00	10296.1	213.69	112.07	-6.898	0.000	0.106
160.00	0.00	-5.26	0.00	-10.69	0.00	10.69	556.65	167.00	10296.1	213.69	114.96	-6.922	0.000	0.051

Wind Loading - Shaft

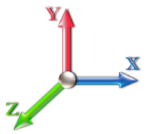
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 50	

Tower Engineering Solutions

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	RB1 RB2	1.00	0.70	4.161	4.58	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT2 RB3 RB4	1.00	0.70	4.161	4.58	0.00	1.227 *	0.705	1.00	4.455	5.47	25.0	45.3	291.4
2.00		1.00	0.70	4.161	4.58	0.00	1.229 *	0.756	1.00	4.447	5.46	25.0	48.5	293.6
4.00		1.00	0.70	4.161	4.58	0.00	1.231 *	0.810	2.00	8.862	10.91	49.9	103.2	590.5
6.00		1.00	0.70	4.161	4.58	0.00	1.234 *	0.843	2.00	8.806	10.87	49.7	106.7	590.2
8.00		1.00	0.70	4.161	4.58	0.00	1.237 *	0.868	2.00	8.747	10.82	49.5	109.0	588.7
10.00		1.00	0.70	4.161	4.58	0.00	1.240 *	0.887	2.00	8.687	10.78	49.3	110.7	586.5
12.00		1.00	0.70	4.161	4.58	0.00	1.244 *	0.904	2.00	8.625	10.73	49.1	111.8	583.9
14.00		1.00	0.70	4.161	4.58	0.00	1.247 *	0.918	2.00	8.563	10.68	48.9	112.7	580.9
16.00	Bot - Section 2	1.00	0.70	4.161	4.58	0.00	1.250 *	0.930	2.00	8.500	10.63	48.6	113.3	577.7
16.25	RT1 RB5	1.00	0.70	4.161	4.58	0.00	1.252 *	0.932	0.25	1.074	1.34	6.2	14.4	130.9
18.00		1.00	0.70	4.161	4.58	0.00	1.254 *	0.941	1.75	7.492	9.39	43.0	101.1	913.1
18.63	RB6	1.00	0.70	4.161	4.58	0.00	1.256 *	0.944	0.63	2.685	3.37	15.4	36.4	327.3
18.88	RT3 RT4	1.00	0.70	4.161	4.58	0.00	1.257 *	0.946	0.25	1.064	1.34	6.1	14.5	129.7
20.00		1.00	0.70	4.161	4.58	0.00	1.258 *	0.951	1.12	4.753	5.98	27.4	64.9	579.6
22.00	Top - Section 1	1.00	0.70	4.161	4.58	0.00	1.261 *	0.960	2.00	8.439	10.64	48.7	116.1	1029.2
24.00		1.00	0.70	4.161	4.58	0.00	1.257 *	0.969	2.00	8.374	10.53	48.2	116.2	572.6
26.00		1.00	0.70	4.161	4.58	0.00	1.261 *	0.976	2.00	8.310	10.48	48.0	116.2	568.8
28.00		1.00	0.70	4.161	4.58	0.00	1.264 *	0.984	2.00	8.246	10.43	47.7	116.1	564.9
30.00	RB7	1.00	0.70	4.164	4.58	0.00	1.364 *	0.991	2.00	8.181	11.15	51.1	115.9	560.9
31.00	RT5	1.00	0.71	4.203	4.62	0.00	1.367 *	0.994	1.00	4.066	5.56	25.7	57.9	279.0
32.00		1.00	0.71	4.242	4.67	0.00	1.369 *	0.997	1.00	4.050	5.54	25.9	57.9	278.0
33.38	RT6	1.00	0.72	4.293	4.72	0.00	1.200	1.001	1.38	5.562	6.67	31.5	79.7	381.9
34.00		1.00	0.73	4.316	4.75	0.00	1.200	1.003	0.62	2.489	2.99	14.2	35.8	170.9
36.00		1.00	0.74	4.387	4.83	0.00	1.200	1.009	2.00	7.986	9.58	46.2	115.1	548.6
38.00		1.00	0.75	4.455	4.90	0.00	1.200	1.014	2.00	7.921	9.51	46.6	114.8	544.4
40.00	Appurtenance(s)	1.00	0.76	4.521	4.97	0.00	1.200	1.019	2.00	7.856	9.43	46.9	114.4	540.2
42.00		1.00	0.77	4.584	5.04	0.00	1.200	1.024	2.00	7.790	9.35	47.1	113.9	536.0
44.00		1.00	0.78	4.646	5.11	0.00	1.200	1.029	2.00	7.725	9.27	47.4	113.5	531.7
45.16	RB8	1.00	0.79	4.680	5.15	0.00	1.200	1.032	1.16	4.450	5.34	27.5	65.6	306.4
46.00	RT7	1.00	0.79	4.705	5.18	0.00	1.200	1.034	0.84	3.209	3.85	19.9	47.4	221.0
48.00		1.00	0.80	4.763	5.24	0.00	1.200	1.038	2.00	7.594	9.11	47.7	112.4	523.0
50.00	Bot - Section 3	1.00	0.81	4.819	5.30	0.00	1.200	1.042	2.00	7.529	9.03	47.9	111.9	518.6
52.00		1.00	0.82	4.873	5.36	0.00	1.200	1.047	2.00	7.592	9.11	48.8	113.3	926.5
54.00		1.00	0.83	4.926	5.42	0.00	1.200	1.050	2.00	7.527	9.03	48.9	112.7	918.2
56.00	Top - Section 2	1.00	0.84	4.977	5.47	0.00	1.200	1.054	2.00	7.461	8.95	49.0	112.1	910.0
58.00	RT8 RB9	1.00	0.85	5.027	5.53	0.00	1.200	1.058	2.00	7.395	8.87	49.1	111.5	510.3
60.00		1.00	0.85	5.076	5.58	0.00	1.200	1.062	2.00	7.330	8.80	49.1	110.8	505.8
62.00		1.00	0.86	5.124	5.64	0.00	1.200	1.065	2.00	7.264	8.72	49.1	110.1	501.3
64.00		1.00	0.87	5.171	5.69	0.00	1.200	1.068	2.00	7.198	8.64	49.1	109.4	496.8
66.00		1.00	0.88	5.216	5.74	0.00	1.200	1.072	2.00	7.132	8.56	49.1	108.7	492.2
68.00		1.00	0.89	5.261	5.79	0.00	1.200	1.075	2.00	7.066	8.48	49.1	108.0	487.7
70.00		1.00	0.89	5.305	5.84	0.00	1.200	1.078	2.00	7.000	8.40	49.0	107.3	483.1
72.00		1.00	0.90	5.348	5.88	0.00	1.200	1.081	2.00	6.935	8.32	49.0	106.5	478.6
74.00		1.00	0.91	5.390	5.93	0.00	1.200	1.084	2.00	6.869	8.24	48.9	105.8	474.0
76.00		1.00	0.91	5.431	5.97	0.00	1.200	1.087	2.00	6.803	8.16	48.8	105.0	469.4
78.00	RT9 RB10	1.00	0.92	5.471	6.02	0.00	1.200	1.090	2.00	6.737	8.08	48.7	104.2	464.7

Wind Loading - Shaft

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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	

80.00 Top - Section 3	1.00	0.93	5.511	6.06	0.00	1.200	1.093	2.00	6.671	8.00	48.5	103.4	460.1
82.00	1.00	0.93	5.550	6.11	0.00	1.200	1.095	2.00	6.605	7.93	48.4	102.6	397.2
84.00	1.00	0.94	5.589	6.15	0.00	1.200	1.098	2.00	6.538	7.85	48.2	101.8	393.2
86.00	1.00	0.95	5.626	6.19	0.00	1.200	1.101	2.00	6.472	7.77	48.1	100.9	389.1
88.00	1.00	0.95	5.663	6.23	0.00	1.200	1.103	2.00	6.406	7.69	47.9	100.1	385.1
90.00	1.00	0.96	5.700	6.27	0.00	1.200	1.106	2.00	6.340	7.61	47.7	99.2	381.1
92.00	1.00	0.96	5.736	6.31	0.00	1.200	1.108	2.00	6.274	7.53	47.5	98.4	377.0
94.00	1.00	0.97	5.771	6.35	0.00	1.200	1.110	2.00	6.208	7.45	47.3	97.5	373.0
95.00 Bot - Section 5	1.00	0.97	5.789	6.37	0.00	1.200	1.112	1.00	3.079	3.69	23.5	48.5	185.1
95.58 RT10	1.00	0.98	5.799	6.38	0.00	1.200	1.112	0.58	1.810	2.17	13.9	28.6	187.7
96.00	1.00	0.98	5.806	6.39	0.00	1.200	1.113	0.42	1.307	1.57	10.0	20.7	135.6
98.00	1.00	0.98	5.840	6.42	0.00	1.200	1.115	2.00	6.183	7.42	47.7	97.5	640.8
100.00 Top - Section 4	1.00	0.99	5.874	6.46	0.00	1.200	1.117	2.00	6.117	7.34	47.4	96.6	633.5
102.00	1.00	0.99	5.907	6.50	0.00	1.200	1.119	2.00	6.051	7.26	47.2	95.7	363.5
104.00	1.00	1.00	5.940	6.53	0.00	1.200	1.122	2.00	5.985	7.18	46.9	94.8	359.4
106.00	1.00	1.00	5.973	6.57	0.00	1.200	1.124	2.00	5.918	7.10	46.7	93.9	355.3
108.00	1.00	1.01	6.005	6.61	0.00	1.200	1.126	2.00	5.852	7.02	46.4	92.9	351.2
110.00 Appurtenance(s)	1.00	1.02	6.036	6.64	0.00	1.200	1.128	2.00	5.786	6.94	46.1	92.0	347.1
112.00	1.00	1.02	6.067	6.67	0.00	1.200	1.130	2.00	5.720	6.86	45.8	91.1	343.0
114.00	1.00	1.03	6.098	6.71	0.00	1.200	1.132	2.00	5.653	6.78	45.5	90.1	338.8
115.00 Top - Section 5	1.00	1.03	6.113	6.72	0.00	1.200	1.133	1.00	2.802	3.36	22.6	44.8	168.0
116.00	1.00	1.03	6.128	6.74	0.00	1.200	1.134	1.00	2.785	3.34	22.5	44.6	142.7
118.00	1.00	1.04	6.158	6.77	0.00	1.200	1.136	2.00	5.521	6.63	44.9	88.2	282.5
120.00	1.00	1.04	6.188	6.81	0.00	1.200	1.138	2.00	5.455	6.55	44.6	87.3	279.0
122.00	1.00	1.05	6.217	6.84	0.00	1.200	1.140	2.00	5.388	6.47	44.2	86.3	275.5
124.00	1.00	1.05	6.246	6.87	0.00	1.200	1.142	2.00	5.322	6.39	43.9	85.3	271.9
126.00	1.00	1.06	6.275	6.90	0.00	1.200	1.143	2.00	5.256	6.31	43.5	84.3	268.4
128.00	1.00	1.06	6.303	6.93	0.00	1.200	1.145	2.00	5.189	6.23	43.2	83.4	264.9
130.00	1.00	1.07	6.331	6.96	0.00	1.200	1.147	2.00	5.123	6.15	42.8	82.4	261.3
132.00	1.00	1.07	6.359	6.99	0.00	1.200	1.149	2.00	5.056	6.07	42.4	81.4	257.8
133.00 Appurtenance(s)	1.00	1.07	6.373	7.01	0.00	1.200	1.150	1.00	2.503	3.00	21.1	40.4	127.7
134.00	1.00	1.07	6.386	7.02	0.00	1.200	1.150	1.00	2.487	2.98	21.0	40.2	126.8
136.00	1.00	1.08	6.413	7.05	0.00	1.200	1.152	2.00	4.924	5.91	41.7	79.4	250.7
138.00	1.00	1.08	6.440	7.08	0.00	1.200	1.154	2.00	4.857	5.83	41.3	78.3	247.1
140.00	1.00	1.09	6.467	7.11	0.00	1.200	1.155	2.00	4.791	5.75	40.9	77.3	243.6
142.00 Appurtenance(s)	1.00	1.09	6.493	7.14	0.00	1.200	1.157	2.00	4.725	5.67	40.5	76.3	240.0
144.00	1.00	1.10	6.519	7.17	0.00	1.200	1.159	2.00	4.658	5.59	40.1	75.3	236.4
145.00 Top - Section 6	1.00	1.10	6.532	7.19	0.00	1.200	1.160	1.00	2.304	2.76	19.9	37.4	117.0
146.00	1.00	1.10	6.545	7.20	0.00	1.200	1.160	1.00	2.217	2.66	19.1	35.9	113.0
148.00	1.00	1.11	6.570	7.23	0.00	1.200	1.162	2.00	4.385	5.26	38.0	70.8	223.1
150.00 Top - Section 7	1.00	1.11	6.595	7.25	0.00	1.200	1.163	2.00	4.321	5.19	37.6	69.8	219.6
152.00 Appurtenance(s)	1.00	1.11	6.620	7.28	0.00	1.290 *	1.165	2.00	3.055	3.94	28.7	48.9	149.9
154.00	1.00	1.12	6.645	7.31	0.00	1.290 *	1.167	2.00	3.056	3.94	28.8	48.9	150.0
156.00	1.00	1.12	6.670	7.34	0.00	1.290 *	1.168	2.00	3.056	3.94	28.9	49.0	150.0
158.00	1.00	1.13	6.694	7.36	0.00	1.290 *	1.170	2.00	3.057	3.94	29.0	49.1	150.1
160.00 Appurtenance(s)	1.00	1.13	6.718	7.39	0.00	1.290 *	1.171	2.00	3.057	3.94	29.1	49.1	150.2
							Totals:	**160.00**			**3,648.1**		**36,322.6**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

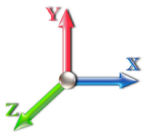
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 52	

Tower Engineering Solutions

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	160.00	JAHH-65B-R3B	6	6.742	7.416	0.66	0.80	29.59	1077.31	0.000	2.000	219.42	0.00	438.84
2	160.00	DB222	1	6.778	7.455	1.00	1.00	6.32	45.80	0.000	5.000	47.10	0.00	235.48
3	160.00	DB846F65ZAXY	6	6.742	7.416	0.74	0.80	35.05	895.51	0.000	2.000	259.91	0.00	519.81
4	160.00	Low Profile Platform	1	6.742	7.416	1.00	1.00	33.85	1542.61	0.000	2.000	251.05	0.00	502.09
5	160.00	6' Lightning rod	1	6.754	7.429	1.00	1.00	1.11	26.86	0.000	3.000	8.24	0.00	24.73
6	160.00	Commscope	1	6.742	7.416	1.00	1.00	2.23	60.39	0.000	2.000	16.57	0.00	33.15
7	160.00	CBC78T-DS-43	1	6.742	7.416	1.00	1.00	0.55	42.43	0.000	2.000	4.05	0.00	8.10
8	160.00	B2/B66A RRH-BR049	3	6.742	7.416	0.67	1.00	4.51	380.13	0.000	2.000	33.44	0.00	66.88
9	160.00	B5/B13 RRH-BR04C	3	6.742	7.416	0.67	1.00	4.51	445.96	0.000	2.000	33.44	0.00	66.88
10	160.00	VZS01	3	6.742	7.416	0.69	1.00	11.02	537.95	0.000	2.000	81.70	0.00	163.40
11	152.00	MX08FRO665-21	3	6.620	7.282	0.55	0.75	22.42	613.11	0.000	0.000	163.30	0.00	0.00
12	152.00	MC-PK8-DSH	1	6.620	7.282	1.00	1.00	69.12	2826.11	0.000	0.000	503.37	0.00	0.00
13	152.00	TA08025-B604	3	6.620	7.282	0.50	0.75	3.52	295.13	0.000	0.000	25.63	0.00	0.00
14	152.00	TA08025-B605	3	6.620	7.282	0.50	0.75	3.52	336.95	0.000	0.000	25.63	0.00	0.00
15	152.00	RDIDC-9181-OF-48	1	6.620	7.282	0.38	0.75	0.90	49.13	0.000	0.000	6.53	0.00	0.00
16	142.00	AIR 21, 1.3M, B2A B4P	3	6.493	7.142	0.66	0.75	14.85	851.56	0.000	0.000	106.05	0.00	0.00
17	142.00	4415	1	6.493	7.142	0.54	0.80	1.20	74.17	0.000	0.000	8.57	0.00	0.00
18	142.00	4449 B71 + B85	4	6.493	7.142	0.54	0.80	5.03	270.90	0.000	0.000	35.95	0.00	0.00
19	142.00	KRY 112 144/1	3	6.493	7.142	0.40	0.80	0.87	51.74	0.000	0.000	6.21	0.00	0.00
20	142.00	APXVAARR24_43-U-NA2	3	6.493	7.142	0.54	0.75	40.38	1045.57	0.000	0.000	288.38	0.00	0.00
21	142.00	KRD 9011461-B66A-B2A	4	6.493	7.142	0.67	0.75	21.40	1693.93	0.000	0.000	152.87	0.00	0.00
22	142.00	Platform w/ HR & Bracing	1	6.493	7.142	1.00	1.00	77.51	3770.31	0.000	0.000	553.61	0.00	0.00
23	142.00	Mod	1	6.493	7.142	1.00	1.00	20.33	727.71	0.000	0.000	145.21	0.00	0.00
24	142.00	APXVA18-43-C-A20	1	6.493	7.142	0.63	0.75	6.63	154.54	0.000	0.000	47.36	0.00	0.00
25	133.00	(3) SitePro 1 P/N	2	6.373	7.010	0.56	0.75	43.88	4522.34	0.000	0.000	307.58	0.00	0.00
26	133.00	Kathrein 800 10121	3	6.373	7.010	0.63	0.80	12.40	294.97	0.000	0.000	86.89	0.00	0.00
27	133.00	Kathrein 800-10965	3	6.373	7.010	0.57	0.80	25.28	950.47	0.000	0.000	177.22	0.00	0.00
28	133.00	Cci TPA-65R-LCUUUU-H8	1	6.373	7.010	0.63	0.80	8.71	301.26	0.000	0.000	61.07	0.00	0.00
29	133.00	Quintel QS66512-2	2	6.373	7.010	0.74	0.80	13.20	548.18	0.000	0.000	92.52	0.00	0.00
30	133.00	Ericsson RRUS-32 RRU	3	6.373	7.010	0.54	0.80	6.15	486.09	0.000	0.000	43.09	0.00	0.00
31	133.00	Powerwave LGP21401	6	6.373	7.010	0.54	0.80	5.92	157.73	0.000	0.000	41.49	0.00	0.00
32	133.00	Ericsson B2/B66A 8843	3	6.373	7.010	0.54	0.80	3.16	315.77	0.000	0.000	22.18	0.00	0.00
33	133.00	Ericsson B5/B12 4449	3	6.373	7.010	0.54	0.80	3.75	320.28	0.000	0.000	26.27	0.00	0.00
34	133.00	Raycap DC6-48-60-18-8F	3	6.373	7.010	0.54	0.80	1.94	183.55	0.000	0.000	13.62	0.00	0.00
35	110.00	3 ft Standoff	1	6.036	6.640	1.00	1.00	6.49	76.89	0.000	0.000	43.08	0.00	0.00
36	110.00	DB222	1	6.118	6.729	1.00	1.00	7.26	44.09	0.000	5.292	48.88	0.00	258.67
37	40.00	GPS	1	4.521	4.973	1.00	1.00	1.42	21.13	0.000	0.000	7.04	0.00	0.00
							Totals:		**26,038.55**			**3,994.51**		

Total Applied Force Summary

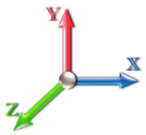
Structure:	CT02049-S-SBA		**Code:**	TIA-222-H	5/24/2022
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 53

Tower Engineering Solutions

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
1.00		25.03	730.95	0.00	0.00
2.00		25.01	734.67	0.00	0.00
4.00		49.93	1476.19	0.00	0.00
6.00		49.74	1478.06	0.00	0.00
8.00		49.53	1478.19	0.00	0.00
10.00		49.32	1477.31	0.00	0.00
12.00		49.09	1475.78	0.00	0.00
14.00		48.87	1473.78	0.00	0.00
16.00		48.64	1471.44	0.00	0.00
16.25		6.16	242.60	0.00	0.00
18.00		42.99	1695.81	0.00	0.00
18.63		15.43	609.16	0.00	0.00
18.88		6.12	241.54	0.00	0.00
20.00		27.36	1080.93	0.00	0.00
22.00		48.69	1925.08	0.00	0.00
24.00		48.19	1469.05	0.00	0.00
26.00		47.95	1465.77	0.00	0.00
28.00		47.72	1462.38	0.00	0.00
30.00		51.10	1827.84	0.00	0.00
31.00		25.70	912.57	0.00	0.00
32.00		25.87	911.69	0.00	0.00
33.38		31.52	748.36	0.00	0.00
34.00		14.18	335.63	0.00	0.00
36.00		46.25	1080.23	0.00	0.00
38.00		46.58	1076.39	0.00	0.00
40.00	(1) attachments	53.92	1093.63	0.00	0.00
42.00		47.14	1068.17	0.00	0.00
44.00		47.37	1064.18	0.00	0.00
45.16		27.50	615.41	0.00	0.00
46.00		19.93	444.80	0.00	0.00
48.00		47.74	1056.08	0.00	0.00
50.00		47.89	1051.97	0.00	0.00
52.00		48.84	1460.10	0.00	0.00
54.00		48.94	1452.11	0.00	0.00
56.00		49.02	1444.09	0.00	0.00
58.00		49.08	1044.63	0.00	0.00
60.00		49.11	1040.38	0.00	0.00
62.00		49.13	1036.11	0.00	0.00
64.00		49.13	1031.81	0.00	0.00
66.00		49.11	1027.50	0.00	0.00
68.00		49.07	1023.16	0.00	0.00
70.00		49.02	1018.80	0.00	0.00
72.00		48.95	1014.42	0.00	0.00
74.00		48.87	1010.02	0.00	0.00
76.00		48.77	1005.61	0.00	0.00
78.00		48.65	1001.18	0.00	0.00

Total Applied Force Summary

Structure:	CT02049-S-SBA		**Code:**	TIA-222-H	5/24/2022
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (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

80.00		48.53	996.73	0.00	0.00
82.00		48.39	933.97	0.00	0.00
84.00		48.23	930.13	0.00	0.00
86.00		48.07	926.28	0.00	0.00
88.00		47.89	922.42	0.00	0.00
90.00		47.70	918.54	0.00	0.00
92.00		47.50	914.65	0.00	0.00
94.00		47.29	910.75	0.00	0.00
95.00		23.53	454.00	0.00	0.00
95.58		13.85	343.72	0.00	0.00
96.00		10.02	248.53	0.00	0.00
98.00		47.67	1178.89	0.00	0.00
100.00		47.43	801.42	0.00	0.00
102.00		47.18	531.56	0.00	0.00
104.00		46.93	527.58	0.00	0.00
106.00		46.66	523.60	0.00	0.00
108.00		46.39	519.60	0.00	0.00
110.00	(2) attachments	138.06	636.58	0.00	258.67
112.00		45.81	505.06	0.00	0.00
114.00		45.51	501.02	0.00	0.00
115.00		22.61	249.10	0.00	0.00
116.00		22.53	223.82	0.00	0.00
118.00		44.88	444.87	0.00	0.00
120.00		44.55	441.45	0.00	0.00
122.00		44.22	438.02	0.00	0.00
124.00		43.88	434.59	0.00	0.00
126.00		43.53	431.15	0.00	0.00
128.00		43.18	427.70	0.00	0.00
130.00		42.81	424.24	0.00	0.00
132.00		42.44	420.78	0.00	0.00
133.00	(29) attachments	892.97	8289.84	0.00	0.00
134.00		20.96	193.07	0.00	0.00
136.00		41.68	383.31	0.00	0.00
138.00		41.29	379.83	0.00	0.00
140.00		40.90	376.34	0.00	0.00
142.00	(21) attachments	1384.72	9013.28	0.00	0.00
144.00		40.08	314.40	0.00	0.00
145.00		19.87	156.00	0.00	0.00
146.00		19.15	152.00	0.00	0.00
148.00		38.03	301.19	0.00	0.00
150.00		37.62	297.74	0.00	0.00
152.00	(11) attachments	753.16	4348.49	0.00	0.00
154.00		28.81	216.38	0.00	0.00
156.00		28.92	216.47	0.00	0.00
158.00		29.03	216.57	0.00	0.00
160.00	(26) attachments	984.05	5271.60	0.00	2059.35
	Totals:	**7,642.65**	**99,172.85**	**0.00**	**2,318.02**

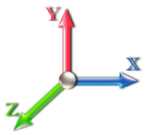
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (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	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
1.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.28	0.00	0.108	1.023	4.161	0.00	6.11
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	4.161	0.00	1.94
1.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	4.161	0.00	4.21
1.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	4.161	0.00	6.11
1.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	4.161	0.00	4.53
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	4.161	0.00	1.94
1.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.20	0.00	0.108	1.023	4.161	0.00	146.50
1.00	C10x15.3	Yes	1.00	0.000	2.60	0.33	0.00	0.108	1.023	4.161	0.00	219.05
2.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.29	0.00	0.108	1.024	4.161	0.00	6.36
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	4.161	0.00	2.08
2.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	4.161	0.00	4.37
2.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	4.161	0.00	6.36
2.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	4.161	0.00	4.72
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	4.161	0.00	2.08
2.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.21	0.00	0.108	1.024	4.161	0.00	146.71
2.00	C10x15.3	Yes	1.00	0.000	2.60	0.34	0.00	0.108	1.024	4.161	0.00	219.29
4.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.60	0.00	0.109	1.026	4.161	0.00	13.26
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	4.161	0.00	4.45
4.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	4.161	0.00	9.10
4.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	4.161	0.00	13.26
4.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	4.161	0.00	9.85
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	4.161	0.00	4.45
4.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.44	0.00	0.109	1.026	4.161	0.00	293.88
4.00	C10x15.3	Yes	2.00	0.000	2.60	0.70	0.00	0.109	1.026	4.161	0.00	439.11
6.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.61	0.00	0.109	1.028	4.161	0.00	13.60
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	4.161	0.00	4.65
6.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	4.161	0.00	9.32
6.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	4.161	0.00	13.60
6.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	4.161	0.00	10.12
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	4.161	0.00	4.65
6.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.45	0.00	0.109	1.028	4.161	0.00	294.17
6.00	C10x15.3	Yes	2.00	0.000	2.60	0.71	0.00	0.109	1.028	4.161	0.00	439.44
8.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.62	0.00	0.110	1.031	4.161	0.00	13.86
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	4.161	0.00	4.79
8.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	4.161	0.00	9.49
8.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	4.161	0.00	13.86
8.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	4.161	0.00	10.32
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	4.161	0.00	4.79
8.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.46	0.00	0.110	1.031	4.161	0.00	294.39
8.00	C10x15.3	Yes	2.00	0.000	2.60	0.72	0.00	0.110	1.031	4.161	0.00	439.69
10.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.63	0.00	0.111	1.034	4.161	0.00	14.06
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	4.161	0.00	4.91
10.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	4.161	0.00	9.63
10.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	4.161	0.00	14.06
10.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	4.161	0.00	10.48
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	4.161	0.00	4.91
10.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.46	0.00	0.111	1.034	4.161	0.00	294.57

Linear Appurtenance Segment Forces (Factored)

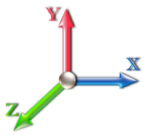
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 56	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
10.00	C10x15.3	Yes	2.00	0.000	2.60	0.73	0.00	0.111	1.034	4.161	0.00	439.88
12.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.63	0.00	0.112	1.036	4.161	0.00	14.23
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	4.161	0.00	5.01
12.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	4.161	0.00	9.75
12.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	4.161	0.00	14.23
12.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	4.161	0.00	10.61
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	4.161	0.00	5.01
12.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.47	0.00	0.112	1.036	4.161	0.00	294.71
12.00	C10x15.3	Yes	2.00	0.000	2.60	0.73	0.00	0.112	1.036	4.161	0.00	440.05
14.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.64	0.00	0.113	1.039	4.161	0.00	14.38
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	4.161	0.00	5.10
14.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	4.161	0.00	9.85
14.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	4.161	0.00	14.38
14.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	4.161	0.00	10.73
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	4.161	0.00	5.10
14.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.47	0.00	0.113	1.039	4.161	0.00	294.84
14.00	C10x15.3	Yes	2.00	0.000	2.60	0.74	0.00	0.113	1.039	4.161	0.00	440.19
16.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.64	0.00	0.114	1.042	4.161	0.00	14.52
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	4.161	0.00	5.17
16.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	4.161	0.00	9.94
16.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	4.161	0.00	14.52
16.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	4.161	0.00	10.83
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	4.161	0.00	5.17
16.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.48	0.00	0.114	1.042	4.161	0.00	294.96
16.00	C10x15.3	Yes	2.00	0.000	2.60	0.74	0.00	0.114	1.042	4.161	0.00	440.32
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.08	0.00	0.114	1.043	4.161	0.00	1.82
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	4.161	0.00	0.65
16.25	1.75" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	4.161	0.00	1.24
16.25	1 5/8" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	4.161	0.00	1.82
16.25	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	4.161	0.00	1.36
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	4.161	0.00	0.65
16.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.06	0.00	0.114	1.043	4.161	0.00	36.87
16.25	C10x15.3	Yes	0.25	0.000	2.60	0.09	0.00	0.114	1.043	4.161	0.00	55.04
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.57	0.00	0.115	1.045	4.161	0.00	12.81
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	4.161	0.00	4.59
18.00	1.75" Hybrid	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	4.161	0.00	8.76
18.00	1 5/8" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	4.161	0.00	12.81
18.00	1-1/4" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	4.161	0.00	9.56
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	4.161	0.00	4.59
18.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.42	0.00	0.115	1.045	4.161	0.00	258.18
18.00	C10x15.3	Yes	1.75	0.000	2.60	0.65	0.00	0.115	1.045	4.161	0.00	385.38
18.63	1 5/8" Hybrid	Yes	0.63	0.000	2.00	0.20	0.00	0.116	1.047	4.161	0.00	4.62
18.63	7/8" Coax	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	4.161	0.00	1.66
18.63	1.75" Hybrid	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	4.161	0.00	3.16
18.63	1 5/8" Fiber	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	4.161	0.00	4.62
18.63	1-1/4" Fiber	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	4.161	0.00	3.45
18.63	7/8" Coax	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	4.161	0.00	1.66

Linear Appurtenance Segment Forces (Factored)

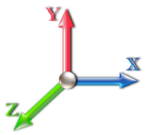
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 57	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
18.63	1" Reinforcing plate	Yes	0.63	0.000	1.00	0.15	0.00	0.116	1.047	4.161	0.00	92.95
18.63	C10x15.3	Yes	0.63	0.000	2.60	0.24	0.00	0.116	1.047	4.161	0.00	138.75
18.88	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.08	0.00	0.116	1.047	4.161	0.00	1.84
18.88	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	4.161	0.00	0.66
18.88	1.75" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	4.161	0.00	1.26
18.88	1 5/8" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	4.161	0.00	1.84
18.88	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	4.161	0.00	1.37
18.88	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	4.161	0.00	0.66
18.88	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.06	0.00	0.116	1.047	4.161	0.00	36.89
18.88	C10x15.3	Yes	0.25	0.000	2.60	0.09	0.00	0.116	1.047	4.161	0.00	55.06
20.00	1 5/8" Hybrid	Yes	1.12	0.000	2.00	0.36	0.00	0.116	1.048	4.161	0.00	8.26
20.00	7/8" Coax	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	4.161	0.00	2.97
20.00	1.75" Hybrid	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	4.161	0.00	5.65
20.00	1 5/8" Fiber	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	4.161	0.00	8.26
20.00	1-1/4" Fiber	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	4.161	0.00	6.17
20.00	7/8" Coax	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	4.161	0.00	2.97
20.00	1" Reinforcing plate	Yes	1.12	0.000	1.00	0.27	0.00	0.116	1.048	4.161	0.00	165.28
20.00	C10x15.3	Yes	1.12	0.000	2.60	0.42	0.00	0.116	1.048	4.161	0.00	246.70
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.65	0.00	0.117	1.050	4.161	0.00	14.84
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	4.161	0.00	5.36
22.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	4.161	0.00	10.16
22.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	4.161	0.00	14.84
22.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	4.161	0.00	11.09
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	4.161	0.00	5.36
22.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.49	0.00	0.117	1.050	4.161	0.00	295.24
22.00	C10x15.3	Yes	2.00	0.000	2.60	0.75	0.00	0.117	1.050	4.161	0.00	440.64
24.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.66	0.00	0.116	1.048	4.161	0.00	14.94
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	4.161	0.00	5.42
24.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	4.161	0.00	10.22
24.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	4.161	0.00	14.94
24.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	4.161	0.00	11.16
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	4.161	0.00	5.42
24.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.49	0.00	0.116	1.048	4.161	0.00	295.31
24.00	C10x15.3	Yes	2.00	0.000	2.60	0.76	0.00	0.116	1.048	4.161	0.00	440.73
26.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.66	0.00	0.117	1.051	4.161	0.00	15.02
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	4.161	0.00	5.47
26.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	4.161	0.00	10.28
26.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	4.161	0.00	15.02
26.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	4.161	0.00	11.23
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	4.161	0.00	5.47
26.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.49	0.00	0.117	1.051	4.161	0.00	295.39
26.00	C10x15.3	Yes	2.00	0.000	2.60	0.76	0.00	0.117	1.051	4.161	0.00	440.81
28.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.66	0.00	0.118	1.054	4.161	0.00	15.10
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	4.161	0.00	5.52
28.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	4.161	0.00	10.33
28.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	4.161	0.00	15.10
28.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	4.161	0.00	11.29

Linear Appurtenance Segment Forces (Factored)

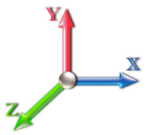
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 58	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	4.161	0.00	5.52
28.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.49	0.00	0.118	1.054	4.161	0.00	295.46
28.00	C10x15.3	Yes	2.00	0.000	2.60	0.76	0.00	0.118	1.054	4.161	0.00	440.89
30.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.66	0.00	0.145	1.136	4.164	0.00	15.18
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	4.164	0.00	5.56
30.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	4.164	0.00	10.38
30.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	4.164	0.00	15.18
30.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	4.164	0.00	11.35
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	4.164	0.00	5.56
30.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.54	0.00	0.145	1.136	4.164	0.00	368.96
30.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.50	0.00	0.145	1.136	4.164	0.00	295.52
30.00	C10x15.3	Yes	2.00	0.000	2.60	0.76	0.00	0.145	1.136	4.164	0.00	440.96
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.33	0.00	0.146	1.139	4.203	0.00	7.61
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	4.203	0.00	2.79
31.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	4.203	0.00	5.20
31.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	4.203	0.00	7.61
31.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	4.203	0.00	5.69
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	4.203	0.00	2.79
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.27	0.00	0.146	1.139	4.203	0.00	184.50
31.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.25	0.00	0.146	1.139	4.203	0.00	147.78
31.00	C10x15.3	Yes	1.00	0.000	2.60	0.38	0.00	0.146	1.139	4.203	0.00	220.50
32.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.33	0.00	0.147	1.141	4.242	0.00	7.62
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	4.242	0.00	2.80
32.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	4.242	0.00	5.22
32.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	4.242	0.00	7.62
32.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	4.242	0.00	5.70
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	4.242	0.00	2.80
32.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.27	0.00	0.147	1.141	4.242	0.00	184.51
32.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.25	0.00	0.147	1.141	4.242	0.00	147.79
32.00	C10x15.3	Yes	1.00	0.000	2.60	0.38	0.00	0.147	1.141	4.242	0.00	220.51
33.38	1 5/8" Hybrid	Yes	1.38	0.000	2.00	0.46	0.00	0.070	0.000	4.293	0.00	10.55
33.38	7/8" Coax	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	4.293	0.00	3.89
33.38	1.75" Hybrid	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	4.293	0.00	7.22
33.38	1 5/8" Fiber	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	4.293	0.00	10.55
33.38	1-1/4" Fiber	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	4.293	0.00	7.90
33.38	7/8" Coax	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	4.293	0.00	3.89
33.38	1.25" Reinforcing	Yes	1.38	0.000	1.25	0.37	0.00	0.070	0.000	4.293	0.00	254.66
34.00	1 5/8" Hybrid	Yes	0.62	0.000	2.00	0.21	0.00	0.070	0.000	4.316	0.00	4.75
34.00	7/8" Coax	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	4.316	0.00	1.75
34.00	1.75" Hybrid	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	4.316	0.00	3.25
34.00	1 5/8" Fiber	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	4.316	0.00	4.75
34.00	1-1/4" Fiber	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	4.316	0.00	3.55
34.00	7/8" Coax	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	4.316	0.00	1.75
34.00	1.25" Reinforcing	Yes	0.62	0.000	1.25	0.17	0.00	0.070	0.000	4.316	0.00	114.42
36.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.67	0.00	0.071	0.000	4.387	0.00	15.38
36.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	4.387	0.00	5.68
36.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	4.387	0.00	10.52

Linear Appurtenance Segment Forces (Factored)

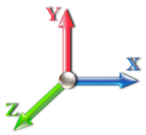
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 59	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
36.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	4.387	0.00	15.38
36.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	4.387	0.00	11.51
36.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	4.387	0.00	5.68
36.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.54	0.00	0.071	0.000	4.387	0.00	369.15
38.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.67	0.00	0.071	0.000	4.455	0.00	15.44
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	4.455	0.00	5.72
38.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	4.455	0.00	10.56
38.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	4.455	0.00	15.44
38.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	4.455	0.00	11.56
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	4.455	0.00	5.72
38.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.55	0.00	0.071	0.000	4.455	0.00	369.21
40.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.67	0.00	0.072	0.000	4.521	0.00	15.50
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	4.521	0.00	5.75
40.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	4.521	0.00	10.60
40.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	4.521	0.00	15.50
40.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	4.521	0.00	11.60
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	4.521	0.00	5.75
40.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.55	0.00	0.072	0.000	4.521	0.00	369.27
42.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.67	0.00	0.073	0.000	4.584	0.00	15.55
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	4.584	0.00	5.79
42.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	4.584	0.00	10.64
42.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	4.584	0.00	15.55
42.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	4.584	0.00	11.65
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	4.584	0.00	5.79
42.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.55	0.00	0.073	0.000	4.584	0.00	369.32
44.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.073	0.000	4.646	0.00	15.61
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	4.646	0.00	5.82
44.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	4.646	0.00	10.68
44.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	4.646	0.00	15.61
44.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	4.646	0.00	11.69
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	4.646	0.00	5.82
44.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.55	0.00	0.073	0.000	4.646	0.00	369.37
45.16	1 5/8" Hybrid	Yes	1.16	0.000	2.00	0.39	0.00	0.074	0.000	4.680	0.00	9.07
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	4.680	0.00	3.39
45.16	1.75" Hybrid	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	4.680	0.00	6.21
45.16	1 5/8" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	4.680	0.00	9.07
45.16	1-1/4" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	4.680	0.00	6.79
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	4.680	0.00	3.39
45.16	1.25" Reinforcing	Yes	1.16	0.000	1.25	0.32	0.00	0.074	0.000	4.680	0.00	214.25
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.28	0.00	0.074	0.000	4.705	0.00	6.58
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	4.705	0.00	2.46
46.00	1.75" Hybrid	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	4.705	0.00	4.50
46.00	1 5/8" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	4.705	0.00	6.58
46.00	1-1/4" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	4.705	0.00	4.93
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	4.705	0.00	2.46
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.23	0.00	0.074	0.000	4.705	0.00	155.16
48.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.075	0.000	4.763	0.00	15.71

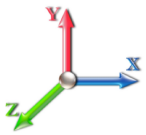
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 60	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	4.763	0.00	5.88
48.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	4.763	0.00	10.75
48.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	4.763	0.00	15.71
48.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	4.763	0.00	11.77
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	4.763	0.00	5.88
48.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.55	0.00	0.075	0.000	4.763	0.00	369.47
50.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.075	0.000	4.819	0.00	15.76
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	4.819	0.00	5.91
50.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	4.819	0.00	10.78
50.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	4.819	0.00	15.76
50.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	4.819	0.00	11.81
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	4.819	0.00	5.91
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.075	0.000	4.819	0.00	369.52
52.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.076	0.000	4.873	0.00	15.80
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	4.873	0.00	5.94
52.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	4.873	0.00	10.81
52.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	4.873	0.00	15.80
52.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	4.873	0.00	11.85
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	4.873	0.00	5.94
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.076	0.000	4.873	0.00	369.56
54.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.077	0.000	4.926	0.00	15.85
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	4.926	0.00	5.96
54.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	4.926	0.00	10.85
54.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	4.926	0.00	15.85
54.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	4.926	0.00	11.88
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	4.926	0.00	5.96
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.077	0.000	4.926	0.00	369.61
56.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.078	0.000	4.977	0.00	15.89
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	4.977	0.00	5.99
56.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	4.977	0.00	10.88
56.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	4.977	0.00	15.89
56.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	4.977	0.00	11.92
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	4.977	0.00	5.99
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.078	0.000	4.977	0.00	369.65
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.077	0.000	5.027	0.00	15.93
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	5.027	0.00	6.02
58.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	5.027	0.00	10.90
58.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	5.027	0.00	15.93
58.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	5.027	0.00	11.95
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	5.027	0.00	6.02
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.077	0.000	5.027	0.00	369.69
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.078	0.000	5.076	0.00	15.97
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.076	0.00	6.04
60.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.076	0.00	10.93
60.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.076	0.00	15.97
60.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.076	0.00	11.98
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.076	0.00	6.04

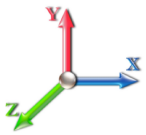
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 61	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.078	0.000	5.076	0.00	369.73
62.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.078	0.000	5.124	0.00	16.01
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.124	0.00	6.06
62.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.124	0.00	10.96
62.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.124	0.00	16.01
62.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.124	0.00	12.01
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.124	0.00	6.06
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.078	0.000	5.124	0.00	369.77
64.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.079	0.000	5.171	0.00	16.05
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	5.171	0.00	6.09
64.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	5.171	0.00	10.99
64.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	5.171	0.00	16.05
64.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	5.171	0.00	12.05
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	5.171	0.00	6.09
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.079	0.000	5.171	0.00	369.80
66.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.080	0.000	5.216	0.00	16.09
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	5.216	0.00	6.11
66.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	5.216	0.00	11.01
66.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	5.216	0.00	16.09
66.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	5.216	0.00	12.08
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	5.216	0.00	6.11
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.080	0.000	5.216	0.00	369.84
68.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.081	0.000	5.261	0.00	16.13
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	5.261	0.00	6.13
68.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	5.261	0.00	11.04
68.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	5.261	0.00	16.13
68.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	5.261	0.00	12.10
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	5.261	0.00	6.13
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.081	0.000	5.261	0.00	369.88
70.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.082	0.000	5.305	0.00	16.16
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	5.305	0.00	6.16
70.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	5.305	0.00	11.06
70.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	5.305	0.00	16.16
70.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	5.305	0.00	12.13
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	5.305	0.00	6.16
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.082	0.000	5.305	0.00	369.91
72.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.082	0.000	5.348	0.00	16.20
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	5.348	0.00	6.18
72.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	5.348	0.00	11.09
72.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	5.348	0.00	16.20
72.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	5.348	0.00	12.16
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	5.348	0.00	6.18
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.082	0.000	5.348	0.00	369.95
74.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.083	0.000	5.390	0.00	16.23
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	5.390	0.00	6.20
74.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	5.390	0.00	11.11
74.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	5.390	0.00	16.23

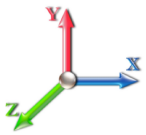
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 62	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
74.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	5.390	0.00	12.19
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	5.390	0.00	6.20
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.083	0.000	5.390	0.00	369.98
76.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.084	0.000	5.431	0.00	16.27
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	5.431	0.00	6.22
76.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	5.431	0.00	11.14
76.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	5.431	0.00	16.27
76.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	5.431	0.00	12.22
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	5.431	0.00	6.22
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.084	0.000	5.431	0.00	370.01
78.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.085	0.000	5.471	0.00	16.30
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	5.471	0.00	6.24
78.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	5.471	0.00	11.16
78.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	5.471	0.00	16.30
78.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	5.471	0.00	12.24
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	5.471	0.00	6.24
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.085	0.000	5.471	0.00	370.04
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.086	0.000	5.511	0.00	16.33
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	5.511	0.00	6.26
80.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	5.511	0.00	11.18
80.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	5.511	0.00	16.33
80.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	5.511	0.00	12.27
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	5.511	0.00	6.26
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.086	0.000	5.511	0.00	370.07
82.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.087	0.000	5.550	0.00	16.36
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	5.550	0.00	6.28
82.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	5.550	0.00	11.20
82.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	5.550	0.00	16.36
82.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	5.550	0.00	12.29
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	5.550	0.00	6.28
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.087	0.000	5.550	0.00	370.10
84.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.088	0.000	5.589	0.00	16.39
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	5.589	0.00	6.29
84.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	5.589	0.00	11.22
84.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	5.589	0.00	16.39
84.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	5.589	0.00	12.32
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	5.589	0.00	6.29
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.088	0.000	5.589	0.00	370.13
86.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.089	0.000	5.626	0.00	16.42
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	5.626	0.00	6.31
86.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	5.626	0.00	11.24
86.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	5.626	0.00	16.42
86.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	5.626	0.00	12.34
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	5.626	0.00	6.31
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.58	0.00	0.089	0.000	5.626	0.00	370.16
88.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.090	0.000	5.663	0.00	16.45
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	5.663	0.00	6.33

Linear Appurtenance Segment Forces (Factored)

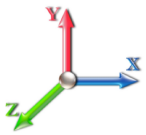
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 63	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
88.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	5.663	0.00	11.27
88.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	5.663	0.00	16.45
88.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	5.663	0.00	12.36
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	5.663	0.00	6.33
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.58	0.00	0.090	0.000	5.663	0.00	370.19
90.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.091	0.000	5.700	0.00	16.48
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	5.700	0.00	6.35
90.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	5.700	0.00	11.29
90.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	5.700	0.00	16.48
90.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	5.700	0.00	12.39
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	5.700	0.00	6.35
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.58	0.00	0.091	0.000	5.700	0.00	370.22
92.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.092	0.000	5.736	0.00	16.51
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	5.736	0.00	6.37
92.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	5.736	0.00	11.31
92.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	5.736	0.00	16.51
92.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	5.736	0.00	12.41
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	5.736	0.00	6.37
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.58	0.00	0.092	0.000	5.736	0.00	370.25
94.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.093	0.000	5.771	0.00	16.54
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	5.771	0.00	6.38
94.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	5.771	0.00	11.32
94.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	5.771	0.00	16.54
94.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	5.771	0.00	12.43
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	5.771	0.00	6.38
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.58	0.00	0.093	0.000	5.771	0.00	370.27
95.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.35	0.00	0.094	0.000	5.789	0.00	8.28
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	5.789	0.00	3.20
95.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	5.789	0.00	5.67
95.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	5.789	0.00	8.28
95.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	5.789	0.00	6.22
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	5.789	0.00	3.20
95.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.29	0.00	0.094	0.000	5.789	0.00	185.14
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.20	0.00	0.094	0.000	5.799	0.00	4.80
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	5.799	0.00	1.86
95.58	1.75" Hybrid	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	5.799	0.00	3.29
95.58	1 5/8" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	5.799	0.00	4.80
95.58	1-1/4" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	5.799	0.00	3.61
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	5.799	0.00	1.86
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.17	0.00	0.094	0.000	5.799	0.00	107.38
96.00	1 5/8" Hybrid	Yes	0.42	0.000	2.00	0.15	0.00	0.094	0.000	5.806	0.00	3.48
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	5.806	0.00	1.34
96.00	1.75" Hybrid	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	5.806	0.00	2.38
96.00	1 5/8" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	5.806	0.00	3.48
96.00	1-1/4" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	5.806	0.00	2.62
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	5.806	0.00	1.34
96.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.12	0.00	0.094	0.000	5.806	0.00	77.76

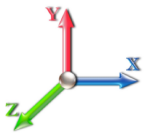
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 64	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
98.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.095	0.000	5.840	0.00	16.59
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	5.840	0.00	6.42
98.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	5.840	0.00	11.36
98.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	5.840	0.00	16.59
98.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	5.840	0.00	12.47
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	5.840	0.00	6.42
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.58	0.00	0.095	0.000	5.840	0.00	370.32
100.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.059	0.000	5.874	0.00	16.62
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.874	0.00	6.43
100.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.874	0.00	11.38
100.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.874	0.00	16.62
100.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.874	0.00	12.50
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.874	0.00	6.43
102.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.059	0.000	5.907	0.00	16.64
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.907	0.00	6.45
102.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.907	0.00	11.40
102.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.907	0.00	16.64
102.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.907	0.00	12.52
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.907	0.00	6.45
104.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.059	0.000	5.940	0.00	16.67
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.940	0.00	6.46
104.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.940	0.00	11.42
104.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.940	0.00	16.67
104.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.940	0.00	12.54
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	5.940	0.00	6.46
106.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.060	0.000	5.973	0.00	16.69
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	5.973	0.00	6.48
106.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	5.973	0.00	11.43
106.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	5.973	0.00	16.69
106.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	5.973	0.00	12.56
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	5.973	0.00	6.48
108.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.061	0.000	6.005	0.00	16.72
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	6.005	0.00	6.49
108.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	6.005	0.00	11.45
108.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	6.005	0.00	16.72
108.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	6.005	0.00	12.58
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	6.005	0.00	6.49
110.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.062	0.000	6.036	0.00	16.74
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	6.036	0.00	6.51
110.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	6.036	0.00	11.47
110.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	6.036	0.00	16.74
110.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	6.036	0.00	12.60
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	6.036	0.00	6.51
112.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.062	0.000	6.067	0.00	16.77
112.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	6.067	0.00	6.52
112.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	6.067	0.00	11.49
112.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	6.067	0.00	16.77

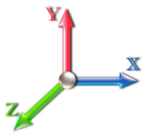
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 65	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
112.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	6.067	0.00	12.62
114.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.063	0.000	6.098	0.00	16.79
114.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	6.098	0.00	6.54
114.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	6.098	0.00	11.50
114.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	6.098	0.00	16.79
114.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	6.098	0.00	12.63
115.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.064	0.000	6.113	0.00	8.40
115.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	6.113	0.00	3.27
115.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	6.113	0.00	5.76
115.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	6.113	0.00	8.40
115.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	6.113	0.00	6.32
116.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.064	0.000	6.128	0.00	8.41
116.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	6.128	0.00	3.28
116.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	6.128	0.00	5.76
116.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	6.128	0.00	8.41
116.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	6.128	0.00	6.33
118.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.065	0.000	6.158	0.00	16.84
118.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	6.158	0.00	6.57
118.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	6.158	0.00	11.53
118.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	6.158	0.00	16.84
118.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	6.158	0.00	12.67
120.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.066	0.000	6.188	0.00	16.86
120.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	6.188	0.00	6.58
120.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	6.188	0.00	11.55
120.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	6.188	0.00	16.86
120.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	6.188	0.00	12.69
122.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.067	0.000	6.217	0.00	16.88
122.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	6.217	0.00	6.60
122.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	6.217	0.00	11.57
122.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	6.217	0.00	16.88
122.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	6.217	0.00	12.71
124.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.067	0.000	6.246	0.00	16.90
124.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	6.246	0.00	6.61
124.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	6.246	0.00	11.58
124.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	6.246	0.00	16.90
124.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	6.246	0.00	12.72
126.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.068	0.000	6.275	0.00	16.92
126.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	6.275	0.00	6.62
126.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	6.275	0.00	11.60
126.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	6.275	0.00	16.92
126.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	6.275	0.00	12.74
128.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.069	0.000	6.303	0.00	16.95
128.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	6.303	0.00	6.64
128.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	6.303	0.00	11.61
128.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	6.303	0.00	16.95
128.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	6.303	0.00	12.76
130.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.070	0.000	6.331	0.00	16.97

Linear Appurtenance Segment Forces (Factored)

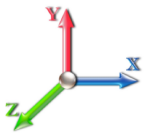
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 66	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
130.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	6.331	0.00	6.65
130.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	6.331	0.00	11.63
130.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	6.331	0.00	16.97
130.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	6.331	0.00	12.78
132.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.071	0.000	6.359	0.00	16.99
132.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	6.359	0.00	6.66
132.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	6.359	0.00	11.64
132.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	6.359	0.00	16.99
132.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	6.359	0.00	12.79
133.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.072	0.000	6.373	0.00	8.50
133.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	6.373	0.00	3.33
133.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	6.373	0.00	5.82
133.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	6.373	0.00	8.50
133.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	6.373	0.00	6.40
134.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.073	0.000	6.386	0.00	8.50
134.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	6.386	0.00	3.34
134.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	6.386	0.00	5.83
134.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	6.386	0.00	8.50
134.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	6.386	0.00	6.40
136.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.073	0.000	6.413	0.00	17.03
136.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	6.413	0.00	6.69
136.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	6.413	0.00	11.67
136.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	6.413	0.00	17.03
136.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	6.413	0.00	12.82
138.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.075	0.000	6.440	0.00	17.05
138.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.440	0.00	6.70
138.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.440	0.00	11.68
138.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.440	0.00	17.05
138.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.440	0.00	12.84
140.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.076	0.000	6.467	0.00	17.07
140.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.467	0.00	6.71
140.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.467	0.00	11.70
140.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.467	0.00	17.07
140.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.467	0.00	12.86
142.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.077	0.000	6.493	0.00	17.09
142.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.493	0.00	6.72
142.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.493	0.00	11.71
142.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.493	0.00	17.09
142.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.493	0.00	12.87
144.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.078	0.000	6.519	0.00	17.11
144.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.519	0.00	6.74
144.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.519	0.00	11.72
145.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.079	0.000	6.532	0.00	8.56
145.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	6.532	0.00	3.37
145.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	6.532	0.00	5.87
146.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.082	0.000	6.545	0.00	8.56
146.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	6.545	0.00	3.37

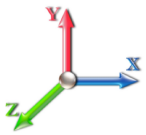
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 67	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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)
146.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	6.545	0.00	5.87
148.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.083	0.000	6.570	0.00	17.14
148.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	6.570	0.00	6.76
148.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	6.570	0.00	11.75
150.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.085	0.000	6.595	0.00	17.16
150.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	6.595	0.00	6.77
150.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	6.595	0.00	11.76
152.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.125	1.075	6.620	0.00	17.18
152.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.620	0.00	6.78
152.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.620	0.00	11.78
154.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.125	1.075	6.645	0.00	17.20
154.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.645	0.00	6.79
156.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.125	1.075	6.670	0.00	17.22
156.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.670	0.00	6.80
158.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.125	1.075	6.694	0.00	17.23
158.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.694	0.00	6.82
160.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.125	1.075	6.718	0.00	17.25
160.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.718	0.00	6.83
										Totals:	**0.0**	**29,607.2**

Calculated Forces

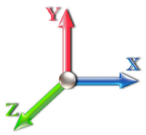
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 68	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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	-99.17	-7.65	0.00	-939.25	0.00	939.25	3683.82	1059.58	4414.92	3756.66	0.00	0.000	0.000	0.164
1.00	-98.44	-7.64	0.00	-931.60	0.00	931.60	3677.71	1055.47	4380.73	3735.77	0.00	-0.008	0.000	0.164
2.00	-97.70	-7.63	0.00	-923.96	0.00	923.96	3671.54	1051.36	4346.67	3714.86	0.00	-0.016	0.000	0.163
4.00	-96.23	-7.61	0.00	-908.70	0.00	908.70	3659.00	1043.14	4278.95	3673.00	0.01	-0.033	0.000	0.161
6.00	-94.75	-7.59	0.00	-893.48	0.00	893.48	3646.20	1034.91	4211.76	3631.09	0.03	-0.049	0.000	0.160
8.00	-93.26	-7.56	0.00	-878.30	0.00	878.30	3633.16	1026.69	4145.10	3589.13	0.06	-0.066	0.000	0.158
10.00	-91.79	-7.54	0.00	-863.18	0.00	863.18	3619.85	1018.47	4078.97	3547.13	0.09	-0.082	0.000	0.157
12.00	-90.31	-7.51	0.00	-848.10	0.00	848.10	3606.29	1010.25	4013.38	3505.10	0.12	-0.099	0.000	0.155
14.00	-88.83	-7.49	0.00	-833.08	0.00	833.08	3592.48	1002.02	3948.31	3463.03	0.17	-0.116	0.000	0.154
16.00	-87.36	-7.45	0.00	-818.10	0.00	818.10	3578.41	993.80	3883.78	3420.94	0.22	-0.132	0.000	0.152
16.25	-87.12	-7.46	0.00	-816.24	0.00	816.24	3576.63	992.77	3875.75	3415.68	0.23	-0.135	0.000	0.174
18.00	-85.42	-7.43	0.00	-803.19	0.00	803.19	3564.09	985.58	3819.78	3378.83	0.28	-0.151	0.000	0.173
18.63	-84.81	-7.42	0.00	-798.51	0.00	798.51	3559.52	982.99	3799.73	3365.57	0.30	-0.158	0.000	0.140
18.88	-84.57	-7.42	0.00	-796.66	0.00	796.66	3557.70	981.96	3791.79	3360.30	0.31	-0.160	0.000	0.161
20.00	-83.48	-7.41	0.00	-788.35	0.00	788.35	3549.51	977.36	3756.31	3336.71	0.35	-0.170	0.000	0.160
22.00	-81.56	-7.38	0.00	-773.53	0.00	773.53	3563.12	985.03	3815.51	3376.01	0.42	-0.188	0.000	0.161
24.00	-80.09	-7.35	0.00	-758.77	0.00	758.77	3548.52	976.81	3752.08	3333.89	0.51	-0.206	0.000	0.155
26.00	-78.62	-7.32	0.00	-744.07	0.00	744.07	3533.67	968.58	3689.18	3291.77	0.60	-0.223	0.000	0.154
28.00	-77.15	-7.29	0.00	-729.43	0.00	729.43	3518.56	960.36	3626.81	3249.64	0.69	-0.241	0.000	0.152
30.00	-75.32	-7.25	0.00	-714.85	0.00	714.85	3503.20	952.14	3564.97	3207.53	0.80	-0.258	0.000	0.118
31.00	-74.41	-7.23	0.00	-707.60	0.00	707.60	3495.43	948.03	3534.25	3186.48	0.85	-0.265	0.000	0.136
32.00	-73.50	-7.21	0.00	-700.37	0.00	700.37	3487.59	943.92	3503.66	3165.43	0.91	-0.273	0.000	0.135
33.38	-72.75	-7.19	0.00	-690.42	0.00	690.42	3476.66	938.24	3461.67	3136.39	0.99	-0.285	0.000	0.167
34.00	-72.41	-7.19	0.00	-685.96	0.00	685.96	3471.72	935.70	3442.89	3123.35	1.03	-0.291	0.000	0.167
36.00	-71.33	-7.16	0.00	-671.59	0.00	671.59	3455.59	927.47	3382.65	3081.29	1.15	-0.311	0.000	0.165
38.00	-70.25	-7.13	0.00	-657.27	0.00	657.27	3439.21	919.25	3322.94	3039.26	1.29	-0.331	0.000	0.163
40.00	-69.15	-7.10	0.00	-643.00	0.00	643.00	3422.57	911.03	3263.76	2997.28	1.43	-0.351	0.000	0.161
42.00	-68.08	-7.07	0.00	-628.81	0.00	628.81	3405.68	902.81	3205.11	2955.34	1.58	-0.372	0.000	0.159
44.00	-67.02	-7.03	0.00	-614.67	0.00	614.67	3388.54	894.58	3146.99	2913.44	1.74	-0.392	0.000	0.157
45.16	-66.40	-7.01	0.00	-606.52	0.00	606.52	3378.48	889.81	3113.53	2889.17	1.84	-0.404	0.000	0.114
46.00	-65.96	-7.00	0.00	-600.63	0.00	600.63	3371.14	886.36	3089.41	2871.61	1.91	-0.410	0.000	0.148
48.00	-64.90	-6.97	0.00	-586.63	0.00	586.63	3353.48	878.14	3032.36	2829.83	2.09	-0.429	0.000	0.146
50.00	-63.84	-6.93	0.00	-572.69	0.00	572.69	3335.57	869.92	2975.84	2788.13	2.27	-0.448	0.000	0.144
52.00	-62.38	-6.89	0.00	-558.82	0.00	558.82	3317.41	861.69	2919.85	2746.50	2.46	-0.468	0.000	0.140
54.00	-60.93	-6.85	0.00	-545.04	0.00	545.04	3298.98	853.47	2864.39	2704.94	2.66	-0.487	0.000	0.138
56.00	-59.48	-6.81	0.00	-531.33	0.00	531.33	3316.18	861.14	2916.12	2743.71	2.87	-0.506	0.000	0.139
58.00	-58.44	-6.77	0.00	-517.71	0.00	517.71	3297.74	852.92	2860.70	2702.16	3.09	-0.525	0.000	0.144
60.00	-57.39	-6.73	0.00	-504.16	0.00	504.16	3279.05	844.70	2805.81	2660.71	3.31	-0.545	0.000	0.142
62.00	-56.36	-6.69	0.00	-490.70	0.00	490.70	3260.10	836.48	2751.45	2619.34	3.54	-0.565	0.000	0.140
64.00	-55.32	-6.65	0.00	-477.31	0.00	477.31	3240.90	828.25	2697.62	2578.08	3.79	-0.585	0.000	0.138
66.00	-54.29	-6.61	0.00	-464.00	0.00	464.00	3221.44	820.03	2644.33	2536.92	4.03	-0.604	0.000	0.136
68.00	-53.27	-6.57	0.00	-450.77	0.00	450.77	3201.73	811.81	2591.56	2495.87	4.29	-0.624	0.000	0.134
70.00	-52.25	-6.53	0.00	-437.63	0.00	437.63	3181.76	803.59	2539.33	2454.94	4.56	-0.644	0.000	0.132
72.00	-51.23	-6.49	0.00	-424.57	0.00	424.57	3161.54	795.36	2487.63	2414.13	4.83	-0.664	0.000	0.129
74.00	-50.22	-6.44	0.00	-411.60	0.00	411.60	3141.06	787.14	2436.47	2373.45	5.11	-0.683	0.000	0.127
76.00	-49.21	-6.40	0.00	-398.72	0.00	398.72	3120.33	778.92	2385.83	2332.91	5.40	-0.703	0.000	0.125
78.00	-48.21	-6.35	0.00	-385.92	0.00	385.92	3099.34	770.70	2335.73	2292.51	5.70	-0.722	0.000	0.122
80.00	-47.21	-6.31	0.00	-373.21	0.00	373.21	3078.09	762.47	2286.15	2252.26	6.01	-0.742	0.000	0.120

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 69

TES Tower Engineering Solutions

80.00	-47.21	-6.31	0.00	-373.21	0.00	373.21	2384.58	636.50	1911.75	1750.88	6.01	-0.742	0.000	0.129
82.00	-46.28	-6.26	0.00	-360.60	0.00	360.60	2370.62	629.65	1870.81	1721.73	6.32	-0.761	0.000	0.142
84.00	-45.34	-6.22	0.00	-348.07	0.00	348.07	2356.42	622.80	1830.32	1692.63	6.65	-0.782	0.000	0.139
86.00	-44.42	-6.18	0.00	-335.63	0.00	335.63	2341.95	615.94	1790.27	1663.57	6.98	-0.803	0.000	0.136
88.00	-43.49	-6.13	0.00	-323.28	0.00	323.28	2327.23	609.09	1750.66	1634.56	7.32	-0.824	0.000	0.132
90.00	-42.57	-6.09	0.00	-311.02	0.00	311.02	2312.26	602.24	1711.49	1605.61	7.67	-0.845	0.000	0.129
92.00	-41.66	-6.04	0.00	-298.85	0.00	298.85	2297.03	595.39	1672.77	1576.72	8.03	-0.866	0.000	0.126
94.00	-40.75	-5.99	0.00	-286.77	0.00	286.77	2281.55	588.54	1634.49	1547.90	8.40	-0.886	0.000	0.122
95.00	-40.29	-5.96	0.00	-280.78	0.00	280.78	2273.71	585.11	1615.51	1533.52	8.58	-0.897	0.000	0.121
95.58	-39.95	-5.95	0.00	-277.32	0.00	277.32	2269.13	583.12	1604.56	1525.19	8.69	-0.903	0.000	0.118
95.58	-39.95	-5.95	0.00	-277.32	0.00	277.32	2269.13	583.12	1604.56	1525.19	8.69	-0.903	0.000	0.118
96.00	-39.70	-5.95	0.00	-274.83	0.00	274.83	2265.81	581.68	1596.65	1519.16	8.77	-0.907	0.000	0.199
98.00	-38.52	-5.90	0.00	-262.93	0.00	262.93	2249.81	574.83	1559.25	1490.50	9.16	-0.940	0.000	0.194
100.00	-37.71	-5.86	0.00	-251.13	0.00	251.13	2259.61	579.02	1582.04	1508.00	9.56	-0.973	0.000	0.183
102.00	-37.18	-5.83	0.00	-239.40	0.00	239.40	2243.52	572.17	1544.82	1479.37	9.98	-1.006	0.000	0.178
104.00	-36.65	-5.79	0.00	-227.74	0.00	227.74	2227.17	565.31	1508.04	1450.84	10.40	-1.036	0.000	0.174
106.00	-36.12	-5.75	0.00	-216.16	0.00	216.16	2210.57	558.46	1471.71	1422.40	10.84	-1.066	0.000	0.168
108.00	-35.60	-5.72	0.00	-204.66	0.00	204.66	2193.71	551.61	1435.82	1394.06	11.30	-1.096	0.000	0.163
110.00	-34.96	-5.58	0.00	-192.97	0.00	192.97	2176.60	544.76	1400.37	1365.84	11.76	-1.125	0.000	0.157
112.00	-34.46	-5.54	0.00	-181.80	0.00	181.80	2159.23	537.91	1365.36	1337.73	12.24	-1.153	0.000	0.152
114.00	-33.96	-5.50	0.00	-170.72	0.00	170.72	2141.61	531.05	1330.80	1309.73	12.73	-1.180	0.000	0.146
115.00	-33.71	-5.48	0.00	-165.22	0.00	165.22	2132.70	527.63	1313.68	1295.79	12.98	-1.194	0.000	0.143
115.00	-33.71	-5.48	0.00	-165.22	0.00	165.22	1556.62	422.98	1055.35	949.74	12.98	-1.194	0.000	0.196
116.00	-33.48	-5.47	0.00	-159.74	0.00	159.74	1551.43	420.24	1041.71	940.38	13.23	-1.208	0.000	0.192
118.00	-33.03	-5.43	0.00	-148.80	0.00	148.80	1540.84	414.76	1014.72	921.68	13.74	-1.240	0.000	0.183
120.00	-32.59	-5.39	0.00	-137.94	0.00	137.94	1529.99	409.28	988.07	902.99	14.27	-1.271	0.000	0.174
122.00	-32.15	-5.36	0.00	-127.16	0.00	127.16	1518.89	403.80	961.78	884.33	14.81	-1.302	0.000	0.165
124.00	-31.71	-5.32	0.00	-116.44	0.00	116.44	1507.54	398.32	935.85	865.70	15.36	-1.331	0.000	0.156
126.00	-31.28	-5.28	0.00	-105.81	0.00	105.81	1495.93	392.84	910.27	847.11	15.92	-1.358	0.000	0.146
128.00	-30.85	-5.24	0.00	-95.25	0.00	95.25	1484.06	387.35	885.04	828.56	16.50	-1.384	0.000	0.136
130.00	-30.43	-5.20	0.00	-84.77	0.00	84.77	1471.95	381.87	860.17	810.06	17.08	-1.408	0.000	0.126
132.00	-30.01	-5.15	0.00	-74.37	0.00	74.37	1459.57	376.39	835.65	791.62	17.68	-1.430	0.000	0.115
133.00	-21.74	-4.06	0.00	-69.22	0.00	69.22	1453.29	373.65	823.53	782.42	17.98	-1.441	0.000	0.104
134.00	-21.55	-4.04	0.00	-65.16	0.00	65.16	1446.94	370.91	811.49	773.23	18.28	-1.451	0.000	0.099
136.00	-21.16	-3.99	0.00	-57.09	0.00	57.09	1434.06	365.43	787.68	754.91	18.89	-1.470	0.000	0.090
138.00	-20.78	-3.95	0.00	-49.10	0.00	49.10	1420.92	359.95	764.23	736.67	19.51	-1.487	0.000	0.081
140.00	-20.41	-3.90	0.00	-41.21	0.00	41.21	1407.52	354.47	741.13	718.50	20.14	-1.502	0.000	0.072
142.00	-11.43	-2.28	0.00	-33.41	0.00	33.41	1393.87	348.98	718.38	700.42	20.77	-1.515	0.000	0.056
144.00	-11.12	-2.24	0.00	-28.84	0.00	28.84	1379.97	343.50	695.99	682.44	21.41	-1.526	0.000	0.050
145.00	-10.97	-2.21	0.00	-26.60	0.00	26.60	1372.92	340.76	684.93	673.48	21.73	-1.532	0.000	0.048
145.00	-10.97	-2.21	0.00	-26.60	0.00	26.60	931.20	332.53	24157.3	604.09	21.73	-1.532	0.000	0.056
146.00	-10.81	-2.19	0.00	-24.39	0.00	24.39	925.24	329.86	23770.3	594.77	22.05	-1.537	0.000	0.053
148.00	-10.51	-2.15	0.00	-20.01	0.00	20.01	913.32	324.51	23005.8	576.36	22.70	-1.546	0.000	0.046
150.00	-10.22	-2.10	0.00	-15.72	0.00	15.72	901.40	319.16	22253.7	558.24	23.35	-1.554	0.000	0.040
150.00	-10.22	-2.10	0.00	-15.72	0.00	15.72	556.65	167.00	10296.1	213.69	23.35	-1.554	0.000	0.092
152.00	-5.89	-1.23	0.00	-11.51	0.00	11.51	556.65	167.00	10296.1	213.69	24.00	-1.560	0.000	0.065
154.00	-5.67	-1.20	0.00	-9.05	0.00	9.05	556.65	167.00	10296.1	213.69	24.66	-1.576	0.000	0.053
156.00	-5.46	-1.17	0.00	-6.65	0.00	6.65	556.65	167.00	10296.1	213.69	25.32	-1.587	0.000	0.041
158.00	-5.24	-1.13	0.00	-4.32	0.00	4.32	556.65	167.00	10296.1	213.69	25.98	-1.595	0.000	0.030
160.00	0.00	-0.98	0.00	-2.06	0.00	2.06	556.65	167.00	10296.1	213.69	26.65	-1.600	0.000	0.010

Seismic Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 70	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.21	**Iterations**	23
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09	**Ss**	0.20
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.25	**SA**	0.02	**S1**	0.05
						Seismic Importance Factor	1.00

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00	RB1 RB2	0.00	0.00	0.00	0.00	
1.00	RT2 RB3 RB4	625.40	0.50	26.42	0.00	
2.00		624.61	1.50	26.38	0.00	
4.00		1246.8	3.00	52.67	0.01	
6.00		1243.6	5.00	52.53	0.02	
8.00		1240.4	7.00	52.40	0.03	
10.00		1237.2	9.00	52.26	0.06	
12.00		1234.0	11.00	52.13	0.08	
14.00		1230.8	13.00	51.99	0.12	
16.00	Bot - Section 2	1227.6	15.00	51.86	0.15	
16.25	RT1 RB5	202.15	16.13	8.54	0.00	
18.00		1412.2	17.13	59.66	0.27	
18.63	RB6	507.23	18.31	21.43	0.04	
18.88	RT3 RT4	201.11	18.75	8.49	0.01	
20.00		899.73	19.44	38.00	0.14	
22.00	Top - Section 1	1601.6	21.00	67.66	0.51	
24.00		1221.1	23.00	51.58	0.36	
26.00		1217.9	25.00	51.44	0.42	
28.00		1214.7	27.00	51.31	0.49	
30.00	RB7	1571.5	29.00	66.38	0.95	
31.00	RT5	784.57	30.50	33.14	0.26	
32.00		783.77	31.50	33.11	0.28	
33.38	RT6	583.50	32.69	24.65	0.17	
34.00		261.66	33.69	11.05	0.04	
36.00		841.97	35.00	35.56	0.40	
38.00		838.78	37.00	35.43	0.44	
40.00	Appurtenance(s)	845.59	39.00	35.72	0.49	
42.00		832.02	41.00	35.14	0.53	
44.00		828.83	43.00	35.01	0.58	
45.16	RB8	479.26	44.58	20.24	0.21	
46.00	RT7	346.38	45.58	14.63	0.11	
48.00		822.45	47.00	34.74	0.68	
50.00	Bot - Section 3	819.26	49.00	34.61	0.73	
52.00		1157.9	51.00	48.91	1.59	
54.00		1151.6	53.00	48.64	1.69	
56.00	Top - Section 2	1145.2	55.00	48.37	1.81	
58.00	RT8 RB9	812.67	57.00	34.33	0.98	
60.00		809.49	59.00	34.19	1.04	
62.00		806.30	61.00	34.06	1.10	
64.00		803.11	63.00	33.92	1.16	
66.00		799.92	65.00	33.79	1.23	
68.00		796.73	67.00	33.65	1.30	
70.00		793.54	69.00	33.52	1.36	
72.00		790.35	71.00	33.38	1.43	
74.00		787.17	73.00	33.25	1.50	
76.00		783.98	75.00	33.12	1.57	

Seismic Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 71	

78.00	RT9 RB10		780.79	77.00	32.98	1.64		
80.00	Top - Section 3		777.60	79.00	32.85	1.72		
82.00			725.83	81.00	30.66	1.57		
84.00			723.17	83.00	30.55	1.64		
86.00			720.51	85.00	30.43	1.71		
88.00			717.86	87.00	30.32	1.77		
90.00			715.20	89.00	30.21	1.84		
92.00			712.54	91.00	30.10	1.91		
94.00			709.89	93.00	29.99	1.98		
95.00	Bot - Section 5		353.95	94.50	14.95	0.51		
95.58	RT10		271.91	95.29	11.49	0.31		
96.00			196.62	95.79	8.31	0.16		
98.00			933.09	97.00	39.41	3.73		
100.00	Top - Section 4		567.77	99.00	23.98	1.44		
102.00			343.54	101.00	14.51	0.55		
104.00			340.88	103.00	14.40	0.56		
106.00			338.22	105.00	14.29	0.57		
108.00			335.57	107.00	14.17	0.59		
110.00	Appurtenance(s)		388.91	109.00	16.43	0.82		
112.00			329.00	111.00	13.90	0.61		
114.00			326.35	113.00	13.78	0.62		
115.00	Top - Section 5		162.18	114.50	6.85	0.16		
116.00			141.29	115.50	5.97	0.12		
118.00			280.99	117.00	11.87	0.49		
120.00			278.86	119.00	11.78	0.50		
122.00			276.73	121.00	11.69	0.51		
124.00			274.61	123.00	11.60	0.52		
126.00			272.48	125.00	11.51	0.53		
128.00			270.36	127.00	11.42	0.54		
130.00			268.23	129.00	11.33	0.54		
132.00			266.11	131.00	11.24	0.55		
133.00	Appurtenance(s)		4479.5	132.50	189.21	160.28		
134.00			116.46	133.50	4.92	0.11		
136.00			231.33	135.00	9.77	0.44		
138.00			229.20	137.00	9.68	0.45		
140.00			227.08	139.00	9.59	0.45		
142.00	Appurtenance(s)		4373.5	141.00	184.74	173.02		
144.00			188.00	143.00	7.94	0.33		
145.00	Top - Section 6		93.21	144.50	3.94	0.08		
146.00			91.08	145.50	3.85	0.08		
148.00			180.61	147.00	7.63	0.32		
150.00	Top - Section 7		178.54	149.00	7.54	0.32		
152.00	Appurtenance(s)		2497.0	151.00	105.47	64.68		
154.00			133.14	153.00	5.62	0.19		
156.00			133.14	155.00	5.62	0.19		
158.00			133.14	157.00	5.62	0.20		
160.00	Appurtenance(s)		2565.8	159.00	108.38	75.73		
		Totals:	**70,118.3**		**2,961.8**	**533.9**	**Total Wind:**	**35,266.6**

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 72	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Iterations 23

Gust Response Factor	1.10			**Sds**	0.21			**Ss**	0.20
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09			**S1**	0.05
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.25	**SA**	0.02			**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	-80.51	-0.53	0.00	-77.02	0.00	77.02	3683.82	1059.58	4414.92	3756.66		0.00	0.00	0.025
1.00	-79.82	-0.53	0.00	-76.49	0.00	76.49	3677.71	1055.47	4380.73	3735.77		0.00	0.00	0.025
2.00	-79.12	-0.53	0.00	-75.95	0.00	75.95	3671.54	1051.36	4346.67	3714.86		0.00	0.00	0.024
4.00	-77.74	-0.54	0.00	-74.89	0.00	74.89	3659.00	1043.14	4278.95	3673.00		0.00	0.00	0.024
6.00	-76.37	-0.54	0.00	-73.81	0.00	73.81	3646.20	1034.91	4211.76	3631.09		0.00	0.00	0.024
8.00	-74.99	-0.54	0.00	-72.74	0.00	72.74	3633.16	1026.69	4145.10	3589.13		0.00	-0.01	0.024
10.00	-73.62	-0.54	0.00	-71.66	0.00	71.66	3619.85	1018.47	4078.97	3547.13		0.01	-0.01	0.023
12.00	-72.26	-0.54	0.00	-70.58	0.00	70.58	3606.29	1010.25	4013.38	3505.10		0.01	-0.01	0.023
14.00	-70.90	-0.54	0.00	-69.49	0.00	69.49	3592.48	1002.02	3948.31	3463.03		0.01	-0.01	0.023
16.00	-69.54	-0.54	0.00	-68.40	0.00	68.40	3578.41	993.80	3883.78	3420.94		0.02	-0.01	0.022
16.25	-69.31	-0.55	0.00	-68.27	0.00	68.27	3576.63	992.77	3875.75	3415.68		0.02	-0.01	0.026
18.00	-67.70	-0.55	0.00	-67.31	0.00	67.31	3564.09	985.58	3819.78	3378.83		0.02	-0.01	0.025
18.63	-67.13	-0.55	0.00	-66.97	0.00	66.97	3559.52	982.99	3799.73	3365.57		0.02	-0.01	0.021
18.88	-66.90	-0.55	0.00	-66.83	0.00	66.83	3557.70	981.96	3791.79	3360.30		0.03	-0.01	0.024
20.00	-65.87	-0.55	0.00	-66.22	0.00	66.22	3549.51	977.36	3756.31	3336.71		0.03	-0.01	0.024
22.00	-64.05	-0.55	0.00	-65.12	0.00	65.12	3563.12	985.03	3815.51	3376.01		0.04	-0.02	0.024
24.00	-62.70	-0.55	0.00	-64.02	0.00	64.02	3548.52	976.81	3752.08	3333.89		0.04	-0.02	0.023
26.00	-61.36	-0.55	0.00	-62.93	0.00	62.93	3533.67	968.58	3689.18	3291.77		0.05	-0.02	0.023
28.00	-60.02	-0.55	0.00	-61.83	0.00	61.83	3518.56	960.36	3626.81	3249.64		0.06	-0.02	0.023
30.00	-58.31	-0.55	0.00	-60.72	0.00	60.72	3503.20	952.14	3564.97	3207.53		0.07	-0.02	0.017
31.00	-57.45	-0.55	0.00	-60.17	0.00	60.17	3495.43	948.03	3534.25	3186.48		0.07	-0.02	0.020
32.00	-56.60	-0.55	0.00	-59.62	0.00	59.62	3487.59	943.92	3503.66	3165.43		0.08	-0.02	0.020
33.38	-55.94	-0.55	0.00	-58.86	0.00	58.86	3476.66	938.24	3461.67	3136.39		0.08	-0.02	0.024
34.00	-55.64	-0.55	0.00	-58.52	0.00	58.52	3471.72	935.70	3442.89	3123.35		0.09	-0.02	0.024
36.00	-54.69	-0.55	0.00	-57.42	0.00	57.42	3455.59	927.47	3382.65	3081.29		0.10	-0.03	0.024
38.00	-53.75	-0.55	0.00	-56.31	0.00	56.31	3439.21	919.25	3322.94	3039.26		0.11	-0.03	0.024
40.00	-52.79	-0.55	0.00	-55.21	0.00	55.21	3422.57	911.03	3263.76	2997.28		0.12	-0.03	0.023
42.00	-51.86	-0.55	0.00	-54.10	0.00	54.10	3405.68	902.81	3205.11	2955.34		0.13	-0.03	0.023
44.00	-50.92	-0.55	0.00	-52.99	0.00	52.99	3388.54	894.58	3146.99	2913.44		0.15	-0.03	0.023
45.16	-50.38	-0.55	0.00	-52.35	0.00	52.35	3378.48	889.81	3113.53	2889.17		0.15	-0.03	0.017
46.00	-49.99	-0.56	0.00	-51.88	0.00	51.88	3371.14	886.36	3089.41	2871.61		0.16	-0.03	0.021
48.00	-49.07	-0.56	0.00	-50.77	0.00	50.77	3353.48	878.14	3032.36	2829.83		0.17	-0.04	0.021
50.00	-48.15	-0.56	0.00	-49.66	0.00	49.66	3335.57	869.92	2975.84	2788.13		0.19	-0.04	0.021
52.00	-46.80	-0.55	0.00	-48.55	0.00	48.55	3317.41	861.69	2919.85	2746.50		0.21	-0.04	0.020
54.00	-45.47	-0.55	0.00	-47.44	0.00	47.44	3298.98	853.47	2864.39	2704.94		0.22	-0.04	0.020
56.00	-44.14	-0.55	0.00	-46.33	0.00	46.33	3316.18	861.14	2916.12	2743.71		0.24	-0.04	0.020
58.00	-43.23	-0.55	0.00	-45.23	0.00	45.23	3297.74	852.92	2860.70	2702.16		0.26	-0.04	0.021
60.00	-42.32	-0.55	0.00	-44.12	0.00	44.12	3279.05	844.70	2805.81	2660.71		0.28	-0.05	0.020
62.00	-41.41	-0.55	0.00	-43.02	0.00	43.02	3260.10	836.48	2751.45	2619.34		0.30	-0.05	0.020
64.00	-40.51	-0.55	0.00	-41.92	0.00	41.92	3240.90	828.25	2697.62	2578.08		0.32	-0.05	0.020
66.00	-39.62	-0.55	0.00	-40.82	0.00	40.82	3221.44	820.03	2644.33	2536.92		0.34	-0.05	0.019
68.00	-38.72	-0.55	0.00	-39.72	0.00	39.72	3201.73	811.81	2591.56	2495.87		0.36	-0.05	0.019
70.00	-37.83	-0.55	0.00	-38.63	0.00	38.63	3181.76	803.59	2539.33	2454.94		0.38	-0.06	0.019
72.00	-36.95	-0.55	0.00	-37.53	0.00	37.53	3161.54	795.36	2487.63	2414.13		0.41	-0.06	0.018
74.00	-36.06	-0.54	0.00	-36.44	0.00	36.44	3141.06	787.14	2436.47	2373.45		0.43	-0.06	0.018
76.00	-35.19	-0.54	0.00	-35.35	0.00	35.35	3120.33	778.92	2385.83	2332.91		0.46	-0.06	0.018
78.00	-34.31	-0.54	0.00	-34.27	0.00	34.27	3099.34	770.70	2335.73	2292.51		0.48	-0.06	0.017

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 73

80.00	-33.44	-0.54	0.00	-33.18	0.00	33.18	3078.09	762.47	2286.15	2252.26	0.51	-0.06	0.017
80.00	-33.44	-0.54	0.00	-33.18	0.00	33.18	2384.58	636.50	1911.75	1750.88	0.51	-0.06	0.018
82.00	-32.64	-0.54	0.00	-32.10	0.00	32.10	2370.62	629.65	1870.81	1721.73	0.54	-0.07	0.020
84.00	-31.83	-0.54	0.00	-31.03	0.00	31.03	2356.42	622.80	1830.32	1692.63	0.56	-0.07	0.020
86.00	-31.04	-0.54	0.00	-29.95	0.00	29.95	2341.95	615.94	1790.27	1663.57	0.59	-0.07	0.019
88.00	-30.24	-0.53	0.00	-28.88	0.00	28.88	2327.23	609.09	1750.66	1634.56	0.62	-0.07	0.019
90.00	-29.45	-0.53	0.00	-27.82	0.00	27.82	2312.26	602.24	1711.49	1605.61	0.65	-0.07	0.018
92.00	-28.66	-0.53	0.00	-26.75	0.00	26.75	2297.03	595.39	1672.77	1576.72	0.68	-0.07	0.018
94.00	-27.87	-0.53	0.00	-25.69	0.00	25.69	2281.55	588.54	1634.49	1547.90	0.71	-0.08	0.018
95.00	-27.48	-0.53	0.00	-25.16	0.00	25.16	2273.71	585.11	1615.51	1533.52	0.73	-0.08	0.017
95.58	-27.17	-0.53	0.00	-24.86	0.00	24.86	2269.13	583.12	1604.56	1525.19	0.74	-0.08	0.017
95.58	-27.17	-0.53	0.00	-24.86	0.00	24.86	2269.13	583.12	1604.56	1525.19	0.74	-0.08	0.017
96.00	-26.95	-0.53	0.00	-24.64	0.00	24.64	2265.81	581.68	1596.65	1519.16	0.75	-0.08	0.028
98.00	-25.88	-0.52	0.00	-23.58	0.00	23.58	2249.81	574.83	1559.25	1490.50	0.78	-0.08	0.027
100.00	-25.20	-0.52	0.00	-22.54	0.00	22.54	2259.61	579.02	1582.04	1508.00	0.82	-0.08	0.026
102.00	-24.80	-0.52	0.00	-21.50	0.00	21.50	2243.52	572.17	1544.82	1479.37	0.85	-0.09	0.026
104.00	-24.40	-0.52	0.00	-20.45	0.00	20.45	2227.17	565.31	1508.04	1450.84	0.89	-0.09	0.025
106.00	-24.00	-0.52	0.00	-19.41	0.00	19.41	2210.57	558.46	1471.71	1422.40	0.93	-0.09	0.025
108.00	-23.61	-0.52	0.00	-18.36	0.00	18.36	2193.71	551.61	1435.82	1394.06	0.97	-0.10	0.024
110.00	-23.15	-0.52	0.00	-17.32	0.00	17.32	2176.60	544.76	1400.37	1365.84	1.01	-0.10	0.023
112.00	-22.77	-0.52	0.00	-16.28	0.00	16.28	2159.23	537.91	1365.36	1337.73	1.05	-0.10	0.023
114.00	-22.39	-0.52	0.00	-15.24	0.00	15.24	2141.61	531.05	1330.80	1309.73	1.09	-0.10	0.022
115.00	-22.20	-0.52	0.00	-14.72	0.00	14.72	2132.70	527.63	1313.68	1295.79	1.11	-0.10	0.022
115.00	-22.20	-0.52	0.00	-14.72	0.00	14.72	1556.62	422.98	1055.35	949.74	1.11	-0.10	0.030
116.00	-22.03	-0.52	0.00	-14.20	0.00	14.20	1551.43	420.24	1041.71	940.38	1.13	-0.11	0.029
118.00	-21.71	-0.52	0.00	-13.15	0.00	13.15	1540.84	414.76	1014.72	921.68	1.18	-0.11	0.028
120.00	-21.39	-0.52	0.00	-12.11	0.00	12.11	1529.99	409.28	988.07	902.99	1.23	-0.11	0.027
122.00	-21.07	-0.52	0.00	-11.07	0.00	11.07	1518.89	403.80	961.78	884.33	1.27	-0.11	0.026
124.00	-20.75	-0.52	0.00	-10.03	0.00	10.03	1507.54	398.32	935.85	865.70	1.32	-0.12	0.025
126.00	-20.43	-0.52	0.00	-8.99	0.00	8.99	1495.93	392.84	910.27	847.11	1.37	-0.12	0.024
128.00	-20.12	-0.52	0.00	-7.95	0.00	7.95	1484.06	387.35	885.04	828.56	1.42	-0.12	0.023
130.00	-19.81	-0.52	0.00	-6.91	0.00	6.91	1471.95	381.87	860.17	810.06	1.47	-0.12	0.022
132.00	-19.50	-0.52	0.00	-5.87	0.00	5.87	1459.57	376.39	835.65	791.62	1.52	-0.12	0.021
133.00	-13.95	-0.35	0.00	-5.35	0.00	5.35	1453.29	373.65	823.53	782.42	1.55	-0.13	0.016
134.00	-13.82	-0.35	0.00	-5.01	0.00	5.01	1446.94	370.91	811.49	773.23	1.58	-0.13	0.016
136.00	-13.55	-0.35	0.00	-4.32	0.00	4.32	1434.06	365.43	787.68	754.91	1.63	-0.13	0.015
138.00	-13.28	-0.34	0.00	-3.62	0.00	3.62	1420.92	359.95	764.23	736.67	1.68	-0.13	0.014
140.00	-13.02	-0.34	0.00	-2.93	0.00	2.93	1407.52	354.47	741.13	718.50	1.74	-0.13	0.013
142.00	-7.60	-0.16	0.00	-2.25	0.00	2.25	1393.87	348.98	718.38	700.42	1.79	-0.13	0.009
144.00	-7.38	-0.16	0.00	-1.93	0.00	1.93	1379.97	343.50	695.99	682.44	1.85	-0.13	0.008
145.00	-7.27	-0.16	0.00	-1.77	0.00	1.77	1372.92	340.76	684.93	673.48	1.87	-0.13	0.008
145.00	-7.27	-0.16	0.00	-1.77	0.00	1.77	931.20	332.53	24157.3	604.09	1.87	-0.13	0.011
146.00	-7.16	-0.16	0.00	-1.61	0.00	1.61	925.24	329.86	23770.3	594.77	1.90	-0.13	0.010
148.00	-6.95	-0.16	0.00	-1.30	0.00	1.30	913.32	324.51	23005.8	576.36	1.96	-0.13	0.010
150.00	-6.74	-0.16	0.00	-0.98	0.00	0.98	901.40	319.16	22253.7	558.24	2.01	-0.13	0.009
150.00	-6.74	-0.16	0.00	-0.98	0.00	0.98	556.65	167.00	10296.1	213.69	2.01	-0.13	0.017
152.00	-3.64	-0.08	0.00	-0.67	0.00	0.67	556.65	167.00	10296.1	213.69	2.07	-0.13	0.010
154.00	-3.49	-0.08	0.00	-0.50	0.00	0.50	556.65	167.00	10296.1	213.69	2.12	-0.13	0.009
156.00	-3.33	-0.08	0.00	-0.33	0.00	0.33	556.65	167.00	10296.1	213.69	2.18	-0.14	0.008
158.00	-3.18	-0.08	0.00	-0.17	0.00	0.17	556.65	167.00	10296.1	213.69	2.24	-0.14	0.006
160.00	0.00	-0.08	0.00	0.00	0.00	0.00	556.65	167.00	10296.1	213.69	2.29	-0.14	0.000

Seismic Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 74	

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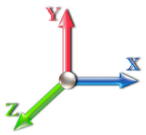
Load Case: 0.9D + 1.0Ev + 1.0Eh



Gust Response Factor	1.10			**Sds**	0.21	**Iterations**	23
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09	**Ss**	0.20
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.25	**SA**	0.02	**S1**	0.05
						Seismic Importance Factor	1.00

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00	RB1 RB2	0.00	0.00	0.00	0.00	
1.00	RT2 RB3 RB4	520.31	0.50	21.98	0.00	
2.00		519.52	1.50	21.94	0.00	
4.00		1036.6	3.00	43.79	0.00	
6.00		1033.4	5.00	43.65	0.01	
8.00		1030.2	7.00	43.52	0.02	
10.00		1027.0	9.00	43.38	0.04	
12.00		1023.8	11.00	43.25	0.06	
14.00		1020.7	13.00	43.11	0.08	
16.00	Bot - Section 2	1017.5	15.00	42.98	0.11	
16.25	RT1 RB5	175.88	16.13	7.43	0.00	
18.00		1228.3	17.13	51.89	0.21	
18.63	RB6	441.02	18.31	18.63	0.03	
18.88	RT3 RT4	174.83	18.75	7.38	0.01	
20.00		782.03	19.44	33.03	0.11	
22.00	Top - Section 1	1391.5	21.00	58.78	0.40	
24.00		1010.9	23.00	42.70	0.26	
26.00		1007.7	25.00	42.57	0.30	
28.00		1004.5	27.00	42.43	0.35	
30.00	RB7	1271.3	29.00	53.70	0.64	
31.00	RT5	634.48	30.50	26.80	0.18	
32.00		633.68	31.50	26.77	0.19	
33.38	RT6	500.58	32.69	21.14	0.13	
34.00		224.40	33.69	9.48	0.03	
36.00		721.79	35.00	30.49	0.30	
38.00		718.60	37.00	30.35	0.33	
40.00	Appurtenance(s)	725.41	39.00	30.64	0.38	
42.00		711.94	41.00	30.07	0.40	
44.00		708.75	43.00	29.94	0.44	
45.16	RB8	409.61	44.58	17.30	0.16	
46.00	RT7	295.95	45.58	12.50	0.09	
48.00		702.37	47.00	29.67	0.51	
50.00	Bot - Section 3	699.18	49.00	29.53	0.55	
52.00		1037.9	51.00	43.84	1.32	
54.00		1031.5	53.00	43.57	1.41	
56.00	Top - Section 2	1025.1	55.00	43.30	1.50	
58.00	RT8 RB9	692.59	57.00	29.26	0.74	
60.00		689.40	59.00	29.12	0.78	
62.00		686.21	61.00	28.99	0.83	
64.00		683.03	63.00	28.85	0.87	
66.00		679.84	65.00	28.72	0.92	
68.00		676.65	67.00	28.58	0.97	
70.00		673.46	69.00	28.45	1.02	
72.00		670.27	71.00	28.31	1.07	
74.00		667.08	73.00	28.18	1.12	
76.00		663.89	75.00	28.04	1.17	

Seismic Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 75

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78.00	RT9 RB10	660.71	77.00	27.91	1.22			
80.00	Top - Section 3	657.52	79.00	27.77	1.27			
82.00		605.74	81.00	25.59	1.14			
84.00		603.09	83.00	25.47	1.18			
86.00		600.43	85.00	25.36	1.23			
88.00		597.77	87.00	25.25	1.28			
90.00		595.12	89.00	25.14	1.32			
92.00		592.46	91.00	25.03	1.37			
94.00		589.80	93.00	24.91	1.42			
95.00	Bot - Section 5	293.90	94.50	12.41	0.36			
95.58	RT10	237.09	95.29	10.01	0.24			
96.00		171.41	95.79	7.24	0.13			
98.00		813.00	97.00	34.34	2.94			
100.00	Top - Section 4	537.69	99.00	22.71	1.34			
102.00		313.45	101.00	13.24	0.47			
104.00		310.80	103.00	13.13	0.48			
106.00		308.14	105.00	13.02	0.49			
108.00		305.48	107.00	12.90	0.50			
110.00	Appurtenance(s)	358.83	109.00	15.16	0.72			
112.00		299.23	111.00	12.64	0.52			
114.00		296.58	113.00	12.53	0.53			
115.00	Top - Section 5	147.29	114.50	6.22	0.13			
116.00		126.40	115.50	5.34	0.10			
118.00		251.21	117.00	10.61	0.41			
120.00		249.09	119.00	10.52	0.41			
122.00		246.96	121.00	10.43	0.42			
124.00		244.84	123.00	10.34	0.43			
126.00		242.71	125.00	10.25	0.43			
128.00		240.59	127.00	10.16	0.44			
130.00		238.46	129.00	10.07	0.45			
132.00		236.33	131.00	9.98	0.45			
133.00	Appurtenance(s)	4464.6	132.50	188.59	165.25			
134.00		105.39	133.50	4.45	0.09			
136.00		209.19	135.00	8.84	0.38			
138.00		207.06	137.00	8.75	0.38			
140.00		204.94	139.00	8.66	0.38			
142.00	Appurtenance(s)	4351.4	141.00	183.80	177.76			
144.00		174.57	143.00	7.37	0.29			
145.00	Top - Section 6	86.49	144.50	3.65	0.07			
146.00		84.37	145.50	3.56	0.07			
148.00		167.18	147.00	7.06	0.29			
150.00	Top - Section 7	165.11	149.00	6.97	0.29			
152.00	Appurtenance(s)	2483.5	151.00	104.91	66.41			
154.00		120.90	153.00	5.11	0.16			
156.00		120.90	155.00	5.11	0.17			
158.00		120.90	157.00	5.11	0.17			
160.00	Appurtenance(s)	2553.6	159.00	107.86	77.85			
	Totals:	**61,873.6**		**2,613.5**	**533.9**		**Total Wind:**	**35,266.6**

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 76	

Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Iterations 23

Gust Response Factor	1.10			**Sds**	0.21			**Ss**	0.20
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09			**S1**	0.05
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.25	**SA**	0.02			**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	-60.77	-0.53	0.00	-76.81	0.00	76.81	3683.82	1059.58	4414.92	3756.66		0.00	0.00	0.022
1.00	-60.25	-0.53	0.00	-76.27	0.00	76.27	3677.71	1055.47	4380.73	3735.77		0.00	0.00	0.022
2.00	-59.73	-0.53	0.00	-75.74	0.00	75.74	3671.54	1051.36	4346.67	3714.86		0.00	0.00	0.021
4.00	-58.69	-0.54	0.00	-74.67	0.00	74.67	3659.00	1043.14	4278.95	3673.00		0.00	0.00	0.021
6.00	-57.65	-0.54	0.00	-73.60	0.00	73.60	3646.20	1034.91	4211.76	3631.09		0.00	0.00	0.021
8.00	-56.62	-0.54	0.00	-72.53	0.00	72.53	3633.16	1026.69	4145.10	3589.13		0.00	-0.01	0.021
10.00	-55.59	-0.54	0.00	-71.45	0.00	71.45	3619.85	1018.47	4078.97	3547.13		0.01	-0.01	0.020
12.00	-54.56	-0.54	0.00	-70.38	0.00	70.38	3606.29	1010.25	4013.38	3505.10		0.01	-0.01	0.020
14.00	-53.54	-0.54	0.00	-69.30	0.00	69.30	3592.48	1002.02	3948.31	3463.03		0.01	-0.01	0.020
16.00	-52.51	-0.54	0.00	-68.21	0.00	68.21	3578.41	993.80	3883.78	3420.94		0.02	-0.01	0.020
16.25	-52.34	-0.54	0.00	-68.08	0.00	68.08	3576.63	992.77	3875.75	3415.68		0.02	-0.01	0.023
18.00	-51.13	-0.54	0.00	-67.13	0.00	67.13	3564.09	985.58	3819.78	3378.83		0.02	-0.01	0.022
18.63	-50.69	-0.54	0.00	-66.79	0.00	66.79	3559.52	982.99	3799.73	3365.57		0.02	-0.01	0.018
18.88	-50.52	-0.54	0.00	-66.65	0.00	66.65	3557.70	981.96	3791.79	3360.30		0.03	-0.01	0.021
20.00	-49.75	-0.54	0.00	-66.04	0.00	66.04	3549.51	977.36	3756.31	3336.71		0.03	-0.01	0.021
22.00	-48.37	-0.54	0.00	-64.96	0.00	64.96	3563.12	985.03	3815.51	3376.01		0.03	-0.02	0.021
24.00	-47.36	-0.55	0.00	-63.87	0.00	63.87	3548.52	976.81	3752.08	3333.89		0.04	-0.02	0.020
26.00	-46.35	-0.55	0.00	-62.78	0.00	62.78	3533.67	968.58	3689.18	3291.77		0.05	-0.02	0.020
28.00	-45.34	-0.55	0.00	-61.69	0.00	61.69	3518.56	960.36	3626.81	3249.64		0.06	-0.02	0.020
30.00	-44.05	-0.55	0.00	-60.59	0.00	60.59	3503.20	952.14	3564.97	3207.53		0.07	-0.02	0.015
31.00	-43.41	-0.55	0.00	-60.05	0.00	60.05	3495.43	948.03	3534.25	3186.48		0.07	-0.02	0.018
32.00	-42.76	-0.55	0.00	-59.50	0.00	59.50	3487.59	943.92	3503.66	3165.43		0.08	-0.02	0.017
33.38	-42.27	-0.55	0.00	-58.75	0.00	58.75	3476.66	938.24	3461.67	3136.39		0.08	-0.02	0.022
34.00	-42.04	-0.55	0.00	-58.41	0.00	58.41	3471.72	935.70	3442.89	3123.35		0.09	-0.02	0.021
36.00	-41.33	-0.55	0.00	-57.31	0.00	57.31	3455.59	927.47	3382.65	3081.29		0.10	-0.03	0.021
38.00	-40.61	-0.55	0.00	-56.22	0.00	56.22	3439.21	919.25	3322.94	3039.26		0.11	-0.03	0.021
40.00	-39.90	-0.55	0.00	-55.12	0.00	55.12	3422.57	911.03	3263.76	2997.28		0.12	-0.03	0.021
42.00	-39.19	-0.55	0.00	-54.02	0.00	54.02	3405.68	902.81	3205.11	2955.34		0.13	-0.03	0.020
44.00	-38.48	-0.55	0.00	-52.93	0.00	52.93	3388.54	894.58	3146.99	2913.44		0.15	-0.03	0.020
45.16	-38.08	-0.55	0.00	-52.29	0.00	52.29	3378.48	889.81	3113.53	2889.17		0.15	-0.03	0.015
46.00	-37.78	-0.55	0.00	-51.83	0.00	51.83	3371.14	886.36	3089.41	2871.61		0.16	-0.03	0.019
48.00	-37.09	-0.55	0.00	-50.73	0.00	50.73	3353.48	878.14	3032.36	2829.83		0.17	-0.04	0.019
50.00	-36.39	-0.55	0.00	-49.63	0.00	49.63	3335.57	869.92	2975.84	2788.13		0.19	-0.04	0.019
52.00	-35.38	-0.55	0.00	-48.53	0.00	48.53	3317.41	861.69	2919.85	2746.50		0.21	-0.04	0.018
54.00	-34.37	-0.55	0.00	-47.43	0.00	47.43	3298.98	853.47	2864.39	2704.94		0.22	-0.04	0.018
56.00	-33.37	-0.55	0.00	-46.33	0.00	46.33	3316.18	861.14	2916.12	2743.71		0.24	-0.04	0.018
58.00	-32.68	-0.55	0.00	-45.24	0.00	45.24	3297.74	852.92	2860.70	2702.16		0.26	-0.04	0.018
60.00	-31.99	-0.55	0.00	-44.15	0.00	44.15	3279.05	844.70	2805.81	2660.71		0.28	-0.05	0.018
62.00	-31.31	-0.55	0.00	-43.05	0.00	43.05	3260.10	836.48	2751.45	2619.34		0.30	-0.05	0.018
64.00	-30.63	-0.55	0.00	-41.96	0.00	41.96	3240.90	828.25	2697.62	2578.08		0.32	-0.05	0.018
66.00	-29.95	-0.54	0.00	-40.87	0.00	40.87	3221.44	820.03	2644.33	2536.92		0.34	-0.05	0.017
68.00	-29.28	-0.54	0.00	-39.78	0.00	39.78	3201.73	811.81	2591.56	2495.87		0.36	-0.05	0.017
70.00	-28.61	-0.54	0.00	-38.70	0.00	38.70	3181.76	803.59	2539.33	2454.94		0.38	-0.05	0.017
72.00	-27.94	-0.54	0.00	-37.61	0.00	37.61	3161.54	795.36	2487.63	2414.13		0.41	-0.06	0.017
74.00	-27.28	-0.54	0.00	-36.52	0.00	36.52	3141.06	787.14	2436.47	2373.45		0.43	-0.06	0.016
76.00	-26.62	-0.54	0.00	-35.44	0.00	35.44	3120.33	778.92	2385.83	2332.91		0.46	-0.06	0.016
78.00	-25.96	-0.54	0.00	-34.36	0.00	34.36	3099.34	770.70	2335.73	2292.51		0.48	-0.06	0.016

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 77	

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80.00	-25.30	-0.54	0.00	-33.28	0.00	33.28	3078.09	762.47	2286.15	2252.26	0.51	-0.06	0.015
80.00	-25.30	-0.54	0.00	-33.28	0.00	33.28	2384.58	636.50	1911.75	1750.88	0.51	-0.06	0.017
82.00	-24.69	-0.54	0.00	-32.21	0.00	32.21	2370.62	629.65	1870.81	1721.73	0.53	-0.07	0.018
84.00	-24.09	-0.54	0.00	-31.13	0.00	31.13	2356.42	622.80	1830.32	1692.63	0.56	-0.07	0.018
86.00	-23.49	-0.53	0.00	-30.06	0.00	30.06	2341.95	615.94	1790.27	1663.57	0.59	-0.07	0.017
88.00	-22.89	-0.53	0.00	-28.99	0.00	28.99	2327.23	609.09	1750.66	1634.56	0.62	-0.07	0.017
90.00	-22.29	-0.53	0.00	-27.93	0.00	27.93	2312.26	602.24	1711.49	1605.61	0.65	-0.07	0.017
92.00	-21.70	-0.53	0.00	-26.86	0.00	26.86	2297.03	595.39	1672.77	1576.72	0.68	-0.07	0.016
94.00	-21.11	-0.53	0.00	-25.80	0.00	25.80	2281.55	588.54	1634.49	1547.90	0.71	-0.08	0.016
95.00	-20.81	-0.53	0.00	-25.27	0.00	25.27	2273.71	585.11	1615.51	1533.52	0.73	-0.08	0.016
95.58	-20.58	-0.53	0.00	-24.96	0.00	24.96	2269.13	583.12	1604.56	1525.19	0.74	-0.08	0.015
95.58	-20.58	-0.53	0.00	-24.96	0.00	24.96	2269.13	583.12	1604.56	1525.19	0.74	-0.08	0.015
96.00	-20.41	-0.53	0.00	-24.74	0.00	24.74	2265.81	581.68	1596.65	1519.16	0.75	-0.08	0.025
98.00	-19.61	-0.53	0.00	-23.68	0.00	23.68	2249.81	574.83	1559.25	1490.50	0.78	-0.08	0.025
100.00	-19.09	-0.52	0.00	-22.63	0.00	22.63	2259.61	579.02	1582.04	1508.00	0.81	-0.08	0.023
102.00	-18.79	-0.52	0.00	-21.58	0.00	21.58	2243.52	572.17	1544.82	1479.37	0.85	-0.09	0.023
104.00	-18.48	-0.52	0.00	-20.54	0.00	20.54	2227.17	565.31	1508.04	1450.84	0.89	-0.09	0.022
106.00	-18.19	-0.52	0.00	-19.49	0.00	19.49	2210.57	558.46	1471.71	1422.40	0.93	-0.09	0.022
108.00	-17.89	-0.52	0.00	-18.44	0.00	18.44	2193.71	551.61	1435.82	1394.06	0.97	-0.10	0.021
110.00	-17.54	-0.52	0.00	-17.39	0.00	17.39	2176.60	544.76	1400.37	1365.84	1.01	-0.10	0.021
112.00	-17.25	-0.52	0.00	-16.34	0.00	16.34	2159.23	537.91	1365.36	1337.73	1.05	-0.10	0.020
114.00	-16.96	-0.52	0.00	-15.30	0.00	15.30	2141.61	531.05	1330.80	1309.73	1.09	-0.10	0.020
115.00	-16.82	-0.52	0.00	-14.77	0.00	14.77	2132.70	527.63	1313.68	1295.79	1.11	-0.10	0.019
115.00	-16.82	-0.52	0.00	-14.77	0.00	14.77	1556.62	422.98	1055.35	949.74	1.11	-0.10	0.026
116.00	-16.70	-0.52	0.00	-14.25	0.00	14.25	1551.43	420.24	1041.71	940.38	1.13	-0.11	0.026
118.00	-16.45	-0.52	0.00	-13.20	0.00	13.20	1540.84	414.76	1014.72	921.68	1.18	-0.11	0.025
120.00	-16.21	-0.52	0.00	-12.16	0.00	12.16	1529.99	409.28	988.07	902.99	1.22	-0.11	0.024
122.00	-15.96	-0.52	0.00	-11.11	0.00	11.11	1518.89	403.80	961.78	884.33	1.27	-0.11	0.023
124.00	-15.72	-0.52	0.00	-10.06	0.00	10.06	1507.54	398.32	935.85	865.70	1.32	-0.12	0.022
126.00	-15.49	-0.52	0.00	-9.02	0.00	9.02	1495.93	392.84	910.27	847.11	1.37	-0.12	0.021
128.00	-15.25	-0.52	0.00	-7.97	0.00	7.97	1484.06	387.35	885.04	828.56	1.42	-0.12	0.020
130.00	-15.02	-0.52	0.00	-6.93	0.00	6.93	1471.95	381.87	860.17	810.06	1.47	-0.12	0.019
132.00	-14.79	-0.52	0.00	-5.88	0.00	5.88	1459.57	376.39	835.65	791.62	1.52	-0.12	0.018
133.00	-10.58	-0.35	0.00	-5.36	0.00	5.36	1453.29	373.65	823.53	782.42	1.55	-0.13	0.014
134.00	-10.47	-0.35	0.00	-5.02	0.00	5.02	1446.94	370.91	811.49	773.23	1.58	-0.13	0.014
136.00	-10.27	-0.35	0.00	-4.32	0.00	4.32	1434.06	365.43	787.68	754.91	1.63	-0.13	0.013
138.00	-10.07	-0.35	0.00	-3.63	0.00	3.63	1420.92	359.95	764.23	736.67	1.68	-0.13	0.012
140.00	-9.87	-0.35	0.00	-2.94	0.00	2.94	1407.52	354.47	741.13	718.50	1.74	-0.13	0.011
142.00	-5.76	-0.16	0.00	-2.25	0.00	2.25	1393.87	348.98	718.38	700.42	1.79	-0.13	0.007
144.00	-5.59	-0.16	0.00	-1.93	0.00	1.93	1379.97	343.50	695.99	682.44	1.85	-0.13	0.007
145.00	-5.51	-0.16	0.00	-1.77	0.00	1.77	1372.92	340.76	684.93	673.48	1.87	-0.13	0.007
145.00	-5.51	-0.16	0.00	-1.77	0.00	1.77	931.20	332.53	24157.3	604.09	1.87	-0.13	0.009
146.00	-5.43	-0.16	0.00	-1.61	0.00	1.61	925.24	329.86	23770.3	594.77	1.90	-0.13	0.009
148.00	-5.27	-0.16	0.00	-1.30	0.00	1.30	913.32	324.51	23005.8	576.36	1.96	-0.13	0.008
150.00	-5.11	-0.16	0.00	-0.98	0.00	0.98	901.40	319.16	22253.7	558.24	2.01	-0.13	0.007
150.00	-5.11	-0.16	0.00	-0.98	0.00	0.98	556.65	167.00	10296.1	213.69	2.01	-0.13	0.014
152.00	-2.76	-0.08	0.00	-0.67	0.00	0.67	556.65	167.00	10296.1	213.69	2.07	-0.13	0.008
154.00	-2.64	-0.08	0.00	-0.50	0.00	0.50	556.65	167.00	10296.1	213.69	2.13	-0.13	0.007
156.00	-2.53	-0.08	0.00	-0.33	0.00	0.33	556.65	167.00	10296.1	213.69	2.18	-0.14	0.006
158.00	-2.41	-0.08	0.00	-0.17	0.00	0.17	556.65	167.00	10296.1	213.69	2.24	-0.14	0.005
160.00	0.00	-0.08	0.00	0.00	0.00	0.00	556.65	167.00	10296.1	213.69	2.30	-0.14	0.000

Wind Loading - Shaft

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 78	

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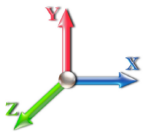
Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

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	RB1 RB2	1.00	0.70	5.361	5.90	215.71	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT2 RB3 RB4	1.00	0.70	5.361	5.90	214.88	0.972 *	0.000	1.00	4.338	4.21	24.9	0.0	205.0
2.00		1.00	0.70	5.361	5.90	214.05	0.973 *	0.000	1.00	4.321	4.20	24.8	0.0	204.2
4.00		1.00	0.70	5.361	5.90	212.39	0.975 *	0.000	2.00	8.592	8.37	49.4	0.0	406.1
6.00		1.00	0.70	5.361	5.90	210.73	0.977 *	0.000	2.00	8.525	8.33	49.1	0.0	402.9
8.00		1.00	0.70	5.361	5.90	209.07	0.980 *	0.000	2.00	8.458	8.28	48.9	0.0	399.7
10.00		1.00	0.70	5.361	5.90	207.41	0.982 *	0.000	2.00	8.391	8.24	48.6	0.0	396.5
12.00		1.00	0.70	5.361	5.90	205.74	0.985 *	0.000	2.00	8.324	8.20	48.3	0.0	393.3
14.00		1.00	0.70	5.361	5.90	204.08	0.987 *	0.000	2.00	8.257	8.15	48.1	0.0	390.2
16.00	Bot - Section 2	1.00	0.70	5.361	5.90	202.42	0.990 *	0.000	2.00	8.190	8.11	47.8	0.0	387.0
16.25	RT1 RB5	1.00	0.70	5.361	5.90	202.21	0.991 *	0.000	0.25	1.035	1.03	6.1	0.0	97.1
18.00		1.00	0.70	5.361	5.90	200.76	0.993 *	0.000	1.75	7.217	7.16	42.2	0.0	676.7
18.63	RB6	1.00	0.70	5.361	5.90	200.24	0.994 *	0.000	0.63	2.586	2.57	15.2	0.0	242.4
18.88	RT3 RT4	1.00	0.70	5.361	5.90	200.03	0.995 *	0.000	0.25	1.024	1.02	6.0	0.0	96.0
20.00		1.00	0.70	5.361	5.90	199.10	0.996 *	0.000	1.12	4.576	4.56	26.9	0.0	428.9
22.00	Top - Section 1	1.00	0.70	5.361	5.90	197.44	0.998 *	0.000	2.00	8.118	8.10	47.8	0.0	761.0
24.00		1.00	0.70	5.361	5.90	198.99	0.995 *	0.000	2.00	8.052	8.01	47.3	0.0	380.4
26.00		1.00	0.70	5.361	5.90	197.33	0.998 *	0.000	2.00	7.985	7.97	47.0	0.0	377.2
28.00		1.00	0.70	5.361	5.90	195.66	1.001 *	0.000	2.00	7.918	7.93	46.7	0.0	374.0
30.00	RB7	1.00	0.70	5.365	5.90	194.08	1.079 *	0.000	2.00	7.851	8.47	50.0	0.0	370.8
31.00	RT5	1.00	0.71	5.416	5.96	194.16	1.082 *	0.000	1.00	3.900	4.22	25.1	0.0	184.2
32.00		1.00	0.71	5.465	6.01	194.20	1.084 *	0.000	1.00	3.883	4.21	25.3	0.0	183.4
33.38	RT6	1.00	0.72	5.532	6.08	194.21	0.950	0.000	1.38	5.332	5.07	30.8	0.0	251.8
34.00		1.00	0.73	5.561	6.12	194.20	0.950	0.000	0.62	2.385	2.27	13.9	0.0	112.6
36.00		1.00	0.74	5.652	6.22	194.09	0.950	0.000	2.00	7.650	7.27	45.2	0.0	361.3
38.00		1.00	0.75	5.740	6.31	193.87	0.950	0.000	2.00	7.583	7.20	45.5	0.0	358.1
40.00	Appurtenance(s)	1.00	0.76	5.825	6.41	193.57	0.950	0.000	2.00	7.516	7.14	45.8	0.0	354.9
42.00		1.00	0.77	5.907	6.50	193.18	0.950	0.000	2.00	7.449	7.08	46.0	0.0	351.7
44.00		1.00	0.78	5.986	6.58	192.71	0.950	0.000	2.00	7.382	7.01	46.2	0.0	348.5
45.16	RB8	1.00	0.79	6.030	6.63	192.40	0.950	0.000	1.16	4.251	4.04	26.8	0.0	200.7
46.00	RT7	1.00	0.79	6.062	6.67	192.17	0.950	0.000	0.84	3.064	2.91	19.4	0.0	144.6
48.00		1.00	0.80	6.136	6.75	191.56	0.950	0.000	2.00	7.248	6.89	46.5	0.0	342.1
50.00	Bot - Section 3	1.00	0.81	6.208	6.83	190.90	0.950	0.000	2.00	7.181	6.82	46.6	0.0	338.9
52.00		1.00	0.82	6.278	6.91	190.17	0.950	0.000	2.00	7.244	6.88	47.5	0.0	677.6
54.00		1.00	0.83	6.346	6.98	189.39	0.950	0.000	2.00	7.177	6.82	47.6	0.0	671.3
56.00	Top - Section 2	1.00	0.84	6.413	7.05	188.56	0.950	0.000	2.00	7.110	6.75	47.6	0.0	664.9
58.00	RT8 RB9	1.00	0.85	6.477	7.13	191.21	0.950	0.000	2.00	7.043	6.69	47.7	0.0	332.3
60.00		1.00	0.85	6.540	7.19	190.31	0.950	0.000	2.00	6.976	6.63	47.7	0.0	329.2
62.00		1.00	0.86	6.602	7.26	189.36	0.950	0.000	2.00	6.909	6.56	47.7	0.0	326.0
64.00		1.00	0.87	6.662	7.33	188.36	0.950	0.000	2.00	6.842	6.50	47.6	0.0	322.8
66.00		1.00	0.88	6.721	7.39	187.33	0.950	0.000	2.00	6.775	6.44	47.6	0.0	319.6
68.00		1.00	0.89	6.779	7.46	186.27	0.950	0.000	2.00	6.708	6.37	47.5	0.0	316.4
70.00		1.00	0.89	6.835	7.52	185.16	0.950	0.000	2.00	6.641	6.31	47.4	0.0	313.2
72.00		1.00	0.90	6.890	7.58	184.03	0.950	0.000	2.00	6.574	6.25	47.3	0.0	310.0
74.00		1.00	0.91	6.944	7.64	182.86	0.950	0.000	2.00	6.507	6.18	47.2	0.0	306.8
76.00		1.00	0.91	6.997	7.70	181.66	0.950	0.000	2.00	6.440	6.12	47.1	0.0	303.6
78.00	RT9 RB10	1.00	0.92	7.050	7.75	180.43	0.950	0.000	2.00	6.373	6.05	47.0	0.0	300.5

Wind Loading - Shaft

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 79

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80.00	Top - Section 3	1.00	0.93	7.101	7.81	179.17	0.950	0.000	2.00	6.306	5.99	46.8	0.0	297.3
82.00		1.00	0.93	7.151	7.87	177.88	0.950	0.000	2.00	6.239	5.93	46.6	0.0	245.5
84.00		1.00	0.94	7.200	7.92	176.57	0.950	0.000	2.00	6.172	5.86	46.4	0.0	242.8
86.00		1.00	0.95	7.249	7.97	175.23	0.950	0.000	2.00	6.106	5.80	46.3	0.0	240.2
88.00		1.00	0.95	7.297	8.03	173.87	0.950	0.000	2.00	6.039	5.74	46.0	0.0	237.5
90.00		1.00	0.96	7.344	8.08	172.49	0.950	0.000	2.00	5.972	5.67	45.8	0.0	234.9
92.00		1.00	0.96	7.390	8.13	171.08	0.950	0.000	2.00	5.905	5.61	45.6	0.0	232.2
94.00		1.00	0.97	7.436	8.18	169.65	0.950	0.000	2.00	5.838	5.55	45.4	0.0	229.6
95.00	Bot - Section 5	1.00	0.97	7.458	8.20	168.92	0.950	0.000	1.00	2.894	2.75	22.6	0.0	113.8
95.58	RT10	1.00	0.98	7.471	8.22	168.50	0.950	0.000	0.58	1.702	1.62	13.3	0.0	132.6
96.00		1.00	0.98	7.480	8.23	168.19	0.950	0.000	0.42	1.229	1.17	9.6	0.0	95.8
98.00		1.00	0.98	7.525	8.28	166.72	0.950	0.000	2.00	5.812	5.52	45.7	0.0	452.8
100.00	Top - Section 4	1.00	0.99	7.568	8.32	165.23	0.950	0.000	2.00	5.745	5.46	45.4	0.0	447.4
102.00		1.00	0.99	7.611	8.37	166.91	0.950	0.000	2.00	5.678	5.39	45.2	0.0	223.2
104.00		1.00	1.00	7.653	8.42	165.39	0.950	0.000	2.00	5.611	5.33	44.9	0.0	220.5
106.00		1.00	1.00	7.695	8.46	163.85	0.950	0.000	2.00	5.544	5.27	44.6	0.0	217.9
108.00		1.00	1.01	7.736	8.51	162.29	0.950	0.000	2.00	5.477	5.20	44.3	0.0	215.2
110.00	Appurtenance(s)	1.00	1.02	7.777	8.55	160.71	0.950	0.000	2.00	5.410	5.14	44.0	0.0	212.6
112.00		1.00	1.02	7.817	8.60	159.12	0.950	0.000	2.00	5.343	5.08	43.6	0.0	209.9
114.00		1.00	1.03	7.857	8.64	157.51	0.950	0.000	2.00	5.276	5.01	43.3	0.0	207.3
115.00	Top - Section 5	1.00	1.03	7.876	8.66	156.70	0.950	0.000	1.00	2.613	2.48	21.5	0.0	102.6
116.00		1.00	1.03	7.896	8.69	155.89	0.950	0.000	1.00	2.596	2.47	21.4	0.0	81.7
118.00		1.00	1.04	7.935	8.73	154.25	0.950	0.000	2.00	5.142	4.89	42.6	0.0	161.9
120.00		1.00	1.04	7.973	8.77	152.59	0.950	0.000	2.00	5.075	4.82	42.3	0.0	159.8
122.00		1.00	1.05	8.011	8.81	150.92	0.950	0.000	2.00	5.008	4.76	41.9	0.0	157.6
124.00		1.00	1.05	8.048	8.85	149.24	0.950	0.000	2.00	4.941	4.69	41.6	0.0	155.5
126.00		1.00	1.06	8.085	8.89	147.54	0.950	0.000	2.00	4.874	4.63	41.2	0.0	153.4
128.00		1.00	1.06	8.121	8.93	145.83	0.950	0.000	2.00	4.807	4.57	40.8	0.0	151.3
130.00		1.00	1.07	8.157	8.97	144.10	0.950	0.000	2.00	4.741	4.50	40.4	0.0	149.1
132.00		1.00	1.07	8.193	9.01	142.36	0.950	0.000	2.00	4.674	4.44	40.0	0.0	147.0
133.00	Appurtenance(s)	1.00	1.07	8.211	9.03	141.49	0.950	0.000	1.00	2.312	2.20	19.8	0.0	72.7
134.00		1.00	1.07	8.228	9.05	140.61	0.950	0.000	1.00	2.295	2.18	19.7	0.0	72.2
136.00		1.00	1.08	8.263	9.09	138.84	0.950	0.000	2.00	4.540	4.31	39.2	0.0	142.8
138.00		1.00	1.08	8.298	9.13	137.07	0.950	0.000	2.00	4.473	4.25	38.8	0.0	140.6
140.00		1.00	1.09	8.332	9.17	135.28	0.950	0.000	2.00	4.406	4.19	38.4	0.0	138.5
142.00	Appurtenance(s)	1.00	1.09	8.366	9.20	133.48	0.950	0.000	2.00	4.339	4.12	37.9	0.0	136.4
144.00		1.00	1.10	8.399	9.24	131.66	0.950	0.000	2.00	4.272	4.06	37.5	0.0	134.3
145.00	Top - Section 6	1.00	1.10	8.416	9.26	130.75	0.950	0.000	1.00	2.111	2.01	18.6	0.0	66.3
146.00		1.00	1.10	8.432	9.28	125.44	0.600	0.000	1.00	2.023	1.21	11.3	0.0	64.2
148.00		1.00	1.11	8.465	9.31	123.67	0.600	0.000	2.00	3.998	2.40	22.3	0.0	126.9
150.00	Top - Section 7	1.00	1.11	8.498	9.35	121.88	0.600	0.000	2.00	3.933	2.36	22.1	0.0	124.8
152.00	Appurtenance(s)	1.00	1.11	8.530	9.38	83.48	0.645 *	0.000	2.00	2.667	1.72	16.1	0.0	84.2
154.00		1.00	1.12	8.562	9.42	83.64	0.645 *	0.000	2.00	2.667	1.72	16.2	0.0	84.2
156.00		1.00	1.12	8.593	9.45	83.79	0.645 *	0.000	2.00	2.667	1.72	16.3	0.0	84.2
158.00		1.00	1.13	8.625	9.49	83.94	0.645 *	0.000	2.00	2.667	1.72	16.3	0.0	84.2
160.00	Appurtenance(s)	1.00	1.13	8.656	9.52	84.09	0.645 *	0.000	2.00	2.667	1.72	16.4	0.0	84.2
								Totals:	**160.00**			**3,428.3**		**23,786.1**

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

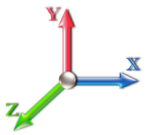
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 80	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

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	160.00	JAHH-65B-R3B	6	8.687	9.555	0.66	0.80	36.29	324.00	0.000	2.000	346.80	0.00	693.60
2	160.00	DB222	1	8.732	9.606	1.00	1.00	2.25	16.00	0.000	5.000	21.61	0.00	108.06
3	160.00	DB846F65ZAXY	6	8.687	9.555	0.74	0.80	31.47	126.00	0.000	2.000	300.72	0.00	601.43
4	160.00	Low Profile Platform	1	8.687	9.555	1.00	1.00	22.00	1200.00	0.000	2.000	210.22	0.00	420.43
5	160.00	6' Lightning rod	1	8.702	9.572	1.00	1.00	0.38	6.50	0.000	3.000	3.64	0.00	10.91
6	160.00	Commscope	1	8.687	9.555	1.00	1.00	2.51	15.00	0.000	2.000	23.98	0.00	47.97
7	160.00	CBC78T-DS-43	1	8.687	9.555	1.00	1.00	0.37	20.70	0.000	2.000	3.54	0.00	7.07
8	160.00	B2/B66A RRH-BR049	3	8.687	9.555	0.67	1.00	3.76	210.00	0.000	2.000	35.92	0.00	71.83
9	160.00	B5/B13 RRH-BR04C	3	8.687	9.555	0.67	1.00	3.76	253.20	0.000	2.000	35.92	0.00	71.83
10	160.00	VZS01	3	8.687	9.555	0.69	1.00	8.90	261.30	0.000	2.000	85.05	0.00	170.10
11	152.00	MX08FRO665-21	3	8.530	9.383	0.55	0.75	20.80	193.50	0.000	0.000	195.13	0.00	0.00
12	152.00	MC-PK8-DSH	1	8.530	9.383	1.00	1.00	37.59	1727.00	0.000	0.000	352.70	0.00	0.00
13	152.00	TA08025-B604	3	8.530	9.383	0.50	0.75	2.95	191.70	0.000	0.000	27.72	0.00	0.00
14	152.00	TA08025-B605	3	8.530	9.383	0.50	0.75	2.95	225.00	0.000	0.000	27.72	0.00	0.00
15	152.00	RDIDC-9181-OF-48	1	8.530	9.383	0.38	0.75	0.75	21.90	0.000	0.000	7.07	0.00	0.00
16	142.00	AIR 21, 1.3M, B2A B4P	3	8.366	9.202	0.65	0.75	11.78	274.50	0.000	0.000	108.44	0.00	0.00
17	142.00	4415	1	8.366	9.202	0.54	0.80	1.00	44.10	0.000	0.000	9.17	0.00	0.00
18	142.00	4449 B71 + B85	4	8.366	9.202	0.54	0.80	4.22	292.80	0.000	0.000	38.87	0.00	0.00
19	142.00	KRY 112 144/1	3	8.366	9.202	0.40	0.80	0.49	33.00	0.000	0.000	4.53	0.00	0.00
20	142.00	APXVAARR24_43-U-NA2	3	8.366	9.202	0.52	0.75	31.88	384.00	0.000	0.000	293.35	0.00	0.00
21	142.00	KRD 9011461-B66A-B2A	4	8.366	9.202	0.65	0.75	16.99	528.80	0.000	0.000	156.36	0.00	0.00
22	142.00	Platform w/ HR & Bracing	1	8.366	9.202	1.00	1.00	52.00	2246.00	0.000	0.000	478.52	0.00	0.00
23	142.00	Mod	1	8.366	9.202	1.00	1.00	12.00	300.00	0.000	0.000	110.43	0.00	0.00
24	142.00	APXVA18-43-C-A20	1	8.366	9.202	0.61	0.75	5.93	45.40	0.000	0.000	54.61	0.00	0.00
25	133.00	(3) SitePro 1 P/N	2	8.211	9.032	0.56	0.75	24.01	2715.54	0.000	0.000	216.83	0.00	0.00
26	133.00	Kathrein 800 10121	3	8.211	9.032	0.63	0.80	9.76	138.90	0.000	0.000	88.19	0.00	0.00
27	133.00	Kathrein 800-10965	3	8.211	9.032	0.57	0.80	23.53	325.80	0.000	0.000	212.54	0.00	0.00
28	133.00	Cci TPA-65R-LCUUUU-H8	1	8.211	9.032	0.63	0.80	8.06	105.00	0.000	0.000	72.78	0.00	0.00
29	133.00	Quintel QS66512-2	2	8.211	9.032	0.74	0.80	11.97	222.00	0.000	0.000	108.09	0.00	0.00
30	133.00	Ericsson RRUS-32 RRU	3	8.211	9.032	0.54	0.80	6.22	231.00	0.000	0.000	56.20	0.00	0.00
31	133.00	Powerwave LGP21401	6	8.211	9.032	0.54	0.80	4.15	84.60	0.000	0.000	37.47	0.00	0.00
32	133.00	Ericsson B2/B66A 8843	3	8.211	9.032	0.54	0.80	2.64	216.00	0.000	0.000	23.82	0.00	0.00
33	133.00	Ericsson B5/B12 4449	3	8.211	9.032	0.54	0.80	3.17	213.00	0.000	0.000	28.61	0.00	0.00
34	133.00	Raycap DC6-48-60-18-8F	3	8.211	9.032	0.54	0.80	1.48	95.40	0.000	0.000	13.36	0.00	0.00
35	110.00	3 ft Standoff	1	7.777	8.555	1.00	1.00	2.63	40.00	0.000	0.000	22.50	0.00	0.00
36	110.00	DB222	1	7.882	8.670	1.00	1.00	2.65	16.00	0.000	5.292	22.98	0.00	121.59
37	40.00	GPS	1	5.825	6.407	1.00	1.00	1.00	10.00	0.000	0.000	6.41	0.00	0.00
							Totals:		**13,353.64**			**3,841.77**		

Total Applied Force Summary

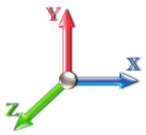
Structure:	CT02049-S-SBA		**Code:**	TIA-222-H	5/24/2022
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 81

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

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
1.00		24.85	555.34	0.00	0.00
2.00		24.79	554.55	0.00	0.00
4.00		49.38	1106.70	0.00	0.00
6.00		49.11	1103.51	0.00	0.00
8.00		48.85	1100.32	0.00	0.00
10.00		48.59	1097.14	0.00	0.00
12.00		48.33	1093.95	0.00	0.00
14.00		48.06	1090.76	0.00	0.00
16.00		47.80	1087.57	0.00	0.00
16.25		6.05	184.64	0.00	0.00
18.00		42.25	1289.69	0.00	0.00
18.63		15.16	463.09	0.00	0.00
18.88		6.01	183.59	0.00	0.00
20.00		26.87	821.27	0.00	0.00
22.00		47.78	1461.57	0.00	0.00
24.00		47.26	1080.98	0.00	0.00
26.00		47.00	1077.79	0.00	0.00
28.00		46.73	1074.60	0.00	0.00
30.00		50.02	1371.41	0.00	0.00
31.00		25.14	684.51	0.00	0.00
32.00		25.31	683.71	0.00	0.00
33.38		30.82	528.22	0.00	0.00
34.00		13.86	236.82	0.00	0.00
36.00		45.18	761.85	0.00	0.00
38.00		45.49	758.66	0.00	0.00
40.00	(1) attachments	52.16	765.47	0.00	0.00
42.00		45.98	751.96	0.00	0.00
44.00		46.18	748.77	0.00	0.00
45.16		26.79	432.83	0.00	0.00
46.00		19.41	312.76	0.00	0.00
48.00		46.48	742.40	0.00	0.00
50.00		46.59	739.21	0.00	0.00
52.00		47.53	1077.93	0.00	0.00
54.00		47.60	1071.55	0.00	0.00
56.00		47.64	1065.17	0.00	0.00
58.00		47.67	732.62	0.00	0.00
60.00		47.68	729.43	0.00	0.00
62.00		47.67	726.24	0.00	0.00
64.00		47.63	723.05	0.00	0.00
66.00		47.58	719.86	0.00	0.00
68.00		47.52	716.68	0.00	0.00
70.00		47.43	713.49	0.00	0.00
72.00		47.34	710.30	0.00	0.00
74.00		47.22	707.11	0.00	0.00
76.00		47.09	703.92	0.00	0.00
78.00		46.95	700.73	0.00	0.00

Total Applied Force Summary

Structure:	CT02049-S-SBA		**Code:**	TIA-222-H	5/24/2022
Site Name:	Beacon Falls		**Exposure:**	B	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 82

80.00		46.79	697.55	0.00	0.00
82.00		46.63	645.77	0.00	0.00
84.00		46.44	643.11	0.00	0.00
86.00		46.25	640.46	0.00	0.00
88.00		46.04	637.80	0.00	0.00
90.00		45.83	635.14	0.00	0.00
92.00		45.60	632.49	0.00	0.00
94.00		45.36	629.83	0.00	0.00
95.00		22.55	313.92	0.00	0.00
95.58		13.29	248.70	0.00	0.00
96.00		9.61	179.81	0.00	0.00
98.00		45.70	853.03	0.00	0.00
100.00		45.43	547.72	0.00	0.00
102.00		45.16	323.48	0.00	0.00
104.00		44.87	320.82	0.00	0.00
106.00		44.58	318.17	0.00	0.00
108.00		44.28	315.51	0.00	0.00
110.00	(2) attachments	89.44	368.85	0.00	121.59
112.00		43.65	309.16	0.00	0.00
114.00		43.32	306.50	0.00	0.00
115.00		21.51	152.25	0.00	0.00
116.00		21.42	131.37	0.00	0.00
118.00		42.64	261.14	0.00	0.00
120.00		42.29	259.01	0.00	0.00
122.00		41.92	256.89	0.00	0.00
124.00		41.56	254.76	0.00	0.00
126.00		41.18	252.64	0.00	0.00
128.00		40.80	250.51	0.00	0.00
130.00		40.41	248.38	0.00	0.00
132.00		40.01	246.26	0.00	0.00
133.00	(29) attachments	877.71	4469.57	0.00	0.00
134.00		19.73	109.08	0.00	0.00
136.00		39.20	216.57	0.00	0.00
138.00		38.78	214.44	0.00	0.00
140.00		38.36	212.32	0.00	0.00
142.00	(21) attachments	1292.20	4358.79	0.00	0.00
144.00		37.50	179.05	0.00	0.00
145.00		18.56	88.73	0.00	0.00
146.00		11.26	86.61	0.00	0.00
148.00		22.34	171.66	0.00	0.00
150.00		22.06	169.58	0.00	0.00
152.00	(11) attachments	626.49	2488.07	0.00	0.00
154.00		16.20	124.98	0.00	0.00
156.00		16.26	124.98	0.00	0.00
158.00		16.32	124.98	0.00	0.00
160.00	(26) attachments	1083.76	2557.68	0.00	2203.25
	Totals:	**7,270.11**	**64,621.86**	**0.00**	**2,324.83**

Linear Appurtenance Segment Forces (Factored)

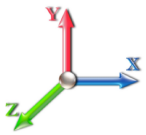
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 83	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
1.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.108	1.023	5.361	0.00	2.20
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	5.361	0.00	0.52
1.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	5.361	0.00	1.99
1.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	5.361	0.00	2.20
1.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	5.361	0.00	1.91
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.023	5.361	0.00	0.52
1.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.108	1.023	5.361	0.00	120.00
1.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.108	1.023	5.361	0.00	180.00
2.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.108	1.024	5.361	0.00	2.20
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	5.361	0.00	0.52
2.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	5.361	0.00	1.99
2.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	5.361	0.00	2.20
2.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	5.361	0.00	1.91
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.108	1.024	5.361	0.00	0.52
2.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.108	1.024	5.361	0.00	120.00
2.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.108	1.024	5.361	0.00	180.00
4.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.109	1.026	5.361	0.00	4.40
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	5.361	0.00	1.04
4.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	5.361	0.00	3.98
4.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	5.361	0.00	4.40
4.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	5.361	0.00	3.82
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.026	5.361	0.00	1.04
4.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.109	1.026	5.361	0.00	240.00
4.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.109	1.026	5.361	0.00	360.00
6.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.109	1.028	5.361	0.00	4.40
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	5.361	0.00	1.04
6.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	5.361	0.00	3.98
6.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	5.361	0.00	4.40
6.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	5.361	0.00	3.82
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.109	1.028	5.361	0.00	1.04
6.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.109	1.028	5.361	0.00	240.00
6.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.109	1.028	5.361	0.00	360.00
8.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.110	1.031	5.361	0.00	4.40
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	5.361	0.00	1.04
8.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	5.361	0.00	3.98
8.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	5.361	0.00	4.40
8.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	5.361	0.00	3.82
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.110	1.031	5.361	0.00	1.04
8.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.110	1.031	5.361	0.00	240.00
8.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.110	1.031	5.361	0.00	360.00
10.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.034	5.361	0.00	4.40
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	5.361	0.00	1.04
10.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	5.361	0.00	3.98
10.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	5.361	0.00	4.40
10.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	5.361	0.00	3.82
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.111	1.034	5.361	0.00	1.04
10.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.111	1.034	5.361	0.00	240.00

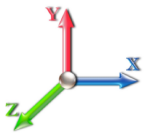
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 84	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
10.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.111	1.034	5.361	0.00	360.00
12.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.112	1.036	5.361	0.00	4.40
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	5.361	0.00	1.04
12.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	5.361	0.00	3.98
12.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	5.361	0.00	4.40
12.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	5.361	0.00	3.82
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.112	1.036	5.361	0.00	1.04
12.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.112	1.036	5.361	0.00	240.00
12.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.112	1.036	5.361	0.00	360.00
14.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.113	1.039	5.361	0.00	4.40
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	5.361	0.00	1.04
14.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	5.361	0.00	3.98
14.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	5.361	0.00	4.40
14.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	5.361	0.00	3.82
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.039	5.361	0.00	1.04
14.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.113	1.039	5.361	0.00	240.00
14.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.113	1.039	5.361	0.00	360.00
16.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.114	1.042	5.361	0.00	4.40
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	5.361	0.00	1.04
16.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	5.361	0.00	3.98
16.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	5.361	0.00	4.40
16.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	5.361	0.00	3.82
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.114	1.042	5.361	0.00	1.04
16.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.114	1.042	5.361	0.00	240.00
16.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.114	1.042	5.361	0.00	360.00
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.114	1.043	5.361	0.00	0.55
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	5.361	0.00	0.13
16.25	1.75" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	5.361	0.00	0.50
16.25	1 5/8" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	5.361	0.00	0.55
16.25	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	5.361	0.00	0.48
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.114	1.043	5.361	0.00	0.13
16.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.114	1.043	5.361	0.00	30.00
16.25	C10x15.3	Yes	0.25	0.000	2.60	0.05	0.00	0.114	1.043	5.361	0.00	45.00
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.115	1.045	5.361	0.00	3.85
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	5.361	0.00	0.91
18.00	1.75" Hybrid	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	5.361	0.00	3.48
18.00	1 5/8" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	5.361	0.00	3.85
18.00	1-1/4" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	5.361	0.00	3.34
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.115	1.045	5.361	0.00	0.91
18.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.115	1.045	5.361	0.00	210.00
18.00	C10x15.3	Yes	1.75	0.000	2.60	0.38	0.00	0.115	1.045	5.361	0.00	315.00
18.63	1 5/8" Hybrid	Yes	0.63	0.000	2.00	0.10	0.00	0.116	1.047	5.361	0.00	1.39
18.63	7/8" Coax	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	5.361	0.00	0.33
18.63	1.75" Hybrid	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	5.361	0.00	1.25
18.63	1 5/8" Fiber	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	5.361	0.00	1.39
18.63	1-1/4" Fiber	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	5.361	0.00	1.20
18.63	7/8" Coax	Yes	0.63	0.000	0.00	0.00	0.00	0.116	1.047	5.361	0.00	0.33

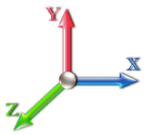
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 85	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
18.63	1" Reinforcing plate	Yes	0.63	0.000	1.00	0.05	0.00	0.116	1.047	5.361	0.00	75.60
18.63	C10x15.3	Yes	0.63	0.000	2.60	0.14	0.00	0.116	1.047	5.361	0.00	113.40
18.88	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.116	1.047	5.361	0.00	0.55
18.88	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	5.361	0.00	0.13
18.88	1.75" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	5.361	0.00	0.50
18.88	1 5/8" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	5.361	0.00	0.55
18.88	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	5.361	0.00	0.48
18.88	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.116	1.047	5.361	0.00	0.13
18.88	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.116	1.047	5.361	0.00	30.00
18.88	C10x15.3	Yes	0.25	0.000	2.60	0.05	0.00	0.116	1.047	5.361	0.00	45.00
20.00	1 5/8" Hybrid	Yes	1.12	0.000	2.00	0.19	0.00	0.116	1.048	5.361	0.00	2.46
20.00	7/8" Coax	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	5.361	0.00	0.58
20.00	1.75" Hybrid	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	5.361	0.00	2.23
20.00	1 5/8" Fiber	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	5.361	0.00	2.46
20.00	1-1/4" Fiber	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	5.361	0.00	2.14
20.00	7/8" Coax	Yes	1.12	0.000	0.00	0.00	0.00	0.116	1.048	5.361	0.00	0.58
20.00	1" Reinforcing plate	Yes	1.12	0.000	1.00	0.09	0.00	0.116	1.048	5.361	0.00	134.40
20.00	C10x15.3	Yes	1.12	0.000	2.60	0.24	0.00	0.116	1.048	5.361	0.00	201.60
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.050	5.361	0.00	4.40
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	5.361	0.00	1.04
22.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	5.361	0.00	3.98
22.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	5.361	0.00	4.40
22.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	5.361	0.00	3.82
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.050	5.361	0.00	1.04
22.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.117	1.050	5.361	0.00	240.00
22.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.117	1.050	5.361	0.00	360.00
24.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.116	1.048	5.361	0.00	4.40
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	5.361	0.00	1.04
24.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	5.361	0.00	3.98
24.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	5.361	0.00	4.40
24.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	5.361	0.00	3.82
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.048	5.361	0.00	1.04
24.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.116	1.048	5.361	0.00	240.00
24.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.116	1.048	5.361	0.00	360.00
26.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.051	5.361	0.00	4.40
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	5.361	0.00	1.04
26.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	5.361	0.00	3.98
26.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	5.361	0.00	4.40
26.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	5.361	0.00	3.82
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.051	5.361	0.00	1.04
26.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.117	1.051	5.361	0.00	240.00
26.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.117	1.051	5.361	0.00	360.00
28.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.118	1.054	5.361	0.00	4.40
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	5.361	0.00	1.04
28.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	5.361	0.00	3.98
28.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	5.361	0.00	4.40
28.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	5.361	0.00	3.82

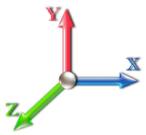
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 86	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.054	5.361	0.00	1.04
28.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.118	1.054	5.361	0.00	240.00
28.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.118	1.054	5.361	0.00	360.00
30.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.145	1.136	5.365	0.00	4.40
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	5.365	0.00	1.04
30.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	5.365	0.00	3.98
30.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	5.365	0.00	4.40
30.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	5.365	0.00	3.82
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.136	5.365	0.00	1.04
30.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.145	1.136	5.365	0.00	300.00
30.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.145	1.136	5.365	0.00	240.00
30.00	C10x15.3	Yes	2.00	0.000	2.60	0.43	0.00	0.145	1.136	5.365	0.00	360.00
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.146	1.139	5.416	0.00	2.20
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	5.416	0.00	0.52
31.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	5.416	0.00	1.99
31.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	5.416	0.00	2.20
31.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	5.416	0.00	1.91
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.146	1.139	5.416	0.00	0.52
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.146	1.139	5.416	0.00	150.00
31.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.146	1.139	5.416	0.00	120.00
31.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.146	1.139	5.416	0.00	180.00
32.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.147	1.141	5.465	0.00	2.20
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	5.465	0.00	0.52
32.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	5.465	0.00	1.99
32.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	5.465	0.00	2.20
32.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	5.465	0.00	1.91
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.147	1.141	5.465	0.00	0.52
32.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.147	1.141	5.465	0.00	150.00
32.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.147	1.141	5.465	0.00	120.00
32.00	C10x15.3	Yes	1.00	0.000	2.60	0.22	0.00	0.147	1.141	5.465	0.00	180.00
33.38	1 5/8" Hybrid	Yes	1.38	0.000	2.00	0.23	0.00	0.070	0.000	5.532	0.00	3.04
33.38	7/8" Coax	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	5.532	0.00	0.72
33.38	1.75" Hybrid	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	5.532	0.00	2.75
33.38	1 5/8" Fiber	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	5.532	0.00	3.04
33.38	1-1/4" Fiber	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	5.532	0.00	2.63
33.38	7/8" Coax	Yes	1.38	0.000	0.00	0.00	0.00	0.070	0.000	5.532	0.00	0.72
33.38	1.25" Reinforcing	Yes	1.38	0.000	1.25	0.14	0.00	0.070	0.000	5.532	0.00	207.00
34.00	1 5/8" Hybrid	Yes	0.62	0.000	2.00	0.10	0.00	0.070	0.000	5.561	0.00	1.36
34.00	7/8" Coax	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	5.561	0.00	0.32
34.00	1.75" Hybrid	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	5.561	0.00	1.23
34.00	1 5/8" Fiber	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	5.561	0.00	1.36
34.00	1-1/4" Fiber	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	5.561	0.00	1.18
34.00	7/8" Coax	Yes	0.62	0.000	0.00	0.00	0.00	0.070	0.000	5.561	0.00	0.32
34.00	1.25" Reinforcing	Yes	0.62	0.000	1.25	0.06	0.00	0.070	0.000	5.561	0.00	93.00
36.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	5.652	0.00	4.40
36.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.652	0.00	1.04
36.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.652	0.00	3.98

Linear Appurtenance Segment Forces (Factored)

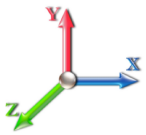
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 87	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
36.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.652	0.00	4.40
36.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.652	0.00	3.82
36.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.652	0.00	1.04
36.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.071	0.000	5.652	0.00	300.00
38.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	5.740	0.00	4.40
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.740	0.00	1.04
38.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.740	0.00	3.98
38.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.740	0.00	4.40
38.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.740	0.00	3.82
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.740	0.00	1.04
38.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.071	0.000	5.740	0.00	300.00
40.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.072	0.000	5.825	0.00	4.40
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	5.825	0.00	1.04
40.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	5.825	0.00	3.98
40.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	5.825	0.00	4.40
40.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	5.825	0.00	3.82
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	5.825	0.00	1.04
40.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.072	0.000	5.825	0.00	300.00
42.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	5.907	0.00	4.40
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.907	0.00	1.04
42.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.907	0.00	3.98
42.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.907	0.00	4.40
42.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.907	0.00	3.82
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.907	0.00	1.04
42.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.073	0.000	5.907	0.00	300.00
44.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	5.986	0.00	4.40
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.986	0.00	1.04
44.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.986	0.00	3.98
44.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.986	0.00	4.40
44.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.986	0.00	3.82
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.986	0.00	1.04
44.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.073	0.000	5.986	0.00	300.00
45.16	1 5/8" Hybrid	Yes	1.16	0.000	2.00	0.19	0.00	0.074	0.000	6.030	0.00	2.55
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	6.030	0.00	0.60
45.16	1.75" Hybrid	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	6.030	0.00	2.31
45.16	1 5/8" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	6.030	0.00	2.55
45.16	1-1/4" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	6.030	0.00	2.21
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.074	0.000	6.030	0.00	0.60
45.16	1.25" Reinforcing	Yes	1.16	0.000	1.25	0.12	0.00	0.074	0.000	6.030	0.00	174.00
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.074	0.000	6.062	0.00	1.85
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	6.062	0.00	0.44
46.00	1.75" Hybrid	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	6.062	0.00	1.67
46.00	1 5/8" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	6.062	0.00	1.85
46.00	1-1/4" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	6.062	0.00	1.60
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.074	0.000	6.062	0.00	0.44
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.09	0.00	0.074	0.000	6.062	0.00	126.00
48.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	6.136	0.00	4.40

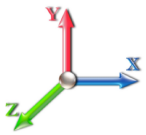
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 88	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.136	0.00	1.04
48.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.136	0.00	3.98
48.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.136	0.00	4.40
48.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.136	0.00	3.82
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.136	0.00	1.04
48.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.075	0.000	6.136	0.00	300.00
50.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	6.208	0.00	4.40
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.208	0.00	1.04
50.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.208	0.00	3.98
50.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.208	0.00	4.40
50.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.208	0.00	3.82
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	6.208	0.00	1.04
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.075	0.000	6.208	0.00	300.00
52.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	6.278	0.00	4.40
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.278	0.00	1.04
52.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.278	0.00	3.98
52.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.278	0.00	4.40
52.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.278	0.00	3.82
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	6.278	0.00	1.04
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.076	0.000	6.278	0.00	300.00
54.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	6.346	0.00	4.40
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.346	0.00	1.04
54.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.346	0.00	3.98
54.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.346	0.00	4.40
54.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.346	0.00	3.82
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.346	0.00	1.04
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.077	0.000	6.346	0.00	300.00
56.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	6.413	0.00	4.40
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.413	0.00	1.04
56.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.413	0.00	3.98
56.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.413	0.00	4.40
56.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.413	0.00	3.82
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.413	0.00	1.04
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.078	0.000	6.413	0.00	300.00
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	6.477	0.00	4.40
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.477	0.00	1.04
58.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.477	0.00	3.98
58.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.477	0.00	4.40
58.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.477	0.00	3.82
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	6.477	0.00	1.04
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.077	0.000	6.477	0.00	300.00
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	6.540	0.00	4.40
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.540	0.00	1.04
60.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.540	0.00	3.98
60.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.540	0.00	4.40
60.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.540	0.00	3.82
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.540	0.00	1.04

Linear Appurtenance Segment Forces (Factored)

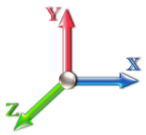
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 89	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.078	0.000	6.540	0.00	300.00
62.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	6.602	0.00	4.40
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.602	0.00	1.04
62.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.602	0.00	3.98
62.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.602	0.00	4.40
62.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.602	0.00	3.82
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.602	0.00	1.04
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.078	0.000	6.602	0.00	300.00
64.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	6.662	0.00	4.40
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	6.662	0.00	1.04
64.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	6.662	0.00	3.98
64.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	6.662	0.00	4.40
64.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	6.662	0.00	3.82
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	6.662	0.00	1.04
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.079	0.000	6.662	0.00	300.00
66.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.080	0.000	6.721	0.00	4.40
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	6.721	0.00	1.04
66.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	6.721	0.00	3.98
66.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	6.721	0.00	4.40
66.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	6.721	0.00	3.82
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	6.721	0.00	1.04
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.080	0.000	6.721	0.00	300.00
68.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.081	0.000	6.779	0.00	4.40
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	6.779	0.00	1.04
68.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	6.779	0.00	3.98
68.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	6.779	0.00	4.40
68.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	6.779	0.00	3.82
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	6.779	0.00	1.04
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.081	0.000	6.779	0.00	300.00
70.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.082	0.000	6.835	0.00	4.40
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	6.835	0.00	1.04
70.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	6.835	0.00	3.98
70.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	6.835	0.00	4.40
70.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	6.835	0.00	3.82
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	6.835	0.00	1.04
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.082	0.000	6.835	0.00	300.00
72.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.082	0.000	6.890	0.00	4.40
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	6.890	0.00	1.04
72.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	6.890	0.00	3.98
72.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	6.890	0.00	4.40
72.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	6.890	0.00	3.82
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.082	0.000	6.890	0.00	1.04
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.082	0.000	6.890	0.00	300.00
74.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	6.944	0.00	4.40
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	6.944	0.00	1.04
74.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	6.944	0.00	3.98
74.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	6.944	0.00	4.40

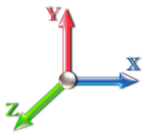
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 90	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
74.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	6.944	0.00	3.82
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	6.944	0.00	1.04
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.083	0.000	6.944	0.00	300.00
76.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.084	0.000	6.997	0.00	4.40
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	6.997	0.00	1.04
76.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	6.997	0.00	3.98
76.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	6.997	0.00	4.40
76.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	6.997	0.00	3.82
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	6.997	0.00	1.04
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.084	0.000	6.997	0.00	300.00
78.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.085	0.000	7.050	0.00	4.40
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	7.050	0.00	1.04
78.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	7.050	0.00	3.98
78.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	7.050	0.00	4.40
78.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	7.050	0.00	3.82
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	7.050	0.00	1.04
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.085	0.000	7.050	0.00	300.00
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.086	0.000	7.101	0.00	4.40
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	7.101	0.00	1.04
80.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	7.101	0.00	3.98
80.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	7.101	0.00	4.40
80.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	7.101	0.00	3.82
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	7.101	0.00	1.04
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.086	0.000	7.101	0.00	300.00
82.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	7.151	0.00	4.40
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	7.151	0.00	1.04
82.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	7.151	0.00	3.98
82.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	7.151	0.00	4.40
82.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	7.151	0.00	3.82
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	7.151	0.00	1.04
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.087	0.000	7.151	0.00	300.00
84.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.088	0.000	7.200	0.00	4.40
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	7.200	0.00	1.04
84.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	7.200	0.00	3.98
84.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	7.200	0.00	4.40
84.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	7.200	0.00	3.82
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.088	0.000	7.200	0.00	1.04
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.088	0.000	7.200	0.00	300.00
86.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.089	0.000	7.249	0.00	4.40
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	7.249	0.00	1.04
86.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	7.249	0.00	3.98
86.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	7.249	0.00	4.40
86.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	7.249	0.00	3.82
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.089	0.000	7.249	0.00	1.04
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.089	0.000	7.249	0.00	300.00
88.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.090	0.000	7.297	0.00	4.40
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	7.297	0.00	1.04

Linear Appurtenance Segment Forces (Factored)

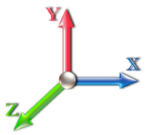
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 91	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
88.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	7.297	0.00	3.98
88.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	7.297	0.00	4.40
88.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	7.297	0.00	3.82
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.090	0.000	7.297	0.00	1.04
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.090	0.000	7.297	0.00	300.00
90.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.091	0.000	7.344	0.00	4.40
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	7.344	0.00	1.04
90.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	7.344	0.00	3.98
90.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	7.344	0.00	4.40
90.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	7.344	0.00	3.82
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.091	0.000	7.344	0.00	1.04
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.091	0.000	7.344	0.00	300.00
92.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.092	0.000	7.390	0.00	4.40
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	7.390	0.00	1.04
92.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	7.390	0.00	3.98
92.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	7.390	0.00	4.40
92.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	7.390	0.00	3.82
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.092	0.000	7.390	0.00	1.04
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.092	0.000	7.390	0.00	300.00
94.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.093	0.000	7.436	0.00	4.40
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	7.436	0.00	1.04
94.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	7.436	0.00	3.98
94.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	7.436	0.00	4.40
94.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	7.436	0.00	3.82
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.093	0.000	7.436	0.00	1.04
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.093	0.000	7.436	0.00	300.00
95.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.094	0.000	7.458	0.00	2.20
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	7.458	0.00	0.52
95.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	7.458	0.00	1.99
95.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	7.458	0.00	2.20
95.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	7.458	0.00	1.91
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.094	0.000	7.458	0.00	0.52
95.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.094	0.000	7.458	0.00	150.00
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.094	0.000	7.471	0.00	1.28
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	7.471	0.00	0.30
95.58	1.75" Hybrid	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	7.471	0.00	1.15
95.58	1 5/8" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	7.471	0.00	1.28
95.58	1-1/4" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	7.471	0.00	1.11
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.094	0.000	7.471	0.00	0.30
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.094	0.000	7.471	0.00	87.00
96.00	1 5/8" Hybrid	Yes	0.42	0.000	2.00	0.07	0.00	0.094	0.000	7.480	0.00	0.92
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	7.480	0.00	0.22
96.00	1.75" Hybrid	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	7.480	0.00	0.84
96.00	1 5/8" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	7.480	0.00	0.92
96.00	1-1/4" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	7.480	0.00	0.80
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.094	0.000	7.480	0.00	0.22
96.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.04	0.00	0.094	0.000	7.480	0.00	63.00

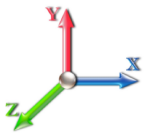
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 92	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
98.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	7.525	0.00	4.40
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	7.525	0.00	1.04
98.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	7.525	0.00	3.98
98.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	7.525	0.00	4.40
98.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	7.525	0.00	3.82
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.095	0.000	7.525	0.00	1.04
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.095	0.000	7.525	0.00	300.00
100.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	7.568	0.00	4.40
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.568	0.00	1.04
100.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.568	0.00	3.98
100.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.568	0.00	4.40
100.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.568	0.00	3.82
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.568	0.00	1.04
102.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	7.611	0.00	4.40
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.611	0.00	1.04
102.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.611	0.00	3.98
102.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.611	0.00	4.40
102.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.611	0.00	3.82
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.611	0.00	1.04
104.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.059	0.000	7.653	0.00	4.40
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.653	0.00	1.04
104.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.653	0.00	3.98
104.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.653	0.00	4.40
104.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.653	0.00	3.82
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.059	0.000	7.653	0.00	1.04
106.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.060	0.000	7.695	0.00	4.40
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	7.695	0.00	1.04
106.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	7.695	0.00	3.98
106.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	7.695	0.00	4.40
106.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	7.695	0.00	3.82
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.060	0.000	7.695	0.00	1.04
108.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.061	0.000	7.736	0.00	4.40
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	7.736	0.00	1.04
108.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	7.736	0.00	3.98
108.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	7.736	0.00	4.40
108.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	7.736	0.00	3.82
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	7.736	0.00	1.04
110.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	7.777	0.00	4.40
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.777	0.00	1.04
110.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.777	0.00	3.98
110.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.777	0.00	4.40
110.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.777	0.00	3.82
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.777	0.00	1.04
112.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.062	0.000	7.817	0.00	4.40
112.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.817	0.00	1.04
112.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.817	0.00	3.98
112.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.817	0.00	4.40

Linear Appurtenance Segment Forces (Factored)

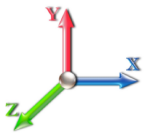
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 93	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
112.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.062	0.000	7.817	0.00	3.82
114.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.063	0.000	7.857	0.00	4.40
114.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	7.857	0.00	1.04
114.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	7.857	0.00	3.98
114.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	7.857	0.00	4.40
114.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	7.857	0.00	3.82
115.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.064	0.000	7.876	0.00	2.20
115.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	7.876	0.00	0.52
115.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	7.876	0.00	1.99
115.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	7.876	0.00	2.20
115.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	7.876	0.00	1.91
116.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.064	0.000	7.896	0.00	2.20
116.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	7.896	0.00	0.52
116.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	7.896	0.00	1.99
116.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	7.896	0.00	2.20
116.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.064	0.000	7.896	0.00	1.91
118.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	7.935	0.00	4.40
118.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	7.935	0.00	1.04
118.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	7.935	0.00	3.98
118.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	7.935	0.00	4.40
118.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.065	0.000	7.935	0.00	3.82
120.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	7.973	0.00	4.40
120.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	7.973	0.00	1.04
120.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	7.973	0.00	3.98
120.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	7.973	0.00	4.40
120.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.066	0.000	7.973	0.00	3.82
122.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	8.011	0.00	4.40
122.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	8.011	0.00	1.04
122.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	8.011	0.00	3.98
122.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	8.011	0.00	4.40
122.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	8.011	0.00	3.82
124.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.067	0.000	8.048	0.00	4.40
124.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	8.048	0.00	1.04
124.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	8.048	0.00	3.98
124.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	8.048	0.00	4.40
124.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.067	0.000	8.048	0.00	3.82
126.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	8.085	0.00	4.40
126.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	8.085	0.00	1.04
126.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	8.085	0.00	3.98
126.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	8.085	0.00	4.40
126.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.068	0.000	8.085	0.00	3.82
128.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.069	0.000	8.121	0.00	4.40
128.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	8.121	0.00	1.04
128.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	8.121	0.00	3.98
128.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	8.121	0.00	4.40
128.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.069	0.000	8.121	0.00	3.82
130.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	8.157	0.00	4.40

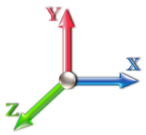
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 94	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
130.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	8.157	0.00	1.04
130.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	8.157	0.00	3.98
130.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	8.157	0.00	4.40
130.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	8.157	0.00	3.82
132.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	8.193	0.00	4.40
132.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	8.193	0.00	1.04
132.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	8.193	0.00	3.98
132.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	8.193	0.00	4.40
132.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	8.193	0.00	3.82
133.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.072	0.000	8.211	0.00	2.20
133.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	8.211	0.00	0.52
133.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	8.211	0.00	1.99
133.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	8.211	0.00	2.20
133.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.072	0.000	8.211	0.00	1.91
134.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.073	0.000	8.228	0.00	2.20
134.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	8.228	0.00	0.52
134.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	8.228	0.00	1.99
134.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	8.228	0.00	2.20
134.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.073	0.000	8.228	0.00	1.91
136.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	8.263	0.00	4.40
136.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	8.263	0.00	1.04
136.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	8.263	0.00	3.98
136.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	8.263	0.00	4.40
136.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	8.263	0.00	3.82
138.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	8.298	0.00	4.40
138.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	8.298	0.00	1.04
138.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	8.298	0.00	3.98
138.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	8.298	0.00	4.40
138.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	8.298	0.00	3.82
140.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	8.332	0.00	4.40
140.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	8.332	0.00	1.04
140.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	8.332	0.00	3.98
140.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	8.332	0.00	4.40
140.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	8.332	0.00	3.82
142.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	8.366	0.00	4.40
142.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	8.366	0.00	1.04
142.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	8.366	0.00	3.98
142.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	8.366	0.00	4.40
142.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.077	0.000	8.366	0.00	3.82
144.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	8.399	0.00	4.40
144.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	8.399	0.00	1.04
144.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	8.399	0.00	3.98
145.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.079	0.000	8.416	0.00	2.20
145.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	8.416	0.00	0.52
145.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	8.416	0.00	1.99
146.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.082	0.000	8.432	0.00	2.20
146.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	8.432	0.00	0.52

Linear Appurtenance Segment Forces (Factored)

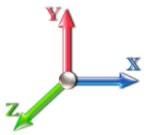
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 95	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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)
146.00	1.75" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	8.432	0.00	1.99
148.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	8.465	0.00	4.40
148.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	8.465	0.00	1.04
148.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	8.465	0.00	3.98
150.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.085	0.000	8.498	0.00	4.40
150.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	8.498	0.00	1.04
150.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	8.498	0.00	3.98
152.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	8.530	0.00	4.40
152.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	8.530	0.00	1.04
152.00	1.75" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	8.530	0.00	3.98
154.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	8.562	0.00	4.40
154.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	8.562	0.00	1.04
156.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	8.593	0.00	4.40
156.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	8.593	0.00	1.04
158.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	8.625	0.00	4.40
158.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	8.625	0.00	1.04
160.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	8.656	0.00	4.40
160.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	8.656	0.00	1.04
										Totals:	**0.0**	**21,478.4**

Calculated Forces

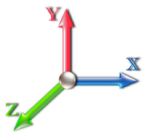
Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 96	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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	-64.62	-7.27	0.00	-856.27	0.00	856.27	3683.82	1059.58	4414.92	3756.66	0.00	0.000	0.000	0.146
1.00	-64.07	-7.26	0.00	-849.00	0.00	849.00	3677.71	1055.47	4380.73	3735.77	0.00	-0.007	0.000	0.145
2.00	-63.51	-7.24	0.00	-841.74	0.00	841.74	3671.54	1051.36	4346.67	3714.86	0.00	-0.015	0.000	0.144
4.00	-62.40	-7.21	0.00	-827.26	0.00	827.26	3659.00	1043.14	4278.95	3673.00	0.01	-0.030	0.000	0.143
6.00	-61.30	-7.18	0.00	-812.83	0.00	812.83	3646.20	1034.91	4211.76	3631.09	0.03	-0.045	0.000	0.141
8.00	-60.19	-7.14	0.00	-798.48	0.00	798.48	3633.16	1026.69	4145.10	3589.13	0.05	-0.060	0.000	0.140
10.00	-59.09	-7.11	0.00	-784.19	0.00	784.19	3619.85	1018.47	4078.97	3547.13	0.08	-0.075	0.000	0.139
12.00	-58.00	-7.07	0.00	-769.98	0.00	769.98	3606.29	1010.25	4013.38	3505.10	0.11	-0.090	0.000	0.137
14.00	-56.91	-7.04	0.00	-755.83	0.00	755.83	3592.48	1002.02	3948.31	3463.03	0.15	-0.105	0.000	0.136
16.00	-55.82	-7.00	0.00	-741.75	0.00	741.75	3578.41	993.80	3883.78	3420.94	0.20	-0.120	0.000	0.134
16.25	-55.63	-7.00	0.00	-740.00	0.00	740.00	3576.63	992.77	3875.75	3415.68	0.21	-0.122	0.000	0.154
18.00	-54.34	-6.96	0.00	-727.75	0.00	727.75	3564.09	985.58	3819.78	3378.83	0.26	-0.138	0.000	0.152
18.63	-53.88	-6.95	0.00	-723.36	0.00	723.36	3559.52	982.99	3799.73	3365.57	0.27	-0.143	0.000	0.124
18.88	-53.69	-6.95	0.00	-721.63	0.00	721.63	3557.70	981.96	3791.79	3360.30	0.28	-0.145	0.000	0.141
20.00	-52.87	-6.93	0.00	-713.84	0.00	713.84	3549.51	977.36	3756.31	3336.71	0.32	-0.154	0.000	0.140
22.00	-51.41	-6.90	0.00	-699.98	0.00	699.98	3563.12	985.03	3815.51	3376.01	0.39	-0.170	0.000	0.142
24.00	-50.32	-6.86	0.00	-686.19	0.00	686.19	3548.52	976.81	3752.08	3333.89	0.46	-0.187	0.000	0.136
26.00	-49.24	-6.82	0.00	-672.47	0.00	672.47	3533.67	968.58	3689.18	3291.77	0.54	-0.203	0.000	0.135
28.00	-48.17	-6.78	0.00	-658.83	0.00	658.83	3518.56	960.36	3626.81	3249.64	0.63	-0.218	0.000	0.133
30.00	-46.80	-6.74	0.00	-645.26	0.00	645.26	3503.20	952.14	3564.97	3207.53	0.73	-0.234	0.000	0.104
31.00	-46.11	-6.72	0.00	-638.52	0.00	638.52	3495.43	948.03	3534.25	3186.48	0.78	-0.241	0.000	0.120
32.00	-45.43	-6.69	0.00	-631.80	0.00	631.80	3487.59	943.92	3503.66	3165.43	0.83	-0.248	0.000	0.119
33.38	-44.90	-6.67	0.00	-622.56	0.00	622.56	3476.66	938.24	3461.67	3136.39	0.90	-0.258	0.000	0.146
34.00	-44.66	-6.66	0.00	-618.43	0.00	618.43	3471.72	935.70	3442.89	3123.35	0.93	-0.264	0.000	0.146
36.00	-43.90	-6.63	0.00	-605.11	0.00	605.11	3455.59	927.47	3382.65	3081.29	1.05	-0.282	0.000	0.144
38.00	-43.13	-6.59	0.00	-591.85	0.00	591.85	3439.21	919.25	3322.94	3039.26	1.17	-0.300	0.000	0.143
40.00	-42.37	-6.55	0.00	-578.67	0.00	578.67	3422.57	911.03	3263.76	2997.28	1.30	-0.318	0.000	0.141
42.00	-41.61	-6.51	0.00	-565.57	0.00	565.57	3405.68	902.81	3205.11	2955.34	1.44	-0.336	0.000	0.139
44.00	-40.86	-6.47	0.00	-552.55	0.00	552.55	3388.54	894.58	3146.99	2913.44	1.58	-0.355	0.000	0.138
45.16	-40.43	-6.45	0.00	-545.05	0.00	545.05	3378.48	889.81	3113.53	2889.17	1.67	-0.365	0.000	0.099
46.00	-40.12	-6.43	0.00	-539.63	0.00	539.63	3371.14	886.36	3089.41	2871.61	1.73	-0.371	0.000	0.129
48.00	-39.37	-6.39	0.00	-526.76	0.00	526.76	3353.48	878.14	3032.36	2829.83	1.89	-0.388	0.000	0.127
50.00	-38.63	-6.35	0.00	-513.97	0.00	513.97	3335.57	869.92	2975.84	2788.13	2.06	-0.405	0.000	0.125
52.00	-37.55	-6.31	0.00	-501.27	0.00	501.27	3317.41	861.69	2919.85	2746.50	2.23	-0.423	0.000	0.122
54.00	-36.48	-6.27	0.00	-488.65	0.00	488.65	3298.98	853.47	2864.39	2704.94	2.41	-0.440	0.000	0.120
56.00	-35.41	-6.22	0.00	-476.12	0.00	476.12	3316.18	861.14	2916.12	2743.71	2.60	-0.457	0.000	0.121
58.00	-34.68	-6.18	0.00	-463.68	0.00	463.68	3297.74	852.92	2860.70	2702.16	2.80	-0.474	0.000	0.126
60.00	-33.95	-6.13	0.00	-451.32	0.00	451.32	3279.05	844.70	2805.81	2660.71	3.00	-0.492	0.000	0.124
62.00	-33.22	-6.09	0.00	-439.06	0.00	439.06	3260.10	836.48	2751.45	2619.34	3.21	-0.510	0.000	0.122
64.00	-32.50	-6.05	0.00	-426.88	0.00	426.88	3240.90	828.25	2697.62	2578.08	3.43	-0.527	0.000	0.120
66.00	-31.77	-6.00	0.00	-414.78	0.00	414.78	3221.44	820.03	2644.33	2536.92	3.65	-0.545	0.000	0.118
68.00	-31.06	-5.96	0.00	-402.78	0.00	402.78	3201.73	811.81	2591.56	2495.87	3.88	-0.563	0.000	0.116
70.00	-30.34	-5.91	0.00	-390.87	0.00	390.87	3181.76	803.59	2539.33	2454.94	4.12	-0.580	0.000	0.114
72.00	-29.63	-5.87	0.00	-379.05	0.00	379.05	3161.54	795.36	2487.63	2414.13	4.37	-0.598	0.000	0.112
74.00	-28.92	-5.82	0.00	-367.31	0.00	367.31	3141.06	787.14	2436.47	2373.45	4.62	-0.615	0.000	0.110
76.00	-28.22	-5.77	0.00	-355.68	0.00	355.68	3120.33	778.92	2385.83	2332.91	4.89	-0.633	0.000	0.108
78.00	-27.51	-5.73	0.00	-344.13	0.00	344.13	3099.34	770.70	2335.73	2292.51	5.15	-0.650	0.000	0.106
80.00	-26.82	-5.68	0.00	-332.67	0.00	332.67	3078.09	762.47	2286.15	2252.26	5.43	-0.667	0.000	0.104

Calculated Forces

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 97

80.00	-26.82	-5.68	0.00	-332.67	0.00	332.67	2384.58	636.50	1911.75	1750.88	5.43	-0.667	0.000	0.112
82.00	-26.17	-5.63	0.00	-321.31	0.00	321.31	2370.62	629.65	1870.81	1721.73	5.71	-0.685	0.000	0.122
84.00	-25.52	-5.59	0.00	-310.04	0.00	310.04	2356.42	622.80	1830.32	1692.63	6.00	-0.704	0.000	0.120
86.00	-24.88	-5.54	0.00	-298.87	0.00	298.87	2341.95	615.94	1790.27	1663.57	6.30	-0.723	0.000	0.117
88.00	-24.24	-5.50	0.00	-287.78	0.00	287.78	2327.23	609.09	1750.66	1634.56	6.61	-0.741	0.000	0.114
90.00	-23.61	-5.45	0.00	-276.79	0.00	276.79	2312.26	602.24	1711.49	1605.61	6.93	-0.760	0.000	0.111
92.00	-22.97	-5.40	0.00	-265.89	0.00	265.89	2297.03	595.39	1672.77	1576.72	7.25	-0.778	0.000	0.108
94.00	-22.34	-5.35	0.00	-255.08	0.00	255.08	2281.55	588.54	1634.49	1547.90	7.58	-0.796	0.000	0.105
95.00	-22.03	-5.33	0.00	-249.73	0.00	249.73	2273.71	585.11	1615.51	1533.52	7.75	-0.806	0.000	0.104
95.58	-21.78	-5.32	0.00	-246.64	0.00	246.64	2269.13	583.12	1604.56	1525.19	7.84	-0.811	0.000	0.101
95.58	-21.78	-5.32	0.00	-246.64	0.00	246.64	2269.13	583.12	1604.56	1525.19	7.84	-0.811	0.000	0.101
96.00	-21.60	-5.31	0.00	-244.41	0.00	244.41	2265.81	581.68	1596.65	1519.16	7.92	-0.815	0.000	0.170
98.00	-20.74	-5.26	0.00	-233.79	0.00	233.79	2249.81	574.83	1559.25	1490.50	8.26	-0.844	0.000	0.166
100.00	-20.19	-5.22	0.00	-223.26	0.00	223.26	2259.61	579.02	1582.04	1508.00	8.62	-0.874	0.000	0.157
102.00	-19.87	-5.18	0.00	-212.83	0.00	212.83	2243.52	572.17	1544.82	1479.37	9.00	-0.903	0.000	0.153
104.00	-19.55	-5.14	0.00	-202.47	0.00	202.47	2227.17	565.31	1508.04	1450.84	9.38	-0.930	0.000	0.148
106.00	-19.23	-5.10	0.00	-192.20	0.00	192.20	2210.57	558.46	1471.71	1422.40	9.77	-0.956	0.000	0.144
108.00	-18.91	-5.06	0.00	-182.00	0.00	182.00	2193.71	551.61	1435.82	1394.06	10.18	-0.982	0.000	0.139
110.00	-18.54	-4.97	0.00	-171.77	0.00	171.77	2176.60	544.76	1400.37	1365.84	10.60	-1.008	0.000	0.134
112.00	-18.23	-4.93	0.00	-161.83	0.00	161.83	2159.23	537.91	1365.36	1337.73	11.03	-1.033	0.000	0.130
114.00	-17.92	-4.88	0.00	-151.98	0.00	151.98	2141.61	531.05	1330.80	1309.73	11.46	-1.058	0.000	0.124
115.00	-17.77	-4.86	0.00	-147.10	0.00	147.10	2132.70	527.63	1313.68	1295.79	11.69	-1.070	0.000	0.122
115.00	-17.77	-4.86	0.00	-147.10	0.00	147.10	1556.62	422.98	1055.35	949.74	11.69	-1.070	0.000	0.166
116.00	-17.64	-4.85	0.00	-142.23	0.00	142.23	1551.43	420.24	1041.71	940.38	11.91	-1.082	0.000	0.163
118.00	-17.37	-4.81	0.00	-132.54	0.00	132.54	1540.84	414.76	1014.72	921.68	12.37	-1.111	0.000	0.155
120.00	-17.11	-4.77	0.00	-122.93	0.00	122.93	1529.99	409.28	988.07	902.99	12.84	-1.139	0.000	0.147
122.00	-16.86	-4.73	0.00	-113.40	0.00	113.40	1518.89	403.80	961.78	884.33	13.33	-1.166	0.000	0.139
124.00	-16.60	-4.69	0.00	-103.94	0.00	103.94	1507.54	398.32	935.85	865.70	13.82	-1.192	0.000	0.131
126.00	-16.35	-4.65	0.00	-94.56	0.00	94.56	1495.93	392.84	910.27	847.11	14.33	-1.216	0.000	0.123
128.00	-16.09	-4.61	0.00	-85.27	0.00	85.27	1484.06	387.35	885.04	828.56	14.84	-1.239	0.000	0.114
130.00	-15.85	-4.57	0.00	-76.05	0.00	76.05	1471.95	381.87	860.17	810.06	15.36	-1.261	0.000	0.105
132.00	-15.60	-4.53	0.00	-66.91	0.00	66.91	1459.57	376.39	835.65	791.62	15.90	-1.281	0.000	0.095
133.00	-11.15	-3.55	0.00	-62.38	0.00	62.38	1453.29	373.65	823.53	782.42	16.17	-1.291	0.000	0.087
134.00	-11.04	-3.53	0.00	-58.83	0.00	58.83	1446.94	370.91	811.49	773.23	16.44	-1.300	0.000	0.084
136.00	-10.82	-3.49	0.00	-51.77	0.00	51.77	1434.06	365.43	787.68	754.91	16.99	-1.317	0.000	0.076
138.00	-10.61	-3.45	0.00	-44.79	0.00	44.79	1420.92	359.95	764.23	736.67	17.54	-1.332	0.000	0.068
140.00	-10.40	-3.41	0.00	-37.89	0.00	37.89	1407.52	354.47	741.13	718.50	18.10	-1.346	0.000	0.060
142.00	-6.07	-2.02	0.00	-31.07	0.00	31.07	1393.87	348.98	718.38	700.42	18.67	-1.358	0.000	0.049
144.00	-5.89	-1.97	0.00	-27.04	0.00	27.04	1379.97	343.50	695.99	682.44	19.24	-1.369	0.000	0.044
145.00	-5.80	-1.95	0.00	-25.06	0.00	25.06	1372.92	340.76	684.93	673.48	19.53	-1.374	0.000	0.041
145.00	-5.80	-1.95	0.00	-25.06	0.00	25.06	931.20	332.53	24157.3	604.09	19.53	-1.374	0.000	0.048
146.00	-5.72	-1.94	0.00	-23.11	0.00	23.11	925.24	329.86	23770.3	594.77	19.82	-1.378	0.000	0.045
148.00	-5.55	-1.92	0.00	-19.23	0.00	19.23	913.32	324.51	23005.8	576.36	20.40	-1.387	0.000	0.039
150.00	-5.38	-1.89	0.00	-15.39	0.00	15.39	901.40	319.16	22253.7	558.24	20.98	-1.395	0.000	0.034
150.00	-5.38	-1.89	0.00	-15.39	0.00	15.39	556.65	167.00	10296.1	213.69	20.98	-1.395	0.000	0.082
152.00	-2.90	-1.20	0.00	-11.61	0.00	11.61	556.65	167.00	10296.1	213.69	21.56	-1.401	0.000	0.060
154.00	-2.78	-1.19	0.00	-9.20	0.00	9.20	556.65	167.00	10296.1	213.69	22.15	-1.417	0.000	0.048
156.00	-2.65	-1.17	0.00	-6.83	0.00	6.83	556.65	167.00	10296.1	213.69	22.75	-1.429	0.000	0.037
158.00	-2.53	-1.15	0.00	-4.50	0.00	4.50	556.65	167.00	10296.1	213.69	23.35	-1.437	0.000	0.026
160.00	0.00	-1.08	0.00	-2.20	0.00	2.20	556.65	167.00	10296.1	213.69	23.95	-1.442	0.000	0.010

Final Analysis Summary

Structure:	CT02049-S-SBA	**Code:**	TIA-222-H	5/24/2022	
Site Name:	Beacon Falls	**Exposure:**	B		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 98	

Tower Engineering Solutions

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 + 1.0W 125 mph Wind	35.3	0.00	77.53	0.00	0.00	4186.67
0.9D + 1.0W 125 mph Wind	35.3	0.00	58.15	0.00	0.00	4127.13
1.2D + 1.0Di + 1.0Wi 50 mph Wind	7.6	0.00	99.17	0.00	0.00	939.25
1.2D + 1.0Ev + 1.0Eh	0.5	0.00	80.51	0.00	0.00	77.02
0.9D + 1.0Ev + 1.0Eh	0.5	0.00	60.77	0.00	0.00	76.81
1.0D + 1.0W 60 mph Wind	7.3	0.00	64.62	0.00	0.00	856.27

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 + 1.0W 125 mph Wind	-24.22	-26.02	0.00	-1197.5	0.00	-1197.5	2265.81	581.68	1596.65	1519.16	96.00	0.801
0.9D + 1.0W 125 mph Wind	-17.77	-25.54	0.00	-1172.0	0.00	-1172.0	2265.81	581.68	1596.65	1519.16	96.00	0.781
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-39.70	-5.95	0.00	-274.83	0.00	-274.83	2265.81	581.68	1596.65	1519.16	96.00	0.199
1.2D + 1.0Ev + 1.0Eh	-22.20	-0.52	0.00	-14.72	0.00	-14.72	2132.70	527.63	1313.68	1295.79	115.00	0.030
0.9D + 1.0Ev + 1.0Eh	-16.82	-0.52	0.00	-14.77	0.00	-14.77	2132.70	527.63	1313.68	1295.79	115.00	0.026
1.0D + 1.0W 60 mph Wind	-21.60	-5.31	0.00	-244.41	0.00	-244.41	2265.81	581.68	1596.65	1519.16	96.00	0.170

Additional Steel Summary

			Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
Elev From (ft)	Elev To (ft)	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
0.0	16.3	(3) PLT-C10x30(1.5" Hole)	-271.5	-5.43	37.1	356.6	37.1	10	0	346.2	37.1			359.21	505.1	468.64	0.766
0.0	1.0	(3) SOL-2 1/4" William R71	135.3	1.62	25.3	191.7	25.3	8	0	191.4	25.3	8	0	191.73	459.1	468.91	0.418
1.0	18.9	(2) LNP-LP6X100-BW-20T	198.3	4.76	25.3	226.0	25.3	9	0	204.5	22.7	9	9	250.51	297.8	288.75	0.868
1.0	18.9	(1) LNP-LP6x100-B2-20T	-190.1	-4.56	25.3	218.3	25.3	9	0	197.4	22.7	9	9	240.16	297.8	288.75	0.832
16.3	31.0	(3) PLT-C10x15.3(1.5" Hole)	-271.5	-5.43	37.1	210.1	37.1			142.8	37.1	4	0	210.09	257.8	247.80	0.848
18.6	33.4	(3) LNP-LP6X100-G-20TT	200.0	4.80	25.3	220.6	22.7	10	10	208.3	22.7	9	10	246.28	297.8	288.75	0.853
30.0	46.0	(3) PLT-6"X1-1/4"(1.25" Hole	307.0	5.53	37.1	228.5	33.4	7	8	226.0	33.4	7	8	325.68	413.6	351.56	0.926
45.2	58.0	(3) PLT-7" x 1.25"(1.25"Hole	-358.7	-4.30	37.1	264.8	33.4	8	13	315.0	37.1			344.07	498.6	426.56	0.807
58.0	78.0	(3) PLT-5.5"x1 1/4"(1.25"hol	-349.4	-6.29	37.1	268.9	37.1			236.8	37.1			268.86	379.1	314.06	0.856
78.0	95.6	(3) PLT-5.5"x1 1/4"(1.25"hol	-401.7	-7.23	37.1	236.8	37.1			223.7	33.4	7	10	256.61	379.1	314.06	0.817

Monopole Mat Foundation Design

			Date: 5/24/2022
Customer Name:	Dish Wireless	**TIA Standard:**	TIA-222-H
Site Name:		**Structure Height (Ft.):**	160
Site Number:	CT02049-S-SBA	**Engineer Name:**	M. Baker
Engr. Number:	129339	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

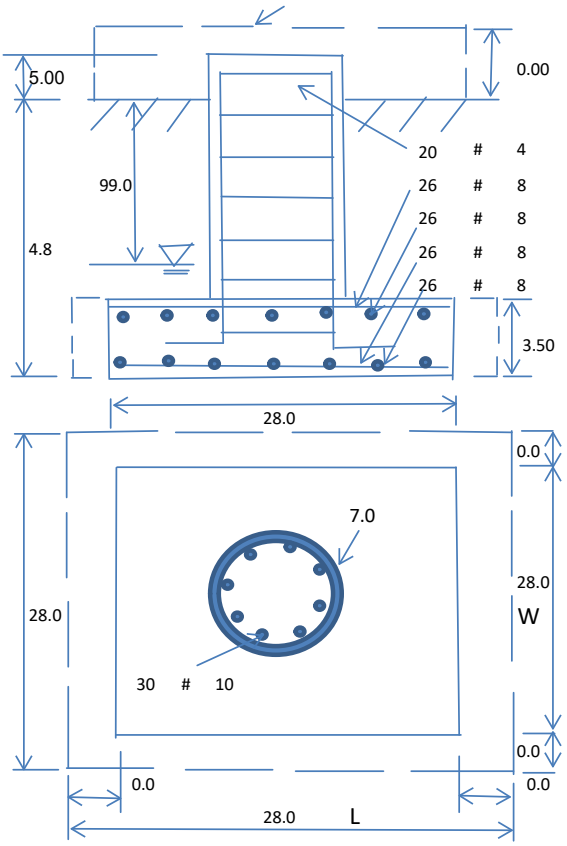
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	77.9	Shear Force (Kips):	35.3
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4187.7
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	4.8
Pier Height A. G. (ft.):	5.00	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	28	Width of Pad (ft.):	28
Final Length of pad (ft)	28.0	Final width of pad (ft):	28.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	10	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	30	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):	26	Qty. of Rebar in Pad (W):	26	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	6000	Ultimate Skin Friction:	425	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	Yes	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:			1.00	

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

Total Dry Soil Volume (cu. Ft.):	969.17	Total Dry Soil Weight (Kips):	111.45
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	111.45	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2986.45	Total Dry Concrete Weight (Kips):	447.97
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	447.97	Total Vertical Load on Base (Kips):	637.32

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1873	<	Allowable Factored Soil Bearing (psf):	4500	0.42	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	9014.0	>	Design Factored Momont (kips-ft):	4427	0.49	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.04	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90		Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65		Wind Load Factor on Concrete Design:	1.00		
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.27		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	6154.8	>	Design Factored Moment (Mu, Kips-F	4410.1	0.72	OK!
Calculated Shear Capacity (Kips):	724.1	>	Design Factored Shear (Kips):	35.3	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	2057.4	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7297.9	>	Design Factored Axial Load (Pu Kips):	77.9	0.01	OK!
Moment & Axial Strength Combination:	0.72	OK!	Check Tie Spacing (Design/Required):		0.5	OK!
Pier Reinforcement Ratio:	0.007		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	1062.8	>	One-Way Factored Shear (L-D. Kips):	242.8	0.23	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1062.8	>	One-Way Factored Shear (W-D., Kips)	242.8	0.23	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	993.8	>	One-Way Factored Shear (C-C, Kips):	231.0	0.23	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0016	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0016		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3492.1	>	Moment at Bottom (L-Dir. K-Ft):	1578.3	0.45	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3492.1	>	Moment at Bottom (W-Dir. K-Ft):	1578.3	0.45	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4918.4	>	Moment at Bottom (C-C Dir. K-Ft):	2232.1	0.45	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0016	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0016		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	3492.1	>	Moment at the top (L-Dir K-Ft):	554.1	0.16	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	3492.1	>	Moment at the top (W-Dir K-Ft):	554.1	0.16	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4918.4	>	Moment at the top (C-C Dir. K-Ft):	573.8	0.12	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1675.1	k-ft.	Max. factored shear stress v_{u_CD}:		2.9	Psi
Max. factored shear stress v_{u_AB}:	10.9	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	10.9	Psi	Check Usage of Punching Shear Capacity:		0.07	OK!
(4).Check Bending Capacity of the Pad Within the Effective Slab Width:						
Overturning moment to be transferred by flexure:	1256.3	k-ft.	Effective Width for resisting OT moment:		17.5	ft.
Calculated number of Rebar in Effective width:	17		Actual number of Rebar in Effective width:		13	
Steel Pad Moment Capacity (L-Direc. Kips-ft):	1752.7	k-ft.	Check Usage of the Flexure Capacity:		0.72	OK!

Exhibit E

Mount Analysis

November 15, 2021

Sherri Knapik
SBA Network Services, LLC.
134 Flanders Road, Suite 125
Westborough, MA 01581
(508) 251-0720 x 3805

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

Subject:	**Appurtenance Mount Analysis Report**	
Carrier Designation:	***Dish* Co-Locate**	
	Site Number:	BOHVN00177A
	Site Name:	N/A
SBA Network Services Designation:	**Site Number:**	CT02049-S
	Site Name:	Beacon Falls
	Application Number:	169195, v1
Engineering Firm Designation:	**Project Number:**	149539.003.01
Site Data:	**60 Rice Lane, Beacon Falls, CT, 06403, New Haven County**	
	Latitude *41.45568*°, Longitude *-73.03986*°	
	Monopole	
	8 ft. Platform Mount	

Dear Mr. Knapik,

B+T Group is 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 41.9%)**

This analysis utilizes an ultimate 3-second gust wind speed of 118 mph as required by the 2018 Connecticut State Building Code(2018 IBC). Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

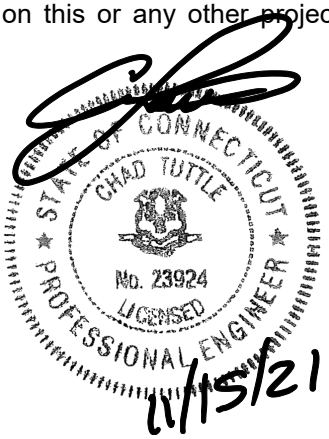
All the equipment proposed in this report shall be installed in accordance with the drawings for the determined available structural capacity to be effective.

We at *B+T Group* 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: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2022

Chad E. Tuttle, P.E.



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1) INTRODUCTION

The appurtenance mount consists of platform mount designed by Commscope (Part #MC-PK8-DSH) at 85 ft., attached to monopole at 60 Rice Lane, Beacon Falls, CT, 06403, New Haven County. The proposed antenna loading information was obtained from SBA Network Services, LLC. All information provided to B+T Group 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 118 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 30º 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	85	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
RFDS	Proposed Loading	Date: 07/23/2021	SBA Network Services, LLC.
Collo App		Date: 08/11/2021	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.4), 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 area 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. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity

Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
-	Main Horizontals	85	7.0	Pass
-	Support Rails	85	10.5	Pass
-	Support Tubes	85	41.9	Pass
-	Support Channels	85	32.5	Pass
-	Support Angles	85	26.8	Pass
-	Mount Pipes	85	11.7	Pass
-	Connection Plates	85	19.7	Pass
-	Connection Angles	85	17.0	Pass
-	Connection Bolts	85	22.2	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

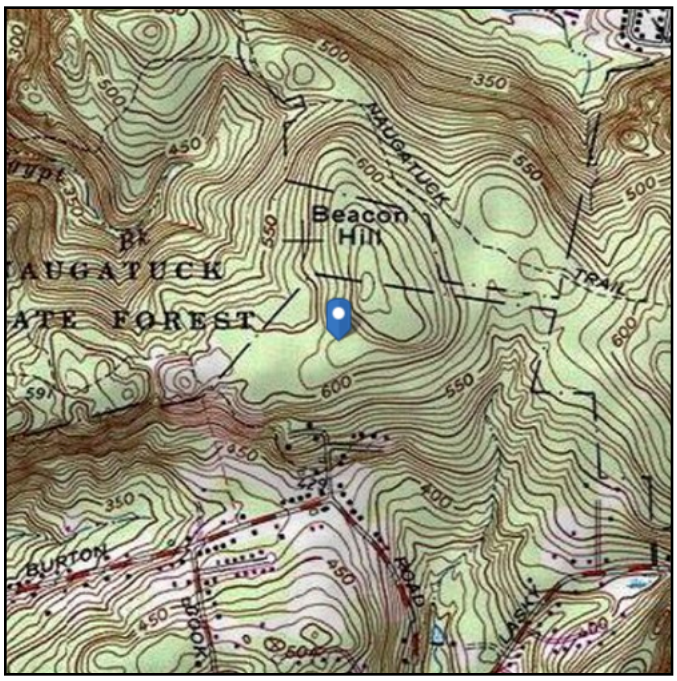
(RISA-3D Output)

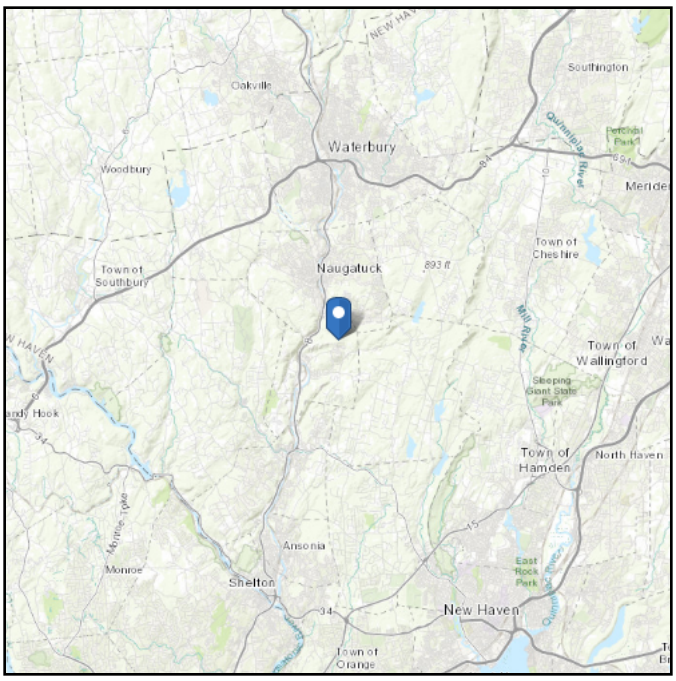
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 625.31 ft (NAVD 88)
Latitude: 41.455689
Longitude: -73.039866





Wind

Results:

Wind Speed:	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 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: Sat Nov 13 2021

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

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

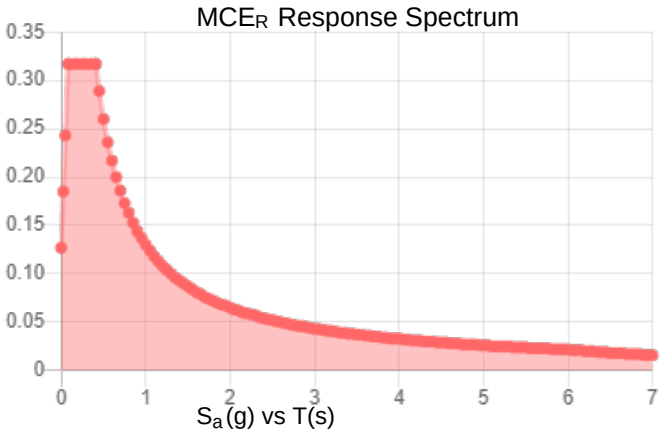
Seismic

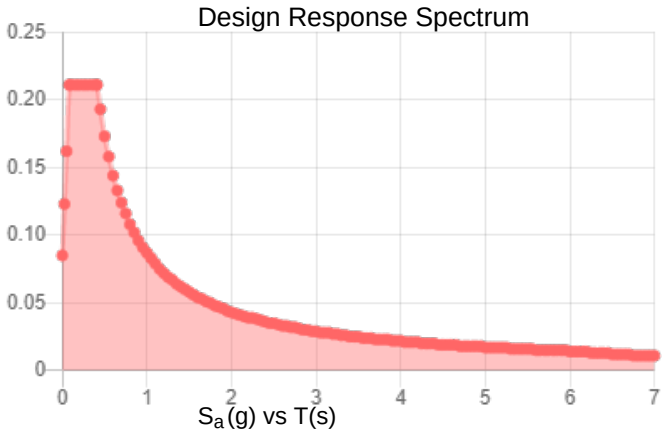
Site Soil Class: D - Default (see Section 11.4.3)

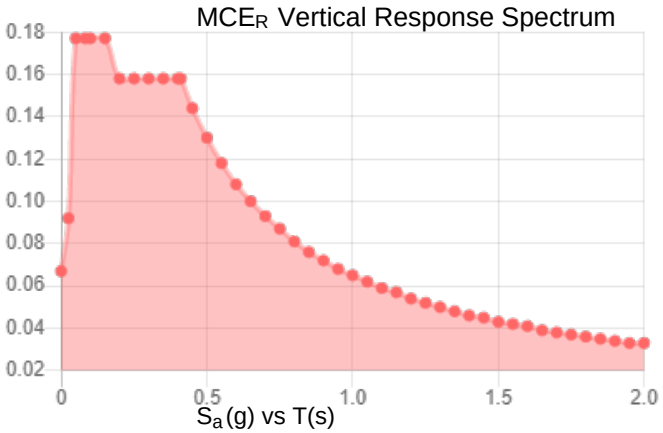
Results:

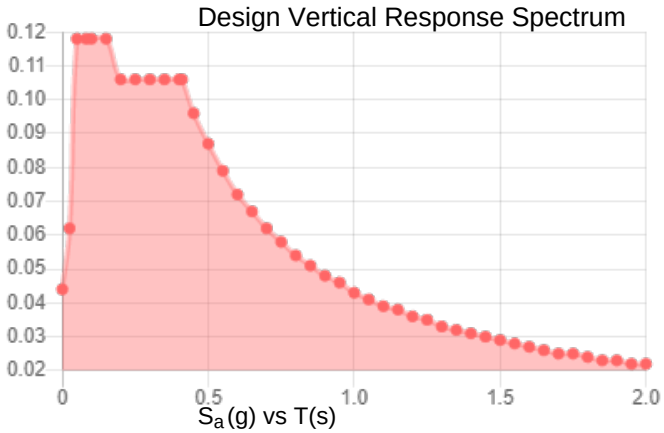
S_S :	0.198	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.11
F_v :	2.4	PGA_M :	0.174
S_{MS} :	0.317	F_{PGA} :	1.58
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.211	C_v :	0.7

Seismic Design Category B









Data Accessed: Sat Nov 13 2021

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

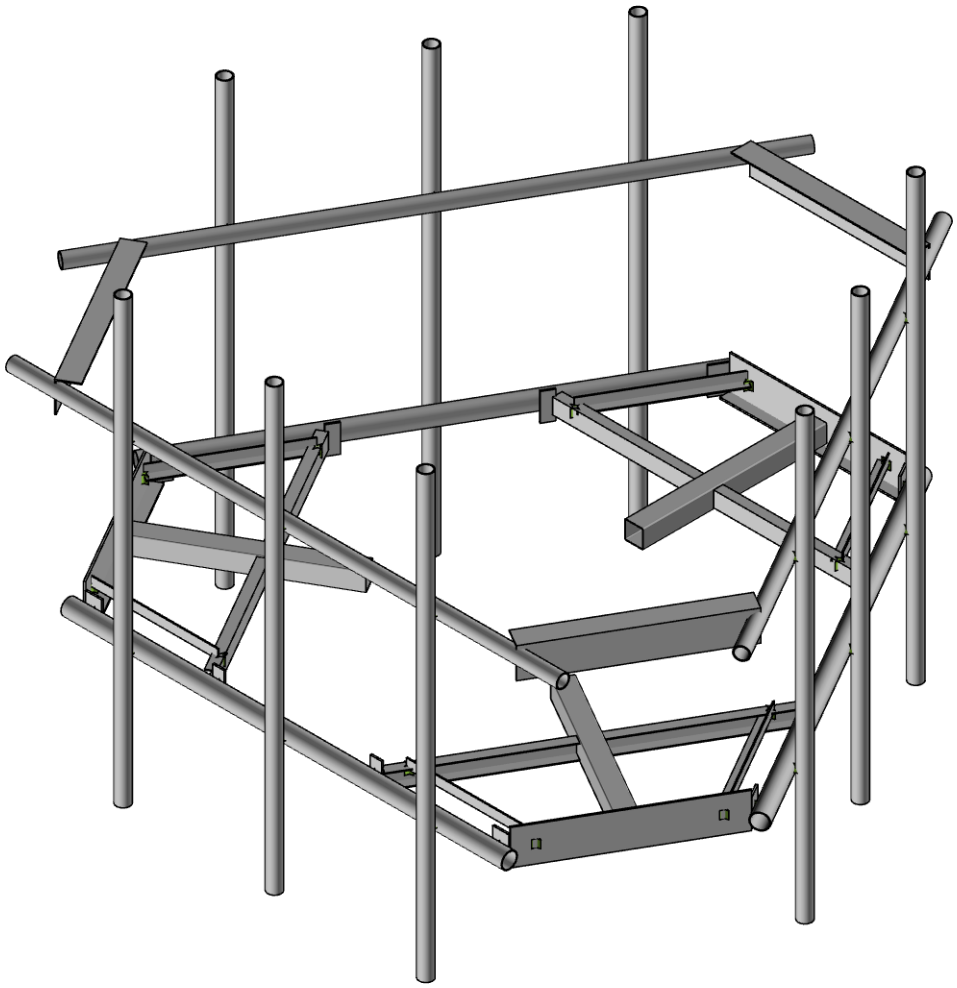
Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Sat Nov 13 2021

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

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



Envelope Only Solution

B+T Group	CT02049-S - Beacon Falls	AK1
AK		Nov 13, 2021
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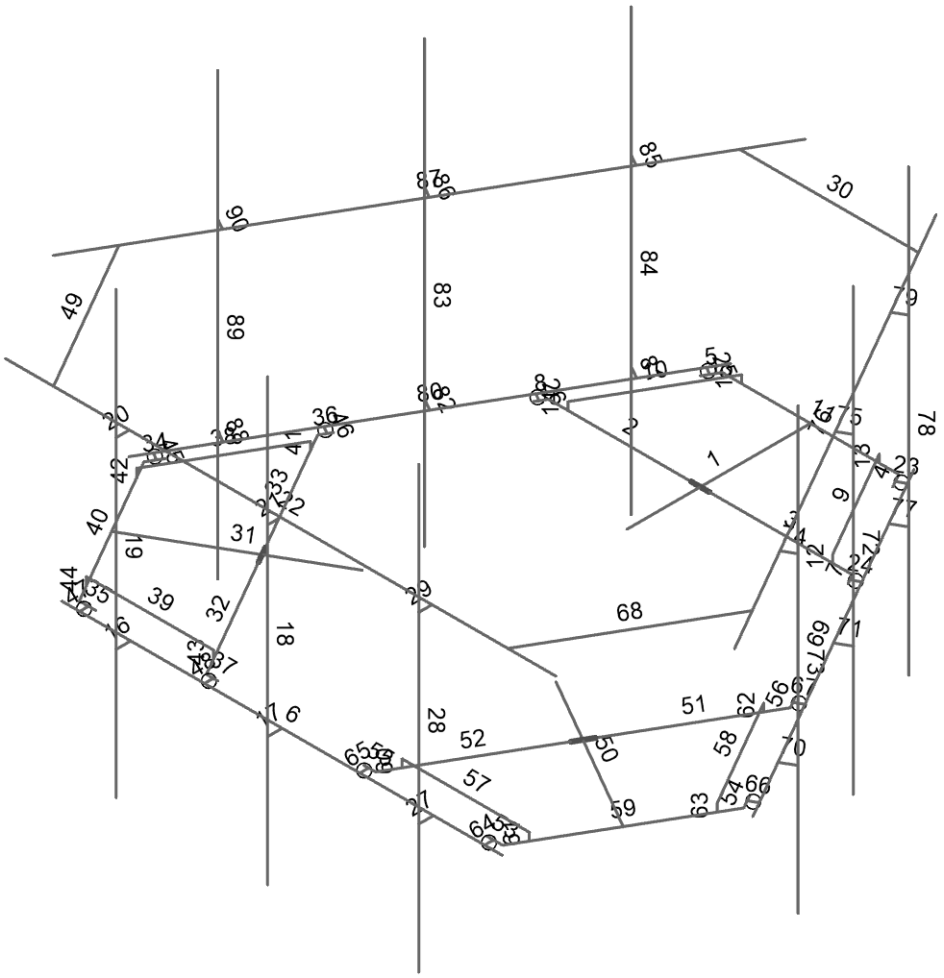

Envelope Only Solution

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AK		Nov 13, 2021
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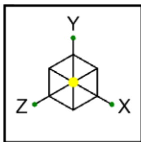

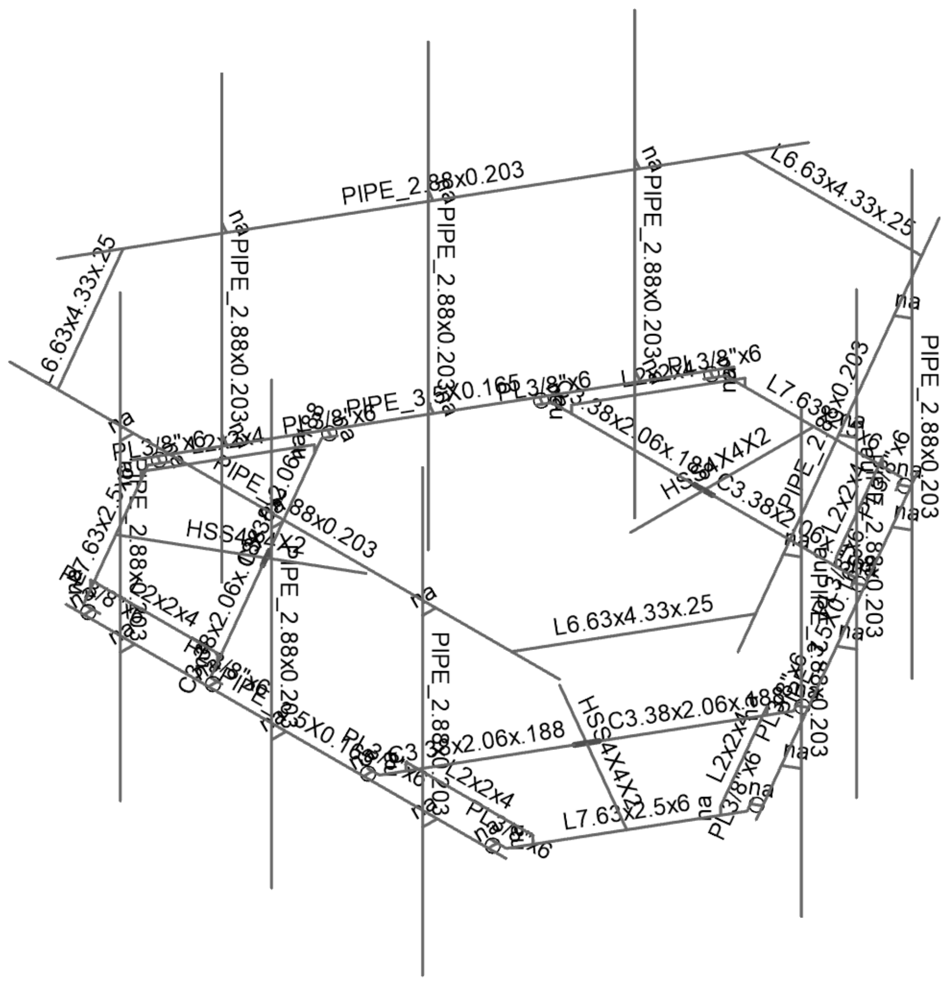

Envelope Only Solution

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AK		Nov 13, 2021
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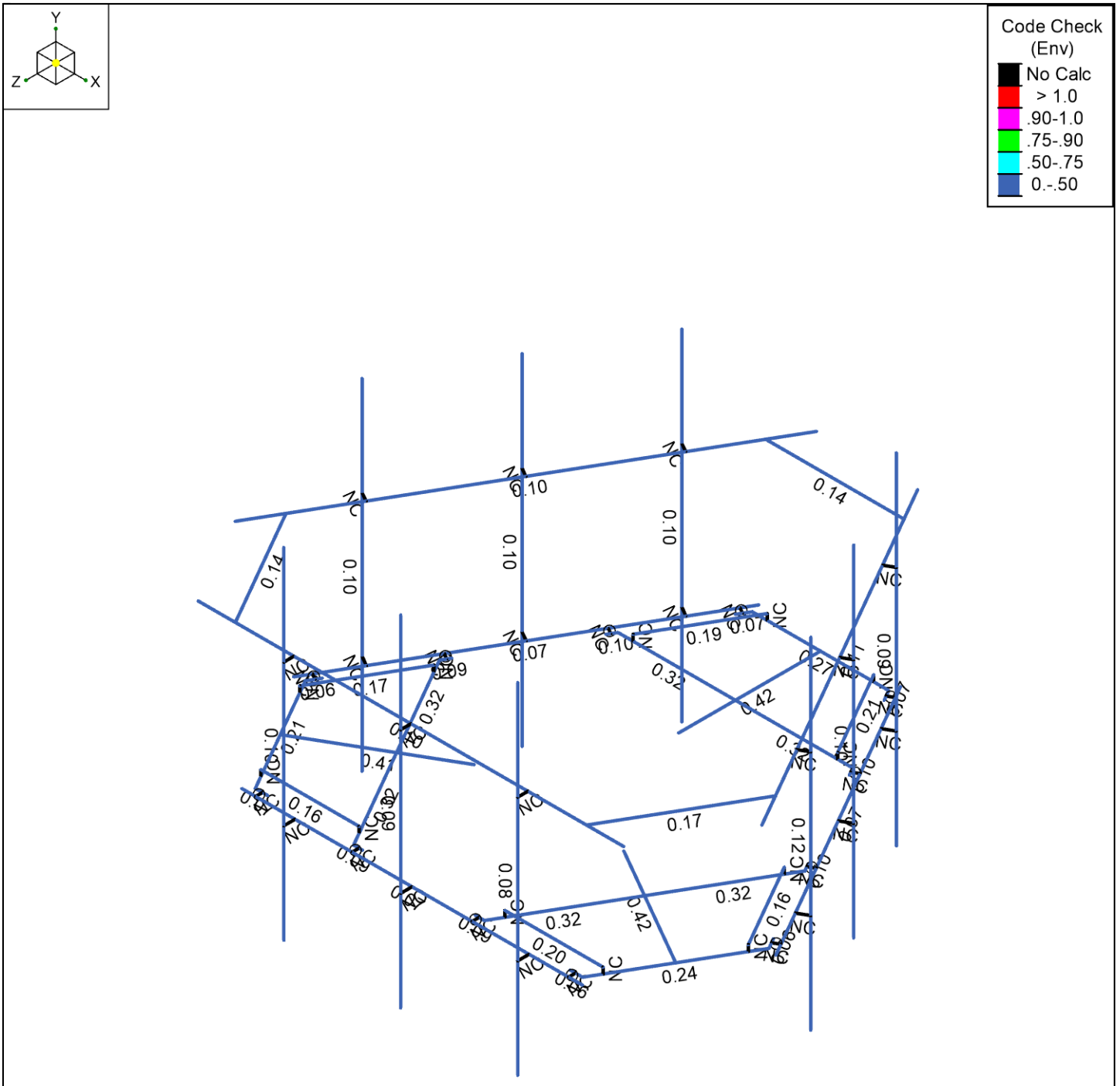

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	CT02049-S - Beacon Falls	AK4
AK		Nov 13, 2021
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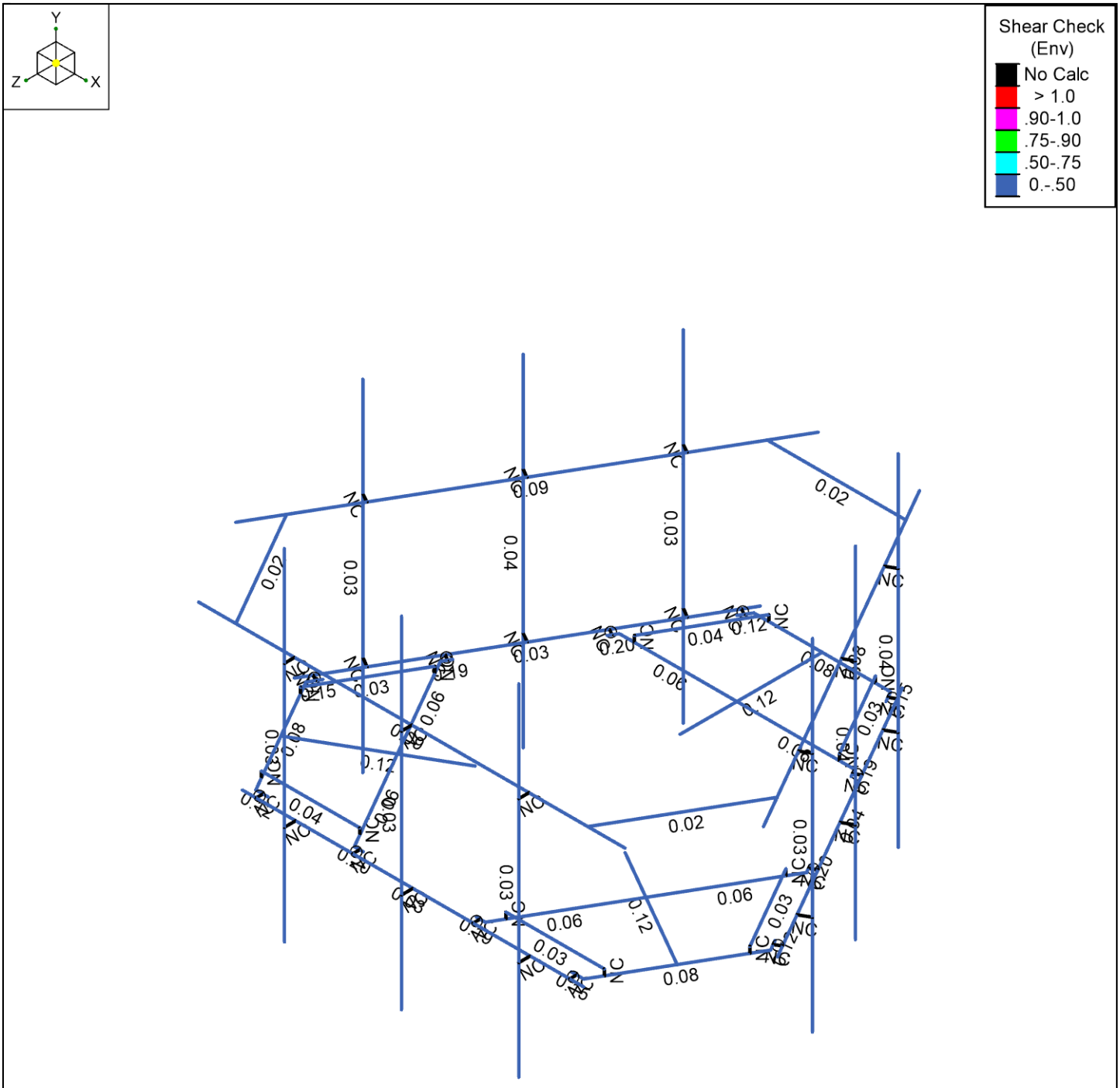


Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	CT02049-S - Beacon Falls	AK5
AK		Nov 13, 2021
149539.003.01		149539_003_01_Beacon Falls_C…

PROJECT	**149539.003.01 - Beacon Falls**		**KSC**
SUBJECT	**Platform Mount Analysis**		
DATE	**11/15/21**	PAGE	OF

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

Tower Type		:	Monopole		
Ground Elevation	z_s	:	625	ft	[ASCE7 Hazard Tool]
Tower Height		:	160.00	ft	
Mount Elevation		:	85.00	ft	
Antenna Elevation		:	85.00	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	B		[Sec. 2.6.5.1.2]
Topography Category		:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	:	118	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	:	1.00	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	:	0.94		[Sec. 2.6.5.2]
Topography Factor	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}	:	1.10	in	[Sec. 2.6.10]

Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.106		[Sec. 2.7.7.1]
Amplification	A_s	:	1.125		[Sec. 16.7]

	q_z	:	31.23	psf

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.03	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.03	0.01
FUJITSU	TA08025-B605	1	1.05	1.20	1.64	0.99	2.14	1.40	0.06	0.03	0.01	0.01
FUJITSU	TA08025-B604	1	1.05	1.20	1.64	0.86	2.14	1.25	0.06	0.03	0.01	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.03	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.03	0.01
FUJITSU	TA08025-B605	1	1.05	1.20	1.64	0.99	2.14	1.40	0.06	0.03	0.01	0.01
FUJITSU	TA08025-B604	1	1.05	1.20	1.64	0.86	2.14	1.25	0.06	0.03	0.01	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.03	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.03	0.01
FUJITSU	TA08025-B605	1	1.05	1.20	1.64	0.99	2.14	1.40	0.06	0.03	0.01	0.01
FUJITSU	TA08025-B604	1	1.05	1.20	1.64	0.86	2.14	1.25	0.06	0.03	0.01	0.01
RAYCAP	RDIDC-9181-PF-48	1	1.14	1.20	1.68	0.94	2.19	1.35	0.06	0.03	0.01	0.01

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0	0	-2.032604	
2	2	0	0	-5.365937	
3	3	0	0	-3.365937	
4	4	2.758333	0	-3.365937	
5	5	-2.758333	0	-3.365937	
6	6	-1.603633	0	-5.365937	
7	7	1.603633	0	-5.365937	
8	8	1.749466	0	-5.113346	
9	9	-1.749466	0	-5.113346	
10	10	1.686966	0	-5.2216	
11	11	1.826811	0	-5.302339	
12	12	-1.686966	0	-5.2216	
13	13	-1.826811	0	-5.302339	
14	14	-3.999998	0	4.233234	
15	15	3.999998	0	4.233234	
16	16	2.8625	0	-3.185515	
17	17	2.820833	0	-3.257685	
18	18	2.960677	0	-3.338424	
19	19	-2.8625	0	-3.185515	
20	20	-2.820833	0	-3.257685	
21	21	-2.960677	0	-3.338424	
22	22	-1.25	0.140833	-5.365937	
23	23	-2.404701	0.140833	-3.365937	
24	24	2.404701	0.140833	-3.365937	
25	25	1.25	0.140833	-5.365937	
26	26	-1.25	0	-5.365937	
27	27	-2.404701	0	-3.365937	
28	28	2.404701	0	-3.365937	
29	29	1.25	0	-5.365937	
30	30	-2.749998	0	4.233234	
31	31	0.000002	0	4.233234	
32	32	-2.749998	0	4.498859	
33	33	0.000002	0	4.498859	
34	34	-2.749998	-2.333332	4.498859	
35	35	0.000002	-2.333332	4.498859	
36	36	-2.749998	5.66667	4.498859	
37	37	0.000002	5.66667	4.498859	
38	38	-2.749998	3.333337	4.498859	
39	39	0.000002	3.333337	4.498859	
40	40	-2.749998	3.333337	4.259276	
41	41	0.000002	3.333337	4.259276	
42	42	-5	3.333337	4.259276	
43	43	5	3.333337	4.259276	
44	44	2.749998	0	4.233234	
45	45	2.749998	0	4.498859	
46	46	2.749998	-2.333332	4.498859	
47	47	2.749998	5.66667	4.498859	
48	48	2.749998	3.333337	4.498859	
49	49	2.749998	3.333337	4.259276	
50	50	0	0	0	
51	51	1.625024	3.333337	-5.703926	
52	52	-1.625024	3.333337	-5.703926	
53	53	-1.760286	0	1.016302	
54	54	-4.647038	0	2.682969	
55	55	-2.914987	0	1.682969	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	-4.294154	0	-0.705818	
57	57	-1.53582	0	4.071755	
58	58	-3.845221	0	4.071755	
59	59	-5.448854	0	1.294182	
60	60	-5.303021	0	1.041591	
61	61	-3.553555	0	4.071755	
62	62	-5.365521	0	1.149844	
63	63	-5.505365	0	1.069105	
64	64	-3.678555	0	4.071755	
65	65	-3.678555	0	4.233234	
66	66	-4.189987	0	-0.88624	
67	67	-4.231654	0	-0.81407	
68	68	-4.371499	0	-0.89481	
69	69	-1.327487	0	4.071755	
70	70	-1.410821	0	4.071755	
71	71	-1.410821	0	4.233234	
72	72	-4.022038	0.140833	3.7655	
73	73	-1.712637	0.140833	3.7655	
74	74	-4.117337	0.140833	-0.399563	
75	75	-5.272038	0.140833	1.600437	
76	76	-4.022038	0	3.7655	
77	77	-1.712637	0	3.7655	
78	78	-4.117337	0	-0.399563	
79	79	-5.272038	0	1.600437	
80	80	-5.752257	3.333337	1.444651	
81	81	-4.127233	3.333337	4.259276	
82	82	1.760286	0	1.016302	
83	83	4.647038	0	2.682969	
84	84	2.914987	0	1.682969	
85	85	1.53582	0	4.071755	
86	86	4.294154	0	-0.705818	
87	87	5.448854	0	1.294182	
88	88	3.845221	0	4.071755	
89	89	3.553555	0	4.071755	
90	90	5.303021	0	1.041591	
91	91	3.678555	0	4.071755	
92	92	3.678555	0	4.233234	
93	93	5.365521	0	1.149844	
94	94	5.505365	0	1.069105	
95	95	1.327487	0	4.071755	
96	96	1.410821	0	4.071755	
97	97	1.410821	0	4.233234	
98	98	4.189987	0	-0.88624	
99	99	4.231654	0	-0.81407	
100	100	4.371499	0	-0.89481	
101	101	5.272038	0.140833	1.600437	
102	102	4.117337	0.140833	-0.399563	
103	103	1.712637	0.140833	3.7655	
104	104	4.022038	0.140833	3.7655	
105	105	5.272038	0	1.600437	
106	106	4.117337	0	-0.399563	
107	107	1.712637	0	3.7655	
108	108	4.022038	0	3.7655	
109	109	4.127233	3.333337	4.259276	
110	110	5.752257	3.333337	1.444651	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	5.666087	0	1.347483	
112	112	1.666089	0	-5.580717	
113	113	5.041087	0	0.264951	
114	114	3.666087	0	-2.116619	
115	115	5.271125	0	0.132139	
116	116	3.896125	0	-2.249431	
117	117	5.271125	-2.333332	0.132139	
118	118	3.896125	-2.333332	-2.249431	
119	119	5.271125	5.66667	0.132139	
120	120	3.896125	5.66667	-2.249431	
121	121	5.271125	3.333337	0.132139	
122	122	3.896125	3.333337	-2.249431	
123	123	5.06364	3.333337	0.25193	
124	124	3.68864	3.333337	-2.129639	
125	125	6.188641	3.333337	2.200489	
126	126	1.188641	3.333337	-6.459765	
127	127	2.291089	0	-4.498185	
128	128	2.521127	0	-4.630998	
129	129	2.521127	-2.333332	-4.630998	
130	130	2.521127	5.66667	-4.630998	
131	131	2.521127	3.333337	-4.630998	
132	132	2.313642	3.333337	-4.511206	
133	133	-1.666089	0	-5.580717	
134	134	-5.666087	0	1.347483	
135	135	-2.291089	0	-4.498185	
136	136	-3.666089	0	-2.116615	
137	137	-2.521127	0	-4.630998	
138	138	-3.896127	0	-2.249428	
139	139	-2.521127	-2.333332	-4.630998	
140	140	-3.896127	-2.333332	-2.249428	
141	141	-2.521127	5.66667	-4.630998	
142	142	-3.896127	5.66667	-2.249428	
143	143	-2.521127	3.333337	-4.630998	
144	144	-3.896127	3.333337	-2.249428	
145	145	-2.313642	3.333337	-4.511206	
146	146	-3.688642	3.333337	-2.129636	
147	147	-1.188641	3.333337	-6.459765	
148	148	-6.188641	3.333337	2.200489	
149	149	-5.041087	0	0.264951	
150	150	-5.271125	0	0.132139	
151	151	-5.271125	-2.333332	0.132139	
152	152	-5.271125	5.66667	0.132139	
153	153	-5.271125	3.333337	0.132139	
154	154	-5.06364	3.333337	0.25193	

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	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	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. [1e⁵°F⁻¹]	Density [k/ft³]	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 [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	MF-H1	PIPE_3.5X0.165	Beam	Pipe	A500 Gr.C	Typical	1.729	2.409	2.409	4.819
2	MF-H2	PIPE_2.88x0.203	Beam	Pipe	A500 Gr.C	Typical	1.707	1.538	1.538	3.076
3	SF-H1	HSS4X4X2	Beam	Tube	A500 Gr.B Rect	Typical	1.77	4.4	4.4	6.91
4	SF-H2	C3.38x2.06x.188	Beam	Channel	A36 Gr.36	Typical	1.339	0.562	2.4	0.015
5	SF-H3	L2x2x4	Beam	Single Angle	A36 Gr.36	Typical	0.944	0.346	0.346	0.021
6	SF-H4	L7.63x2.5x6	Beam	Single Angle	A36 Gr.36	Typical	3.658	1.307	22.092	0.163
7	MF-P1	PIPE_2.88x0.203	Column	Pipe	A500 Gr.C	Typical	1.707	1.538	1.538	3.076
8	MF-CP1	PL3/8"x6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
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	1	2		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
2	2	5	3	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
3	3	3	4	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
4	4	7	8		MF-CP1	Beam	RECT	A36 Gr.36	Typical
5	5	6	9		MF-CP1	Beam	RECT	A36 Gr.36	Typical
6	6	14	15		MF-H1	Beam	Pipe	A500 Gr.C	Typical
7	7	16	4		MF-CP1	Beam	RECT	A36 Gr.36	Typical
8	8	5	19		MF-CP1	Beam	RECT	A36 Gr.36	Typical
9	9	25	24		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
10	10	23	22		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
11	11	6	7		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
12	12	28	24		RIGID	None	None	RIGID	Typical
13	13	29	25		RIGID	None	None	RIGID	Typical
14	14	27	23		RIGID	None	None	RIGID	Typical
15	15	26	22		RIGID	None	None	RIGID	Typical
16	16	32	30		RIGID	None	None	RIGID	Typical
17	17	33	31		RIGID	None	None	RIGID	Typical
18	18	37	35		MF-P1	Column	Pipe	A500 Gr.C	Typical
19	19	36	34		MF-P1	Column	Pipe	A500 Gr.C	Typical
20	20	38	40		RIGID	None	None	RIGID	Typical
21	21	39	41		RIGID	None	None	RIGID	Typical
22	22	42	43		MF-H2	Beam	Pipe	A500 Gr.C	Typical
23	23	11	10		RIGID	None	None	RIGID	Typical
24	24	18	17		RIGID	None	None	RIGID	Typical
25	25	13	12		RIGID	None	None	RIGID	Typical
26	26	21	20		RIGID	None	None	RIGID	Typical
27	27	45	44		RIGID	None	None	RIGID	Typical
28	28	47	46		MF-P1	Column	Pipe	A500 Gr.C	Typical
29	29	48	49		RIGID	None	None	RIGID	Typical
30	30	51	52	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
31	31	53	54		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
32	32	57	55	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
33	33	55	56	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
34	34	59	60		MF-CP1	Beam	RECT	A36 Gr.36	Typical
35	35	58	61		MF-CP1	Beam	RECT	A36 Gr.36	Typical
36	36	66	56		MF-CP1	Beam	RECT	A36 Gr.36	Typical
37	37	57	69		MF-CP1	Beam	RECT	A36 Gr.36	Typical
38	38	75	74		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
39	39	73	72		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
40	40	58	59		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
41	41	78	74		RIGID	None	None	RIGID	Typical
42	42	79	75		RIGID	None	None	RIGID	Typical
43	43	77	73		RIGID	None	None	RIGID	Typical
44	44	76	72		RIGID	None	None	RIGID	Typical
45	45	63	62		RIGID	None	None	RIGID	Typical
46	46	68	67		RIGID	None	None	RIGID	Typical
47	47	65	64		RIGID	None	None	RIGID	Typical
48	48	71	70		RIGID	None	None	RIGID	Typical
49	49	80	81	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
50	50	82	83		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
51	51	86	84	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	N/A	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

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	OOOOOX			Yes	** NA **	None
24	24	OOOOOX			Yes	** NA **	None
25	25	OOOOOX			Yes	** NA **	None
26	26	OOOOOX			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	N/A	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	OOOOOX			Yes	** NA **	None
46	46	OOOOOX			Yes	** NA **	None
47	47	OOOOOX			Yes	** NA **	None
48	48	OOOOOX			Yes	** NA **	None
49	49				Yes	N/A	None
50	50				Yes	N/A	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	OOOOOX			Yes	** NA **	None
65	65	OOOOOX			Yes	** NA **	None
66	66	OOOOOX			Yes	** NA **	None
67	67	OOOOOX			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]	Function
1	1	SF-H1	3.333	Lbyy	Lateral
2	2	SF-H2	2.758	Lbyy	Lateral
3	3	SF-H2	2.758	Lbyy	Lateral
4	4	MF-CP1	0.292	Lbyy	Lateral
5	5	MF-CP1	0.292	Lbyy	Lateral
6	6	MF-H1	8	Lbyy	Lateral
7	7	MF-CP1	0.208	Lbyy	Lateral
8	8	MF-CP1	0.208	Lbyy	Lateral
9	9	SF-H3	2.309	Lbyy	Lateral
10	10	SF-H3	2.309	Lbyy	Lateral
11	11	SF-H4	3.207	Lbyy	Lateral
12	18	MF-P1	8	Lbyy	Lateral
13	19	MF-P1	8	Lbyy	Lateral
14	22	MF-H2	10	Lbyy	Lateral
15	28	MF-P1	8	Lbyy	Lateral
16	30	MF-H3	3.25	Lbyy	Lateral
17	31	SF-H1	3.333	Lbyy	Lateral
18	32	SF-H2	2.758	Lbyy	Lateral
19	33	SF-H2	2.758	Lbyy	Lateral
20	34	MF-CP1	0.292	Lbyy	Lateral
21	35	MF-CP1	0.292	Lbyy	Lateral
22	36	MF-CP1	0.208	Lbyy	Lateral
23	37	MF-CP1	0.208	Lbyy	Lateral
24	38	SF-H3	2.309	Lbyy	Lateral
25	39	SF-H3	2.309	Lbyy	Lateral
26	40	SF-H4	3.207	Lbyy	Lateral
27	49	MF-H3	3.25	Lbyy	Lateral
28	50	SF-H1	3.333	Lbyy	Lateral
29	51	SF-H2	2.758	Lbyy	Lateral
30	52	SF-H2	2.758	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
31	53	MF-CP1	0.292	Lbyy	Lateral
32	54	MF-CP1	0.292	Lbyy	Lateral
33	55	MF-CP1	0.208	Lbyy	Lateral
34	56	MF-CP1	0.208	Lbyy	Lateral
35	57	SF-H3	2.309	Lbyy	Lateral
36	58	SF-H3	2.309	Lbyy	Lateral
37	59	SF-H4	3.207	Lbyy	Lateral
38	68	MF-H3	3.25	Lbyy	Lateral
39	69	MF-H1	8	Lbyy	Lateral
40	72	MF-P1	8	Lbyy	Lateral
41	73	MF-P1	8	Lbyy	Lateral
42	76	MF-H2	10	Lbyy	Lateral
43	78	MF-P1	8	Lbyy	Lateral
44	80	MF-H1	8	Lbyy	Lateral
45	83	MF-P1	8	Lbyy	Lateral
46	84	MF-P1	8	Lbyy	Lateral
47	87	MF-H2	10	Lbyy	Lateral
48	89	MF-P1	8	Lbyy	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	-0.125	%15
2	28	Z	-0.125	%85
3	28	Z	-0.055	%20
4	28	Z	-0.055	%50
5	28	Z	0	0
6	89	Z	-0.125	%15
7	89	Z	-0.125	%85
8	89	Z	-0.055	%20
9	89	Z	-0.055	%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	-0.125	%15
12	78	Z	-0.125	%85
13	78	Z	-0.055	%20
14	78	Z	-0.055	%50
15	78	Z	0	0
16	31	Z	-0.057	%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	-0.05	%15
2	28	X	-0.05	%85
3	28	X	-0.033	%20
4	28	X	-0.029	%50
5	28	X	0	0
6	89	X	-0.05	%15
7	89	X	-0.05	%85
8	89	X	-0.033	%20
9	89	X	-0.029	%50
10	89	X	0	0
11	78	X	-0.05	%15
12	78	X	-0.05	%85
13	78	X	-0.033	%20
14	78	X	-0.029	%50
15	78	X	0	0
16	31	X	-0.032	%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	-0.025	%15
2	28	Z	-0.025	%85
3	28	Z	-0.01	%20
4	28	Z	-0.01	%50
5	28	Z	0	0
6	89	Z	-0.025	%15
7	89	Z	-0.025	%85
8	89	Z	-0.01	%20
9	89	Z	-0.01	%50
10	89	Z	0	0
11	78	Z	-0.025	%15
12	78	Z	-0.025	%85
13	78	Z	-0.01	%20
14	78	Z	-0.01	%50
15	78	Z	0	0
16	31	Z	-0.01	%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	-0.012	%15
2	28	X	-0.012	%85
3	28	X	-0.006	%20
4	28	X	-0.005	%50
5	28	X	0	0
6	89	X	-0.012	%15
7	89	X	-0.012	%85
8	89	X	-0.006	%20
9	89	X	-0.005	%50
10	89	X	0	0
11	78	X	-0.012	%15
12	78	X	-0.012	%85
13	78	X	-0.006	%20
14	78	X	-0.005	%50
15	78	X	0	0
16	31	X	-0.006	%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	-0.008	%15
2	28	Z	-0.008	%85
3	28	Z	-0.004	%20
4	28	Z	-0.004	%50
5	28	Z	0	0
6	89	Z	-0.008	%15
7	89	Z	-0.008	%85
8	89	Z	-0.004	%20
9	89	Z	-0.004	%50
10	89	Z	0	0
11	78	Z	-0.008	%15
12	78	Z	-0.008	%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	-0.003	%15
2	28	X	-0.003	%85
3	28	X	-0.002	%20
4	28	X	-0.002	%50
5	28	X	0	0
6	89	X	-0.003	%15
7	89	X	-0.003	%85
8	89	X	-0.002	%20
9	89	X	-0.002	%50
10	89	X	0	0
11	78	X	-0.003	%15
12	78	X	-0.003	%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	-0.033	%20
4	28	Y	-0.032	%50
5	28	Y	0	0
6	89	Y	-0.118	%15
7	89	Y	-0.118	%85
8	89	Y	-0.033	%20
9	89	Y	-0.032	%50
10	89	Y	0	0
11	78	Y	-0.118	%15
12	78	Y	-0.118	%85
13	78	Y	-0.033	%20
14	78	Y	-0.032	%50
15	78	Y	0	0
16	31	Y	-0.033	%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	-0.008	%15
2	28	Z	-0.008	%85
3	28	Z	-0.009	%20
4	28	Z	-0.008	%50
5	28	Z	0	0
6	89	Z	-0.008	%15

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
7	89	Z	-0.008	%85
8	89	Z	-0.009	%20
9	89	Z	-0.008	%50
10	89	Z	0	0
11	78	Z	-0.008	%15
12	78	Z	-0.008	%85
13	78	Z	-0.009	%20
14	78	Z	-0.008	%50
15	78	Z	0	0
16	31	Z	-0.003	%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	-0.008	%15
2	28	X	-0.008	%85
3	28	X	-0.009	%20
4	28	X	-0.008	%50
5	28	X	0	0
6	89	X	-0.008	%15
7	89	X	-0.008	%85
8	89	X	-0.009	%20
9	89	X	-0.008	%50
10	89	X	0	0
11	78	X	-0.008	%15
12	78	X	-0.008	%85
13	78	X	-0.009	%20
14	78	X	-0.008	%50
15	78	X	0	0
16	31	X	-0.003	%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	22	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

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

Member Point Loads (BLC 17 : Maint LL 3)

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

Member Point Loads (BLC 18 : Maint LL 4)

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

Member Point Loads (BLC 19 : Maint LL 5)

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

Member Point Loads (BLC 20 : Maint LL 6)

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

Member Point Loads (BLC 21 : Maint LL 7)

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

Member Point Loads (BLC 22 : Maint LL 8)

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

Member Point Loads (BLC 23 : Maint LL 9)

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

Member Point Loads (BLC 24 : Maint LL 10)

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

Member Point Loads (BLC 25 : Maint LL 11)

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

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	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	-0.014	-0.014	0	%100
2	2	Z	-0.012	-0.012	0	%100
3	3	Z	-0.012	-0.012	0	%100
4	4	Z	-0.017	-0.017	0	%100
5	5	Z	-0.017	-0.017	0	%100
6	6	Z	-0.01	-0.01	0	%100
7	7	Z	-0.017	-0.017	0	%100
8	8	Z	-0.017	-0.017	0	%100
9	9	Z	-0.008	-0.008	0	%100
10	10	Z	-0.008	-0.008	0	%100
11	11	Z	-0.023	-0.023	0	%100
12	18	Z	-0.008	-0.008	0	%100
13	19	Z	-0.008	-0.008	0	%100
14	22	Z	-0.008	-0.008	0	%100
15	28	Z	-0.008	-0.008	0	%100
16	30	Z	-0.021	-0.021	0	%100
17	31	Z	-0.014	-0.014	0	%100
18	32	Z	-0.012	-0.012	0	%100
19	33	Z	-0.012	-0.012	0	%100
20	34	Z	-0.017	-0.017	0	%100
21	35	Z	-0.017	-0.017	0	%100
22	36	Z	-0.017	-0.017	0	%100
23	37	Z	-0.017	-0.017	0	%100
24	38	Z	-0.008	-0.008	0	%100
25	39	Z	-0.008	-0.008	0	%100
26	40	Z	-0.023	-0.023	0	%100
27	49	Z	-0.021	-0.021	0	%100
28	50	Z	-0.014	-0.014	0	%100
29	51	Z	-0.012	-0.012	0	%100
30	52	Z	-0.012	-0.012	0	%100
31	53	Z	-0.017	-0.017	0	%100
32	54	Z	-0.017	-0.017	0	%100
33	55	Z	-0.017	-0.017	0	%100
34	56	Z	-0.017	-0.017	0	%100
35	57	Z	-0.008	-0.008	0	%100
36	58	Z	-0.008	-0.008	0	%100
37	59	Z	-0.023	-0.023	0	%100
38	68	Z	-0.021	-0.021	0	%100
39	69	Z	-0.01	-0.01	0	%100
40	72	Z	-0.008	-0.008	0	%100
41	73	Z	-0.008	-0.008	0	%100
42	76	Z	-0.008	-0.008	0	%100
43	78	Z	-0.008	-0.008	0	%100
44	80	Z	-0.01	-0.01	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	-0.008	-0.008	0	%100
46	84	Z	-0.008	-0.008	0	%100
47	87	Z	-0.008	-0.008	0	%100
48	89	Z	-0.008	-0.008	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	-0.014	-0.014	0	%100
2	2	X	-0.012	-0.012	0	%100
3	3	X	-0.012	-0.012	0	%100
4	4	X	-0.017	-0.017	0	%100
5	5	X	-0.017	-0.017	0	%100
6	6	X	-0.01	-0.01	0	%100
7	7	X	-0.017	-0.017	0	%100
8	8	X	-0.017	-0.017	0	%100
9	9	X	-0.008	-0.008	0	%100
10	10	X	-0.008	-0.008	0	%100
11	11	X	-0.023	-0.023	0	%100
12	18	X	-0.008	-0.008	0	%100
13	19	X	-0.008	-0.008	0	%100
14	22	X	-0.008	-0.008	0	%100
15	28	X	-0.008	-0.008	0	%100
16	30	X	-0.021	-0.021	0	%100
17	31	X	-0.014	-0.014	0	%100
18	32	X	-0.012	-0.012	0	%100
19	33	X	-0.012	-0.012	0	%100
20	34	X	-0.017	-0.017	0	%100
21	35	X	-0.017	-0.017	0	%100
22	36	X	-0.017	-0.017	0	%100
23	37	X	-0.017	-0.017	0	%100
24	38	X	-0.008	-0.008	0	%100
25	39	X	-0.008	-0.008	0	%100
26	40	X	-0.023	-0.023	0	%100
27	49	X	-0.021	-0.021	0	%100
28	50	X	-0.014	-0.014	0	%100
29	51	X	-0.012	-0.012	0	%100
30	52	X	-0.012	-0.012	0	%100
31	53	X	-0.017	-0.017	0	%100
32	54	X	-0.017	-0.017	0	%100
33	55	X	-0.017	-0.017	0	%100
34	56	X	-0.017	-0.017	0	%100
35	57	X	-0.008	-0.008	0	%100
36	58	X	-0.008	-0.008	0	%100
37	59	X	-0.023	-0.023	0	%100
38	68	X	-0.021	-0.021	0	%100
39	69	X	-0.01	-0.01	0	%100
40	72	X	-0.008	-0.008	0	%100
41	73	X	-0.008	-0.008	0	%100
42	76	X	-0.008	-0.008	0	%100
43	78	X	-0.008	-0.008	0	%100
44	80	X	-0.01	-0.01	0	%100
45	83	X	-0.008	-0.008	0	%100
46	84	X	-0.008	-0.008	0	%100
47	87	X	-0.008	-0.008	0	%100
48	89	X	-0.008	-0.008	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	-0.004	-0.004	0	%100
2	2	Z	-0.004	-0.004	0	%100
3	3	Z	-0.004	-0.004	0	%100
4	4	Z	-0.007	-0.007	0	%100
5	5	Z	-0.007	-0.007	0	%100
6	6	Z	-0.002	-0.002	0	%100
7	7	Z	-0.008	-0.008	0	%100
8	8	Z	-0.008	-0.008	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	-0.001	-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	-0.005	-0.005	0	%100
17	31	Z	-0.004	-0.004	0	%100
18	32	Z	-0.004	-0.004	0	%100
19	33	Z	-0.004	-0.004	0	%100
20	34	Z	-0.007	-0.007	0	%100
21	35	Z	-0.007	-0.007	0	%100
22	36	Z	-0.008	-0.008	0	%100
23	37	Z	-0.008	-0.008	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	-0.005	-0.005	0	%100
28	50	Z	-0.004	-0.004	0	%100
29	51	Z	-0.004	-0.004	0	%100
30	52	Z	-0.004	-0.004	0	%100
31	53	Z	-0.007	-0.007	0	%100
32	54	Z	-0.007	-0.007	0	%100
33	55	Z	-0.008	-0.008	0	%100
34	56	Z	-0.008	-0.008	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	-0.005	-0.005	0	%100
39	69	Z	-0.002	-0.002	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	-0.002	-0.002	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 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	-0.004	-0.004	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	-0.007	-0.007	0	%100
5	5	X	-0.007	-0.007	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.008	-0.008	0	%100
8	8	X	-0.008	-0.008	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	-0.001	-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	-0.005	-0.005	0	%100
17	31	X	-0.004	-0.004	0	%100
18	32	X	-0.004	-0.004	0	%100
19	33	X	-0.004	-0.004	0	%100
20	34	X	-0.007	-0.007	0	%100
21	35	X	-0.007	-0.007	0	%100
22	36	X	-0.008	-0.008	0	%100
23	37	X	-0.008	-0.008	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	-0.005	-0.005	0	%100
28	50	X	-0.004	-0.004	0	%100
29	51	X	-0.004	-0.004	0	%100
30	52	X	-0.004	-0.004	0	%100
31	53	X	-0.007	-0.007	0	%100
32	54	X	-0.007	-0.007	0	%100
33	55	X	-0.008	-0.008	0	%100
34	56	X	-0.008	-0.008	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	-0.005	-0.005	0	%100
39	69	X	-0.002	-0.002	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	-0.002	-0.002	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 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	-0.0009	-0.0009	0	%100
2	2	Z	-0.0007	-0.0007	0	%100
3	3	Z	-0.0007	-0.0007	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.001	-0.001	0	%100
6	6	Z	-0.0003	-0.0003	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	-0.001	-0.001	0	%100
17	31	Z	-0.0009	-0.0009	0	%100
18	32	Z	-0.0007	-0.0007	0	%100
19	33	Z	-0.0007	-0.0007	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	-0.001	-0.001	0	%100
28	50	Z	-0.0009	-0.0009	0	%100
29	51	Z	-0.0007	-0.0007	0	%100
30	52	Z	-0.0007	-0.0007	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	-0.001	-0.001	0	%100
39	69	Z	-0.0003	-0.0003	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	-0.0003	-0.0003	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	-0.0009	-0.0009	0	%100
2	2	X	-0.0007	-0.0007	0	%100
3	3	X	-0.0007	-0.0007	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.001	-0.001	0	%100
6	6	X	-0.0003	-0.0003	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	-0.001	-0.001	0	%100
17	31	X	-0.0009	-0.0009	0	%100
18	32	X	-0.0007	-0.0007	0	%100
19	33	X	-0.0007	-0.0007	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	-0.001	-0.001	0	%100
28	50	X	-0.0009	-0.0009	0	%100
29	51	X	-0.0007	-0.0007	0	%100
30	52	X	-0.0007	-0.0007	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	-0.001	-0.001	0	%100
39	69	X	-0.0003	-0.0003	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	-0.0003	-0.0003	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	-0.012	-0.012	0	%100
12	18	Y	-0.005	-0.005	0	%100
13	19	Y	-0.005	-0.005	0	%100
14	22	Y	-0.005	-0.005	0	%100
15	28	Y	-0.005	-0.005	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	-0.012	-0.012	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	-0.012	-0.012	0	%100
27	49	Y	-0.012	-0.012	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	-0.012	-0.012	0	%100
38	68	Y	-0.012	-0.012	0	%100
39	69	Y	-0.006	-0.006	0	%100
40	72	Y	-0.005	-0.005	0	%100
41	73	Y	-0.005	-0.005	0	%100
42	76	Y	-0.005	-0.005	0	%100
43	78	Y	-0.005	-0.005	0	%100
44	80	Y	-0.006	-0.006	0	%100
45	83	Y	-0.005	-0.005	0	%100
46	84	Y	-0.005	-0.005	0	%100
47	87	Y	-0.005	-0.005	0	%100
48	89	Y	-0.005	-0.005	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	-0.0008	-0.0008	0	%100
2	2	Z	-0.0005	-0.0005	0	%100
3	3	Z	-0.0005	-0.0005	0	%100
4	4	Z	-0.0008	-0.0008	0	%100
5	5	Z	-0.0008	-0.0008	0	%100
6	6	Z	-0.0009	-0.0009	0	%100
7	7	Z	-0.0008	-0.0008	0	%100
8	8	Z	-0.0008	-0.0008	0	%100
9	9	Z	-0.0004	-0.0004	0	%100
10	10	Z	-0.0004	-0.0004	0	%100
11	11	Z	-0.001	-0.001	0	%100
12	18	Z	-0.0007	-0.0007	0	%100
13	19	Z	-0.0007	-0.0007	0	%100
14	22	Z	-0.0007	-0.0007	0	%100
15	28	Z	-0.0007	-0.0007	0	%100
16	30	Z	-0.001	-0.001	0	%100
17	31	Z	-0.0008	-0.0008	0	%100
18	32	Z	-0.0005	-0.0005	0	%100
19	33	Z	-0.0005	-0.0005	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	-0.0008	-0.0008	0	%100
21	35	Z	-0.0008	-0.0008	0	%100
22	36	Z	-0.0008	-0.0008	0	%100
23	37	Z	-0.0008	-0.0008	0	%100
24	38	Z	-0.0004	-0.0004	0	%100
25	39	Z	-0.0004	-0.0004	0	%100
26	40	Z	-0.001	-0.001	0	%100
27	49	Z	-0.001	-0.001	0	%100
28	50	Z	-0.0008	-0.0008	0	%100
29	51	Z	-0.0005	-0.0005	0	%100
30	52	Z	-0.0005	-0.0005	0	%100
31	53	Z	-0.0008	-0.0008	0	%100
32	54	Z	-0.0008	-0.0008	0	%100
33	55	Z	-0.0008	-0.0008	0	%100
34	56	Z	-0.0008	-0.0008	0	%100
35	57	Z	-0.0004	-0.0004	0	%100
36	58	Z	-0.0004	-0.0004	0	%100
37	59	Z	-0.001	-0.001	0	%100
38	68	Z	-0.001	-0.001	0	%100
39	69	Z	-0.0009	-0.0009	0	%100
40	72	Z	-0.0007	-0.0007	0	%100
41	73	Z	-0.0007	-0.0007	0	%100
42	76	Z	-0.0007	-0.0007	0	%100
43	78	Z	-0.0007	-0.0007	0	%100
44	80	Z	-0.0009	-0.0009	0	%100
45	83	Z	-0.0007	-0.0007	0	%100
46	84	Z	-0.0007	-0.0007	0	%100
47	87	Z	-0.0007	-0.0007	0	%100
48	89	Z	-0.0007	-0.0007	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	-0.0008	-0.0008	0	%100
2	2	X	-0.0005	-0.0005	0	%100
3	3	X	-0.0005	-0.0005	0	%100
4	4	X	-0.0008	-0.0008	0	%100
5	5	X	-0.0008	-0.0008	0	%100
6	6	X	-0.0009	-0.0009	0	%100
7	7	X	-0.0008	-0.0008	0	%100
8	8	X	-0.0008	-0.0008	0	%100
9	9	X	-0.0004	-0.0004	0	%100
10	10	X	-0.0004	-0.0004	0	%100
11	11	X	-0.001	-0.001	0	%100
12	18	X	-0.0007	-0.0007	0	%100
13	19	X	-0.0007	-0.0007	0	%100
14	22	X	-0.0007	-0.0007	0	%100
15	28	X	-0.0007	-0.0007	0	%100
16	30	X	-0.001	-0.001	0	%100
17	31	X	-0.0008	-0.0008	0	%100
18	32	X	-0.0005	-0.0005	0	%100
19	33	X	-0.0005	-0.0005	0	%100
20	34	X	-0.0008	-0.0008	0	%100
21	35	X	-0.0008	-0.0008	0	%100
22	36	X	-0.0008	-0.0008	0	%100
23	37	X	-0.0008	-0.0008	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	-0.0004	-0.0004	0	%100
25	39	X	-0.0004	-0.0004	0	%100
26	40	X	-0.001	-0.001	0	%100
27	49	X	-0.001	-0.001	0	%100
28	50	X	-0.0008	-0.0008	0	%100
29	51	X	-0.0005	-0.0005	0	%100
30	52	X	-0.0005	-0.0005	0	%100
31	53	X	-0.0008	-0.0008	0	%100
32	54	X	-0.0008	-0.0008	0	%100
33	55	X	-0.0008	-0.0008	0	%100
34	56	X	-0.0008	-0.0008	0	%100
35	57	X	-0.0004	-0.0004	0	%100
36	58	X	-0.0004	-0.0004	0	%100
37	59	X	-0.001	-0.001	0	%100
38	68	X	-0.001	-0.001	0	%100
39	69	X	-0.0009	-0.0009	0	%100
40	72	X	-0.0007	-0.0007	0	%100
41	73	X	-0.0007	-0.0007	0	%100
42	76	X	-0.0007	-0.0007	0	%100
43	78	X	-0.0007	-0.0007	0	%100
44	80	X	-0.0009	-0.0009	0	%100
45	83	X	-0.0007	-0.0007	0	%100
46	84	X	-0.0007	-0.0007	0	%100
47	87	X	-0.0007	-0.0007	0	%100
48	89	X	-0.0007	-0.0007	0	%100

Member Distributed Loads (BLC 39 : 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	-0.035	-0.016	0	1.155
3	38	Y	-0.016	0.0006163	1.155	2.309
4	39	Y	-0.018	-0.016	0.231	2.309
5	57	Y	-0.018	-0.016	0	2.078
6	58	Y	0.0006164	-0.016	0	1.155
7	58	Y	-0.016	-0.035	1.155	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 40 : 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	-0.011	0.231	1.27
3	10	Y	-0.011	-0.014	1.27	2.309
4	38	Y	-0.017	-0.008	0	1.155
5	38	Y	-0.008	0.0003082	1.155	2.309
6	39	Y	-0.009	-0.008	0.231	2.309
7	57	Y	-0.009	-0.008	0	2.078
8	58	Y	0.0003082	-0.008	0	1.155
9	58	Y	-0.008	-0.017	1.155	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*s²/ft, k*s²*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*s²/ft, k*s²*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*s²/ft, k*s²*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	Maint LL 16	LL					
31	Maint LL 17	LL					
32	Maint LL 18	LL					
33	Maint LL 19	LL					
34	Maint LL 20	LL					
35	Maint LL 21	LL					
36	Maint LL 22	LL					
37	Maint LL 23	LL					
38	Maint LL 24	LL					
39	BLC 1 Transient Area Loads	None				9	
40	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		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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
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

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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
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
101	1.2 D + 1.5 LL Maint (16)	Yes	Y	1	1.2					30	1.5
102	1.2 D + 1.5 LL Maint (17)	Yes	Y	1	1.2					31	1.5
103	1.2 D + 1.5 LL Maint (18)	Yes	Y	1	1.2					32	1.5
104	1.2 D + 1.5 LL Maint (19)	Yes	Y	1	1.2					33	1.5
105	1.2 D + 1.5 LL Maint (20)	Yes	Y	1	1.2					34	1.5
106	1.2 D + 1.5 LL Maint (21)	Yes	Y	1	1.2					35	1.5
107	1.2 D + 1.5 LL Maint (22)	Yes	Y	1	1.2					36	1.5
108	1.2 D + 1.5 LL Maint (23)	Yes	Y	1	1.2					37	1.5
109	1.2 D + 1.5 LL Maint (24)	Yes	Y	1	1.2					38	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	0.791	5	1.645	14	0.977	2	3.267	14	0.804	11	0.364	97
2		min	-0.792	11	0.148	8	-1.099	8	-0.089	8	-0.803	5	-0.214	91
3	53	max	0.837	5	1.685	18	1.013	2	-0.029	13	0.963	3	-0.245	12
4		min	-0.942	11	0.296	12	-0.952	8	-1.722	43	-0.962	9	-2.91	18
5	82	max	0.847	5	1.622	22	1.104	2	-0.099	3	0.973	7	2.789	46
6		min	-0.741	11	0.265	4	-1.043	8	-1.864	69	-0.973	13	0.159	4
7	Totals:	max	2.475	5	4.646	67	3.094	2						
8		min	-2.475	11	2.396	13	-3.094	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	0.419	0	13	0.122	0	y	73	70.173	73.278	8.24	8.24	2.042	H1-1b
2	2	C3.38x2.06x.188	0.325	2.592	61	0.06	0.351	y	64	35.676	43.394	1.703	4.483	1.62	H1-1b
3	3	C3.38x2.06x.188	0.323	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	0.07	0	2	0.149	0	y	62	68.997	72.9	0.57	9.113	2.221	H1-1b
5	5	PL3/8"x6	0.071	0	3	0.121	0	y	38	68.997	72.9	0.57	9.113	1.803	H1-1b
6	6	PIPE_3.5X0.165	0.07	6.75	67	0.031	5.417		70	45.873	71.581	6.338	6.338	2.38	H1-1b
7	7	PL3/8"x6	0.095	0.208	8	0.193	0.208	y	50	70.882	72.9	0.57	9.113	1.77	H1-1b
8	8	PL3/8"x6	0.103	0	13	0.197	0	y	50	70.882	72.9	0.57	9.113	2.992	H1-1b
9	9	L2x2x4	0.214	0	8	0.031	2.309	y	48	23.349	30.586	0.691	1.577	1.5	H2-1
10	10	L2x2x4	0.189	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	0.268	1.604	8	0.078	0	z	62	75.414	118.523	1.798	13.909	1.278	H2-1
12	18	PIPE_2.88x0.203	0.086	5.667	5	0.031	5.667		6	35.519	70.68	5.029	5.029	3	H1-1b
13	19	PIPE_2.88x0.203	0.099	2.333	9	0.033	5.667		8	35.519	70.68	5.029	5.029	3	H1-1b
14	22	PIPE_2.88x0.203	0.104	2.188	9	0.094	9.062		2	24.131	70.68	5.029	5.029	2.542	H1-1b
15	28	PIPE_2.88x0.203	0.085	2.333	7	0.034	2.333		8	35.519	70.68	5.029	5.029	3	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	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
16	30	L6.63x4.33x.25	0.14	3.25	6	0.018	3.25	z	12	51.808	86.767	2.31	6.976	1.5	H2-1
17	31	HSS4X4X2	0.406	0	19	0.124	0	y	65	70.173	73.278	8.24	8.24	2.21	H1-1b
18	32	C3.38x2.06x.188	0.324	2.592	54	0.06	0.351	y	68	35.676	43.394	1.703	4.483	1.619	H1-1b
19	33	C3.38x2.06x.188	0.324	0	56	0.063	2.241	y	48	35.676	43.394	1.703	4.483	1.619	H1-1b
20	34	PL3/8"x6	0.061	0	6	0.147	0	y	67	68.997	72.9	0.57	9.113	2.213	H1-1b
21	35	PL3/8"x6	0.069	0	7	0.121	0	y	42	68.997	72.9	0.57	9.113	1.75	H1-1b
22	36	PL3/8"x6	0.086	0.208	13	0.194	0.208	y	54	70.882	72.9	0.57	9.113	2.19	H1-1b
23	37	PL3/8"x6	0.086	0	5	0.197	0	y	55	70.882	72.9	0.57	9.113	3	H1-1b
24	38	L2x2x4	0.172	0	12	0.03	2.309	y	40	23.349	30.586	0.691	1.577	1.5	H2-1
25	39	L2x2x4	0.161	2.309	12	0.035	0	y	68	23.349	30.586	0.691	1.577	1.5	H2-1
26	40	L7.63x2.5x6	0.212	1.604	12	0.079	0	z	66	75.414	118.523	1.798	14.204	1.348	H2-1
27	49	L6.63x4.33x.25	0.143	0	2	0.021	3.25	y	9	51.808	86.767	2.31	6.976	1.5	H2-1
28	50	HSS4X4X2	0.417	0	9	0.123	0	y	69	70.173	73.278	8.24	8.24	2.045	H1-1b
29	51	C3.38x2.06x.188	0.323	2.592	56	0.06	0.351	y	73	35.676	43.394	1.703	4.483	1.618	H1-1b
30	52	C3.38x2.06x.188	0.323	0	61	0.063	2.241	y	39	35.676	43.394	1.703	4.483	1.621	H1-1b
31	53	PL3/8"x6	0.062	0.164	3	0.148	0	y	70	68.997	72.9	0.57	9.113	1.489	H1-1b
32	54	PL3/8"x6	0.058	0	11	0.119	0	y	45	68.997	72.9	0.57	9.113	1.738	H1-1b
33	55	PL3/8"x6	0.091	0.085	3	0.192	0.208	y	57	70.882	72.9	0.57	9.113	1.836	H1-1b
34	56	PL3/8"x6	0.104	0	9	0.197	0	y	59	70.882	72.9	0.57	9.113	3	H1-1b
35	57	L2x2x4	0.205	0	3	0.031	2.309	y	44	23.349	30.586	0.691	1.577	1.5	H2-1
36	58	L2x2x4	0.164	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	0.239	1.604	3	0.078	0	z	70	75.414	118.523	1.798	14.294	1.37	H2-1
38	68	L6.63x4.33x.25	0.17	3.25	2	0.023	3.25	z	8	51.808	86.767	2.31	6.976	1.5	H2-1
39	69	PIPE_3.5X0.165	0.07	6.75	71	0.036	4		9	45.873	71.581	6.338	6.338	2.38	H1-1b
40	72	PIPE_2.88x0.203	0.104	5.667	9	0.035	5.667		9	35.519	70.68	5.029	5.029	3	H1-1b
41	73	PIPE_2.88x0.203	0.117	2.333	2	0.033	5.667		13	35.519	70.68	5.029	5.029	3	H1-1b
42	76	PIPE_2.88x0.203	0.105	2.188	13	0.082	7.813		96	24.131	70.68	5.029	5.029	2.379	H1-1b
43	78	PIPE_2.88x0.203	0.094	5.667	9	0.036	2.333		13	35.519	70.68	5.029	5.029	3	H1-1b
44	80	PIPE_3.5X0.165	0.07	6.75	62	0.034	2.667		13	45.873	71.581	6.338	6.338	2.357	H1-1b
45	83	PIPE_2.88x0.203	0.104	5.667	13	0.039	5.667		13	35.519	70.68	5.029	5.029	3	H1-1b
46	84	PIPE_2.88x0.203	0.096	2.333	6	0.026	5.667		5	35.519	70.68	5.029	5.029	3	H1-1b
47	87	PIPE_2.88x0.203	0.096	7.813	9	0.086	9.063		9	24.131	70.68	5.029	5.029	2.494	H1-1b
48	89	PIPE_2.88x0.203	0.104	5.667	2	0.027	5.667		6	35.519	70.68	5.029	5.029	3	H1-1b

APPENDIX B

Additional Calculations

PROJECT	**149539.003.01 - Beacon Falls, CT**				**KSC**
SUBJECT	**Platform Mount Analysis**				
DATE	**11/15/21**	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	:	0.977	k
Vertical Shear	:	1.645	k
Horizontal Shear	:	0.791	k
Torsion	:	0.364	k.ft
Moment from Horizontal Forces	:	0.804	k.ft
Moment from Vertical Forces	:	3.267	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	:	1.83	k
Force from Horz. Moment	:	1.46	k
Force from Vert. Moment	:	5.92	k
Shear Load / Bolt	:	0.46	k
Tension Load / Bolt	:	0.24	k
Resultant from Moments / Bolt	:	3.05	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	:	**15.88%**		**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	:	**6.34%**		**OKAY**
Unity Check, Combined	:	**22.22%**		**OKAY**
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	**1.32%**		**OKAY**

PROJECT	**149539.003.01 - Beacon Falls, CT**				**KSC**
SUBJECT	**Platform Mount Analysis**				
DATE	**11/15/21**	PAGE	1	OF	1

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

[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_{nv}	:	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	:	**2.26%**		**OKAY**
Available Shear Yield	:	16.20	k	[Eq. J4-3]
Available Shear Rupture	:	104.40	k	[Eq. J4-4]
Unity Check, Plate Shear	:	**11.27%**		**OKAY**
Available Block Shear, ΦRn	:	77.40	k	[Eq. J4-5]
Unity Check, Block Shear	:	**2.36%**		**OKAY**

Exhibit F

Power Density/RF Emissions Report

Fox Hill Telecom

Radio Frequency Emissions Analysis Report

Site ID: BOHVN00177A

SBA - Rice Lane
60 Rice Lane
Beacon Falls, CT 06403

May 3, 2022

Fox Hill Telecom Project Number: 220971

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**30.10 %**

Fox Hill Telecom

May 3, 2022

Dish Wireless
5701 South Santa Fe Drive
Littleton, CO 80120

Emissions Analysis for Site: **BOHVN00177A – SBA - Rice Lane**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed radio installation for Dish Wireless, LLC (Dish) facility located at **60 Rice Lane, Beacon Falls, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ 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 ($\mu W/cm^2$). The general population exposure limits for the 600 MHz & 700 MHz bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS / AWS-4) bands is 1000 $\mu W/cm^2$. 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 **60 Rice Lane, Beacon Falls, 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	152
B	1	JMA MX08FRO665-21	152
C	1	JMA MX08FRO665-21	152

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	3.81
						Sector A Composite MPE%	**3.81**
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	3.81
						Sector B Composite MPE%	**3.81**
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	3.81
						Sector C Composite MPE%	**3.81**

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	**3.81 %**
T-Mobile	13.65 %
AT&T	4.90 %
Verizon Wireless	7.39 %
Clearwire	0.08 %
Sprint	0.02 %
Beacon Hose Co.	0.25 %
Site Total MPE %:	**30.10 %**

Table 4: All Carrier MPE Contributions

Dish Sector A Total:	3.81 %
Dish Sector B Total:	3.81 %
Dish Sector C Total:	3.81 %
Site Total:	30.10 %

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 ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Dish n71 (600 MHz) 5G	4	858.77	152	5.79	n71 (600 MHz)	400	1.45%
Dish n70 (AWS-4 / 1995-2020) 5G	4	1,648.39	152	11.12	n70 (AWS-4 / 1995-2020)	1000	1.11%
Dish n66 (AWS-4 / 2180-2200) 5G	4	1,849.52	152	12.48	n66 (AWS-4 / 2180-2200)	1000	1.25%
						Total:	**3.81%**

Table 6: Dish Maximum Sector MPE Power Values

Fox Hill Telecom

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:	3.81 %
Sector B:	3.81 %
Sector C:	3.81 %
Dish Maximum Total (per sector):	3.81 %
Site Total:	30.10 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **30.10 %** 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

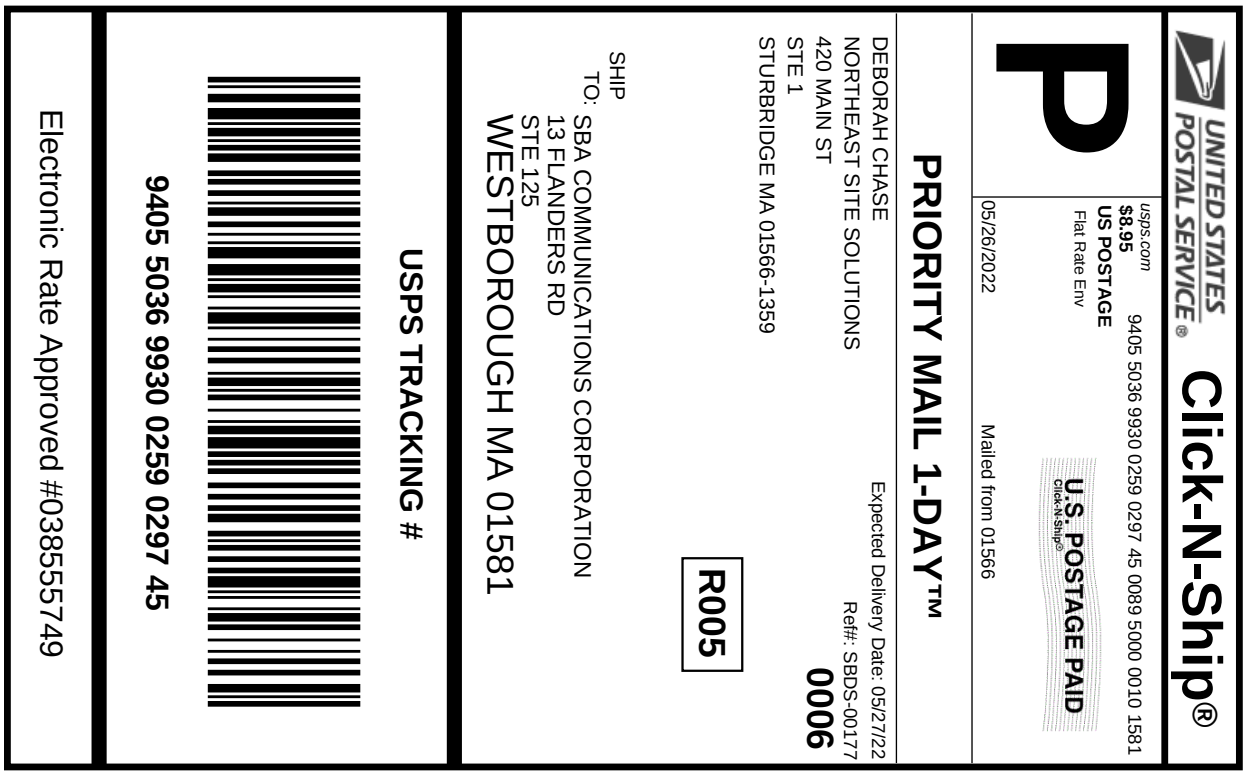
SBA COMMUNICATIONS CORPORATION hereby authorizes DISH Wireless LLC, including their Agent, to act as our Agent in the processing of all zoning applications, building permits and approvals through the CONNECTICUT SITING COUNCIL for existing wireless communications towers.

Kri Pelletier
Site Development Manager
SBA COMMUNICATIONS CORPORATION
134 Flanders Road, Suite 125
Westboro, MA 01581

SBA
By: _____ Date: _____

Exhibit H

Recipient Mailings



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Ship Date:	05/26/2022
Expected Delivery Date:	05/27/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

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

Ref#: SBDS-00177

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

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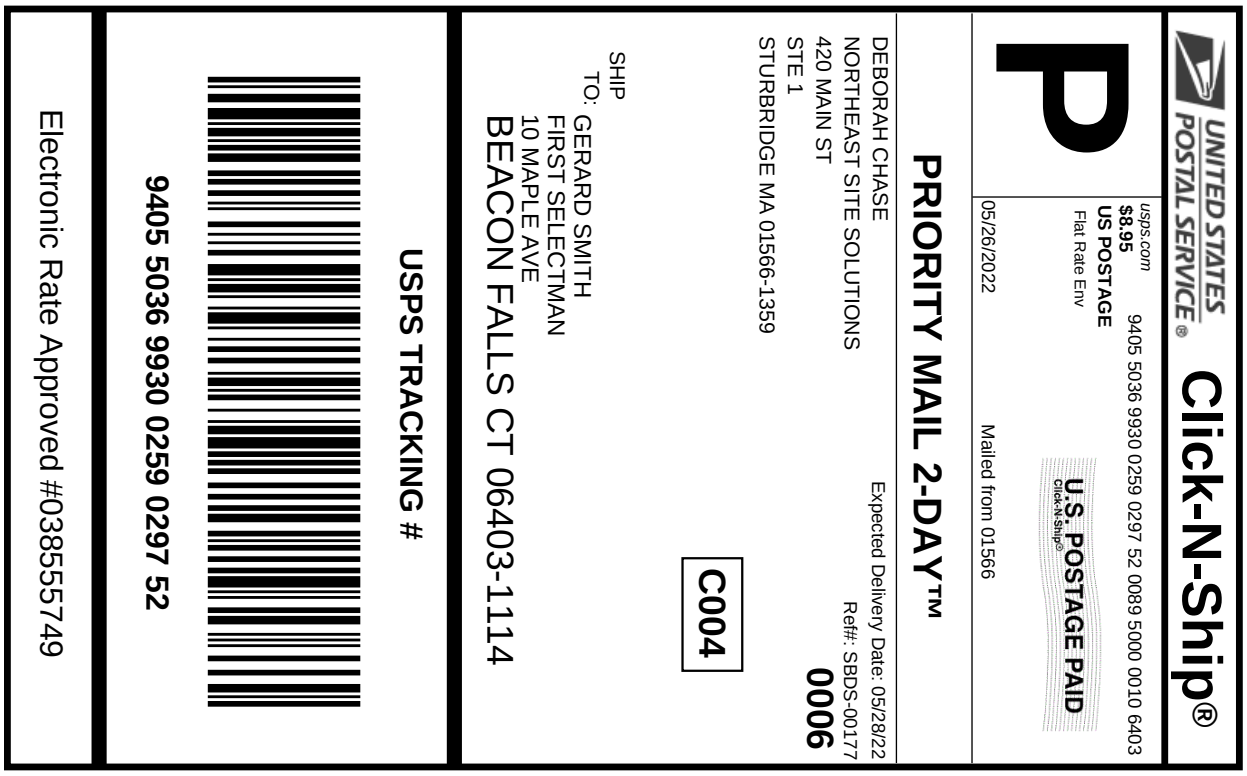

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Total:	**$8.95**

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

Ref#: SBDS-00177

To: GERARD SMITH
FIRST SELECTMAN
10 MAPLE AVE
BEACON FALLS CT 06403-1114

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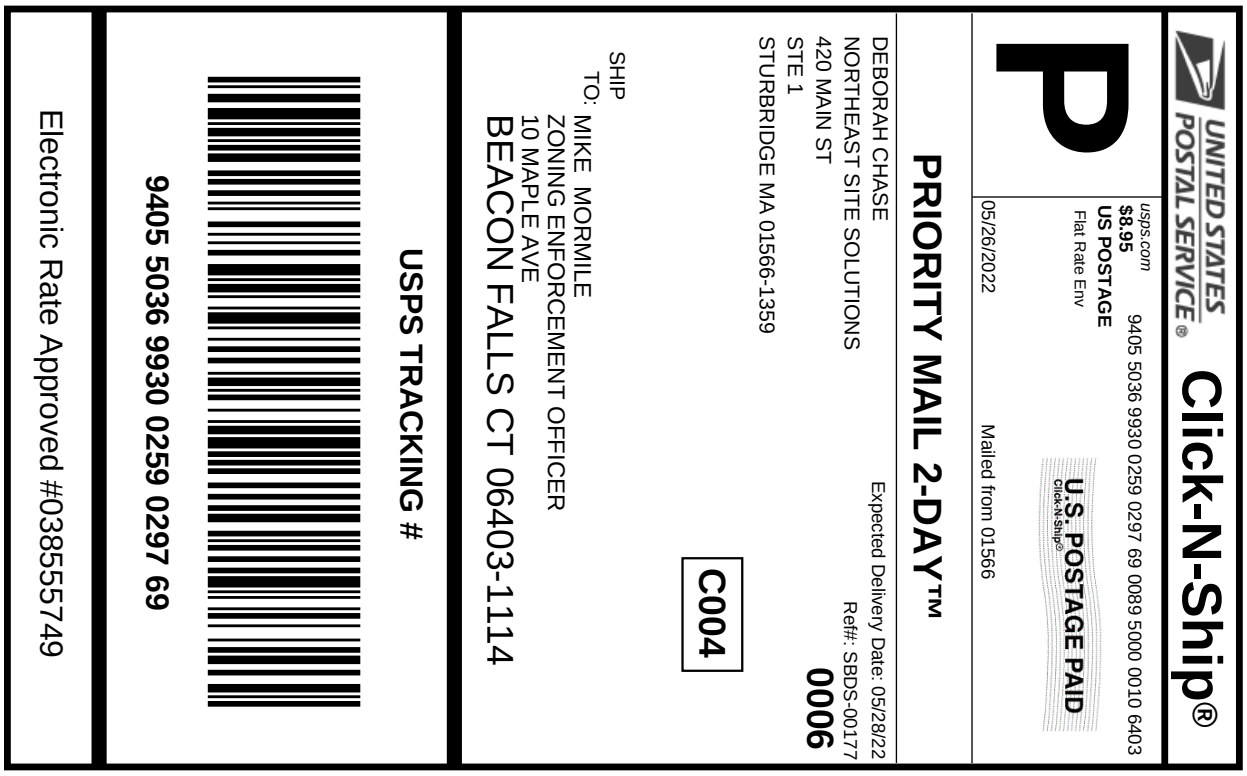

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Trans. #:	564371678
Print Date:	05/26/2022
Ship Date:	05/26/2022
Expected Delivery Date:	05/28/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

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

Ref#: SBDS-00177

To: MIKE MORMILE
ZONING ENFORCEMENT OFFICER
10 MAPLE AVE
BEACON FALLS CT 06403-1114

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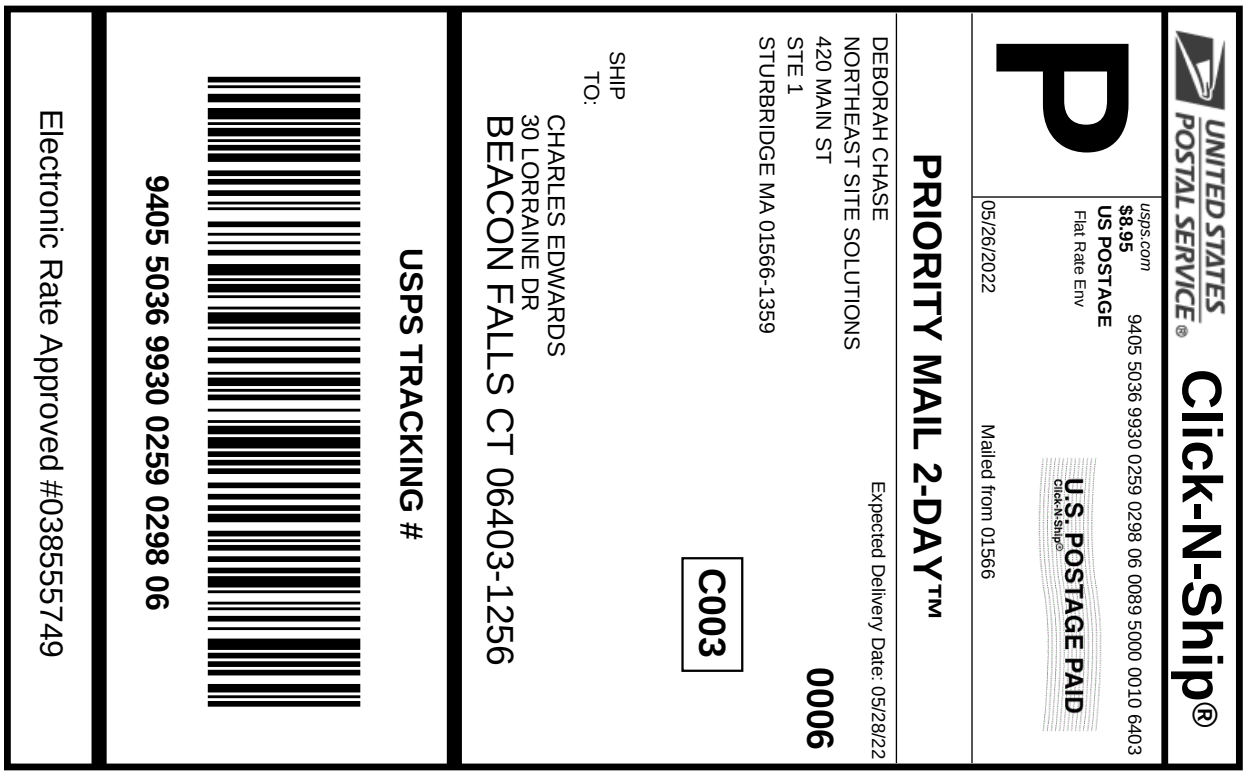

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Print Date:	05/26/2022
Ship Date:	05/26/2022
Expected Delivery Date:	05/28/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

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

To: CHARLES EDWARDS
30 LORRAINE DR
BEACON FALLS CT 06403-1256

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Prepaid Mail Beacon Falls, CT 06403 Weight: 0 lb 8.60 oz Acceptance Date: Fri 05/27/2022 Tracking #: 9405 5036 9930 0259 0297 52	1		$0.00
Prepaid Mail Beacon Falls, CT 06403 Weight: 0 lb 8.60 oz Acceptance Date: Fri 05/27/2022 Tracking #: 9405 5036 9930 0259 0297 69	1		$0.00
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