Filed by:
G. Scott Shepherd, Site Development Specialist II - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3807 - gshepherd@sbasite.com

February 8, 2021

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

RE: Notice of Exempt Modification
246 East Franklin Street, Danielson, CT 06239
Latitude: 41.795822
Longitude: -71.870333
T-Mobile Site #: CT11315C_Anchor

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 137-foot level of the existing 155-foot Monopole Tower at 246 East Franklin St., Danielson, CT. The 155-foot tower is owned by SBA Properties, LLC. The property is owned by Amanda Martel, Trustee of the Charles R. Hutchins Irrevocable Trust dated 9/24/2018. T-Mobile now intends to remove four (4) 1900 MHz antennas and replace with two (2) new 1900/2100 MHz antennas and two (2) new 600/700/1900 and install two (2) new 2500 MHz antennas.

The new antennas support 5G services and would be installed at the 137-foot level of the tower.

Please note: Per the Connecticut Siting Council Website: CSC COVID 19 Guidelines. *In order to prevent the spread of Coronavirus and protect the health and safety of our members and staff, as of March 18, 2020, the Connecticut Siting Council shall convert to full remote operations until March 30, 2020. Please be advised that during this time period, all hard copy filing requirements will be waived in lieu of an electronic filing. Please also be advised that the March 26, 2020 regular meeting shall be held via teleconference. The Council's website is not equipped with an on-line filing fee receipt service. Therefore, filing fees and/or direct cost charges associated with matters received electronically during the above-mentioned time period will be directly invoiced at a later date.*

Planned Modifications:

TOWER

Remove:

- (4) Generic Twin Style TMAs

Remove and Replace:

- (2) EMS RR90-17-XXDP 1900 MHz antenna (remove) – (2) Air32 KRD901146-1_B66A_B2A 1900/2100 MHz MHz antenna (replace)
- (2) EMS RR90-17-XXDP 1900 MHz antenna (remove) - (2) RFS APXVAARR24_43_NA20 600/700/1900 MHz antenna

Install New:

- (2) Ericsson AIR6449 B41 2500 MHz antenna
- (3) 1-5/8" Fiber
- Walking Platform w/mount modifications
- (2) Ericsson 4449 B71+ B85 RRUs
- (2) Ericsson 4415 B25 RRUs

Existing Equipment to Remain:

- (3) T-Arms
- (3) Ericsson KRY 112 144/2 TMAs

Entitlements:

- (4) 1-1/4" coax

GROUND

Install New:

- Ericsson 6160 Equipment cabinet
- Ericsson B160 Battery Cabinet
- 3" x 5' – 6" concrete pad extension
- Cable Bridge mounted to existing concrete pad
- Equipment within existing RBS6201 Equipment cabinet

Existing Equipment to Remain:

(1) GPS antenna

Remove and Replace:

- 100A Electrical Panel (remove) – (1) 200A Electrical Panel (replace)

This facility was approved by the Town of Killingly's Planning and Zoning Commission on July 13, 1998 under Special Permit Application #98-704. Approval was given for a telecommunications tower and associated equipment. No post construction stipulations were set. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Killingly's Town Manager, Mary Calorio, and Director of Planning & Development, Ann-Marie Aubrey, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16.50j-72(b)(2).

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

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

Sincerely,

G. Scott Shepherd
Site Development Specialist II
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581

508.251.0720 x3807 + T
508.366.2610 + F
5083868.6000 + C
gshepherd@sbasite.com

Attachments
cc: Mary Calorio, Town Manager / with attachments
Town of Killingly, Killingly Town Hall, 172 Main Street, Killingly, CT 06239
Ann-Marie Aubrey, Director of Planning & Development / with attachments
Town of Killingly, Killingly Town Hall, 172 Main Street, Killingly, CT 06239
Amanda Martel, Trustee of the Charles R. Hutchins Irrevocable Trust / with attachments
246 E. Franklin Street, Killingly, CT 06239

EXHIBIT LIST

Exhibit 1	Check Copy	To be invoiced at a later date per Covid guidelines
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	Town of Killingly P&Z Commission 7/13/98
Exhibit 6	Construction Drawings	Chappell Engineering 1/27/21
Exhibit 7	Structural Analysis	TES 1/15/21
Exhibit 8	Antenna Mount Analysis	Geo Structural 11/17/20
Exhibit 9	EME Report	EBI Consulting 2/5/21

EXHIBIT 1

Normally, Exhibit 1 would contain a copy of the check for the filing fee.

EXHIBIT 2

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

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

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EXHIBIT 3

tyler clt division

RESIDENTIAL PROPERTY RECORD CARD 2018

TOWN OF KILLINGLY

Situs : 246 E FRANKLIN ST | **Map ID: 002601** | **Class: Single Family Residence** | Card: 1 of 1 | Printed: February 7, 2019

CURRENT OWNER

HUTCHINS CHARLES R
246 E FRANKLIN ST
KILLINGLY CT 06239

GENERAL INFORMATION

Living Units	1
Neighborhood	102
Alternate Id	216-12
Vol / Pg	555/118
District	7
Zoning	RURAL DEVELOPMENT
Class	100

Property Notes

Land Information

Type		Size	Influence Factors	Influence %	Value
Primary	AC	5.5000			57,880
Primary	AC	0.5000			44,000
Waste	AC	1.0000			250
Rear	AC	10.0000			10,000

Total Acres: 17
Spot: Location:

Assessment Information

	Assessed	Appraised	Cost	Income	
Land	78,470	112,100	112,100	0	92,100
Building	173,670	248,100	248,100	0	236,900
Total	252,140	360,200	360,200	0	329,000

Manual Override Reason
Base Date of Value 10/01/2018
Value Flag COST APPROACH **Effective Date of Value** 01/31/2019
MONOPOLE/BLDG/ 127600

Entrance Information

Date	ID	Entry Code	Source
04/02/18	DM	Data Mailer Returned	Data Mailer
11/10/09	MHB	Viewed	Asmt Staff
10/11/06	LA	Ext W/Info	Owner

Permit Information

Date Issued	Number	Price	Purpose		% Complete
04/06/18	25925	15,000	81 CELE	Adding 3 Antennas	995
05/11/17	25284	40,000	97 BPP	Telecom -Modify Existing At&T Ant	995
08/03/15	23794	15,000	97 BPP	Repl Existing Antennaes & Add 3 I	995
12/11/14	23346	15,000	97 BPP	Repl Old Panel/Antennae Models \	995
10/06/14	23221	49,000	74 CRER	Nvc Maint Work - Add Steel Plates	997

Sales/Ownership History

Transfer Date	Price	Type	Validity	Deed Reference	Deed Type	Grantee

tyler clt division

RESIDENTIAL PROPERTY RECORD CARD 2018

TOWN OF KILLINGLY

Situs : 246 E FRANKLIN ST	Parcel Id: 002601	Class: Single Family Residence	Card: 1 of 1	Printed: February 7, 2019

Dwelling Information

Style	Ranch	Year Built	1960
Story height	1	Eff Year Built	
Attic	None	Year Remodeled	
Exterior Walls	Frame	Amenities	Wood Stove
Masonry Trim	x		
Color	Brown	In-law Apt	No

Basement

Basement	Full	# Car Bsmt Gar	3
FBLA Size	x	FBLA Type	
Rec Rm Size	x	Rec Rm Type	

Heating & Cooling

Heat Type	Basic
Fuel Type	Oil
System Type	Hot Water

Fireplaces

Stacks	1
Openings	1
Pre-Fab	

Room Detail

Bedrooms	4	Full Baths	2
Family Rooms		Half Baths	
Kitchens	1	Extra Fixtures	1
Total Rooms	9		
Kitchen Type	Typical	Bath Type	Typical
Kitchen Remod	No	Bath Remod	No

Adjustments

Int vs Ext	Same	Unfinished Area	1180
Cathedral Ceiling	x	Unheated Area	1180

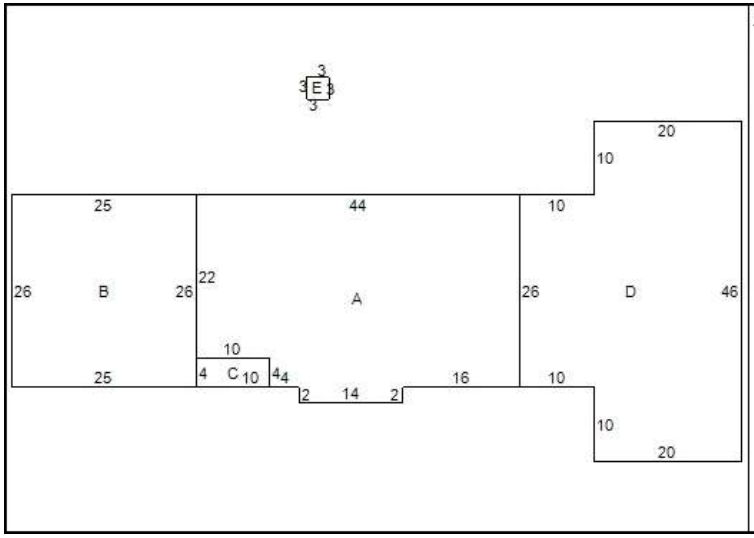
Grade & Depreciation

Grade	C	Market Adj	
Condition	Poor Condition	Functional	
CDU	POOR	Economic	
Cost & Design	0	% Good Ovr	
% Complete			

Dwelling Computations

Base Price	154,054	% Good	39
Plumbing	4,400	% Good Override	
Basement	0	Functional	
Heating	0	Economic	
Attic	0	% Complete	
Other Features	-20,000	C&D Factor	
		Adj Factor	1
Subtotal	138,450	Additions	64,900
Ground Floor Area	1,132		
Total Living Area	4,142	Dwelling Value	118,900

Building Notes



ID	Code	Description	Area
A		Main Building	1132
B	50/10	B BASEMENT/1s...	650
C	35	STP STOOP	40
D	50/10/10	B BASEMENT/1s...	1180
E	AH1	1S FRAME OR META...	9

Outbuilding Data

Type	Size 1	Size 2	Area	Qty	Yr Blt	Grade	Condition	Value
Poultry	11	x 12	132	1	2000	D	P	390
Frame Shed		x	174	1	2008	C	A	1,250

Condominium / Mobile Home Information

Complex Name			
Condo Model			
Unit Number			
Unit Level		Unit Location	
Unit Parking		Unit View	
Model (MH)		Model Make (MH)	

Addition Details

Line #	Low	1st	2nd	3rd	Value
1	50	10			23,600
2		35			
3	50	10	10		41,300

EXHIBIT 4

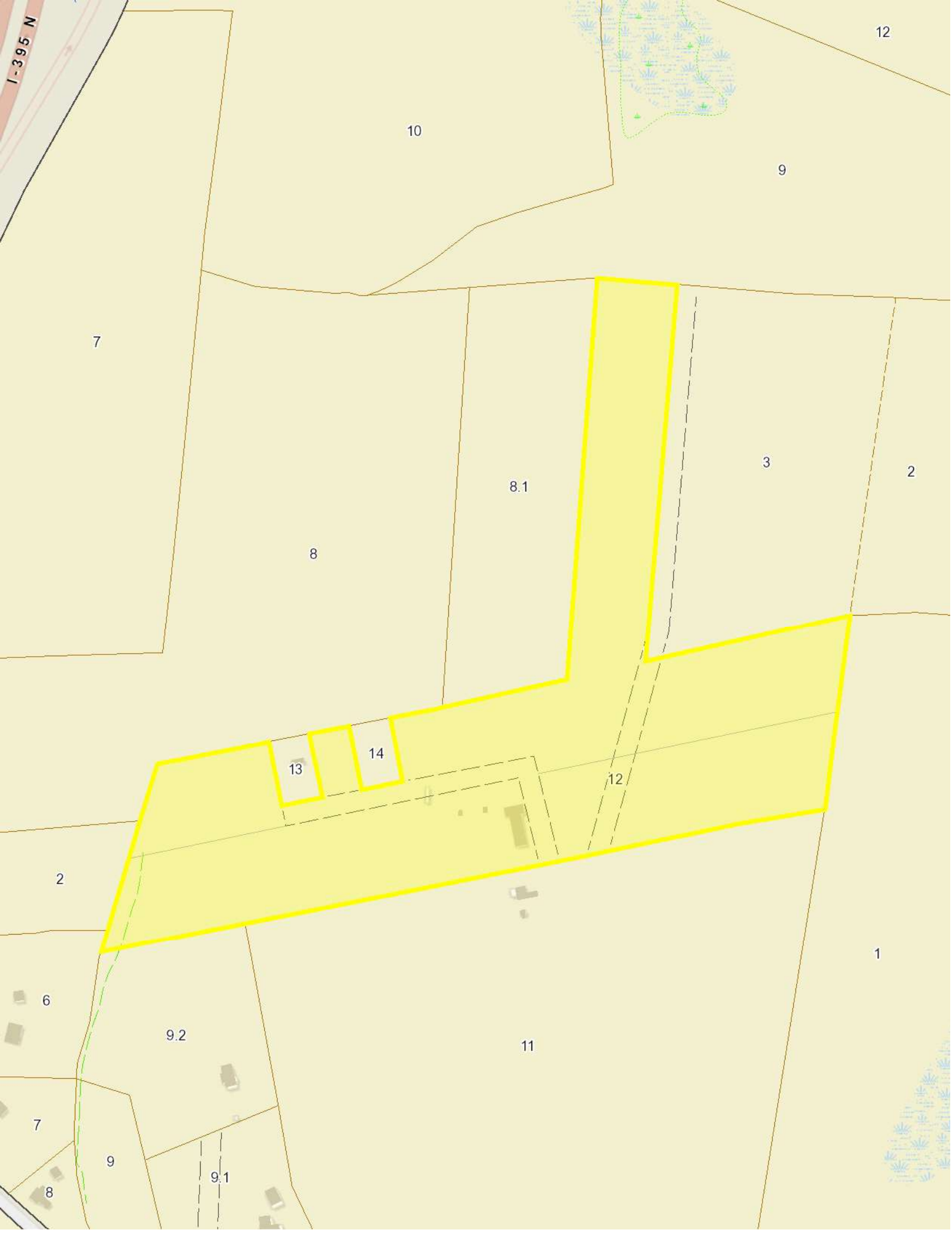

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EXHIBIT 5

Town of Killingly

TOWN HALL • 172 MAIN STREET • P.O. BOX 6000 • DANIELSON, CONNECTICUT 06239-6000
TELEPHONE • 860-779-5300 FAX • 860-779-5394

July 15, 1998

CERTIFIED MAIL

SBA, Inc.
Scott Thomae
125 Shaw Street
Suite 116
New London, CT 06320

Dear Mr. Thomae:

At its regular monthly meeting of July 13, 1998, the Killingly Planning & Zoning Commission approved with conditions your Special Permit Application #98-704 for a telecommunications tower and associated equipment; Section 410.1.2j (Public Service Corporation or Municipal Land Use); property located at 246 Franklin Street; Tax Map 3995 Block 22 (Charles Hutchins, owner) – Rural Development Zone.

The following conditions were applied to your approval:

1. Given the unusual heavy rains that have occurred this spring, hay bale checks at intervals along the proposed driveway swales are recommended until all disturbed areas are stabilized with vegetation.

2. Prior to the filing of mylars and issuance of zoning and building permits, signed, binding documentation shall be provided to commission staff to ensure that a licensed telecommunication carrier is committed to use of the tower. This is to ensure that the town's zoning definition of a public service corporation has been met and to demonstrate that the tower is not being built for speculation purposes only.

3. Prior to the filing of mylars and issuance of zoning and building permits, the applicant shall provide evidence of satisfaction of all FAA concerns regarding the proposed tower and Danielson Airport operations.

4. Prior to the filing of mylars and the issuance of zoning and building permits, the applicant shall provide commission staff with evidence of provisions for dismantling the tower if it is not used for a period of one year so that it does not become an attractive nuisance.

5. Prior to the filing of mylars and the issuance of zoning and building permits, the applicant shall submit certification that compliance with FCC radio frequency health standards are met.

6. Prior to the filing of mylars and the issuance of zoning and building permits, the applicant shall submit evidence to commission staff that the affected utility companies have been contacted. The resulting construction sequencing shall be provided to town staff for review and comment.

7. Prior to the filing of mylars and the issuance of zoning and building permits, evidence of the acquisition of all required state and federal permits shall be provided to commission staff.

The legal notice will be published in the Norwich Bulletin on July 16, 1998. The 15 day appeal period commences on that date. The approval does not become official until a recording sheet is filed with the Town Clerk. This sheet can be filed at the completion of the 15 day appeal period (July 31, 1998). If you wish, upon receipt of a $10.00 check this office will file the recording sheet for you.

A Zoning Permit is necessary prior to the commencement of your operation and will not be issued until the recording sheet has been filed.

If you have any questions regarding this matter, please contact me at 779-5311.

Respectfully,

Linda E. Walden
Director of Planning & Development

LED/mcb

C: Charles Hutchins

Submission Results for Application CTSP 8628--Danielson

Your Registration Application has been received electronically by the FCC at 14:48:00 on 08/28/98 . Your Antenna Registration Number is 1055848.

Although a Registration Number has been assigned, you may not begin construction unless:

(1) you have met all obligations concerning the National Environmental Policy Act (47 CFR Section 1.1307(a))

(2) the proposed construction is to be located more than three miles from each FCC Monitoring Station listed in 47 CFR Section 0.121, or alternatively, you have coordinated construction with the FCC.

If you decide to begin construction prior to receiving Form 854-R via mail, you must paint and/or light the structure in accordance with the FAA Determination of No Hazard which is valid for the construction or alteration proposed. In addition, there may be state and/or local regulations, separate from the FCC Rules, which must be satisfied prior to construction.

Antenna Structure Registration is not an authorization to construct radio facilities or transmit radio signals. All radio equipment on this structure must be covered by a valid FCC license or construction permit.

EXHIBIT 6

PLAINFIELD/I-395_1

246 EAST FRANKLIN STREET
DANIELSON, CT 06239
WINDHAM COUNTY

SITE NO.: CT11315C

RF DESIGN GUIDELINE: 67D5A997DB ODE+6160

APPROVALS

PROJECT MANAGER:	DATE:	ZONING/SITE ACQ.:	DATE:
CONSTRUCTION:	DATE:	OPERATIONS:	DATE:
RF ENGINEERING:	DATE:	TOWER OWNER:	DATE:

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	ACCESS BY CERTIFIED CLIMBER
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

SITE NOTES

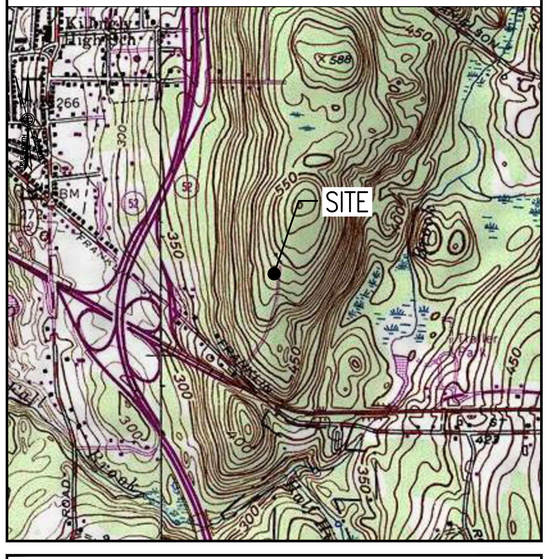
1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOINT REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
15. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

VICINITY MAP: 1"=1000'



DIRECTIONS

TURN LEFT ONTO S WASHINGTON ST. TURN RIGHT ONTO MA-123 E. TURN LEFT TO MERGE ONTO I-495 NORTH TOWARD MANSFIELD/MARLBORO. MERGE ONTO I-495 NORTH. TAKE EXIT 13B TO MERGE ONTO I-95 SOUTH TOWARD PROVIDENCE RI. TAKE EXIT 4 FOR I-295 SOUTH TOWARD WOONSOCKET/WARWICK. CONTINUE ONTO I-295 SOUTH. TAKE EXIT9C-A FOR US-6 WEST TOWARD HARTFORD CT. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR JOHNSTON/SCITUATE/FOSTER AND MERGE ONTO US-6 WEST. CONTINUE STRAIGHT ON TO STAY ON US-6 WEST. TURN RIGHT ONTO EAST FRANKLIN STREET. TURN RIGHT, SITE WILL BE ON THE LEFT.

SHEET INDEX

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DO NOT SCALE DRAWINGS

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

PROJECT SUMMARY

SITE NUMBER:	CT11315C
SBA SITE NUMBER:	CT00302-S
SBA SITE NAME:	DANIELSON
SITE ADDRESS:	246 FRANKLIN STREET DANIELSON, CT 06239
PROPERTY OWNER:	CHARLES R. HUTCHINS 246 EAST FRANKLIN STREET DANIELSON, CT 06239
TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	WINDHAM COUNTY
ZONING DISTRICT:	RURAL DEVELOPMENT
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	155'
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
SBA RSM:	STEPHEN ROTH PHONE: 860-539-4920 EMAIL: SRoth@sbasite.com
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: N.41.795835° N.42°47'45.01" LONGITUDE W.71.870380° W.71°52'13.37"

SPECIAL ZONING NOTE:
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST. EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
1/27/21

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	01/27/21	ISSUED FOR CONSTRUCTION	CMC
0	10/27/20	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11315C

SITE ADDRESS:
246 EAST FRANKLIN STREET
DANIELSON, CT 06239

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.072

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – T–MOBILE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T–MOBILE
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

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

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

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

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

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.

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

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.

13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.

15. CONSTRUCTION SHALL COMPLY WITH ALL T–MOBILE STANDARDS AND SPECIFICATIONS.

16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

17. THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

18. IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. 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 ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR 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.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. 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.

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

8. 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 ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. 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 IN THE PROJECT SPECIFICATIONS.

10. SUBCONTRACTOR 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.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T–MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

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. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER
   OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....¾ IN.
   BEAMS AND COLUMNS .....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.

7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T–MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.

5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUN, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T–MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

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

2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

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

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

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

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

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

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

27. 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 RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

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

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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1/27/21

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APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	01/27/21	ISSUED FOR CONSTRUCTION	CMC
0	10/27/20	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11315C

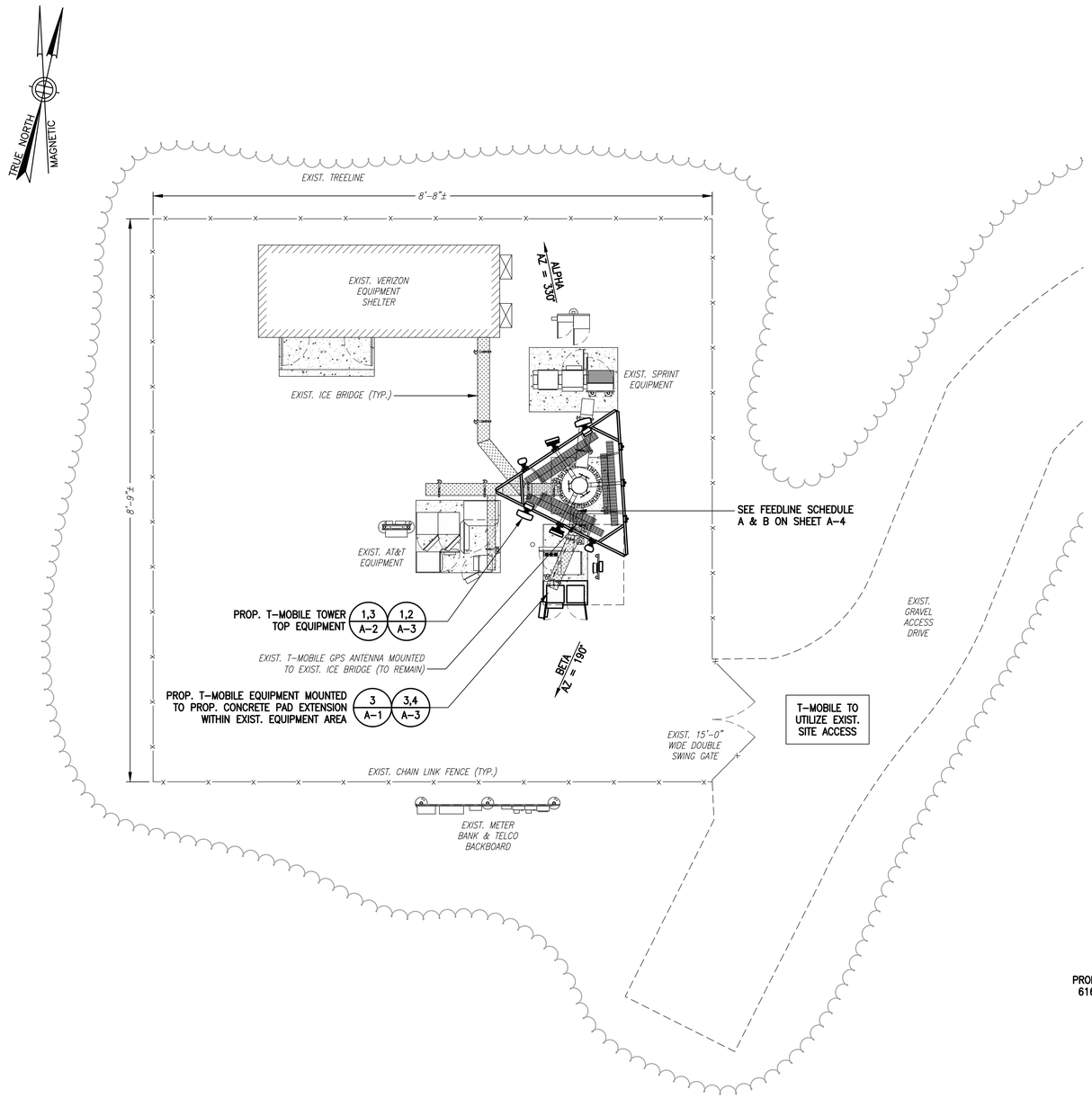
SITE ADDRESS:
246 EAST FRANKLIN STREET
DANIELSON, CT 06239

SHEET TITLE
GENERAL NOTES

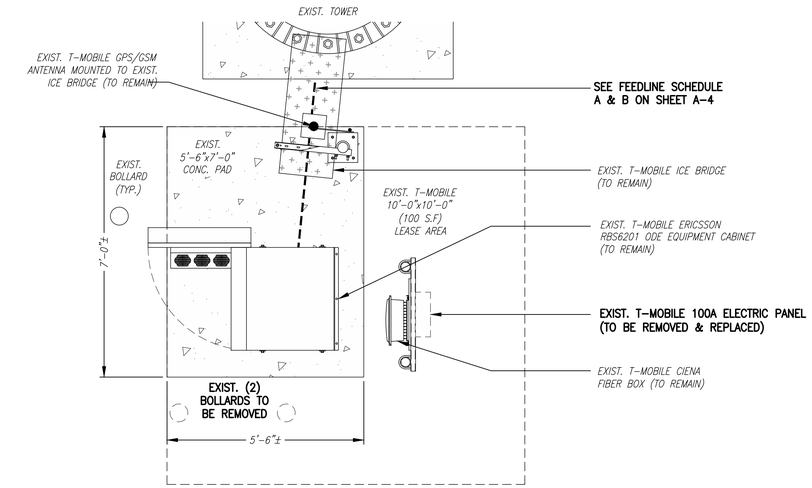
SHEET NUMBER
GN-1

1815.072

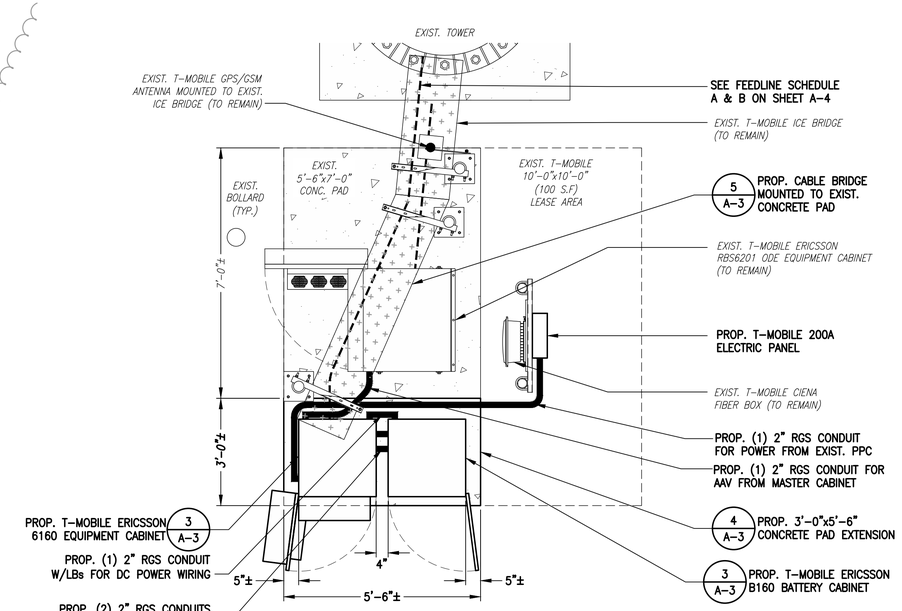
SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.



COMPOUND PLAN (1 / A-1)
SCALE: 1/8" = 1'-0"
0 4'-0" 8'-0" 16'-0" 24'-0"



EXISTING EQUIPMENT PLAN (2 / A-1)
SCALE: 1/2" = 1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"



PROPOSED EQUIPMENT PLAN (3 / A-1)
SCALE: 1/2" = 1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"

T-MOBILE NORTHEAST LLC
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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
1/27/21

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	01/27/21	ISSUED FOR CONSTRUCTION	CMC
0	10/27/20	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11315C

SITE ADDRESS:
246 EAST FRANKLIN STREET
DANIELSON, CT 06239

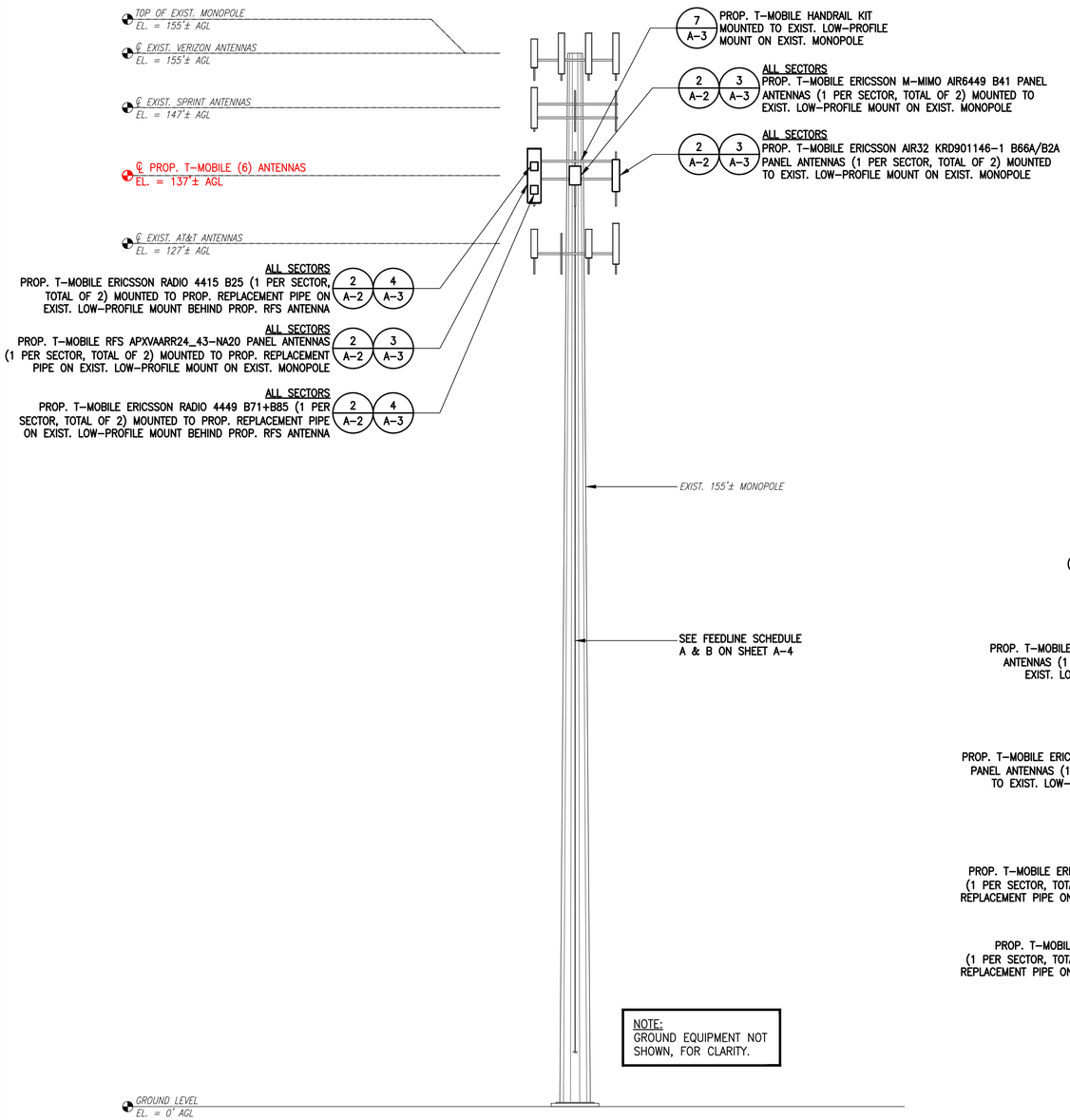
SHEET TITLE
COMPOUND & EQUIPMENT PLAN

SHEET NUMBER
A-1

1815.072

SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

RAD CENTER NOTE:
T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED CO-LOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE T-MOBILE RFDS.



TOWER ELEVATION (1 / A-2)
SCALE: 1" = 12'-0"
0 6' 12' 24' 36'

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
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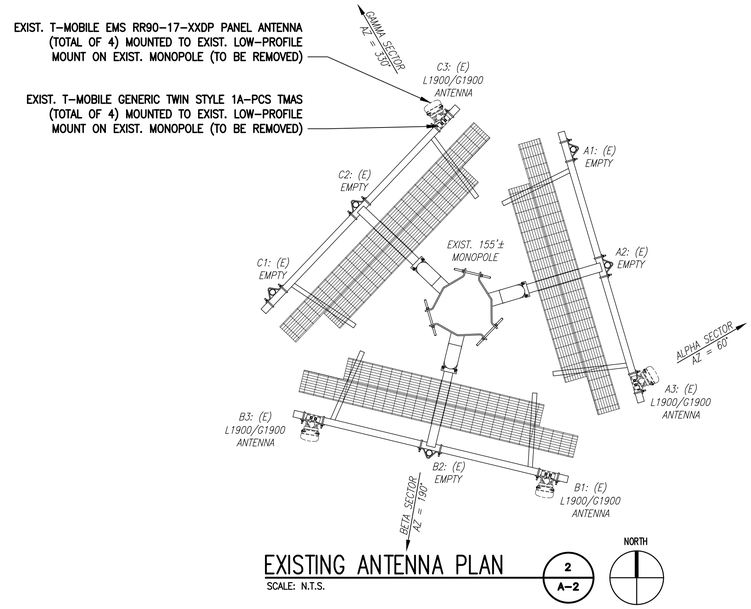
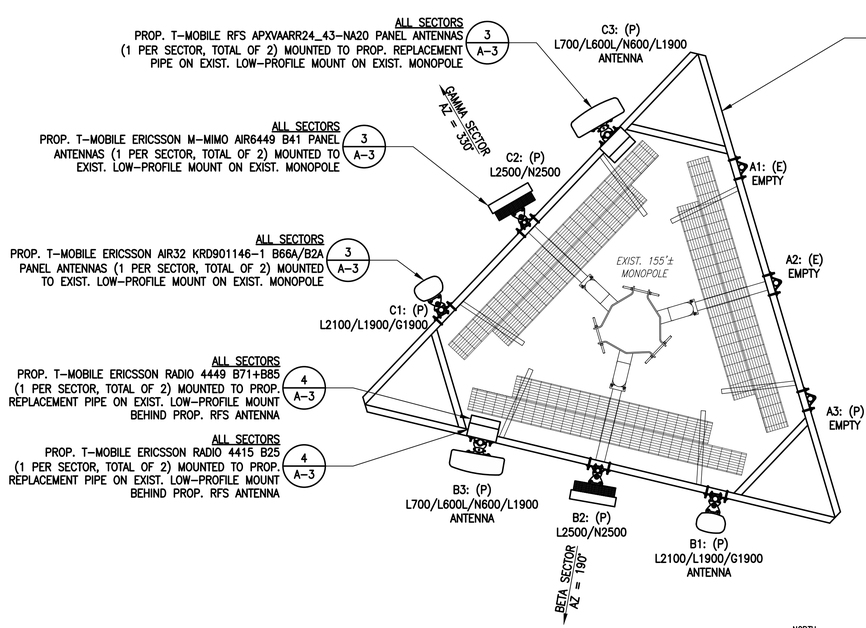


EXISTING ANTENNA PLAN (2 / A-2)
SCALE: N.T.S.



PROPOSED ANTENNA PLAN (3 / A-2)
SCALE: N.T.S.

ANTENNA LEGEND:
EMPTY – EMPTY PIPE
(E) – EXISTING
(P) – INSTALL

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

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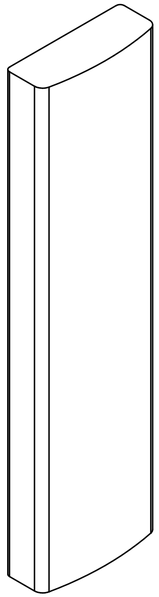
SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLAN

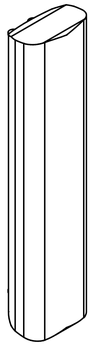
SHEET NUMBER
A-2

1815.072



RFS APXVAARR24_43-U-NA20 ANTENNA

DIMENSIONS: 95.9"H x 24.0"W x 8.7"D
WEIGHT: 128.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 2



ERICSSON AIR32 KRD901146-1
B66A/B2A ANTENNA

DIMENSIONS: 56.6"H x 12.9"W x 8.7"D
WEIGHT: 132.2 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 2

ERICSSON M-MIMO AIR6449
B41 ANTENNA

DIMENSIONS: 33.1"H x 20.5"W x 8.3"D
WEIGHT: 103.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 2

ANTENNA DETAILS

SCALE: N.T.S.

1 / A-3

ERICSSON RADIO 4415 B25

DIMENSIONS: 16.5"H x 13.4"W x 5.9"D
WEIGHT: 46.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 2

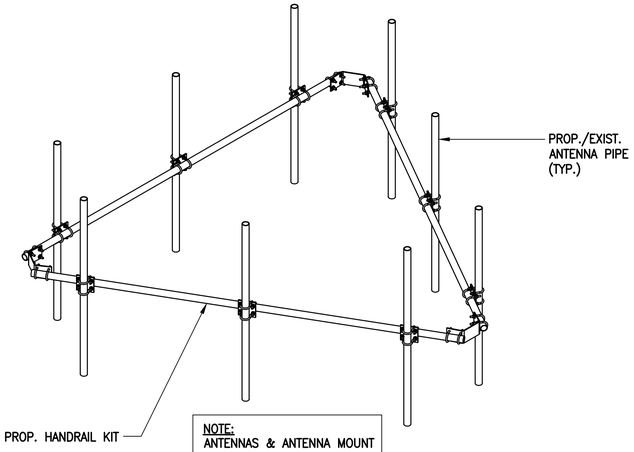
ERICSSON RADIO 4449 B71+B85

DIMENSIONS: 14.9"H x 13.2"W x 9.3"D
WEIGHT: 74.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 2

RADIO DETAILS

SCALE: N.T.S.

2 / A-3



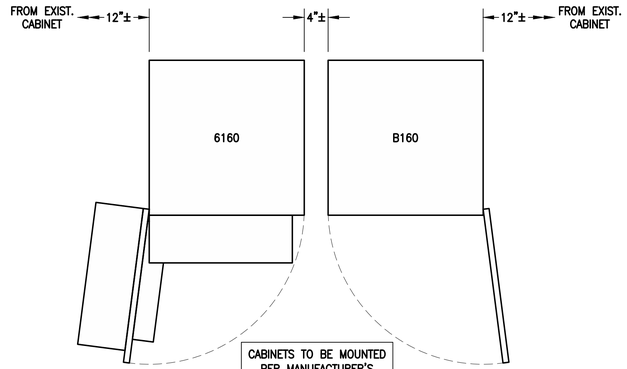
SITE-PRO 1 HANDRAIL KIT

PART NUMBER HRK12
QUANTITY: TOTAL OF 1

HANDRAIL DETAIL

SCALE: N.T.S.

7 / A-3



ERICSSON 6160 SITE
SUPPORT CABINET

DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

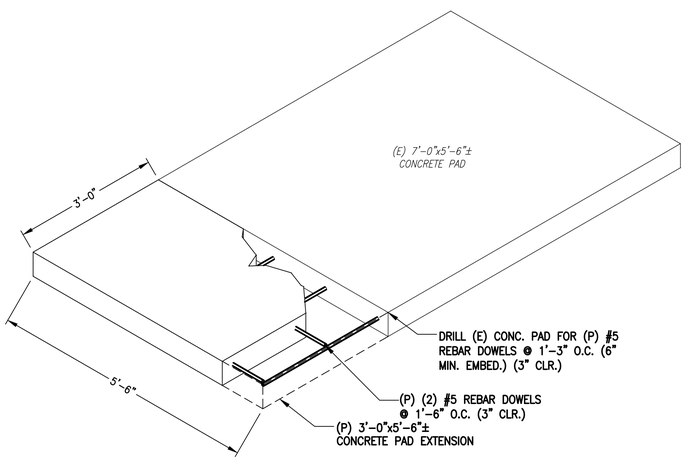
ERICSSON B160
BATTERY CABINET

DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
WEIGHT: 1771.0 lbs
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL

SCALE: N.T.S.

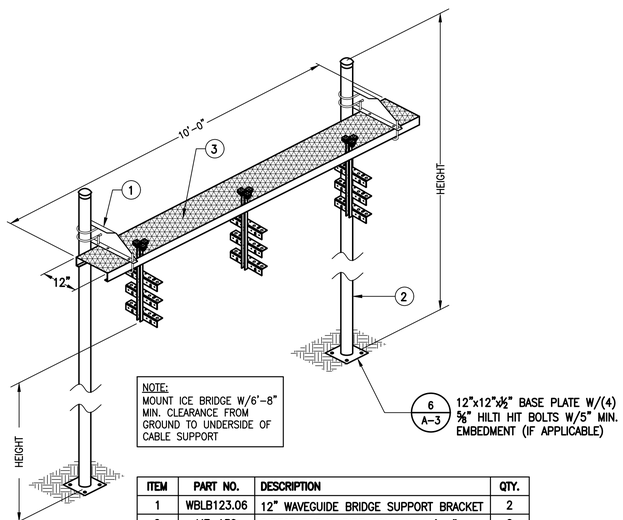
3 / A-3



CONCRETE PAD EXTENSION

SCALE: N.T.S.

4 / A-3

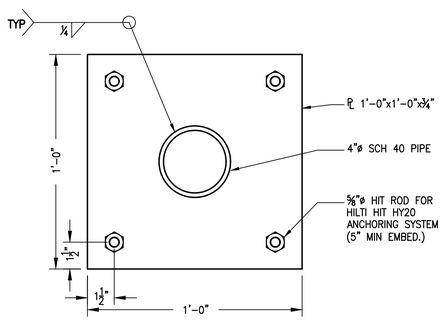


ITEM	PART NO.	DESCRIPTION	QTY.
1	WBLB123.06	12" WAVEGUIDE BRIDGE SUPPORT BRACKET	2
2	MF-130	DIRECT BURIAL PIPE COLUMN, 13'-4"	2
3	WB-CY110	12" SAFETY GRATING	1
4	WB-K110BH	HARDWARE KIT ITEM #5-16	1

CABLE BRIDGE DETAIL

SCALE: NTS

5 / A-3



CABLE BRIDGE BASE PLATE

SCALE: NTS

6 / A-3

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SHEET TITLE
SITE DETAILS

SHEET NUMBER
A-3

1815.072

FINAL ANTENNA CONFIGURATION

SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1 EMPTY	–	–	–	–	–	–	(3) 1-⅝" (6x12) HCS FIBER CABLES
	A2 EMPTY	–	–	–	–	–	–	
	A3 EMPTY	–	–	–	–	–	–	
BETA	B1 ERICSSON AIR32 KRD901146-1 B66A/B2A	137'± AGL	190°	0°	2°	L2100/G1900/L1900	–	
	B2 ERICSSON M-MIMO AIR6449 B41	137'± AGL	190°	0°	2°	L2500/N2500	–	
	B3 RFS APXVAARR24_43-U-NA20	137'± AGL	190°	0°	2°	L700/L600/N600	RADIO 4449 B71+B85	
					2°	L1900	RADIO 4415 B25	
GAMMA	C1 ERICSSON AIR32 KRD901146-1 B66A/B2A	137'± AGL	330°	0°	2°	L2100/G1900/L1900	–	
	C2 ERICSSON M-MIMO AIR6449 B41	137'± AGL	330°	0°	2°	L2500/N2500	–	
	C3 RFS APXVAARR24_43-U-NA20	137'± AGL	330°	0°	2°	L700/L600/N600	RADIO 4449 B71+B85	
					2°	L1900	RADIO 4415 B25	

CABLE NOTE: (E)(4) 1-¼" COAX CABLES TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV3 – 09/23/20

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES	LOCATION
A	*EXISTING TO REMAIN:* *½" FOR GPS ANTENNA*	ROUTED PER STRUCTURAL ANALYSIS
	EXISTING TO BE REMOVED: *(4) 1-¼" COAX CABLES*	
B	PROPOSED: (3) 1-⅝" (6x12) HCS FIBER CABLES	

NOTE:
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

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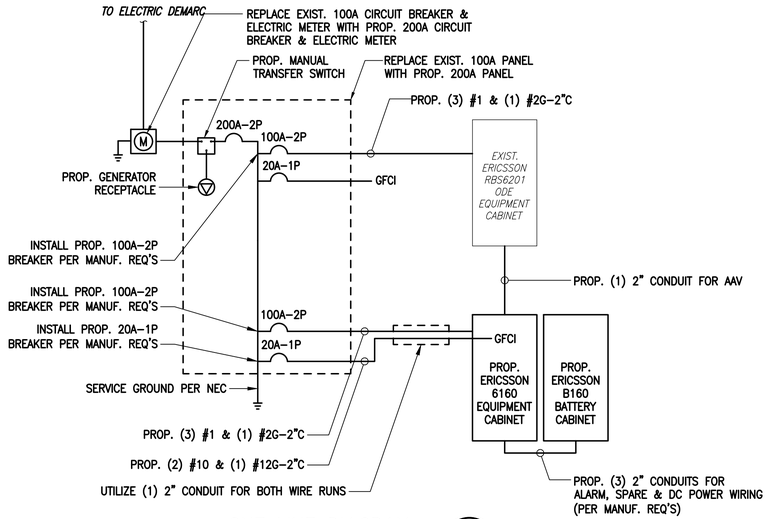
SHEET TITLE
ANTENNA & FEEDLINE CHARTS

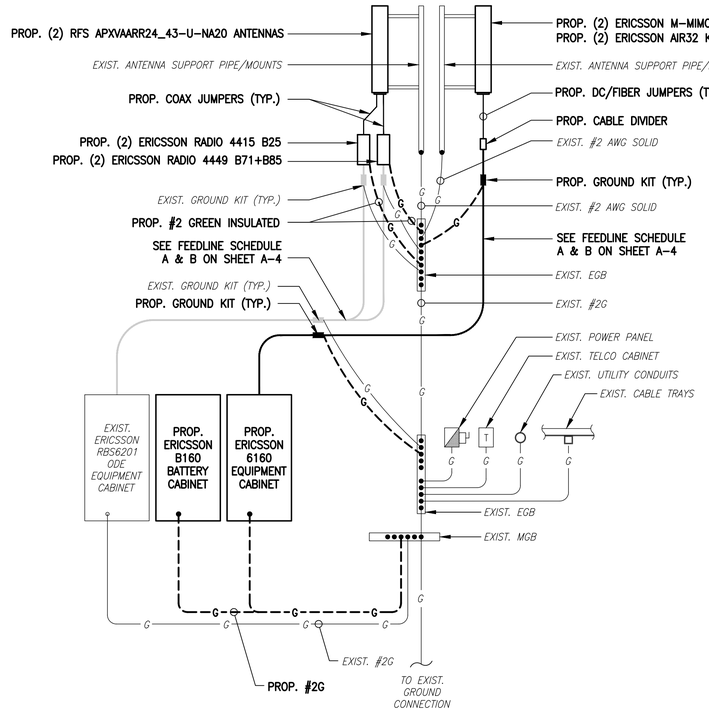
SHEET NUMBER
A-4

1815.072



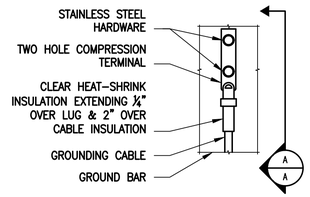
ONE LINE DIAGRAM (1 / E-1)

SCALE: NOT TO SCALE

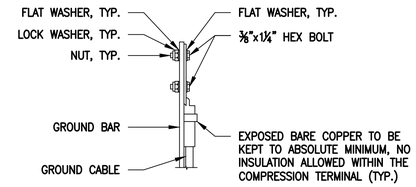


GROUNDING RISER DIAGRAM (2 / E-1)

SCALE: NOT TO SCALE



ELEVATION

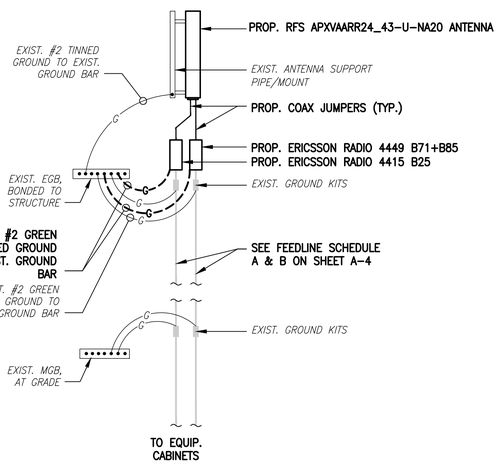


SECTION A-A

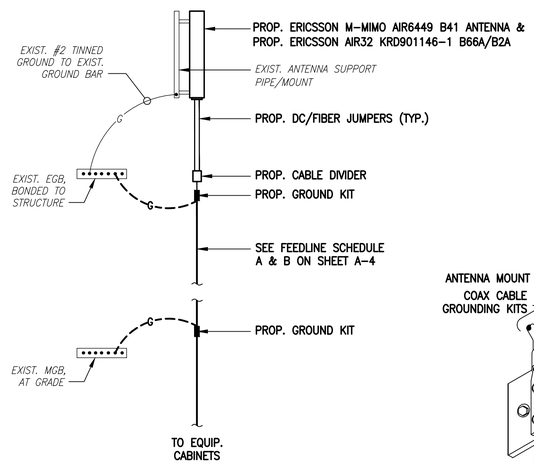
NOTES:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELL DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

TYPICAL GROUND BAR CONNECTIONS DETAIL (3 / E-1)

SCALE: NOT TO SCALE



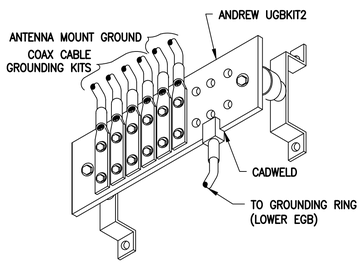
L700/L600/N600/L1900 ANTENNA



L2500/N2500 ANTENNA & L2100/L1900/G1900 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL (4 / E-1)

SCALE: NOT TO SCALE



GROUND BAR (EGB) (5 / E-1)

SCALE: NOT TO SCALE

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

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SITE NUMBER:
CT11315C

SITE ADDRESS:
246 EAST FRANKLIN STREET
DANIELSON, CT 06239

SHEET TITLE
ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER
E-1

1815.072

EXHIBIT 7

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

Structural Analysis Report

Existing 155 ft Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT00302-S

Customer Site Name: Danielson

Carrier Name: T-Mobile (App#: 116926, V4)

Carrier Site ID / Name: CT11315C / Plainfield/I-395_1

Site Location: 246 East Franklin Street

Danielson, Connecticut

Windham County

Latitude: 41.795822

Longitude: -71.870333

Exp.10/31/2021

01/15/2021

Analysis Result:

Max Structural Usage: 92.6% [Pass]

Max Foundation Usage: 63.0% [Pass]

Additional Usage Caused by Mount Modification: + 2.5%

Report Prepared By : Dipika Dhungana

Introduction

The purpose of this report is to summarize the analysis results on the 155 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 Corporation, Project #6410 dated October 27, 1998
Foundation Drawing	Nudd Corporation, Project #98-6410-4 dated November 2, 1998
Geotechnical Report	Jaworski Geotech, Inc., Project #C98423G dated October 14, 1998
Modification Drawings	Vertical Solutions, Inc., Job #TA2002007001-T1 dated October 7, 2002 Vertical Solutions, Inc., Job #TA2008007031-T3 dated November 10, 2008 Vertical Solutions, Inc., Job #TA2009007021-T2 dated July 16, 2009 FDH Engineering, Project #12-01571E S4 dated March 13, 2013 FDH Engineering, Project #1466VA1400 dated July 8, 2014
Mount Analysis	MA by GeoStructural, for SBA Site CT00302-S Danielson, dated 11/17/2020

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed Vult =130.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 101.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	3
Crest Height:	172 ft
Seismic Parameters:	S_S = 0.171, S_1 = 0.062

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	155.0	3	Commscope LNX-6514DS-A1M - Panel	(3) T-Frame w/ Platforms	(11) 1 5/8" (2) 1 5/8" Fiber	Verizon
2		3	BXA-70080-4BF - Panel			
3		6	Commscope HBXX-6517DS-A2M - Panel			
4		3	Alcatel Lucent RRH2X60-AWS			
5		3	Alcatel Lucent RRH2X60-PCS			
6		3	Alcatel Lucent RRH2X60-700			
7		6	RFS Celwave FD9R6004/2C-3L			
8		1	RFS DB-T1-6Z-8AB-0Z			
9	147.0	3	RFS APXVSPP18-C-A20 - Panel	(3) T-Frame w/ Platforms (1) SitePro1 PRK-SFS-L (1) SitePro1 PRK-1245L	(4) 1-1/4" Hybrid	Sprint Nextel
10		3	RFS APXVTM14-C-120 - Panel			
11		3	ALU TD-RRH8x20-25			
12		3	ALU 1900MHz RRH			
13		3	ALU 800 MHz RRH			
14		3	ALU 800 MHz Filters			
15		4	RFS ACU-A20-N RET			
-	137.0	3	EMS RR90-17-XXDP	(3) T-Arms Ericsson	(6)1-1/4" Coax	T-Mobile
-		3	RFS APX18-206516			
-		3	Ericsson KRY 112 144/2			
22	127.0	3	Powerwave 7770	Low Profile Platform (12)Pipe Mast (1) Handrail kitSitePro1 HRK12-3HD	(8) 1 5/8" (1)3"conduit { housing(2) 3/4" DC and (1) 7/16" fiber line} (2) 2 3/8" conduit {Housing (1) 7/16" fiber & (3) 1" DC }	AT&T
23		3	Cci DMP65R-BU8DA			
24		3	Kathrein 840370799			
25		3	Powerwave DTMABP7819VG12A			
26		6	Powerwave LGP13519 Diplexer			
27		3	Ericsson 4449 B5/B12			
28		3	Ericsson RRUS 4478 B14			
29		3	Ericsson RRUS 8843 B2 B66A			
30		3	Ericsson 4415 B30			
31		1	Raycap DC6-48-60-18-8F			
32		1	Raycap DC9-48-60-24-8C-EV			

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
16	137.0	2	Ericsson Air 32 KRD901146-1_B66A_B2A	(3) T-Frame w/ walking platform w/ mount modifications	(2) 1 1/4" (3) 1 5/8" Fiber	T-Mobile
17		2	RFS APXVAALL24-43-U-NA20			
18		2	Ericsson AIR6449 B41			
19		3	Ericsson KRY 112 144/2			
20		2	Ericsson 4449 B71 + B85			
21		2	Ericsson 4415 B25			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**92.6%**	**72.0%**	**56.5%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Analysis Reactions	5212.7	51.6

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

Operational Condition (Rigidity):

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 1.1509 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 82.44% at 114.0ft

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson	**Exposure:**	B	
Height:	155.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

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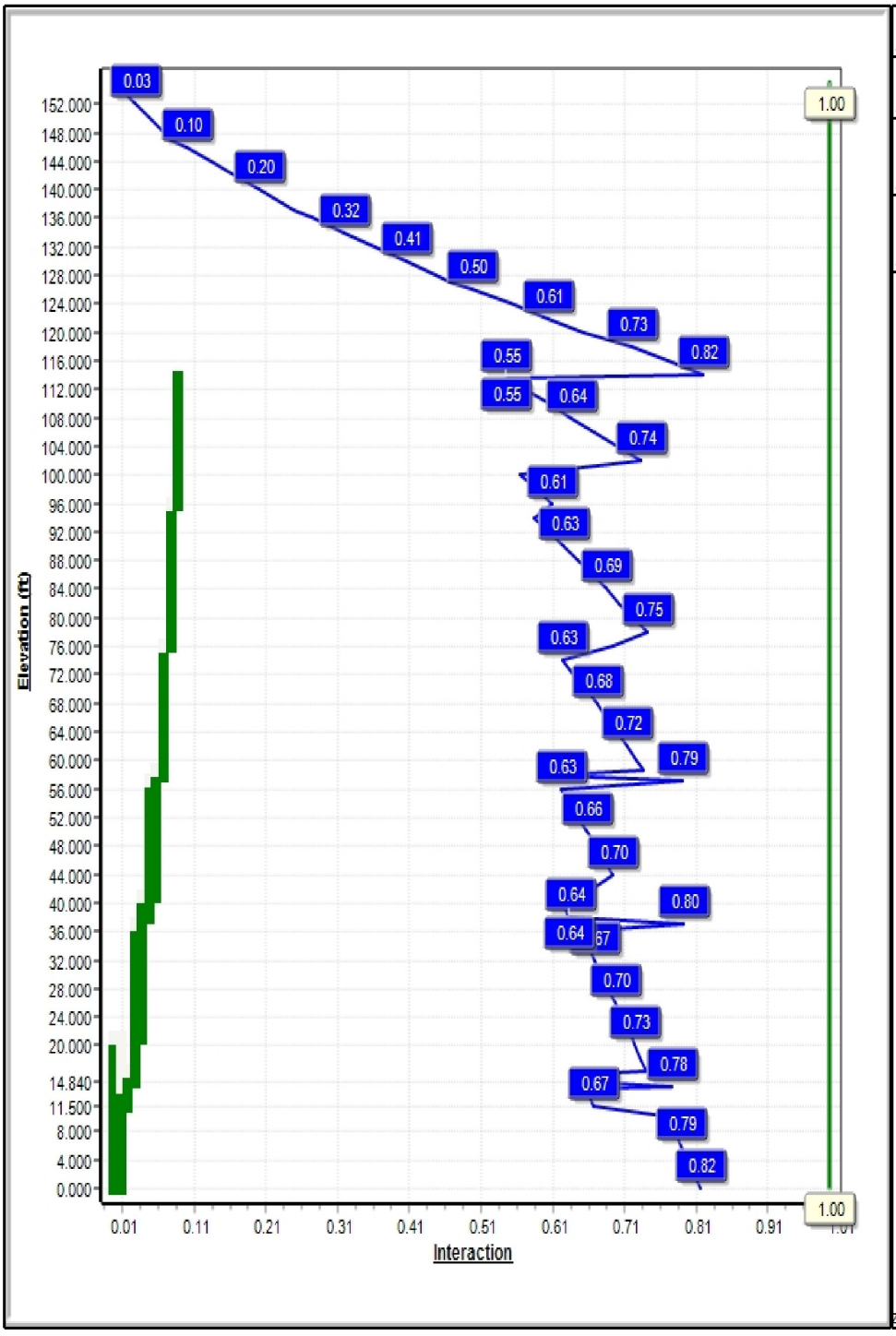
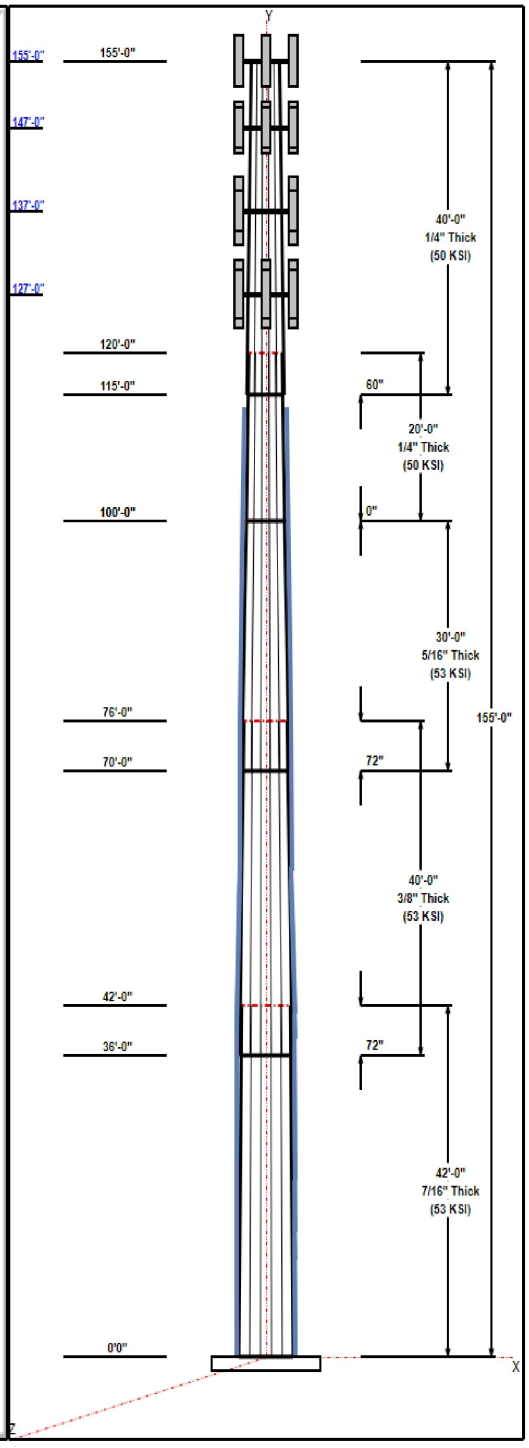
Dead Load Factor:	1.20	**Iterations:**	25
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 101 mph Wind





Structure: CT00302-S-SBA

Type: Tapered
Site Name: Danielson
Height: 155.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.19129

1/15/2021

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Shaft Properties

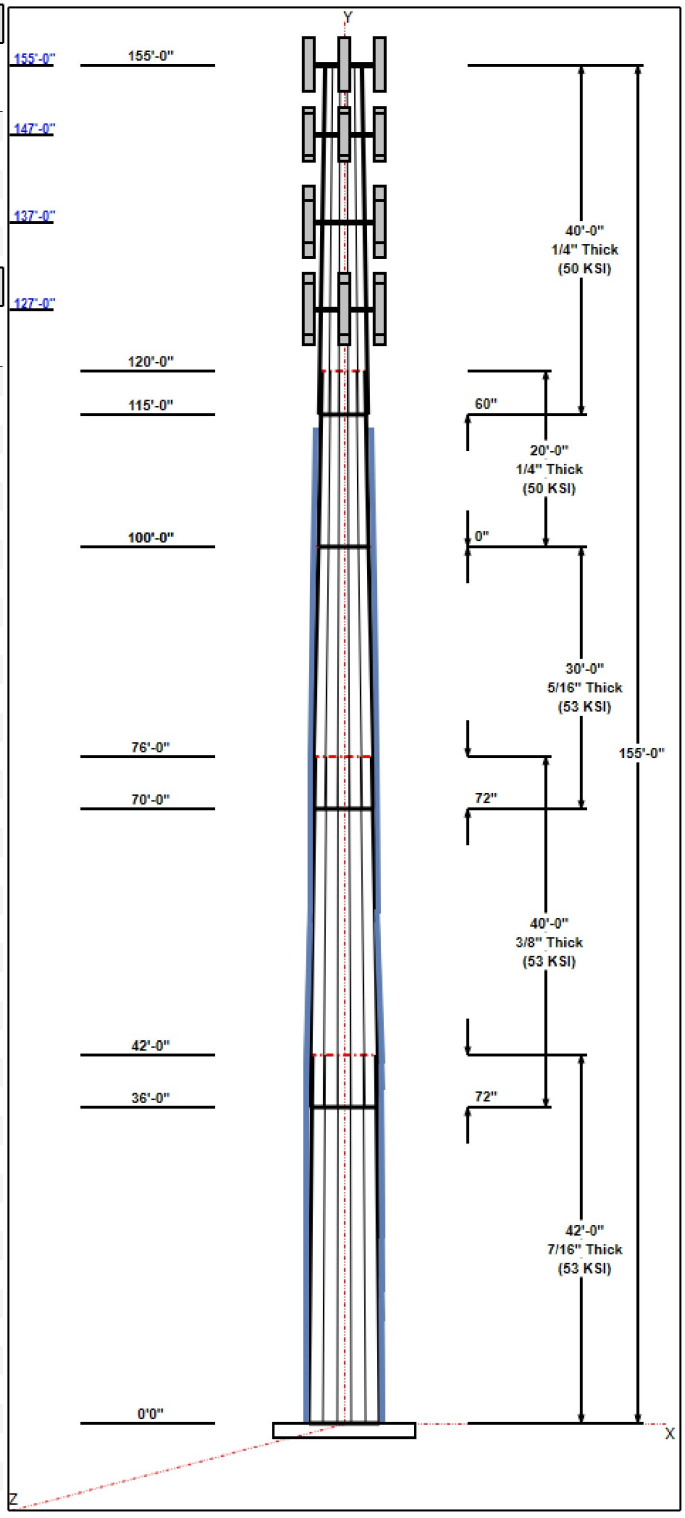
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	42.00	45.87	53.90	0.433		0.19129	53
2	40.00	40.11	47.76	0.375	Slip	0.19129	53
3	30.00	36.15	41.88	0.313	Slip	0.19129	53
4	20.00	32.32	36.15	0.250	Butt	0.19129	50
5	40.00	26.13	33.78	0.250	Slip	0.19129	50

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
155.00	155.00	3	LNX-6514DS-A1M	Verizon
155.00	155.00	3	BXA-70080-4BF	Verizon
155.00	155.00	6	HBXX-6517DS-A2M	Verizon
155.00	155.00	3	RRH2X60-AWS	Verizon
155.00	155.00	3	RRH2X60-PCS	Verizon
155.00	155.00	3	RRH2X60-700	Verizon
155.00	155.00	6	FD9R6004/2C-3L	Verizon
155.00	155.00	1	DB-T1-6Z-8AB-0Z	Verizon
155.00	155.00	1	(3) T-Frame w/ Platforms	Verizon
147.00	147.00	1	(3) T-Frame w/ Platforms	Sprint Nextel
147.00	147.00	1	PRK-1245 (kicker kit)	Sprint Nextel
147.00	147.00	1	(3) SFS-H (V-Braces)	Sprint Nextel
147.00	147.00	3	APXVSPP18-C-A20	Sprint Nextel
147.00	147.00	3	APXVTM14-C-I20	Sprint Nextel
147.00	147.00	3	Alcatel Lucent	Sprint Nextel
147.00	147.00	3	Alcatel Lucent 1900 MHz	Sprint Nextel
147.00	147.00	3	Alcatel Lucent 800 MHz	Sprint Nextel
147.00	147.00	3	Alcatel Lucent 800 MHz	Sprint Nextel
147.00	147.00	4	RFS ACU-A20-N RET	Sprint Nextel
137.00	137.00	2	AIR6449 B41	T-Mobile
137.00	137.00	3	KRY 112 144/2	T-Mobile
137.00	137.00	2	4449 B71 + B85	T-Mobile
137.00	137.00	2	RRUS 4415 B25	T-Mobile
137.00	137.00	2	KRD 9011461-B66A-B2A	T-Mobile
137.00	137.00	2	APXVAALL24_43-U-NA20	T-Mobile
137.00	137.00	1	PRK-1245 (kicker kit)	T-Mobile
137.00	137.00	1	(3) HR w/ V-Brace Kits	T-Mobile
137.00	137.00	1	(3) T-Framew/ walking	T-Mobile
127.00	127.00	1	Low Profile	AT&T
127.00	127.00	3	DMP65R-BU6DA	AT&T
127.00	127.00	3	840370799	AT&T
127.00	127.00	3	8843 B2 B66A	AT&T
127.00	127.00	3	4415 B30	AT&T
127.00	127.00	1	DC9-48-60-24-8C-EV	AT&T
127.00	127.00	1	HRK12 (Handrail Kit)	AT&T
127.00	127.00	3	7770.00	AT&T
127.00	127.00	3	DTMABP7819VG12A	AT&T
127.00	127.00	3	4449 B5/B12	AT&T
127.00	127.00	3	RRUS 4478 B14	AT&T
127.00	127.00	1	DC6-48-60-18-8F	AT&T
127.00	127.00	6	LGP13519	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier



0.00	155.00	Inside	1 5/8" Coax	Verizon
0.00	155.00	Inside	1 5/8" Fiber	Verizon
0.00	147.00	Inside	1 1/4" Coax	Sprint Nextel
58.00	137.00	Inside	1 1/4" Coax	T-Mobile
58.00	137.00	Inside	1 5/8" Fiber	T-Mobile
0.00	127.00	Inside	1 5/8" Coax	AT&T
0.00	127.00	Inside	1"DC	AT&T
0.00	127.00	Inside	2 3/8" Coax	AT&T
0.00	127.00	Inside	3" Conduit	AT&T
0.00	127.00	Inside	3/4" DC	AT&T
0.00	127.00	Inside	7/16" Fiber	AT&T
58.00	115.00	Outside	1.25" Reinforcing plate	
0.00	58.00	Outside	10"x1/2" Bent plate	

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
18	2.00" A687	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.7500	67.0	36.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	5212.7	51.6	51.7
0.9D + 1.6W 101 mph Wind	5170.2	51.6	38.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1183.7	11.0	85.7
1.2D + 1.0E	278.9	2.2	51.8
0.9D + 1.0E	276.3	2.2	38.8
1.0D + 1.0W 60 mph Wind	1144.7	11.4	43.1

Structure: CT00302-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Danielson
Height: 155.00 (ft)

1/15/2021

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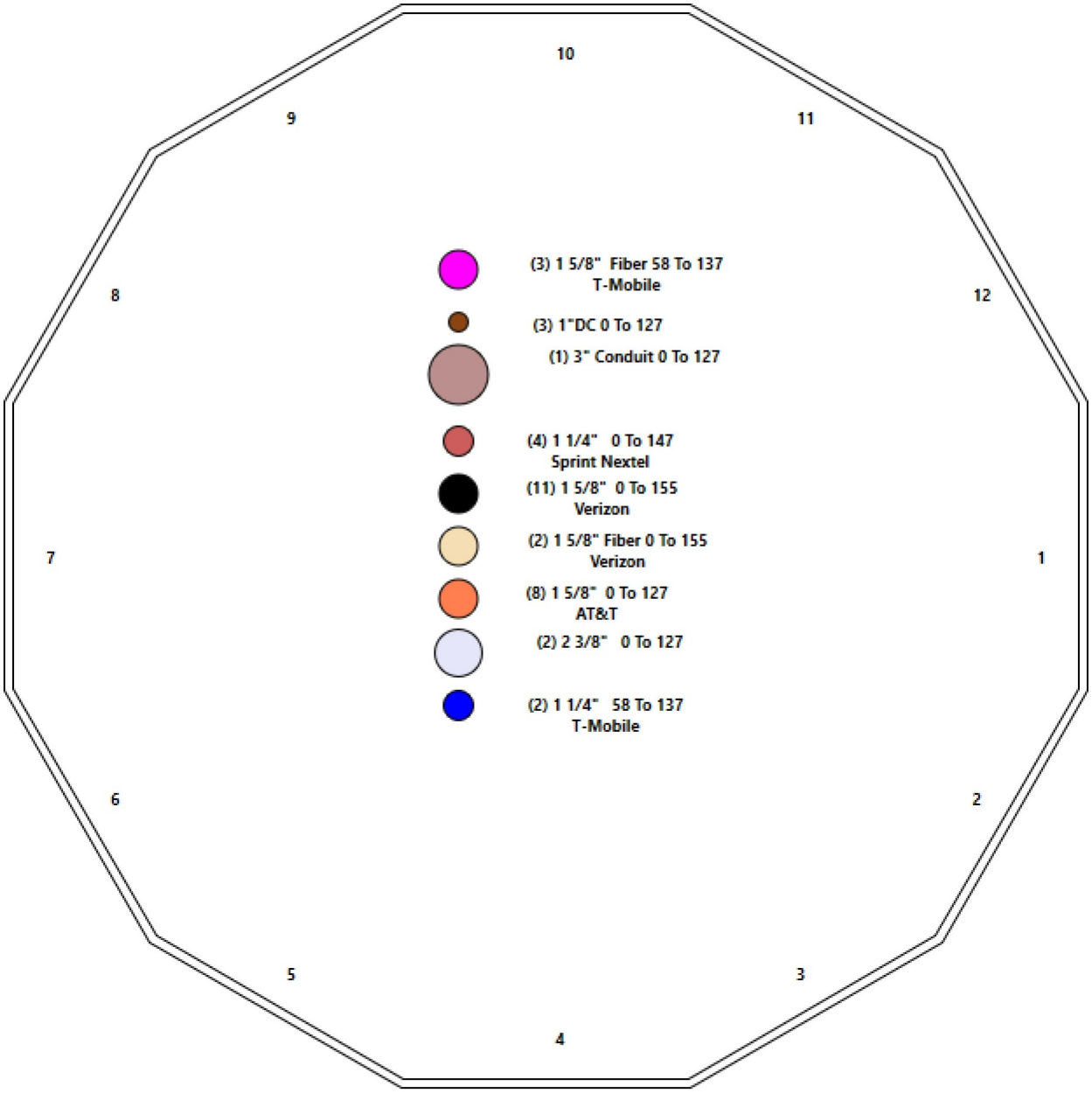

Shaft Properties

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**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	42.000	0.4331	53		0.00	9,856
2	12	40.000	0.3750	53	Slip	72.00	7,160
3	12	30.000	0.3125	53	Slip	72.00	3,976
4	12	20.000	0.2500	50	Flange	0.00	1,862
5	12	40.000	0.2500	50	Slip	60.00	3,254
					Total Shaft Weight:		**26,107**

	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	53.90	0.00	74.56	27207.27	31.20	124.45	45.87	42.00	63.36	16693.0	26.23	105.9	0.191290
2	47.76	36.00	57.22	16401.87	31.98	127.37	40.11	76.00	47.98	9670.66	26.52	106.9	0.191290
3	41.88	70.00	41.83	9227.84	33.77	134.03	36.15	100.00	36.06	5909.60	28.85	115.6	0.191290
4	36.15	100.0	28.90	4752.46	36.60	144.58	32.32	120.00	25.82	3389.11	32.50	129.2	0.191290
5	33.78	115.0	26.99	3872.14	34.06	135.11	26.13	155.00	20.83	1780.01	25.86	104.5	0.191290

Additional Steel

							Intermediate Connectors		Termination Connectors			
Elev From (ft)	**Elev To (ft)**	**Qty**	**Description**	**Fy (ksi)**	**Fu (ksi)**	**Offset (in)**	**Description**	**Spacing (in)**	**Description**	**Spacing (in)**	**Lower Qty**	**Upper Qty**
0.00	21.00	3	PLT 6"X1-1/4"(1.25" Hole	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		
0.00	14.16	3	PLT 10"x1/2" (90deg)	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	0.00		
11.50	16.50	1	PLT 6"X1-1/4"(1.25" Hole	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00	11	11
14.84	37.06	3	PLT 10"x1/2" (90deg)	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	0.00		
21.00	41.00	3	PLT 6"X1-1/4"(1.25" Hole	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		
37.96	57.11	3	PLT 10"x1/2" (90deg)	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	0.00		
41.00	58.50	3	PLT 6"X1-1/4"(1.25" Hole	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		11
58.00	76.00	3	PLT 5"x1-1/4"(1.25"Hole)	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00	8	
76.00	96.00	3	PLT 4.5"x 1-1/4"(1.25"ho	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		
96.00	113.5	3	PLT 3.5x1.25(1.25 Hole)	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		6

Load Summary

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**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	155.00	LNX-6514DS-A1M	3	38.40	8.17	0.83	224.89	11.157	0.83	0.00	0.00
2	155.00	BXA-70080-4BF	3	13.00	4.76	0.76	126.60	6.729	0.76	0.00	0.00
3	155.00	HBXX-6517DS-A2M	6	40.80	8.55	0.77	227.25	11.638	0.77	0.00	0.00
4	155.00	RRH2X60-AWS	3	55.00	3.50	0.50	139.65	4.335	0.50	0.00	0.00
5	155.00	RRH2X60-PCS	3	55.00	2.20	0.50	145.65	2.877	0.50	0.00	0.00
6	155.00	RRH2X60-700	3	46.00	1.88	0.50	120.23	2.504	0.50	0.00	0.00
7	155.00	FD9R6004/2C-3L	6	3.10	0.36	0.50	11.59	0.829	0.50	0.00	0.00
8	155.00	DB-T1-6Z-8AB-0Z	1	18.90	4.00	0.50	172.53	5.728	0.50	0.00	0.00
9	155.00	(3) T-Frame w/ Platforms	1	1620.00	25.00	1.00	3115.49	46.232	1.00	0.00	0.00
10	147.00	(3) T-Frame w/ Platforms	1	1620.00	25.00	1.00	3114.98	46.225	1.00	0.00	0.00
11	147.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	808.14	20.020	1.00	0.00	0.00
12	147.00	(3) SFS-H (V-Braces)	1	197.00	9.60	1.00	560.59	16.687	1.00	0.00	0.00
13	147.00	APXVSPP18-C-A20	3	57.00	8.02	0.83	239.80	10.975	0.83	0.00	0.00
14	147.00	APXVTM14-C-I20	3	56.00	6.34	0.79	227.62	7.522	0.79	0.00	0.00
15	147.00	Alcatel Lucent TD-RRH8x20-25	3	70.00	4.05	0.50	188.23	4.914	0.50	0.00	0.00
16	147.00	Alcatel Lucent 1900 MHz RRH	3	60.00	2.31	0.50	373.48	3.001	0.50	0.00	0.00
17	147.00	Alcatel Lucent 800 MHz RRH	3	53.00	2.49	0.50	131.22	3.700	0.50	0.00	0.00
18	147.00	Alcatel Lucent 800 MHz Filter	3	8.80	0.78	0.50	27.46	1.464	0.50	0.00	0.00
19	147.00	RFS ACU-A20-N RET	4	1.00	0.14	0.50	5.54	0.454	0.50	0.00	0.00
20	137.00	AIR6449 B41	2	103.00	5.65	0.71	247.98	6.655	0.71	0.00	0.00
21	137.00	KRY 112 144/2	3	11.00	0.41	0.50	22.40	0.912	0.50	0.00	0.00
22	137.00	4449 B71 + B85	2	73.20	1.97	0.50	134.25	2.572	0.50	0.00	0.00
23	137.00	RRUS 4415 B25	2	46.00	1.64	0.50	89.46	2.185	0.50	0.00	0.00
24	137.00	KRD 9011461-B66A-B2A	2	132.20	6.51	0.87	327.99	7.700	0.87	0.00	0.00
25	137.00	APXVAALL24_43-U-NA20	2	128.00	20.24	0.70	573.12	22.253	0.70	0.00	0.00
26	137.00	PRK-1245 (kicker kit)	1	445.91	8.50	1.00	775.04	17.911	1.00	0.00	0.00
27	137.00	(3) HR w/ V-Brace Kits	1	450.00	8.50	1.00	1047.86	17.911	1.00	0.00	0.00
28	137.00	(3) T-Framew/ walking platform	1	1620.00	25.00	1.00	3114.65	46.220	1.00	0.00	0.00
29	127.00	Low Profile Platform-Round	1	1500.00	25.00	1.00	2883.95	46.221	1.00	0.00	0.00
30	127.00	DMP65R-BU6DA	3	79.40	12.71	0.72	390.83	14.258	0.72	0.00	0.00
31	127.00	840370799	3	18.70	15.93	0.69	337.35	19.822	0.69	0.00	0.00
32	127.00	8843 B2 B66A	3	70.00	1.64	0.50	118.62	2.186	0.50	0.00	0.00
33	127.00	4415 B30	3	44.10	1.86	0.50	94.26	2.465	0.50	0.00	0.00
34	127.00	DC9-48-60-24-8C-EV	1	26.20	1.14	0.50	138.27	2.818	0.50	0.00	0.00
35	127.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	590.12	13.725	1.00	0.00	0.00
36	127.00	7770.00	3	35.00	5.50	0.73	179.79	6.630	0.73	0.00	0.00
37	127.00	DTMABP7819VG12A	3	19.20	1.14	0.50	46.18	1.954	0.50	0.00	0.00
38	127.00	4449 B5/B12	3	71.00	1.97	0.50	127.44	2.549	0.50	0.00	0.00
39	127.00	RRUS 4478 B14	3	59.40	1.65	0.50	103.24	2.198	0.50	0.00	0.00
40	127.00	DC6-48-60-18-8F	1	31.80	0.92	0.50	97.17	1.383	0.50	0.00	0.00
41	127.00	LGP13519	6	5.30	0.34	0.50	15.34	0.820	0.50	0.00	0.00
		Totals:	**104**	**12,280.44**			**30,806.46**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed

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	155.00	(11) 1 5/8" Coax			0.00	Inside					
0.00	155.00	(2) 1 5/8" Fiber			0.00	Inside					
0.00	147.00	(4) 1 1/4" Coax			0.00	Inside					
58.00	137.00	(2) 1 1/4" Coax			0.00	Inside					
58.00	137.00	(3) 1 5/8" Fiber			0.00	Inside					
0.00	127.00	(8) 1 5/8" Coax			0.00	Inside					
0.00	127.00	(3) 1"DC			0.00	Inside					
0.00	127.00	(2) 2 3/8" Coax			0.00	Inside					
0.00	127.00	(1) 3" Conduit			0.00	Inside					
0.00	127.00	(2) 3/4" DC			0.00	Inside					
0.00	127.00	(2) 7/16" Fiber			0.00	Inside					
58.00	115.00	(3) 1.25" Reinforcing plate			1.25	Outside					
0.00	58.00	(3) 10"x1/2" Bent plate			3.56	Outside					

Shaft Section Properties

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

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	0.4331	53.900	74.564	27207.3	31.20	124.45	53	60	0.0	37.50	18070.2	12370.3	
2.00		0.4331	53.517	74.030	26627.4	30.97	123.57	53	61	505.6	37.50	17827.8	12206.8	255.2
4.00		0.4331	53.135	73.497	26055.8	30.73	122.68	53	61	502.0	37.50	17587.1	12044.3	255.2
6.00		0.4331	52.752	72.963	25492.5	30.49	121.80	53	61	498.4	37.50	17348.0	11883.0	255.2
8.00		0.4331	52.370	72.430	24937.3	30.26	120.92	53	61	494.7	37.50	17110.5	11722.8	255.2
10.00		0.4331	51.987	71.896	24390.3	30.02	120.03	53	61	491.1	37.50	16874.7	11563.6	255.2
11.50	RB3	0.4331	51.700	71.496	23985.3	29.84	119.37	53	61	365.9	45.00	16792.5	16499.8	229.7
12.00		0.4331	51.605	71.363	23851.3	29.78	119.15	53	61	121.5	45.00	16733.9	16442.0	76.6
14.00		0.4331	51.222	70.829	23320.3	29.55	118.27	53	62	483.8	45.00	16500.5	16211.8	306.2
14.16	RT2	0.4331	51.191	70.787	23278.2	29.53	118.20	53	62	38.6	30.00	10359.8	10009.7	16.3
14.84	RB4	0.4331	51.061	70.605	23099.7	29.45	117.90	53	62	163.6	45.00	16403.0	16115.7	104.1
16.00		0.4331	50.839	70.296	22797.3	29.31	117.38	53	62	278.1	45.00	16268.8	15983.3	177.6
16.50	RT3	0.4331	50.744	70.162	22667.8	29.25	117.16	53	62	119.5	37.50	16119.7	11054.0	63.8
18.00		0.4331	50.457	69.762	22282.1	29.07	116.50	53	62	357.1	37.50	15948.0	10938.1	191.4
20.00		0.4331	50.074	69.229	21774.8	28.84	115.62	53	62	473.0	37.50	15720.4	10784.4	255.2
21.00	RT1 RB5	0.4331	49.883	68.962	21524.0	28.72	115.18	53	62	235.1	37.50	15607.2	10708.0	127.6
22.00		0.4331	49.692	68.695	21275.2	28.60	114.73	53	62	234.2	37.50	15494.5	10631.8	127.6
24.00		0.4331	49.309	68.161	20783.3	28.36	113.85	53	63	465.7	37.50	15270.2	10480.4	255.2
26.00		0.4331	48.926	67.628	20299.1	28.13	112.97	53	63	462.1	37.50	15047.5	10330.0	255.2
28.00		0.4331	48.544	67.094	19822.4	27.89	112.08	53	63	458.4	37.50	14826.5	10180.7	255.2
30.00		0.4331	48.161	66.561	19353.3	27.65	111.20	53	63	454.8	37.50	14607.2	10032.6	255.2
32.00		0.4331	47.779	66.027	18891.6	27.42	110.32	53	63	451.2	37.50	14389.5	9885.5	255.2
34.00		0.4331	47.396	65.494	18437.3	27.18	109.43	53	64	447.5	37.50	14173.4	9739.5	255.2
36.00	Bot - Section 2	0.4331	47.014	64.960	17990.4	26.94	108.55	53	64	443.9	37.50	13959.0	9594.6	255.2
37.06	RT4	0.4331	46.811	64.677	17756.5	26.82	108.08	53	64	439.8	22.50	8878.8	4413.7	81.2
37.96	RB6	0.4331	46.639	64.437	17559.5	26.71	107.69	53	64	371.9	37.50	14168.7	9736.1	114.8
38.00		0.4331	46.631	64.427	17550.8	26.71	107.67	53	64	16.5	37.50	14164.4	9733.1	5.1
40.00		0.4331	46.248	63.893	17118.3	26.47	106.78	53	64	821.4	37.50	13950.0	9588.3	255.2
41.00	RT5 RB7	0.4331	46.057	63.626	16904.8	26.35	106.34	53	64	408.1	37.50	13843.4	9516.3	127.6
42.00	Top - Section 1	0.3750	46.616	55.836	15238.7	31.16	124.31	53	60	406.4	37.50	13737.3	9444.6	127.6
44.00		0.3750	46.233	55.374	14863.6	30.89	123.29	53	61	378.4	37.50	13522.2	9297.6	255.2
46.00		0.3750	45.851	54.912	14494.7	30.62	122.27	53	61	375.3	37.50	13312.9	9156.1	255.2
48.00		0.3750	45.468	54.450	14132.0	30.34	121.25	53	61	372.1	37.50	13105.2	9015.8	255.2
50.00		0.3750	45.085	53.988	13775.3	30.07	120.23	53	61	369.0	37.50	12899.1	8876.5	255.2
52.00		0.3750	44.703	53.526	13424.7	29.80	119.21	53	61	365.8	37.50	12694.7	8738.3	255.2
54.00		0.3750	44.320	53.064	13080.1	29.52	118.19	53	62	362.7	37.50	12492.0	8601.2	255.2
56.00		0.3750	43.938	52.602	12741.4	29.25	117.17	53	62	359.6	37.50	12290.9	8465.2	255.2
57.11	RT6	0.3750	43.725	52.346	12556.0	29.10	116.60	53	62	198.2	22.50	7533.3	3742.2	85.0
58.00	RB8	0.3750	43.555	52.140	12408.7	28.98	116.15	53	62	158.2	41.25	12224.5	8463.6	124.9
58.50	RT7	0.3750	43.460	52.025	12326.4	28.91	115.89	53	62	88.6	18.75	4705.8	4705.8	31.9
60.00		0.3750	43.173	51.678	12081.8	28.70	115.13	53	62	264.7	18.75	4645.8	4645.8	95.7
62.00		0.3750	42.790	51.216	11760.7	28.43	114.11	53	63	350.1	18.75	4566.5	4566.5	127.6
64.00		0.3750	42.407	50.754	11445.3	28.16	113.09	53	63	347.0	18.75	4487.9	4487.9	127.6
66.00		0.3750	42.025	50.292	11135.6	27.88	112.07	53	63	343.8	18.75	4409.9	4409.9	127.6
68.00		0.3750	41.642	49.830	10831.5	27.61	111.05	53	63	340.7	18.75	4332.7	4332.7	127.6
70.00	Bot - Section 3	0.3750	41.260	49.368	10533.1	27.34	110.03	53	63	337.6	18.75	4256.1	4256.1	127.6
72.00		0.3750	40.877	48.906	10240.1	27.06	109.01	53	64	617.8	18.75	4304.5	4304.5	127.6
74.00		0.3750	40.495	48.444	9952.7	26.79	107.99	53	64	612.0	18.75	4228.2	4228.2	127.6
76.00	Top - Section 2 RT8	0.3125	40.737	40.677	8484.5	32.79	130.36	53	59	606.3	16.88	3734.0	3734.0	114.8
78.00		0.3125	40.354	40.292	8245.8	32.46	129.13	53	59	275.5	16.88	3666.5	3666.5	114.8

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)	Additional Reinforcing Ixp (in^4)	Additional Reinforcing Iyp (in^4)	Additional Reinforcing Weight (lb)
80.00		0.3125	39.972	39.907	8011.7	32.13	127.91	53	60	272.9	16.88	3599.7	3599.7	114.8
82.00		0.3125	39.589	39.522	7782.1	31.80	126.69	53	60	270.3	16.88	3533.4	3533.4	114.8
84.00		0.3125	39.207	39.137	7556.9	31.47	125.46	53	60	267.7	16.88	3467.8	3467.8	114.8
86.00		0.3125	38.824	38.752	7336.1	31.15	124.24	53	60	265.0	16.88	3402.8	3402.8	114.8
88.00		0.3125	38.441	38.367	7119.6	30.82	123.01	53	61	262.4	16.88	3338.5	3338.5	114.8
90.00		0.3125	38.059	37.982	6907.4	30.49	121.79	53	61	259.8	16.88	3274.7	3274.7	114.8
92.00		0.3125	37.676	37.597	6699.5	30.16	120.56	53	61	257.2	16.88	3211.6	3211.6	114.8
94.00		0.3125	37.294	37.212	6495.8	29.83	119.34	53	61	254.6	16.88	3149.1	3149.1	114.8
96.00	RT9 RB10	0.3125	36.911	36.827	6296.3	29.51	118.12	53	62	251.9	13.13	2396.7	2396.7	89.3
98.00		0.3125	36.529	36.442	6100.9	29.18	116.89	53	62	249.3	13.13	2349.1	2349.1	89.3
100.00	Top - Section 3	0.3125	36.146	36.057	5909.6	28.85	115.67	53	62	246.7	13.13	2301.9	2301.9	89.3
100.00	Bot - Section 4	0.2500	36.146	28.896	4752.5	36.06	144.58	50	54					
102.00		0.2500	35.763	28.588	4602.1	36.19	143.05	50	54	195.6	13.13	2255.2	2255.2	89.3
104.00		0.2500	35.381	28.280	4455.0	35.78	141.52	50	54	193.5	13.13	2209.0	2209.0	89.3
106.00		0.2500	34.998	27.972	4311.0	35.37	139.99	50	55	191.4	13.13	2163.2	2163.2	89.3
108.00		0.2500	34.616	27.664	4170.2	34.96	138.46	50	55	189.3	13.13	2118.0	2118.0	89.3
110.00		0.2500	34.233	27.356	4032.5	34.55	136.93	50	55	187.2	13.13	2073.2	2073.2	89.3
112.00		0.2500	33.850	27.048	3897.8	34.14	135.40	50	55	185.1	13.13	2028.9	2028.9	89.3
113.50	RT10	0.2500	33.564	26.817	3798.8	33.83	134.25	50	56	137.5	13.13	1996.0	1996.0	67.0
114.00		0.2500	33.468	26.740	3766.2	33.73	133.87	50	56	45.6				
115.00	Bot - Section 5	0.2500	33.277	26.586	3701.5	33.52	133.11	50	56	90.7				
116.00		0.2500	33.085	26.432	3637.5	33.32	132.34	50	56	181.8				
118.00		0.2500	32.703	26.124	3511.9	32.91	130.81	50	56	360.4				
120.00	Top - Section 4	0.2500	32.820	26.219	3550.1	33.03	131.28	50	56	356.2				
122.00		0.2500	32.438	25.911	3426.5	32.62	129.75	50	57	177.4				
124.00		0.2500	32.055	25.603	3305.7	32.21	128.22	50	57	175.3				
126.00		0.2500	31.672	25.295	3187.9	31.80	126.69	50	57	173.2				
127.00		0.2500	31.481	25.141	3130.0	31.60	125.92	50	57	85.8				
128.00		0.2500	31.290	24.987	3072.8	31.39	125.16	50	57	85.3				
130.00		0.2500	30.907	24.679	2960.6	30.98	123.63	50	58	169.0				
132.00		0.2500	30.525	24.371	2851.2	30.57	122.10	50	58	166.9				
134.00		0.2500	30.142	24.063	2744.4	30.16	120.57	50	58	164.8				
136.00		0.2500	29.760	23.755	2640.4	29.75	119.04	50	59	162.7				
137.00		0.2500	29.568	23.601	2589.4	29.55	118.27	50	59	80.6				
138.00		0.2500	29.377	23.447	2539.0	29.34	117.51	50	59	80.0				
140.00		0.2500	28.994	23.139	2440.3	28.93	115.98	50	59	158.5				
142.00		0.2500	28.612	22.831	2344.1	28.52	114.45	50	60	156.4				
144.00		0.2500	28.229	22.523	2250.5	28.11	112.92	50	60	154.3				
146.00		0.2500	27.847	22.215	2159.5	27.70	111.39	50	60	152.2				
147.00		0.2500	27.655	22.061	2114.9	27.50	110.62	50	60	75.3				
148.00		0.2500	27.464	21.907	2070.9	27.29	109.86	50	60	74.8				
150.00		0.2500	27.081	21.599	1984.8	26.88	108.33	50	61	148.0				
152.00		0.2500	26.699	21.291	1901.1	26.47	106.80	50	61	145.9				
154.00		0.2500	26.316	20.983	1819.8	26.06	105.27	50	61	143.9				
155.00		0.2500	26.125	20.829	1780.0	25.86	104.50	50	62	71.1				
									Total Weight	**26107.2**				**10486.2**

Wind Loading - Shaft

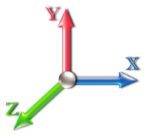
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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	2.18	0.70	37.885	41.67	580.38	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		2.15	0.70	37.324	41.06	571.99	1.000	0.000	2.00	9.267	9.27	608.8	0.0	606.8
4.00		2.12	0.70	36.781	40.46	563.75	1.000	0.000	2.00	9.201	9.20	595.6	0.0	602.4
6.00		2.09	0.70	36.254	39.88	555.66	1.000	0.000	2.00	9.135	9.14	582.9	0.0	598.0
8.00		2.06	0.70	35.743	39.32	547.73	1.000	0.000	2.00	9.069	9.07	570.5	0.0	593.7
10.00		2.03	0.70	35.247	38.77	539.94	1.000	0.000	2.00	9.003	9.00	558.5	0.0	589.3
11.50	RB3	2.01	0.70	34.884	38.37	534.19	1.000	0.000	1.50	6.709	6.71	411.9	0.0	439.1
12.00		2.00	0.70	34.765	38.24	532.30	1.000	0.000	0.50	2.228	2.23	136.3	0.0	145.8
14.00		1.97	0.70	34.298	37.73	524.79	1.000	0.000	2.00	8.871	8.87	535.5	0.0	580.6
14.16	RT2	1.97	0.70	34.261	37.69	524.19	1.000	0.000	0.16	0.707	0.71	42.6	0.0	46.3
14.84	RB4	1.96	0.70	34.106	37.52	521.68	1.000	0.000	0.68	2.999	3.00	180.0	0.0	196.3
16.00		1.95	0.70	33.845	37.23	517.42	1.000	0.000	1.16	5.099	5.10	303.7	0.0	333.7
16.50	RT3	1.94	0.70	33.734	37.11	515.59	1.000	0.000	0.50	2.191	2.19	130.1	0.0	143.4
18.00		1.92	0.70	33.405	36.75	510.17	1.000	0.000	1.50	6.548	6.55	385.0	0.0	428.5
20.00		1.90	0.70	32.978	36.28	503.06	1.000	0.000	2.00	8.673	8.67	503.4	0.0	567.5
21.00	RT1 RB5	1.89	0.70	32.769	36.05	499.55	1.000	0.000	1.00	4.312	4.31	248.7	0.0	282.1
22.00		1.88	0.70	32.563	35.82	496.07	1.000	0.000	1.00	4.295	4.30	246.2	0.0	281.0
24.00		1.85	0.70	32.161	35.38	489.20	1.000	0.000	2.00	8.541	8.54	483.5	0.0	558.8
26.00		1.83	0.70	31.770	34.95	482.44	1.000	0.000	2.00	8.475	8.48	473.9	0.0	554.5
28.00		1.81	0.70	31.390	34.53	475.80	1.000	0.000	2.00	8.409	8.41	464.6	0.0	550.1
30.00		1.79	0.70	31.048	34.15	469.47	1.000	0.000	2.00	8.343	8.34	455.9	0.0	545.8
32.00		1.77	0.71	31.261	34.39	467.33	1.000	0.000	2.00	8.277	8.28	455.4	0.0	541.4
34.00		1.75	0.73	31.446	34.59	464.97	1.000	0.000	2.00	8.211	8.21	454.4	0.0	537.0
36.00	Bot - Section 2	1.73	0.74	31.608	34.77	462.40	1.000	0.000	2.00	8.145	8.15	453.1	0.0	532.7
37.06	RT4	1.72	0.74	31.685	34.85	460.96	1.000	0.000	1.06	4.359	4.36	243.1	0.0	527.7
37.96	RB6	1.71	0.75	31.746	34.92	459.71	1.000	0.000	0.90	3.686	3.69	206.0	0.0	446.3
38.00		1.71	0.75	31.748	34.92	459.65	1.000	0.000	0.04	0.164	0.16	9.1	0.0	19.8
40.00		1.69	0.76	31.870	35.06	456.76	1.000	0.000	2.00	8.142	8.14	456.7	0.0	985.6
41.00	RT5 RB7	1.68	0.77	31.925	35.12	455.26	1.000	0.000	1.00	4.046	4.05	227.4	0.0	489.8
42.00	Top - Section 1	1.67	0.77	31.976	35.17	453.73	1.000	0.000	1.00	4.030	4.03	226.8	0.0	487.7
44.00		1.65	0.78	32.068	35.27	458.02	1.000	0.000	2.00	8.010	8.01	452.1	0.0	454.1
46.00		1.64	0.79	32.146	35.36	454.78	1.000	0.000	2.00	7.944	7.94	449.5	0.0	450.3
48.00		1.62	0.80	32.214	35.44	451.46	1.000	0.000	2.00	7.878	7.88	446.7	0.0	446.6
50.00		1.60	0.81	32.271	35.50	448.06	1.000	0.000	2.00	7.812	7.81	443.7	0.0	442.8
52.00		1.59	0.82	32.320	35.55	444.59	1.000	0.000	2.00	7.746	7.75	440.6	0.0	439.0
54.00		1.57	0.83	32.360	35.60	441.07	1.000	0.000	2.00	7.680	7.68	437.4	0.0	435.2
56.00		1.56	0.84	32.394	35.63	437.49	1.000	0.000	2.00	7.614	7.61	434.1	0.0	431.5
57.11	RT6	1.55	0.84	32.410	35.65	435.48	1.000	0.000	1.11	4.197	4.20	239.4	0.0	237.8
58.00	RB8	1.55	0.85	32.422	35.66	433.86	1.000	0.000	0.89	3.351	3.35	191.2	0.0	189.9
58.50	RT7	1.54	0.85	32.427	35.67	432.95	1.000	0.000	0.50	1.877	1.88	107.1	0.0	106.3
60.00		1.53	0.85	32.444	35.69	430.19	1.000	0.000	1.50	5.606	5.61	320.1	0.0	317.6
62.00		1.52	0.86	32.461	35.71	426.50	1.000	0.000	2.00	7.416	7.42	423.7	0.0	420.2
64.00		1.50	0.87	32.474	35.72	422.77	1.000	0.000	2.00	7.350	7.35	420.1	0.0	416.4
66.00		1.49	0.88	32.483	35.73	419.01	1.000	0.000	2.00	7.284	7.28	416.4	0.0	412.6
68.00		1.48	0.89	32.488	35.74	415.23	1.000	0.000	2.00	7.218	7.22	412.7	0.0	408.8
70.00	Bot - Section 3	1.47	0.89	32.491	35.74	411.44	1.000	0.000	2.00	7.152	7.15	409.0	0.0	405.1
72.00		1.46	0.90	32.492	35.74	407.62	1.000	0.000	2.00	7.194	7.19	411.4	0.0	741.3

Wind Loading - Shaft

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 11	

74.00		1.44	0.91	32.490	35.74	403.80	1.000	0.000	2.00	7.128	7.13	407.6	0.0	734.4
76.00	Top - Section 2 RT8	1.43	0.91	32.486	35.73	399.96	1.000	0.000	2.00	7.062	7.06	403.8	0.0	727.5
78.00		1.42	0.92	32.481	35.73	402.34	1.000	0.000	2.00	6.996	7.00	399.9	0.0	330.6
80.00		1.41	0.93	32.474	35.72	398.49	1.000	0.000	2.00	6.930	6.93	396.1	0.0	327.5
82.00		1.40	0.93	32.466	35.71	394.63	1.000	0.000	2.00	6.864	6.86	392.2	0.0	324.3
84.00		1.39	0.94	32.458	35.70	390.76	1.000	0.000	2.00	6.798	6.80	388.3	0.0	321.2
86.00		1.38	0.95	32.448	35.69	386.89	1.000	0.000	2.00	6.732	6.73	384.5	0.0	318.0
88.00		1.37	0.95	32.438	35.68	383.02	1.000	0.000	2.00	6.666	6.67	380.6	0.0	314.9
90.00		1.36	0.96	32.428	35.67	379.15	1.000	0.000	2.00	6.600	6.60	376.7	0.0	311.8
92.00		1.35	0.96	32.417	35.66	375.28	1.000	0.000	2.00	6.534	6.53	372.8	0.0	308.6
94.00		1.35	0.97	32.407	35.65	371.40	1.000	0.000	2.00	6.468	6.47	368.9	0.0	305.5
96.00	RT9 RB10	1.34	0.98	32.396	35.64	367.53	1.000	0.000	2.00	6.402	6.40	365.0	0.0	302.3
98.00		1.33	0.98	32.385	35.62	363.66	1.000	0.000	2.00	6.336	6.34	361.1	0.0	299.2
100.00	Top - Section 3	1.32	0.99	32.375	35.61	359.80	1.000	0.000	2.00	6.270	6.27	357.3	0.0	296.0
102.00		1.31	0.99	32.364	35.60	355.93	1.000	0.000	2.00	6.204	6.20	353.4	0.0	234.7
104.00		1.30	1.00	32.355	35.59	352.07	1.000	0.000	2.00	6.138	6.14	349.5	0.0	232.2
106.00		1.30	1.00	32.345	35.58	348.21	1.000	0.000	2.00	6.072	6.07	345.7	0.0	229.7
108.00		1.29	1.01	32.336	35.57	344.36	1.000	0.000	2.00	6.006	6.01	341.8	0.0	227.2
110.00		1.28	1.02	32.327	35.56	340.51	1.000	0.000	2.00	5.940	5.94	338.0	0.0	224.7
112.00		1.28	1.02	32.319	35.55	336.66	1.000	0.000	2.00	5.874	5.87	334.1	0.0	222.2
113.50	RT10	1.27	1.02	32.314	35.55	333.78	1.000	0.000	1.50	4.362	4.36	248.1	0.0	165.0
114.00		1.27	1.03	32.312	35.54	332.82	1.000	0.000	0.50	1.446	1.45	82.2	0.0	54.7
115.00	Bot - Section 5	1.27	1.03	32.309	35.54	330.90	1.000	0.000	1.00	2.879	2.88	163.7	0.0	108.9
116.00		1.26	1.03	32.305	35.54	328.98	1.000	0.000	1.00	2.906	2.91	165.2	0.0	218.1
118.00		1.26	1.04	32.299	35.53	325.14	1.000	0.000	2.00	5.762	5.76	327.6	0.0	432.5
120.00	Top - Section 4	1.25	1.04	32.294	35.52	321.31	1.000	0.000	2.00	5.696	5.70	323.7	0.0	427.5
122.00		1.24	1.05	32.289	35.52	322.46	1.000	0.000	2.00	5.630	5.63	319.9	0.0	212.9
124.00		1.24	1.05	32.286	35.51	318.63	1.000	0.000	2.00	5.564	5.56	316.2	0.0	210.3
126.00		1.23	1.06	32.282	35.51	314.82	1.000	0.000	2.00	5.498	5.50	312.4	0.0	207.8
127.00	Appurtenance(s)	1.23	1.06	32.281	35.51	312.91	1.000	0.000	1.00	2.724	2.72	154.8	0.0	103.0
128.00		1.23	1.06	32.280	35.51	311.00	1.000	0.000	1.00	2.708	2.71	153.8	0.0	102.3
130.00		1.22	1.07	32.279	35.51	307.19	1.000	0.000	2.00	5.366	5.37	304.8	0.0	202.8
132.00		1.22	1.07	32.278	35.51	303.39	1.000	0.000	2.00	5.300	5.30	301.1	0.0	200.3
134.00		1.21	1.07	32.278	35.51	299.59	1.000	0.000	2.00	5.234	5.23	297.3	0.0	197.8
136.00		1.21	1.08	32.279	35.51	295.79	1.000	0.000	2.00	5.168	5.17	293.6	0.0	195.3
137.00	Appurtenance(s)	1.20	1.08	32.280	35.51	293.89	1.000	0.000	1.00	2.559	2.56	145.4	0.0	96.7
138.00		1.20	1.08	32.281	35.51	291.99	1.000	0.000	1.00	2.543	2.54	144.5	0.0	96.1
140.00		1.20	1.09	32.284	35.51	288.20	1.000	0.000	2.00	5.036	5.04	286.1	0.0	190.2
142.00		1.19	1.09	32.288	35.52	284.42	1.000	0.000	2.00	4.970	4.97	282.4	0.0	187.7
144.00		1.19	1.10	32.292	35.52	280.63	1.000	0.000	2.00	4.904	4.90	278.7	0.0	185.2
146.00		1.18	1.10	32.297	35.53	276.85	1.000	0.000	2.00	4.838	4.84	275.0	0.0	182.7
147.00	Appurtenance(s)	1.18	1.10	32.300	35.53	274.96	1.000	0.000	1.00	2.394	2.39	136.1	0.0	90.4
148.00		1.18	1.11	32.304	35.53	273.08	1.000	0.000	1.00	2.378	2.38	135.2	0.0	89.8
150.00		1.17	1.11	32.311	35.54	269.30	1.000	0.000	2.00	4.706	4.71	267.6	0.0	177.7
152.00		1.17	1.11	32.318	35.55	265.53	1.000	0.000	2.00	4.640	4.64	263.9	0.0	175.1
154.00		1.17	1.12	32.327	35.56	261.76	1.000	0.000	2.00	4.574	4.57	260.2	0.0	172.6
155.00	Appurtenance(s)	1.16	1.12	32.332	35.56	259.87	1.000	0.000	1.00	2.262	2.26	128.7	0.0	85.4
								Totals:	**155.00**			**30,890.4**		**31,328.6**

Discrete Appurtenance Forces

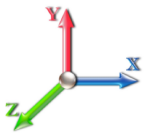
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	155.00	DB-T1-6Z-8AB-0Z	1	32.332	35.565	0.45	0.90	1.80	22.68	0.000	0.000	102.43	0.00	0.00
2	155.00	FD9R6004/2C-3L	6	32.332	35.565	0.45	0.90	0.97	22.32	0.000	0.000	55.31	0.00	0.00
3	155.00	RRH2X60-700	3	32.332	35.565	0.45	0.90	2.54	165.60	0.000	0.000	144.42	0.00	0.00
4	155.00	RRH2X60-PCS	3	32.332	35.565	0.45	0.90	2.97	198.00	0.000	0.000	169.00	0.00	0.00
5	155.00	RRH2X60-AWS	3	32.332	35.565	0.45	0.90	4.73	198.00	0.000	0.000	268.87	0.00	0.00
6	155.00	HBXX-6517DS-A2M	6	32.332	35.565	0.69	0.90	35.55	293.76	0.000	0.000	2022.99	0.00	0.00
7	155.00	BXA-70080-4BF	3	32.332	35.565	0.68	0.90	9.77	46.80	0.000	0.000	555.81	0.00	0.00
8	155.00	LNX-6514DS-A1M	3	32.332	35.565	0.75	0.90	18.31	138.24	0.000	0.000	1041.85	0.00	0.00
9	155.00	(3) T-Frame w/ Platforms	1	32.332	35.565	1.00	1.00	25.00	1944.00	0.000	0.000	1422.60	0.00	0.00
10	147.00	APXVSPP18-C-A20	3	32.300	35.530	0.66	0.80	15.98	205.20	0.000	0.000	908.21	0.00	0.00
11	147.00	(3) SFS-H (V-Braces)	1	32.300	35.530	0.75	0.75	7.20	236.40	0.000	0.000	409.31	0.00	0.00
12	147.00	APXVTM14-C-I20	3	32.300	35.530	0.63	0.80	12.02	201.60	0.000	0.000	683.36	0.00	0.00
13	147.00	PRK-1245 (kicker kit)	1	32.300	35.530	1.00	1.00	9.50	557.89	0.000	0.000	540.06	0.00	0.00
14	147.00	(3) T-Frame w/ Platforms	1	32.300	35.530	1.00	1.00	25.00	1944.00	0.000	0.000	1421.22	0.00	0.00
15	147.00	RFS ACU-A20-N RET	4	32.300	35.530	0.40	0.80	0.22	4.80	0.000	0.000	12.73	0.00	0.00
16	147.00	Alcatel Lucent	3	32.300	35.530	0.40	0.80	4.86	252.00	0.000	0.000	276.28	0.00	0.00
17	147.00	Alcatel Lucent 1900 MHz	3	32.300	35.530	0.40	0.80	2.77	216.00	0.000	0.000	157.58	0.00	0.00
18	147.00	Alcatel Lucent 800 MHz	3	32.300	35.530	0.40	0.80	2.99	190.80	0.000	0.000	169.86	0.00	0.00
19	147.00	Alcatel Lucent 800 MHz	3	32.300	35.530	0.40	0.80	0.94	31.68	0.000	0.000	53.21	0.00	0.00
20	137.00	RRUS 4415 B25	2	32.280	35.508	0.40	0.80	1.31	110.40	0.000	0.000	74.54	0.00	0.00
21	137.00	4449 B71 + B85	2	32.280	35.508	0.40	0.80	1.58	175.68	0.000	0.000	89.54	0.00	0.00
22	137.00	AIR6449 B41	2	32.280	35.508	0.57	0.80	6.42	247.20	0.000	0.000	364.65	0.00	0.00
23	137.00	(3) T-Framew/ walking	1	32.280	35.508	1.00	1.00	25.00	1944.00	0.000	0.000	1420.33	0.00	0.00
24	137.00	(3) HR w/ V-Brace Kits	1	32.280	35.508	1.00	1.00	8.50	540.00	0.000	0.000	482.91	0.00	0.00
25	137.00	PRK-1245 (kicker kit)	1	32.280	35.508	1.00	1.00	8.50	535.09	0.000	0.000	482.91	0.00	0.00
26	137.00	APXVAALL24_43-U-NA20	2	32.280	35.508	0.56	0.80	22.67	307.20	0.000	0.000	1287.89	0.00	0.00
27	137.00	KRD 9011461-B66A-B2A	2	32.280	35.508	0.70	0.80	9.06	317.28	0.000	0.000	514.84	0.00	0.00
28	137.00	KRY 112 144/2	3	32.280	35.508	0.40	0.80	0.49	39.60	0.000	0.000	27.95	0.00	0.00
29	127.00	4415 B30	3	32.281	35.509	0.38	0.75	2.09	158.76	0.000	0.000	118.89	0.00	0.00
30	127.00	HRK12 (Handrail Kit)	1	32.281	35.509	1.00	1.00	6.75	314.06	0.000	0.000	383.50	0.00	0.00
31	127.00	DC9-48-60-24-8C-EV	1	32.281	35.509	0.38	0.75	0.43	31.44	0.000	0.000	24.29	0.00	0.00
32	127.00	7770.00	3	32.281	35.509	0.55	0.75	9.03	126.00	0.000	0.000	513.25	0.00	0.00
33	127.00	8843 B2 B66A	3	32.281	35.509	0.38	0.75	1.85	252.00	0.000	0.000	104.82	0.00	0.00
34	127.00	Low Profile	1	32.281	35.509	1.00	1.00	25.00	1800.00	0.000	0.000	1420.37	0.00	0.00
35	127.00	LGP13519	6	32.281	35.509	0.38	0.75	0.77	38.16	0.000	0.000	43.46	0.00	0.00
36	127.00	DTMABP7819VG12A	3	32.281	35.509	0.38	0.75	1.28	69.12	0.000	0.000	72.87	0.00	0.00
37	127.00	4449 B5/B12	3	32.281	35.509	0.38	0.75	2.22	255.60	0.000	0.000	125.92	0.00	0.00
38	127.00	RRUS 4478 B14	3	32.281	35.509	0.38	0.75	1.86	213.84	0.000	0.000	105.46	0.00	0.00
39	127.00	DC6-48-60-18-8F	1	32.281	35.509	0.38	0.75	0.35	38.16	0.000	0.000	19.60	0.00	0.00
40	127.00	DMP65R-BU6DA	3	32.281	35.509	0.54	0.75	20.59	285.84	0.000	0.000	1169.83	0.00	0.00
41	127.00	840370799	3	32.281	35.509	0.52	0.75	24.73	67.32	0.000	0.000	1405.11	0.00	0.00
							Totals:		**14,736.53**			**20,668.06**		

Total Applied Force Summary

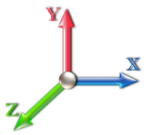
Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 13

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		608.77	681.60	0.00	0.00
4.00		595.64	677.24	0.00	0.00
6.00		582.89	672.88	0.00	0.00
8.00		570.52	668.53	0.00	0.00
10.00		558.50	664.17	0.00	0.00
11.50		411.91	495.27	0.00	0.00
12.00		136.33	164.54	0.00	0.00
14.00		535.51	655.45	0.00	0.00
14.16		42.62	52.25	0.00	0.00
14.84		180.04	221.74	0.00	0.00
16.00		303.73	377.11	0.00	0.00
16.50		130.08	162.09	0.00	0.00
18.00		384.98	484.65	0.00	0.00
20.00		503.40	642.38	0.00	0.00
21.00		248.68	319.56	0.00	0.00
22.00		246.17	318.47	0.00	0.00
24.00		483.45	633.67	0.00	0.00
26.00		473.89	629.31	0.00	0.00
28.00		464.58	624.95	0.00	0.00
30.00		455.90	620.60	0.00	0.00
32.00		455.40	616.24	0.00	0.00
34.00		454.44	611.88	0.00	0.00
36.00		453.10	607.52	0.00	0.00
37.06		243.06	567.37	0.00	0.00
37.96		205.96	479.93	0.00	0.00
38.00		9.14	21.29	0.00	0.00
40.00		456.72	1060.46	0.00	0.00
41.00		227.36	527.18	0.00	0.00
42.00		226.80	525.15	0.00	0.00
44.00		452.10	528.94	0.00	0.00
46.00		449.47	525.17	0.00	0.00
48.00		446.67	521.40	0.00	0.00
50.00		443.72	517.62	0.00	0.00
52.00		440.63	513.85	0.00	0.00
54.00		437.43	510.08	0.00	0.00
56.00		434.12	506.31	0.00	0.00
57.11		239.43	279.37	0.00	0.00
58.00		191.20	223.16	0.00	0.00
58.50		107.11	127.71	0.00	0.00
60.00		320.08	381.71	0.00	0.00
62.00		423.70	505.64	0.00	0.00
64.00		420.09	501.87	0.00	0.00
66.00		416.43	498.10	0.00	0.00
68.00		412.73	494.33	0.00	0.00
70.00		409.00	490.55	0.00	0.00
72.00		411.39	826.84	0.00	0.00

Total Applied Force Summary

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 14

Tower Engineering Solutions

74.00		407.59	819.92	0.00	0.00
76.00		403.77	813.00	0.00	0.00
78.00		399.93	416.12	0.00	0.00
80.00		396.08	412.97	0.00	0.00
82.00		392.21	409.83	0.00	0.00
84.00		388.34	406.69	0.00	0.00
86.00		384.46	403.54	0.00	0.00
88.00		380.57	400.40	0.00	0.00
90.00		376.68	397.25	0.00	0.00
92.00		372.79	394.11	0.00	0.00
94.00		368.90	390.97	0.00	0.00
96.00		365.01	387.82	0.00	0.00
98.00		361.13	384.68	0.00	0.00
100.00		357.25	381.53	0.00	0.00
102.00		353.38	320.22	0.00	0.00
104.00		349.51	317.71	0.00	0.00
106.00		345.65	315.19	0.00	0.00
108.00		341.80	312.68	0.00	0.00
110.00		337.95	310.16	0.00	0.00
112.00		334.11	307.65	0.00	0.00
113.50		248.08	229.08	0.00	0.00
114.00		82.22	76.05	0.00	0.00
115.00		163.72	151.62	0.00	0.00
116.00		165.21	260.88	0.00	0.00
118.00		327.55	517.99	0.00	0.00
120.00		323.75	512.96	0.00	0.00
122.00		319.95	298.36	0.00	0.00
124.00		316.16	295.84	0.00	0.00
126.00		312.38	293.33	0.00	0.00
127.00	(34) attachments	5662.15	3796.02	0.00	0.00
128.00		153.83	127.21	0.00	0.00
130.00		304.84	252.53	0.00	0.00
132.00		301.09	250.02	0.00	0.00
134.00		297.34	247.50	0.00	0.00
136.00		293.60	244.99	0.00	0.00
137.00	(16) attachments	4890.96	4338.00	0.00	0.00
138.00		144.46	115.59	0.00	0.00
140.00		286.14	229.30	0.00	0.00
142.00		282.42	226.78	0.00	0.00
144.00		278.71	224.27	0.00	0.00
146.00		275.00	221.75	0.00	0.00
147.00	(25) attachments	4767.94	3950.31	0.00	0.00
148.00		135.18	106.14	0.00	0.00
150.00		267.60	210.39	0.00	0.00
152.00		263.91	207.87	0.00	0.00
154.00		260.23	205.36	0.00	0.00
155.00	(29) attachments	5912.01	3131.14	0.00	0.00
	Totals:	**51,558.41**	**51,759.84**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

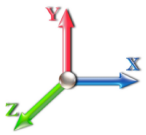
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.064	0.000	37.324	0.00	0.00
4.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.064	0.000	36.781	0.00	0.00
6.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.065	0.000	36.254	0.00	0.00
8.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.065	0.000	35.743	0.00	0.00
10.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.066	0.000	35.247	0.00	0.00
11.50	10"x1/2" Bent plate	Yes	1.50	0.000	3.56	0.45	0.00	0.066	0.000	34.884	0.00	0.00
12.00	10"x1/2" Bent plate	Yes	0.50	0.000	3.56	0.15	0.00	0.067	0.000	34.765	0.00	0.00
14.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.067	0.000	34.298	0.00	0.00
14.16	10"x1/2" Bent plate	Yes	0.16	0.000	3.56	0.05	0.00	0.067	0.000	34.261	0.00	0.00
14.84	10"x1/2" Bent plate	Yes	0.68	0.000	3.56	0.20	0.00	0.067	0.000	34.106	0.00	0.00
16.00	10"x1/2" Bent plate	Yes	1.16	0.000	3.56	0.34	0.00	0.067	0.000	33.845	0.00	0.00
16.50	10"x1/2" Bent plate	Yes	0.50	0.000	3.56	0.15	0.00	0.068	0.000	33.734	0.00	0.00
18.00	10"x1/2" Bent plate	Yes	1.50	0.000	3.56	0.45	0.00	0.068	0.000	33.405	0.00	0.00
20.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.068	0.000	32.978	0.00	0.00
21.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.069	0.000	32.769	0.00	0.00
22.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.069	0.000	32.563	0.00	0.00
24.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.069	0.000	32.161	0.00	0.00
26.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.070	0.000	31.770	0.00	0.00
28.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.071	0.000	31.390	0.00	0.00
30.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.071	0.000	31.048	0.00	0.00
32.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.072	0.000	31.261	0.00	0.00
34.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.072	0.000	31.446	0.00	0.00
36.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.073	0.000	31.608	0.00	0.00
37.06	10"x1/2" Bent plate	Yes	1.06	0.000	3.56	0.31	0.00	0.073	0.000	31.685	0.00	0.00
37.96	10"x1/2" Bent plate	Yes	0.90	0.000	3.56	0.27	0.00	0.074	0.000	31.746	0.00	0.00
38.00	10"x1/2" Bent plate	Yes	0.04	0.000	3.56	0.01	0.00	0.074	0.000	31.748	0.00	0.00
40.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.074	0.000	31.870	0.00	0.00
41.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.075	0.000	31.925	0.00	0.00
42.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.075	0.000	31.976	0.00	0.00
44.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.074	0.000	32.068	0.00	0.00
46.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.075	0.000	32.146	0.00	0.00
48.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.075	0.000	32.214	0.00	0.00
50.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.076	0.000	32.271	0.00	0.00
52.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.077	0.000	32.320	0.00	0.00
54.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.077	0.000	32.360	0.00	0.00
56.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.078	0.000	32.394	0.00	0.00
57.11	10"x1/2" Bent plate	Yes	1.11	0.000	3.56	0.33	0.00	0.078	0.000	32.410	0.00	0.00
58.00	10"x1/2" Bent plate	Yes	0.89	0.000	3.56	0.26	0.00	0.079	0.000	32.422	0.00	0.00
58.50	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.028	0.000	32.427	0.00	0.00
60.00	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.028	0.000	32.444	0.00	0.00
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	32.461	0.00	0.00
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	32.474	0.00	0.00
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	32.483	0.00	0.00
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	32.488	0.00	0.00
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	32.491	0.00	0.00
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	32.492	0.00	0.00
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	32.490	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

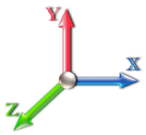
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	32.486	0.00	0.00
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	32.481	0.00	0.00
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	32.474	0.00	0.00
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	32.466	0.00	0.00
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	32.458	0.00	0.00
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	32.448	0.00	0.00
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	32.438	0.00	0.00
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	32.428	0.00	0.00
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	32.417	0.00	0.00
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	32.407	0.00	0.00
96.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	32.396	0.00	0.00
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	32.385	0.00	0.00
100.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	32.375	0.00	0.00
102.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	32.364	0.00	0.00
104.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	32.355	0.00	0.00
106.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	32.345	0.00	0.00
108.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	32.336	0.00	0.00
110.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	32.327	0.00	0.00
112.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	32.319	0.00	0.00
113.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.036	0.000	32.314	0.00	0.00
114.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.036	0.000	32.312	0.00	0.00
115.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.036	0.000	32.309	0.00	0.00
										Totals:	**0.0**	**0.0**

Calculated Forces

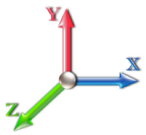
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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	-51.72	-51.59	0.00	-5212.7	0.00	5212.71	4048.32	2024.16	8933.65	4411.99	0.00	0.000	0.000	0.821
2.00	-50.98	-51.05	0.00	-5109.5	0.00	5109.53	4032.02	2016.01	8833.50	4362.53	0.02	-0.074	0.000	0.811
4.00	-50.24	-50.52	0.00	-5007.4	0.00	5007.43	4015.53	2007.77	8733.46	4313.13	0.06	-0.148	0.000	0.802
6.00	-49.50	-49.99	0.00	-4906.4	0.00	4906.40	3998.87	1999.43	8633.56	4263.79	0.14	-0.222	0.000	0.793
8.00	-48.77	-49.48	0.00	-4806.4	0.00	4806.41	3982.01	1991.01	8533.79	4214.52	0.25	-0.296	0.000	0.784
10.00	-48.06	-48.98	0.00	-4707.4	0.00	4707.45	3964.98	1982.49	8434.18	4165.32	0.39	-0.370	0.000	0.775
11.50	-47.53	-48.59	0.00	-4633.9	0.00	4633.98	3952.09	1976.04	8359.57	4128.48	0.52	-0.425	0.000	0.671
12.00	-47.33	-48.49	0.00	-4609.6	0.00	4609.69	3947.76	1973.88	8334.72	4116.20	0.56	-0.441	0.000	0.669
14.00	-46.66	-47.97	0.00	-4512.7	0.00	4512.72	3930.37	1965.18	8235.42	4067.17	0.76	-0.506	0.000	0.661
14.16	-46.59	-47.94	0.00	-4505.0	0.00	4505.04	3928.97	1964.48	8227.49	4063.25	0.78	-0.511	0.000	0.781
14.84	-46.34	-47.79	0.00	-4472.4	0.00	4472.44	3923.00	1961.50	8193.77	4046.60	0.85	-0.537	0.000	0.657
16.00	-45.95	-47.50	0.00	-4417.0	0.00	4417.01	3912.78	1956.39	8136.31	4018.22	0.99	-0.574	0.000	0.652
16.50	-45.76	-47.40	0.00	-4393.2	0.00	4393.26	3908.36	1954.18	8111.55	4005.99	1.05	-0.590	0.000	0.745
18.00	-45.22	-47.06	0.00	-4322.1	0.00	4322.16	3895.02	1947.51	8037.37	3969.35	1.24	-0.645	0.000	0.738
20.00	-44.54	-46.59	0.00	-4228.0	0.00	4228.05	3877.07	1938.54	7938.63	3920.59	1.53	-0.718	0.000	0.729
21.00	-44.20	-46.36	0.00	-4181.4	0.00	4181.46	3868.03	1934.02	7889.33	3896.24	1.69	-0.755	0.000	0.724
22.00	-43.84	-46.16	0.00	-4135.1	0.00	4135.10	3858.94	1929.47	7840.08	3871.92	1.85	-0.792	0.000	0.719
24.00	-43.15	-45.72	0.00	-4042.7	0.00	4042.79	3840.63	1920.32	7741.75	3823.36	2.20	-0.865	0.000	0.710
26.00	-42.47	-45.29	0.00	-3951.3	0.00	3951.35	3822.14	1911.07	7643.63	3774.90	2.57	-0.937	0.000	0.701
28.00	-41.80	-44.87	0.00	-3860.7	0.00	3860.77	3803.46	1901.73	7545.74	3726.56	2.98	-1.010	0.000	0.691
30.00	-41.13	-44.45	0.00	-3771.0	0.00	3771.04	3784.60	1892.30	7448.09	3678.33	3.42	-1.082	0.000	0.682
32.00	-40.47	-44.03	0.00	-3682.1	0.00	3682.14	3765.56	1882.78	7350.68	3630.22	3.89	-1.154	0.000	0.673
34.00	-39.81	-43.62	0.00	-3594.0	0.00	3594.07	3746.34	1873.17	7253.52	3582.24	4.39	-1.226	0.000	0.663
36.00	-39.17	-43.19	0.00	-3506.8	0.00	3506.84	3726.93	1863.47	7156.62	3534.39	4.92	-1.298	0.000	0.654
37.06	-38.58	-42.96	0.00	-3461.0	0.00	3461.06	3716.57	1858.29	7105.38	3509.08	5.21	-1.336	0.000	0.797
37.96	-38.09	-42.76	0.00	-3422.4	0.00	3422.40	3707.74	1853.87	7061.93	3487.62	5.47	-1.375	0.000	0.638
38.00	-38.05	-42.77	0.00	-3420.6	0.00	3420.69	3707.34	1853.67	7060.00	3486.67	5.48	-1.377	0.000	0.637
40.00	-36.96	-42.32	0.00	-3335.1	0.00	3335.15	3687.57	1843.78	6963.65	3439.09	6.07	-1.447	0.000	0.628
41.00	-36.41	-42.10	0.00	-3292.8	0.00	3292.83	3677.62	1838.81	6915.58	3415.35	6.38	-1.482	0.000	0.623
42.00	-35.85	-41.89	0.00	-3250.7	0.00	3250.73	3033.05	1516.53	5788.55	2858.75	6.69	-1.518	0.000	0.670
44.00	-35.28	-41.47	0.00	-3166.9	0.00	3166.94	3018.90	1509.45	5713.49	2821.68	7.34	-1.587	0.000	0.697
46.00	-34.72	-41.05	0.00	-3084.0	0.00	3084.00	3004.56	1502.28	5638.53	2784.66	8.02	-1.661	0.000	0.686
48.00	-34.16	-40.63	0.00	-3001.8	0.00	3001.89	2990.04	1495.02	5563.69	2747.70	8.74	-1.734	0.000	0.674
50.00	-33.61	-40.22	0.00	-2920.6	0.00	2920.62	2975.34	1487.67	5488.97	2710.80	9.48	-1.807	0.000	0.662
52.00	-33.06	-39.80	0.00	-2840.1	0.00	2840.19	2960.46	1480.23	5414.39	2673.96	10.25	-1.879	0.000	0.650
54.00	-32.51	-39.39	0.00	-2760.5	0.00	2760.59	2945.39	1472.69	5339.95	2637.20	11.05	-1.951	0.000	0.638
56.00	-31.98	-38.97	0.00	-2681.8	0.00	2681.81	2930.14	1465.07	5265.67	2600.52	11.89	-2.022	0.000	0.626
57.11	-31.69	-38.74	0.00	-2638.5	0.00	2638.56	2921.60	1460.80	5224.51	2580.19	12.36	-2.062	0.000	0.794
58.00	-31.45	-38.56	0.00	-2604.0	0.00	2604.08	2914.71	1457.35	5191.54	2563.91	12.75	-2.102	0.000	0.610
58.50	-31.30	-38.47	0.00	-2584.8	0.00	2584.80	2910.82	1455.41	5173.04	2554.77	12.97	-2.120	0.000	0.741
60.00	-30.88	-38.17	0.00	-2527.1	0.00	2527.10	2899.09	1449.55	5117.58	2527.38	13.65	-2.184	0.000	0.731
62.00	-30.34	-37.78	0.00	-2450.7	0.00	2450.75	2883.30	1441.65	5043.81	2490.95	14.58	-2.269	0.000	0.717
64.00	-29.80	-37.38	0.00	-2375.2	0.00	2375.20	2867.32	1433.66	4970.21	2454.60	15.55	-2.353	0.000	0.703
66.00	-29.26	-36.99	0.00	-2300.4	0.00	2300.44	2851.15	1425.58	4896.82	2418.35	16.55	-2.436	0.000	0.690
68.00	-28.73	-36.59	0.00	-2226.4	0.00	2226.47	2834.81	1417.40	4823.62	2382.21	17.59	-2.519	0.000	0.676
70.00	-28.21	-36.20	0.00	-2153.2	0.00	2153.28	2818.28	1409.14	4750.64	2346.16	18.67	-2.601	0.000	0.662
72.00	-27.35	-35.79	0.00	-2080.8	0.00	2080.88	2801.57	1400.79	4677.88	2310.23	19.77	-2.683	0.000	0.642
74.00	-26.50	-35.38	0.00	-2009.2	0.00	2009.29	2784.68	1392.34	4605.35	2274.41	20.91	-2.763	0.000	0.628

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 18

76.00	-25.66	-34.98	0.00	-1938.5	0.00	1938.53	2161.97	1080.98	3608.45	1782.08	22.09	-2.842	0.000	0.697
78.00	-25.22	-34.59	0.00	-1868.5	0.00	1868.58	2151.06	1075.53	3556.01	1756.18	23.30	-2.923	0.000	0.746
80.00	-24.77	-34.21	0.00	-1799.3	0.00	1799.39	2139.97	1069.98	3503.61	1730.30	24.54	-3.010	0.000	0.727
82.00	-24.33	-33.84	0.00	-1730.9	0.00	1730.97	2128.69	1064.35	3451.27	1704.45	25.82	-3.097	0.000	0.707
84.00	-23.90	-33.46	0.00	-1663.2	0.00	1663.29	2117.24	1058.62	3398.99	1678.63	27.13	-3.182	0.000	0.688
86.00	-23.47	-33.09	0.00	-1596.3	0.00	1596.37	2105.60	1052.80	3346.79	1652.86	28.49	-3.266	0.000	0.669
88.00	-23.05	-32.72	0.00	-1530.1	0.00	1530.19	2093.78	1046.89	3294.68	1627.12	29.87	-3.349	0.000	0.649
90.00	-22.63	-32.35	0.00	-1464.7	0.00	1464.75	2081.77	1040.89	3242.65	1601.42	31.29	-3.431	0.000	0.629
92.00	-22.21	-31.99	0.00	-1400.0	0.00	1400.05	2069.59	1034.79	3190.73	1575.78	32.75	-3.511	0.000	0.609
94.00	-21.80	-31.62	0.00	-1336.0	0.00	1336.07	2057.22	1028.61	3138.91	1550.19	34.23	-3.589	0.000	0.589
96.00	-21.39	-31.27	0.00	-1272.8	0.00	1272.83	2044.67	1022.33	3087.22	1524.66	35.75	-3.666	0.000	0.613
98.00	-20.99	-30.91	0.00	-1210.3	0.00	1210.30	2031.93	1015.97	3035.65	1499.19	37.31	-3.748	0.000	0.591
100.00	-20.59	-30.56	0.00	-1148.4	0.00	1148.48	2019.02	1009.51	2984.22	1473.79	38.89	-3.827	0.000	0.569
100.00	-20.59	-30.56	0.00	-1148.4	0.00	1148.48	1394.49	697.25	2068.33	1021.47	38.89	-3.827	0.000	0.661
102.00	-20.25	-30.21	0.00	-1087.3	0.00	1087.37	1387.39	693.70	2035.72	1005.36	40.51	-3.904	0.000	0.738
104.00	-19.91	-29.87	0.00	-1026.9	0.00	1026.95	1380.13	690.06	2003.09	989.25	42.17	-3.992	0.000	0.706
106.00	-19.58	-29.53	0.00	-967.21	0.00	967.21	1372.69	686.35	1970.45	973.13	43.86	-4.077	0.000	0.673
108.00	-19.25	-29.20	0.00	-908.14	0.00	908.14	1365.09	682.55	1937.81	957.01	45.58	-4.160	0.000	0.641
110.00	-18.93	-28.86	0.00	-849.75	0.00	849.75	1357.32	678.66	1905.17	940.89	47.34	-4.239	0.000	0.608
112.00	-18.61	-28.53	0.00	-792.03	0.00	792.03	1349.39	674.69	1872.56	924.79	49.13	-4.316	0.000	0.574
113.50	-18.39	-28.27	0.00	-749.24	0.00	749.24	1343.33	671.66	1848.11	912.71	50.49	-4.371	0.000	0.549
113.50	-18.39	-28.27	0.00	-749.24	0.00	749.24	1343.33	671.66	1848.11	912.71	50.49	-4.371	0.000	0.549
114.00	-18.30	-28.20	0.00	-735.10	0.00	735.10	1341.28	670.64	1839.96	908.69	50.95	-4.389	0.000	0.824
115.00	-18.13	-28.04	0.00	-706.90	0.00	706.90	1337.17	668.58	1823.68	900.65	51.88	-4.444	0.000	0.800
116.00	-17.85	-27.88	0.00	-678.86	0.00	678.86	1333.01	666.51	1807.40	892.61	52.81	-4.497	0.000	0.776
118.00	-17.31	-27.54	0.00	-623.10	0.00	623.10	1324.58	662.29	1774.88	876.54	54.72	-4.599	0.000	0.726
120.00	-16.78	-27.21	0.00	-568.02	0.00	568.02	1327.18	663.59	1784.85	881.47	56.67	-4.695	0.000	0.659
122.00	-16.47	-26.89	0.00	-513.60	0.00	513.60	1318.63	659.32	1752.36	865.43	58.65	-4.786	0.000	0.608
124.00	-16.16	-26.57	0.00	-459.83	0.00	459.83	1309.91	654.95	1719.92	849.40	60.67	-4.867	0.000	0.555
126.00	-15.87	-26.25	0.00	-406.69	0.00	406.69	1301.02	650.51	1687.54	833.41	62.73	-4.942	0.000	0.502
127.00	-12.57	-20.29	0.00	-380.45	0.00	380.45	1296.51	648.26	1671.38	825.43	63.77	-4.977	0.000	0.472
128.00	-12.44	-20.13	0.00	-360.16	0.00	360.16	1291.97	645.98	1655.23	817.46	64.81	-5.010	0.000	0.451
130.00	-12.19	-19.82	0.00	-319.90	0.00	319.90	1282.74	641.37	1623.00	801.54	66.92	-5.073	0.000	0.410
132.00	-11.95	-19.51	0.00	-280.26	0.00	280.26	1273.35	636.68	1590.85	785.66	69.06	-5.131	0.000	0.367
134.00	-11.72	-19.20	0.00	-241.24	0.00	241.24	1263.80	631.90	1558.80	769.83	71.22	-5.183	0.000	0.324
136.00	-11.49	-18.89	0.00	-202.84	0.00	202.84	1254.07	627.04	1526.84	754.05	73.40	-5.229	0.000	0.279
137.00	-7.61	-13.63	0.00	-183.95	0.00	183.95	1249.15	624.57	1510.90	746.18	74.49	-5.250	0.000	0.253
138.00	-7.50	-13.48	0.00	-170.32	0.00	170.32	1244.18	622.09	1494.99	738.32	75.59	-5.269	0.000	0.237
140.00	-7.29	-13.18	0.00	-143.36	0.00	143.36	1234.12	617.06	1463.26	722.65	77.80	-5.305	0.000	0.205
142.00	-7.09	-12.88	0.00	-117.01	0.00	117.01	1223.90	611.95	1431.66	707.04	80.03	-5.335	0.000	0.172
144.00	-6.89	-12.58	0.00	-91.26	0.00	91.26	1213.50	606.75	1400.19	691.50	82.27	-5.360	0.000	0.138
146.00	-6.69	-12.29	0.00	-66.10	0.00	66.10	1202.94	601.47	1368.85	676.02	84.52	-5.380	0.000	0.104
147.00	-3.20	-7.17	0.00	-53.81	0.00	53.81	1197.60	598.80	1353.24	668.32	85.64	-5.388	0.000	0.083
148.00	-3.11	-7.03	0.00	-46.64	0.00	46.64	1192.22	596.11	1337.67	660.62	86.77	-5.395	0.000	0.073
150.00	-2.92	-6.74	0.00	-32.58	0.00	32.58	1181.32	590.66	1306.64	645.30	89.03	-5.406	0.000	0.053
152.00	-2.74	-6.46	0.00	-19.10	0.00	19.10	1170.26	585.13	1275.78	630.06	91.29	-5.413	0.000	0.033
154.00	-2.56	-6.18	0.00	-6.18	0.00	6.18	1159.03	579.51	1245.09	614.90	93.56	-5.417	0.000	0.012
155.00	0.00	-5.91	0.00	0.00	0.00	0.00	1153.35	576.68	1229.81	607.36	94.69	-5.417	0.000	0.000

Wind Loading - Shaft

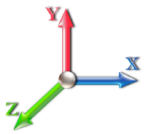
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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	2.18	0.70	37.885	41.67	580.38	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		2.15	0.70	37.324	41.06	571.99	1.000	0.000	2.00	9.267	9.27	608.8	0.0	455.1
4.00		2.12	0.70	36.781	40.46	563.75	1.000	0.000	2.00	9.201	9.20	595.6	0.0	451.8
6.00		2.09	0.70	36.254	39.88	555.66	1.000	0.000	2.00	9.135	9.14	582.9	0.0	448.5
8.00		2.06	0.70	35.743	39.32	547.73	1.000	0.000	2.00	9.069	9.07	570.5	0.0	445.3
10.00		2.03	0.70	35.247	38.77	539.94	1.000	0.000	2.00	9.003	9.00	558.5	0.0	442.0
11.50	RB3	2.01	0.70	34.884	38.37	534.19	1.000	0.000	1.50	6.709	6.71	411.9	0.0	329.4
12.00		2.00	0.70	34.765	38.24	532.30	1.000	0.000	0.50	2.228	2.23	136.3	0.0	109.4
14.00		1.97	0.70	34.298	37.73	524.79	1.000	0.000	2.00	8.871	8.87	535.5	0.0	435.5
14.16	RT2	1.97	0.70	34.261	37.69	524.19	1.000	0.000	0.16	0.707	0.71	42.6	0.0	34.7
14.84	RB4	1.96	0.70	34.106	37.52	521.68	1.000	0.000	0.68	2.999	3.00	180.0	0.0	147.2
16.00		1.95	0.70	33.845	37.23	517.42	1.000	0.000	1.16	5.099	5.10	303.7	0.0	250.3
16.50	RT3	1.94	0.70	33.734	37.11	515.59	1.000	0.000	0.50	2.191	2.19	130.1	0.0	107.5
18.00		1.92	0.70	33.405	36.75	510.17	1.000	0.000	1.50	6.548	6.55	385.0	0.0	321.4
20.00		1.90	0.70	32.978	36.28	503.06	1.000	0.000	2.00	8.673	8.67	503.4	0.0	425.7
21.00	RT1 RB5	1.89	0.70	32.769	36.05	499.55	1.000	0.000	1.00	4.312	4.31	248.7	0.0	211.6
22.00		1.88	0.70	32.563	35.82	496.07	1.000	0.000	1.00	4.295	4.30	246.2	0.0	210.8
24.00		1.85	0.70	32.161	35.38	489.20	1.000	0.000	2.00	8.541	8.54	483.5	0.0	419.1
26.00		1.83	0.70	31.770	34.95	482.44	1.000	0.000	2.00	8.475	8.48	473.9	0.0	415.9
28.00		1.81	0.70	31.390	34.53	475.80	1.000	0.000	2.00	8.409	8.41	464.6	0.0	412.6
30.00		1.79	0.70	31.048	34.15	469.47	1.000	0.000	2.00	8.343	8.34	455.9	0.0	409.3
32.00		1.77	0.71	31.261	34.39	467.33	1.000	0.000	2.00	8.277	8.28	455.4	0.0	406.1
34.00		1.75	0.73	31.446	34.59	464.97	1.000	0.000	2.00	8.211	8.21	454.4	0.0	402.8
36.00	Bot - Section 2	1.73	0.74	31.608	34.77	462.40	1.000	0.000	2.00	8.145	8.15	453.1	0.0	399.5
37.06	RT4	1.72	0.74	31.685	34.85	460.96	1.000	0.000	1.06	4.359	4.36	243.1	0.0	395.8
37.96	RB6	1.71	0.75	31.746	34.92	459.71	1.000	0.000	0.90	3.686	3.69	206.0	0.0	334.7
38.00		1.71	0.75	31.748	34.92	459.65	1.000	0.000	0.04	0.164	0.16	9.1	0.0	14.8
40.00		1.69	0.76	31.870	35.06	456.76	1.000	0.000	2.00	8.142	8.14	456.7	0.0	739.2
41.00	RT5 RB7	1.68	0.77	31.925	35.12	455.26	1.000	0.000	1.00	4.046	4.05	227.4	0.0	367.3
42.00	Top - Section 1	1.67	0.77	31.976	35.17	453.73	1.000	0.000	1.00	4.030	4.03	226.8	0.0	365.8
44.00		1.65	0.78	32.068	35.27	458.02	1.000	0.000	2.00	8.010	8.01	452.1	0.0	340.6
46.00		1.64	0.79	32.146	35.36	454.78	1.000	0.000	2.00	7.944	7.94	449.5	0.0	337.7
48.00		1.62	0.80	32.214	35.44	451.46	1.000	0.000	2.00	7.878	7.88	446.7	0.0	334.9
50.00		1.60	0.81	32.271	35.50	448.06	1.000	0.000	2.00	7.812	7.81	443.7	0.0	332.1
52.00		1.59	0.82	32.320	35.55	444.59	1.000	0.000	2.00	7.746	7.75	440.6	0.0	329.3
54.00		1.57	0.83	32.360	35.60	441.07	1.000	0.000	2.00	7.680	7.68	437.4	0.0	326.4
56.00		1.56	0.84	32.394	35.63	437.49	1.000	0.000	2.00	7.614	7.61	434.1	0.0	323.6
57.11	RT6	1.55	0.84	32.410	35.65	435.48	1.000	0.000	1.11	4.197	4.20	239.4	0.0	178.4
58.00	RB8	1.55	0.85	32.422	35.66	433.86	1.000	0.000	0.89	3.351	3.35	191.2	0.0	142.4
58.50	RT7	1.54	0.85	32.427	35.67	432.95	1.000	0.000	0.50	1.877	1.88	107.1	0.0	79.8
60.00		1.53	0.85	32.444	35.69	430.19	1.000	0.000	1.50	5.606	5.61	320.1	0.0	238.2
62.00		1.52	0.86	32.461	35.71	426.50	1.000	0.000	2.00	7.416	7.42	423.7	0.0	315.1
64.00		1.50	0.87	32.474	35.72	422.77	1.000	0.000	2.00	7.350	7.35	420.1	0.0	312.3
66.00		1.49	0.88	32.483	35.73	419.01	1.000	0.000	2.00	7.284	7.28	416.4	0.0	309.5
68.00		1.48	0.89	32.488	35.74	415.23	1.000	0.000	2.00	7.218	7.22	412.7	0.0	306.6
70.00	Bot - Section 3	1.47	0.89	32.491	35.74	411.44	1.000	0.000	2.00	7.152	7.15	409.0	0.0	303.8
72.00		1.46	0.90	32.492	35.74	407.62	1.000	0.000	2.00	7.194	7.19	411.4	0.0	556.0

Wind Loading - Shaft

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 20	

74.00		1.44	0.91	32.490	35.74	403.80	1.000	0.000	2.00	7.128	7.13	407.6	0.0	550.8
76.00	Top - Section 2 RT8	1.43	0.91	32.486	35.73	399.96	1.000	0.000	2.00	7.062	7.06	403.8	0.0	545.6
78.00		1.42	0.92	32.481	35.73	402.34	1.000	0.000	2.00	6.996	7.00	399.9	0.0	248.0
80.00		1.41	0.93	32.474	35.72	398.49	1.000	0.000	2.00	6.930	6.93	396.1	0.0	245.6
82.00		1.40	0.93	32.466	35.71	394.63	1.000	0.000	2.00	6.864	6.86	392.2	0.0	243.3
84.00		1.39	0.94	32.458	35.70	390.76	1.000	0.000	2.00	6.798	6.80	388.3	0.0	240.9
86.00		1.38	0.95	32.448	35.69	386.89	1.000	0.000	2.00	6.732	6.73	384.5	0.0	238.5
88.00		1.37	0.95	32.438	35.68	383.02	1.000	0.000	2.00	6.666	6.67	380.6	0.0	236.2
90.00		1.36	0.96	32.428	35.67	379.15	1.000	0.000	2.00	6.600	6.60	376.7	0.0	233.8
92.00		1.35	0.96	32.417	35.66	375.28	1.000	0.000	2.00	6.534	6.53	372.8	0.0	231.5
94.00		1.35	0.97	32.407	35.65	371.40	1.000	0.000	2.00	6.468	6.47	368.9	0.0	229.1
96.00	RT9 RB10	1.34	0.98	32.396	35.64	367.53	1.000	0.000	2.00	6.402	6.40	365.0	0.0	226.7
98.00		1.33	0.98	32.385	35.62	363.66	1.000	0.000	2.00	6.336	6.34	361.1	0.0	224.4
100.00	Top - Section 3	1.32	0.99	32.375	35.61	359.80	1.000	0.000	2.00	6.270	6.27	357.3	0.0	222.0
102.00		1.31	0.99	32.364	35.60	355.93	1.000	0.000	2.00	6.204	6.20	353.4	0.0	176.0
104.00		1.30	1.00	32.355	35.59	352.07	1.000	0.000	2.00	6.138	6.14	349.5	0.0	174.2
106.00		1.30	1.00	32.345	35.58	348.21	1.000	0.000	2.00	6.072	6.07	345.7	0.0	172.3
108.00		1.29	1.01	32.336	35.57	344.36	1.000	0.000	2.00	6.006	6.01	341.8	0.0	170.4
110.00		1.28	1.02	32.327	35.56	340.51	1.000	0.000	2.00	5.940	5.94	338.0	0.0	168.5
112.00		1.28	1.02	32.319	35.55	336.66	1.000	0.000	2.00	5.874	5.87	334.1	0.0	166.6
113.50	RT10	1.27	1.02	32.314	35.55	333.78	1.000	0.000	1.50	4.362	4.36	248.1	0.0	123.7
114.00		1.27	1.03	32.312	35.54	332.82	1.000	0.000	0.50	1.446	1.45	82.2	0.0	41.0
115.00	Bot - Section 5	1.27	1.03	32.309	35.54	330.90	1.000	0.000	1.00	2.879	2.88	163.7	0.0	81.7
116.00		1.26	1.03	32.305	35.54	328.98	1.000	0.000	1.00	2.906	2.91	165.2	0.0	163.6
118.00		1.26	1.04	32.299	35.53	325.14	1.000	0.000	2.00	5.762	5.76	327.6	0.0	324.4
120.00	Top - Section 4	1.25	1.04	32.294	35.52	321.31	1.000	0.000	2.00	5.696	5.70	323.7	0.0	320.6
122.00		1.24	1.05	32.289	35.52	322.46	1.000	0.000	2.00	5.630	5.63	319.9	0.0	159.6
124.00		1.24	1.05	32.286	35.51	318.63	1.000	0.000	2.00	5.564	5.56	316.2	0.0	157.8
126.00		1.23	1.06	32.282	35.51	314.82	1.000	0.000	2.00	5.498	5.50	312.4	0.0	155.9
127.00	Appurtenance(s)	1.23	1.06	32.281	35.51	312.91	1.000	0.000	1.00	2.724	2.72	154.8	0.0	77.2
128.00		1.23	1.06	32.280	35.51	311.00	1.000	0.000	1.00	2.708	2.71	153.8	0.0	76.8
130.00		1.22	1.07	32.279	35.51	307.19	1.000	0.000	2.00	5.366	5.37	304.8	0.0	152.1
132.00		1.22	1.07	32.278	35.51	303.39	1.000	0.000	2.00	5.300	5.30	301.1	0.0	150.2
134.00		1.21	1.07	32.278	35.51	299.59	1.000	0.000	2.00	5.234	5.23	297.3	0.0	148.3
136.00		1.21	1.08	32.279	35.51	295.79	1.000	0.000	2.00	5.168	5.17	293.6	0.0	146.4
137.00	Appurtenance(s)	1.20	1.08	32.280	35.51	293.89	1.000	0.000	1.00	2.559	2.56	145.4	0.0	72.5
138.00		1.20	1.08	32.281	35.51	291.99	1.000	0.000	1.00	2.543	2.54	144.5	0.0	72.0
140.00		1.20	1.09	32.284	35.51	288.20	1.000	0.000	2.00	5.036	5.04	286.1	0.0	142.7
142.00		1.19	1.09	32.288	35.52	284.42	1.000	0.000	2.00	4.970	4.97	282.4	0.0	140.8
144.00		1.19	1.10	32.292	35.52	280.63	1.000	0.000	2.00	4.904	4.90	278.7	0.0	138.9
146.00		1.18	1.10	32.297	35.53	276.85	1.000	0.000	2.00	4.838	4.84	275.0	0.0	137.0
147.00	Appurtenance(s)	1.18	1.10	32.300	35.53	274.96	1.000	0.000	1.00	2.394	2.39	136.1	0.0	67.8
148.00		1.18	1.11	32.304	35.53	273.08	1.000	0.000	1.00	2.378	2.38	135.2	0.0	67.3
150.00		1.17	1.11	32.311	35.54	269.30	1.000	0.000	2.00	4.706	4.71	267.6	0.0	133.2
152.00		1.17	1.11	32.318	35.55	265.53	1.000	0.000	2.00	4.640	4.64	263.9	0.0	131.4
154.00		1.17	1.12	32.327	35.56	261.76	1.000	0.000	2.00	4.574	4.57	260.2	0.0	129.5
155.00	Appurtenance(s)	1.16	1.12	32.332	35.56	259.87	1.000	0.000	1.00	2.262	2.26	128.7	0.0	64.0
								Totals:	**155.00**			**30,890.4**		**23,496.5**

Discrete Appurtenance Forces

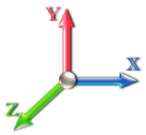
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	155.00	DB-T1-6Z-8AB-0Z	1	32.332	35.565	0.45	0.90	1.80	17.01	0.000	0.000	102.43	0.00	0.00
2	155.00	FD9R6004/2C-3L	6	32.332	35.565	0.45	0.90	0.97	16.74	0.000	0.000	55.31	0.00	0.00
3	155.00	RRH2X60-700	3	32.332	35.565	0.45	0.90	2.54	124.20	0.000	0.000	144.42	0.00	0.00
4	155.00	RRH2X60-PCS	3	32.332	35.565	0.45	0.90	2.97	148.50	0.000	0.000	169.00	0.00	0.00
5	155.00	RRH2X60-AWS	3	32.332	35.565	0.45	0.90	4.73	148.50	0.000	0.000	268.87	0.00	0.00
6	155.00	HBXX-6517DS-A2M	6	32.332	35.565	0.69	0.90	35.55	220.32	0.000	0.000	2022.99	0.00	0.00
7	155.00	BXA-70080-4BF	3	32.332	35.565	0.68	0.90	9.77	35.10	0.000	0.000	555.81	0.00	0.00
8	155.00	LNX-6514DS-A1M	3	32.332	35.565	0.75	0.90	18.31	103.68	0.000	0.000	1041.85	0.00	0.00
9	155.00	(3) T-Frame w/ Platforms	1	32.332	35.565	1.00	1.00	25.00	1458.00	0.000	0.000	1422.60	0.00	0.00
10	147.00	APXVSPP18-C-A20	3	32.300	35.530	0.66	0.80	15.98	153.90	0.000	0.000	908.21	0.00	0.00
11	147.00	(3) SFS-H (V-Braces)	1	32.300	35.530	0.75	0.75	7.20	177.30	0.000	0.000	409.31	0.00	0.00
12	147.00	APXVTM14-C-I20	3	32.300	35.530	0.63	0.80	12.02	151.20	0.000	0.000	683.36	0.00	0.00
13	147.00	PRK-1245 (kicker kit)	1	32.300	35.530	1.00	1.00	9.50	418.42	0.000	0.000	540.06	0.00	0.00
14	147.00	(3) T-Frame w/ Platforms	1	32.300	35.530	1.00	1.00	25.00	1458.00	0.000	0.000	1421.22	0.00	0.00
15	147.00	RFS ACU-A20-N RET	4	32.300	35.530	0.40	0.80	0.22	3.60	0.000	0.000	12.73	0.00	0.00
16	147.00	Alcatel Lucent	3	32.300	35.530	0.40	0.80	4.86	189.00	0.000	0.000	276.28	0.00	0.00
17	147.00	Alcatel Lucent 1900 MHz	3	32.300	35.530	0.40	0.80	2.77	162.00	0.000	0.000	157.58	0.00	0.00
18	147.00	Alcatel Lucent 800 MHz	3	32.300	35.530	0.40	0.80	2.99	143.10	0.000	0.000	169.86	0.00	0.00
19	147.00	Alcatel Lucent 800 MHz	3	32.300	35.530	0.40	0.80	0.94	23.76	0.000	0.000	53.21	0.00	0.00
20	137.00	RRUS 4415 B25	2	32.280	35.508	0.40	0.80	1.31	82.80	0.000	0.000	74.54	0.00	0.00
21	137.00	4449 B71 + B85	2	32.280	35.508	0.40	0.80	1.58	131.76	0.000	0.000	89.54	0.00	0.00
22	137.00	AIR6449 B41	2	32.280	35.508	0.57	0.80	6.42	185.40	0.000	0.000	364.65	0.00	0.00
23	137.00	(3) T-Framew/ walking	1	32.280	35.508	1.00	1.00	25.00	1458.00	0.000	0.000	1420.33	0.00	0.00
24	137.00	(3) HR w/ V-Brace Kits	1	32.280	35.508	1.00	1.00	8.50	405.00	0.000	0.000	482.91	0.00	0.00
25	137.00	PRK-1245 (kicker kit)	1	32.280	35.508	1.00	1.00	8.50	401.32	0.000	0.000	482.91	0.00	0.00
26	137.00	APXVAALL24_43-U-NA20	2	32.280	35.508	0.56	0.80	22.67	230.40	0.000	0.000	1287.89	0.00	0.00
27	137.00	KRD 9011461-B66A-B2A	2	32.280	35.508	0.70	0.80	9.06	237.96	0.000	0.000	514.84	0.00	0.00
28	137.00	KRY 112 144/2	3	32.280	35.508	0.40	0.80	0.49	29.70	0.000	0.000	27.95	0.00	0.00
29	127.00	4415 B30	3	32.281	35.509	0.38	0.75	2.09	119.07	0.000	0.000	118.89	0.00	0.00
30	127.00	HRK12 (Handrail Kit)	1	32.281	35.509	1.00	1.00	6.75	235.55	0.000	0.000	383.50	0.00	0.00
31	127.00	DC9-48-60-24-8C-EV	1	32.281	35.509	0.38	0.75	0.43	23.58	0.000	0.000	24.29	0.00	0.00
32	127.00	7770.00	3	32.281	35.509	0.55	0.75	9.03	94.50	0.000	0.000	513.25	0.00	0.00
33	127.00	8843 B2 B66A	3	32.281	35.509	0.38	0.75	1.85	189.00	0.000	0.000	104.82	0.00	0.00
34	127.00	Low Profile	1	32.281	35.509	1.00	1.00	25.00	1350.00	0.000	0.000	1420.37	0.00	0.00
35	127.00	LGP13519	6	32.281	35.509	0.38	0.75	0.77	28.62	0.000	0.000	43.46	0.00	0.00
36	127.00	DTMABP7819VG12A	3	32.281	35.509	0.38	0.75	1.28	51.84	0.000	0.000	72.87	0.00	0.00
37	127.00	4449 B5/B12	3	32.281	35.509	0.38	0.75	2.22	191.70	0.000	0.000	125.92	0.00	0.00
38	127.00	RRUS 4478 B14	3	32.281	35.509	0.38	0.75	1.86	160.38	0.000	0.000	105.46	0.00	0.00
39	127.00	DC6-48-60-18-8F	1	32.281	35.509	0.38	0.75	0.35	28.62	0.000	0.000	19.60	0.00	0.00
40	127.00	DMP65R-BU6DA	3	32.281	35.509	0.54	0.75	20.59	214.38	0.000	0.000	1169.83	0.00	0.00
41	127.00	840370799	3	32.281	35.509	0.52	0.75	24.73	50.49	0.000	0.000	1405.11	0.00	0.00
							Totals:		**11,052.40**			**20,668.06**		

Total Applied Force Summary

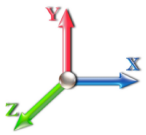
Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 22

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		608.77	511.20	0.00	0.00
4.00		595.64	507.93	0.00	0.00
6.00		582.89	504.66	0.00	0.00
8.00		570.52	501.39	0.00	0.00
10.00		558.50	498.13	0.00	0.00
11.50		411.91	371.45	0.00	0.00
12.00		136.33	123.41	0.00	0.00
14.00		535.51	491.59	0.00	0.00
14.16		42.62	39.19	0.00	0.00
14.84		180.04	166.31	0.00	0.00
16.00		303.73	282.83	0.00	0.00
16.50		130.08	121.57	0.00	0.00
18.00		384.98	363.48	0.00	0.00
20.00		503.40	481.79	0.00	0.00
21.00		248.68	239.67	0.00	0.00
22.00		246.17	238.85	0.00	0.00
24.00		483.45	475.25	0.00	0.00
26.00		473.89	471.98	0.00	0.00
28.00		464.58	468.71	0.00	0.00
30.00		455.90	465.45	0.00	0.00
32.00		455.40	462.18	0.00	0.00
34.00		454.44	458.91	0.00	0.00
36.00		453.10	455.64	0.00	0.00
37.06		243.06	425.52	0.00	0.00
37.96		205.96	359.95	0.00	0.00
38.00		9.14	15.97	0.00	0.00
40.00		456.72	795.35	0.00	0.00
41.00		227.36	395.39	0.00	0.00
42.00		226.80	393.86	0.00	0.00
44.00		452.10	396.71	0.00	0.00
46.00		449.47	393.88	0.00	0.00
48.00		446.67	391.05	0.00	0.00
50.00		443.72	388.22	0.00	0.00
52.00		440.63	385.39	0.00	0.00
54.00		437.43	382.56	0.00	0.00
56.00		434.12	379.73	0.00	0.00
57.11		239.43	209.53	0.00	0.00
58.00		191.20	167.37	0.00	0.00
58.50		107.11	95.78	0.00	0.00
60.00		320.08	286.28	0.00	0.00
62.00		423.70	379.23	0.00	0.00
64.00		420.09	376.40	0.00	0.00
66.00		416.43	373.57	0.00	0.00
68.00		412.73	370.74	0.00	0.00
70.00		409.00	367.91	0.00	0.00
72.00		411.39	620.13	0.00	0.00

Total Applied Force Summary

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 23

Tower Engineering Solutions

74.00		407.59	614.94	0.00	0.00
76.00		403.77	609.75	0.00	0.00
78.00		399.93	312.09	0.00	0.00
80.00		396.08	309.73	0.00	0.00
82.00		392.21	307.37	0.00	0.00
84.00		388.34	305.01	0.00	0.00
86.00		384.46	302.66	0.00	0.00
88.00		380.57	300.30	0.00	0.00
90.00		376.68	297.94	0.00	0.00
92.00		372.79	295.58	0.00	0.00
94.00		368.90	293.22	0.00	0.00
96.00		365.01	290.87	0.00	0.00
98.00		361.13	288.51	0.00	0.00
100.00		357.25	286.15	0.00	0.00
102.00		353.38	240.17	0.00	0.00
104.00		349.51	238.28	0.00	0.00
106.00		345.65	236.39	0.00	0.00
108.00		341.80	234.51	0.00	0.00
110.00		337.95	232.62	0.00	0.00
112.00		334.11	230.73	0.00	0.00
113.50		248.08	171.81	0.00	0.00
114.00		82.22	57.04	0.00	0.00
115.00		163.72	113.72	0.00	0.00
116.00		165.21	195.66	0.00	0.00
118.00		327.55	388.50	0.00	0.00
120.00		323.75	384.72	0.00	0.00
122.00		319.95	223.77	0.00	0.00
124.00		316.16	221.88	0.00	0.00
126.00		312.38	219.99	0.00	0.00
127.00	(34) attachments	5662.15	2847.02	0.00	0.00
128.00		153.83	95.41	0.00	0.00
130.00		304.84	189.40	0.00	0.00
132.00		301.09	187.51	0.00	0.00
134.00		297.34	185.63	0.00	0.00
136.00		293.60	183.74	0.00	0.00
137.00	(16) attachments	4890.96	3253.50	0.00	0.00
138.00		144.46	86.69	0.00	0.00
140.00		286.14	171.97	0.00	0.00
142.00		282.42	170.09	0.00	0.00
144.00		278.71	168.20	0.00	0.00
146.00		275.00	166.32	0.00	0.00
147.00	(25) attachments	4767.94	2962.73	0.00	0.00
148.00		135.18	79.60	0.00	0.00
150.00		267.60	157.79	0.00	0.00
152.00		263.91	155.90	0.00	0.00
154.00		260.23	154.02	0.00	0.00
155.00	(29) attachments	5912.01	2348.35	0.00	0.00
	Totals:	**51,558.41**	**38,819.88**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

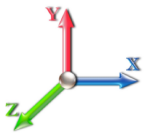
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.064	0.000	37.324	0.00	0.00
4.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.064	0.000	36.781	0.00	0.00
6.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.065	0.000	36.254	0.00	0.00
8.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.065	0.000	35.743	0.00	0.00
10.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.066	0.000	35.247	0.00	0.00
11.50	10"x1/2" Bent plate	Yes	1.50	0.000	3.56	0.45	0.00	0.066	0.000	34.884	0.00	0.00
12.00	10"x1/2" Bent plate	Yes	0.50	0.000	3.56	0.15	0.00	0.067	0.000	34.765	0.00	0.00
14.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.067	0.000	34.298	0.00	0.00
14.16	10"x1/2" Bent plate	Yes	0.16	0.000	3.56	0.05	0.00	0.067	0.000	34.261	0.00	0.00
14.84	10"x1/2" Bent plate	Yes	0.68	0.000	3.56	0.20	0.00	0.067	0.000	34.106	0.00	0.00
16.00	10"x1/2" Bent plate	Yes	1.16	0.000	3.56	0.34	0.00	0.067	0.000	33.845	0.00	0.00
16.50	10"x1/2" Bent plate	Yes	0.50	0.000	3.56	0.15	0.00	0.068	0.000	33.734	0.00	0.00
18.00	10"x1/2" Bent plate	Yes	1.50	0.000	3.56	0.45	0.00	0.068	0.000	33.405	0.00	0.00
20.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.068	0.000	32.978	0.00	0.00
21.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.069	0.000	32.769	0.00	0.00
22.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.069	0.000	32.563	0.00	0.00
24.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.069	0.000	32.161	0.00	0.00
26.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.070	0.000	31.770	0.00	0.00
28.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.071	0.000	31.390	0.00	0.00
30.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.071	0.000	31.048	0.00	0.00
32.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.072	0.000	31.261	0.00	0.00
34.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.072	0.000	31.446	0.00	0.00
36.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.073	0.000	31.608	0.00	0.00
37.06	10"x1/2" Bent plate	Yes	1.06	0.000	3.56	0.31	0.00	0.073	0.000	31.685	0.00	0.00
37.96	10"x1/2" Bent plate	Yes	0.90	0.000	3.56	0.27	0.00	0.074	0.000	31.746	0.00	0.00
38.00	10"x1/2" Bent plate	Yes	0.04	0.000	3.56	0.01	0.00	0.074	0.000	31.748	0.00	0.00
40.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.074	0.000	31.870	0.00	0.00
41.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.075	0.000	31.925	0.00	0.00
42.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.075	0.000	31.976	0.00	0.00
44.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.074	0.000	32.068	0.00	0.00
46.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.075	0.000	32.146	0.00	0.00
48.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.075	0.000	32.214	0.00	0.00
50.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.076	0.000	32.271	0.00	0.00
52.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.077	0.000	32.320	0.00	0.00
54.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.077	0.000	32.360	0.00	0.00
56.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.078	0.000	32.394	0.00	0.00
57.11	10"x1/2" Bent plate	Yes	1.11	0.000	3.56	0.33	0.00	0.078	0.000	32.410	0.00	0.00
58.00	10"x1/2" Bent plate	Yes	0.89	0.000	3.56	0.26	0.00	0.079	0.000	32.422	0.00	0.00
58.50	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.028	0.000	32.427	0.00	0.00
60.00	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.028	0.000	32.444	0.00	0.00
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	32.461	0.00	0.00
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	32.474	0.00	0.00
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	32.483	0.00	0.00
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	32.488	0.00	0.00
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	32.491	0.00	0.00
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	32.492	0.00	0.00
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	32.490	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

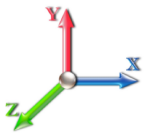
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	32.486	0.00	0.00
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	32.481	0.00	0.00
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	32.474	0.00	0.00
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	32.466	0.00	0.00
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	32.458	0.00	0.00
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	32.448	0.00	0.00
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	32.438	0.00	0.00
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	32.428	0.00	0.00
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	32.417	0.00	0.00
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	32.407	0.00	0.00
96.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	32.396	0.00	0.00
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	32.385	0.00	0.00
100.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	32.375	0.00	0.00
102.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	32.364	0.00	0.00
104.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	32.355	0.00	0.00
106.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	32.345	0.00	0.00
108.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	32.336	0.00	0.00
110.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	32.327	0.00	0.00
112.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	32.319	0.00	0.00
113.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.036	0.000	32.314	0.00	0.00
114.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.036	0.000	32.312	0.00	0.00
115.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.036	0.000	32.309	0.00	0.00
										Totals:	**0.0**	**0.0**

Calculated Forces

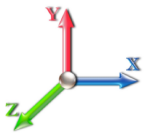
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 26	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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	-38.78	-51.58	0.00	-5170.1	0.00	5170.16	4048.32	2024.16	8933.65	4411.99	0.00	0.000	0.000	0.812
2.00	-38.21	-51.02	0.00	-5066.9	0.00	5066.99	4032.02	2016.01	8833.50	4362.53	0.02	-0.074	0.000	0.803
4.00	-37.64	-50.47	0.00	-4964.9	0.00	4964.95	4015.53	2007.77	8733.46	4313.13	0.06	-0.147	0.000	0.793
6.00	-37.07	-49.94	0.00	-4864.0	0.00	4864.00	3998.87	1999.43	8633.56	4263.79	0.14	-0.220	0.000	0.784
8.00	-36.51	-49.41	0.00	-4764.1	0.00	4764.13	3982.01	1991.01	8533.79	4214.52	0.25	-0.294	0.000	0.775
10.00	-35.96	-48.89	0.00	-4665.3	0.00	4665.31	3964.98	1982.49	8434.18	4165.32	0.39	-0.367	0.000	0.766
11.50	-35.56	-48.50	0.00	-4591.9	0.00	4591.98	3952.09	1976.04	8359.57	4128.48	0.51	-0.422	0.000	0.663
12.00	-35.40	-48.38	0.00	-4567.7	0.00	4567.73	3947.76	1973.88	8334.72	4116.20	0.56	-0.438	0.000	0.661
14.00	-34.89	-47.87	0.00	-4470.9	0.00	4470.96	3930.37	1965.18	8235.42	4067.17	0.76	-0.501	0.000	0.653
14.16	-34.84	-47.83	0.00	-4463.3	0.00	4463.30	3928.97	1964.48	8227.49	4063.25	0.77	-0.506	0.000	0.772
14.84	-34.65	-47.67	0.00	-4430.7	0.00	4430.77	3923.00	1961.50	8193.77	4046.60	0.85	-0.532	0.000	0.649
16.00	-34.34	-47.38	0.00	-4375.4	0.00	4375.48	3912.78	1956.39	8136.31	4018.22	0.98	-0.569	0.000	0.644
16.50	-34.20	-47.27	0.00	-4351.7	0.00	4351.79	3908.36	1954.18	8111.55	4005.99	1.04	-0.585	0.000	0.736
18.00	-33.78	-46.92	0.00	-4280.8	0.00	4280.89	3895.02	1947.51	8037.37	3969.35	1.23	-0.640	0.000	0.729
20.00	-33.26	-46.44	0.00	-4187.0	0.00	4187.05	3877.07	1938.54	7938.63	3920.59	1.52	-0.712	0.000	0.720
21.00	-33.00	-46.21	0.00	-4140.6	0.00	4140.61	3868.03	1934.02	7889.33	3896.24	1.67	-0.748	0.000	0.715
22.00	-32.72	-45.99	0.00	-4094.4	0.00	4094.40	3858.94	1929.47	7840.08	3871.92	1.83	-0.785	0.000	0.710
24.00	-32.19	-45.54	0.00	-4002.4	0.00	4002.42	3840.63	1920.32	7741.75	3823.36	2.18	-0.857	0.000	0.701
26.00	-31.67	-45.10	0.00	-3911.3	0.00	3911.34	3822.14	1911.07	7643.63	3774.90	2.55	-0.929	0.000	0.692
28.00	-31.16	-44.67	0.00	-3821.1	0.00	3821.14	3803.46	1901.73	7545.74	3726.56	2.96	-1.000	0.000	0.683
30.00	-30.64	-44.24	0.00	-3731.8	0.00	3731.81	3784.60	1892.30	7448.09	3678.33	3.39	-1.072	0.000	0.673
32.00	-30.14	-43.81	0.00	-3643.3	0.00	3643.33	3765.56	1882.78	7350.68	3630.22	3.86	-1.143	0.000	0.664
34.00	-29.63	-43.39	0.00	-3555.7	0.00	3555.70	3746.34	1873.17	7253.52	3582.24	4.35	-1.214	0.000	0.654
36.00	-29.15	-42.95	0.00	-3468.9	0.00	3468.93	3726.93	1863.47	7156.62	3534.39	4.87	-1.285	0.000	0.645
37.06	-28.70	-42.72	0.00	-3423.4	0.00	3423.40	3716.57	1858.29	7105.38	3509.08	5.16	-1.323	0.000	0.786
37.96	-28.33	-42.51	0.00	-3384.9	0.00	3384.96	3707.74	1853.87	7061.93	3487.62	5.42	-1.362	0.000	0.629
38.00	-28.29	-42.52	0.00	-3383.2	0.00	3383.26	3707.34	1853.67	7060.00	3486.67	5.43	-1.364	0.000	0.629
40.00	-27.46	-42.07	0.00	-3298.2	0.00	3298.21	3687.57	1843.78	6963.65	3439.09	6.02	-1.433	0.000	0.619
41.00	-27.05	-41.85	0.00	-3256.1	0.00	3256.14	3677.62	1838.81	6915.58	3415.35	6.32	-1.468	0.000	0.615
42.00	-26.62	-41.64	0.00	-3214.2	0.00	3214.29	3033.05	1516.53	5788.55	2858.75	6.63	-1.503	0.000	0.660
44.00	-26.19	-41.21	0.00	-3131.0	0.00	3131.02	3018.90	1509.45	5713.49	2821.68	7.28	-1.572	0.000	0.688
46.00	-25.76	-40.78	0.00	-3048.6	0.00	3048.61	3004.56	1502.28	5638.53	2784.66	7.95	-1.645	0.000	0.676
48.00	-25.33	-40.35	0.00	-2967.0	0.00	2967.05	2990.04	1495.02	5563.69	2747.70	8.66	-1.717	0.000	0.664
50.00	-24.90	-39.93	0.00	-2886.3	0.00	2886.34	2975.34	1487.67	5488.97	2710.80	9.39	-1.789	0.000	0.652
52.00	-24.48	-39.51	0.00	-2806.4	0.00	2806.49	2960.46	1480.23	5414.39	2673.96	10.15	-1.860	0.000	0.641
54.00	-24.07	-39.09	0.00	-2727.4	0.00	2727.48	2945.39	1472.69	5339.95	2637.20	10.95	-1.931	0.000	0.629
56.00	-23.66	-38.66	0.00	-2649.3	0.00	2649.30	2930.14	1465.07	5265.67	2600.52	11.77	-2.002	0.000	0.617
57.11	-23.44	-38.43	0.00	-2606.3	0.00	2606.39	2921.60	1460.80	5224.51	2580.19	12.24	-2.041	0.000	0.783
58.00	-23.26	-38.25	0.00	-2572.1	0.00	2572.18	2914.71	1457.35	5191.54	2563.91	12.63	-2.081	0.000	0.601
58.50	-23.14	-38.15	0.00	-2553.0	0.00	2553.06	2910.82	1455.41	5173.04	2554.77	12.85	-2.098	0.000	0.730
60.00	-22.82	-37.85	0.00	-2495.8	0.00	2495.83	2899.09	1449.55	5117.58	2527.38	13.52	-2.161	0.000	0.720
62.00	-22.40	-37.45	0.00	-2420.1	0.00	2420.13	2883.30	1441.65	5043.81	2490.95	14.44	-2.245	0.000	0.706
64.00	-21.99	-37.04	0.00	-2345.2	0.00	2345.24	2867.32	1433.66	4970.21	2454.60	15.40	-2.328	0.000	0.693
66.00	-21.58	-36.64	0.00	-2271.1	0.00	2271.16	2851.15	1425.58	4896.82	2418.35	16.39	-2.411	0.000	0.679
68.00	-21.17	-36.24	0.00	-2197.8	0.00	2197.87	2834.81	1417.40	4823.62	2382.21	17.42	-2.492	0.000	0.665
70.00	-20.77	-35.85	0.00	-2125.3	0.00	2125.39	2818.28	1409.14	4750.64	2346.16	18.48	-2.573	0.000	0.651
72.00	-20.12	-35.44	0.00	-2053.6	0.00	2053.69	2801.57	1400.79	4677.88	2310.23	19.58	-2.654	0.000	0.632
74.00	-19.48	-35.03	0.00	-1982.8	0.00	1982.82	2784.68	1392.34	4605.35	2274.41	20.71	-2.733	0.000	0.618

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 27

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76.00	-18.84	-34.62	0.00	-1912.7	0.00	1912.76	2161.97	1080.98	3608.45	1782.08	21.87	-2.811	0.000	0.686
78.00	-18.50	-34.23	0.00	-1843.5	0.00	1843.52	2151.06	1075.53	3556.01	1756.18	23.06	-2.891	0.000	0.734
80.00	-18.16	-33.85	0.00	-1775.0	0.00	1775.05	2139.97	1069.98	3503.61	1730.30	24.29	-2.977	0.000	0.715
82.00	-17.83	-33.47	0.00	-1707.3	0.00	1707.36	2128.69	1064.35	3451.27	1704.45	25.56	-3.062	0.000	0.696
84.00	-17.49	-33.09	0.00	-1640.4	0.00	1640.42	2117.24	1058.62	3398.99	1678.63	26.86	-3.147	0.000	0.677
86.00	-17.17	-32.71	0.00	-1574.2	0.00	1574.24	2105.60	1052.80	3346.79	1652.86	28.19	-3.230	0.000	0.657
88.00	-16.84	-32.34	0.00	-1508.8	0.00	1508.82	2093.78	1046.89	3294.68	1627.12	29.56	-3.311	0.000	0.638
90.00	-16.52	-31.97	0.00	-1444.1	0.00	1444.14	2081.77	1040.89	3242.65	1601.42	30.97	-3.392	0.000	0.618
92.00	-16.21	-31.60	0.00	-1380.2	0.00	1380.20	2069.59	1034.79	3190.73	1575.78	32.41	-3.471	0.000	0.598
94.00	-15.90	-31.24	0.00	-1317.0	0.00	1317.00	2057.22	1028.61	3138.91	1550.19	33.88	-3.548	0.000	0.578
96.00	-15.59	-30.88	0.00	-1254.5	0.00	1254.53	2044.67	1022.33	3087.22	1524.66	35.38	-3.624	0.000	0.602
98.00	-15.28	-30.52	0.00	-1192.7	0.00	1192.78	2031.93	1015.97	3035.65	1499.19	36.91	-3.704	0.000	0.581
100.00	-14.98	-30.16	0.00	-1131.7	0.00	1131.74	2019.02	1009.51	2984.22	1473.79	38.48	-3.782	0.000	0.559
100.00	-14.98	-30.16	0.00	-1131.7	0.00	1131.74	1394.49	697.25	2068.33	1021.47	38.48	-3.782	0.000	0.649
102.00	-14.72	-29.82	0.00	-1071.4	0.00	1071.42	1387.39	693.70	2035.72	1005.36	40.08	-3.858	0.000	0.724
104.00	-14.46	-29.47	0.00	-1011.7	0.00	1011.79	1380.13	690.06	2003.09	989.25	41.71	-3.945	0.000	0.693
106.00	-14.21	-29.13	0.00	-952.84	0.00	952.84	1372.69	686.35	1970.45	973.13	43.38	-4.029	0.000	0.661
108.00	-13.96	-28.79	0.00	-894.58	0.00	894.58	1365.09	682.55	1937.81	957.01	45.09	-4.110	0.000	0.629
110.00	-13.71	-28.46	0.00	-836.99	0.00	836.99	1357.32	678.66	1905.17	940.89	46.83	-4.188	0.000	0.596
112.00	-13.47	-28.12	0.00	-780.08	0.00	780.08	1349.39	674.69	1872.56	924.79	48.60	-4.264	0.000	0.563
113.50	-13.30	-27.87	0.00	-737.90	0.00	737.90	1343.33	671.66	1848.11	912.71	49.94	-4.318	0.000	0.538
113.50	-13.30	-27.87	0.00	-737.90	0.00	737.90	1343.33	671.66	1848.11	912.71	49.94	-4.318	0.000	0.538
114.00	-13.23	-27.79	0.00	-723.96	0.00	723.96	1341.28	670.64	1839.96	908.69	50.40	-4.336	0.000	0.808
115.00	-13.11	-27.63	0.00	-696.17	0.00	696.17	1337.17	668.58	1823.68	900.65	51.31	-4.390	0.000	0.784
116.00	-12.89	-27.47	0.00	-668.53	0.00	668.53	1333.01	666.51	1807.40	892.61	52.24	-4.442	0.000	0.760
118.00	-12.48	-27.14	0.00	-613.59	0.00	613.59	1324.58	662.29	1774.88	876.54	54.12	-4.543	0.000	0.711
120.00	-12.08	-26.80	0.00	-559.32	0.00	559.32	1327.18	663.59	1784.85	881.47	56.04	-4.638	0.000	0.645
122.00	-11.84	-26.48	0.00	-505.72	0.00	505.72	1318.63	659.32	1752.36	865.43	58.00	-4.727	0.000	0.595
124.00	-11.61	-26.16	0.00	-452.76	0.00	452.76	1309.91	654.95	1719.92	849.40	60.00	-4.807	0.000	0.543
126.00	-11.40	-25.84	0.00	-400.43	0.00	400.43	1301.02	650.51	1687.54	833.41	62.03	-4.880	0.000	0.491
127.00	-9.03	-19.97	0.00	-374.59	0.00	374.59	1296.51	648.26	1671.38	825.43	63.05	-4.915	0.000	0.462
128.00	-8.93	-19.81	0.00	-354.62	0.00	354.62	1291.97	645.98	1655.23	817.46	64.08	-4.948	0.000	0.442
130.00	-8.75	-19.50	0.00	-315.00	0.00	315.00	1282.74	641.37	1623.00	801.54	66.17	-5.010	0.000	0.401
132.00	-8.57	-19.19	0.00	-276.00	0.00	276.00	1273.35	636.68	1590.85	785.66	68.28	-5.067	0.000	0.359
134.00	-8.40	-18.89	0.00	-237.62	0.00	237.62	1263.80	631.90	1558.80	769.83	70.41	-5.118	0.000	0.316
136.00	-8.23	-18.58	0.00	-199.84	0.00	199.84	1254.07	627.04	1526.84	754.05	72.56	-5.163	0.000	0.272
137.00	-5.43	-13.42	0.00	-181.26	0.00	181.26	1249.15	624.57	1510.90	746.18	73.64	-5.184	0.000	0.248
138.00	-5.35	-13.27	0.00	-167.84	0.00	167.84	1244.18	622.09	1494.99	738.32	74.73	-5.203	0.000	0.232
140.00	-5.20	-12.97	0.00	-141.30	0.00	141.30	1234.12	617.06	1463.26	722.65	76.92	-5.238	0.000	0.200
142.00	-5.05	-12.68	0.00	-115.35	0.00	115.35	1223.90	611.95	1431.66	707.04	79.11	-5.267	0.000	0.168
144.00	-4.90	-12.39	0.00	-90.00	0.00	90.00	1213.50	606.75	1400.19	691.50	81.32	-5.292	0.000	0.135
146.00	-4.76	-12.10	0.00	-65.22	0.00	65.22	1202.94	601.47	1368.85	676.02	83.54	-5.312	0.000	0.101
147.00	-2.25	-7.08	0.00	-53.12	0.00	53.12	1197.60	598.80	1353.24	668.32	84.65	-5.320	0.000	0.082
148.00	-2.18	-6.94	0.00	-46.05	0.00	46.05	1192.22	596.11	1337.67	660.62	85.77	-5.326	0.000	0.072
150.00	-2.05	-6.66	0.00	-32.17	0.00	32.17	1181.32	590.66	1306.64	645.30	88.00	-5.337	0.000	0.052
152.00	-1.92	-6.38	0.00	-18.86	0.00	18.86	1170.26	585.13	1275.78	630.06	90.23	-5.345	0.000	0.032
154.00	-1.79	-6.11	0.00	-6.11	0.00	6.11	1159.03	579.51	1245.09	614.90	92.47	-5.348	0.000	0.012
155.00	0.00	-5.91	0.00	0.00	0.00	0.00	1153.35	576.68	1229.81	607.36	93.59	-5.349	0.000	0.000

Wind Loading - Shaft

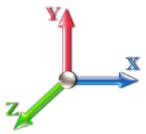
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 28	

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 24

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	2.18	0.70	9.285	10.21	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		2.15	0.70	9.147	10.06	0.00	1.200	1.481	2.00	9.761	11.71	117.9	211.0	817.8
4.00		2.12	0.70	9.014	9.92	0.00	1.200	1.579	2.00	9.728	11.67	115.7	223.9	826.3
6.00		2.09	0.70	8.885	9.77	0.00	1.200	1.637	2.00	9.681	11.62	113.5	230.5	828.6
8.00		2.06	0.70	8.760	9.64	0.00	1.200	1.676	2.00	9.628	11.55	111.3	234.6	828.3
10.00		2.03	0.70	8.638	9.50	0.00	1.200	1.705	2.00	9.572	11.49	109.1	237.2	826.5
11.50	RB3	2.01	0.70	8.549	9.40	0.00	1.200	1.723	1.50	7.140	8.57	80.6	178.8	618.0
12.00		2.00	0.70	8.520	9.37	0.00	1.200	1.728	0.50	2.372	2.85	26.7	59.7	205.5
14.00		1.97	0.70	8.406	9.25	0.00	1.200	1.747	2.00	9.453	11.34	104.9	239.7	820.3
14.16	RT2	1.97	0.70	8.397	9.24	0.00	1.200	1.748	0.16	0.753	0.90	8.4	19.2	65.4
14.84	RB4	1.96	0.70	8.359	9.19	0.00	1.200	1.754	0.68	3.198	3.84	35.3	81.6	277.9
16.00		1.95	0.70	8.295	9.12	0.00	1.200	1.762	1.16	5.440	6.53	59.6	139.2	472.9
16.50	RT3	1.94	0.70	8.267	9.09	0.00	1.200	1.766	0.50	2.338	2.81	25.5	60.0	203.4
18.00		1.92	0.70	8.187	9.01	0.00	1.200	1.775	1.50	6.992	8.39	75.6	180.1	608.6
20.00		1.90	0.70	8.082	8.89	0.00	1.200	1.786	2.00	9.268	11.12	98.9	239.8	807.4
21.00	RT1 RB5	1.89	0.70	8.031	8.83	0.00	1.200	1.791	1.00	4.610	5.53	48.9	119.8	401.9
22.00		1.88	0.70	7.980	8.78	0.00	1.200	1.795	1.00	4.594	5.51	48.4	119.7	400.7
24.00		1.85	0.70	7.882	8.67	0.00	1.200	1.803	2.00	9.142	10.97	95.1	238.6	797.4
26.00		1.83	0.70	7.786	8.56	0.00	1.200	1.809	2.00	9.078	10.89	93.3	237.7	792.2
28.00		1.81	0.70	7.693	8.46	0.00	1.200	1.815	2.00	9.014	10.82	91.5	236.7	786.8
30.00		1.79	0.70	7.609	8.37	0.00	1.200	1.820	2.00	8.950	10.74	89.9	235.6	781.4
32.00		1.77	0.71	7.661	8.43	0.00	1.200	1.825	2.00	8.885	10.66	89.9	234.4	775.8
34.00		1.75	0.73	7.707	8.48	0.00	1.200	1.828	2.00	8.820	10.58	89.7	233.1	770.1
36.00	Bot - Section 2	1.73	0.74	7.746	8.52	0.00	1.200	1.832	2.00	8.756	10.51	89.5	231.7	764.4
37.06	RT4	1.72	0.74	7.765	8.54	0.00	1.200	1.833	1.06	4.683	5.62	48.0	124.3	652.0
37.96	RB6	1.71	0.75	7.780	8.56	0.00	1.200	1.834	0.90	3.961	4.75	40.7	105.2	551.5
38.00		1.71	0.75	7.781	8.56	0.00	1.200	1.835	0.04	0.176	0.21	1.8	4.7	24.5
40.00		1.69	0.76	7.811	8.59	0.00	1.200	1.837	2.00	8.755	10.51	90.3	232.3	1217.9
41.00	RT5 RB7	1.68	0.77	7.824	8.61	0.00	1.200	1.838	1.00	4.353	5.22	45.0	115.8	605.5
42.00	Top - Section 1	1.67	0.77	7.837	8.62	0.00	1.200	1.839	1.00	4.336	5.20	44.9	115.4	603.1
44.00		1.65	0.78	7.859	8.64	0.00	1.200	1.841	2.00	8.624	10.35	89.5	229.2	683.3
46.00		1.64	0.79	7.878	8.67	0.00	1.200	1.843	2.00	8.559	10.27	89.0	227.5	677.9
48.00		1.62	0.80	7.895	8.68	0.00	1.200	1.844	2.00	8.493	10.19	88.5	225.9	672.5
50.00		1.60	0.81	7.909	8.70	0.00	1.200	1.845	2.00	8.427	10.11	88.0	224.2	667.0
52.00		1.59	0.82	7.921	8.71	0.00	1.200	1.846	2.00	8.362	10.03	87.4	222.5	661.5
54.00		1.57	0.83	7.931	8.72	0.00	1.200	1.847	2.00	8.296	9.96	86.8	220.8	656.0
56.00		1.56	0.84	7.939	8.73	0.00	1.200	1.848	2.00	8.230	9.88	86.2	219.0	650.5
57.11	RT6	1.55	0.84	7.943	8.74	0.00	1.200	1.848	1.11	4.539	5.45	47.6	121.0	358.9
58.00	RB8	1.55	0.85	7.946	8.74	0.00	1.200	1.848	0.89	3.625	4.35	38.0	96.7	286.5
58.50	RT7	1.54	0.85	7.947	8.74	0.00	1.200	1.848	0.50	2.031	2.44	21.3	54.2	160.5
60.00		1.53	0.85	7.951	8.75	0.00	1.200	1.849	1.50	6.068	7.28	63.7	161.6	479.2
62.00		1.52	0.86	7.955	8.75	0.00	1.200	1.849	2.00	8.033	9.64	84.3	213.7	633.8
64.00		1.50	0.87	7.958	8.75	0.00	1.200	1.849	2.00	7.967	9.56	83.7	211.9	628.3
66.00		1.49	0.88	7.961	8.76	0.00	1.200	1.849	2.00	7.901	9.48	83.0	210.1	622.7
68.00		1.48	0.89	7.962	8.76	0.00	1.200	1.849	2.00	7.835	9.40	82.3	208.2	617.1
70.00	Bot - Section 3	1.47	0.89	7.963	8.76	0.00	1.200	1.849	2.00	7.769	9.32	81.7	206.4	611.5
72.00		1.46	0.90	7.963	8.76	0.00	1.200	1.849	2.00	7.811	9.37	82.1	207.6	948.9

Wind Loading - Shaft

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 29

TES Tower Engineering Solutions

74.00		1.44	0.91	7.962	8.76	0.00	1.200	1.849	2.00	7.744	9.29	81.4	205.7	940.2
76.00	Top - Section 2 RT8	1.43	0.91	7.962	8.76	0.00	1.200	1.849	2.00	7.678	9.21	80.7	203.9	931.4
78.00		1.42	0.92	7.960	8.76	0.00	1.200	1.849	2.00	7.612	9.13	80.0	202.1	532.7
80.00		1.41	0.93	7.959	8.75	0.00	1.200	1.849	2.00	7.546	9.06	79.3	200.2	527.7
82.00		1.40	0.93	7.957	8.75	0.00	1.200	1.849	2.00	7.480	8.98	78.6	198.4	522.7
84.00		1.39	0.94	7.955	8.75	0.00	1.200	1.849	2.00	7.414	8.90	77.8	196.5	517.7
86.00		1.38	0.95	7.952	8.75	0.00	1.200	1.849	2.00	7.348	8.82	77.1	194.6	512.7
88.00		1.37	0.95	7.950	8.74	0.00	1.200	1.848	2.00	7.282	8.74	76.4	192.8	507.7
90.00		1.36	0.96	7.947	8.74	0.00	1.200	1.848	2.00	7.216	8.66	75.7	190.9	502.7
92.00		1.35	0.96	7.945	8.74	0.00	1.200	1.848	2.00	7.150	8.58	75.0	189.1	497.7
94.00		1.35	0.97	7.942	8.74	0.00	1.200	1.848	2.00	7.084	8.50	74.3	187.2	492.7
96.00	RT9 RB10	1.34	0.98	7.939	8.73	0.00	1.200	1.848	2.00	7.018	8.42	73.5	185.4	487.7
98.00		1.33	0.98	7.937	8.73	0.00	1.200	1.847	2.00	6.952	8.34	72.8	183.5	482.7
100.00	Top - Section 3	1.32	0.99	7.934	8.73	0.00	1.200	1.847	2.00	6.886	8.26	72.1	181.7	477.7
102.00		1.31	0.99	7.932	8.72	0.00	1.200	1.847	2.00	6.819	8.18	71.4	179.8	414.5
104.00		1.30	1.00	7.929	8.72	0.00	1.200	1.847	2.00	6.753	8.10	70.7	178.0	410.2
106.00		1.30	1.00	7.927	8.72	0.00	1.200	1.847	2.00	6.687	8.02	70.0	176.1	405.8
108.00		1.29	1.01	7.925	8.72	0.00	1.200	1.846	2.00	6.621	7.95	69.3	174.3	401.4
110.00		1.28	1.02	7.923	8.71	0.00	1.200	1.846	2.00	6.555	7.87	68.6	172.4	397.1
112.00		1.28	1.02	7.921	8.71	0.00	1.200	1.846	2.00	6.489	7.79	67.8	170.6	392.7
113.50	RT10	1.27	1.02	7.919	8.71	0.00	1.200	1.846	1.50	4.823	5.79	50.4	126.9	291.8
114.00		1.27	1.03	7.919	8.71	0.00	1.200	1.846	0.50	1.600	1.92	16.7	42.2	96.9
115.00	Bot - Section 5	1.27	1.03	7.918	8.71	0.00	1.200	1.846	1.00	3.187	3.82	33.3	83.9	192.8
116.00		1.26	1.03	7.917	8.71	0.00	1.200	1.846	1.00	3.213	3.86	33.6	84.6	302.8
118.00		1.26	1.04	7.916	8.71	0.00	1.200	1.846	2.00	6.377	7.65	66.6	167.4	599.9
120.00	Top - Section 4	1.25	1.04	7.914	8.71	0.00	1.200	1.846	2.00	6.311	7.57	65.9	165.6	593.0
122.00		1.24	1.05	7.913	8.70	0.00	1.200	1.845	2.00	6.245	7.49	65.2	163.7	376.6
124.00		1.24	1.05	7.912	8.70	0.00	1.200	1.845	2.00	6.179	7.41	64.5	161.9	372.2
126.00		1.23	1.06	7.912	8.70	0.00	1.200	1.845	2.00	6.113	7.34	63.8	160.1	367.9
127.00	Appurtenance(s)	1.23	1.06	7.911	8.70	0.00	1.200	1.845	1.00	3.032	3.64	31.7	79.6	182.5
128.00		1.23	1.06	7.911	8.70	0.00	1.200	1.845	1.00	3.015	3.62	31.5	79.1	181.5
130.00		1.22	1.07	7.911	8.70	0.00	1.200	1.845	2.00	5.981	7.18	62.5	156.4	359.2
132.00		1.22	1.07	7.911	8.70	0.00	1.200	1.845	2.00	5.915	7.10	61.8	154.6	354.9
134.00		1.21	1.07	7.911	8.70	0.00	1.200	1.845	2.00	5.849	7.02	61.1	152.7	350.5
136.00		1.21	1.08	7.911	8.70	0.00	1.200	1.845	2.00	5.783	6.94	60.4	150.9	346.2
137.00	Appurtenance(s)	1.20	1.08	7.911	8.70	0.00	1.200	1.845	1.00	2.867	3.44	29.9	75.0	171.7
138.00		1.20	1.08	7.911	8.70	0.00	1.200	1.845	1.00	2.850	3.42	29.8	74.5	170.6
140.00		1.20	1.09	7.912	8.70	0.00	1.200	1.845	2.00	5.651	6.78	59.0	147.3	337.5
142.00		1.19	1.09	7.913	8.70	0.00	1.200	1.845	2.00	5.585	6.70	58.3	145.4	333.1
144.00		1.19	1.10	7.914	8.71	0.00	1.200	1.845	2.00	5.519	6.62	57.7	143.6	328.8
146.00		1.18	1.10	7.915	8.71	0.00	1.200	1.846	2.00	5.453	6.54	57.0	141.8	324.5
147.00	Appurtenance(s)	1.18	1.10	7.916	8.71	0.00	1.200	1.846	1.00	2.702	3.24	28.2	70.4	160.8
148.00		1.18	1.11	7.917	8.71	0.00	1.200	1.846	1.00	2.685	3.22	28.1	70.0	159.8
150.00		1.17	1.11	7.918	8.71	0.00	1.200	1.846	2.00	5.321	6.39	55.6	138.1	315.8
152.00		1.17	1.11	7.920	8.71	0.00	1.200	1.846	2.00	5.255	6.31	54.9	136.3	311.5
154.00		1.17	1.12	7.923	8.71	0.00	1.200	1.846	2.00	5.189	6.23	54.3	134.5	307.1
155.00	Appurtenance(s)	1.16	1.12	7.924	8.72	0.00	1.200	1.846	1.00	2.570	3.08	26.9	66.8	152.2
								Totals:	**155.00**			**6,174.1**		**46,545.7**

Discrete Appurtenance Forces

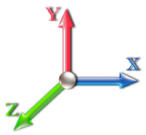
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 30	

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 24

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	155.00	DB-T1-6Z-8AB-0Z	1	7.924	8.716	0.45	0.90	2.58	176.31	0.000	0.000	22.47	0.00	0.00
2	155.00	FD9R6004/2C-3L	6	7.924	8.716	0.45	0.90	2.24	59.47	0.000	0.000	19.51	0.00	0.00
3	155.00	RRH2X60-700	3	7.924	8.716	0.45	0.90	3.38	388.28	0.000	0.000	29.47	0.00	0.00
4	155.00	RRH2X60-PCS	3	7.924	8.716	0.45	0.90	3.88	469.94	0.000	0.000	33.85	0.00	0.00
5	155.00	RRH2X60-AWS	3	7.924	8.716	0.45	0.90	5.85	391.64	0.000	0.000	51.01	0.00	0.00
6	155.00	HBXX-6517DS-A2M	6	7.924	8.716	0.69	0.90	48.39	1110.07	0.000	0.000	421.77	0.00	0.00
7	155.00	BXA-70080-4BF	3	7.924	8.716	0.68	0.90	13.81	295.51	0.000	0.000	120.34	0.00	0.00
8	155.00	LNX-6514DS-A1M	3	7.924	8.716	0.75	0.90	25.00	546.20	0.000	0.000	217.92	0.00	0.00
9	155.00	(3) T-Frame w/ Platforms	1	7.924	8.716	1.00	1.00	46.23	3259.49	0.000	0.000	402.96	0.00	0.00
10	147.00	APXVSPP18-C-A20	3	7.916	8.708	0.66	0.80	21.86	605.10	0.000	0.000	190.36	0.00	0.00
11	147.00	(3) SFS-H (V-Braces)	1	7.916	8.708	0.75	0.75	12.52	115.20	0.000	0.000	108.98	0.00	0.00
12	147.00	APXVTM14-C-I20	3	7.916	8.708	0.63	0.80	14.26	716.47	0.000	0.000	124.18	0.00	0.00
13	147.00	PRK-1245 (kicker kit)	1	7.916	8.708	1.00	1.00	20.02	806.03	0.000	0.000	174.33	0.00	0.00
14	147.00	(3) T-Frame w/ Platforms	1	7.916	8.708	1.00	1.00	46.23	3258.98	0.000	0.000	402.51	0.00	0.00
15	147.00	RFS ACU-A20-N RET	4	7.916	8.708	0.40	0.80	0.73	17.77	0.000	0.000	6.32	0.00	0.00
16	147.00	Alcatel Lucent	3	7.916	8.708	0.40	0.80	5.90	606.68	0.000	0.000	51.35	0.00	0.00
17	147.00	Alcatel Lucent 1900 MHz	3	7.916	8.708	0.40	0.80	3.60	1110.84	0.000	0.000	31.35	0.00	0.00
18	147.00	Alcatel Lucent 800 MHz	3	7.916	8.708	0.40	0.80	4.44	362.15	0.000	0.000	38.66	0.00	0.00
19	147.00	Alcatel Lucent 800 MHz	3	7.916	8.708	0.40	0.80	1.76	72.66	0.000	0.000	15.30	0.00	0.00
20	137.00	RRUS 4415 B25	2	7.911	8.702	0.40	0.80	1.75	178.52	0.000	0.000	15.21	0.00	0.00
21	137.00	4449 B71 + B85	2	7.911	8.702	0.40	0.80	2.06	180.99	0.000	0.000	17.91	0.00	0.00
22	137.00	AIR6449 B41	2	7.911	8.702	0.57	0.80	7.56	473.76	0.000	0.000	65.79	0.00	0.00
23	137.00	(3) T-Framew/ walking	1	7.911	8.702	1.00	1.00	46.22	3258.65	0.000	0.000	402.22	0.00	0.00
24	137.00	(3) HR w/ V-Brace Kits	1	7.911	8.702	1.00	1.00	17.91	787.86	0.000	0.000	155.86	0.00	0.00
25	137.00	PRK-1245 (kicker kit)	1	7.911	8.702	1.00	1.00	17.91	750.13	0.000	0.000	155.86	0.00	0.00
26	137.00	APXVAALL24_43-U-NA20	2	7.911	8.702	0.56	0.80	24.92	1197.43	0.000	0.000	216.89	0.00	0.00
27	137.00	KRD 9011461-B66A-B2A	2	7.911	8.702	0.70	0.80	10.72	708.85	0.000	0.000	93.28	0.00	0.00
28	137.00	KRY 112 144/2	3	7.911	8.702	0.40	0.80	1.09	64.50	0.000	0.000	9.53	0.00	0.00
29	127.00	4415 B30	3	7.911	8.702	0.38	0.75	2.77	278.64	0.000	0.000	24.14	0.00	0.00
30	127.00	HRK12 (Handrail Kit)	1	7.911	8.702	1.00	1.00	13.73	904.19	0.000	0.000	119.44	0.00	0.00
31	127.00	DC9-48-60-24-8C-EV	1	7.911	8.702	0.38	0.75	1.06	126.41	0.000	0.000	9.20	0.00	0.00
32	127.00	7770.00	3	7.911	8.702	0.55	0.75	10.89	560.38	0.000	0.000	94.77	0.00	0.00
33	127.00	8843 B2 B66A	3	7.911	8.702	0.38	0.75	2.46	363.96	0.000	0.000	21.40	0.00	0.00
34	127.00	Low Profile	1	7.911	8.702	1.00	1.00	46.22	2883.95	0.000	0.000	402.23	0.00	0.00
35	127.00	LGP13519	6	7.911	8.702	0.38	0.75	1.85	82.21	0.000	0.000	16.06	0.00	0.00
36	127.00	DTMABP7819VG12A	3	7.911	8.702	0.38	0.75	2.20	128.17	0.000	0.000	19.13	0.00	0.00
37	127.00	4449 B5/B12	3	7.911	8.702	0.38	0.75	2.87	384.12	0.000	0.000	24.95	0.00	0.00
38	127.00	RRUS 4478 B14	3	7.911	8.702	0.38	0.75	2.47	317.17	0.000	0.000	21.52	0.00	0.00
39	127.00	DC6-48-60-18-8F	1	7.911	8.702	0.38	0.75	0.52	85.83	0.000	0.000	4.51	0.00	0.00
40	127.00	DMP65R-BU6DA	3	7.911	8.702	0.54	0.75	23.10	1018.23	0.000	0.000	201.01	0.00	0.00
41	127.00	840370799	3	7.911	8.702	0.52	0.75	30.77	763.46	0.000	0.000	267.80	0.00	0.00
							Totals:		**29,866.20**			**4,821.32**		

Total Applied Force Summary

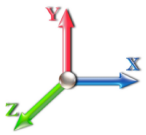
Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 31

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 24

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
2.00		117.86	983.42	0.00	0.00
4.00		115.75	996.21	0.00	0.00
6.00		113.54	1001.10	0.00	0.00
8.00		111.32	1002.56	0.00	0.00
10.00		109.14	1002.09	0.00	0.00
11.50		80.57	750.25	0.00	0.00
12.00		26.68	249.68	0.00	0.00
14.00		104.89	997.75	0.00	0.00
14.16		8.35	79.64	0.00	0.00
14.84		35.29	338.31	0.00	0.00
16.00		59.56	576.28	0.00	0.00
16.50		25.52	247.99	0.00	0.00
18.00		75.56	742.65	0.00	0.00
20.00		98.88	986.61	0.00	0.00
21.00		48.87	491.66	0.00	0.00
22.00		48.40	490.53	0.00	0.00
24.00		95.11	977.44	0.00	0.00
26.00		93.30	972.52	0.00	0.00
28.00		91.54	967.42	0.00	0.00
30.00		89.89	962.16	0.00	0.00
32.00		89.85	956.78	0.00	0.00
34.00		89.73	951.28	0.00	0.00
36.00		89.53	945.69	0.00	0.00
37.06		48.00	748.12	0.00	0.00
37.96		40.68	633.13	0.00	0.00
38.00		1.81	28.10	0.00	0.00
40.00		90.26	1399.49	0.00	0.00
41.00		44.95	696.34	0.00	0.00
42.00		44.86	693.94	0.00	0.00
44.00		89.46	865.02	0.00	0.00
46.00		89.00	859.70	0.00	0.00
48.00		88.51	854.33	0.00	0.00
50.00		87.98	848.93	0.00	0.00
52.00		87.42	843.49	0.00	0.00
54.00		86.85	838.03	0.00	0.00
56.00		86.25	832.54	0.00	0.00
57.11		47.59	459.89	0.00	0.00
58.00		38.02	367.56	0.00	0.00
58.50		21.30	186.89	0.00	0.00
60.00		63.68	558.25	0.00	0.00
62.00		84.35	739.25	0.00	0.00
64.00		83.69	733.67	0.00	0.00
66.00		83.02	728.09	0.00	0.00
68.00		82.34	722.50	0.00	0.00
70.00		81.66	716.90	0.00	0.00
72.00		82.10	1054.35	0.00	0.00

Total Applied Force Summary

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 32

Tower Engineering Solutions

74.00		81.40	1045.59	0.00	0.00
76.00		80.69	1036.83	0.00	0.00
78.00		79.99	638.10	0.00	0.00
80.00		79.28	633.10	0.00	0.00
82.00		78.56	628.10	0.00	0.00
84.00		77.85	623.10	0.00	0.00
86.00		77.13	618.10	0.00	0.00
88.00		76.42	613.10	0.00	0.00
90.00		75.70	608.10	0.00	0.00
92.00		74.98	603.09	0.00	0.00
94.00		74.26	598.09	0.00	0.00
96.00		73.55	593.09	0.00	0.00
98.00		72.83	588.09	0.00	0.00
100.00		72.11	583.08	0.00	0.00
102.00		71.40	519.92	0.00	0.00
104.00		70.69	515.55	0.00	0.00
106.00		69.97	511.18	0.00	0.00
108.00		69.26	506.81	0.00	0.00
110.00		68.55	502.44	0.00	0.00
112.00		67.85	498.08	0.00	0.00
113.50		50.42	370.87	0.00	0.00
114.00		16.72	123.19	0.00	0.00
115.00		33.31	245.45	0.00	0.00
116.00		33.58	345.51	0.00	0.00
118.00		66.63	685.41	0.00	0.00
120.00		65.93	678.54	0.00	0.00
122.00		65.23	462.09	0.00	0.00
124.00		64.54	457.74	0.00	0.00
126.00		63.84	453.39	0.00	0.00
127.00	(34) attachments	1257.82	8122.02	0.00	0.00
128.00		31.49	206.32	0.00	0.00
130.00		62.45	408.93	0.00	0.00
132.00		61.76	404.58	0.00	0.00
134.00		61.07	400.24	0.00	0.00
136.00		60.39	395.89	0.00	0.00
137.00	(16) attachments	1162.48	7797.23	0.00	0.00
138.00		29.76	190.13	0.00	0.00
140.00		59.02	376.55	0.00	0.00
142.00		58.34	372.21	0.00	0.00
144.00		57.65	367.87	0.00	0.00
146.00		56.97	363.54	0.00	0.00
147.00	(25) attachments	1171.57	7852.24	0.00	0.00
148.00		28.06	176.12	0.00	0.00
150.00		55.62	348.53	0.00	0.00
152.00		54.94	344.20	0.00	0.00
154.00		54.27	339.86	0.00	0.00
155.00	(29) attachments	1346.16	6865.45	0.00	0.00
	Totals:	**10,995.39**	**85,696.20**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

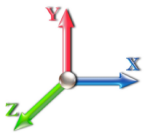
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 33	

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 24

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)
2.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.09	0.00	0.064	0.000	9.147	0.00	90.78
4.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.12	0.00	0.064	0.000	9.014	0.00	95.12
6.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.14	0.00	0.065	0.000	8.885	0.00	97.66
8.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.15	0.00	0.065	0.000	8.760	0.00	99.43
10.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.16	0.00	0.066	0.000	8.638	0.00	100.76
11.50	10"x1/2" Bent plate	Yes	1.50	0.000	3.56	0.88	0.00	0.066	0.000	8.549	0.00	76.17
12.00	10"x1/2" Bent plate	Yes	0.50	0.000	3.56	0.29	0.00	0.067	0.000	8.520	0.00	25.45
14.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.18	0.00	0.067	0.000	8.406	0.00	102.63
14.16	10"x1/2" Bent plate	Yes	0.16	0.000	3.56	0.09	0.00	0.067	0.000	8.397	0.00	8.22
14.84	10"x1/2" Bent plate	Yes	0.68	0.000	3.56	0.40	0.00	0.067	0.000	8.359	0.00	35.00
16.00	10"x1/2" Bent plate	Yes	1.16	0.000	3.56	0.68	0.00	0.067	0.000	8.295	0.00	59.93
16.50	10"x1/2" Bent plate	Yes	0.50	0.000	3.56	0.30	0.00	0.068	0.000	8.267	0.00	25.87
18.00	10"x1/2" Bent plate	Yes	1.50	0.000	3.56	0.89	0.00	0.068	0.000	8.187	0.00	77.93
20.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.19	0.00	0.068	0.000	8.082	0.00	104.39
21.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.60	0.00	0.069	0.000	8.031	0.00	52.30
22.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.60	0.00	0.069	0.000	7.980	0.00	52.40
24.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.19	0.00	0.069	0.000	7.882	0.00	105.16
26.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.20	0.00	0.070	0.000	7.786	0.00	105.47
28.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.20	0.00	0.071	0.000	7.693	0.00	105.73
30.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.20	0.00	0.071	0.000	7.609	0.00	105.96
32.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.20	0.00	0.072	0.000	7.661	0.00	106.16
34.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.20	0.00	0.072	0.000	7.707	0.00	106.33
36.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.20	0.00	0.073	0.000	7.746	0.00	106.48
37.06	10"x1/2" Bent plate	Yes	1.06	0.000	3.56	0.64	0.00	0.073	0.000	7.765	0.00	56.47
37.96	10"x1/2" Bent plate	Yes	0.90	0.000	3.56	0.54	0.00	0.074	0.000	7.780	0.00	47.98
38.00	10"x1/2" Bent plate	Yes	0.04	0.000	3.56	0.02	0.00	0.074	0.000	7.781	0.00	2.13
40.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.21	0.00	0.074	0.000	7.811	0.00	106.73
41.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.60	0.00	0.075	0.000	7.824	0.00	53.39
42.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.60	0.00	0.075	0.000	7.837	0.00	53.41
44.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.21	0.00	0.074	0.000	7.859	0.00	106.91
46.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.21	0.00	0.075	0.000	7.878	0.00	106.98
48.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.21	0.00	0.075	0.000	7.895	0.00	107.04
50.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.21	0.00	0.076	0.000	7.909	0.00	107.10
52.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.21	0.00	0.077	0.000	7.921	0.00	107.14
54.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.21	0.00	0.077	0.000	7.931	0.00	107.18
56.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	1.21	0.00	0.078	0.000	7.939	0.00	107.21
57.11	10"x1/2" Bent plate	Yes	1.11	0.000	3.56	0.67	0.00	0.078	0.000	7.943	0.00	59.51
58.00	10"x1/2" Bent plate	Yes	0.89	0.000	3.56	0.54	0.00	0.079	0.000	7.946	0.00	47.72
58.50	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.21	0.00	0.028	0.000	7.947	0.00	4.98
60.00	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.62	0.00	0.028	0.000	7.951	0.00	14.94
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.028	0.000	7.955	0.00	19.92
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.028	0.000	7.958	0.00	19.92
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.029	0.000	7.961	0.00	19.93
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.029	0.000	7.962	0.00	19.93
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.029	0.000	7.963	0.00	19.93
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.029	0.000	7.963	0.00	19.93
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.030	0.000	7.962	0.00	19.93

Linear Appurtenance Segment Forces (Factored)

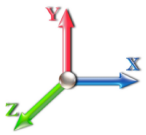
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 34	

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 24

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)
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.030	0.000	7.962	0.00	19.93
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.030	0.000	7.960	0.00	19.93
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.030	0.000	7.959	0.00	19.92
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.030	0.000	7.957	0.00	19.92
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.031	0.000	7.955	0.00	19.92
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.031	0.000	7.952	0.00	19.92
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.031	0.000	7.950	0.00	19.91
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.032	0.000	7.947	0.00	19.91
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.032	0.000	7.945	0.00	19.91
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.032	0.000	7.942	0.00	19.90
96.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.033	0.000	7.939	0.00	19.90
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.033	0.000	7.937	0.00	19.90
100.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.033	0.000	7.934	0.00	19.89
102.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.034	0.000	7.932	0.00	19.89
104.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.034	0.000	7.929	0.00	19.89
106.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.034	0.000	7.927	0.00	19.89
108.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.035	0.000	7.925	0.00	19.88
110.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.035	0.000	7.923	0.00	19.88
112.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.82	0.00	0.035	0.000	7.921	0.00	19.88
113.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.62	0.00	0.036	0.000	7.919	0.00	14.91
114.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.21	0.00	0.036	0.000	7.919	0.00	4.97
115.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.41	0.00	0.036	0.000	7.918	0.00	9.94
										Totals:	**0.0**	**3,589.6**

Calculated Forces

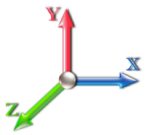
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 35	

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 24

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	-85.69	-11.01	0.00	-1183.6	0.00	1183.68	4048.32	2024.16	8933.65	4411.99	0.00	0.000	0.000	0.198
2.00	-84.71	-10.91	0.00	-1161.6	0.00	1161.66	4032.02	2016.01	8833.50	4362.53	0.00	-0.017	0.000	0.196
4.00	-83.71	-10.82	0.00	-1139.8	0.00	1139.84	4015.53	2007.77	8733.46	4313.13	0.01	-0.034	0.000	0.194
6.00	-82.70	-10.73	0.00	-1118.1	0.00	1118.19	3998.87	1999.43	8633.56	4263.79	0.03	-0.051	0.000	0.192
8.00	-81.70	-10.64	0.00	-1096.7	0.00	1096.73	3982.01	1991.01	8533.79	4214.52	0.06	-0.067	0.000	0.190
10.00	-80.69	-10.55	0.00	-1075.4	0.00	1075.44	3964.98	1982.49	8434.18	4165.32	0.09	-0.084	0.000	0.188
11.50	-79.94	-10.48	0.00	-1059.6	0.00	1059.61	3952.09	1976.04	8359.57	4128.48	0.12	-0.097	0.000	0.164
12.00	-79.69	-10.47	0.00	-1054.3	0.00	1054.37	3947.76	1973.88	8334.72	4116.20	0.13	-0.101	0.000	0.164
14.00	-78.69	-10.37	0.00	-1033.4	0.00	1033.43	3930.37	1965.18	8235.42	4067.17	0.17	-0.115	0.000	0.162
14.16	-78.61	-10.37	0.00	-1031.7	0.00	1031.77	3928.97	1964.48	8227.49	4063.25	0.18	-0.116	0.000	0.191
14.84	-78.27	-10.34	0.00	-1024.7	0.00	1024.72	3923.00	1961.50	8193.77	4046.60	0.19	-0.122	0.000	0.161
16.00	-77.70	-10.29	0.00	-1012.7	0.00	1012.72	3912.78	1956.39	8136.31	4018.22	0.23	-0.131	0.000	0.160
16.50	-77.45	-10.28	0.00	-1007.5	0.00	1007.58	3908.36	1954.18	8111.55	4005.99	0.24	-0.135	0.000	0.182
18.00	-76.70	-10.22	0.00	-992.17	0.00	992.17	3895.02	1947.51	8037.37	3969.35	0.28	-0.147	0.000	0.180
20.00	-75.71	-10.13	0.00	-971.73	0.00	971.73	3877.07	1938.54	7938.63	3920.59	0.35	-0.164	0.000	0.178
21.00	-75.22	-10.09	0.00	-961.60	0.00	961.60	3868.03	1934.02	7889.33	3896.24	0.38	-0.173	0.000	0.177
22.00	-74.73	-10.06	0.00	-951.50	0.00	951.50	3858.94	1929.47	7840.08	3871.92	0.42	-0.181	0.000	0.176
24.00	-73.75	-9.98	0.00	-931.38	0.00	931.38	3840.63	1920.32	7741.75	3823.36	0.50	-0.198	0.000	0.174
26.00	-72.77	-9.91	0.00	-911.41	0.00	911.41	3822.14	1911.07	7643.63	3774.90	0.59	-0.215	0.000	0.172
28.00	-71.80	-9.83	0.00	-891.60	0.00	891.60	3803.46	1901.73	7545.74	3726.56	0.68	-0.231	0.000	0.170
30.00	-70.84	-9.76	0.00	-871.93	0.00	871.93	3784.60	1892.30	7448.09	3678.33	0.78	-0.248	0.000	0.168
32.00	-69.88	-9.69	0.00	-852.41	0.00	852.41	3765.56	1882.78	7350.68	3630.22	0.89	-0.265	0.000	0.166
34.00	-68.92	-9.61	0.00	-833.04	0.00	833.04	3746.34	1873.17	7253.52	3582.24	1.00	-0.281	0.000	0.164
36.00	-67.98	-9.53	0.00	-813.81	0.00	813.81	3726.93	1863.47	7156.62	3534.39	1.12	-0.298	0.000	0.162
37.06	-67.23	-9.49	0.00	-803.70	0.00	803.70	3716.57	1858.29	7105.38	3509.08	1.19	-0.307	0.000	0.197
37.96	-66.59	-9.45	0.00	-795.16	0.00	795.16	3707.74	1853.87	7061.93	3487.62	1.25	-0.316	0.000	0.158
38.00	-66.56	-9.46	0.00	-794.78	0.00	794.78	3707.34	1853.67	7060.00	3486.67	1.25	-0.316	0.000	0.158
40.00	-65.16	-9.38	0.00	-775.86	0.00	775.86	3687.57	1843.78	6963.65	3439.09	1.39	-0.333	0.000	0.156
41.00	-64.47	-9.34	0.00	-766.48	0.00	766.48	3677.62	1838.81	6915.58	3415.35	1.46	-0.341	0.000	0.154
42.00	-63.77	-9.30	0.00	-757.15	0.00	757.15	3033.05	1516.53	5788.55	2858.75	1.53	-0.349	0.000	0.166
44.00	-62.90	-9.23	0.00	-738.54	0.00	738.54	3018.90	1509.45	5713.49	2821.68	1.68	-0.365	0.000	0.173
46.00	-62.04	-9.15	0.00	-720.09	0.00	720.09	3004.56	1502.28	5638.53	2784.66	1.84	-0.382	0.000	0.171
48.00	-61.18	-9.07	0.00	-701.80	0.00	701.80	2990.04	1495.02	5563.69	2747.70	2.00	-0.400	0.000	0.168
50.00	-60.33	-9.00	0.00	-683.65	0.00	683.65	2975.34	1487.67	5488.97	2710.80	2.17	-0.417	0.000	0.165
52.00	-59.49	-8.92	0.00	-665.66	0.00	665.66	2960.46	1480.23	5414.39	2673.96	2.35	-0.433	0.000	0.162
54.00	-58.65	-8.84	0.00	-647.81	0.00	647.81	2945.39	1472.69	5339.95	2637.20	2.54	-0.450	0.000	0.160
56.00	-57.81	-8.77	0.00	-630.13	0.00	630.13	2930.14	1465.07	5265.67	2600.52	2.73	-0.467	0.000	0.157
57.11	-57.35	-8.72	0.00	-620.40	0.00	620.40	2921.60	1460.80	5224.51	2580.19	2.84	-0.476	0.000	0.199
58.00	-56.99	-8.69	0.00	-612.63	0.00	612.63	2914.71	1457.35	5191.54	2563.91	2.93	-0.486	0.000	0.153
58.50	-56.80	-8.68	0.00	-608.29	0.00	608.29	2910.82	1455.41	5173.04	2554.77	2.98	-0.490	0.000	0.187
60.00	-56.24	-8.62	0.00	-595.28	0.00	595.28	2899.09	1449.55	5117.58	2527.38	3.14	-0.505	0.000	0.184
62.00	-55.50	-8.55	0.00	-578.03	0.00	578.03	2883.30	1441.65	5043.81	2490.95	3.35	-0.525	0.000	0.181
64.00	-54.76	-8.48	0.00	-560.92	0.00	560.92	2867.32	1433.66	4970.21	2454.60	3.58	-0.545	0.000	0.178
66.00	-54.03	-8.41	0.00	-543.96	0.00	543.96	2851.15	1425.58	4896.82	2418.35	3.81	-0.565	0.000	0.175
68.00	-53.31	-8.34	0.00	-527.14	0.00	527.14	2834.81	1417.40	4823.62	2382.21	4.05	-0.584	0.000	0.172
70.00	-52.59	-8.27	0.00	-510.47	0.00	510.47	2818.28	1409.14	4750.64	2346.16	4.30	-0.604	0.000	0.169
72.00	-51.53	-8.19	0.00	-493.94	0.00	493.94	2801.57	1400.79	4677.88	2310.23	4.56	-0.623	0.000	0.164
74.00	-50.48	-8.11	0.00	-477.55	0.00	477.55	2784.68	1392.34	4605.35	2274.41	4.82	-0.642	0.000	0.160

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 36

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76.00	-49.44	-8.04	0.00	-461.33	0.00	461.33	2161.97	1080.98	3608.45	1782.08	5.10	-0.661	0.000	0.178
78.00	-48.80	-7.97	0.00	-445.25	0.00	445.25	2151.06	1075.53	3556.01	1756.18	5.38	-0.680	0.000	0.192
80.00	-48.17	-7.90	0.00	-429.32	0.00	429.32	2139.97	1069.98	3503.61	1730.30	5.67	-0.701	0.000	0.187
82.00	-47.54	-7.83	0.00	-413.52	0.00	413.52	2128.69	1064.35	3451.27	1704.45	5.96	-0.722	0.000	0.183
84.00	-46.91	-7.76	0.00	-397.86	0.00	397.86	2117.24	1058.62	3398.99	1678.63	6.27	-0.742	0.000	0.178
86.00	-46.30	-7.69	0.00	-382.34	0.00	382.34	2105.60	1052.80	3346.79	1652.86	6.59	-0.762	0.000	0.173
88.00	-45.68	-7.62	0.00	-366.96	0.00	366.96	2093.78	1046.89	3294.68	1627.12	6.91	-0.782	0.000	0.169
90.00	-45.07	-7.55	0.00	-351.72	0.00	351.72	2081.77	1040.89	3242.65	1601.42	7.24	-0.802	0.000	0.164
92.00	-44.47	-7.48	0.00	-336.61	0.00	336.61	2069.59	1034.79	3190.73	1575.78	7.58	-0.821	0.000	0.159
94.00	-43.87	-7.42	0.00	-321.64	0.00	321.64	2057.22	1028.61	3138.91	1550.19	7.93	-0.840	0.000	0.154
96.00	-43.27	-7.35	0.00	-306.81	0.00	306.81	2044.67	1022.33	3087.22	1524.66	8.29	-0.858	0.000	0.161
98.00	-42.68	-7.28	0.00	-292.11	0.00	292.11	2031.93	1015.97	3035.65	1499.19	8.65	-0.878	0.000	0.156
100.00	-42.10	-7.21	0.00	-277.55	0.00	277.55	2019.02	1009.51	2984.22	1473.79	9.02	-0.897	0.000	0.151
100.00	-42.10	-7.21	0.00	-277.55	0.00	277.55	1394.49	697.25	2068.33	1021.47	9.02	-0.897	0.000	0.175
102.00	-41.58	-7.15	0.00	-263.13	0.00	263.13	1387.39	693.70	2035.72	1005.36	9.40	-0.916	0.000	0.196
104.00	-41.06	-7.08	0.00	-248.83	0.00	248.83	1380.13	690.06	2003.09	989.25	9.79	-0.937	0.000	0.189
106.00	-40.55	-7.02	0.00	-234.66	0.00	234.66	1372.69	686.35	1970.45	973.13	10.19	-0.958	0.000	0.181
108.00	-40.04	-6.96	0.00	-220.62	0.00	220.62	1365.09	682.55	1937.81	957.01	10.59	-0.978	0.000	0.173
110.00	-39.54	-6.89	0.00	-206.71	0.00	206.71	1357.32	678.66	1905.17	940.89	11.01	-0.997	0.000	0.165
112.00	-39.04	-6.83	0.00	-192.92	0.00	192.92	1349.39	674.69	1872.56	924.79	11.43	-1.016	0.000	0.157
113.50	-38.67	-6.78	0.00	-182.68	0.00	182.68	1343.33	671.66	1848.11	912.71	11.75	-1.029	0.000	0.151
113.50	-38.67	-6.78	0.00	-182.68	0.00	182.68	1343.33	671.66	1848.11	912.71	11.75	-1.029	0.000	0.151
114.00	-38.54	-6.76	0.00	-179.30	0.00	179.30	1341.28	670.64	1839.96	908.69	11.86	-1.034	0.000	0.226
115.00	-38.30	-6.73	0.00	-172.53	0.00	172.53	1337.17	668.58	1823.68	900.65	12.08	-1.047	0.000	0.220
116.00	-37.95	-6.71	0.00	-165.80	0.00	165.80	1333.01	666.51	1807.40	892.61	12.30	-1.060	0.000	0.214
118.00	-37.26	-6.64	0.00	-152.39	0.00	152.39	1324.58	662.29	1774.88	876.54	12.75	-1.085	0.000	0.202
120.00	-36.58	-6.58	0.00	-139.10	0.00	139.10	1327.18	663.59	1784.85	881.47	13.21	-1.108	0.000	0.185
122.00	-36.12	-6.52	0.00	-125.94	0.00	125.94	1318.63	659.32	1752.36	865.43	13.68	-1.131	0.000	0.173
124.00	-35.66	-6.46	0.00	-112.91	0.00	112.91	1309.91	654.95	1719.92	849.40	14.15	-1.150	0.000	0.160
126.00	-35.21	-6.39	0.00	-99.99	0.00	99.99	1301.02	650.51	1687.54	833.41	14.64	-1.169	0.000	0.147
127.00	-27.11	-4.97	0.00	-93.60	0.00	93.60	1296.51	648.26	1671.38	825.43	14.89	-1.177	0.000	0.134
128.00	-26.91	-4.94	0.00	-88.63	0.00	88.63	1291.97	645.98	1655.23	817.46	15.13	-1.186	0.000	0.129
130.00	-26.50	-4.88	0.00	-78.75	0.00	78.75	1282.74	641.37	1623.00	801.54	15.63	-1.201	0.000	0.119
132.00	-26.09	-4.81	0.00	-68.99	0.00	68.99	1273.35	636.68	1590.85	785.66	16.14	-1.215	0.000	0.108
134.00	-25.69	-4.75	0.00	-59.37	0.00	59.37	1263.80	631.90	1558.80	769.83	16.65	-1.228	0.000	0.098
136.00	-25.30	-4.68	0.00	-49.87	0.00	49.87	1254.07	627.04	1526.84	754.05	17.17	-1.240	0.000	0.086
137.00	-17.53	-3.35	0.00	-45.19	0.00	45.19	1249.15	624.57	1510.90	746.18	17.43	-1.245	0.000	0.075
138.00	-17.34	-3.32	0.00	-41.83	0.00	41.83	1244.18	622.09	1494.99	738.32	17.69	-1.249	0.000	0.071
140.00	-16.96	-3.26	0.00	-35.19	0.00	35.19	1234.12	617.06	1463.26	722.65	18.22	-1.258	0.000	0.062
142.00	-16.59	-3.19	0.00	-28.67	0.00	28.67	1223.90	611.95	1431.66	707.04	18.75	-1.266	0.000	0.054
144.00	-16.22	-3.13	0.00	-22.29	0.00	22.29	1213.50	606.75	1400.19	691.50	19.28	-1.272	0.000	0.046
146.00	-15.86	-3.06	0.00	-16.03	0.00	16.03	1202.94	601.47	1368.85	676.02	19.81	-1.277	0.000	0.037
147.00	-8.04	-1.72	0.00	-12.96	0.00	12.96	1197.60	598.80	1353.24	668.32	20.08	-1.278	0.000	0.026
148.00	-7.86	-1.69	0.00	-11.24	0.00	11.24	1192.22	596.11	1337.67	660.62	20.35	-1.280	0.000	0.024
150.00	-7.51	-1.62	0.00	-7.87	0.00	7.87	1181.32	590.66	1306.64	645.30	20.88	-1.283	0.000	0.019
152.00	-7.17	-1.56	0.00	-4.62	0.00	4.62	1170.26	585.13	1275.78	630.06	21.42	-1.285	0.000	0.013
154.00	-6.83	-1.50	0.00	-1.50	0.00	1.50	1159.03	579.51	1245.09	614.90	21.96	-1.285	0.000	0.008
155.00	0.00	-1.35	0.00	0.00	0.00	0.00	1153.35	576.68	1229.81	607.36	22.23	-1.286	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 37	

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Load Case:	1.2D + 1.0E							**Iterations**	23
Gust Response Factor	1.10				**Sds**	0.18		**Ss**	0.17
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.32		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1 RB2	0.00	0.00	0.00	0.00	0.00	
2.00		505.63	0.00	0.01	0.01	4.54	
4.00		502.00	0.00	0.03	0.01	7.64	
6.00		498.37	0.00	0.04	0.02	9.83	
8.00		494.74	0.01	0.04	0.03	11.42	
10.00		491.11	0.01	0.05	0.03	12.57	
11.50	RB3	365.95	0.01	0.06	0.03	9.91	
12.00		121.53	0.01	0.06	0.03	3.34	
14.00		483.85	0.02	0.06	0.04	14.02	
14.16	RT2	38.55	0.02	0.06	0.04	1.12	
14.84	RB4	163.58	0.02	0.06	0.04	4.82	
16.00		278.08	0.02	0.06	0.04	8.37	
16.50	RT3	119.49	0.02	0.06	0.04	3.62	
18.00		357.10	0.03	0.07	0.04	11.05	
20.00		472.95	0.03	0.07	0.04	14.96	
21.00	RT1 RB5	235.12	0.03	0.07	0.04	7.50	
22.00		234.21	0.04	0.07	0.04	7.54	
24.00		465.69	0.05	0.07	0.04	15.19	
26.00		462.06	0.05	0.07	0.04	15.25	
28.00		458.43	0.06	0.07	0.04	15.29	
30.00		454.80	0.07	0.07	0.04	15.32	
32.00		451.17	0.08	0.07	0.04	15.34	
34.00		447.54	0.09	0.07	0.04	15.36	
36.00	Bot - Section 2	443.91	0.10	0.07	0.04	15.38	
37.06	RT4	439.75	0.11	0.07	0.04	15.31	
37.96	RB6	371.88	0.11	0.07	0.04	13.00	
38.00		16.50	0.11	0.07	0.04	0.58	
40.00		821.35	0.13	0.07	0.03	28.97	
41.00	RT5 RB7	408.14	0.13	0.07	0.03	14.46	
42.00	Top - Section 1	406.44	0.14	0.07	0.03	14.45	
44.00		378.42	0.15	0.07	0.03	13.55	
46.00		375.28	0.17	0.07	0.03	13.52	
48.00		372.13	0.18	0.06	0.03	13.45	
50.00		368.99	0.20	0.06	0.02	13.34	
52.00		365.85	0.21	0.06	0.02	13.18	
54.00		362.70	0.23	0.06	0.02	12.95	
56.00		359.56	0.25	0.06	0.02	12.65	
57.11	RT6	198.20	0.26	0.05	0.02	6.89	
58.00	RB8	158.22	0.26	0.05	0.02	5.44	
58.50	RT7	88.61	0.27	0.05	0.02	3.02	
60.00		264.66	0.28	0.05	0.01	8.81	
62.00		350.13	0.30	0.04	0.01	11.14	
64.00		346.98	0.32	0.04	0.01	10.39	
66.00		343.84	0.34	0.03	0.01	9.50	
68.00		340.69	0.36	0.03	0.01	8.46	
70.00	Bot - Section 3	337.55	0.39	0.02	0.01	7.28	

Seismic Segment Forces (Factored)

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 38	

72.00		617.79	0.41	0.02	0.01	10.98	
74.00		612.02	0.43	0.01	0.01	8.29	
76.00	Top - Section 2 RT8 RB9	606.26	0.45	0.00	0.01	5.39	
78.00		275.52	0.48	-0.01	0.01	1.08	
80.00		272.90	0.50	-0.02	0.01	-0.34	
82.00		270.28	0.53	-0.03	0.01	-1.76	
84.00		267.66	0.56	-0.04	0.01	-3.13	
86.00		265.04	0.58	-0.05	0.01	-4.42	
88.00		262.42	0.61	-0.06	0.02	-5.59	
90.00		259.80	0.64	-0.07	0.02	-6.61	
92.00		257.18	0.67	-0.08	0.02	-7.47	
94.00		254.56	0.70	-0.09	0.03	-8.14	
96.00	RT9 RB10	251.94	0.73	-0.09	0.03	-8.62	
98.00		249.32	0.76	-0.10	0.04	-8.91	
100.00	Top - Section 3	246.70	0.79	-0.11	0.05	-9.01	
102.00		195.61	0.82	-0.12	0.06	-7.15	
104.00		193.51	0.85	-0.12	0.07	-6.93	
106.00		191.42	0.88	-0.12	0.08	-6.57	
108.00		189.32	0.92	-0.12	0.09	-6.08	
110.00		187.22	0.95	-0.12	0.11	-5.46	
112.00		185.13	0.99	-0.11	0.12	-4.73	
113.50	RT10	137.47	1.01	-0.11	0.14	-3.07	
114.00		45.56	1.02	-0.10	0.14	-0.96	
115.00	Bot - Section 5	90.73	1.04	-0.10	0.15	-1.70	
116.00		181.78	1.06	-0.09	0.16	-2.92	
118.00		360.42	1.10	-0.07	0.18	-3.69	
120.00	Top - Section 4	356.23	1.13	-0.05	0.21	-1.33	
122.00		177.39	1.17	-0.02	0.23	0.62	
124.00		175.29	1.21	0.01	0.26	2.01	
126.00		173.19	1.25	0.06	0.29	3.48	
127.00	Appurtenance(s)	3127.7	1.27	0.08	0.31	77.26	
128.00		85.29	1.29	0.11	0.33	2.51	
130.00		169.00	1.33	0.16	0.36	6.69	
132.00		166.91	1.37	0.23	0.40	8.41	
134.00		164.81	1.41	0.31	0.44	10.21	
136.00		162.72	1.46	0.40	0.49	12.08	
137.00	Appurtenance(s)	3594.2	1.48	0.44	0.52	289.90	
138.00		80.05	1.50	0.50	0.54	6.99	
140.00		158.52	1.54	0.61	0.59	16.02	
142.00		156.43	1.59	0.74	0.65	18.08	
144.00		154.33	1.63	0.88	0.71	20.20	
146.00		152.24	1.68	1.04	0.78	22.37	
147.00	Appurtenance(s)	3275.6	1.70	1.12	0.81	508.69	
148.00		74.81	1.72	1.21	0.85	12.25	
150.00		148.04	1.77	1.41	0.93	26.86	
152.00		145.95	1.82	1.62	1.01	29.17	
154.00		143.85	1.87	1.85	1.09	31.52	
155.00	Appurtenance(s)	2595.6	1.89	1.98	1.14	594.48	
	Totals:	**38,387.6**				**2,100.7**	**Total Wind:** **51,558.4**

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 39	

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Load Case: 1.2D + 1.0E

Iterations 23

Gust Response Factor	1.10			**Sds**	0.18			**Ss**	0.17
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.32	**SA**	0.03			**Seismic Importance Factor**	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-51.76	-2.22	0.00	-278.86	0.00	278.86	4048.32	2024.16	8933.65	4411.99		0.00	0.00	0.052
2.00	-51.08	-2.21	0.00	-274.42	0.00	274.42	4032.02	2016.01	8833.50	4362.53		0.00	0.00	0.052
4.00	-50.40	-2.21	0.00	-269.99	0.00	269.99	4015.53	2007.77	8733.46	4313.13		0.00	-0.01	0.051
6.00	-49.73	-2.20	0.00	-265.57	0.00	265.57	3998.87	1999.43	8633.56	4263.79		0.01	-0.01	0.051
8.00	-49.06	-2.20	0.00	-261.16	0.00	261.16	3982.01	1991.01	8533.79	4214.52		0.01	-0.02	0.050
10.00	-48.39	-2.19	0.00	-256.77	0.00	256.77	3964.98	1982.49	8434.18	4165.32		0.02	-0.02	0.050
11.50	-47.90	-2.18	0.00	-253.49	0.00	253.49	3952.09	1976.04	8359.57	4128.48		0.03	-0.02	0.044
12.00	-47.73	-2.18	0.00	-252.40	0.00	252.40	3947.76	1973.88	8334.72	4116.20		0.03	-0.02	0.044
14.00	-47.08	-2.16	0.00	-248.05	0.00	248.05	3930.37	1965.18	8235.42	4067.17		0.04	-0.03	0.043
14.16	-47.03	-2.16	0.00	-247.71	0.00	247.71	3928.97	1964.48	8227.49	4063.25		0.04	-0.03	0.051
14.84	-46.81	-2.16	0.00	-246.24	0.00	246.24	3923.00	1961.50	8193.77	4046.60		0.05	-0.03	0.043
16.00	-46.43	-2.15	0.00	-243.73	0.00	243.73	3912.78	1956.39	8136.31	4018.22		0.05	-0.03	0.043
16.50	-46.27	-2.15	0.00	-242.65	0.00	242.65	3908.36	1954.18	8111.55	4005.99		0.06	-0.03	0.048
18.00	-45.78	-2.14	0.00	-239.43	0.00	239.43	3895.02	1947.51	8037.37	3969.35		0.07	-0.04	0.048
20.00	-45.14	-2.13	0.00	-235.15	0.00	235.15	3877.07	1938.54	7938.63	3920.59		0.08	-0.04	0.048
21.00	-44.82	-2.12	0.00	-233.02	0.00	233.02	3868.03	1934.02	7889.33	3896.24		0.09	-0.04	0.047
22.00	-44.50	-2.12	0.00	-230.90	0.00	230.90	3858.94	1929.47	7840.08	3871.92		0.10	-0.04	0.047
24.00	-43.87	-2.10	0.00	-226.66	0.00	226.66	3840.63	1920.32	7741.75	3823.36		0.12	-0.05	0.047
26.00	-43.24	-2.09	0.00	-222.45	0.00	222.45	3822.14	1911.07	7643.63	3774.90		0.14	-0.05	0.046
28.00	-42.61	-2.08	0.00	-218.27	0.00	218.27	3803.46	1901.73	7545.74	3726.56		0.16	-0.06	0.046
30.00	-41.99	-2.07	0.00	-214.11	0.00	214.11	3784.60	1892.30	7448.09	3678.33		0.19	-0.06	0.045
32.00	-41.37	-2.05	0.00	-209.98	0.00	209.98	3765.56	1882.78	7350.68	3630.22		0.21	-0.06	0.045
34.00	-40.76	-2.04	0.00	-205.88	0.00	205.88	3746.34	1873.17	7253.52	3582.24		0.24	-0.07	0.044
36.00	-40.16	-2.03	0.00	-201.80	0.00	201.80	3726.93	1863.47	7156.62	3534.39		0.27	-0.07	0.044
37.06	-39.59	-2.01	0.00	-199.65	0.00	199.65	3716.57	1858.29	7105.38	3509.08		0.29	-0.07	0.053
37.96	-39.11	-2.00	0.00	-197.84	0.00	197.84	3707.74	1853.87	7061.93	3487.62		0.30	-0.08	0.043
38.00	-39.09	-2.00	0.00	-197.76	0.00	197.76	3707.34	1853.67	7060.00	3486.67		0.30	-0.08	0.043
40.00	-38.03	-1.97	0.00	-193.76	0.00	193.76	3687.57	1843.78	6963.65	3439.09		0.33	-0.08	0.043
41.00	-37.50	-1.96	0.00	-191.79	0.00	191.79	3677.62	1838.81	6915.58	3415.35		0.35	-0.08	0.042
42.00	-36.97	-1.94	0.00	-189.83	0.00	189.83	3033.05	1516.53	5788.55	2858.75		0.37	-0.08	0.045
44.00	-36.44	-1.93	0.00	-185.94	0.00	185.94	3018.90	1509.45	5713.49	2821.68		0.40	-0.09	0.048
46.00	-35.92	-1.92	0.00	-182.08	0.00	182.08	3004.56	1502.28	5638.53	2784.66		0.44	-0.09	0.047
48.00	-35.40	-1.91	0.00	-178.24	0.00	178.24	2990.04	1495.02	5563.69	2747.70		0.48	-0.10	0.047
50.00	-34.88	-1.90	0.00	-174.42	0.00	174.42	2975.34	1487.67	5488.97	2710.80		0.52	-0.10	0.046
52.00	-34.37	-1.89	0.00	-170.63	0.00	170.63	2960.46	1480.23	5414.39	2673.96		0.57	-0.11	0.045
54.00	-33.86	-1.87	0.00	-166.85	0.00	166.85	2945.39	1472.69	5339.95	2637.20		0.61	-0.11	0.045
56.00	-33.35	-1.86	0.00	-163.11	0.00	163.11	2930.14	1465.07	5265.67	2600.52		0.66	-0.11	0.044
57.11	-33.07	-1.86	0.00	-161.04	0.00	161.04	2921.60	1460.80	5224.51	2580.19		0.69	-0.12	0.056
58.00	-32.85	-1.85	0.00	-159.39	0.00	159.39	2914.71	1457.35	5191.54	2563.91		0.71	-0.12	0.043
58.50	-32.72	-1.85	0.00	-158.46	0.00	158.46	2910.82	1455.41	5173.04	2554.77		0.72	-0.12	0.053
60.00	-32.34	-1.84	0.00	-155.68	0.00	155.68	2899.09	1449.55	5117.58	2527.38		0.76	-0.12	0.053
62.00	-31.83	-1.83	0.00	-152.00	0.00	152.00	2883.30	1441.65	5043.81	2490.95		0.81	-0.13	0.052
64.00	-31.33	-1.82	0.00	-148.33	0.00	148.33	2867.32	1433.66	4970.21	2454.60		0.87	-0.14	0.051
66.00	-30.83	-1.82	0.00	-144.68	0.00	144.68	2851.15	1425.58	4896.82	2418.35		0.93	-0.14	0.051
68.00	-30.34	-1.81	0.00	-141.05	0.00	141.05	2834.81	1417.40	4823.62	2382.21		0.99	-0.15	0.050
70.00	-29.85	-1.80	0.00	-137.43	0.00	137.43	2818.28	1409.14	4750.64	2346.16		1.05	-0.15	0.049
72.00	-29.02	-1.79	0.00	-133.82	0.00	133.82	2801.57	1400.79	4677.88	2310.23		1.11	-0.16	0.048

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 40

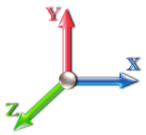
74.00	-28.20	-1.79	0.00	-130.23	0.00	130.23	2784.68	1392.34	4605.35	2274.41	1.18	-0.16	0.047
76.00	-27.39	-1.78	0.00	-126.66	0.00	126.66	2161.97	1080.98	3608.45	1782.08	1.25	-0.17	0.053
78.00	-26.97	-1.78	0.00	-123.10	0.00	123.10	2151.06	1075.53	3556.01	1756.18	1.32	-0.17	0.057
80.00	-26.56	-1.78	0.00	-119.54	0.00	119.54	2139.97	1069.98	3503.61	1730.30	1.39	-0.18	0.056
82.00	-26.15	-1.78	0.00	-115.97	0.00	115.97	2128.69	1064.35	3451.27	1704.45	1.47	-0.18	0.055
84.00	-25.74	-1.78	0.00	-112.41	0.00	112.41	2117.24	1058.62	3398.99	1678.63	1.55	-0.19	0.054
86.00	-25.34	-1.79	0.00	-108.84	0.00	108.84	2105.60	1052.80	3346.79	1652.86	1.63	-0.19	0.053
88.00	-24.94	-1.79	0.00	-105.26	0.00	105.26	2093.78	1046.89	3294.68	1627.12	1.71	-0.20	0.052
90.00	-24.54	-1.79	0.00	-101.69	0.00	101.69	2081.77	1040.89	3242.65	1601.42	1.79	-0.21	0.051
92.00	-24.14	-1.79	0.00	-98.11	0.00	98.11	2069.59	1034.79	3190.73	1575.78	1.88	-0.21	0.050
94.00	-23.75	-1.79	0.00	-94.53	0.00	94.53	2057.22	1028.61	3138.91	1550.19	1.97	-0.22	0.049
96.00	-23.36	-1.79	0.00	-90.95	0.00	90.95	2044.67	1022.33	3087.22	1524.66	2.06	-0.22	0.052
98.00	-22.98	-1.79	0.00	-87.37	0.00	87.37	2031.93	1015.97	3035.65	1499.19	2.16	-0.23	0.050
100.00	-22.60	-1.79	0.00	-83.79	0.00	83.79	2019.02	1009.51	2984.22	1473.79	2.26	-0.23	0.049
100.00	-22.60	-1.79	0.00	-83.79	0.00	83.79	1394.49	697.25	2068.33	1021.47	2.26	-0.23	0.057
102.00	-22.28	-1.79	0.00	-80.21	0.00	80.21	1387.39	693.70	2035.72	1005.36	2.35	-0.24	0.065
104.00	-21.96	-1.79	0.00	-76.62	0.00	76.62	1380.13	690.06	2003.09	989.25	2.46	-0.25	0.063
106.00	-21.64	-1.80	0.00	-73.03	0.00	73.03	1372.69	686.35	1970.45	973.13	2.56	-0.25	0.061
108.00	-21.33	-1.80	0.00	-69.44	0.00	69.44	1365.09	682.55	1937.81	957.01	2.67	-0.26	0.059
110.00	-21.02	-1.80	0.00	-65.85	0.00	65.85	1357.32	678.66	1905.17	940.89	2.78	-0.27	0.057
112.00	-20.71	-1.80	0.00	-62.25	0.00	62.25	1349.39	674.69	1872.56	924.79	2.89	-0.27	0.055
113.50	-20.48	-1.80	0.00	-59.55	0.00	59.55	1343.33	671.66	1848.11	912.71	2.98	-0.28	0.053
113.50	-20.48	-1.80	0.00	-59.55	0.00	59.55	1343.33	671.66	1848.11	912.71	2.98	-0.28	0.053
114.00	-20.41	-1.80	0.00	-58.65	0.00	58.65	1341.28	670.64	1839.96	908.69	3.01	-0.28	0.080
115.00	-20.26	-1.80	0.00	-56.86	0.00	56.86	1337.17	668.58	1823.68	900.65	3.06	-0.28	0.078
116.00	-19.99	-1.80	0.00	-55.06	0.00	55.06	1333.01	666.51	1807.40	892.61	3.12	-0.29	0.077
118.00	-19.48	-1.80	0.00	-51.46	0.00	51.46	1324.58	662.29	1774.88	876.54	3.24	-0.29	0.073
120.00	-18.96	-1.80	0.00	-47.86	0.00	47.86	1327.18	663.59	1784.85	881.47	3.37	-0.30	0.069
122.00	-18.66	-1.80	0.00	-44.26	0.00	44.26	1318.63	659.32	1752.36	865.43	3.50	-0.31	0.065
124.00	-18.37	-1.80	0.00	-40.65	0.00	40.65	1309.91	654.95	1719.92	849.40	3.63	-0.32	0.062
126.00	-18.08	-1.80	0.00	-37.06	0.00	37.06	1301.02	650.51	1687.54	833.41	3.76	-0.32	0.058
127.00	-14.28	-1.70	0.00	-35.26	0.00	35.26	1296.51	648.26	1671.38	825.43	3.83	-0.33	0.054
128.00	-14.15	-1.70	0.00	-33.56	0.00	33.56	1291.97	645.98	1655.23	817.46	3.90	-0.33	0.052
130.00	-13.90	-1.69	0.00	-30.17	0.00	30.17	1282.74	641.37	1623.00	801.54	4.04	-0.34	0.048
132.00	-13.65	-1.68	0.00	-26.79	0.00	26.79	1273.35	636.68	1590.85	785.66	4.18	-0.34	0.045
134.00	-13.40	-1.67	0.00	-23.43	0.00	23.43	1263.80	631.90	1558.80	769.83	4.33	-0.35	0.041
136.00	-13.16	-1.66	0.00	-20.09	0.00	20.09	1254.07	627.04	1526.84	754.05	4.47	-0.35	0.037
137.00	-8.82	-1.34	0.00	-18.44	0.00	18.44	1249.15	624.57	1510.90	746.18	4.55	-0.35	0.032
138.00	-8.71	-1.33	0.00	-17.10	0.00	17.10	1244.18	622.09	1494.99	738.32	4.62	-0.35	0.030
140.00	-8.48	-1.32	0.00	-14.43	0.00	14.43	1234.12	617.06	1463.26	722.65	4.77	-0.36	0.027
142.00	-8.25	-1.30	0.00	-11.80	0.00	11.80	1223.90	611.95	1431.66	707.04	4.92	-0.36	0.023
144.00	-8.02	-1.28	0.00	-9.20	0.00	9.20	1213.50	606.75	1400.19	691.50	5.07	-0.36	0.020
146.00	-7.80	-1.25	0.00	-6.65	0.00	6.65	1202.94	601.47	1368.85	676.02	5.23	-0.37	0.016
147.00	-3.86	-0.72	0.00	-5.40	0.00	5.40	1197.60	598.80	1353.24	668.32	5.30	-0.37	0.011
148.00	-3.75	-0.71	0.00	-4.68	0.00	4.68	1192.22	596.11	1337.67	660.62	5.38	-0.37	0.010
150.00	-3.54	-0.68	0.00	-3.27	0.00	3.27	1181.32	590.66	1306.64	645.30	5.53	-0.37	0.008
152.00	-3.33	-0.65	0.00	-1.91	0.00	1.91	1170.26	585.13	1275.78	630.06	5.69	-0.37	0.006
154.00	-3.13	-0.61	0.00	-0.61	0.00	0.61	1159.03	579.51	1245.09	614.90	5.84	-0.37	0.004
155.00	0.00	-0.59	0.00	0.00	0.00	0.00	1153.35	576.68	1229.81	607.36	5.92	-0.37	0.000

Seismic Segment Forces (Factored)

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 41	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E					**Iterations**	23
Gust Response Factor	1.10			**Sds**	0.18	**Ss**	0.17
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10	**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.32	**SA**	0.03	**Seismic Importance Factor**	1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1 RB2	0.00	0.00	0.00	0.00	0.00	
2.00		505.63	0.00	0.01	0.01	4.54	
4.00		502.00	0.00	0.03	0.01	7.64	
6.00		498.37	0.00	0.04	0.02	9.83	
8.00		494.74	0.01	0.04	0.03	11.42	
10.00		491.11	0.01	0.05	0.03	12.57	
11.50	RB3	365.95	0.01	0.06	0.03	9.91	
12.00		121.53	0.01	0.06	0.03	3.34	
14.00		483.85	0.02	0.06	0.04	14.02	
14.16	RT2	38.55	0.02	0.06	0.04	1.12	
14.84	RB4	163.58	0.02	0.06	0.04	4.82	
16.00		278.08	0.02	0.06	0.04	8.37	
16.50	RT3	119.49	0.02	0.06	0.04	3.62	
18.00		357.10	0.03	0.07	0.04	11.05	
20.00		472.95	0.03	0.07	0.04	14.96	
21.00	RT1 RB5	235.12	0.03	0.07	0.04	7.50	
22.00		234.21	0.04	0.07	0.04	7.54	
24.00		465.69	0.05	0.07	0.04	15.19	
26.00		462.06	0.05	0.07	0.04	15.25	
28.00		458.43	0.06	0.07	0.04	15.29	
30.00		454.80	0.07	0.07	0.04	15.32	
32.00		451.17	0.08	0.07	0.04	15.34	
34.00		447.54	0.09	0.07	0.04	15.36	
36.00	Bot - Section 2	443.91	0.10	0.07	0.04	15.38	
37.06	RT4	439.75	0.11	0.07	0.04	15.31	
37.96	RB6	371.88	0.11	0.07	0.04	13.00	
38.00		16.50	0.11	0.07	0.04	0.58	
40.00		821.35	0.13	0.07	0.03	28.97	
41.00	RT5 RB7	408.14	0.13	0.07	0.03	14.46	
42.00	Top - Section 1	406.44	0.14	0.07	0.03	14.45	
44.00		378.42	0.15	0.07	0.03	13.55	
46.00		375.28	0.17	0.07	0.03	13.52	
48.00		372.13	0.18	0.06	0.03	13.45	
50.00		368.99	0.20	0.06	0.02	13.34	
52.00		365.85	0.21	0.06	0.02	13.18	
54.00		362.70	0.23	0.06	0.02	12.95	
56.00		359.56	0.25	0.06	0.02	12.65	
57.11	RT6	198.20	0.26	0.05	0.02	6.89	
58.00	RB8	158.22	0.26	0.05	0.02	5.44	
58.50	RT7	88.61	0.27	0.05	0.02	3.02	
60.00		264.66	0.28	0.05	0.01	8.81	
62.00		350.13	0.30	0.04	0.01	11.14	
64.00		346.98	0.32	0.04	0.01	10.39	
66.00		343.84	0.34	0.03	0.01	9.50	
68.00		340.69	0.36	0.03	0.01	8.46	
70.00	Bot - Section 3	337.55	0.39	0.02	0.01	7.28	

Seismic Segment Forces (Factored)

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 42

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72.00		617.79	0.41	0.02	0.01	10.98	
74.00		612.02	0.43	0.01	0.01	8.29	
76.00	Top - Section 2 RT8 RB9	606.26	0.45	0.00	0.01	5.39	
78.00		275.52	0.48	-0.01	0.01	1.08	
80.00		272.90	0.50	-0.02	0.01	-0.34	
82.00		270.28	0.53	-0.03	0.01	-1.76	
84.00		267.66	0.56	-0.04	0.01	-3.13	
86.00		265.04	0.58	-0.05	0.01	-4.42	
88.00		262.42	0.61	-0.06	0.02	-5.59	
90.00		259.80	0.64	-0.07	0.02	-6.61	
92.00		257.18	0.67	-0.08	0.02	-7.47	
94.00		254.56	0.70	-0.09	0.03	-8.14	
96.00	RT9 RB10	251.94	0.73	-0.09	0.03	-8.62	
98.00		249.32	0.76	-0.10	0.04	-8.91	
100.00	Top - Section 3	246.70	0.79	-0.11	0.05	-9.01	
102.00		195.61	0.82	-0.12	0.06	-7.15	
104.00		193.51	0.85	-0.12	0.07	-6.93	
106.00		191.42	0.88	-0.12	0.08	-6.57	
108.00		189.32	0.92	-0.12	0.09	-6.08	
110.00		187.22	0.95	-0.12	0.11	-5.46	
112.00		185.13	0.99	-0.11	0.12	-4.73	
113.50	RT10	137.47	1.01	-0.11	0.14	-3.07	
114.00		45.56	1.02	-0.10	0.14	-0.96	
115.00	Bot - Section 5	90.73	1.04	-0.10	0.15	-1.70	
116.00		181.78	1.06	-0.09	0.16	-2.92	
118.00		360.42	1.10	-0.07	0.18	-3.69	
120.00	Top - Section 4	356.23	1.13	-0.05	0.21	-1.33	
122.00		177.39	1.17	-0.02	0.23	0.62	
124.00		175.29	1.21	0.01	0.26	2.01	
126.00		173.19	1.25	0.06	0.29	3.48	
127.00	Appurtenance(s)	3127.7	1.27	0.08	0.31	77.26	
128.00		85.29	1.29	0.11	0.33	2.51	
130.00		169.00	1.33	0.16	0.36	6.69	
132.00		166.91	1.37	0.23	0.40	8.41	
134.00		164.81	1.41	0.31	0.44	10.21	
136.00		162.72	1.46	0.40	0.49	12.08	
137.00	Appurtenance(s)	3594.2	1.48	0.44	0.52	289.90	
138.00		80.05	1.50	0.50	0.54	6.99	
140.00		158.52	1.54	0.61	0.59	16.02	
142.00		156.43	1.59	0.74	0.65	18.08	
144.00		154.33	1.63	0.88	0.71	20.20	
146.00		152.24	1.68	1.04	0.78	22.37	
147.00	Appurtenance(s)	3275.6	1.70	1.12	0.81	508.69	
148.00		74.81	1.72	1.21	0.85	12.25	
150.00		148.04	1.77	1.41	0.93	26.86	
152.00		145.95	1.82	1.62	1.01	29.17	
154.00		143.85	1.87	1.85	1.09	31.52	
155.00	Appurtenance(s)	2595.6	1.89	1.98	1.14	594.48	
	Totals:	**38,387.6**				**2,100.7**	**Total Wind:** **51,558.4**

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 43	

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Load Case: 0.9D + 1.0E

Iterations 23

Gust Response Factor	1.10			**Sds**	0.18			**Ss**	0.17
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.32	**SA**	0.03			**Seismic Importance Factor**	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-38.82	-2.22	0.00	-276.28	0.00	276.28	4048.32	2024.16	8933.65	4411.99		0.00	0.00	0.049
2.00	-38.31	-2.21	0.00	-271.85	0.00	271.85	4032.02	2016.01	8833.50	4362.53		0.00	0.00	0.049
4.00	-37.80	-2.21	0.00	-267.43	0.00	267.43	4015.53	2007.77	8733.46	4313.13		0.00	-0.01	0.049
6.00	-37.30	-2.20	0.00	-263.01	0.00	263.01	3998.87	1999.43	8633.56	4263.79		0.01	-0.01	0.048
8.00	-36.79	-2.19	0.00	-258.61	0.00	258.61	3982.01	1991.01	8533.79	4214.52		0.01	-0.02	0.048
10.00	-36.30	-2.18	0.00	-254.22	0.00	254.22	3964.98	1982.49	8434.18	4165.32		0.02	-0.02	0.047
11.50	-35.92	-2.17	0.00	-250.95	0.00	250.95	3952.09	1976.04	8359.57	4128.48		0.03	-0.02	0.041
12.00	-35.80	-2.17	0.00	-249.86	0.00	249.86	3947.76	1973.88	8334.72	4116.20		0.03	-0.02	0.041
14.00	-35.31	-2.16	0.00	-245.52	0.00	245.52	3930.37	1965.18	8235.42	4067.17		0.04	-0.03	0.041
14.16	-35.27	-2.16	0.00	-245.18	0.00	245.18	3928.97	1964.48	8227.49	4063.25		0.04	-0.03	0.048
14.84	-35.10	-2.15	0.00	-243.71	0.00	243.71	3923.00	1961.50	8193.77	4046.60		0.05	-0.03	0.041
16.00	-34.82	-2.15	0.00	-241.21	0.00	241.21	3912.78	1956.39	8136.31	4018.22		0.05	-0.03	0.041
16.50	-34.70	-2.14	0.00	-240.14	0.00	240.14	3908.36	1954.18	8111.55	4005.99		0.06	-0.03	0.046
18.00	-34.34	-2.13	0.00	-236.93	0.00	236.93	3895.02	1947.51	8037.37	3969.35		0.07	-0.03	0.046
20.00	-33.85	-2.12	0.00	-232.66	0.00	232.66	3877.07	1938.54	7938.63	3920.59		0.08	-0.04	0.045
21.00	-33.61	-2.11	0.00	-230.54	0.00	230.54	3868.03	1934.02	7889.33	3896.24		0.09	-0.04	0.045
22.00	-33.37	-2.11	0.00	-228.42	0.00	228.42	3858.94	1929.47	7840.08	3871.92		0.10	-0.04	0.045
24.00	-32.90	-2.09	0.00	-224.21	0.00	224.21	3840.63	1920.32	7741.75	3823.36		0.12	-0.05	0.044
26.00	-32.43	-2.08	0.00	-220.02	0.00	220.02	3822.14	1911.07	7643.63	3774.90		0.14	-0.05	0.044
28.00	-31.96	-2.07	0.00	-215.86	0.00	215.86	3803.46	1901.73	7545.74	3726.56		0.16	-0.05	0.044
30.00	-31.49	-2.05	0.00	-211.72	0.00	211.72	3784.60	1892.30	7448.09	3678.33		0.18	-0.06	0.043
32.00	-31.03	-2.04	0.00	-207.61	0.00	207.61	3765.56	1882.78	7350.68	3630.22		0.21	-0.06	0.043
34.00	-30.57	-2.03	0.00	-203.53	0.00	203.53	3746.34	1873.17	7253.52	3582.24		0.24	-0.07	0.042
36.00	-30.12	-2.01	0.00	-199.48	0.00	199.48	3726.93	1863.47	7156.62	3534.39		0.27	-0.07	0.042
37.06	-29.69	-2.00	0.00	-197.34	0.00	197.34	3716.57	1858.29	7105.38	3509.08		0.28	-0.07	0.051
37.96	-29.33	-1.99	0.00	-195.55	0.00	195.55	3707.74	1853.87	7061.93	3487.62		0.30	-0.08	0.041
38.00	-29.31	-1.99	0.00	-195.47	0.00	195.47	3707.34	1853.67	7060.00	3486.67		0.30	-0.08	0.041
40.00	-28.52	-1.96	0.00	-191.49	0.00	191.49	3687.57	1843.78	6963.65	3439.09		0.33	-0.08	0.041
41.00	-28.12	-1.94	0.00	-189.54	0.00	189.54	3677.62	1838.81	6915.58	3415.35		0.35	-0.08	0.040
42.00	-27.73	-1.93	0.00	-187.59	0.00	187.59	3033.05	1516.53	5788.55	2858.75		0.36	-0.08	0.043
44.00	-27.33	-1.92	0.00	-183.74	0.00	183.74	3018.90	1509.45	5713.49	2821.68		0.40	-0.09	0.045
46.00	-26.94	-1.91	0.00	-179.90	0.00	179.90	3004.56	1502.28	5638.53	2784.66		0.44	-0.09	0.045
48.00	-26.55	-1.89	0.00	-176.09	0.00	176.09	2990.04	1495.02	5563.69	2747.70		0.48	-0.10	0.044
50.00	-26.16	-1.88	0.00	-172.30	0.00	172.30	2975.34	1487.67	5488.97	2710.80		0.52	-0.10	0.044
52.00	-25.77	-1.87	0.00	-168.54	0.00	168.54	2960.46	1480.23	5414.39	2673.96		0.56	-0.10	0.043
54.00	-25.39	-1.86	0.00	-164.80	0.00	164.80	2945.39	1472.69	5339.95	2637.20		0.61	-0.11	0.043
56.00	-25.01	-1.85	0.00	-161.09	0.00	161.09	2930.14	1465.07	5265.67	2600.52		0.65	-0.11	0.042
57.11	-24.80	-1.84	0.00	-159.04	0.00	159.04	2921.60	1460.80	5224.51	2580.19		0.68	-0.12	0.053
58.00	-24.63	-1.83	0.00	-157.40	0.00	157.40	2914.71	1457.35	5191.54	2563.91		0.70	-0.12	0.041
58.50	-24.54	-1.83	0.00	-156.49	0.00	156.49	2910.82	1455.41	5173.04	2554.77		0.71	-0.12	0.051
60.00	-24.25	-1.82	0.00	-153.74	0.00	153.74	2899.09	1449.55	5117.58	2527.38		0.75	-0.12	0.050
62.00	-23.87	-1.81	0.00	-150.09	0.00	150.09	2883.30	1441.65	5043.81	2490.95		0.81	-0.13	0.049
64.00	-23.50	-1.81	0.00	-146.46	0.00	146.46	2867.32	1433.66	4970.21	2454.60		0.86	-0.13	0.049
66.00	-23.12	-1.80	0.00	-142.85	0.00	142.85	2851.15	1425.58	4896.82	2418.35		0.92	-0.14	0.048
68.00	-22.75	-1.79	0.00	-139.26	0.00	139.26	2834.81	1417.40	4823.62	2382.21		0.98	-0.14	0.048
70.00	-22.38	-1.78	0.00	-135.68	0.00	135.68	2818.28	1409.14	4750.64	2346.16		1.04	-0.15	0.047
72.00	-21.76	-1.77	0.00	-132.11	0.00	132.11	2801.57	1400.79	4677.88	2310.23		1.10	-0.15	0.046

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 44

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74.00	-21.15	-1.77	0.00	-128.56	0.00	128.56	2784.68	1392.34	4605.35	2274.41	1.17	-0.16	0.045
76.00	-20.54	-1.76	0.00	-125.03	0.00	125.03	2161.97	1080.98	3608.45	1782.08	1.24	-0.16	0.050
78.00	-20.23	-1.76	0.00	-121.51	0.00	121.51	2151.06	1075.53	3556.01	1756.18	1.31	-0.17	0.055
80.00	-19.92	-1.76	0.00	-117.99	0.00	117.99	2139.97	1069.98	3503.61	1730.30	1.38	-0.18	0.054
82.00	-19.61	-1.76	0.00	-114.47	0.00	114.47	2128.69	1064.35	3451.27	1704.45	1.45	-0.18	0.053
84.00	-19.30	-1.76	0.00	-110.95	0.00	110.95	2117.24	1058.62	3398.99	1678.63	1.53	-0.19	0.052
86.00	-19.00	-1.76	0.00	-107.42	0.00	107.42	2105.60	1052.80	3346.79	1652.86	1.61	-0.19	0.051
88.00	-18.70	-1.76	0.00	-103.90	0.00	103.90	2093.78	1046.89	3294.68	1627.12	1.69	-0.20	0.050
90.00	-18.40	-1.77	0.00	-100.37	0.00	100.37	2081.77	1040.89	3242.65	1601.42	1.77	-0.20	0.049
92.00	-18.11	-1.77	0.00	-96.84	0.00	96.84	2069.59	1034.79	3190.73	1575.78	1.86	-0.21	0.048
94.00	-17.81	-1.77	0.00	-93.31	0.00	93.31	2057.22	1028.61	3138.91	1550.19	1.95	-0.21	0.046
96.00	-17.52	-1.77	0.00	-89.77	0.00	89.77	2044.67	1022.33	3087.22	1524.66	2.04	-0.22	0.049
98.00	-17.23	-1.77	0.00	-86.24	0.00	86.24	2031.93	1015.97	3035.65	1499.19	2.13	-0.23	0.048
100.00	-16.95	-1.77	0.00	-82.70	0.00	82.70	2019.02	1009.51	2984.22	1473.79	2.23	-0.23	0.047
100.00	-16.95	-1.77	0.00	-82.70	0.00	82.70	1394.49	697.25	2068.33	1021.47	2.23	-0.23	0.054
102.00	-16.71	-1.77	0.00	-79.17	0.00	79.17	1387.39	693.70	2035.72	1005.36	2.33	-0.24	0.061
104.00	-16.47	-1.77	0.00	-75.63	0.00	75.63	1380.13	690.06	2003.09	989.25	2.43	-0.24	0.059
106.00	-16.23	-1.77	0.00	-72.09	0.00	72.09	1372.69	686.35	1970.45	973.13	2.53	-0.25	0.057
108.00	-16.00	-1.77	0.00	-68.55	0.00	68.55	1365.09	682.55	1937.81	957.01	2.64	-0.26	0.055
110.00	-15.76	-1.77	0.00	-65.01	0.00	65.01	1357.32	678.66	1905.17	940.89	2.75	-0.26	0.053
112.00	-15.53	-1.77	0.00	-61.46	0.00	61.46	1349.39	674.69	1872.56	924.79	2.86	-0.27	0.051
113.50	-15.36	-1.77	0.00	-58.80	0.00	58.80	1343.33	671.66	1848.11	912.71	2.94	-0.27	0.050
113.50	-15.36	-1.77	0.00	-58.80	0.00	58.80	1343.33	671.66	1848.11	912.71	2.94	-0.27	0.050
114.00	-15.30	-1.77	0.00	-57.92	0.00	57.92	1341.28	670.64	1839.96	908.69	2.97	-0.27	0.075
115.00	-15.19	-1.77	0.00	-56.15	0.00	56.15	1337.17	668.58	1823.68	900.65	3.03	-0.28	0.074
116.00	-14.99	-1.77	0.00	-54.37	0.00	54.37	1333.01	666.51	1807.40	892.61	3.09	-0.28	0.072
118.00	-14.61	-1.77	0.00	-50.82	0.00	50.82	1324.58	662.29	1774.88	876.54	3.21	-0.29	0.069
120.00	-14.22	-1.77	0.00	-47.28	0.00	47.28	1327.18	663.59	1784.85	881.47	3.33	-0.30	0.064
122.00	-14.00	-1.77	0.00	-43.73	0.00	43.73	1318.63	659.32	1752.36	865.43	3.46	-0.31	0.061
124.00	-13.77	-1.77	0.00	-40.18	0.00	40.18	1309.91	654.95	1719.92	849.40	3.59	-0.31	0.058
126.00	-13.55	-1.77	0.00	-36.63	0.00	36.63	1301.02	650.51	1687.54	833.41	3.72	-0.32	0.054
127.00	-10.71	-1.68	0.00	-34.87	0.00	34.87	1296.51	648.26	1671.38	825.43	3.79	-0.32	0.051
128.00	-10.61	-1.67	0.00	-33.19	0.00	33.19	1291.97	645.98	1655.23	817.46	3.86	-0.33	0.049
130.00	-10.42	-1.67	0.00	-29.84	0.00	29.84	1282.74	641.37	1623.00	801.54	3.99	-0.33	0.045
132.00	-10.23	-1.66	0.00	-26.50	0.00	26.50	1273.35	636.68	1590.85	785.66	4.13	-0.34	0.042
134.00	-10.05	-1.65	0.00	-23.19	0.00	23.19	1263.80	631.90	1558.80	769.83	4.28	-0.34	0.038
136.00	-9.87	-1.64	0.00	-19.89	0.00	19.89	1254.07	627.04	1526.84	754.05	4.42	-0.35	0.034
137.00	-6.61	-1.33	0.00	-18.25	0.00	18.25	1249.15	624.57	1510.90	746.18	4.49	-0.35	0.030
138.00	-6.53	-1.32	0.00	-16.93	0.00	16.93	1244.18	622.09	1494.99	738.32	4.57	-0.35	0.028
140.00	-6.36	-1.30	0.00	-14.29	0.00	14.29	1234.12	617.06	1463.26	722.65	4.71	-0.35	0.025
142.00	-6.18	-1.28	0.00	-11.68	0.00	11.68	1223.90	611.95	1431.66	707.04	4.86	-0.36	0.022
144.00	-6.02	-1.26	0.00	-9.11	0.00	9.11	1213.50	606.75	1400.19	691.50	5.01	-0.36	0.018
146.00	-5.85	-1.24	0.00	-6.59	0.00	6.59	1202.94	601.47	1368.85	676.02	5.16	-0.36	0.015
147.00	-2.89	-0.71	0.00	-5.35	0.00	5.35	1197.60	598.80	1353.24	668.32	5.24	-0.36	0.010
148.00	-2.81	-0.70	0.00	-4.64	0.00	4.64	1192.22	596.11	1337.67	660.62	5.32	-0.36	0.009
150.00	-2.65	-0.67	0.00	-3.24	0.00	3.24	1181.32	590.66	1306.64	645.30	5.47	-0.36	0.007
152.00	-2.50	-0.64	0.00	-1.89	0.00	1.89	1170.26	585.13	1275.78	630.06	5.62	-0.36	0.005
154.00	-2.34	-0.61	0.00	-0.61	0.00	0.61	1159.03	579.51	1245.09	614.90	5.77	-0.37	0.003
155.00	0.00	-0.59	0.00	0.00	0.00	0.00	1153.35	576.68	1229.81	607.36	5.85	-0.37	0.000

Wind Loading - Shaft

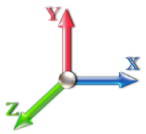
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 45	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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	2.18	0.70	13.370	14.71	344.78	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		2.15	0.70	13.172	14.49	339.79	1.000	0.000	2.00	9.267	9.27	134.3	0.0	505.6
4.00		2.12	0.70	12.980	14.28	334.90	1.000	0.000	2.00	9.201	9.20	131.4	0.0	502.0
6.00		2.09	0.70	12.794	14.07	330.10	1.000	0.000	2.00	9.135	9.14	128.6	0.0	498.4
8.00		2.06	0.70	12.614	13.88	325.38	1.000	0.000	2.00	9.069	9.07	125.8	0.0	494.7
10.00		2.03	0.70	12.439	13.68	320.76	1.000	0.000	2.00	9.003	9.00	123.2	0.0	491.1
11.50	RB3	2.01	0.70	12.311	13.54	317.34	1.000	0.000	1.50	6.709	6.71	90.9	0.0	365.9
12.00		2.00	0.70	12.269	13.50	316.22	1.000	0.000	0.50	2.228	2.23	30.1	0.0	121.5
14.00		1.97	0.70	12.104	13.31	311.76	1.000	0.000	2.00	8.871	8.87	118.1	0.0	483.8
14.16	RT2	1.97	0.70	12.091	13.30	311.40	1.000	0.000	0.16	0.707	0.71	9.4	0.0	38.6
14.84	RB4	1.96	0.70	12.036	13.24	309.91	1.000	0.000	0.68	2.999	3.00	39.7	0.0	163.6
16.00		1.95	0.70	11.944	13.14	307.38	1.000	0.000	1.16	5.099	5.10	67.0	0.0	278.1
16.50	RT3	1.94	0.70	11.905	13.10	306.29	1.000	0.000	0.50	2.191	2.19	28.7	0.0	119.5
18.00		1.92	0.70	11.789	12.97	303.07	1.000	0.000	1.50	6.548	6.55	84.9	0.0	357.1
20.00		1.90	0.70	11.638	12.80	298.85	1.000	0.000	2.00	8.673	8.67	111.0	0.0	473.0
21.00	RT1 RB5	1.89	0.70	11.564	12.72	296.76	1.000	0.000	1.00	4.312	4.31	54.8	0.0	235.1
22.00		1.88	0.70	11.492	12.64	294.69	1.000	0.000	1.00	4.295	4.30	54.3	0.0	234.2
24.00		1.85	0.70	11.350	12.48	290.61	1.000	0.000	2.00	8.541	8.54	106.6	0.0	465.7
26.00		1.83	0.70	11.212	12.33	286.60	1.000	0.000	2.00	8.475	8.48	104.5	0.0	462.1
28.00		1.81	0.70	11.078	12.19	282.65	1.000	0.000	2.00	8.409	8.41	102.5	0.0	458.4
30.00		1.79	0.70	10.957	12.05	278.89	1.000	0.000	2.00	8.343	8.34	100.6	0.0	454.8
32.00		1.77	0.71	11.032	12.14	277.62	1.000	0.000	2.00	8.277	8.28	100.4	0.0	451.2
34.00		1.75	0.73	11.098	12.21	276.22	1.000	0.000	2.00	8.211	8.21	100.2	0.0	447.5
36.00	Bot - Section 2	1.73	0.74	11.155	12.27	274.69	1.000	0.000	2.00	8.145	8.15	99.9	0.0	443.9
37.06	RT4	1.72	0.74	11.182	12.30	273.84	1.000	0.000	1.06	4.359	4.36	53.6	0.0	439.8
37.96	RB6	1.71	0.75	11.203	12.32	273.09	1.000	0.000	0.90	3.686	3.69	45.4	0.0	371.9
38.00		1.71	0.75	11.204	12.32	273.06	1.000	0.000	0.04	0.164	0.16	2.0	0.0	16.5
40.00		1.69	0.76	11.247	12.37	271.34	1.000	0.000	2.00	8.142	8.14	100.7	0.0	821.4
41.00	RT5 RB7	1.68	0.77	11.267	12.39	270.45	1.000	0.000	1.00	4.046	4.05	50.1	0.0	408.1
42.00	Top - Section 1	1.67	0.77	11.285	12.41	269.54	1.000	0.000	1.00	4.030	4.03	50.0	0.0	406.4
44.00		1.65	0.78	11.317	12.45	272.09	1.000	0.000	2.00	8.010	8.01	99.7	0.0	378.4
46.00		1.64	0.79	11.345	12.48	270.17	1.000	0.000	2.00	7.944	7.94	99.1	0.0	375.3
48.00		1.62	0.80	11.368	12.51	268.19	1.000	0.000	2.00	7.878	7.88	98.5	0.0	372.1
50.00		1.60	0.81	11.389	12.53	266.17	1.000	0.000	2.00	7.812	7.81	97.9	0.0	369.0
52.00		1.59	0.82	11.406	12.55	264.11	1.000	0.000	2.00	7.746	7.75	97.2	0.0	365.8
54.00		1.57	0.83	11.420	12.56	262.02	1.000	0.000	2.00	7.680	7.68	96.5	0.0	362.7
56.00		1.56	0.84	11.432	12.58	259.89	1.000	0.000	2.00	7.614	7.61	95.8	0.0	359.6
57.11	RT6	1.55	0.84	11.438	12.58	258.70	1.000	0.000	1.11	4.197	4.20	52.8	0.0	198.2
58.00	RB8	1.55	0.85	11.442	12.59	257.74	1.000	0.000	0.89	3.351	3.35	42.2	0.0	158.2
58.50	RT7	1.54	0.85	11.444	12.59	257.20	1.000	0.000	0.50	1.877	1.88	23.6	0.0	88.6
60.00		1.53	0.85	11.450	12.59	255.56	1.000	0.000	1.50	5.606	5.61	70.6	0.0	264.7
62.00		1.52	0.86	11.456	12.60	253.36	1.000	0.000	2.00	7.416	7.42	93.5	0.0	350.1
64.00		1.50	0.87	11.460	12.61	251.15	1.000	0.000	2.00	7.350	7.35	92.7	0.0	347.0
66.00		1.49	0.88	11.463	12.61	248.92	1.000	0.000	2.00	7.284	7.28	91.9	0.0	343.8
68.00		1.48	0.89	11.465	12.61	246.67	1.000	0.000	2.00	7.218	7.22	91.0	0.0	340.7
70.00	Bot - Section 3	1.47	0.89	11.466	12.61	244.42	1.000	0.000	2.00	7.152	7.15	90.2	0.0	337.6
72.00		1.46	0.90	11.467	12.61	242.15	1.000	0.000	2.00	7.194	7.19	90.7	0.0	617.8

Wind Loading - Shaft

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 46	

74.00		1.44	0.91	11.466	12.61	239.88	1.000	0.000	2.00	7.128	7.13	89.9	0.0	612.0
76.00	Top - Section 2 RT8	1.43	0.91	11.465	12.61	237.60	1.000	0.000	2.00	7.062	7.06	89.1	0.0	606.3
78.00		1.42	0.92	11.463	12.61	239.02	1.000	0.000	2.00	6.996	7.00	88.2	0.0	275.5
80.00		1.41	0.93	11.460	12.61	236.73	1.000	0.000	2.00	6.930	6.93	87.4	0.0	272.9
82.00		1.40	0.93	11.458	12.60	234.43	1.000	0.000	2.00	6.864	6.86	86.5	0.0	270.3
84.00		1.39	0.94	11.455	12.60	232.14	1.000	0.000	2.00	6.798	6.80	85.7	0.0	267.7
86.00		1.38	0.95	11.451	12.60	229.84	1.000	0.000	2.00	6.732	6.73	84.8	0.0	265.0
88.00		1.37	0.95	11.448	12.59	227.54	1.000	0.000	2.00	6.666	6.67	83.9	0.0	262.4
90.00		1.36	0.96	11.444	12.59	225.24	1.000	0.000	2.00	6.600	6.60	83.1	0.0	259.8
92.00		1.35	0.96	11.440	12.58	222.94	1.000	0.000	2.00	6.534	6.53	82.2	0.0	257.2
94.00		1.35	0.97	11.437	12.58	220.64	1.000	0.000	2.00	6.468	6.47	81.4	0.0	254.6
96.00	RT9 RB10	1.34	0.98	11.433	12.58	218.34	1.000	0.000	2.00	6.402	6.40	80.5	0.0	251.9
98.00		1.33	0.98	11.429	12.57	216.04	1.000	0.000	2.00	6.336	6.34	79.7	0.0	249.3
100.00	Top - Section 3	1.32	0.99	11.425	12.57	213.74	1.000	0.000	2.00	6.270	6.27	78.8	0.0	246.7
102.00		1.31	0.99	11.422	12.56	211.44	1.000	0.000	2.00	6.204	6.20	77.9	0.0	195.6
104.00		1.30	1.00	11.418	12.56	209.15	1.000	0.000	2.00	6.138	6.14	77.1	0.0	193.5
106.00		1.30	1.00	11.415	12.56	206.86	1.000	0.000	2.00	6.072	6.07	76.2	0.0	191.4
108.00		1.29	1.01	11.412	12.55	204.57	1.000	0.000	2.00	6.006	6.01	75.4	0.0	189.3
110.00		1.28	1.02	11.409	12.55	202.28	1.000	0.000	2.00	5.940	5.94	74.5	0.0	187.2
112.00		1.28	1.02	11.406	12.55	200.00	1.000	0.000	2.00	5.874	5.87	73.7	0.0	185.1
113.50	RT10	1.27	1.02	11.404	12.54	198.28	1.000	0.000	1.50	4.362	4.36	54.7	0.0	137.5
114.00		1.27	1.03	11.403	12.54	197.71	1.000	0.000	0.50	1.446	1.45	18.1	0.0	45.6
115.00	Bot - Section 5	1.27	1.03	11.402	12.54	196.57	1.000	0.000	1.00	2.879	2.88	36.1	0.0	90.7
116.00		1.26	1.03	11.401	12.54	195.43	1.000	0.000	1.00	2.906	2.91	36.4	0.0	181.8
118.00		1.26	1.04	11.399	12.54	193.15	1.000	0.000	2.00	5.762	5.76	72.2	0.0	360.4
120.00	Top - Section 4	1.25	1.04	11.397	12.54	190.88	1.000	0.000	2.00	5.696	5.70	71.4	0.0	356.2
122.00		1.24	1.05	11.395	12.53	191.56	1.000	0.000	2.00	5.630	5.63	70.6	0.0	177.4
124.00		1.24	1.05	11.394	12.53	189.29	1.000	0.000	2.00	5.564	5.56	69.7	0.0	175.3
126.00		1.23	1.06	11.393	12.53	187.02	1.000	0.000	2.00	5.498	5.50	68.9	0.0	173.2
127.00	Appurtenance(s)	1.23	1.06	11.392	12.53	185.89	1.000	0.000	1.00	2.724	2.72	34.1	0.0	85.8
128.00		1.23	1.06	11.392	12.53	184.75	1.000	0.000	1.00	2.708	2.71	33.9	0.0	85.3
130.00		1.22	1.07	11.391	12.53	182.49	1.000	0.000	2.00	5.366	5.37	67.2	0.0	169.0
132.00		1.22	1.07	11.391	12.53	180.23	1.000	0.000	2.00	5.300	5.30	66.4	0.0	166.9
134.00		1.21	1.07	11.391	12.53	177.97	1.000	0.000	2.00	5.234	5.23	65.6	0.0	164.8
136.00		1.21	1.08	11.392	12.53	175.72	1.000	0.000	2.00	5.168	5.17	64.8	0.0	162.7
137.00	Appurtenance(s)	1.20	1.08	11.392	12.53	174.59	1.000	0.000	1.00	2.559	2.56	32.1	0.0	80.6
138.00		1.20	1.08	11.392	12.53	173.46	1.000	0.000	1.00	2.543	2.54	31.9	0.0	80.0
140.00		1.20	1.09	11.393	12.53	171.21	1.000	0.000	2.00	5.036	5.04	63.1	0.0	158.5
142.00		1.19	1.09	11.395	12.53	168.96	1.000	0.000	2.00	4.970	4.97	62.3	0.0	156.4
144.00		1.19	1.10	11.396	12.54	166.71	1.000	0.000	2.00	4.904	4.90	61.5	0.0	154.3
146.00		1.18	1.10	11.398	12.54	164.47	1.000	0.000	2.00	4.838	4.84	60.7	0.0	152.2
147.00	Appurtenance(s)	1.18	1.10	11.399	12.54	163.35	1.000	0.000	1.00	2.394	2.39	30.0	0.0	75.3
148.00		1.18	1.11	11.400	12.54	162.22	1.000	0.000	1.00	2.378	2.38	29.8	0.0	74.8
150.00		1.17	1.11	11.403	12.54	159.98	1.000	0.000	2.00	4.706	4.71	59.0	0.0	148.0
152.00		1.17	1.11	11.405	12.55	157.74	1.000	0.000	2.00	4.640	4.64	58.2	0.0	145.9
154.00		1.17	1.12	11.408	12.55	155.50	1.000	0.000	2.00	4.574	4.57	57.4	0.0	143.9
155.00	Appurtenance(s)	1.16	1.12	11.410	12.55	154.38	1.000	0.000	1.00	2.262	2.26	28.4	0.0	71.1
								Totals:	**155.00**			**6,813.4**		**26,107.2**

Discrete Appurtenance Forces

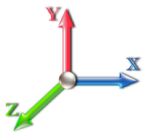
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 47	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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	155.00	DB-T1-6Z-8AB-0Z	1	11.410	12.551	0.45	0.90	1.80	18.90	0.000	0.000	22.59	0.00	0.00
2	155.00	FD9R6004/2C-3L	6	11.410	12.551	0.45	0.90	0.97	18.60	0.000	0.000	12.20	0.00	0.00
3	155.00	RRH2X60-700	3	11.410	12.551	0.45	0.90	2.54	138.00	0.000	0.000	31.85	0.00	0.00
4	155.00	RRH2X60-PCS	3	11.410	12.551	0.45	0.90	2.97	165.00	0.000	0.000	37.28	0.00	0.00
5	155.00	RRH2X60-AWS	3	11.410	12.551	0.45	0.90	4.73	165.00	0.000	0.000	59.30	0.00	0.00
6	155.00	HBXX-6517DS-A2M	6	11.410	12.551	0.69	0.90	35.55	244.80	0.000	0.000	446.20	0.00	0.00
7	155.00	BXA-70080-4BF	3	11.410	12.551	0.68	0.90	9.77	39.00	0.000	0.000	122.59	0.00	0.00
8	155.00	LNX-6514DS-A1M	3	11.410	12.551	0.75	0.90	18.31	115.20	0.000	0.000	229.80	0.00	0.00
9	155.00	(3) T-Frame w/ Platforms	1	11.410	12.551	1.00	1.00	25.00	1620.00	0.000	0.000	313.78	0.00	0.00
10	147.00	APXVSPP18-C-A20	3	11.399	12.539	0.66	0.80	15.98	171.00	0.000	0.000	200.32	0.00	0.00
11	147.00	(3) SFS-H (V-Braces)	1	11.399	12.539	0.75	0.75	7.20	197.00	0.000	0.000	90.28	0.00	0.00
12	147.00	APXVTM14-C-I20	3	11.399	12.539	0.63	0.80	12.02	168.00	0.000	0.000	150.73	0.00	0.00
13	147.00	PRK-1245 (kicker kit)	1	11.399	12.539	1.00	1.00	9.50	464.91	0.000	0.000	119.12	0.00	0.00
14	147.00	(3) T-Frame w/ Platforms	1	11.399	12.539	1.00	1.00	25.00	1620.00	0.000	0.000	313.47	0.00	0.00
15	147.00	RFS ACU-A20-N RET	4	11.399	12.539	0.40	0.80	0.22	4.00	0.000	0.000	2.81	0.00	0.00
16	147.00	Alcatel Lucent	3	11.399	12.539	0.40	0.80	4.86	210.00	0.000	0.000	60.94	0.00	0.00
17	147.00	Alcatel Lucent 1900 MHz	3	11.399	12.539	0.40	0.80	2.77	180.00	0.000	0.000	34.76	0.00	0.00
18	147.00	Alcatel Lucent 800 MHz	3	11.399	12.539	0.40	0.80	2.99	159.00	0.000	0.000	37.47	0.00	0.00
19	147.00	Alcatel Lucent 800 MHz	3	11.399	12.539	0.40	0.80	0.94	26.40	0.000	0.000	11.74	0.00	0.00
20	137.00	RRUS 4415 B25	2	11.392	12.531	0.40	0.80	1.31	92.00	0.000	0.000	16.44	0.00	0.00
21	137.00	4449 B71 + B85	2	11.392	12.531	0.40	0.80	1.58	146.40	0.000	0.000	19.75	0.00	0.00
22	137.00	AIR6449 B41	2	11.392	12.531	0.57	0.80	6.42	206.00	0.000	0.000	80.43	0.00	0.00
23	137.00	(3) T-Framew/ walking	1	11.392	12.531	1.00	1.00	25.00	1620.00	0.000	0.000	313.28	0.00	0.00
24	137.00	(3) HR w/ V-Brace Kits	1	11.392	12.531	1.00	1.00	8.50	450.00	0.000	0.000	106.51	0.00	0.00
25	137.00	PRK-1245 (kicker kit)	1	11.392	12.531	1.00	1.00	8.50	445.91	0.000	0.000	106.51	0.00	0.00
26	137.00	APXVAALL24_43-U-NA20	2	11.392	12.531	0.56	0.80	22.67	256.00	0.000	0.000	284.07	0.00	0.00
27	137.00	KRD 9011461-B66A-B2A	2	11.392	12.531	0.70	0.80	9.06	264.40	0.000	0.000	113.56	0.00	0.00
28	137.00	KRY 112 144/2	3	11.392	12.531	0.40	0.80	0.49	33.00	0.000	0.000	6.17	0.00	0.00
29	127.00	4415 B30	3	11.392	12.531	0.38	0.75	2.09	132.30	0.000	0.000	26.22	0.00	0.00
30	127.00	HRK12 (Handrail Kit)	1	11.392	12.531	1.00	1.00	6.75	261.72	0.000	0.000	84.59	0.00	0.00
31	127.00	DC9-48-60-24-8C-EV	1	11.392	12.531	0.38	0.75	0.43	26.20	0.000	0.000	5.36	0.00	0.00
32	127.00	7770.00	3	11.392	12.531	0.55	0.75	9.03	105.00	0.000	0.000	113.21	0.00	0.00
33	127.00	8843 B2 B66A	3	11.392	12.531	0.38	0.75	1.85	210.00	0.000	0.000	23.12	0.00	0.00
34	127.00	Low Profile	1	11.392	12.531	1.00	1.00	25.00	1500.00	0.000	0.000	313.29	0.00	0.00
35	127.00	LGP13519	6	11.392	12.531	0.38	0.75	0.77	31.80	0.000	0.000	9.59	0.00	0.00
36	127.00	DTMABP7819VG12A	3	11.392	12.531	0.38	0.75	1.28	57.60	0.000	0.000	16.07	0.00	0.00
37	127.00	4449 B5/B12	3	11.392	12.531	0.38	0.75	2.22	213.00	0.000	0.000	27.77	0.00	0.00
38	127.00	RRUS 4478 B14	3	11.392	12.531	0.38	0.75	1.86	178.20	0.000	0.000	23.26	0.00	0.00
39	127.00	DC6-48-60-18-8F	1	11.392	12.531	0.38	0.75	0.35	31.80	0.000	0.000	4.32	0.00	0.00
40	127.00	DMP65R-BU6DA	3	11.392	12.531	0.54	0.75	20.59	238.20	0.000	0.000	258.03	0.00	0.00
41	127.00	840370799	3	11.392	12.531	0.52	0.75	24.73	56.10	0.000	0.000	309.92	0.00	0.00
							Totals:		**12,280.44**			**4,558.68**		

Total Applied Force Summary

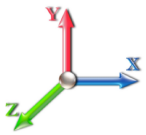
Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 48

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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
2.00		134.28	568.00	0.00	0.00
4.00		131.38	564.37	0.00	0.00
6.00		128.57	560.74	0.00	0.00
8.00		125.84	557.10	0.00	0.00
10.00		123.19	553.47	0.00	0.00
11.50		90.85	412.72	0.00	0.00
12.00		30.07	137.12	0.00	0.00
14.00		118.11	546.21	0.00	0.00
14.16		9.40	43.54	0.00	0.00
14.84		39.71	184.79	0.00	0.00
16.00		66.99	314.25	0.00	0.00
16.50		28.69	135.08	0.00	0.00
18.00		84.91	403.87	0.00	0.00
20.00		111.03	535.32	0.00	0.00
21.00		54.85	266.30	0.00	0.00
22.00		54.30	265.39	0.00	0.00
24.00		106.63	528.06	0.00	0.00
26.00		104.52	524.43	0.00	0.00
28.00		102.47	520.79	0.00	0.00
30.00		100.56	517.16	0.00	0.00
32.00		100.44	513.53	0.00	0.00
34.00		100.23	509.90	0.00	0.00
36.00		99.94	506.27	0.00	0.00
37.06		53.61	472.80	0.00	0.00
37.96		45.43	399.94	0.00	0.00
38.00		2.02	17.74	0.00	0.00
40.00		100.74	883.72	0.00	0.00
41.00		50.15	439.32	0.00	0.00
42.00		50.02	437.62	0.00	0.00
44.00		99.72	440.79	0.00	0.00
46.00		99.14	437.64	0.00	0.00
48.00		98.52	434.50	0.00	0.00
50.00		97.87	431.35	0.00	0.00
52.00		97.19	428.21	0.00	0.00
54.00		96.48	425.07	0.00	0.00
56.00		95.75	421.92	0.00	0.00
57.11		52.81	232.81	0.00	0.00
58.00		42.17	185.97	0.00	0.00
58.50		23.63	106.42	0.00	0.00
60.00		70.60	318.09	0.00	0.00
62.00		93.45	421.37	0.00	0.00
64.00		92.66	418.23	0.00	0.00
66.00		91.85	415.08	0.00	0.00
68.00		91.04	411.94	0.00	0.00
70.00		90.21	408.79	0.00	0.00
72.00		90.74	689.03	0.00	0.00

Total Applied Force Summary

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	1/15/2021
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 49

Tower Engineering Solutions

74.00		89.90	683.27	0.00	0.00
76.00		89.06	677.50	0.00	0.00
78.00		88.21	346.76	0.00	0.00
80.00		87.36	344.14	0.00	0.00
82.00		86.51	341.52	0.00	0.00
84.00		85.65	338.90	0.00	0.00
86.00		84.80	336.28	0.00	0.00
88.00		83.94	333.66	0.00	0.00
90.00		83.08	331.04	0.00	0.00
92.00		82.23	328.42	0.00	0.00
94.00		81.37	325.80	0.00	0.00
96.00		80.51	323.18	0.00	0.00
98.00		79.65	320.56	0.00	0.00
100.00		78.80	317.94	0.00	0.00
102.00		77.94	266.85	0.00	0.00
104.00		77.09	264.76	0.00	0.00
106.00		76.24	262.66	0.00	0.00
108.00		75.39	260.56	0.00	0.00
110.00		74.54	258.47	0.00	0.00
112.00		73.69	256.37	0.00	0.00
113.50		54.72	190.90	0.00	0.00
114.00		18.13	63.37	0.00	0.00
115.00		36.11	126.35	0.00	0.00
116.00		36.44	217.40	0.00	0.00
118.00		72.25	431.66	0.00	0.00
120.00		71.41	427.47	0.00	0.00
122.00		70.57	248.63	0.00	0.00
124.00		69.73	246.53	0.00	0.00
126.00		68.90	244.44	0.00	0.00
127.00	(34) attachments	1248.88	3163.35	0.00	0.00
128.00		33.93	106.01	0.00	0.00
130.00		67.24	210.44	0.00	0.00
132.00		66.41	208.35	0.00	0.00
134.00		65.58	206.25	0.00	0.00
136.00		64.76	204.16	0.00	0.00
137.00	(16) attachments	1078.78	3615.00	0.00	0.00
138.00		31.86	96.33	0.00	0.00
140.00		63.11	191.08	0.00	0.00
142.00		62.29	188.99	0.00	0.00
144.00		61.47	186.89	0.00	0.00
146.00		60.66	184.80	0.00	0.00
147.00	(25) attachments	1051.65	3291.92	0.00	0.00
148.00		29.82	88.45	0.00	0.00
150.00		59.02	175.32	0.00	0.00
152.00		58.21	173.23	0.00	0.00
154.00		57.40	171.13	0.00	0.00
155.00	(29) attachments	1303.99	2609.28	0.00	0.00
	Totals:	**11,372.06**	**43,133.20**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

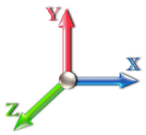
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 50	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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)
2.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.064	0.000	13.172	0.00	0.00
4.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.064	0.000	12.980	0.00	0.00
6.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.065	0.000	12.794	0.00	0.00
8.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.065	0.000	12.614	0.00	0.00
10.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.066	0.000	12.439	0.00	0.00
11.50	10"x1/2" Bent plate	Yes	1.50	0.000	3.56	0.45	0.00	0.066	0.000	12.311	0.00	0.00
12.00	10"x1/2" Bent plate	Yes	0.50	0.000	3.56	0.15	0.00	0.067	0.000	12.269	0.00	0.00
14.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.067	0.000	12.104	0.00	0.00
14.16	10"x1/2" Bent plate	Yes	0.16	0.000	3.56	0.05	0.00	0.067	0.000	12.091	0.00	0.00
14.84	10"x1/2" Bent plate	Yes	0.68	0.000	3.56	0.20	0.00	0.067	0.000	12.036	0.00	0.00
16.00	10"x1/2" Bent plate	Yes	1.16	0.000	3.56	0.34	0.00	0.067	0.000	11.944	0.00	0.00
16.50	10"x1/2" Bent plate	Yes	0.50	0.000	3.56	0.15	0.00	0.068	0.000	11.905	0.00	0.00
18.00	10"x1/2" Bent plate	Yes	1.50	0.000	3.56	0.45	0.00	0.068	0.000	11.789	0.00	0.00
20.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.068	0.000	11.638	0.00	0.00
21.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.069	0.000	11.564	0.00	0.00
22.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.069	0.000	11.492	0.00	0.00
24.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.069	0.000	11.350	0.00	0.00
26.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.070	0.000	11.212	0.00	0.00
28.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.071	0.000	11.078	0.00	0.00
30.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.071	0.000	10.957	0.00	0.00
32.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.072	0.000	11.032	0.00	0.00
34.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.072	0.000	11.098	0.00	0.00
36.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.073	0.000	11.155	0.00	0.00
37.06	10"x1/2" Bent plate	Yes	1.06	0.000	3.56	0.31	0.00	0.073	0.000	11.182	0.00	0.00
37.96	10"x1/2" Bent plate	Yes	0.90	0.000	3.56	0.27	0.00	0.074	0.000	11.203	0.00	0.00
38.00	10"x1/2" Bent plate	Yes	0.04	0.000	3.56	0.01	0.00	0.074	0.000	11.204	0.00	0.00
40.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.074	0.000	11.247	0.00	0.00
41.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.075	0.000	11.267	0.00	0.00
42.00	10"x1/2" Bent plate	Yes	1.00	0.000	3.56	0.30	0.00	0.075	0.000	11.285	0.00	0.00
44.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.074	0.000	11.317	0.00	0.00
46.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.075	0.000	11.345	0.00	0.00
48.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.075	0.000	11.368	0.00	0.00
50.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.076	0.000	11.389	0.00	0.00
52.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.077	0.000	11.406	0.00	0.00
54.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.077	0.000	11.420	0.00	0.00
56.00	10"x1/2" Bent plate	Yes	2.00	0.000	3.56	0.59	0.00	0.078	0.000	11.432	0.00	0.00
57.11	10"x1/2" Bent plate	Yes	1.11	0.000	3.56	0.33	0.00	0.078	0.000	11.438	0.00	0.00
58.00	10"x1/2" Bent plate	Yes	0.89	0.000	3.56	0.26	0.00	0.079	0.000	11.442	0.00	0.00
58.50	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.028	0.000	11.444	0.00	0.00
60.00	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.028	0.000	11.450	0.00	0.00
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	11.456	0.00	0.00
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.028	0.000	11.460	0.00	0.00
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	11.463	0.00	0.00
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	11.465	0.00	0.00
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	11.466	0.00	0.00
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.029	0.000	11.467	0.00	0.00
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	11.466	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

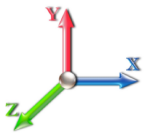
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 51	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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)
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	11.465	0.00	0.00
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	11.463	0.00	0.00
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	11.460	0.00	0.00
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.030	0.000	11.458	0.00	0.00
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	11.455	0.00	0.00
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	11.451	0.00	0.00
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.031	0.000	11.448	0.00	0.00
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	11.444	0.00	0.00
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	11.440	0.00	0.00
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	11.437	0.00	0.00
96.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	11.433	0.00	0.00
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	11.429	0.00	0.00
100.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	11.425	0.00	0.00
102.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	11.422	0.00	0.00
104.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	11.418	0.00	0.00
106.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	11.415	0.00	0.00
108.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	11.412	0.00	0.00
110.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	11.409	0.00	0.00
112.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.035	0.000	11.406	0.00	0.00
113.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.036	0.000	11.404	0.00	0.00
114.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.036	0.000	11.403	0.00	0.00
115.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.036	0.000	11.402	0.00	0.00
										Totals:	**0.0**	**0.0**

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 52	

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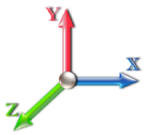
Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

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	-43.13	-11.38	0.00	-1144.6	0.00	1144.67	4048.32	2024.16	8933.65	4411.99	0.00	0.000	0.000	0.185
2.00	-42.56	-11.25	0.00	-1121.9	0.00	1121.91	4032.02	2016.01	8833.50	4362.53	0.00	-0.016	0.000	0.183
4.00	-41.99	-11.14	0.00	-1099.4	0.00	1099.41	4015.53	2007.77	8733.46	4313.13	0.01	-0.033	0.000	0.181
6.00	-41.43	-11.02	0.00	-1077.1	0.00	1077.14	3998.87	1999.43	8633.56	4263.79	0.03	-0.049	0.000	0.179
8.00	-40.87	-10.90	0.00	-1055.1	0.00	1055.10	3982.01	1991.01	8533.79	4214.52	0.06	-0.065	0.000	0.177
10.00	-40.31	-10.79	0.00	-1033.3	0.00	1033.30	3964.98	1982.49	8434.18	4165.32	0.09	-0.081	0.000	0.175
11.50	-39.90	-10.70	0.00	-1017.1	0.00	1017.11	3952.09	1976.04	8359.57	4128.48	0.11	-0.093	0.000	0.152
12.00	-39.76	-10.68	0.00	-1011.7	0.00	1011.76	3947.76	1973.88	8334.72	4116.20	0.12	-0.097	0.000	0.151
14.00	-39.21	-10.56	0.00	-990.40	0.00	990.40	3930.37	1965.18	8235.42	4067.17	0.17	-0.111	0.000	0.149
14.16	-39.17	-10.56	0.00	-988.71	0.00	988.71	3928.97	1964.48	8227.49	4063.25	0.17	-0.112	0.000	0.176
14.84	-38.98	-10.52	0.00	-981.53	0.00	981.53	3923.00	1961.50	8193.77	4046.60	0.19	-0.118	0.000	0.149
16.00	-38.67	-10.46	0.00	-969.33	0.00	969.33	3912.78	1956.39	8136.31	4018.22	0.22	-0.126	0.000	0.147
16.50	-38.53	-10.43	0.00	-964.10	0.00	964.10	3908.36	1954.18	8111.55	4005.99	0.23	-0.130	0.000	0.168
18.00	-38.12	-10.36	0.00	-948.45	0.00	948.45	3895.02	1947.51	8037.37	3969.35	0.27	-0.142	0.000	0.167
20.00	-37.59	-10.25	0.00	-927.73	0.00	927.73	3877.07	1938.54	7938.63	3920.59	0.34	-0.158	0.000	0.164
21.00	-37.32	-10.20	0.00	-917.48	0.00	917.48	3868.03	1934.02	7889.33	3896.24	0.37	-0.166	0.000	0.163
22.00	-37.05	-10.16	0.00	-907.27	0.00	907.27	3858.94	1929.47	7840.08	3871.92	0.41	-0.174	0.000	0.162
24.00	-36.52	-10.06	0.00	-886.96	0.00	886.96	3840.63	1920.32	7741.75	3823.36	0.48	-0.190	0.000	0.160
26.00	-36.00	-9.96	0.00	-866.84	0.00	866.84	3822.14	1911.07	7643.63	3774.90	0.57	-0.206	0.000	0.158
28.00	-35.47	-9.87	0.00	-846.92	0.00	846.92	3803.46	1901.73	7545.74	3726.56	0.65	-0.222	0.000	0.156
30.00	-34.95	-9.77	0.00	-827.19	0.00	827.19	3784.60	1892.30	7448.09	3678.33	0.75	-0.237	0.000	0.154
32.00	-34.44	-9.68	0.00	-807.64	0.00	807.64	3765.56	1882.78	7350.68	3630.22	0.85	-0.253	0.000	0.152
34.00	-33.92	-9.59	0.00	-788.28	0.00	788.28	3746.34	1873.17	7253.52	3582.24	0.96	-0.269	0.000	0.150
36.00	-33.42	-9.49	0.00	-769.10	0.00	769.10	3726.93	1863.47	7156.62	3534.39	1.08	-0.285	0.000	0.147
37.06	-32.94	-9.44	0.00	-759.04	0.00	759.04	3716.57	1858.29	7105.38	3509.08	1.14	-0.293	0.000	0.180
37.96	-32.54	-9.40	0.00	-750.54	0.00	750.54	3707.74	1853.87	7061.93	3487.62	1.20	-0.302	0.000	0.144
38.00	-32.52	-9.40	0.00	-750.17	0.00	750.17	3707.34	1853.67	7060.00	3486.67	1.20	-0.302	0.000	0.144
40.00	-31.64	-9.30	0.00	-731.37	0.00	731.37	3687.57	1843.78	6963.65	3439.09	1.33	-0.318	0.000	0.142
41.00	-31.20	-9.25	0.00	-722.07	0.00	722.07	3677.62	1838.81	6915.58	3415.35	1.40	-0.325	0.000	0.140
42.00	-30.76	-9.20	0.00	-712.82	0.00	712.82	3033.05	1516.53	5788.55	2858.75	1.47	-0.333	0.000	0.151
44.00	-30.32	-9.11	0.00	-694.41	0.00	694.41	3018.90	1509.45	5713.49	2821.68	1.61	-0.348	0.000	0.157
46.00	-29.88	-9.02	0.00	-676.19	0.00	676.19	3004.56	1502.28	5638.53	2784.66	1.76	-0.364	0.000	0.155
48.00	-29.44	-8.92	0.00	-658.15	0.00	658.15	2990.04	1495.02	5563.69	2747.70	1.92	-0.380	0.000	0.152
50.00	-29.01	-8.83	0.00	-640.30	0.00	640.30	2975.34	1487.67	5488.97	2710.80	2.08	-0.396	0.000	0.149
52.00	-28.58	-8.74	0.00	-622.64	0.00	622.64	2960.46	1480.23	5414.39	2673.96	2.25	-0.412	0.000	0.147
54.00	-28.15	-8.65	0.00	-605.16	0.00	605.16	2945.39	1472.69	5339.95	2637.20	2.43	-0.428	0.000	0.144
56.00	-27.73	-8.55	0.00	-587.87	0.00	587.87	2930.14	1465.07	5265.67	2600.52	2.61	-0.444	0.000	0.141
57.11	-27.49	-8.50	0.00	-578.37	0.00	578.37	2921.60	1460.80	5224.51	2580.19	2.71	-0.452	0.000	0.179
58.00	-27.31	-8.46	0.00	-570.80	0.00	570.80	2914.71	1457.35	5191.54	2563.91	2.80	-0.461	0.000	0.137
58.50	-27.20	-8.44	0.00	-566.57	0.00	566.57	2910.82	1455.41	5173.04	2554.77	2.85	-0.465	0.000	0.167
60.00	-26.88	-8.38	0.00	-553.91	0.00	553.91	2899.09	1449.55	5117.58	2527.38	3.00	-0.479	0.000	0.165
62.00	-26.46	-8.29	0.00	-537.15	0.00	537.15	2883.30	1441.65	5043.81	2490.95	3.20	-0.498	0.000	0.162
64.00	-26.04	-8.20	0.00	-520.58	0.00	520.58	2867.32	1433.66	4970.21	2454.60	3.41	-0.516	0.000	0.159
66.00	-25.62	-8.11	0.00	-504.17	0.00	504.17	2851.15	1425.58	4896.82	2418.35	3.63	-0.534	0.000	0.156
68.00	-25.21	-8.03	0.00	-487.95	0.00	487.95	2834.81	1417.40	4823.62	2382.21	3.86	-0.553	0.000	0.153
70.00	-24.80	-7.94	0.00	-471.89	0.00	471.89	2818.28	1409.14	4750.64	2346.16	4.10	-0.571	0.000	0.150
72.00	-24.11	-7.85	0.00	-456.01	0.00	456.01	2801.57	1400.79	4677.88	2310.23	4.34	-0.588	0.000	0.145
74.00	-23.42	-7.76	0.00	-440.31	0.00	440.31	2784.68	1392.34	4605.35	2274.41	4.59	-0.606	0.000	0.142

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 53

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76.00	-22.74	-7.67	0.00	-424.79	0.00	424.79	2161.97	1080.98	3608.45	1782.08	4.85	-0.623	0.000	0.158
78.00	-22.39	-7.59	0.00	-409.45	0.00	409.45	2151.06	1075.53	3556.01	1756.18	5.11	-0.641	0.000	0.169
80.00	-22.05	-7.50	0.00	-394.28	0.00	394.28	2139.97	1069.98	3503.61	1730.30	5.38	-0.660	0.000	0.165
82.00	-21.71	-7.42	0.00	-379.28	0.00	379.28	2128.69	1064.35	3451.27	1704.45	5.67	-0.679	0.000	0.160
84.00	-21.37	-7.34	0.00	-364.44	0.00	364.44	2117.24	1058.62	3398.99	1678.63	5.95	-0.698	0.000	0.156
86.00	-21.03	-7.25	0.00	-349.77	0.00	349.77	2105.60	1052.80	3346.79	1652.86	6.25	-0.716	0.000	0.152
88.00	-20.69	-7.17	0.00	-335.26	0.00	335.26	2093.78	1046.89	3294.68	1627.12	6.55	-0.734	0.000	0.147
90.00	-20.36	-7.09	0.00	-320.92	0.00	320.92	2081.77	1040.89	3242.65	1601.42	6.87	-0.752	0.000	0.143
92.00	-20.03	-7.01	0.00	-306.74	0.00	306.74	2069.59	1034.79	3190.73	1575.78	7.19	-0.770	0.000	0.138
94.00	-19.70	-6.93	0.00	-292.72	0.00	292.72	2057.22	1028.61	3138.91	1550.19	7.51	-0.787	0.000	0.134
96.00	-19.38	-6.85	0.00	-278.86	0.00	278.86	2044.67	1022.33	3087.22	1524.66	7.85	-0.804	0.000	0.140
98.00	-19.06	-6.77	0.00	-265.16	0.00	265.16	2031.93	1015.97	3035.65	1499.19	8.19	-0.822	0.000	0.135
100.00	-18.74	-6.70	0.00	-251.61	0.00	251.61	2019.02	1009.51	2984.22	1473.79	8.53	-0.839	0.000	0.130
100.00	-18.74	-6.70	0.00	-251.61	0.00	251.61	1394.49	697.25	2068.33	1021.47	8.53	-0.839	0.000	0.151
102.00	-18.47	-6.62	0.00	-238.22	0.00	238.22	1387.39	693.70	2035.72	1005.36	8.89	-0.856	0.000	0.168
104.00	-18.21	-6.54	0.00	-224.98	0.00	224.98	1380.13	690.06	2003.09	989.25	9.25	-0.875	0.000	0.161
106.00	-17.94	-6.47	0.00	-211.89	0.00	211.89	1372.69	686.35	1970.45	973.13	9.62	-0.894	0.000	0.154
108.00	-17.68	-6.40	0.00	-198.95	0.00	198.95	1365.09	682.55	1937.81	957.01	10.00	-0.912	0.000	0.147
110.00	-17.42	-6.32	0.00	-186.16	0.00	186.16	1357.32	678.66	1905.17	940.89	10.39	-0.929	0.000	0.139
112.00	-17.17	-6.25	0.00	-173.52	0.00	173.52	1349.39	674.69	1872.56	924.79	10.78	-0.946	0.000	0.132
113.50	-16.98	-6.19	0.00	-164.15	0.00	164.15	1343.33	671.66	1848.11	912.71	11.08	-0.958	0.000	0.126
113.50	-16.98	-6.19	0.00	-164.15	0.00	164.15	1343.33	671.66	1848.11	912.71	11.08	-0.958	0.000	0.126
114.00	-16.91	-6.18	0.00	-161.05	0.00	161.05	1341.28	670.64	1839.96	908.69	11.18	-0.962	0.000	0.190
115.00	-16.78	-6.14	0.00	-154.87	0.00	154.87	1337.17	668.58	1823.68	900.65	11.38	-0.974	0.000	0.185
116.00	-16.57	-6.11	0.00	-148.73	0.00	148.73	1333.01	666.51	1807.40	892.61	11.59	-0.986	0.000	0.179
118.00	-16.13	-6.03	0.00	-136.52	0.00	136.52	1324.58	662.29	1774.88	876.54	12.01	-1.008	0.000	0.168
120.00	-15.70	-5.96	0.00	-124.45	0.00	124.45	1327.18	663.59	1784.85	881.47	12.43	-1.029	0.000	0.153
122.00	-15.46	-5.89	0.00	-112.53	0.00	112.53	1318.63	659.32	1752.36	865.43	12.87	-1.049	0.000	0.142
124.00	-15.21	-5.82	0.00	-100.75	0.00	100.75	1309.91	654.95	1719.92	849.40	13.31	-1.067	0.000	0.130
126.00	-14.96	-5.75	0.00	-89.11	0.00	89.11	1301.02	650.51	1687.54	833.41	13.76	-1.083	0.000	0.119
127.00	-11.82	-4.44	0.00	-83.37	0.00	83.37	1296.51	648.26	1671.38	825.43	13.99	-1.091	0.000	0.110
128.00	-11.72	-4.41	0.00	-78.92	0.00	78.92	1291.97	645.98	1655.23	817.46	14.22	-1.098	0.000	0.106
130.00	-11.51	-4.34	0.00	-70.11	0.00	70.11	1282.74	641.37	1623.00	801.54	14.68	-1.112	0.000	0.096
132.00	-11.30	-4.27	0.00	-61.43	0.00	61.43	1273.35	636.68	1590.85	785.66	15.15	-1.125	0.000	0.087
134.00	-11.09	-4.20	0.00	-52.88	0.00	52.88	1263.80	631.90	1558.80	769.83	15.63	-1.136	0.000	0.078
136.00	-10.89	-4.14	0.00	-44.47	0.00	44.47	1254.07	627.04	1526.84	754.05	16.11	-1.146	0.000	0.068
137.00	-7.30	-2.99	0.00	-40.34	0.00	40.34	1249.15	624.57	1510.90	746.18	16.35	-1.151	0.000	0.060
138.00	-7.20	-2.95	0.00	-37.35	0.00	37.35	1244.18	622.09	1494.99	738.32	16.59	-1.155	0.000	0.056
140.00	-7.01	-2.89	0.00	-31.44	0.00	31.44	1234.12	617.06	1463.26	722.65	17.07	-1.163	0.000	0.049
142.00	-6.82	-2.82	0.00	-25.67	0.00	25.67	1223.90	611.95	1431.66	707.04	17.56	-1.170	0.000	0.042
144.00	-6.64	-2.76	0.00	-20.02	0.00	20.02	1213.50	606.75	1400.19	691.50	18.05	-1.175	0.000	0.034
146.00	-6.46	-2.69	0.00	-14.51	0.00	14.51	1202.94	601.47	1368.85	676.02	18.55	-1.179	0.000	0.027
147.00	-3.19	-1.57	0.00	-11.82	0.00	11.82	1197.60	598.80	1353.24	668.32	18.79	-1.181	0.000	0.020
148.00	-3.10	-1.54	0.00	-10.24	0.00	10.24	1192.22	596.11	1337.67	660.62	19.04	-1.183	0.000	0.018
150.00	-2.92	-1.48	0.00	-7.16	0.00	7.16	1181.32	590.66	1306.64	645.30	19.54	-1.185	0.000	0.014
152.00	-2.75	-1.42	0.00	-4.19	0.00	4.19	1170.26	585.13	1275.78	630.06	20.04	-1.187	0.000	0.009
154.00	-2.58	-1.36	0.00	-1.36	0.00	1.36	1159.03	579.51	1245.09	614.90	20.53	-1.188	0.000	0.004
155.00	0.00	-1.30	0.00	0.00	0.00	0.00	1153.35	576.68	1229.81	607.36	20.78	-1.188	0.000	0.000

Final Analysis Summary

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	1/15/2021	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 54	

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 + 1.6W 101 mph Wind	51.6	0.00	51.72	0.00	0.00	5212.71
0.9D + 1.6W 101 mph Wind	51.6	0.00	38.78	0.00	0.00	5170.16
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.0	0.00	85.69	0.00	0.00	1183.68
1.2D + 1.0E	2.2	0.00	51.76	0.00	0.00	278.86
0.9D + 1.0E	2.2	0.00	38.82	0.00	0.00	276.28
1.0D + 1.0W 60 mph Wind	11.4	0.00	43.13	0.00	0.00	1144.67

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 101 mph Wind	-18.30	-28.20	0.00	-735.10	0.00	-735.10	1341.28	670.64	1839.96	908.69	114.00	0.824
0.9D + 1.6W 101 mph Wind	-38.78	-51.58	0.00	-5170.1	0.00	-5170.1	4048.32	2024.1	8933.65	4411.99	0.00	0.812
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-38.54	-6.76	0.00	-179.30	0.00	-179.30	1341.28	670.64	1839.96	908.69	114.00	0.226
1.2D + 1.0E	-20.41	-1.80	0.00	-58.65	0.00	-58.65	1341.28	670.64	1839.96	908.69	114.00	0.080
0.9D + 1.0E	-15.30	-1.77	0.00	-57.92	0.00	-57.92	1341.28	670.64	1839.96	908.69	114.00	0.075
1.0D + 1.0W 60 mph Wind	-16.91	-6.18	0.00	-161.05	0.00	-161.05	1341.28	670.64	1839.96	908.69	114.00	0.190

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	Lower Termination MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Upper Termination MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Max Member Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
0.0	21.0	(3) PLT-6"X1-1/4"(1.25" Hole	289.1	5.20	37.1	306.8	37.1	9	0	279.4	37.1			325.58	413.6	356.25	0.914
0.0	14.2	(3) PLT-10"x1/2" (90deg)	-197.4	-3.55	37.1	236.2	37.1	7	0	203.5	37.1	6	0	236.18	290.0	255.00	0.926
11.5	16.5	(1) PLT-6"X1-1/4"(1.25" Hole	-268.6	-4.84	37.1	260.6	37.1	8	11	254.4	37.1	7	11	302.60	413.6	356.25	0.849
14.8	37.1	(3) PLT-10"x1/2" (90deg)	203.1	3.66	37.1	201.6	37.1	6	0	196.4	37.1	6	0	216.08	290.0	255.00	0.847
21.0	41.0	(3) PLT-6"X1-1/4"(1.25" Hole	327.3	5.89	37.1	279.4	37.1			251.3	37.1			315.88	413.6	356.25	0.887
38.0	57.1	(3) PLT-10"x1/2" (90deg)	-229.4	-4.13	37.1	200.2	37.1	6	0	187.5	37.1	6	0	204.98	290.0	255.00	0.804
41.0	58.5	(3) PLT-6"X1-1/4"(1.25" Hole	365.8	6.58	37.1	251.3	37.1			232.3	37.1	7	11	298.37	413.6	356.25	0.838
58.0	76.0	(3) PLT-5"x1-1/4"(1.25"Hole)	-332.0	-5.98	37.1	215.6	37.1	6	8	220.8	37.1			254.44	344.6	281.25	0.905
76.0	96.0	(3) PLT-4.5"x 1-1/4"(1.25"ho	-357.6	-6.44	37.1	204.9	37.1			174.7	37.1			220.26	310.2	243.75	0.904
96.0	113.5	(3) PLT-3.5x1.25(1.25 Hole)	-371.6	-6.69	37.1	146.7	37.1			118.2	37.1	4	6	154.07	241.2	168.75	0.913

Monopole Mat Foundation Design

			Date: 1/15/2021
Customer Name:	T-Mobile	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	155
Site Number:	CT00302-S-SBA	**Engineer Name:**	J. Chen
Engr. Number:	99376	**Engineer Login ID:**	

Foundation Info Obtained from:	Mapping Operation
Structure Type:	Monopole
Analysis or Design?	Analysis

Base Reactions (Factored):

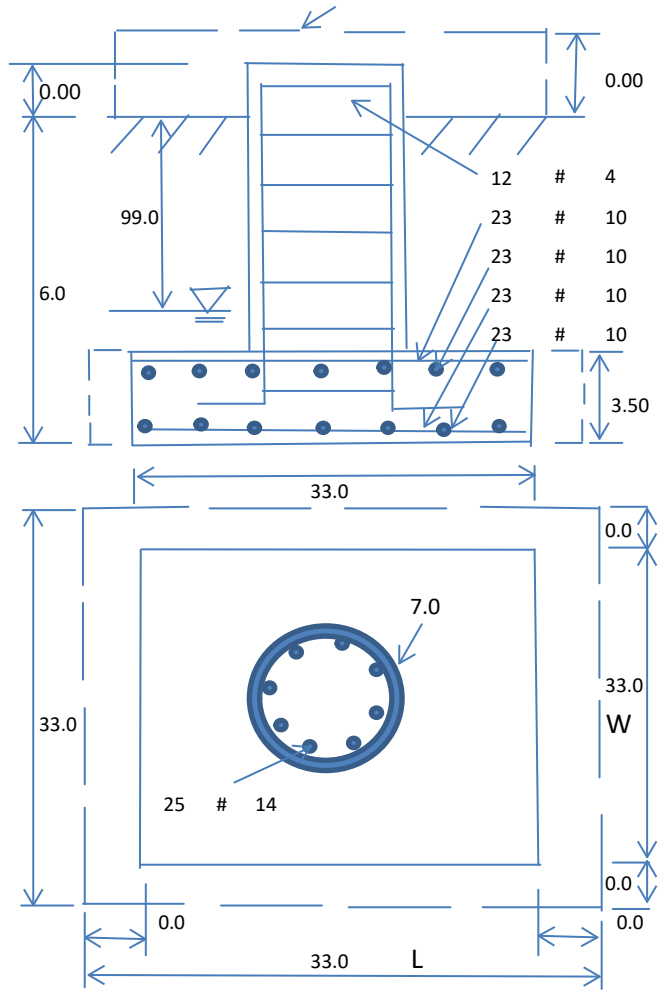
Axial Load (Kips):	51.7	Shear Force (Kips):	51.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5212.7
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.00	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	33	Width of Pad (ft.):	33
Final Length of pad (ft)	33.0	Final width of pad (ft):	33.0

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 #:	14	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	25	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	10	
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):	23	Qty. of Rebar in Pad (W):	23	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	23	Qty. of Rebar in Pad (W):	23	
Apply 1.35 factor for e/w Per G:	1.35			



Soil Design Parameters:

Soil Unit Weight (pcf):	130.0	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):	32000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	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.):	2626.29	Total Dry Soil Weight (Kips):	341.42
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	341.42	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3907.90	Total Dry Concrete Weight (Kips):	586.19
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	586.19	Total Vertical Load on Base (Kips):	979.30

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1678	<	Allowable Factored Soil Bearing (psf): 24000	0.07	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	14628.0	>	Design Factored Momont (kips-ft): 5523	0.38	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.65	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):	2.25		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	8511.1	>	Design Factored Moment (Mu, Kips-F	5341.7	0.63	OK!
Calculated Shear Capacity (Kips):	724.1	>	Design Factored Shear (Kips):	51.6	0.07	OK!
Calculated Tension Capacity (Tn, Kips):	3037.5	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7273.8	>	Design Factored Axial Load (Pu Kips):	51.7	0.01	OK!
Moment & Axial Strength Combination:	0.63	OK!	Check Tie Spacing (Design/Required):		0.5	OK!
Pier Reinforcement Ratio:	0.010		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	1248.5	>	One-Way Factored Shear (L-D. Kips):	314.3	0.25	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1248.5	>	One-Way Factored Shear (W-D., Kips)	314.3	0.25	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1258.9	>	One-Way Factored Shear (C-C, Kips):	301.1	0.24	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0019	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0019		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	4930.1	>	Moment at Bottom (L-Dir. K-Ft):	2370.8	0.48	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	4930.1	>	Moment at Bottom (W-Dir. K-Ft):	2370.8	0.48	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	6943.8	>	Moment at Bottom (C-C Dir. K-Ft):	3352.8	0.48	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0019	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0019		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	4930.1	>	Moment at the top (L-Dir K-Ft):	1073.8	0.22	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	4930.1	>	Moment at the top (W-Dir K-Ft):	1073.8	0.22	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	6943.8	>	Moment at the top (C-C Dir. K-Ft):	1001.6	0.14	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	2085.1	k-ft.	Max. factored shear stress v_{u_CD}:		6.0	Psi
Max. factored shear stress v_{u_AB}:	11.3	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	11.3	Psi	Check Usage of Punching Shear Capacity:		0.07	OK!

EXHIBIT 8

Antenna Mount Structural Analysis

Source: SBA Date: 07.27.2019

SBA Site:	**CT00302-S Danielson**
T-Mobile Site Number:	**CT11315C**
Project:	**Anchor**
Prepared For:	**T-Mobile**
Mount Description:	**(3) Nudd T-Arms** **w/ Handrail and Kicker Augments**
Site Location:	**246 East Franklin St, Danielson, CT** **Windham County** **41.795835°, -71.87038°**
Design Codes:	**2018 Connecticut Building Code** **IBC 2015 w/ ANSI/TIA-222-G**
Analysis Load Case:	**T-Mobile Final Configuration**
Analysis Result:	**Adequate @ 72% - Once Augmented** **See Conclusion**

STATE OF CONNECTICUT
GREGORY DURGIN
No.32155
LICENSED
PROFESSIONAL ENGINEER

Revision 0
November 17, 2020

GeoStructural ▪ P.O. Box 2621, Boise, ID 83701 ▪ Office: (530) 539-4787
Professional Engineers | Tower Technicians | Climbers | sUAS Mapping

1.0 Introduction

An antenna mount structural analysis has been performed on T-Mobile's existing mount assembly with augments located at the CT00302-S Danielson communications site in Windham County, CT considering the final equipment loading configuration listed in Section 3.0.

2.0 Analysis Criteria

An elastic three-dimensional model of the mount structure has been analyzed pursuant to the following criteria considering wind forces in 30° increments:

- 2018 Connecticut State Building Code.
- IBC 2015 – International Building Code.
- ANSI/TIA-222-G – Structural Standard for Antenna Supporting Structures and Antennas.
- AISC – Steel Construction Manual.
- ANSI/AWS D1.1 – Structural Welding Code.

Wind w/o ice = 130 mph (3-sec gust Ultimate Wind Speed) Wind w/o ice = 101 mph (3-sec gust ASD Basic Wind Speed) Wind w/ ice = 50 mph (3-sec gust Basic) with 1" Design Ice, Escalated with Height
Topographic Category 1; Exposure Category C-; Structure Class (Risk Category) II Gust Effect Factor = 1.0; Directionality Factor = 0.95 Site Class D "Stiff Soil"; F_a = 1.6; F_v = 2.4; S_{DS} = 0.183
Maintenance Loads**: Lm = 500 lb @ Worst Case Mount Pipe (Concurrent with 30 mph Wind Speed) Lv = 250 lb @ Worst Case Member Location (Center Span or Cantilever) ** *The mount face horizontal boom rails of T-Arm mount assemblies are not rated for rigging, hoisting or maintenance loading.*

The following documents were provided:

- Mount and Tower Record Documents
  SBA
- Construction Drawings
  Chappell Engineering Associates, RFL 67D95FDB, Rev-1, 06/26/19.
- Colo Application
  SBA 600 MHz, App # 116926 v1.
- RFDS
  T-Mobile Anchor Project, Phase 3, CT11315C, 10/20/20.

The results of the analysis are illustrated in Section 4.0. If any of the existing or proposed conditions reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

3.0 Appurtenance Information

Table 3.1 – T-Mobile Final Configuration[1,2,3]

COR	(Quantity) Appurtenance Make/Model	Mount Description
137.0'±	(2) ERICSSON AIR32 B66A/B2A	(3) Nudd T-Arms w/ Handrail and Kicker Augments
	(2) ERICSSON AIR6449 B41	
	(2) RFS APXVAALL24_43-U-NA20	
	(2) ERICSSON 4449 B71+B85 RRH	
	(2) ERICSSON 4415 B25 RRH	

1. *Refer to antenna installation Construction Drawings (by others, when applicable) for additional information regarding final antenna and equipment orientations.*
2. *Panel antennas to be installed as follows:*
   2.1. *AIR32 panels to be installed on New Pipe2.5STD mount pipe in Positions 1.*
   2.2. *RFS panels to be installed on New Pipe2.5STD mount pipe in Positions 4.*
3. *RRH units to be installed as follows:*
   3.1. *4449 and 4415 RRHs to be installed on mount pipes behind panels in Position 4.*

4.0 Analysis Results

Table 4.1 – Augmented Mount Capacity

Load Case	Governing Mount Component[1]	% Capacity[2]	Result
Final T-Mobile Configuration	New V-Brace Angle	17%	Adequate Once Augmented[3]
	Standoff	52%	
	Bottom Rail	65%	
	New Pipe2.5STD Mount Pipe	72%	
	New PRK Double Angles	15%	
	New Handrail	40%	

1. *Refer to the Calculations & Software Output portion of this report for mount component and structural information.*
2. *Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.2. 105% is an acceptable allowable stress percentage for mount components.*
3. *Refer to Section 5.0 for information regarding required mount augments.*

Table 4.2 – Structural Component Material Strengths

Structural Component	Nominal Strength/Material[1]
Pipe	F_y = 35 ksi (A53, Gr. B)
Tube	F_y = 46 ksi (A500, Gr. B)
Structural Shapes (L, C, W, etc.), Plate / Bar	F_y = 36 ksi (A36)
Uni-Strut	F_y = 33 ksi (A570, Gr. 33)
Connection Bolts	A325
Stainless Steel Bolts	18-8 Stainless, Grade 316/304 F_y = 74 ksi (Yield) & F_u = 29 ksi (Tension)
U-Bolts / Threaded Rod	SAE J429 Grade 2 (Substitution: ASTM A449) F_y = 57 ksi (Yield) & F_u = 74 ksi (Tension)
Welds	E70XX Electrodes

1. *Strengths listed were assumed for this analysis and are based upon ASTM, AISC, RCSC, AWS and ACI preferred specification values. Values and materials are consistent with industry standards. Material strengths were taken from original design documents when available.*

5.0 Conclusion & Recommendations

Based on T-Mobile's final equipment loading configuration, the mount assemblies do not have sufficient capacity to support the loading considered in this analysis pursuant to the listed standards. Structural modifications (augments) will be required and are briefly summarized below:

- Install Platform Reinforcement Kit;
  - Sitepro1 PRK-1245L, (1) total.
- Install V-Brace Kit and Handrail Kit;
  - Sitepro1 PRK-SFS-L, (1) total.

Once the recommended augments are successfully implemented, the augmented mount assembly has sufficient capacity to support the loading considered in this analysis pursuant to the listed standards.

Augmentation Requirements:

- Antennas and equipment shall be installed centered vertically on the mount front face bottom rail (limit vertical installation eccentricity) same as existing. This analysis accounts for vertical eccentricities necessary to install all panel antennas at the same relative top tip elevation.
- Panel antennas to be installed as follows:
  - AIR32 panels to be installed on New Pipe2.5STD mount pipes in Positions 1.
  - RFS panels to be installed on New Pipe2.5STD mount pipes in Positions 4.
- RRH units to be installed as follows:
  - 4449 and 4415 RRHs to be installed on mount pipes behind panels in Position 4.
- Remove existing panel kicker pipe and collar to middle position panel.
- In order to obtain a mount structure capable of supporting the currently proposed final loading configuration, upgrade augments must be installed in accordance with GeoStructural's *mount augment CDs and recommendations*.

All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study, nor have they been provided a mount mapping to verify existing conditions and the results of this analysis are based solely on the information provided.

This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If any of the existing or proposed conditions (appurtenance loading, member sizes, etc.) reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

Prepared by:

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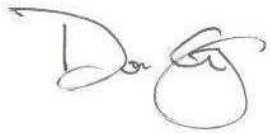
Reviewed and Approved by:



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6.0 Standard Conditions

- All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study to verify existing conditions and the results of this analysis are based solely on the information provided. It has been assumed that the tower, antenna support structure and foundation have been constructed according to the provided existing drawings, previous structural analysis reports, mapping documents, etc.

- The default Structure Classification is Class II in accordance with ANSI/TIA-222-G §A.2.2 & §A.15.3 and has been assumed for this analysis. The owner shall verify this classification conforms with original or desired reliability criteria.

- This analysis assumes that the structure has been properly installed and maintained in accordance with ANSI/TIA-222-G §15.5 and that no physical deterioration has occurred in any of the components of the structure. Damaged, missing, or rusted members were not considered.

- This analysis verifies the adequacy of the main components of the structure. Not all connections, welds, bolts, plates, etc. were individually detailed and analyzed. Where not specifically analyzed, the existing connection plates, welds, bolts, etc. were assumed adequate to develop the full capacity of the main structural members.

- No consideration has been made for unusual or extreme wind events, rime/in-cloud ice loadings, harmonic or nodal vibration, vortex shedding or other similar conditions.

- It is the owner's responsibility to determine the appropriate design wind speed and amount of ice accumulation beyond code minimum values that should be considered in the analysis.

- This analysis report does not constitute a maintenance and condition assessment. No certifications regarding maintenance and condition are expressed or implied. If desired, GeoStructural can provide these services under a subsequent contract.

- This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If desired, GeoStructural can provide these services under a subsequent contract.

7.0 Calculations & Software Output

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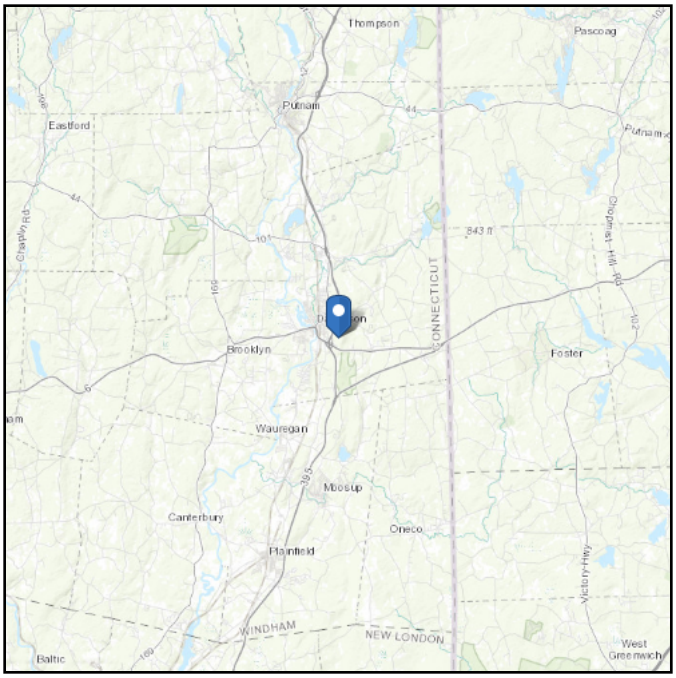
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 469.62 ft (NAVD 88)
Latitude: 41.795835
Longitude: -71.87038



Wind

Results:

Wind Speed:	130 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	97 Vmph
100-year MRI	106 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Sat Jul 27 2019

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

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

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

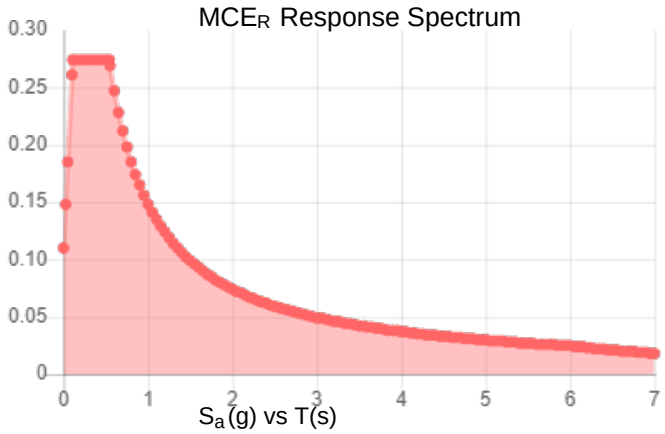
Seismic

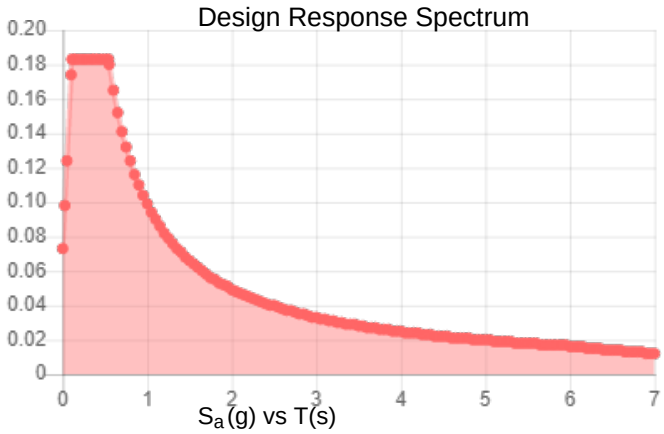
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.171	S_{DS} :	0.183
S_1 :	0.062	S_{D1} :	0.099
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.086
S_{MS} :	0.274	PGA_M :	0.137
S_{M1} :	0.148	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Sat Jul 27 2019

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

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Design Wind Force on Appurtenances ANSI/TIA-222-G ASCE 7 & IBC 2012/2015

Wind Design Parmeters:

V_{basic} =	101	mph	*3-s Nom Wind Speed*	C	*Exposure Category*
V_{ice} =	50	mph	*3-sec gust w/ ice*	1	*Topographic Category*
t_{ice} =	1	inch	*Ice Thickness*	II	*Risk Category*

z =	137.0	ft	*COR (Height above ground level at the base of structure)*
H =	0	ft	*Height of crest above surrounding terrain (Topo Categories 2, 3 & 4)*

Seismic Design Parmeters:

S_{DS} =	0.183	C_s =	0.09	A_s =	3.0
R =	2.0				

Importance Factor (Table 2-3): *Structure Type:* MOUNT

I =	1.00	*Wind Load without Ice*
I =	1.00	*Wind Load with Ice*
I =	1.00	*Ice Thickness*
I =	1.00	*Earthquake*

$q_z = 0.00256(K_z)(K_{zt})(K_d)(V^2)(I)$ §2.6.9.6

z_g =	900	ft	Table 2-4
α =	9.5		Table 2-4
K_{zmin} =	0.85		Table 2-4
K_c =	1.00		Table 2-4
K_z =	1.35		§2.6.5.2

$K_{zmin} \le K_z \le 2.01$

K_z = 1.352341

K_t =	1.00		Table 2-5
f =	1.00		Table 2-5
K_h =	1.00		§2.6.6.4
K_{zt} =	1.00		§2.6.6.4
K_d =	0.95		Table 2-2

K_{iz} =	1.153	ft
t_{iz} =	2.3	inch (ice thickness @ height z, COR)

q_z =	33	psf	*Nom Wind w/o Ice*	t_{ice} =	0	inch
q_z =	8	psf	*Wind Load with Ice*	t_{ice} =	2.31	inch

$F_A = (q_z)(G_h)(EPA)_A$ §2.6.9.2

G_h =	1.00	§2.6.7 & §2.6.9

$(EPA)_A = (C_a A_A)$ §2.6.9.2

C_a Table 2-8

Appurtenances

ERICSSON	AIR32 KRD901146-1_B66A_B2A			
	FFRONT	FSIDE	WT	E
No Ice	223.2	159.5	135.0	37.1
2.31 inch Ice	48.5	39.0	199.5	

ERICSSON	AIR6649 B41			
	FFRONT	FSIDE	WT	E
No Ice	197.4	83.0	103.0	28.3
2.31 inch Ice	40.7	21.8	168.5	

0	0			
	FFRONT	FSIDE	WT	E
No Ice	#N/A	#N/A	#N/A	#N/A
2.31 inch Ice	#N/A	#N/A	#N/A	

RFS	APXVAALL24_43-U-NA20			
	FFRONT	FSIDE	WT	E
No Ice	695.8	302.5	128.0	35.1
2.31 inch Ice	128.6	71.8	499.9	

0	0			
	FFRONT	FSIDE	WT	E
No Ice	#N/A	#N/A	#N/A	#N/A
2.31 inch Ice	#N/A	#N/A	#N/A	

RRH	ERICSSON 4449 B12 B71			
	FFRONT	FSIDE	WT	E
No Ice	56.9	40.1	78.0	21.4
2.31 inch Ice	14.9	11.6	68.5	

RRH	ERICSSON 4415 B25			
	FFRONT	FSIDE	WT	E
No Ice	64.0	28.4	46.0	12.6
2.31 inch Ice	16.3	9.6	59.4	

RRH	0			
	FFRONT	FSIDE	WT	E
No Ice	#N/A	#N/A	#N/A	#N/A
2.31 inch Ice	#N/A	#N/A	#N/A	

RRH	0

	FFRONT	FSIDE	WT	E
No Ice	#N/A	#N/A	#N/A	#N/A
2.31 inch Ice	#N/A	#N/A	#N/A	

Appurtenances

RRH	0			
	FFRONT	FSIDE	WT	E
No Ice	#N/A	#N/A	#N/A	#N/A
2.31 inch Ice	#N/A	#N/A	#N/A	

RRH	0			
	FFRONT	FSIDE	WT	E
No Ice	#N/A	#N/A	#N/A	#N/A
2.31 inch Ice	#N/A	#N/A	#N/A	

RRH	0			
	FFRONT	FSIDE	WT	E
No Ice	#N/A	#N/A	#N/A	#N/A
2.31 inch Ice	#N/A	#N/A	#N/A	

TMA	0			
	FFRONT	FSIDE	WT	E
No Ice	#N/A	#N/A	#N/A	#N/A
2.31 inch Ice	#N/A	#N/A	#N/A	

TMA	0			
	FFRONT	FSIDE	WT	E
No Ice	#N/A	#N/A	#N/A	#N/A
2.31 inch Ice	#N/A	#N/A	#N/A	

0	0			
	FFRONT	FSIDE	WT	E
No Ice	#N/A	#N/A	#N/A	#N/A
2.31 inch Ice	#N/A	#N/A	#N/A	

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Distributed
1	D	DL	-1	16	3
2	Di	SL		16	45
3	Lm [500]	LL		1	
4	Lv [250]	LL		2	
5	Woz	WL		16	41
6	Wox	WL		16	43
7	Wiz	WL		16	41
8	Wix	WL		16	43
9	Ez	EL		16	
10	Ex	EL		16	

Load Combination Design

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	1) 1.4D		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2) 1.2D+1.0Wo [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2) 1.2D+1.0Wo [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2) 1.2D+1.0Wo [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2) 1.2D+1.0Wo [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	2) 1.2D+1.0Wo [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	2) 1.2D+1.0Wo [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	2) 1.2D+1.0Wo [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	2) 1.2D+1.0Wo [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	2) 1.2D+1.0Wo [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	2) 1.2D+1.0Wo [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	2) 1.2D+1.0Wo [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	2) 1.2D+1.0Wo [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3) 0.9D+1.0Wo [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3) 0.9D+1.0Wo [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3) 0.9D+1.0Wo [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	3) 0.9D+1.0Wo [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18	3) 0.9D+1.0Wo [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	3) 0.9D+1.0Wo [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20	3) 0.9D+1.0Wo [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	3) 0.9D+1.0Wo [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	3) 0.9D+1.0Wo [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23	3) 0.9D+1.0Wo [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	3) 0.9D+1.0Wo [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	3) 0.9D+1.0Wo [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	4) 1.2D+1.0Di+1.0Wi [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	4) 1.2D+1.0Di+1.0Wi [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	4) 1.2D+1.0Di+1.0Wi [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	4) 1.2D+1.0Di+1.0Wi [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	4) 1.2D+1.0Di+1.0Wi [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31	4) 1.2D+1.0Di+1.0Wi [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	4) 1.2D+1.0Di+1.0Wi [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
33	4) 1.2D+1.0Di+1.0Wi [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
34	4) 1.2D+1.0Di+1.0Wi [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	4) 1.2D+1.0Di+1.0Wi [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
36	4) 1.2D+1.0Di+1.0Wi [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	4) 1.2D+1.0Di+1.0Wi [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	5) 1.2D+1.5Lm+1.0WL [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	5) 1.2D+1.5Lm+1.0WL [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	5) 1.2D+1.5Lm+1.0WL [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	5) 1.2D+1.5Lm+1.0WL [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
42	5) 1.2D+1.5Lm+1.0WL [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	5) 1.2D+1.5Lm+1.0WL [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	5) 1.2D+1.5Lm+1.0WL [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	5) 1.2D+1.5Lm+1.0WL [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
46	5) 1.2D+1.5Lm+1.0WL [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	5) 1.2D+1.5Lm+1.0WL [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	5) 1.2D+1.5Lm+1.0WL [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	5) 1.2D+1.5Lm+1.0WL [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	6) 1.2D+1.5Lv		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	7) (1.2+0.2Sds)D+E [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	7) (1.2+0.2Sds)D+E [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	7) (1.2+0.2Sds)D+E [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	7) (1.2+0.2Sds)D+E [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	7) (1.2+0.2Sds)D+E [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	7) (1.2+0.2Sds)D+E [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	7) (1.2+0.2Sds)D+E [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	7) (1.2+0.2Sds)D+E [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	7) (1.2+0.2Sds)D+E [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	7) (1.2+0.2Sds)D+E [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	7) (1.2+0.2Sds)D+E [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	7) (1.2+0.2Sds)D+E [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	8) (0.9-0.2Sds)D+E [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	8) (0.9-0.2Sds)D+E [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	8) (0.9-0.2Sds)D+E [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	8) (0.9-0.2Sds)D+E [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	8) (0.9-0.2Sds)D+E [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	8) (0.9-0.2Sds)D+E [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	8) (0.9-0.2Sds)D+E [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	8) (0.9-0.2Sds)D+E [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	8) (0.9-0.2Sds)D+E [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	8) (0.9-0.2Sds)D+E [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	8) (0.9-0.2Sds)D+E [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	8) (0.9-0.2Sds)D+E [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e^{5}°F^{-1}]	Density [k/ft^{3}]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
3	A992	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	0.49	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.49	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	A500 Gr.B RND_1	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
8	A500 Gr.B Rect_1	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
9	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e^{5}°F^{-1}]	Density [k/ft^{3}]	Yield [ksi]	Fu [ksi]
1	A653 Gr.33	29500	11346	0.3	0.65	0.49	33	45
2	A570 Gr.33	29500	11346	0.3	0.65	0.49	33	52
3	A607 C1 Gr.55	29500	11346	0.3	0.65	0.49	55	70

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in^{2}]	Iyy [in^{4}]	Izz [in^{4}]	J [in^{4}]
1	PIPE_1.5	PIPE_1.5	Beam	None	A53 Gr.B	Typical	0.749	0.293	0.293	0.586
2	PIPE_2.0	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
3	PIPE_2.5	PIPE_2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	PIPE_3.0	PIPE_3.0	Beam	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5	PIPE_3.5	PIPE_3.5	Beam	None	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
6	PIPE_4.0	PIPE_4.0	Beam	None	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
7	PIPE_5.0	PIPE_5.0	Beam	None	A53 Gr.B	Typical	4.01	14.3	14.3	28.6

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
8	HSS2x2x3	HSS2X2X3	Beam	None	A500 Gr.B Rect	Typical	1.19	0.641	0.641	1.09
9	HSS3x3x3	HSS3X3X3	Beam	None	A500 Gr.B Rect	Typical	1.89	2.46	2.46	4.03
10	HSS4x4x3	HSS4X4X3	Beam	None	A500 Gr.B Rect	Typical	2.58	6.21	6.21	10
11	HSS4x4x4	HSS4X4X4	Beam	None	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
12	HSS5x5x4	HSS5X5X4	Beam	None	A500 Gr.B Rect	Typical	4.3	16	16	25.8
13	C3x3.5	C3X3.5	Beam	None	A36 Gr.36	Typical	1.09	0.169	1.57	0.023
14	C4x4.5	C4X4.5_HRA	Beam	None	A36 Gr.36	Typical	1.38	0.289	3.65	0.032
15	C5x6.7	C5X6.7	Beam	None	A36 Gr.36	Typical	1.97	0.47	7.48	0.055
16	L2.5x2.5x3	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical	0.901	0.535	0.535	0.011
17	L2.5x2.5x4	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
18	L3x3x3	L3X3X3	Beam	None	A36 Gr.36	Typical	1.09	0.948	0.948	0.014
19	L3x3x4	L3X3X4	Beam	None	A36 Gr.36	Typical	1.44	1.23	1.23	0.031
20	L3x3x6	L3X3X6	Beam	None	A36 Gr.36	Typical	2.11	1.75	1.75	0.101
21	L3.5x3.5x4	L3.5X3.5X4	Beam	None	A36 Gr.36	Typical	1.7	2	2	0.039
22	L4x4x4	L4X4X4	Beam	None	A36 Gr.36	Typical	1.93	3	3	0.044
23	1/2"x6"	1/2"x6"	Beam	None	A36 Gr.36	Typical	3	0.063	9	0.237
24	2L2.5x2.5x3	LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical	1.8	2.46	1.07	0.023

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	P1000UNI	P1000UNI	Beam	None	A653 Gr.33	Typical	0.555	0.185	0.236	0.002
2	CF1	8CU1.25X057	Beam	None	A570 Gr.33	Typical	0.581	0.057	4.41	0.00063

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N1	N2		RIGID	None	None	RIGID	Typical
2	M2	N3	N4		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
3	M3	N5	N6		RIGID	None	None	RIGID	Typical
4	M4	N7	N8		RIGID	None	None	RIGID	Typical
5	M5	N9	N10		PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
6	M6	N11	N12		RIGID	None	None	RIGID	Typical
7	M7	N13	N14		RIGID	None	None	RIGID	Typical
8	M8	N15	N16		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
9	M9	N17	N18		RIGID	None	None	RIGID	Typical
10	M10	N19	N20		RIGID	None	None	RIGID	Typical
11	M11	N21	N22		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
12	M12	N23	N24		RIGID	None	None	RIGID	Typical
13	M13	N25	N26		RIGID	None	None	RIGID	Typical
14	M14	N27	N28		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
15	M15	N29	N30		RIGID	None	None	RIGID	Typical
16	M16	N31	N32		HSS4x4x3	Beam	None	A500 Gr.B Rect	Typical
17	M17	N33	N34		HSS4x4x3	Beam	None	A500 Gr.B Rect	Typical
18	M18	N35	N36		RIGID	None	None	RIGID	Typical
19	M19	N37	N38		RIGID	None	None	RIGID	Typical
20	M20	N39	N40		RIGID	None	None	RIGID	Typical
21	M21	N32	N41		RIGID	None	None	RIGID	Typical
22	M22	N42	N43		RIGID	None	None	RIGID	Typical
23	M23	N44	N45		PIPE_4.0	Beam	None	A53 Gr.B	Typical
24	M24	N46	N47	90	1/2"x6"	Beam	None	A36 Gr.36	Typical
25	M25	N48	N49	90	1/2"x6"	Beam	None	A36 Gr.36	Typical
26	M26	N50	N112	180	L3x3x4	Beam	None	A36 Gr.36	Typical
27	M27	N51	N113	90	L3x3x4	Beam	None	A36 Gr.36	Typical
28	M28	N52	N53		PIPE_3.5	Beam	None	A53 Gr.B	Typical
29	M29	N54	N55		PIPE_4.0	Beam	None	A53 Gr.B	Typical
30	M30	N56	N57	90	1/2"x6"	Beam	None	A36 Gr.36	Typical
31	M31	N58	N59	90	1/2"x6"	Beam	None	A36 Gr.36	Typical
32	M32	N60	N114	180	L3x3x4	Beam	None	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
33	M33	N61	N115	90	L3x3x4	Beam	None	A36 Gr.36	Typical
34	M34	N62	N63		PIPE_3.5	Beam	None	A53 Gr.B	Typical
35	M35	N64	N65		PIPE_4.0	Beam	None	A53 Gr.B	Typical
36	M36	N66	N67	90	1/2"x6"	Beam	None	A36 Gr.36	Typical
37	M37	N68	N69	90	1/2"x6"	Beam	None	A36 Gr.36	Typical
38	M38	N73	N74		2L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
39	M39	N72	N75		2L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
40	M40	N76	N77		RIGID	None	None	RIGID	Typical
41	M41	N78	N79		RIGID	None	None	RIGID	Typical
42	M42	N80	N81		RIGID	None	None	RIGID	Typical
43	M43	N82	N83		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
44	M44	N87	N85		RIGID	None	None	RIGID	Typical
45	M45	N88	N86		RIGID	None	None	RIGID	Typical
46	M46	N84	N87	180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
47	M47	N84	N88	90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
48	M48	N89	N90		RIGID	None	None	RIGID	Typical
49	M49	N91	N92		RIGID	None	None	RIGID	Typical
50	M50	N93	N94		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
51	M51	N98	N96		RIGID	None	None	RIGID	Typical
52	M52	N99	N97		RIGID	None	None	RIGID	Typical
53	M53	N95	N98	180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
54	M54	N95	N99	90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
55	M55	N100	N82		RIGID	None	None	RIGID	Typical
56	M56	N101	N93		RIGID	None	None	RIGID	Typical
57	M57	N102	N83		RIGID	None	None	RIGID	Typical
58	M58	N103	N94		RIGID	None	None	RIGID	Typical
59	M59	N119	N120		RIGID	None	None	RIGID	Typical
60	M60	N117	N115		RIGID	None	None	RIGID	Typical
61	M61	N121	N114		RIGID	None	None	RIGID	Typical
62	M62	N122	N113		RIGID	None	None	RIGID	Typical
63	M63	N123	N112		RIGID	None	None	RIGID	Typical
64	M64	N124	N125		RIGID	None	None	RIGID	Typical
65	M65	N126	N127		RIGID	None	None	RIGID	Typical
66	M66	N117	N127		PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
67	M67	N122	N120		PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
68	M68	N129	N130		RIGID	None	None	RIGID	Typical
69	M69	N131	N132		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
70	M70	N133	N134		RIGID	None	None	RIGID	Typical
71	M71	N135	N136		RIGID	None	None	RIGID	Typical
72	M72	N137	N138		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
73	M73	N139	N140		RIGID	None	None	RIGID	Typical
74	M74	N141	N142		HSS4x4x3	Beam	None	A500 Gr.B Rect	Typical
75	M75	N143	N144		RIGID	None	None	RIGID	Typical
76	M76	N145	N146		RIGID	None	None	RIGID	Typical
77	M77	N147	N170	180	L3x3x4	Beam	None	A36 Gr.36	Typical
78	M78	N148	N171	90	L3x3x4	Beam	None	A36 Gr.36	Typical
79	M79	N149	N150		PIPE_3.5	Beam	None	A53 Gr.B	Typical
80	M80	N151	N152		2L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
81	M81	N153	N154		RIGID	None	None	RIGID	Typical
82	M82	N155	N156		RIGID	None	None	RIGID	Typical
83	M83	N157	N158		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
84	M84	N162	N160		RIGID	None	None	RIGID	Typical
85	M85	N163	N161		RIGID	None	None	RIGID	Typical
86	M86	N159	N162	180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
87	M87	N159	N163	90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
88	M88	N164	N157		RIGID	None	None	RIGID	Typical
89	M89	N165	N158		RIGID	None	None	RIGID	Typical
90	M90	N172	N171		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
91	M91	N173	N170		RIGID	None	None	RIGID	Typical
92	M92	N172	N125		PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
93	M95	N165	N100		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
94	M96	N102	N101		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
95	M97	N103	N164		PIPE_2.5	Column	Pipe	A53 Gr.B	Typical
96	M106	N194	N195		RIGID	None	None	RIGID	Typical
97	M107	N196	N197		PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
98	M108	N198	N199		RIGID	None	None	RIGID	Typical
99	M109	N34	N200		RIGID	None	None	RIGID	Typical
100	M110	N203	N204		RIGID	None	None	RIGID	Typical
101	M111	N205	N206		RIGID	None	None	RIGID	Typical
102	M112	N207	N208		PIPE_2.0	Column	Pipe	A53 Gr.B	Typical
103	M113	N209	N210		RIGID	None	None	RIGID	Typical
104	M114	N142	N211		RIGID	None	None	RIGID	Typical
105	M115	N214	N215		RIGID	None	None	RIGID	Typical
106	M116	N217	N216		RIGID	None	None	RIGID	Typical
107	M117	N219	N218		RIGID	None	None	RIGID	Typical
108	M118	N221	N220		RIGID	None	None	RIGID	Typical

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	N66	max	1.373	5	0.29	2	0.803	14	0	74	2.479	4	0	74
2		min	-1.113	23	-0.213	20	-2.703	32	0	1	-2.184	22	0	1
3	N46	max	2.343	5	0.251	10	1.815	26	0	74	4.293	13	0	74
4		min	-1.144	23	-0.172	16	-0.974	20	0	1	-4.227	19	0	1
5	N48	max	2.193	29	0.321	22	1.339	2	0	74	3.893	25	0	74
6		min	-0.911	23	-0.383	4	-0.777	20	0	1	-3.936	7	0	1
7	N68	max	0.302	16	0.363	14	0.873	14	0	74	1.859	4	0	74
8		min	-0.478	46	-0.425	8	-2.346	32	0	1	-1.821	22	0	1
9	N58	max	0.312	18	0.08	18	0.692	28	0	74	1.289	23	0	74
10		min	-1.022	36	-0.086	12	-0.072	22	0	1	-1.443	5	0	1
11	N56	max	0.261	17	0.104	30	0.825	26	0	74	1.296	22	0	74
12		min	-1.174	35	-0.01	24	-0.326	20	0	1	-1.462	4	0	1
13	N72	max	2.158	37	2.348	36	-0.21	16	0	24	0	24	0	6
14		min	0.458	20	0.405	18	-1.258	33	-0.001	6	-0.001	6	0	24
15	N73	max	0.057	17	4.106	32	4.511	32	0	74	0.001	25	0.001	25
16		min	-0.058	23	0.356	14	0.39	14	0	1	-0.002	43	-0.002	43
17	N84	max	0.442	19	0.145	33	0.94	2	0	74	0	74	0	74
18		min	-0.65	49	0.008	39	-0.857	20	0	1	0	1	0	1
19	N95	max	0.755	18	0.148	35	0.709	24	0	74	0	74	0	74
20		min	-0.765	12	0.013	66	-0.772	6	0	1	0	1	0	1
21	N151	max	-0.505	22	4.088	28	-0.26	23	0.002	7	0.001	25	0	7
22		min	-3.886	28	0.437	22	-2.242	28	-0.001	25	-0.002	7	0	25
23	N159	max	0.89	15	0.146	28	0.586	16	0	74	0	74	0	74
24		min	-1.003	9	0.012	24	-0.688	10	0	1	0	1	0	1
25	Totals:	max	6.752	5	10.802	34	6.786	2						
26		min	-6.752	23	2.486	65	-6.786	20						

Envelope AISC 14th (360-10): LRFD 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	M2	PIPE_2.5	0.721	3.5	2	0.162	3.5		28	30.038	50.715	3.596	3.596	3	H1-1b
2	M69	PIPE_2.5	0.716	3.5	11	0.213	3.5		12	30.038	50.715	3.596	3.596	1.685	H1-1b
3	M34	PIPE_3.5	0.653	7.25	2	0.269	7.25		2	33.422	78.75	7.954	7.954	1.724	H3-6
4	M79	PIPE_3.5	0.584	7.25	11	0.269	7.25		11	33.422	78.75	7.954	7.954	1.74	H3-6
5	M74	HSS4X4X3	0.521	0	7	0.213	3.281	y	36	101.674	106.812	12.662	12.662	1.357	H1-1b
6	M23	PIPE_4.0	0.456	1.5	6	0.392	1.5		7	90.594	93.24	10.631	10.631	1.37	H3-6
7	M25	1/2"x6"	0.442	0.75	6	0.028	0.75	y	7	67.552	97.2	1.012	12.15	1.116	H1-1b

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

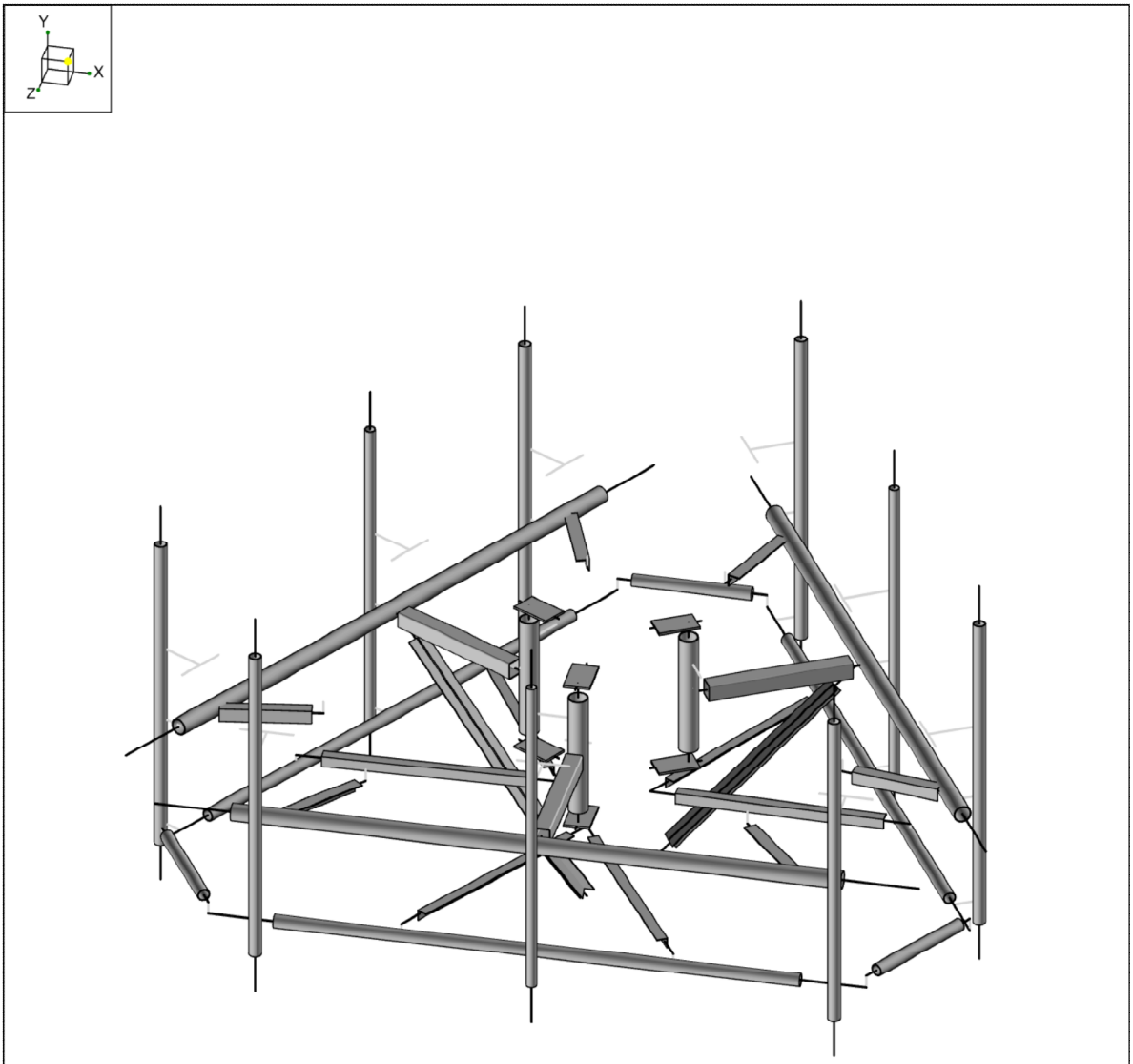
	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
8	M72	PIPE_2.5	0.414	3.5	31	0.124	1.25		27	30.038	50.715	3.596	3.596	3	H1-1b
9	M43	PIPE_2.5	0.403	6.25	27	0.112	3.646		3	14.559	50.715	3.596	3.596	1.69	H1-1b
10	M37	1/2"x6"	0.394	0.75	9	0.012	0.75	y	46	67.552	97.2	1.012	12.15	1.113	H1-1b
11	M35	PIPE_4.0	0.389	1.5	31	0.219	1.5		10	90.594	93.24	10.631	10.631	1.451	H1-1b
12	M5	PIPE_2.0	0.382	3.5	8	0.143	3.5		39	14.916	32.13	1.872	1.872	3	H1-1b
13	M16	HSS4X4X3	0.379	3.245	7	0.307	3.281	y	41	101.674	106.812	12.662	12.662	1.409	H1-1b
14	M112	PIPE_2.0	0.376	3.5	5	0.146	3.5		12	14.916	32.13	1.872	1.872	1.858	H1-1b
15	M24	1/2"x6"	0.368	0.75	12	0.042	0.75	y	13	67.552	97.2	1.012	12.15	1.18	H1-1b
16	M8	PIPE_2.5	0.368	3.5	34	0.153	3.5		36	30.038	50.715	3.596	3.596	3	H1-1b
17	M83	PIPE_2.5	0.356	6.25	37	0.116	3.646		11	14.559	50.715	3.596	3.596	1.551	H1-1b
18	M36	1/2"x6"	0.313	0.75	3	0.035	0.75	y	5	67.552	97.2	1.012	12.15	1.185	H1-1b
19	M50	PIPE_2.5	0.277	8.854	6	0.081	0.911		5	14.559	50.715	3.596	3.596	1.43	H1-1b
20	M28	PIPE_3.5	0.269	7.25	12	0.04	7.25		33	33.422	78.75	7.954	7.954	1.657	H1-1b
21	M14	PIPE_2.5	0.24	3.5	29	0.1	3.5		13	30.038	50.715	3.596	3.596	3	H1-1b
22	M107	PIPE_2.0	0.209	3.5	6	0.053	1.25		5	14.916	32.13	1.872	1.872	2.84	H1-1b
23	M11	PIPE_2.5	0.194	3.5	34	0.105	3.5		11	30.038	50.715	3.596	3.596	3	H1-1b
24	M29	PIPE_4.0	0.191	1.5	36	0.134	3		11	90.594	93.24	10.631	10.631	1.349	H1-1b
25	M17	HSS4X4X3	0.182	0	5	0.076	3.281	y	2	101.674	106.812	12.662	12.662	1.819	H1-1b
26	M87	L2.5x2.5x3	0.173	2.487	20	0.009	4.974	y	2	12.982	29.192	0.873	1.664	1.136	H2-1
27	M46	L2.5x2.5x3	0.155	2.487	37	0.008	4.974	y	36	12.982	29.192	0.873	1.664	1.136	H2-1
28	M38	LL2.5x2.5x3x3	0.152	0	32	0.016	5.315	y	31	40.231	58.32	3.954	2.55	1	H1-1b*
29	M80	LL2.5x2.5x3x3	0.151	0	28	0.016	5.315	z	7	40.231	58.32	3.954	2.55	1.136	H1-1b*
30	M86	L2.5x2.5x3	0.147	2.435	11	0.008	4.974	y	37	12.982	29.192	0.873	1.664	1.136	H2-1
31	M54	L2.5x2.5x3	0.145	2.435	17	0.008	4.974	z	32	12.982	29.192	0.873	1.664	1.136	H2-1
32	M31	1/2"x6"	0.144	0.75	11	0.011	0.75	y	5	67.552	97.2	1.012	12.15	1.143	H1-1b
33	M30	1/2"x6"	0.142	0.75	5	0.015	0.75	y	3	67.552	97.2	1.012	12.15	1.114	H1-1b
34	M53	L2.5x2.5x3	0.13	2.487	2	0.009	4.974	z	8	12.982	29.192	0.873	1.664	1.136	H2-1
35	M47	L2.5x2.5x3	0.125	2.487	30	0.008	4.974	z	36	12.982	29.192	0.873	1.664	1.136	H2-1
36	M39	LL2.5x2.5x3x3	0.115	2.658	35	0.012	5.315	y	12	40.231	58.32	3.954	2.55	1.136	H1-1b
37	M77	L3X3X4	0.047	0	26	0.005	0	z	14	42.124	46.656	1.688	3.756	1.5	H2-1
38	M27	L3X3X4	0.047	0	26	0.005	0	y	8	42.124	46.656	1.688	3.756	1.5	H2-1
39	M26	L3X3X4	0.047	0	35	0.005	0	y	30	42.124	46.656	1.688	3.756	1.5	H2-1
40	M78	L3X3X4	0.047	0	29	0.005	0	z	34	42.124	46.656	1.688	3.756	1.5	H2-1
41	M33	L3X3X4	0.046	0	34	0.005	0	z	36	42.124	46.656	1.688	3.756	1.5	H2-1
42	M32	L3X3X4	0.046	0	29	0.005	0	y	31	42.124	46.656	1.688	3.756	1.5	H2-1
43	M97	PIPE_2.5	0.009	1.422	7	0.061	2.843		29	47.468	50.715	3.596	3.596	1.136	H1-1b
44	M95	PIPE_2.5	0.008	1.422	34	0.136	2.843		44	47.468	50.715	3.596	3.596	1.136	H1-1b
45	M96	PIPE_2.5	0.008	1.422	35	0.111	2.843		41	47.468	50.715	3.596	3.596	1.136	H1-1b

Envelope AISI S100-10: ASD Cold Formed Steel Code Checks

No Data to Print...

Envelope Plate/Shell Principal Stresses

No Data to Print...



Envelope Only Solution

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Jesse Drennen, PE		Nov 17, 2020
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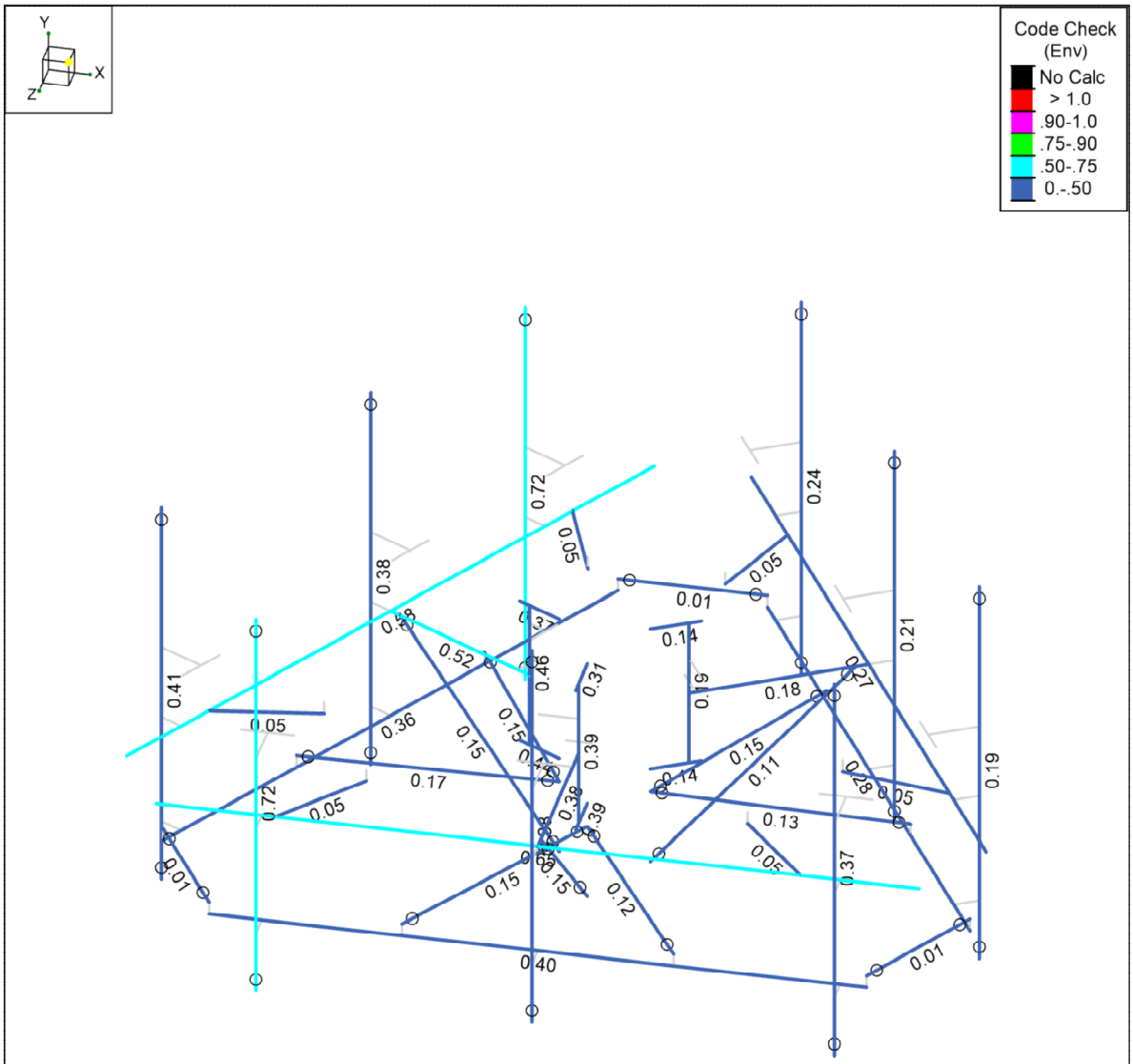

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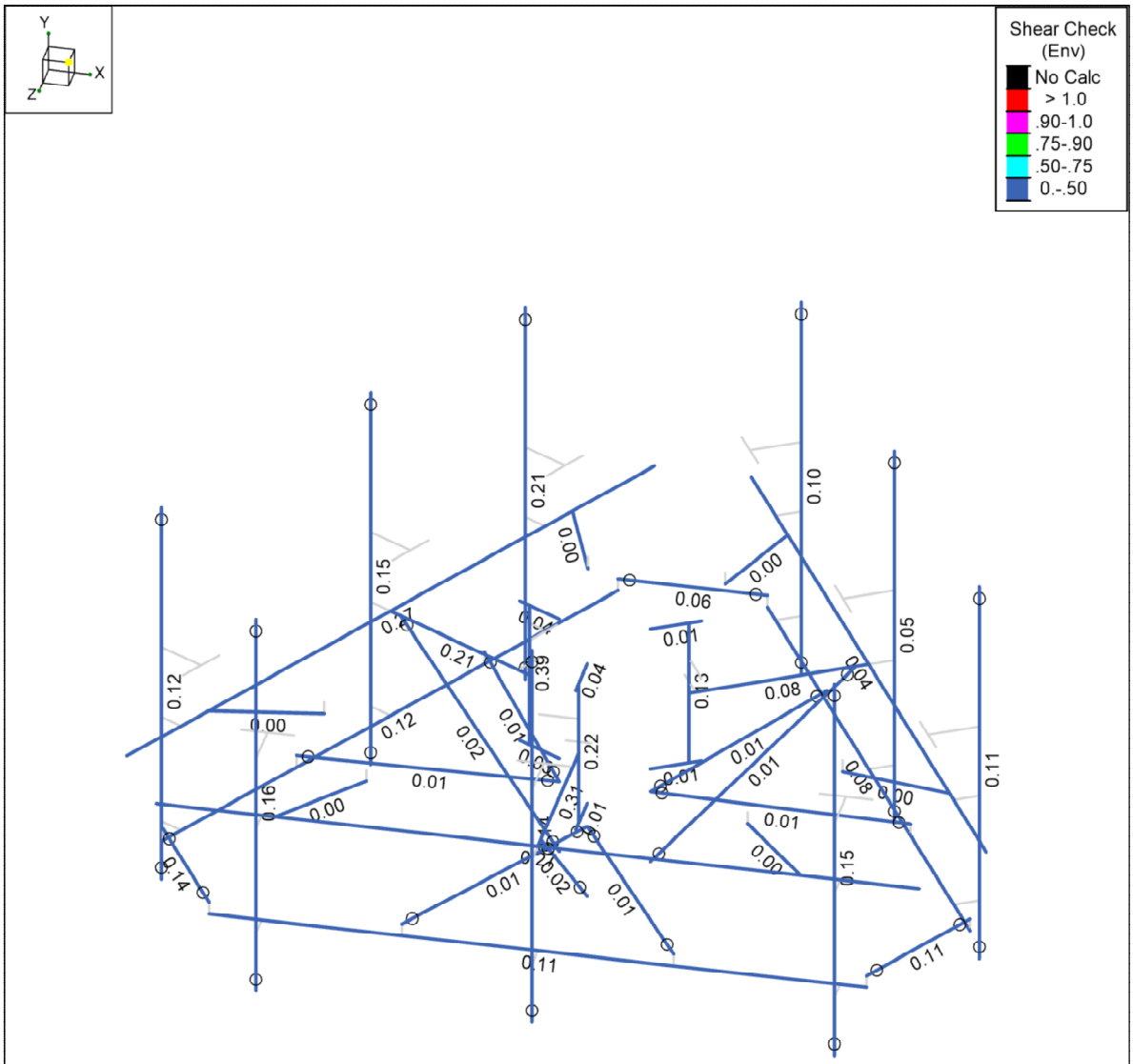

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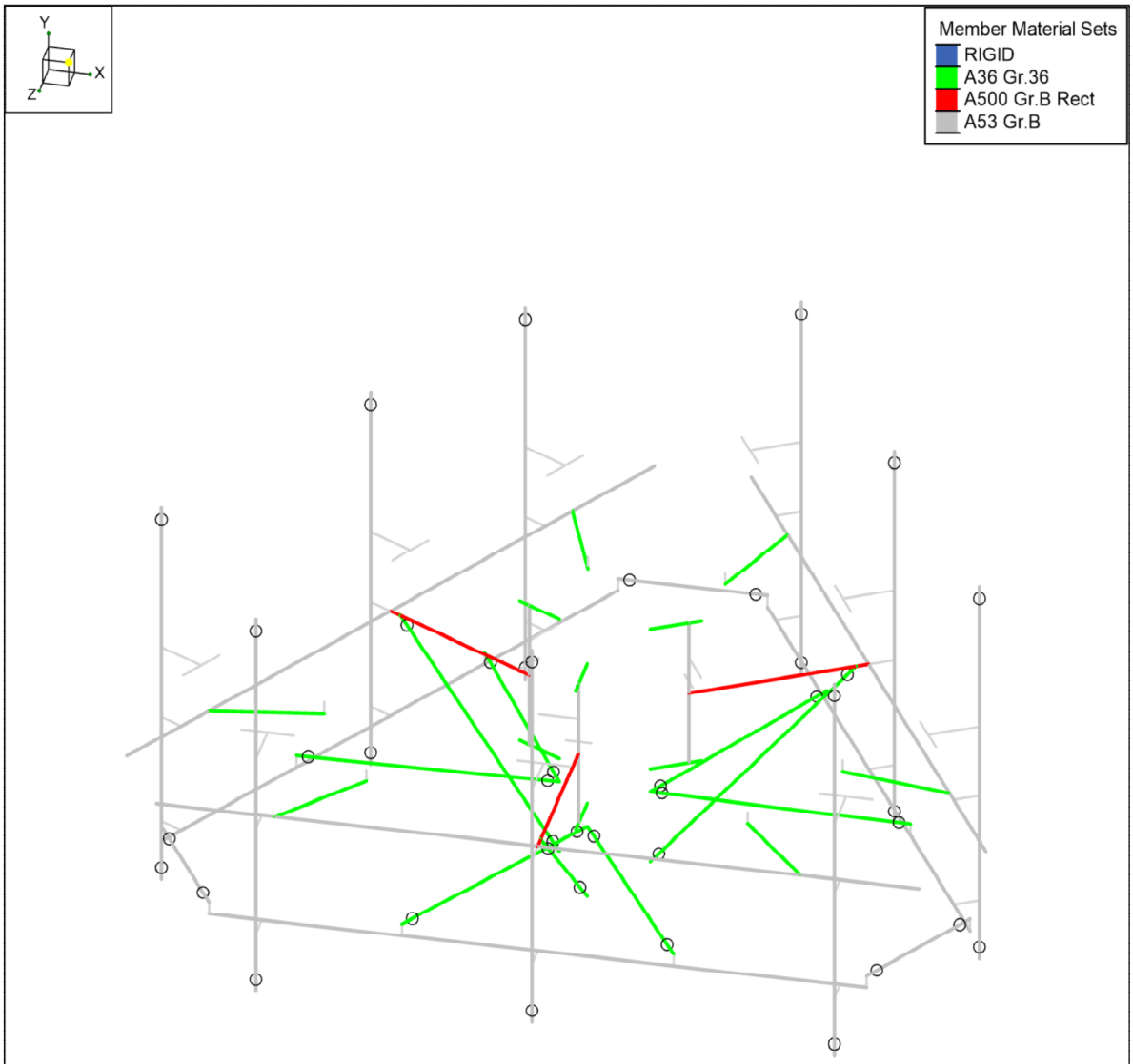

Envelope Only Solution

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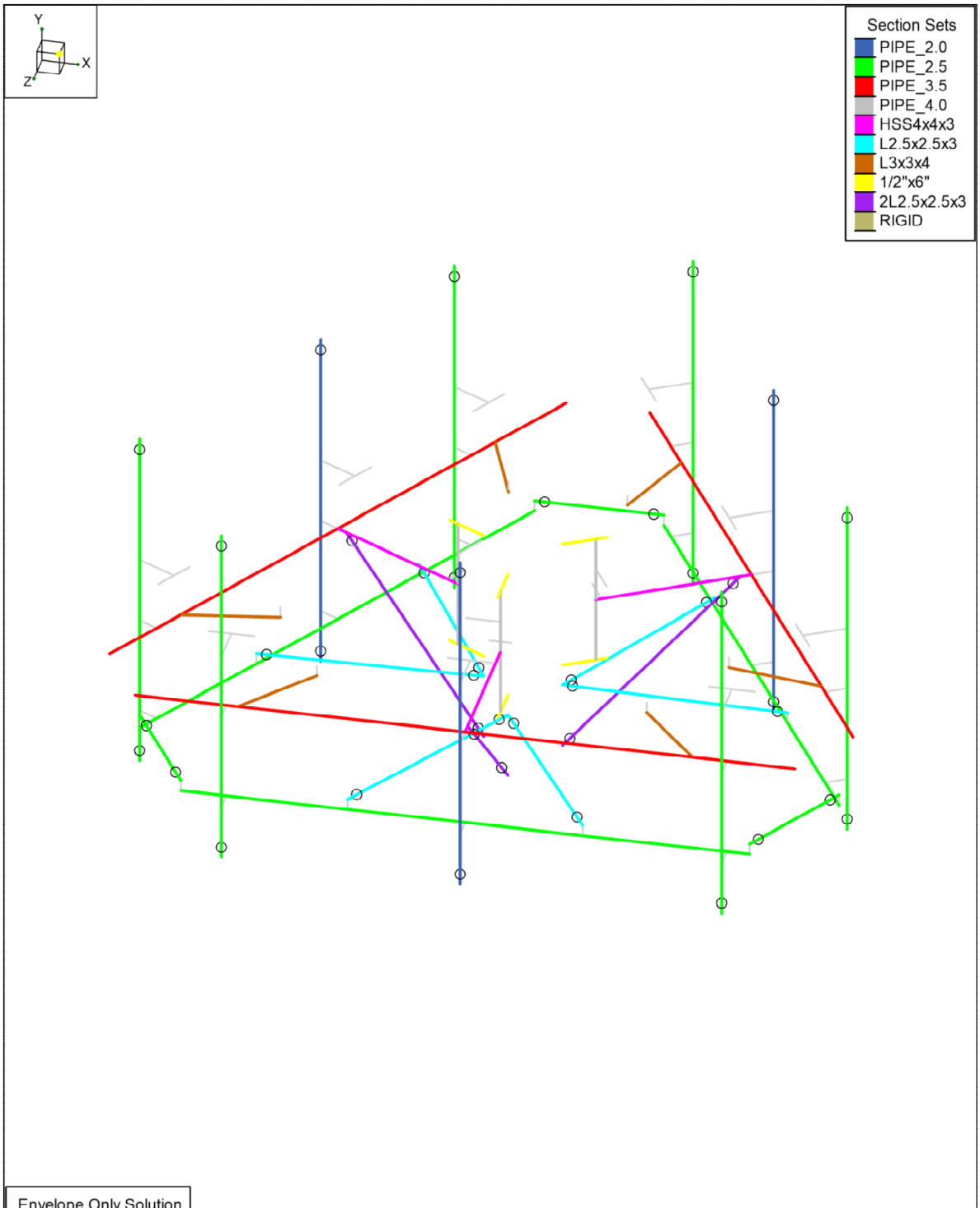

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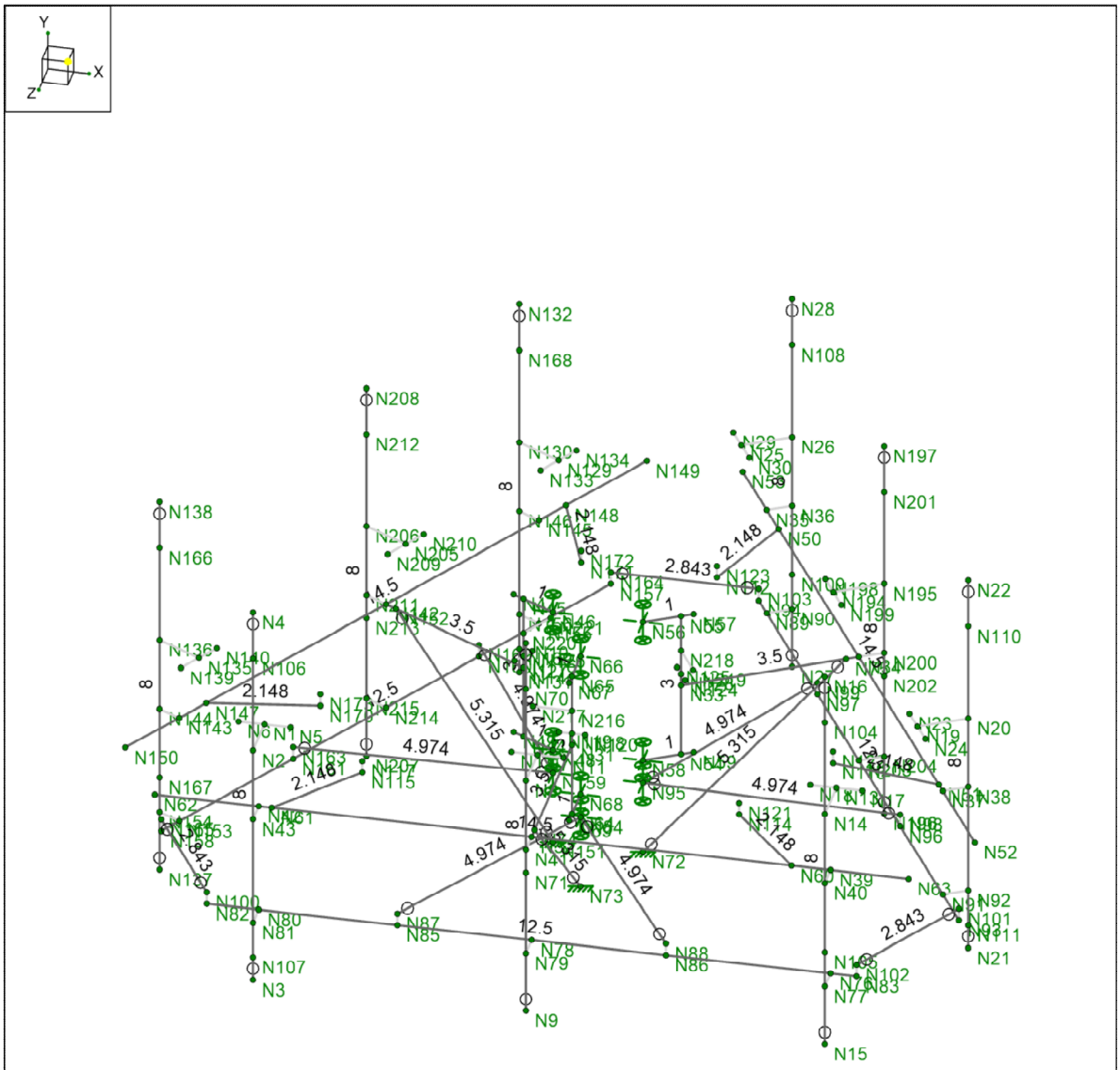

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Jesse Drennen, PE		Nov 17, 2020
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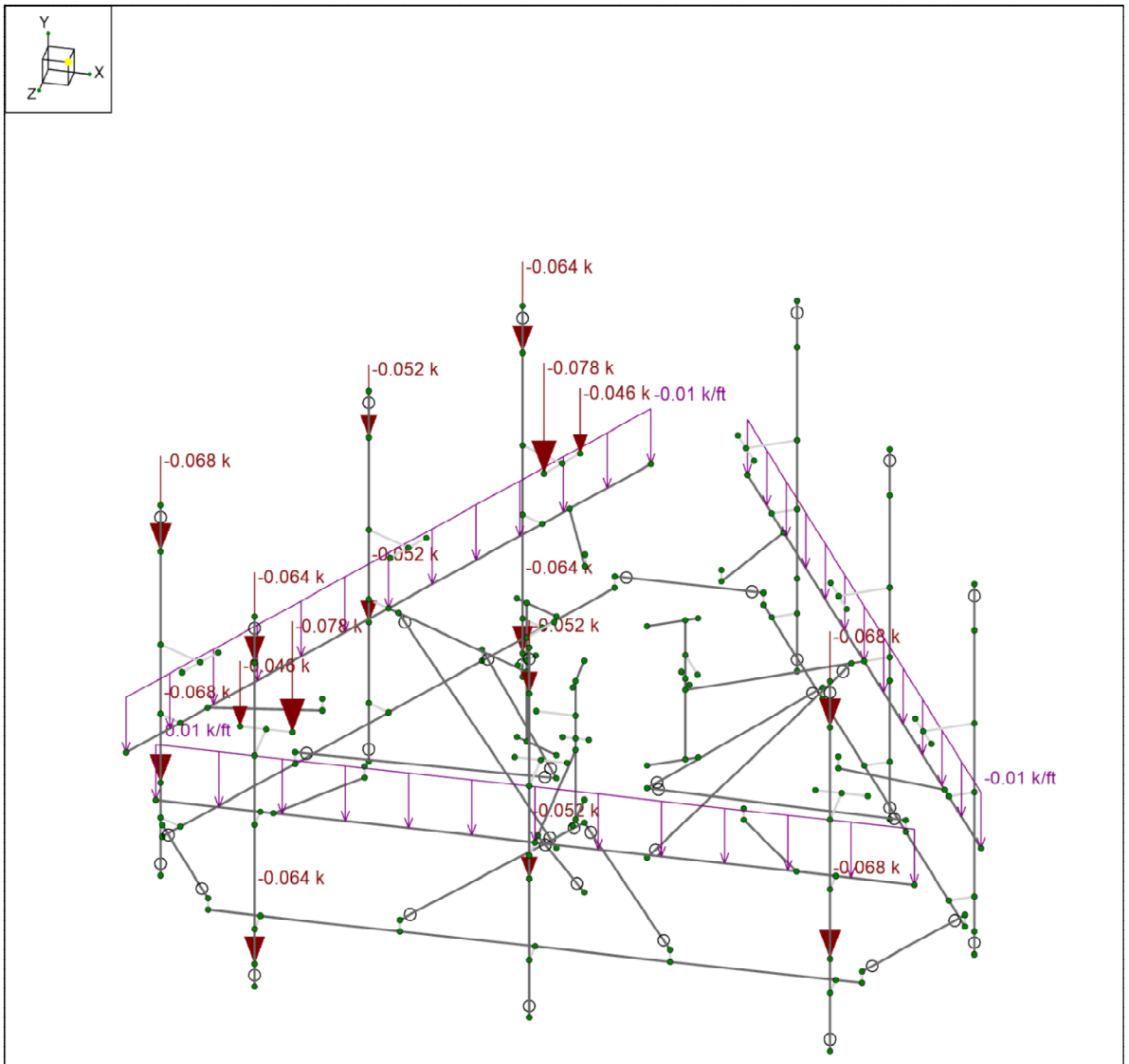

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Jesse Drennen, PE		Nov 17, 2020
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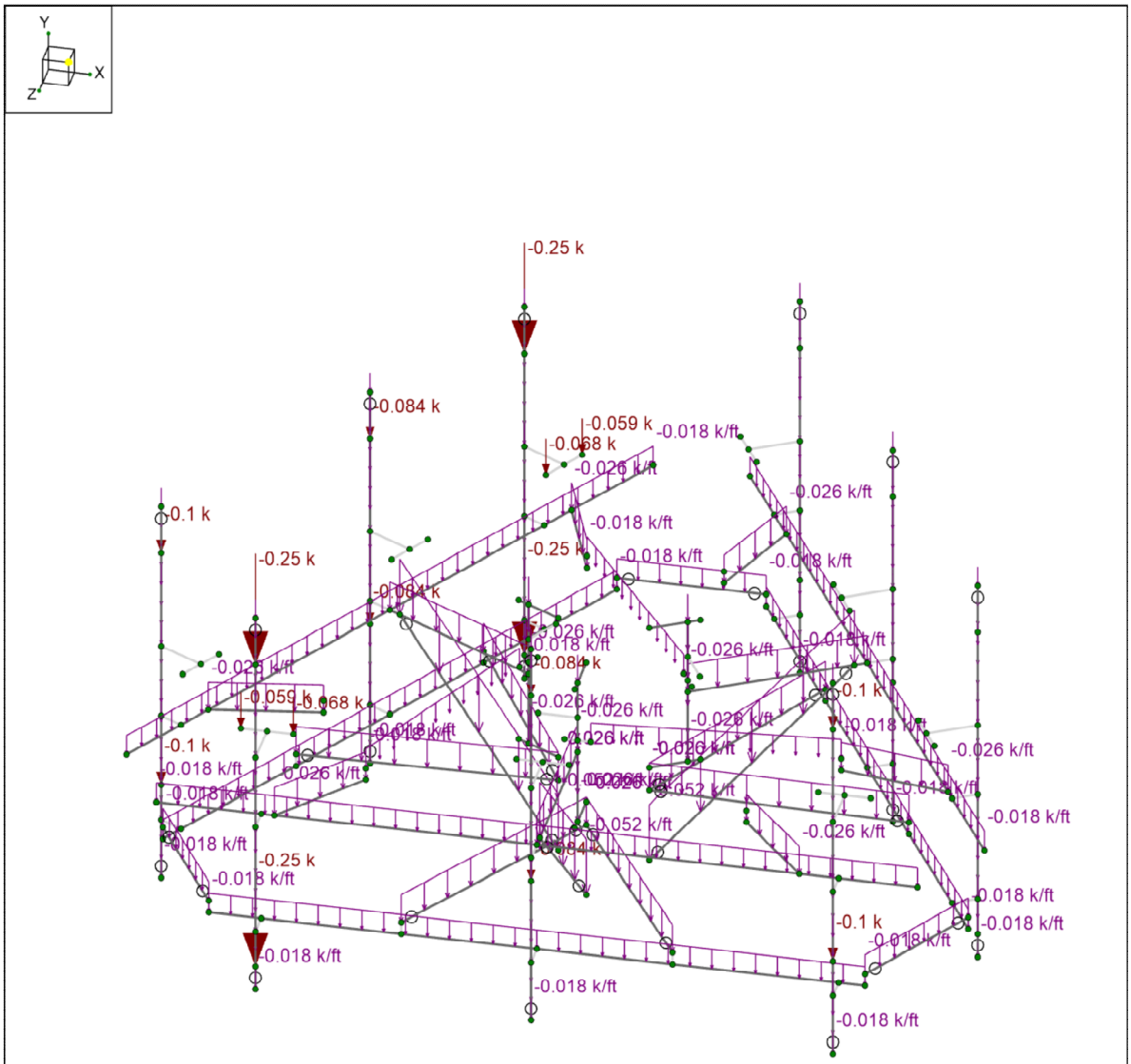

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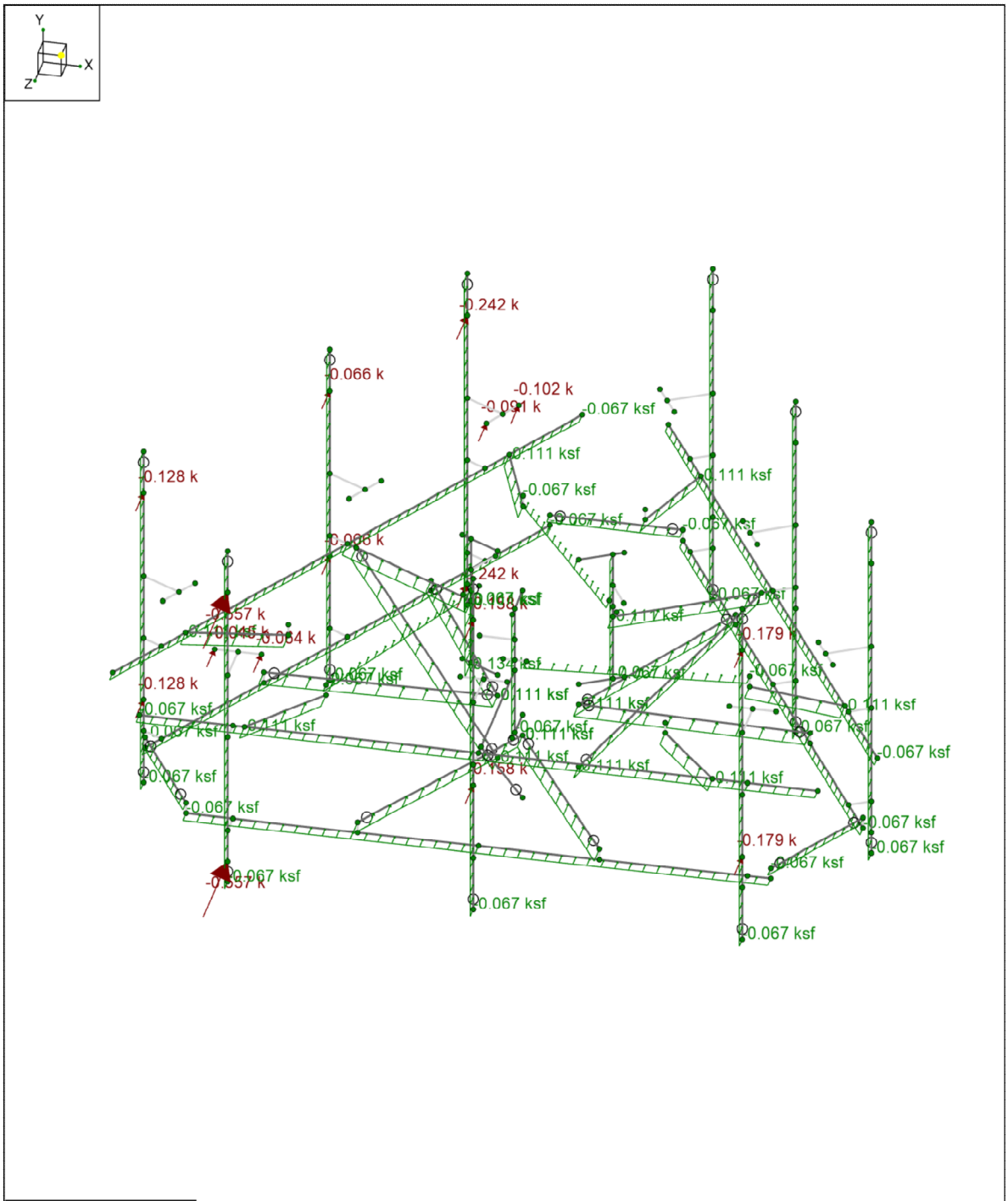

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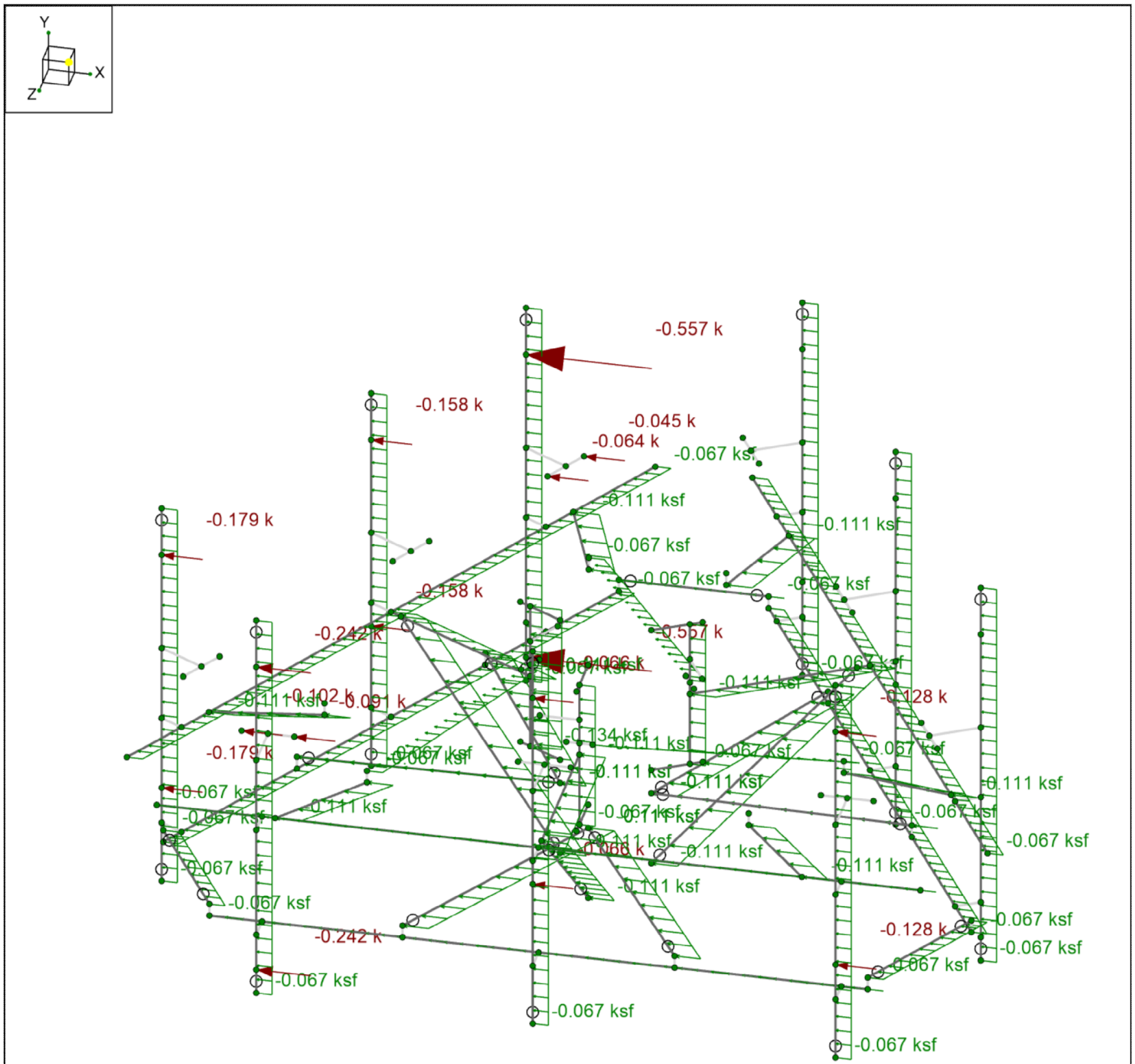

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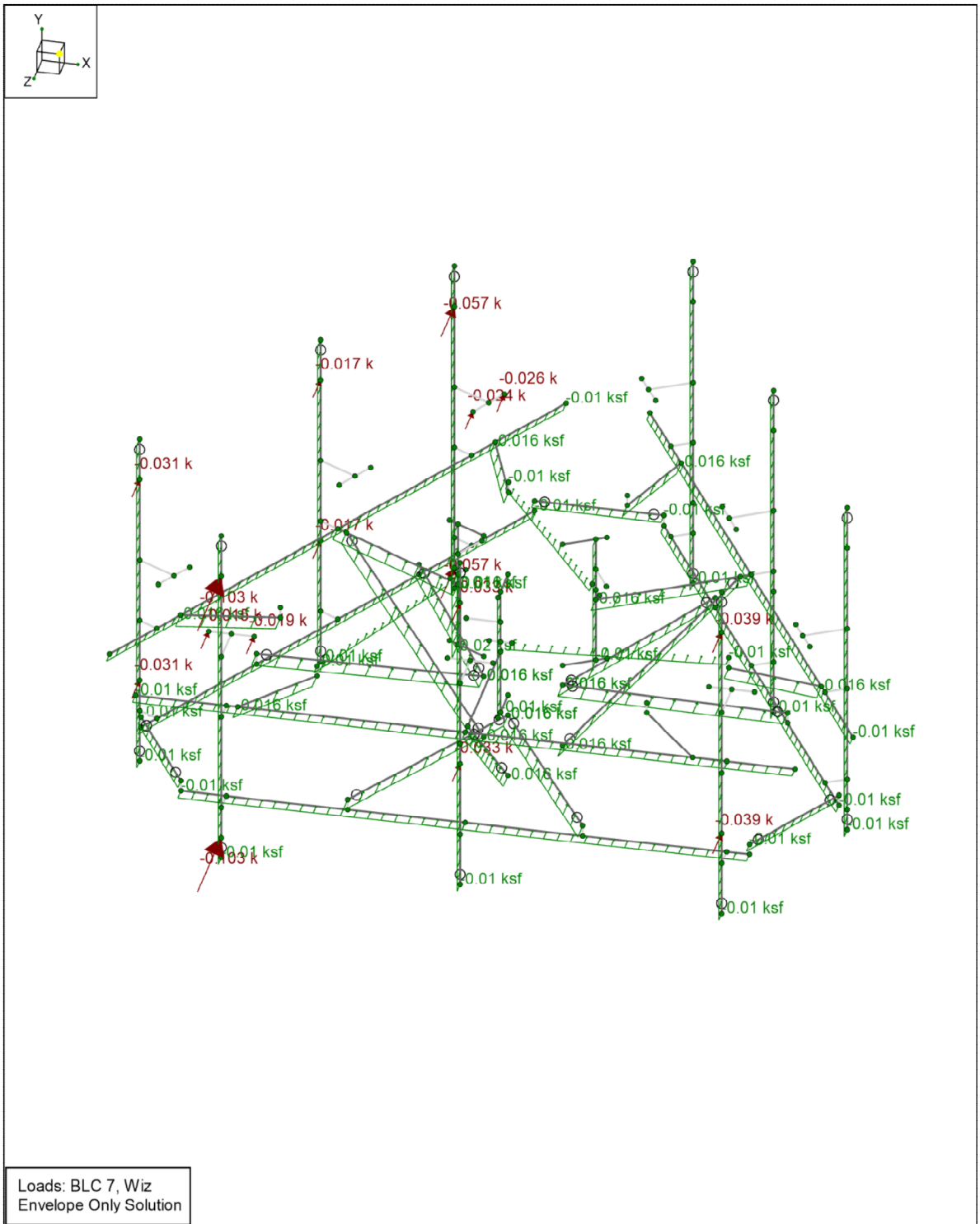

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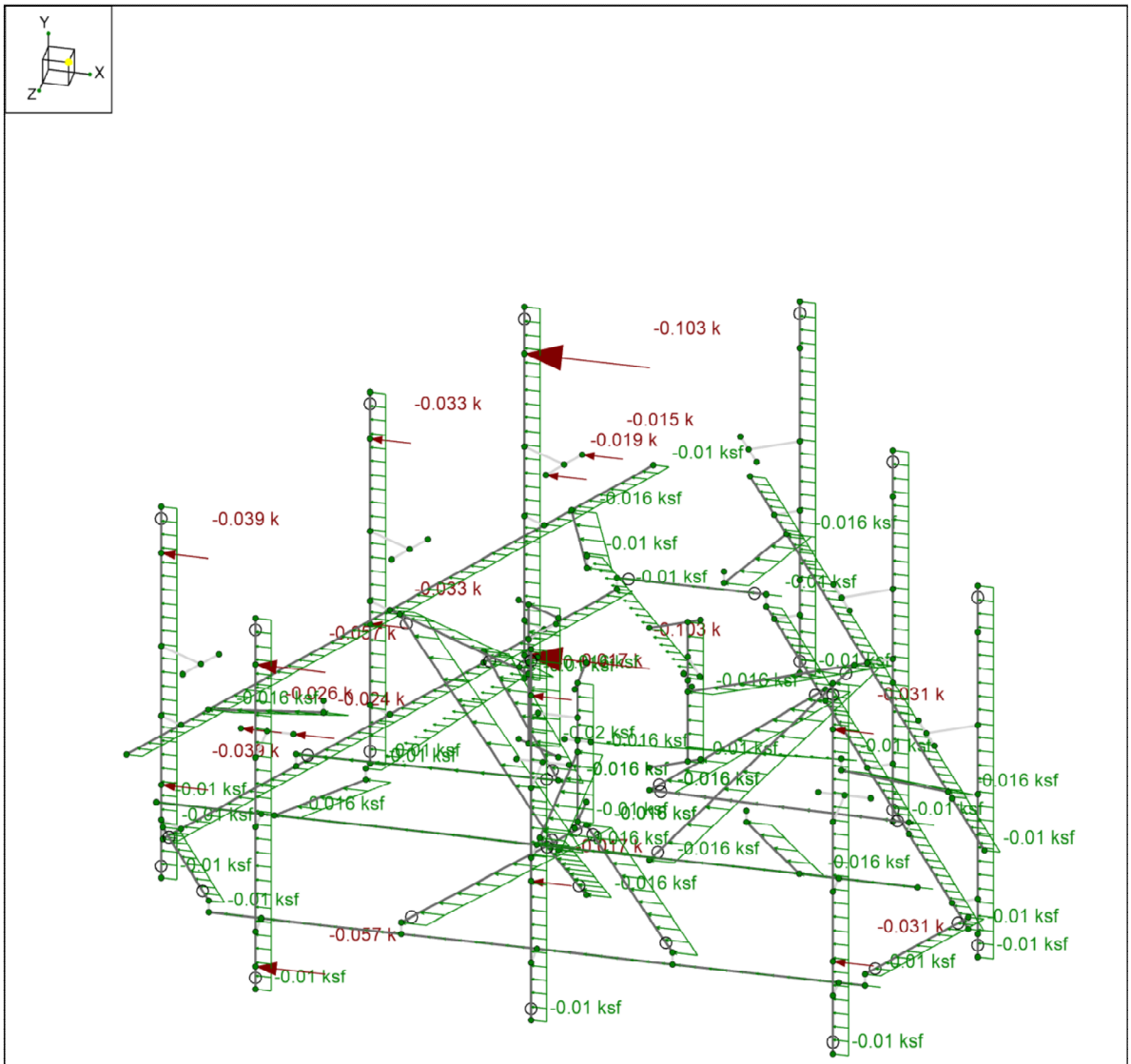

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Jesse Drennen, PE		Nov 17, 2020
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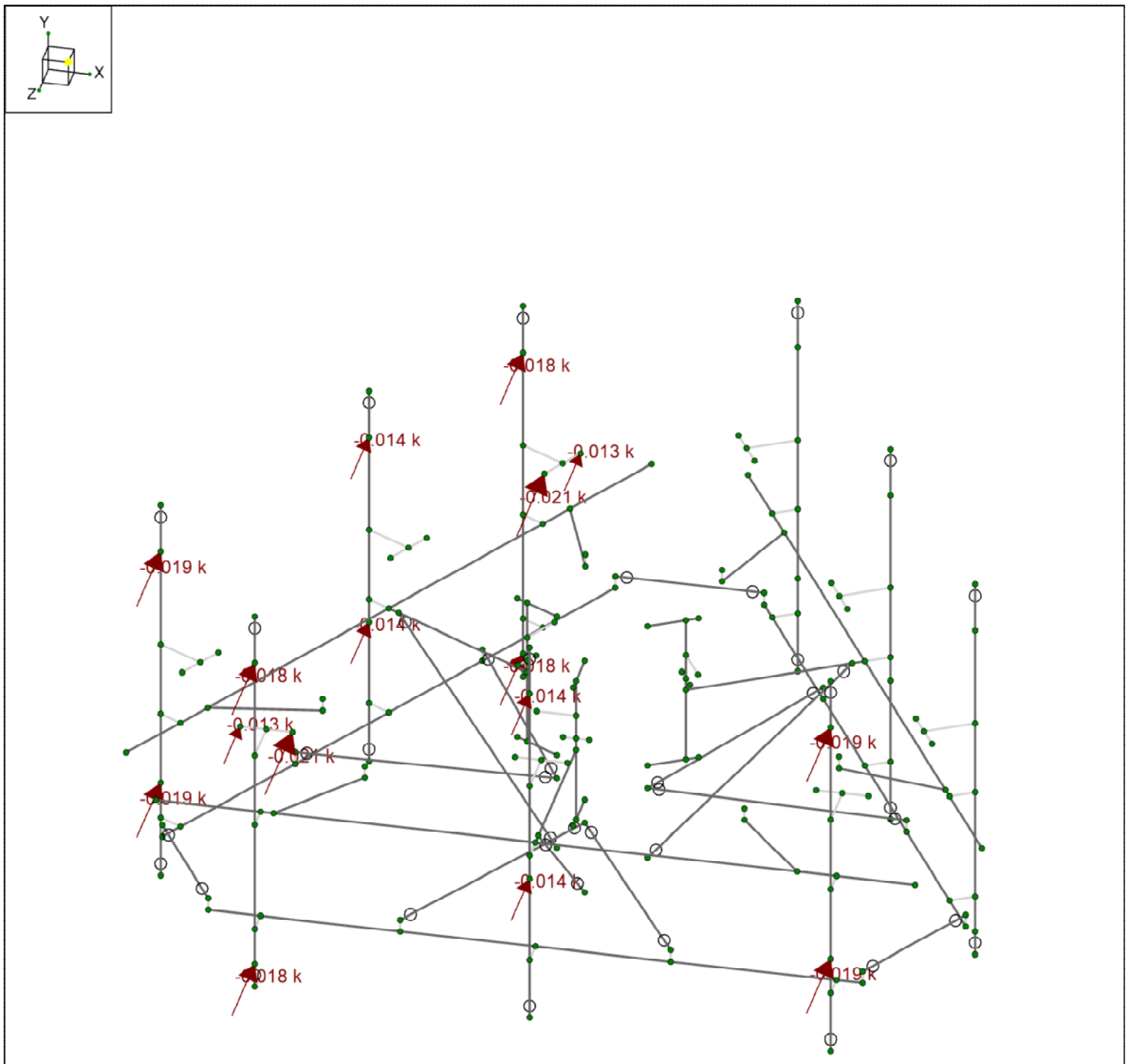

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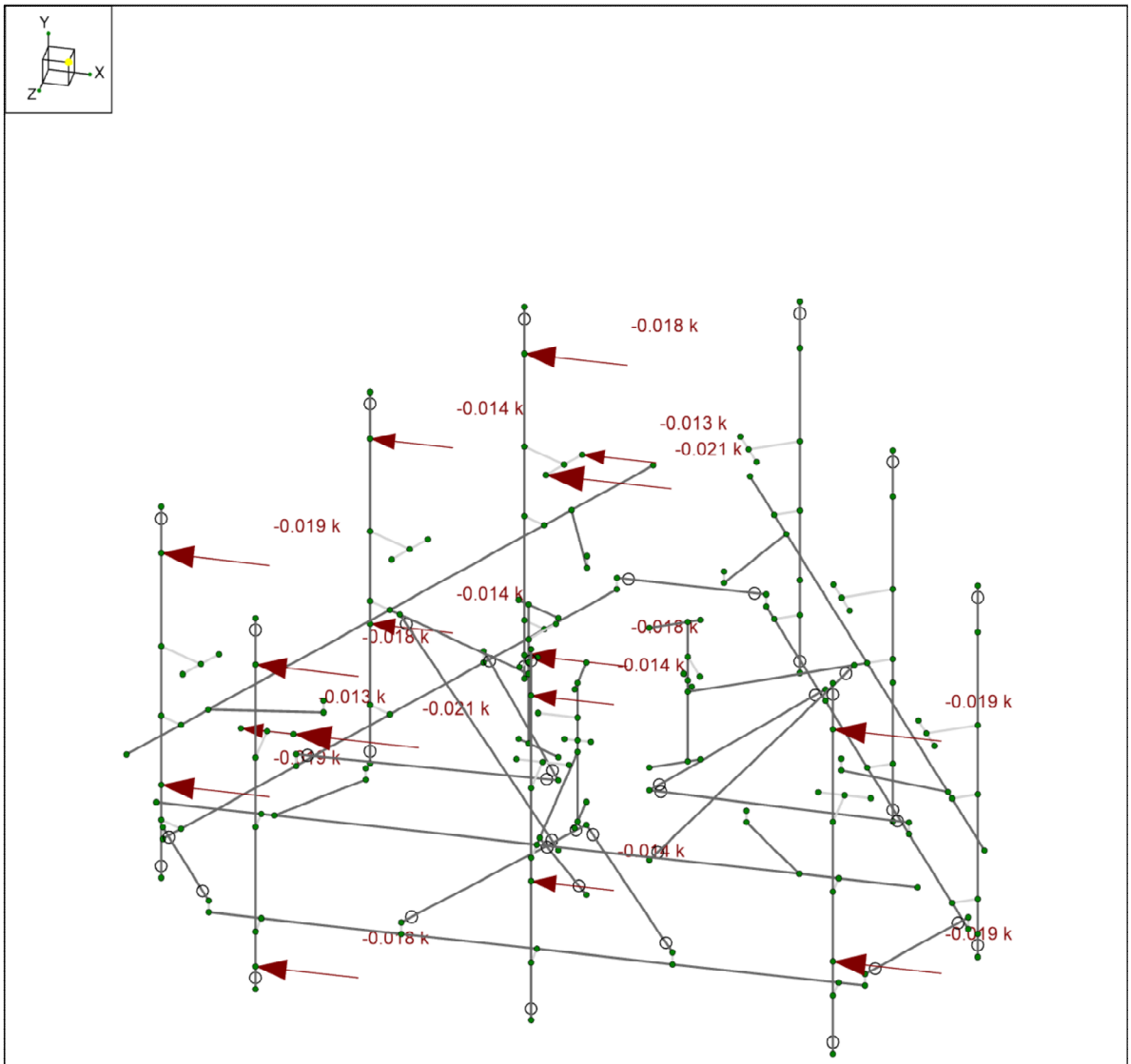

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GeoStructural, LLC	CT11315C	SK-14
Jesse Drennen, PE		Nov 17, 2020
SBA: CT00302-S		CT11315C_Mount Analysis_R0 20...

EXHIBIT 9

EBI Consulting

environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CT11315C

Plainfield/I-395_I
246 East Franklin Street
Danielson, Connecticut 06239

February 5, 2021

EBI Project Number: 6221000459

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**25.01%**

February 5, 2021

T-Mobile
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CT11315C - Plainfield/I-395_1

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **246 East Franklin Street** in **Danielson, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile 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 ($\mu W/cm^2$). 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.

Public 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 and 700 MHz frequency 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), 2100 MHz (AWS) and 11 GHz frequency 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 done for the proposed T-Mobile Wireless antenna facility located at 246 East Franklin Street in Danielson, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile 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 manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, 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.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 1 LTE channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

8) 1 NR channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

9) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. 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. This is rarely the case, and if so, is never continuous.

10) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

11) The antennas used in this modeling are the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s) in Sector B, the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, 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.

12) The antenna mounting height centerline of the proposed antennas is 137 feet above ground level (AGL).

13) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

T-Mobile Site Inventory and Power Data

Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd
Height (AGL):	feet	Height (AGL):	137 feet
Channel Count:	8	Channel Count:	8
Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts
ERP (W):	12,841.53	ERP (W):	12,841.53
Antenna B1 MPE %:	**2.46%**	Antenna C1 MPE %:	**2.46%**
Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	137 feet	Height (AGL):	137 feet
Channel Count:	2	Channel Count:	2
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	38,477.89	ERP (W):	38,477.89
Antenna B2 MPE %:	**7.37%**	Antenna C2 MPE %:	**7.37%**
Antenna #:	**3**	Antenna #:	**3**
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd
Height (AGL):	137 feet	Height (AGL):	137 feet
Channel Count:	7	Channel Count:	7
Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts
ERP (W):	8,466.41	ERP (W):	8,466.41
Antenna B3 MPE %:	**2.70%**	Antenna C3 MPE %:	**2.70%**

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector B):	12.53%
AT&T	7.1%
Metro PCS	0.39%
Verizon	2.13%
Sprint	2.67%
V'Stream	0.19%
Site Total MPE % :	25.01%

T-Mobile MPE % Per Sector	
T-Mobile Sector B Total:	12.53%
T-Mobile Sector C Total:	12.53%
Site Total MPE % :	25.01%

T-Mobile Maximum MPE Power Values (Sector B)

T-Mobile Frequency Band / Technology (Sector B)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 1900 MHz GSM	4	1028.30	137.0	7.88	1900 MHz GSM	1000	0.79%
T-Mobile 1900 MHz LTE	2	2056.61	137.0	7.88	1900 MHz LTE	1000	0.79%
T-Mobile 2100 MHz LTE	2	2307.55	137.0	8.84	2100 MHz LTE	1000	0.88%
T-Mobile 2500 MHz LTE	1	19238.94	137.0	36.85	2500 MHz LTE	1000	3.69%
T-Mobile 2500 MHz NR	1	19238.94	137.0	36.85	2500 MHz NR	1000	3.69%
T-Mobile 600 MHz LTE	2	591.73	137.0	2.27	600 MHz LTE	400	0.57%
T-Mobile 600 MHz NR	1	1577.94	137.0	3.02	600 MHz NR	400	0.76%
T-Mobile 700 MHz LTE	2	648.82	137.0	2.49	700 MHz LTE	467	0.53%
T-Mobile 1900 MHz LTE	2	2203.69	137.0	8.44	1900 MHz LTE	1000	0.84%
						Total:	**12.53%**

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

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 T-Mobile 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:

T-Mobile Sector	Power Density Value (%)
Sector B:	12.53%
Sector C:	12.53%
T-Mobile Maximum MPE % (Sector B):	12.53%
Site Total:	25.01%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **25.01%** 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.