August 26, 2020

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

Re: Notice of Exempt Modification New Cingular Wireless PCS LLC ("AT&T") Site CT5483
246 East Franklin Street, Danielson, CT 06239 (the "Property")
Latitude: 42.795791 N Longitude: 71.870300 W

Dear Ms. Bachman:

AT&T currently maintains (9) antennas at the 127' on the existing 155' monopole tower ("Tower") at 246 East Franklin Street, in the Danielson section of Killingly, CT. The tower is owned by SBA Towers, Inc ("SBA") and the property is owned by Charles R. Hutchins LU & Amanda Martel Trustee. AT&T intends to modify its facility by replacing (6) antennas with (3) DMP65R-BU8DA & (3) 804370799 antennas, replacing (6) RRUs with (3) 4449 B5/B12 & (3) 4478 B14 RRUs and installing (3) 4415 B30 and (3) 8843 B2 B66A RRUs. The height of AT&Ts existing and proposed antennas & RRUs is 127'.

The facility received zoning permit approval from the town of Killingly on February 5, 1999. AT&T received CT Siting Council approval under EM-SBA-069-020628 on July 11, 2002. These approvals contained no conditions that could feasibly be violated by this modification, including facility height or mounting restrictions. AT&Ts modification complies with the above-mentioned approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies ("R.C.S.A") §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2). In accordance with to R.C.S.A §16-50j-73, a copy of this letter is being sent to Mary Calorio, Town Manager, Town of Killingly, Ann-Marie L. Aubrey, Director of Planning & Development, Town of Killingly, Charles R. Hutchins LU & Amanda Martel Trustee, as property owner and SBA Towers, Inc. as tower owner.

The planned modification of the facility falls squarely within those activities explicitly provided for in R.C.S.A §16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require an extension of the site boundary.

3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and foundation can support the proposed loading.

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

Sincerely,

Hollis M. Redding

Hollis M. Redding
SAI Communications, LLC
12 Industrial Way
Salem, NH 03079
Mobile: 860-834-6964
hredding@saigrp.com

Enclosures

Cc: Mary Calorio, Town Manager, Town of Killingly
Ann-Marie L. Aubrey, Director of Planning & Development, Town of Killingly
Charles R. Hutchins LU & Amanda Martel Trustee, as property owner
SBA Towers, Inc., as tower owner

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							5.38%
AT&T UMTS	2	565	127	0.0278	880	0.5867	0.47%
AT&T PCS UMTS	1	302	127	0.0074	880	0.5867	0.13%
AT&T GSM	2	397	127	0.0195	1900	1.0000	0.20%
AT&T LTE	1	1045	127	0.0257	734	0.4893	0.52%
AT&T PCS LTE	4	3381	127	0.3322	1900	1.0000	3.32%
Site Total							12.13%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							7.49%
AT&T LTE	1	1476	127	0.0363	725	0.4833	0.75%
AT&T LTE	1	1000	127	0.0246	850	0.5667	0.43%
AT&T LTE AWS	1	3837	127	0.0942	2170	1.0000	0.94%
AT&T 5G	1	1000	127	0.0246	850	0.5667	0.43%
AT&T LTE	1	2951	127	0.0725	770	0.5133	1.41%
AT&T LTE	2	3664	127	0.1800	1930	1.0000	1.80%
AT&T LTE WCS	1	1285	127	0.0316	2355	1.0000	0.32%
AT&T UMTS	1	302	127	0.0074	880	0.5867	0.13%
Site Total							13.70%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:
- NEW AT&T ANTENNAS (DMP65R-BU8DA) @ POS. 1 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS (840370799) @ POS. 2 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: B5/B12 4449 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 4478 B14 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 4415 B30 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 8843 B2/B66A (PCS/AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T TMA'S: DTMABP7819VG12A (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T DC & FIBER SURGE ARRESTOR DC9-48-60-24-8C-EV (TOTAL OF 1) WITH (3) #8AWG DC POWER & (1) FIBER RUN IN (2) 2"ø FLEX CONDUIT (TO FOLLOW EXISTING ROUTING)
- PROPOSED Y CABLES FOR DUAL BAND RRUS.
- PROPOSED NEW HANDRAIL KIT SITEPRO1 PART# HRK12 (OR APPROVED EQUAL)

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- ADD 2ND RBS 6630.
- ADD IDLe.
- ADD DC12.
- ADD (1) FMB.

ITEMS TO BE REMOVED:
- EXISTING AT&T ANTENNAS (HPA-65R-BUU-H8) @ POS. 1 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNAS (7770) @ POS. 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS 11 B12 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS 32 B2 (PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T TMA'S: LGP21401 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T DIPLEXER: LGP13519 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T (6) 1-5/8" COAX CABLES.

ITEMS TO REMAIN:
- (3) ANTENNAS, (6) DIPLEXERS, (1) SURGE ARRESTORS, (6) 1-5/8 COAX CABLES, (2) DC POWER & (1) FIBER.

SITE ADDRESS:	246 EAST FRANKLIN STREET DANIELSON, CT 06239
LATITUDE:	41.795791° N, 41° 47' 44.85" N
LONGITUDE:	71.870300° W, 71° 52' 13.08" W
TYPE OF SITE:	MONOPOLE / OUTDOOR EQUIPMENT
STRUCTURE HEIGHT:	155'-0"±
RAD CENTER:	127'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
ENGINEER:	HUDSON DESIGN GROUP; LLC. DANIEL P. HAMM daniel.hamm@hudsondesigngroupllc.com

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
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GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLANS	1
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SITE NUMBER: CT5483

SITE NAME: KILLINGLY-DANIELSON

FA CODE: 10071086

PACE ID: MRCTB047382, MRCTB047414, MRCTB047463, MRCTB047405, MRCTB047407, MRCTB047419

PROJECT: LTE 3C_4C_5C_4TX4RX_5G NR 2021 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

HEAD EAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. 0.4 MILES. TURN LEFT AT CAPITOL BLVD 0.3 MILES. TURN LEFT AT WEST ST 0.2 MILES. TURN LEFT TO MERGE ONTO I-91 N TOWARD HARTFORD 4.4 MILES. TAKE EXIT 25-26 TO MERGE ONTO CT-3 N TOWARD GLASTONBURY 2.4 MILES. TAKE THE CT-2 E/NORWICH EXIT 0.4 MILES. MERGE ONTO CT-2 E 32.4 MILES. TAKE EXIT 28N TO MERGE ONTO GOV JOHN DAVIS LODGE TURNPIKE/I-395 N TOWARD PROVIDENCE. CONTINUE TO FOLLOW GOV JOHN DAVIS LODGE TURNPIKE 22.7 MILES. TAKE THE ROSS RD EXIT 0.2 MILES. TURN LEFT AT ROSS RD 1.3 MILES. TURN LEFT AT S FRONTAGE RD 0.5 MILES. SLIGHT LEFT AT E FRANKLIN ST APPROX. 492 ft. TURN RIGHT ONTO ACCESS DRIVE AFTER YELLOW HOUSE. DRIVE BEYOND RESIDENCE TO END OF DIRT ROAD. SITE ENTRANCE WILL BE ON RIGHT.

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS

CALL BEFORE YOU DIG

CALL TOLL FREE 1-800-922-4455

OR CALL 811

UNDERGROUND SERVICE ALERT

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5483
SITE NAME: KILLINGLY-DANIELSON

246 EAST FRANKLIN STREET
DANIELSON, CT 06239
WINDHAM COUNTY

500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	08/21/20	ISSUED FOR CONSTRUCTION	GA	HC	DPH
0	07/28/20	ISSUED FOR REVIEW	GA	HC	DPH
A	05/15/20	ISSUED FOR REVIEW	AM	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: AM

STATE OF CONNECTICUT — DANIEL P. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET

LTE 3C_4C_5C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5483	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

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

   CONTRACTOR – SAI
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

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

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

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

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

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 SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, 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.

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 OWNER.

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

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. 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.

18. THE EXISTING CELL SITE IS 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.

19. SINCE THE 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 ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. **APPLICABLE BUILDING CODES:**
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

    BUILDING CODE: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

    SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

    AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL

    FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF			

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5483
SITE NAME: KILLINGLY-DANIELSON

246 EAST FRANKLIN STREET
DANIELSON, CT 06239
WINDHAM COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
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SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: AM

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES

LTE 3C_4C_5C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5483	GN-1	1

NOTE:

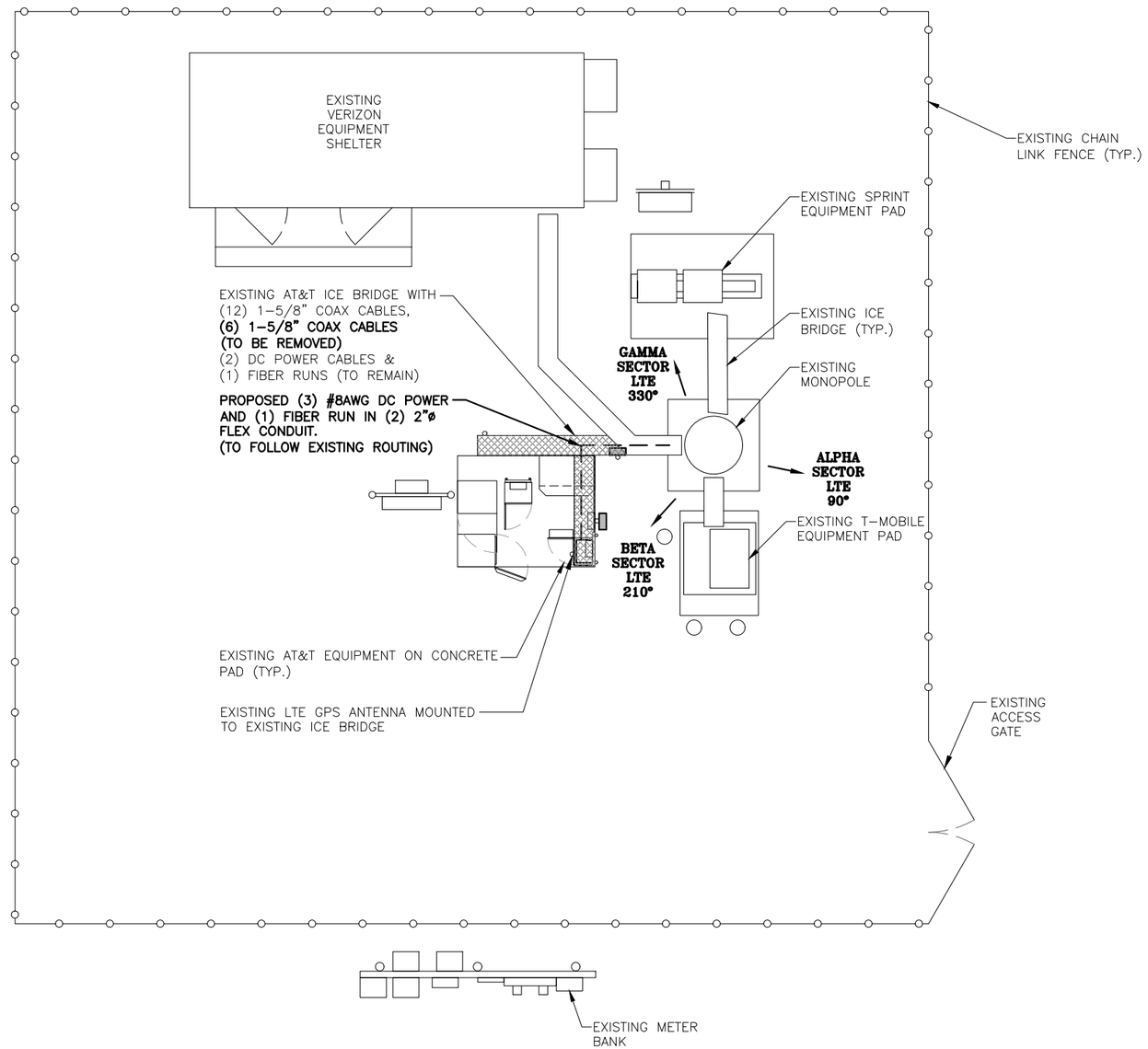
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: JUNE 9, 2020 (REV.2)

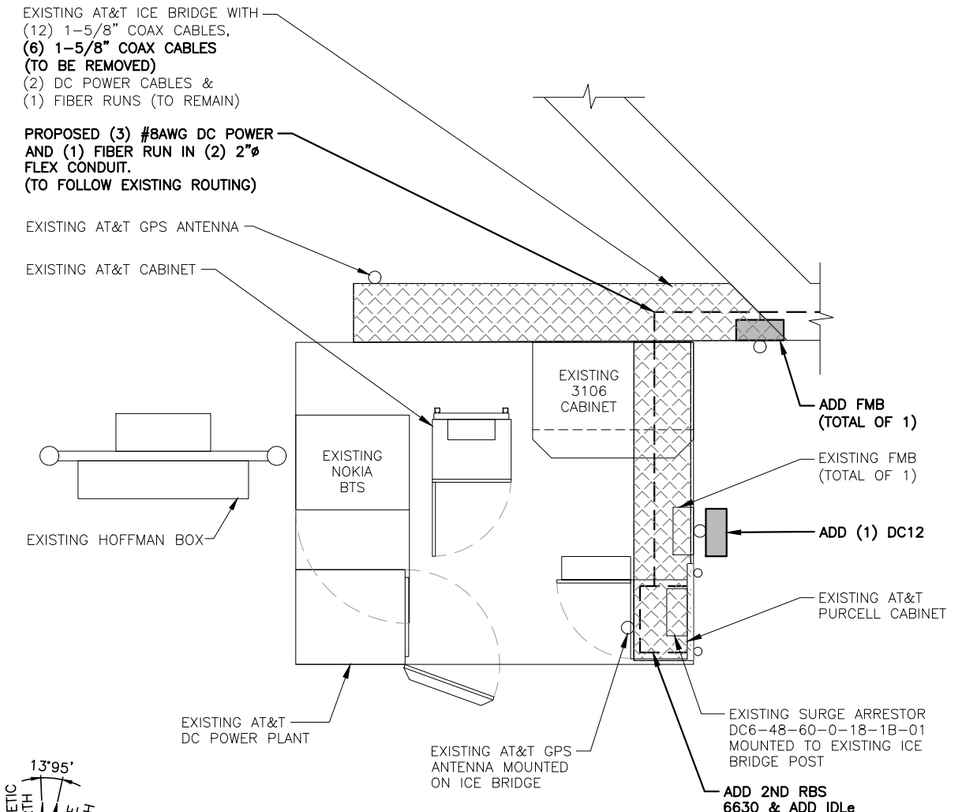
NOTE:

REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTION DATED: JULY 14, 2020 FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



COMPOUND PLAN (1 / A-1)
22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"

0 2'-8" 5'-4" 10'-8" 16'-0"



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

0 1'-0" 2'-0" 4'-0" 6'-0"

HUDSON Design Group LLC
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STATE OF CONNECTICUT
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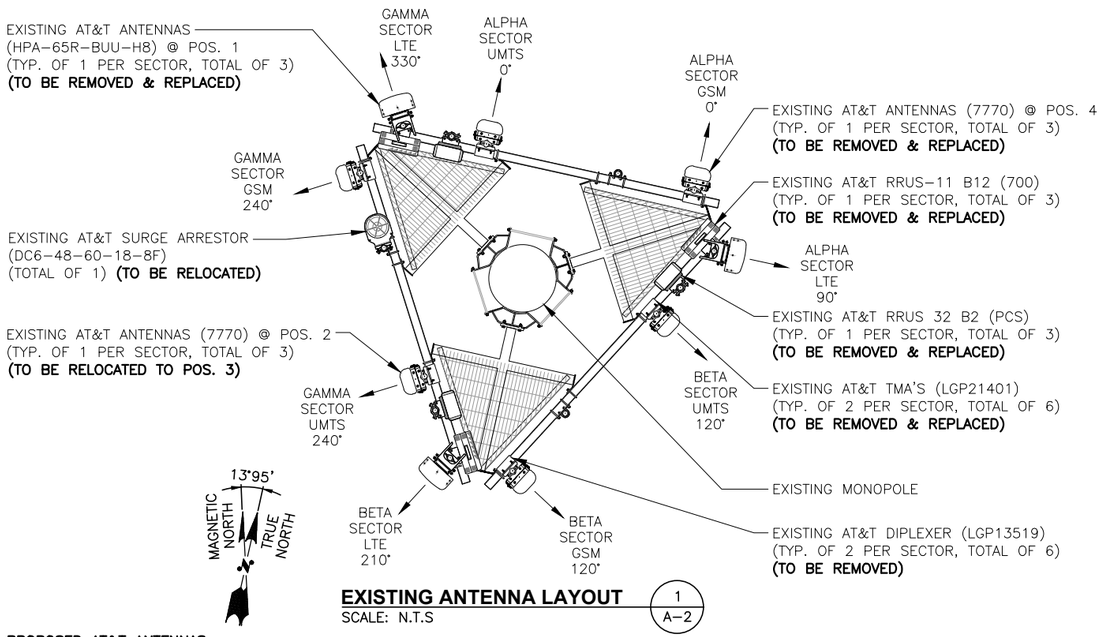
AT&T

COMPOUND & EQUIPMENT PLANS
LTE 3C_4C_5C_4TX4RX_5G NR 2021 UPGRADE

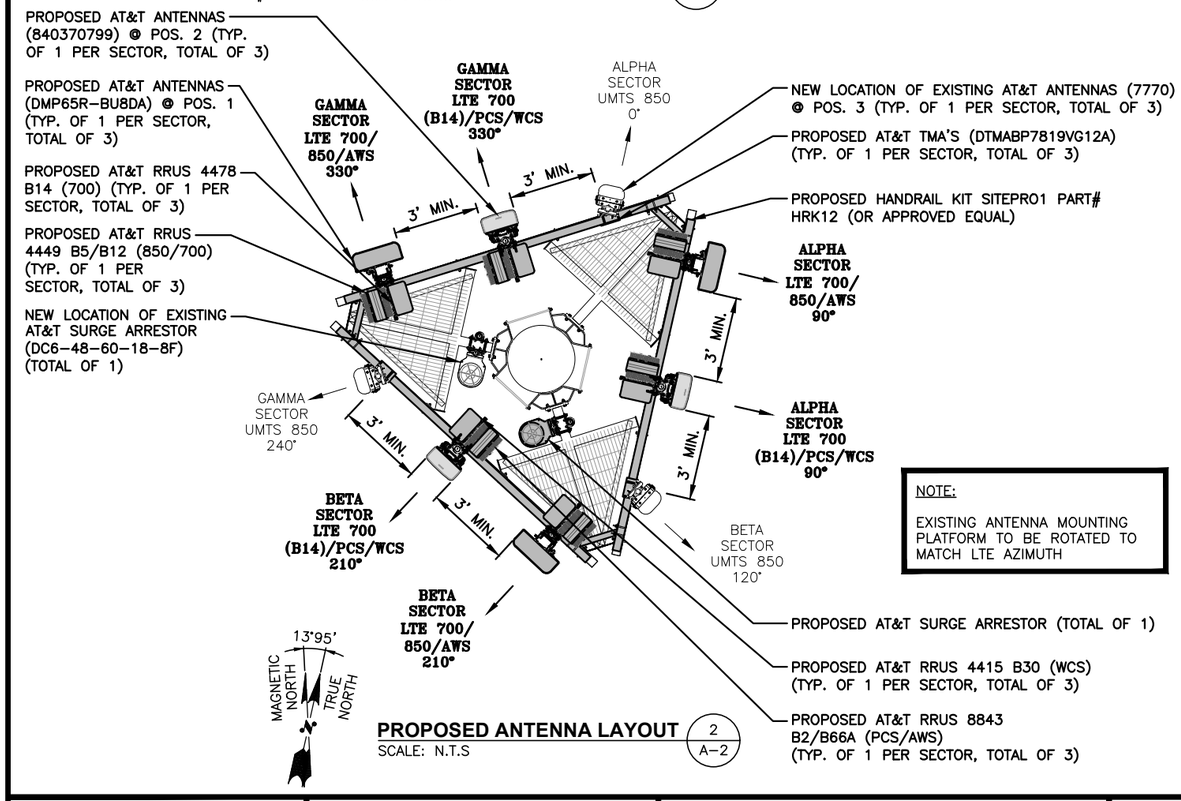
SITE NUMBER	DRAWING NUMBER	REV
CT5483	A-1	1



EXISTING ANTENNA LAYOUT

SCALE: N.T.S

1 / A-2



NOTE:

EXISTING ANTENNA MOUNTING PLATFORM TO BE ROTATED TO MATCH LTE AZIMUTH

PROPOSED ANTENNA LAYOUT

SCALE: N.T.S

2 / A-2

NOTE:

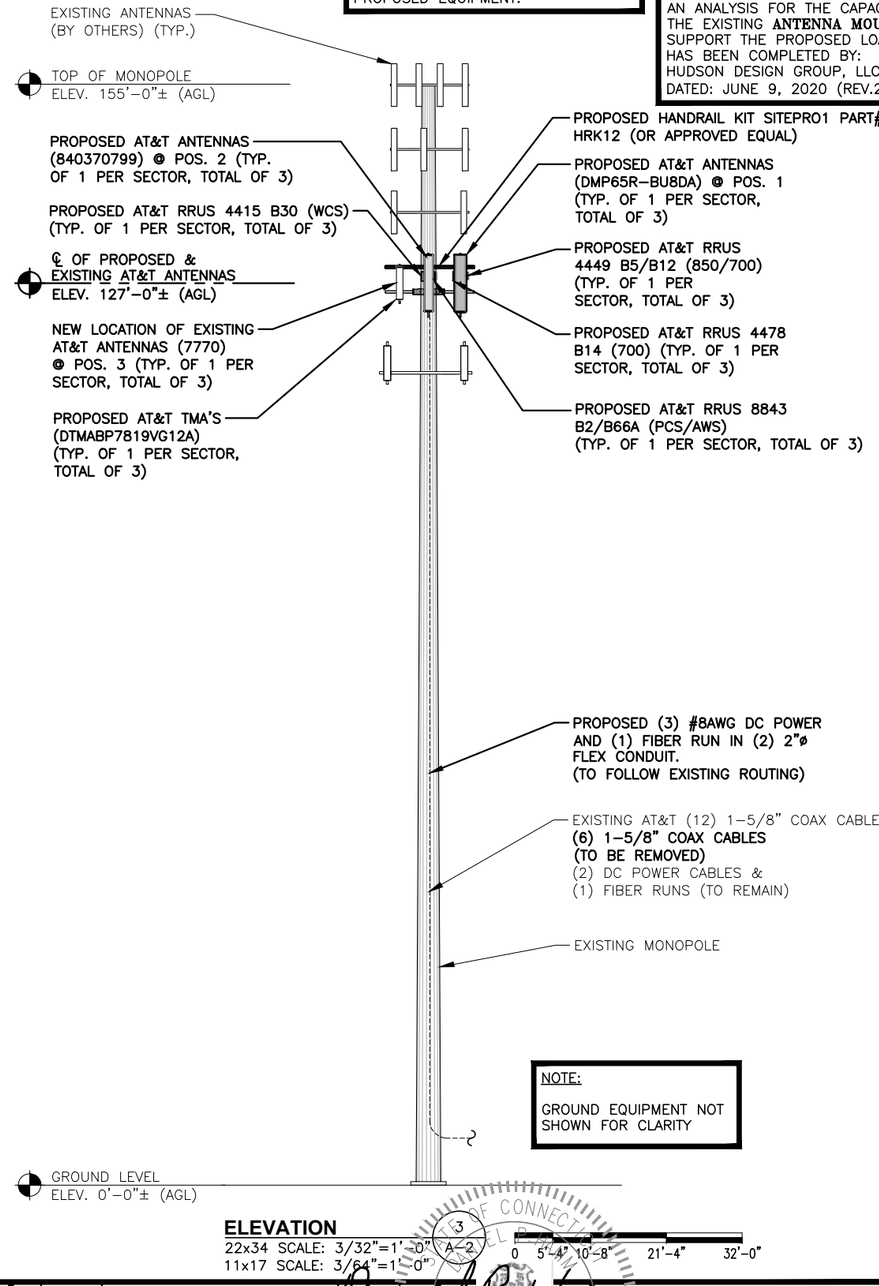
REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTION DATED: JULY 14, 2020 FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: JUNE 9, 2020 (REV.2)



NOTE:

GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION

22x34 SCALE: 3/32"=1'-0"
11x17 SCALE: 3/64"=1'-0"

3 / A-2

0 5'-4" 10'-8" 21'-4" 32'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5483
SITE NAME: KILLINGLY-DANIELSON

246 EAST FRANKLIN STREET
DANIELSON, CT 06239
WINDHAM COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
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A	05/15/20	ISSUED FOR REVIEW	AM	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: AM

STATE OF CONNECTICUT — DANIEL P. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA LAYOUTS & ELEVATION

LTE 3C_4C_5C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5483	A-2	1

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ H EIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	FREQUENCY	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	PROPOSED	LTE 700/850/AWS	DMP65R-BU8DA	96.0X20.7X7.7	127'-0"±	90°	–	(P)(1) 4449 B5/B12	(850/700)	17.9"x13.2"x10.4"	(2) DC & (1) FIBER	(E) (1) RAYCAP DC6-48-60-18-8F
A2	PROPOSED	LTE 700(B14)/PCS/WCS	840-370799	96X14.9X6.5	127'-0"±	90°	–	(P)(1) 8843 B2/B66A (P)(1) RRUS 4478 B14 (P)(1) RRUS 4415 B30	(PCS/AWS) (700) (WCS)	14.9"x13.2"x10.9" 18.1"x13.4"x8.3" 16.5"X13.4"X5.9"	–	
A3	EXISTING	UMTS 850	7770	55X11X5	127'-0"±	0°	(1)(P) DTMABP7819VG12A	–	–	–	(2)1-5/8 COAX	
A4	–	–	–	–	–	–		–	–	–	–	
B1	PROPOSED	LTE 700/850/AWS	DMP65R-BU8DA	96.0X20.7X7.7	127'-0"±	210°	–	(P)(1) 4449 B5/B12	(850/700)	17.9"x13.2"x10.4"	(3) DC & (1) FIBER	(P) (1) RAYCAP DC9-48-60-24-8C-EV
B2	PROPOSED	LTE 700(B14)/PCS/WCS	840-370799	96X14.9X6.5	127'-0"±	210°	–	(P)(1) 8843 B2/B66A (P)(1) RRUS 4478 B14 (P)(1) RRUS 4415 B30	(PCS/AWS) (700) (WCS)	14.9"x13.2"x10.9" 18.1"x13.4"x8.3" 16.5"X13.4"X5.9"	–	
B3	EXISTING	UMTS 850	7770	55X11X5	127'-0"±	120°	(1)(P) DTMABP7819VG12A	–	–	–	(2)1-5/8 COAX	
B4	–	–	–	–		–	–	–	–	–	–	
C1	PROPOSED	LTE 700/850/AWS	DMP65R-BU8DA	96.0X20.7X7.7	127'-0"±	330°	–	(P)(1) 4449 B5/B12	(850/700)	17.9"x13.2"x10.4"	–	–
C2	PROPOSED	LTE 700(B14)/PCS/WCS	840-370799	96X14.9X6.5	127'-0"±	330°	–	(P)(1) 8843 B2/B66A (P)(1) RRUS 4478 B14 (P)(1) RRUS 4415 B30	(PCS/AWS) (700) (WCS)	14.9"x13.2"x10.9" 18.1"x13.4"x8.3" 16.5"X13.4"X5.9"	–	
C3	EXISTING	UMTS 850	7770	55X11X5	127'-0"±	240°	(1)(P) DTMABP7819VG12A	–	–	–	(2)1-5/8 COAX	
C4	–	–	–	–	–	–	–	–	–	–	–	

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

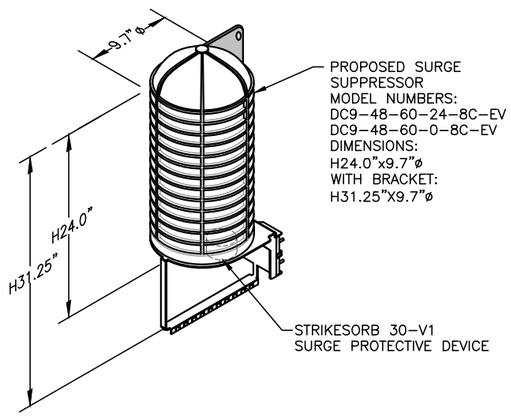
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: JUNE 9, 2020 (REV.2)

NOTE:
REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTION DATED: JULY 14, 2020 FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

FINAL ANTENNA SCHEDULE
SCALE: N.T.S
1 / A-3

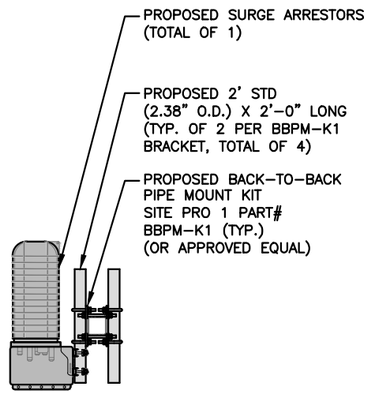
RRU CHART		
QUANTITY	MODEL	SIZE (L x W x D)
3(P)	4449 B5/B12 (850/700)	17.9"x13.2"x10.4"
3(P)	4478 B14 (700)	18.1"x13.4"x8.3"
3(P)	8843 B2/B66A (PCS/AWS)	14.9"x13.2"x10.9"
3(P)	4415 B30 (WCS)	16.5"x13.4"x5.9"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS



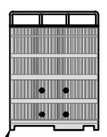
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL
SCALE: N.T.S
2 / A-3



DC SURGE ARRESTOR MOUNTING DETAIL
SCALE: N.T.S
3 / A-3

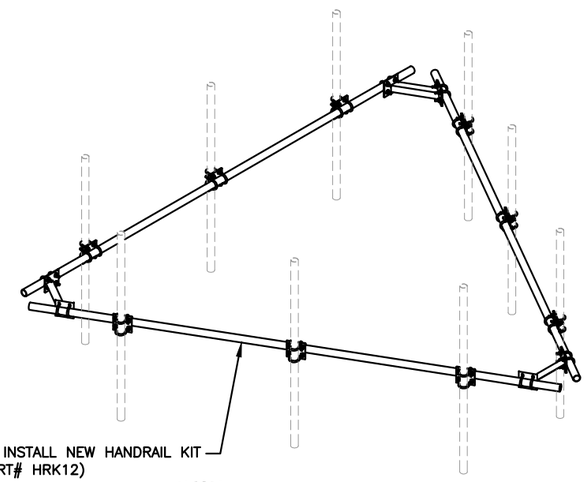
NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL
SCALE: N.T.S
4 / A-3



HANDRAIL KIT DETAIL
SCALE: N.T.S
5 / A-3

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SITE NUMBER: CT5483
SITE NAME: KILLINGLY-DANIELSON

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at&t
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STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

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DETAILS

LTE 3C_4C_5C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5483	A-3	1

NOTE:

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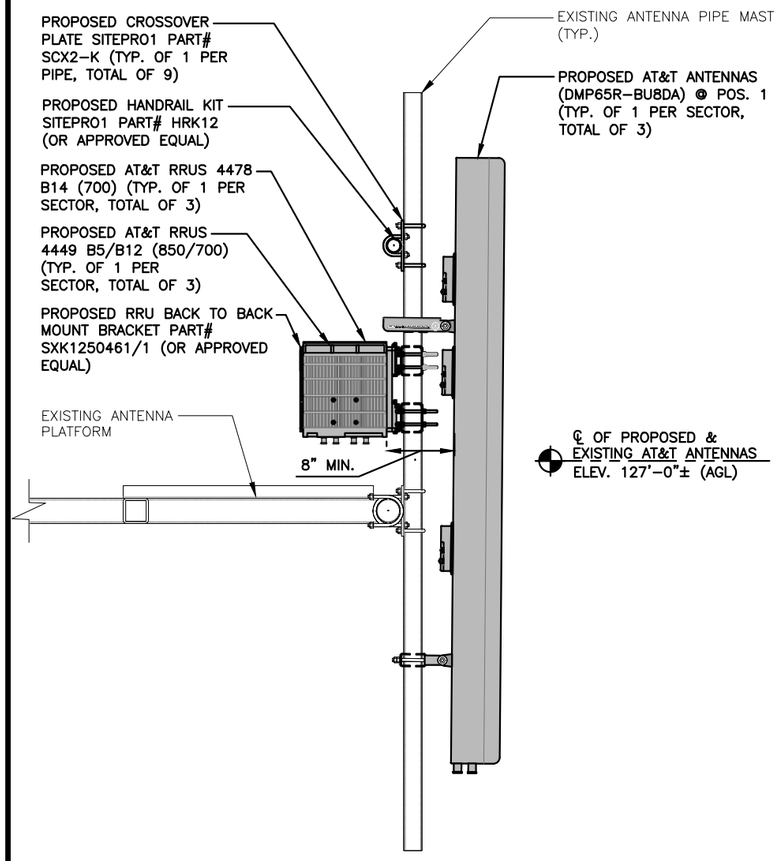
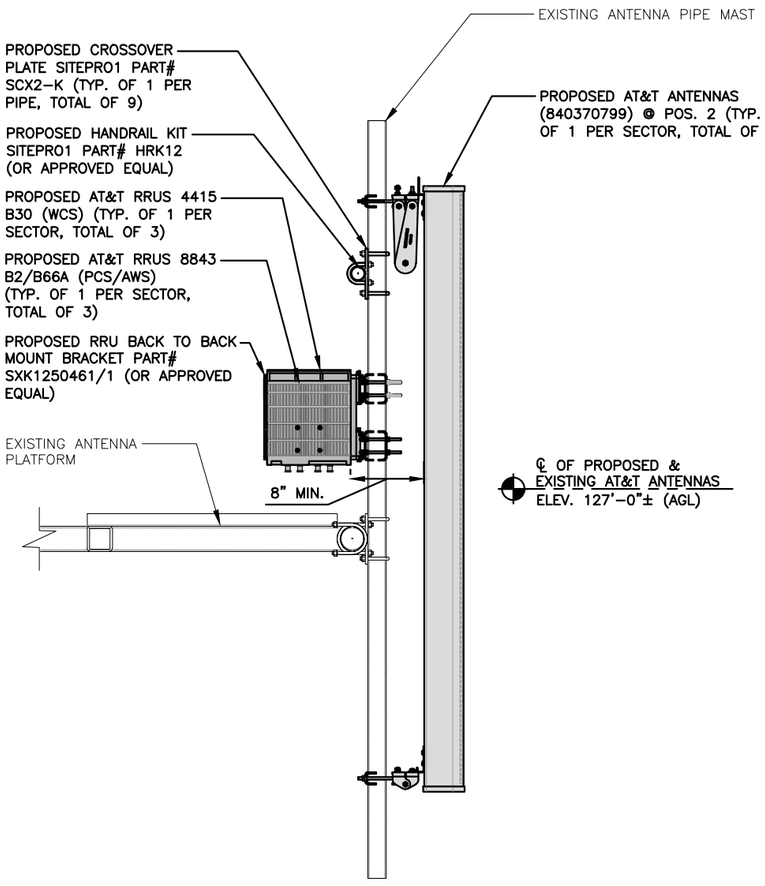


PROPOSED LTE ANTENNA & RRUS MOUNTING DETAIL @ POS. 1
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

1 / A-4

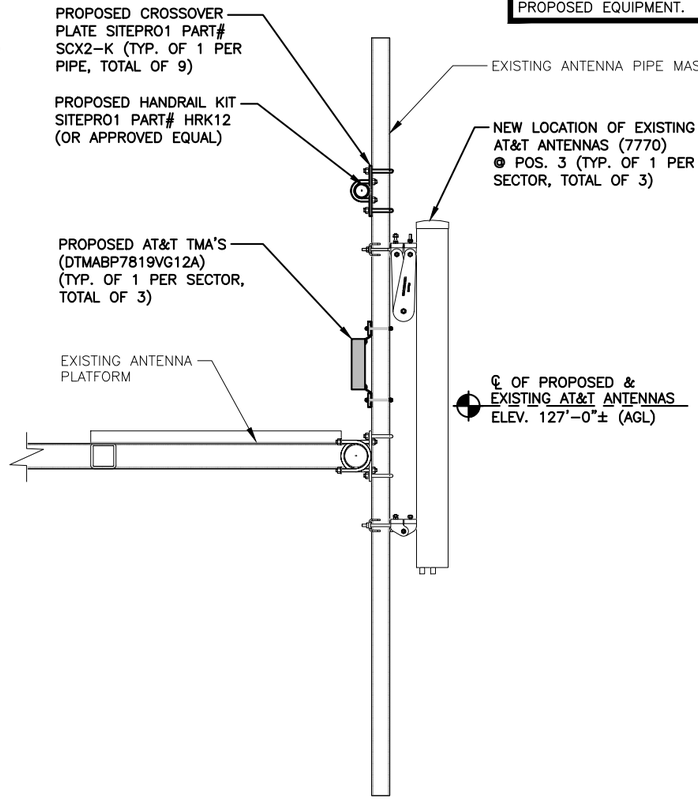
0 0'-6" 1'-0" 2'-0" 3'-0"



PROPOSED LTE ANTENNA & RRUS MOUNTING DETAIL @ POS. 2
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

2 / A-4

0 0'-6" 1'-0" 2'-0" 3'-0"



EXISTING UMTS ANTENNA MOUNTING DETAIL @ POS. 3
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

3 / A-4

0 0'-6" 1'-0" 2'-0" 3'-0"

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STATE OF CONNECTICUT
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LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS

LTE 3C_4C_5C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5483	A-4	1

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

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SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: AM

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

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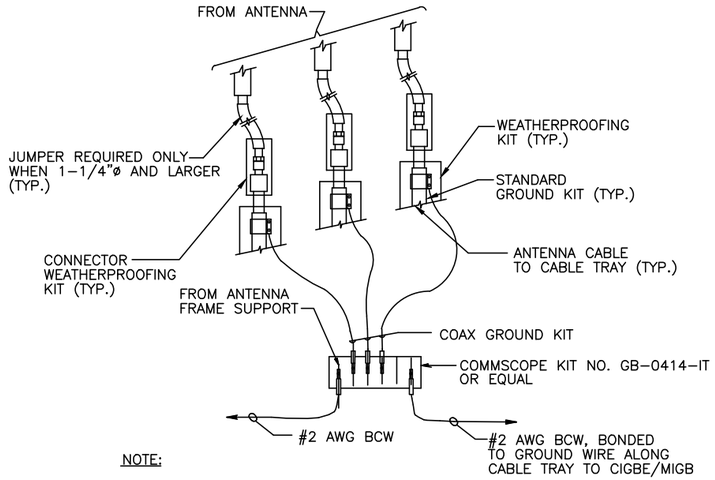
STRUCTURAL NOTES

LTE 3C_4C_5C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5483	SN-1	1



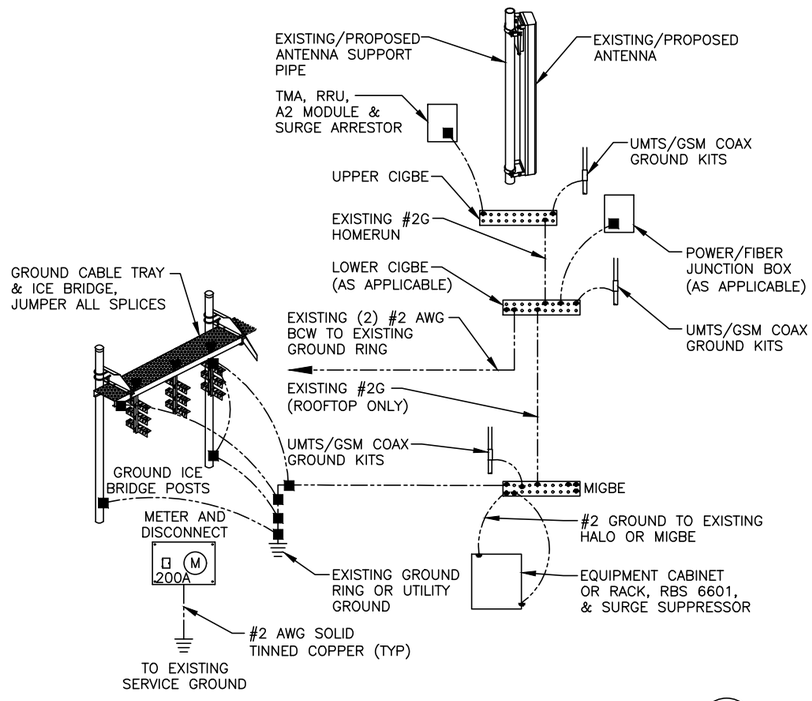
NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

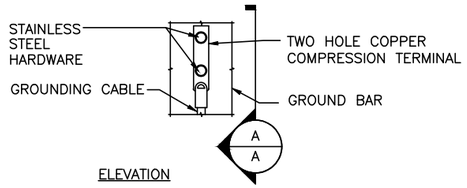
1 / G-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G-1



NOTES:

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

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3 / G-1

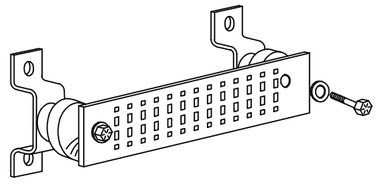
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2 AWG)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2 AWG)
+24V POWER SUPPLY RETURN BAR (#2 AWG)
-48V POWER SUPPLY RETURN BAR (#2 AWG)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2 AWG)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
BUILDING STEEL (IF AVAILABLE) (#2 AWG)



GROUND BAR - DETAIL (AS REQUIRED)

SCALE: N.T.S

4 / G-1

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5483
SITE NAME: KILLINGLY-DANIELSON

246 EAST FRANKLIN STREET
DANIELSON, CT 06239
WINDHAM COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	08/21/20	ISSUED FOR CONSTRUCTION	GA	HC	DPH
0	07/28/20	ISSUED FOR REVIEW	GA	HC	DPH
A	05/15/20	ISSUED FOR REVIEW	AM	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: AM

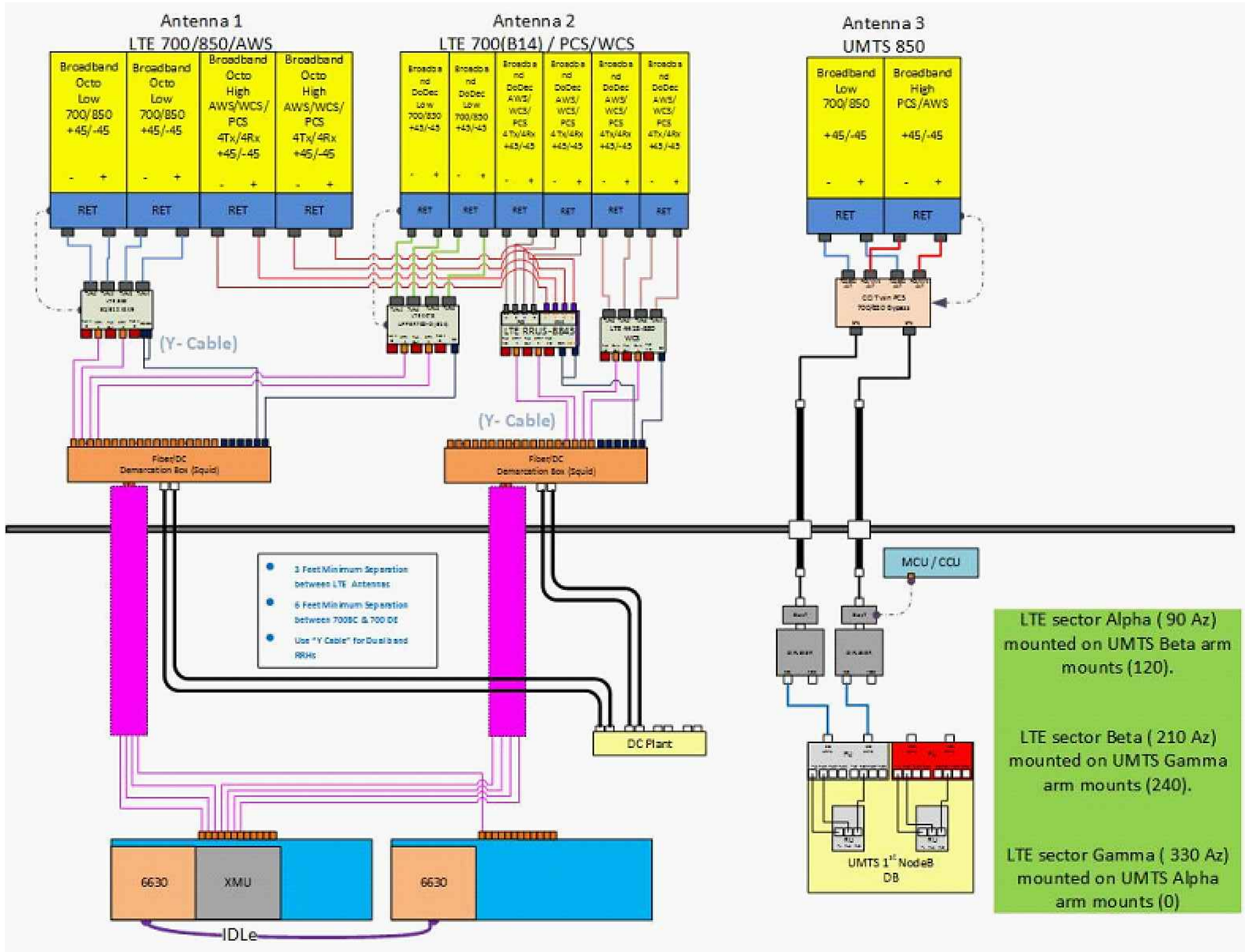
STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS

LTE 3C_4C_5C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5483	G-1	1



RF PLUMBING DIAGRAM (1 / RF–1)
SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

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A	05/15/20	ISSUED FOR REVIEW	AM	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: AM

AT&T

RF PLUMBING DIAGRAM
LTE 3C_4C_5C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5483	RF–1	1

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: AT&T (App#: 132551, V3)

Carrier Site ID / Name: CT5483 / KILLINGLY-DANIELSON

Site Location: 246 East Franklin Street

Danielson, Connecticut

Windham County

Latitude: 41.795822

Longitude: -71.870333

Analysis Result:

Max Structural Usage: 85.9% [Pass]

Max Foundation Usage: 58.0% [Pass]

Additional Usage Caused by Mount Modification: +1.2%

Report Prepared By : Dipika Dhungana

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Analysis Result:

Max Structural Usage: 85.9% [Pass]

Max Foundation Usage: 58.0% [Pass]

Additional Usage Caused by Mount Modification: +1.2%

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

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 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 = 0.62

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			
16	137.0	3	EMS RR90-17-XXDP	(3) T-Arms Ericsson	(6)1-1/4" Coax	T-Mobile
17		3	RFS APX18-206516			
18		3	Ericsson KRY 112 144/2			
-	127.0	6	Powerwave 7770.00 - Panel	Low Profile Platform	(12) 1 5/8" (2) 3/4" DC (1) 7/16" Fiber	AT&T
-		3	CCI HPA-65R-BUU-H8 - Panel			
-		6	Powerwave LGP21401 - TMA			
-		3	Ericsson RRUS 11 - RRU			
-		3	Ericsson RRUS 32 B2 - RRU			
-		6	Powerwave LGP13519 - Diplexer			
-		1	Raycap DC6-48-60-18-8F			

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
19	127.0	3	Powerwave 7770	Low Profile Platform Connect-it Wireless P/N LPPL14-HD-PHK (12)2-1/2'' STD Pipe Mast (1) Handrail kit SitePro1 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
20		3	Cci DMP65R-BU8DA			
21		3	Kathrein 840370799			
22		3	Powerwave DTMABP7819VG12A			
23		6	Powerwave LGP13519 Diplexer			
24		3	Ericsson 4449 B5/B12			
25		3	Ericsson RRUS 4478 B14			
26		3	Ericsson RRUS 8843 B2 B66A			
27		3	Ericsson 4415 B30			
28		1	Raycap DC6-48-60-18-8F			
29		1	Raycap DC9-48-60-24-8C-EV			

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:	**85.9%**	**67.0%**	**66.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4837.1	49.0	82.0

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 ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.9993 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 ANSI/TIA/EIA 222-G 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 EIA/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.

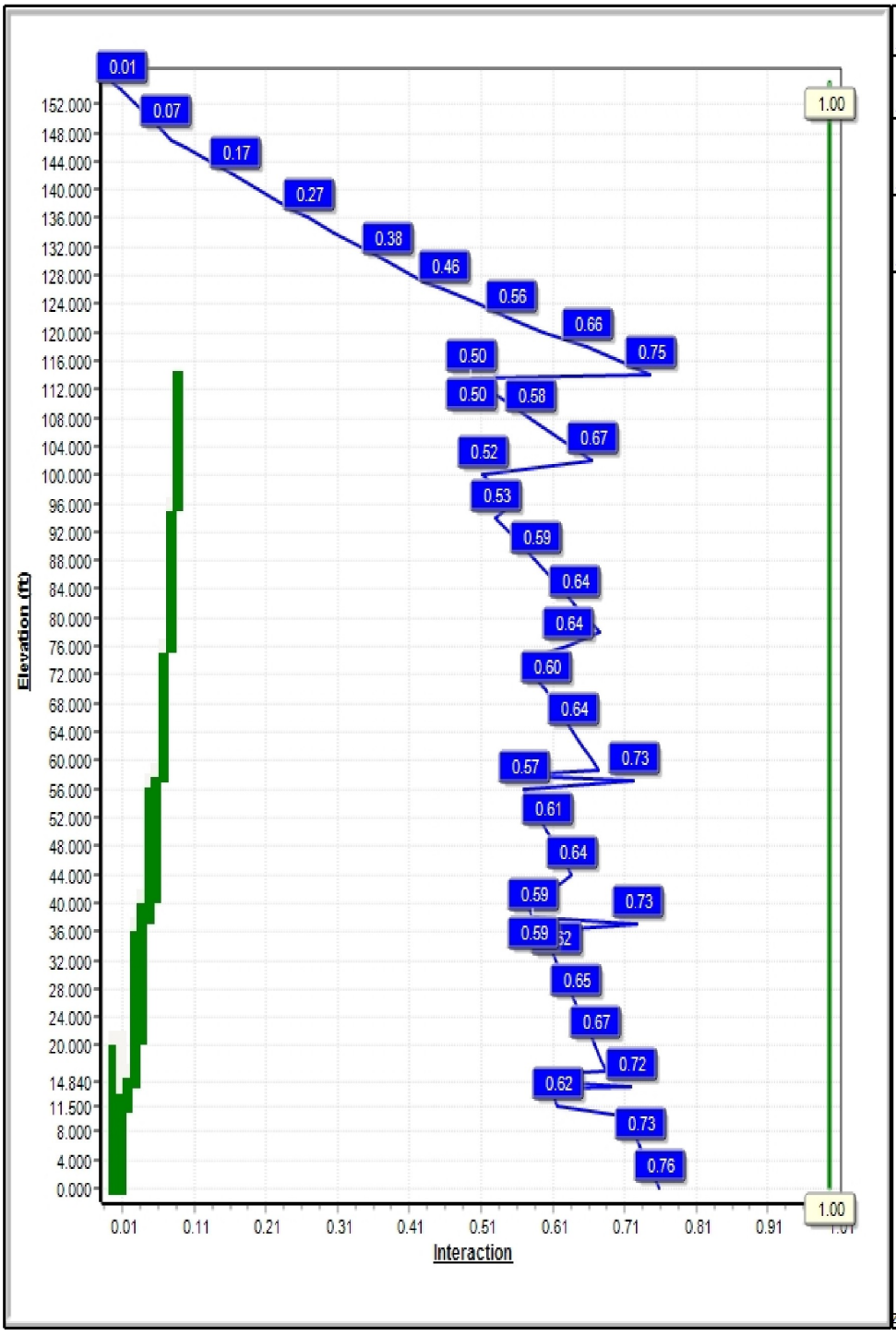
Usage Diagram - Max Ratio 76.17% at 0.0ft

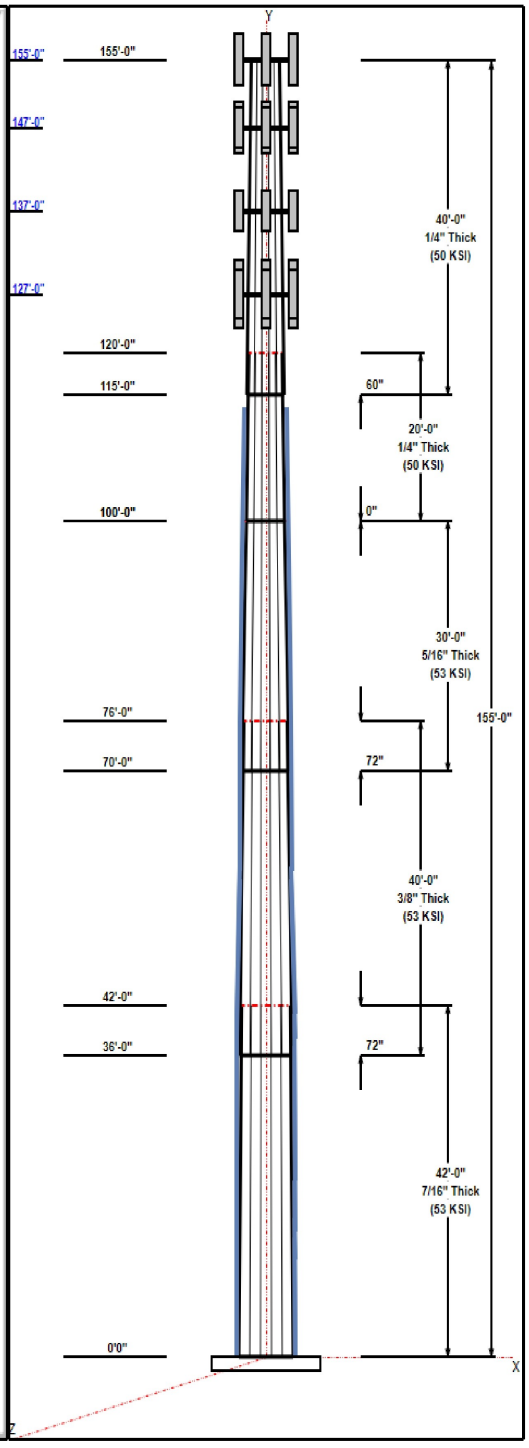
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020
Site Name:	Danielson	**Exposure:**	B	
Height:	155.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

Tower Engineering Solutions

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

7/14/2020

Tower Engineering Solutions

Shaft Properties

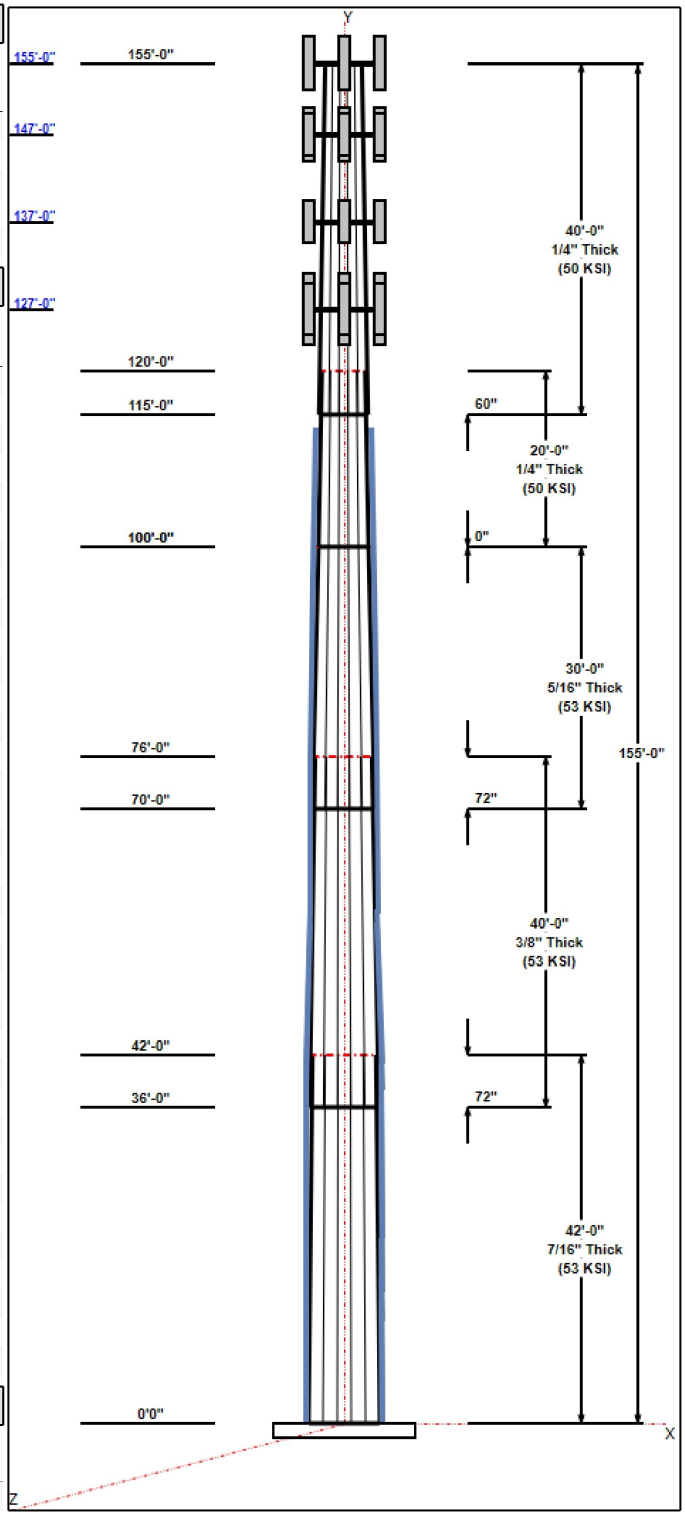
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	42.00	45.87	53.90	0.433		0.19129	53
2	40.00	40.11	47.76	0.375	Slip	0.19129	53
3	30.00	36.15	41.88	0.313	Slip	0.19129	53
4	20.00	32.32	36.15	0.250	Butt	0.19129	50
5	40.00	26.13	33.78	0.250	Slip	0.19129	50

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	3	RR90-17-XXDP	T-Mobile
137.00	137.00	3	APX18-206516S	T-Mobile
137.00	137.00	1	(3) T-Framew/ platform	T-Mobile
127.00	127.00	1	Low Profile	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
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

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
0.00	137.00	Inside	1 1/4" Coax	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

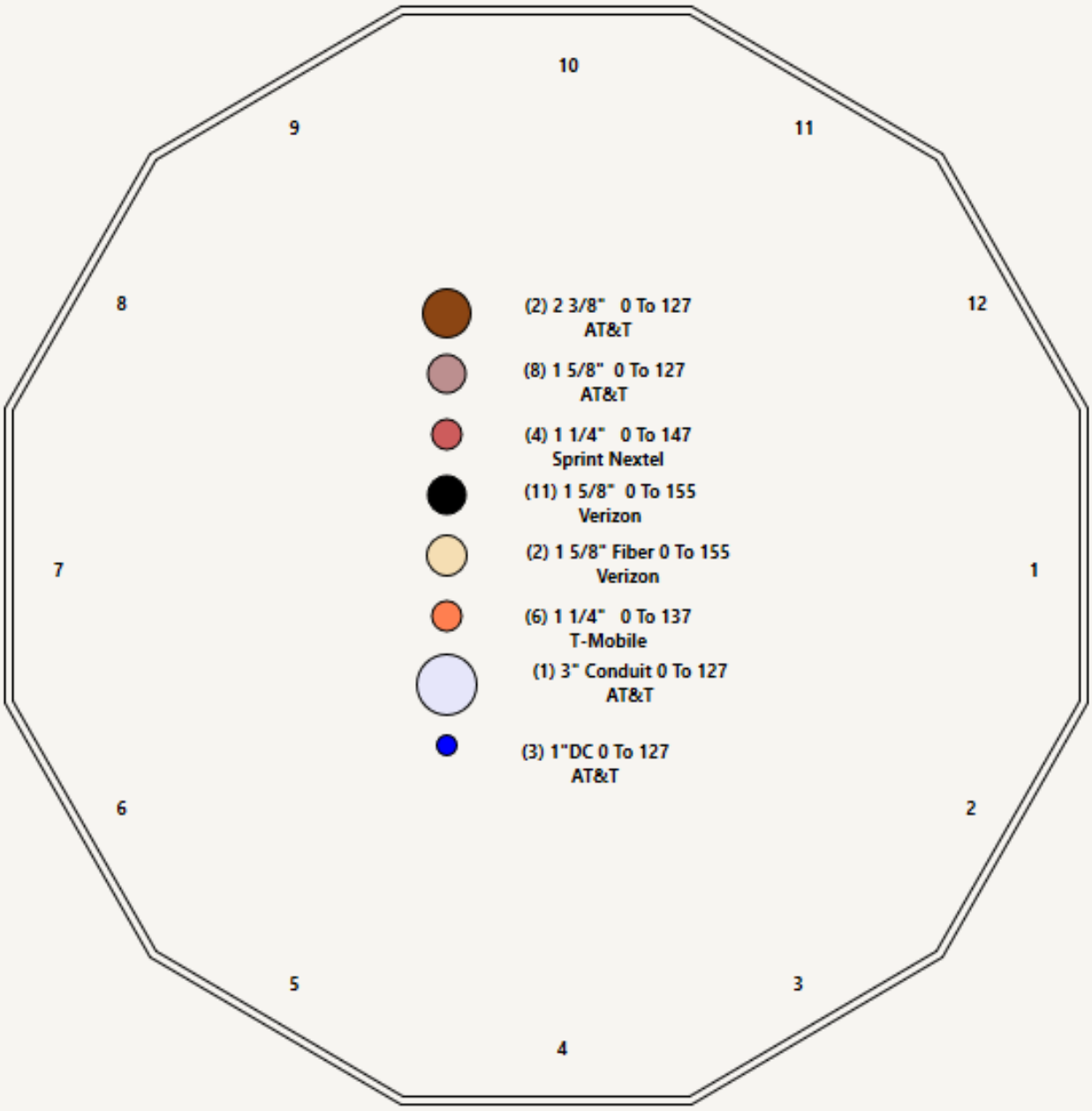
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	4837.1	49.0	49.5
0.9D + 1.6W 101 mph Wind	4801.3	49.0	37.1
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1092.9	10.4	82.0
1.2D + 1.0E	510.6	3.8	49.5
0.9D + 1.0E	506.4	3.8	37.2
1.0D + 1.0W 60 mph Wind	1062.5	10.8	41.3

Structure: CT00302-S-SBA - Coax Line Placement

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

7/14/2020

Tower Engineering Solutions



Shaft Properties

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	7/14/2020
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

Tower Engineering Solutions

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	7/14/2020	
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	

Tower Engineering Solutions

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	808.13	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	RR90-17-XXDP	3	18.00	4.36	0.68	124.13	5.409	0.68	0.00	0.00
21	137.00	APX18-206516S	3	18.70	3.61	0.73	115.01	4.623	0.73	0.00	0.00
22	137.00	(3) T-Framew/ platform	1	1620.00	25.00	1.00	3114.65	46.220	1.00	0.00	0.00
23	127.00	Low Profile Platform-Round	1	1500.00	25.00	1.00	2883.95	46.221	1.00	0.00	0.00
24	127.00	7770.00	3	35.00	5.50	0.73	179.79	6.630	0.73	0.00	0.00
25	127.00	DTMABP7819VG12A	3	19.20	1.14	0.50	46.18	1.954	0.50	0.00	0.00
26	127.00	4449 B5/B12	3	71.00	1.97	0.50	127.44	2.549	0.50	0.00	0.00
27	127.00	RRUS 4478 B14	3	59.40	1.65	0.50	103.24	2.198	0.50	0.00	0.00
28	127.00	DC6-48-60-18-8F	1	31.80	0.92	0.50	97.17	1.383	0.50	0.00	0.00
29	127.00	LGP13519	6	5.30	0.34	0.50	15.34	0.820	0.50	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
		Totals:	**95**	**10,496.83**			**26,888.18**				

Linear Appurtenances

Bottom Elev. (ft)	**Top Elev. (ft)**	**Description**	**Exposed Width**	**Exposed**
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
0.00	137.00	(6) 1 1/4" Coax	0.00	Inside
0.00	127.00	(8) 1 5/8" Coax	0.00	Inside
0.00	127.00	(1) 1"DC	0.00	Inside

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	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	7/14/2020	
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

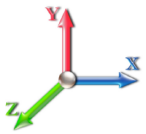
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 10	

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	7/14/2020	
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

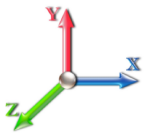
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 12	

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	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
2	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
3	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
4	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
5	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
6	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
7	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
8	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
9	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
10	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
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	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
13	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
14	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
15	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
16	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
17	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
18	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
19	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
20	137.00	(3) T-Framew/ platform	1	32.280	35.508	1.00	1.00	25.00	1944.00	0.000	0.000	1420.33	0.00	0.00
21	137.00	APX18-206516S	3	32.280	35.508	0.58	0.80	6.32	67.32	0.000	0.000	359.33	0.00	0.00
22	137.00	RR90-17-XXDP	3	32.280	35.508	0.54	0.80	7.12	64.80	0.000	0.000	404.26	0.00	0.00
23	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
24	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
25	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
26	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
27	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
28	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
29	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
30	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
31	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
32	127.00	8843 B2 B66A	3	32.281	35.509	0.38	0.75	1.84	252.00	0.000	0.000	104.82	0.00	0.00
33	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
34	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
35	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
							Totals:		**12,596.20**			**18,106.41**		

Total Applied Force Summary

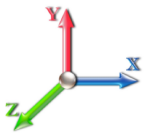
Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	7/14/2020
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 13

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	686.30	0.00	0.00
4.00		595.64	681.94	0.00	0.00
6.00		582.89	677.59	0.00	0.00
8.00		570.52	673.23	0.00	0.00
10.00		558.50	668.87	0.00	0.00
11.50		411.91	498.79	0.00	0.00
12.00		136.33	165.72	0.00	0.00
14.00		535.51	660.16	0.00	0.00
14.16		42.62	52.62	0.00	0.00
14.84		180.04	223.34	0.00	0.00
16.00		303.73	379.83	0.00	0.00
16.50		130.08	163.27	0.00	0.00
18.00		384.98	488.17	0.00	0.00
20.00		503.40	647.09	0.00	0.00
21.00		248.68	321.91	0.00	0.00
22.00		246.17	320.82	0.00	0.00
24.00		483.45	638.37	0.00	0.00
26.00		473.89	634.01	0.00	0.00
28.00		464.58	629.66	0.00	0.00
30.00		455.90	625.30	0.00	0.00
32.00		455.40	620.94	0.00	0.00
34.00		454.44	616.59	0.00	0.00
36.00		453.10	612.23	0.00	0.00
37.06		243.06	569.86	0.00	0.00
37.96		205.96	482.05	0.00	0.00
38.00		9.14	21.39	0.00	0.00
40.00		456.72	1065.16	0.00	0.00
41.00		227.36	529.53	0.00	0.00
42.00		226.80	527.50	0.00	0.00
44.00		452.10	533.65	0.00	0.00
46.00		449.47	529.87	0.00	0.00
48.00		446.67	526.10	0.00	0.00
50.00		443.72	522.33	0.00	0.00
52.00		440.63	518.56	0.00	0.00
54.00		437.43	514.78	0.00	0.00
56.00		434.12	511.01	0.00	0.00
57.11		239.43	281.98	0.00	0.00
58.00		191.20	225.25	0.00	0.00
58.50		107.11	126.22	0.00	0.00
60.00		320.08	377.24	0.00	0.00
62.00		423.70	499.69	0.00	0.00
64.00		420.09	495.92	0.00	0.00
66.00		416.43	492.15	0.00	0.00
68.00		412.73	488.37	0.00	0.00
70.00		409.00	484.60	0.00	0.00
72.00		411.39	820.88	0.00	0.00

Total Applied Force Summary

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	7/14/2020
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	813.97	0.00	0.00
76.00		403.77	807.05	0.00	0.00
78.00		399.93	410.17	0.00	0.00
80.00		396.08	407.02	0.00	0.00
82.00		392.21	403.88	0.00	0.00
84.00		388.34	400.73	0.00	0.00
86.00		384.46	397.59	0.00	0.00
88.00		380.57	394.45	0.00	0.00
90.00		376.68	391.30	0.00	0.00
92.00		372.79	388.16	0.00	0.00
94.00		368.90	385.01	0.00	0.00
96.00		365.01	381.87	0.00	0.00
98.00		361.13	378.73	0.00	0.00
100.00		357.25	375.58	0.00	0.00
102.00		353.38	314.27	0.00	0.00
104.00		349.51	311.75	0.00	0.00
106.00		345.65	309.24	0.00	0.00
108.00		341.80	306.72	0.00	0.00
110.00		337.95	304.21	0.00	0.00
112.00		334.11	301.69	0.00	0.00
113.50		248.08	224.62	0.00	0.00
114.00		82.22	74.56	0.00	0.00
115.00		163.72	148.65	0.00	0.00
116.00		165.21	257.91	0.00	0.00
118.00		327.55	512.04	0.00	0.00
120.00		323.75	507.01	0.00	0.00
122.00		319.95	292.40	0.00	0.00
124.00		316.16	289.89	0.00	0.00
126.00		312.38	287.37	0.00	0.00
127.00	(34) attachments	5662.15	3793.05	0.00	0.00
128.00		153.83	126.63	0.00	0.00
130.00		304.84	251.38	0.00	0.00
132.00		301.09	248.86	0.00	0.00
134.00		297.34	246.35	0.00	0.00
136.00		293.60	243.83	0.00	0.00
137.00	(7) attachments	2329.31	2197.09	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:	**48,996.77**	**49,544.82**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

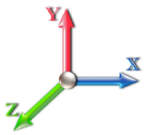
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 15	

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)

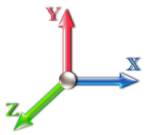
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 16	

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

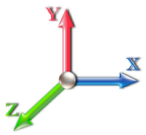
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 17	

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	-49.51	-49.03	0.00	-4837.0	0.00	4837.06	4048.32	2024.16	8933.65	4411.99	0.00	0.000	0.000	0.762
2.00	-48.77	-48.48	0.00	-4739.0	0.00	4739.01	4032.02	2016.01	8833.50	4362.53	0.02	-0.069	0.000	0.753
4.00	-48.03	-47.94	0.00	-4642.0	0.00	4642.06	4015.53	2007.77	8733.46	4313.13	0.06	-0.137	0.000	0.744
6.00	-47.30	-47.41	0.00	-4546.1	0.00	4546.19	3998.87	1999.43	8633.56	4263.79	0.13	-0.206	0.000	0.735
8.00	-46.57	-46.89	0.00	-4451.3	0.00	4451.37	3982.01	1991.01	8533.79	4214.52	0.23	-0.274	0.000	0.726
10.00	-45.86	-46.38	0.00	-4357.6	0.00	4357.60	3964.98	1982.49	8434.18	4165.32	0.36	-0.343	0.000	0.717
11.50	-45.34	-45.99	0.00	-4288.0	0.00	4288.03	3952.09	1976.04	8359.57	4128.48	0.48	-0.394	0.000	0.621
12.00	-45.14	-45.88	0.00	-4265.0	0.00	4265.04	3947.76	1973.88	8334.72	4116.20	0.52	-0.409	0.000	0.619
14.00	-44.46	-45.36	0.00	-4173.2	0.00	4173.28	3930.37	1965.18	8235.42	4067.17	0.71	-0.468	0.000	0.611
14.16	-44.40	-45.33	0.00	-4166.0	0.00	4166.03	3928.97	1964.48	8227.49	4063.25	0.72	-0.473	0.000	0.722
14.84	-44.15	-45.17	0.00	-4135.2	0.00	4135.20	3923.00	1961.50	8193.77	4046.60	0.79	-0.497	0.000	0.608
16.00	-43.75	-44.88	0.00	-4082.8	0.00	4082.80	3912.78	1956.39	8136.31	4018.22	0.92	-0.532	0.000	0.603
16.50	-43.57	-44.78	0.00	-4060.3	0.00	4060.36	3908.36	1954.18	8111.55	4005.99	0.97	-0.547	0.000	0.688
18.00	-43.04	-44.43	0.00	-3993.2	0.00	3993.20	3895.02	1947.51	8037.37	3969.35	1.15	-0.597	0.000	0.682
20.00	-42.36	-43.96	0.00	-3904.3	0.00	3904.34	3877.07	1938.54	7938.63	3920.59	1.42	-0.665	0.000	0.673
21.00	-42.01	-43.73	0.00	-3860.3	0.00	3860.38	3868.03	1934.02	7889.33	3896.24	1.56	-0.699	0.000	0.669
22.00	-41.66	-43.52	0.00	-3816.6	0.00	3816.65	3858.94	1929.47	7840.08	3871.92	1.71	-0.733	0.000	0.664
24.00	-40.97	-43.07	0.00	-3729.6	0.00	3729.61	3840.63	1920.32	7741.75	3823.36	2.03	-0.800	0.000	0.655
26.00	-40.30	-42.64	0.00	-3643.4	0.00	3643.47	3822.14	1911.07	7643.63	3774.90	2.38	-0.867	0.000	0.646
28.00	-39.62	-42.21	0.00	-3558.1	0.00	3558.19	3803.46	1901.73	7545.74	3726.56	2.76	-0.934	0.000	0.637
30.00	-38.96	-41.79	0.00	-3473.7	0.00	3473.78	3784.60	1892.30	7448.09	3678.33	3.17	-1.000	0.000	0.628
32.00	-38.30	-41.37	0.00	-3390.2	0.00	3390.20	3765.56	1882.78	7350.68	3630.22	3.60	-1.067	0.000	0.619
34.00	-37.64	-40.94	0.00	-3307.4	0.00	3307.47	3746.34	1873.17	7253.52	3582.24	4.06	-1.133	0.000	0.610
36.00	-37.01	-40.51	0.00	-3225.5	0.00	3225.59	3726.93	1863.47	7156.62	3534.39	4.55	-1.199	0.000	0.601
37.06	-36.42	-40.28	0.00	-3182.6	0.00	3182.65	3716.57	1858.29	7105.38	3509.08	4.82	-1.234	0.000	0.733
37.96	-35.92	-40.07	0.00	-3146.4	0.00	3146.40	3707.74	1853.87	7061.93	3487.62	5.06	-1.270	0.000	0.586
38.00	-35.88	-40.08	0.00	-3144.7	0.00	3144.79	3707.34	1853.67	7060.00	3486.67	5.07	-1.272	0.000	0.586
40.00	-34.79	-39.63	0.00	-3064.6	0.00	3064.63	3687.57	1843.78	6963.65	3439.09	5.62	-1.336	0.000	0.577
41.00	-34.25	-39.41	0.00	-3024.9	0.00	3024.99	3677.62	1838.81	6915.58	3415.35	5.90	-1.369	0.000	0.572
42.00	-33.69	-39.20	0.00	-2985.5	0.00	2985.58	3033.05	1516.53	5788.55	2858.75	6.19	-1.401	0.000	0.615
44.00	-33.12	-38.77	0.00	-2907.1	0.00	2907.18	3018.90	1509.45	5713.49	2821.68	6.79	-1.465	0.000	0.640
46.00	-32.56	-38.35	0.00	-2829.6	0.00	2829.63	3004.56	1502.28	5638.53	2784.66	7.42	-1.533	0.000	0.629
48.00	-32.00	-37.93	0.00	-2752.9	0.00	2752.94	2990.04	1495.02	5563.69	2747.70	8.08	-1.600	0.000	0.618
50.00	-31.45	-37.50	0.00	-2677.0	0.00	2677.09	2975.34	1487.67	5488.97	2710.80	8.76	-1.666	0.000	0.607
52.00	-30.90	-37.08	0.00	-2602.0	0.00	2602.08	2960.46	1480.23	5414.39	2673.96	9.47	-1.733	0.000	0.596
54.00	-30.36	-36.67	0.00	-2527.9	0.00	2527.91	2945.39	1472.69	5339.95	2637.20	10.21	-1.798	0.000	0.584
56.00	-29.83	-36.24	0.00	-2454.5	0.00	2454.58	2930.14	1465.07	5265.67	2600.52	10.98	-1.864	0.000	0.573
57.11	-29.53	-36.01	0.00	-2414.3	0.00	2414.36	2921.60	1460.80	5224.51	2580.19	11.42	-1.900	0.000	0.727
58.00	-29.30	-35.83	0.00	-2382.3	0.00	2382.31	2914.71	1457.35	5191.54	2563.91	11.78	-1.937	0.000	0.558
58.50	-29.15	-35.73	0.00	-2364.3	0.00	2364.39	2910.82	1455.41	5173.04	2554.77	11.98	-1.953	0.000	0.678
60.00	-28.74	-35.44	0.00	-2310.7	0.00	2310.79	2899.09	1449.55	5117.58	2527.38	12.60	-2.012	0.000	0.668
62.00	-28.21	-35.03	0.00	-2239.9	0.00	2239.92	2883.30	1441.65	5043.81	2490.95	13.46	-2.089	0.000	0.655
64.00	-27.69	-34.63	0.00	-2169.8	0.00	2169.86	2867.32	1433.66	4970.21	2454.60	14.36	-2.166	0.000	0.643
66.00	-27.17	-34.23	0.00	-2100.6	0.00	2100.60	2851.15	1425.58	4896.82	2418.35	15.28	-2.242	0.000	0.630
68.00	-26.65	-33.84	0.00	-2032.1	0.00	2032.13	2834.81	1417.40	4823.62	2382.21	16.24	-2.318	0.000	0.617
70.00	-26.14	-33.44	0.00	-1964.4	0.00	1964.46	2818.28	1409.14	4750.64	2346.16	17.22	-2.393	0.000	0.604
72.00	-25.29	-33.03	0.00	-1897.5	0.00	1897.58	2801.57	1400.79	4677.88	2310.23	18.24	-2.467	0.000	0.585
74.00	-24.46	-32.62	0.00	-1831.5	0.00	1831.53	2784.68	1392.34	4605.35	2274.41	19.29	-2.540	0.000	0.572

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
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

Tower Engineering Solutions

76.00	-23.63	-32.21	0.00	-1766.3	0.00	1766.30	2161.97	1080.98	3608.45	1782.08	20.37	-2.612	0.000	0.635
78.00	-23.19	-31.82	0.00	-1701.8	0.00	1701.89	2151.06	1075.53	3556.01	1756.18	21.48	-2.686	0.000	0.679
80.00	-22.76	-31.44	0.00	-1638.2	0.00	1638.25	2139.97	1069.98	3503.61	1730.30	22.62	-2.766	0.000	0.662
82.00	-22.34	-31.05	0.00	-1575.3	0.00	1575.38	2128.69	1064.35	3451.27	1704.45	23.80	-2.844	0.000	0.644
84.00	-21.91	-30.68	0.00	-1513.2	0.00	1513.27	2117.24	1058.62	3398.99	1678.63	25.01	-2.922	0.000	0.626
86.00	-21.50	-30.30	0.00	-1451.9	0.00	1451.92	2105.60	1052.80	3346.79	1652.86	26.25	-2.999	0.000	0.608
88.00	-21.08	-29.93	0.00	-1391.3	0.00	1391.32	2093.78	1046.89	3294.68	1627.12	27.52	-3.074	0.000	0.590
90.00	-20.68	-29.56	0.00	-1331.4	0.00	1331.47	2081.77	1040.89	3242.65	1601.42	28.82	-3.148	0.000	0.572
92.00	-20.27	-29.19	0.00	-1272.3	0.00	1272.36	2069.59	1034.79	3190.73	1575.78	30.16	-3.221	0.000	0.553
94.00	-19.87	-28.82	0.00	-1213.9	0.00	1213.98	2057.22	1028.61	3138.91	1550.19	31.52	-3.292	0.000	0.535
96.00	-19.48	-28.46	0.00	-1156.3	0.00	1156.34	2044.67	1022.33	3087.22	1524.66	32.92	-3.362	0.000	0.557
98.00	-19.09	-28.10	0.00	-1099.4	0.00	1099.42	2031.93	1015.97	3035.65	1499.19	34.34	-3.436	0.000	0.537
100.00	-18.70	-27.75	0.00	-1043.2	0.00	1043.22	2019.02	1009.51	2984.22	1473.79	35.79	-3.508	0.000	0.517
100.00	-18.70	-27.75	0.00	-1043.2	0.00	1043.22	1394.49	697.25	2068.33	1021.47	35.79	-3.508	0.000	0.601
102.00	-18.37	-27.40	0.00	-987.73	0.00	987.73	1387.39	693.70	2035.72	1005.36	37.28	-3.578	0.000	0.670
104.00	-18.04	-27.05	0.00	-932.93	0.00	932.93	1380.13	690.06	2003.09	989.25	38.79	-3.658	0.000	0.641
106.00	-17.72	-26.71	0.00	-878.83	0.00	878.83	1372.69	686.35	1970.45	973.13	40.34	-3.735	0.000	0.612
108.00	-17.41	-26.37	0.00	-825.40	0.00	825.40	1365.09	682.55	1937.81	957.01	41.92	-3.810	0.000	0.582
110.00	-17.09	-26.04	0.00	-772.66	0.00	772.66	1357.32	678.66	1905.17	940.89	43.53	-3.883	0.000	0.552
112.00	-16.79	-25.70	0.00	-720.58	0.00	720.58	1349.39	674.69	1872.56	924.79	45.17	-3.952	0.000	0.522
113.50	-16.57	-25.45	0.00	-682.03	0.00	682.03	1343.33	671.66	1848.11	912.71	46.42	-4.003	0.000	0.500
113.50	-16.57	-25.45	0.00	-682.03	0.00	682.03	1343.33	671.66	1848.11	912.71	46.42	-4.003	0.000	0.500
114.00	-16.48	-25.37	0.00	-669.31	0.00	669.31	1341.28	670.64	1839.96	908.69	46.84	-4.019	0.000	0.750
115.00	-16.32	-25.21	0.00	-643.94	0.00	643.94	1337.17	668.58	1823.68	900.65	47.69	-4.069	0.000	0.729
116.00	-16.05	-25.05	0.00	-618.73	0.00	618.73	1333.01	666.51	1807.40	892.61	48.55	-4.117	0.000	0.707
118.00	-15.52	-24.71	0.00	-568.64	0.00	568.64	1324.58	662.29	1774.88	876.54	50.29	-4.210	0.000	0.662
120.00	-15.00	-24.37	0.00	-519.22	0.00	519.22	1327.18	663.59	1784.85	881.47	52.08	-4.298	0.000	0.602
122.00	-14.70	-24.05	0.00	-470.49	0.00	470.49	1318.63	659.32	1752.36	865.43	53.89	-4.382	0.000	0.556
124.00	-14.41	-23.73	0.00	-422.39	0.00	422.39	1309.91	654.95	1719.92	849.40	55.74	-4.456	0.000	0.510
126.00	-14.13	-23.41	0.00	-374.93	0.00	374.93	1301.02	650.51	1687.54	833.41	57.62	-4.524	0.000	0.462
127.00	-10.78	-17.47	0.00	-351.53	0.00	351.53	1296.51	648.26	1671.38	825.43	58.58	-4.557	0.000	0.435
128.00	-10.66	-17.31	0.00	-334.06	0.00	334.06	1291.97	645.98	1655.23	817.46	59.53	-4.588	0.000	0.418
130.00	-10.41	-17.00	0.00	-299.43	0.00	299.43	1282.74	641.37	1623.00	801.54	61.47	-4.647	0.000	0.382
132.00	-10.18	-16.69	0.00	-265.43	0.00	265.43	1273.35	636.68	1590.85	785.66	63.42	-4.701	0.000	0.347
134.00	-9.94	-16.38	0.00	-232.05	0.00	232.05	1263.80	631.90	1558.80	769.83	65.40	-4.750	0.000	0.310
136.00	-9.71	-16.07	0.00	-199.29	0.00	199.29	1254.07	627.04	1526.84	754.05	67.40	-4.795	0.000	0.273
137.00	-7.71	-13.57	0.00	-183.22	0.00	183.22	1249.15	624.57	1510.90	746.18	68.41	-4.816	0.000	0.252
138.00	-7.60	-13.42	0.00	-169.65	0.00	169.65	1244.18	622.09	1494.99	738.32	69.42	-4.835	0.000	0.236
140.00	-7.39	-13.12	0.00	-142.81	0.00	142.81	1234.12	617.06	1463.26	722.65	71.45	-4.870	0.000	0.204
142.00	-7.18	-12.82	0.00	-116.57	0.00	116.57	1223.90	611.95	1431.66	707.04	73.49	-4.900	0.000	0.171
144.00	-6.98	-12.53	0.00	-90.92	0.00	90.92	1213.50	606.75	1400.19	691.50	75.55	-4.926	0.000	0.138
146.00	-6.78	-12.24	0.00	-65.87	0.00	65.87	1202.94	601.47	1368.85	676.02	77.61	-4.945	0.000	0.103
147.00	-3.26	-7.15	0.00	-53.63	0.00	53.63	1197.60	598.80	1353.24	668.32	78.65	-4.953	0.000	0.083
148.00	-3.16	-7.00	0.00	-46.48	0.00	46.48	1192.22	596.11	1337.67	660.62	79.69	-4.960	0.000	0.073
150.00	-2.97	-6.72	0.00	-32.48	0.00	32.48	1181.32	590.66	1306.64	645.30	81.77	-4.971	0.000	0.053
152.00	-2.79	-6.44	0.00	-19.04	0.00	19.04	1170.26	585.13	1275.78	630.06	83.85	-4.978	0.000	0.033
154.00	-2.61	-6.16	0.00	-6.16	0.00	6.16	1159.03	579.51	1245.09	614.90	85.93	-4.982	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	86.97	-4.983	0.000	0.000

Wind Loading - Shaft

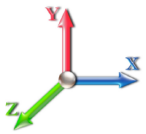
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 19	

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	7/14/2020	
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

TES Tower Engineering Solutions

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	7/14/2020	
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	

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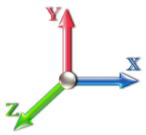
Load Case: 0.9D + 1.6W 101 mph Wind

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	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
2	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
3	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
4	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
5	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
6	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
7	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
8	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
9	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
10	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
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	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
13	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
14	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
15	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
16	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
17	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
18	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
19	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
20	137.00	(3) T-Framew/ platform	1	32.280	35.508	1.00	1.00	25.00	1458.00	0.000	0.000	1420.33	0.00	0.00
21	137.00	APX18-206516S	3	32.280	35.508	0.58	0.80	6.32	50.49	0.000	0.000	359.33	0.00	0.00
22	137.00	RR90-17-XXDP	3	32.280	35.508	0.54	0.80	7.12	48.60	0.000	0.000	404.26	0.00	0.00
23	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
24	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
25	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
26	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
27	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
28	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
29	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
30	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
31	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
32	127.00	8843 B2 B66A	3	32.281	35.509	0.38	0.75	1.84	189.00	0.000	0.000	104.82	0.00	0.00
33	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
34	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
35	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
							Totals:		**9,447.15**			**18,106.41**		

Total Applied Force Summary

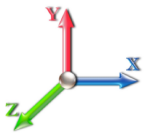
Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	7/14/2020
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 22

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	514.73	0.00	0.00
4.00		595.64	511.46	0.00	0.00
6.00		582.89	508.19	0.00	0.00
8.00		570.52	504.92	0.00	0.00
10.00		558.50	501.65	0.00	0.00
11.50		411.91	374.10	0.00	0.00
12.00		136.33	124.29	0.00	0.00
14.00		535.51	495.12	0.00	0.00
14.16		42.62	39.47	0.00	0.00
14.84		180.04	167.51	0.00	0.00
16.00		303.73	284.88	0.00	0.00
16.50		130.08	122.45	0.00	0.00
18.00		384.98	366.13	0.00	0.00
20.00		503.40	485.31	0.00	0.00
21.00		248.68	241.43	0.00	0.00
22.00		246.17	240.61	0.00	0.00
24.00		483.45	478.78	0.00	0.00
26.00		473.89	475.51	0.00	0.00
28.00		464.58	472.24	0.00	0.00
30.00		455.90	468.97	0.00	0.00
32.00		455.40	465.71	0.00	0.00
34.00		454.44	462.44	0.00	0.00
36.00		453.10	459.17	0.00	0.00
37.06		243.06	427.39	0.00	0.00
37.96		205.96	361.54	0.00	0.00
38.00		9.14	16.04	0.00	0.00
40.00		456.72	798.87	0.00	0.00
41.00		227.36	397.15	0.00	0.00
42.00		226.80	395.63	0.00	0.00
44.00		452.10	400.23	0.00	0.00
46.00		449.47	397.41	0.00	0.00
48.00		446.67	394.58	0.00	0.00
50.00		443.72	391.75	0.00	0.00
52.00		440.63	388.92	0.00	0.00
54.00		437.43	386.09	0.00	0.00
56.00		434.12	383.26	0.00	0.00
57.11		239.43	211.49	0.00	0.00
58.00		191.20	168.94	0.00	0.00
58.50		107.11	94.66	0.00	0.00
60.00		320.08	282.93	0.00	0.00
62.00		423.70	374.77	0.00	0.00
64.00		420.09	371.94	0.00	0.00
66.00		416.43	369.11	0.00	0.00
68.00		412.73	366.28	0.00	0.00
70.00		409.00	363.45	0.00	0.00
72.00		411.39	615.66	0.00	0.00

Total Applied Force Summary

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	7/14/2020
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	610.48	0.00	0.00
76.00		403.77	605.29	0.00	0.00
78.00		399.93	307.62	0.00	0.00
80.00		396.08	305.27	0.00	0.00
82.00		392.21	302.91	0.00	0.00
84.00		388.34	300.55	0.00	0.00
86.00		384.46	298.19	0.00	0.00
88.00		380.57	295.83	0.00	0.00
90.00		376.68	293.48	0.00	0.00
92.00		372.79	291.12	0.00	0.00
94.00		368.90	288.76	0.00	0.00
96.00		365.01	286.40	0.00	0.00
98.00		361.13	284.04	0.00	0.00
100.00		357.25	281.69	0.00	0.00
102.00		353.38	235.70	0.00	0.00
104.00		349.51	233.82	0.00	0.00
106.00		345.65	231.93	0.00	0.00
108.00		341.80	230.04	0.00	0.00
110.00		337.95	228.16	0.00	0.00
112.00		334.11	226.27	0.00	0.00
113.50		248.08	168.46	0.00	0.00
114.00		82.22	55.92	0.00	0.00
115.00		163.72	111.48	0.00	0.00
116.00		165.21	193.43	0.00	0.00
118.00		327.55	384.03	0.00	0.00
120.00		323.75	380.26	0.00	0.00
122.00		319.95	219.30	0.00	0.00
124.00		316.16	217.42	0.00	0.00
126.00		312.38	215.53	0.00	0.00
127.00	(34) attachments	5662.15	2844.79	0.00	0.00
128.00		153.83	94.97	0.00	0.00
130.00		304.84	188.53	0.00	0.00
132.00		301.09	186.65	0.00	0.00
134.00		297.34	184.76	0.00	0.00
136.00		293.60	182.88	0.00	0.00
137.00	(7) attachments	2329.31	1647.82	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:	**48,996.77**	**37,158.62**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

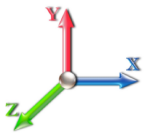
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 24	

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)

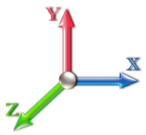
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 25	

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

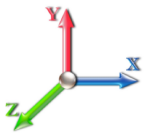
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 26	

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	-37.13	-49.02	0.00	-4801.3	0.00	4801.32	4048.32	2024.16	8933.65	4411.99	0.00	0.000	0.000	0.754
2.00	-36.56	-48.45	0.00	-4703.2	0.00	4703.28	4032.02	2016.01	8833.50	4362.53	0.02	-0.068	0.000	0.745
4.00	-35.99	-47.90	0.00	-4606.3	0.00	4606.38	4015.53	2007.77	8733.46	4313.13	0.06	-0.136	0.000	0.736
6.00	-35.43	-47.36	0.00	-4510.5	0.00	4510.58	3998.87	1999.43	8633.56	4263.79	0.13	-0.204	0.000	0.727
8.00	-34.87	-46.83	0.00	-4415.8	0.00	4415.87	3982.01	1991.01	8533.79	4214.52	0.23	-0.272	0.000	0.718
10.00	-34.32	-46.30	0.00	-4322.2	0.00	4322.22	3964.98	1982.49	8434.18	4165.32	0.36	-0.340	0.000	0.710
11.50	-33.92	-45.90	0.00	-4252.7	0.00	4252.77	3952.09	1976.04	8359.57	4128.48	0.48	-0.391	0.000	0.614
12.00	-33.77	-45.79	0.00	-4229.8	0.00	4229.82	3947.76	1973.88	8334.72	4116.20	0.52	-0.406	0.000	0.612
14.00	-33.25	-45.27	0.00	-4138.2	0.00	4138.24	3930.37	1965.18	8235.42	4067.17	0.70	-0.465	0.000	0.604
14.16	-33.20	-45.23	0.00	-4131.0	0.00	4131.00	3928.97	1964.48	8227.49	4063.25	0.72	-0.469	0.000	0.714
14.84	-33.02	-45.07	0.00	-4100.2	0.00	4100.24	3923.00	1961.50	8193.77	4046.60	0.79	-0.493	0.000	0.601
16.00	-32.71	-44.78	0.00	-4047.9	0.00	4047.96	3912.78	1956.39	8136.31	4018.22	0.91	-0.527	0.000	0.596
16.50	-32.57	-44.66	0.00	-4025.5	0.00	4025.57	3908.36	1954.18	8111.55	4005.99	0.97	-0.542	0.000	0.681
18.00	-32.16	-44.31	0.00	-3958.5	0.00	3958.58	3895.02	1947.51	8037.37	3969.35	1.14	-0.593	0.000	0.674
20.00	-31.64	-43.83	0.00	-3869.9	0.00	3869.96	3877.07	1938.54	7938.63	3920.59	1.41	-0.660	0.000	0.665
21.00	-31.38	-43.59	0.00	-3826.1	0.00	3826.13	3868.03	1934.02	7889.33	3896.24	1.55	-0.693	0.000	0.661
22.00	-31.10	-43.37	0.00	-3782.5	0.00	3782.54	3858.94	1929.47	7840.08	3871.92	1.70	-0.727	0.000	0.656
24.00	-30.58	-42.92	0.00	-3695.7	0.00	3695.79	3840.63	1920.32	7741.75	3823.36	2.02	-0.793	0.000	0.648
26.00	-30.06	-42.47	0.00	-3609.9	0.00	3609.96	3822.14	1911.07	7643.63	3774.90	2.36	-0.860	0.000	0.639
28.00	-29.55	-42.03	0.00	-3525.0	0.00	3525.01	3803.46	1901.73	7545.74	3726.56	2.74	-0.926	0.000	0.630
30.00	-29.04	-41.60	0.00	-3440.9	0.00	3440.95	3784.60	1892.30	7448.09	3678.33	3.14	-0.992	0.000	0.621
32.00	-28.54	-41.17	0.00	-3357.7	0.00	3357.74	3765.56	1882.78	7350.68	3630.22	3.57	-1.058	0.000	0.612
34.00	-28.04	-40.74	0.00	-3275.3	0.00	3275.39	3746.34	1873.17	7253.52	3582.24	4.03	-1.123	0.000	0.603
36.00	-27.55	-40.30	0.00	-3193.9	0.00	3193.91	3726.93	1863.47	7156.62	3534.39	4.51	-1.189	0.000	0.594
37.06	-27.10	-40.07	0.00	-3151.1	0.00	3151.19	3716.57	1858.29	7105.38	3509.08	4.78	-1.223	0.000	0.724
37.96	-26.73	-39.86	0.00	-3115.1	0.00	3115.12	3707.74	1853.87	7061.93	3487.62	5.02	-1.259	0.000	0.579
38.00	-26.69	-39.87	0.00	-3113.5	0.00	3113.53	3707.34	1853.67	7060.00	3486.67	5.03	-1.261	0.000	0.579
40.00	-25.87	-39.42	0.00	-3033.7	0.00	3033.79	3687.57	1843.78	6963.65	3439.09	5.57	-1.325	0.000	0.570
41.00	-25.46	-39.19	0.00	-2994.3	0.00	2994.38	3677.62	1838.81	6915.58	3415.35	5.85	-1.357	0.000	0.565
42.00	-25.04	-38.98	0.00	-2955.1	0.00	2955.18	3033.05	1516.53	5788.55	2858.75	6.14	-1.389	0.000	0.607
44.00	-24.60	-38.54	0.00	-2877.2	0.00	2877.23	3018.90	1509.45	5713.49	2821.68	6.73	-1.452	0.000	0.632
46.00	-24.17	-38.11	0.00	-2800.1	0.00	2800.14	3004.56	1502.28	5638.53	2784.66	7.36	-1.519	0.000	0.621
48.00	-23.75	-37.68	0.00	-2723.9	0.00	2723.91	2990.04	1495.02	5563.69	2747.70	8.01	-1.585	0.000	0.610
50.00	-23.33	-37.26	0.00	-2648.5	0.00	2648.54	2975.34	1487.67	5488.97	2710.80	8.69	-1.651	0.000	0.599
52.00	-22.91	-36.83	0.00	-2574.0	0.00	2574.03	2960.46	1480.23	5414.39	2673.96	9.39	-1.717	0.000	0.588
54.00	-22.50	-36.41	0.00	-2500.3	0.00	2500.37	2945.39	1472.69	5339.95	2637.20	10.13	-1.782	0.000	0.576
56.00	-22.09	-35.98	0.00	-2427.5	0.00	2427.56	2930.14	1465.07	5265.67	2600.52	10.89	-1.846	0.000	0.565
57.11	-21.87	-35.75	0.00	-2387.6	0.00	2387.62	2921.60	1460.80	5224.51	2580.19	11.32	-1.882	0.000	0.717
58.00	-21.69	-35.56	0.00	-2355.8	0.00	2355.81	2914.71	1457.35	5191.54	2563.91	11.67	-1.919	0.000	0.550
58.50	-21.58	-35.46	0.00	-2338.0	0.00	2338.03	2910.82	1455.41	5173.04	2554.77	11.88	-1.935	0.000	0.668
60.00	-21.26	-35.16	0.00	-2284.8	0.00	2284.83	2899.09	1449.55	5117.58	2527.38	12.49	-1.993	0.000	0.659
62.00	-20.86	-34.75	0.00	-2214.5	0.00	2214.51	2883.30	1441.65	5043.81	2490.95	13.35	-2.069	0.000	0.646
64.00	-20.46	-34.34	0.00	-2145.0	0.00	2145.01	2867.32	1433.66	4970.21	2454.60	14.23	-2.145	0.000	0.634
66.00	-20.06	-33.94	0.00	-2076.3	0.00	2076.32	2851.15	1425.58	4896.82	2418.35	15.14	-2.221	0.000	0.621
68.00	-19.66	-33.54	0.00	-2008.4	0.00	2008.44	2834.81	1417.40	4823.62	2382.21	16.09	-2.296	0.000	0.608
70.00	-19.28	-33.14	0.00	-1941.3	0.00	1941.36	2818.28	1409.14	4750.64	2346.16	17.07	-2.370	0.000	0.595
72.00	-18.64	-32.73	0.00	-1875.0	0.00	1875.08	2801.57	1400.79	4677.88	2310.23	18.08	-2.443	0.000	0.577
74.00	-18.00	-32.32	0.00	-1809.6	0.00	1809.63	2784.68	1392.34	4605.35	2274.41	19.12	-2.515	0.000	0.564

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
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	-17.38	-31.91	0.00	-1744.9	0.00	1744.99	2161.97	1080.98	3608.45	1782.08	20.18	-2.586	0.000	0.626
78.00	-17.05	-31.52	0.00	-1681.1	0.00	1681.18	2151.06	1075.53	3556.01	1756.18	21.28	-2.659	0.000	0.669
80.00	-16.72	-31.13	0.00	-1618.1	0.00	1618.14	2139.97	1069.98	3503.61	1730.30	22.41	-2.738	0.000	0.652
82.00	-16.39	-30.75	0.00	-1555.8	0.00	1555.88	2128.69	1064.35	3451.27	1704.45	23.58	-2.816	0.000	0.634
84.00	-16.07	-30.36	0.00	-1494.3	0.00	1494.39	2117.24	1058.62	3398.99	1678.63	24.77	-2.892	0.000	0.616
86.00	-15.75	-29.99	0.00	-1433.6	0.00	1433.66	2105.60	1052.80	3346.79	1652.86	26.00	-2.968	0.000	0.599
88.00	-15.44	-29.61	0.00	-1373.6	0.00	1373.69	2093.78	1046.89	3294.68	1627.12	27.26	-3.042	0.000	0.581
90.00	-15.13	-29.24	0.00	-1314.4	0.00	1314.47	2081.77	1040.89	3242.65	1601.42	28.55	-3.115	0.000	0.563
92.00	-14.82	-28.87	0.00	-1256.0	0.00	1256.00	2069.59	1034.79	3190.73	1575.78	29.87	-3.187	0.000	0.545
94.00	-14.52	-28.50	0.00	-1198.2	0.00	1198.26	2057.22	1028.61	3138.91	1550.19	31.22	-3.258	0.000	0.526
96.00	-14.22	-28.14	0.00	-1141.2	0.00	1141.26	2044.67	1022.33	3087.22	1524.66	32.60	-3.327	0.000	0.548
98.00	-13.92	-27.78	0.00	-1084.9	0.00	1084.99	2031.93	1015.97	3035.65	1499.19	34.01	-3.400	0.000	0.528
100.00	-13.63	-27.42	0.00	-1029.4	0.00	1029.43	2019.02	1009.51	2984.22	1473.79	35.45	-3.471	0.000	0.508
100.00	-13.63	-27.42	0.00	-1029.4	0.00	1029.43	1394.49	697.25	2068.33	1021.47	35.45	-3.471	0.000	0.591
102.00	-13.38	-27.07	0.00	-974.59	0.00	974.59	1387.39	693.70	2035.72	1005.36	36.92	-3.540	0.000	0.659
104.00	-13.14	-26.73	0.00	-920.45	0.00	920.45	1380.13	690.06	2003.09	989.25	38.42	-3.619	0.000	0.630
106.00	-12.89	-26.38	0.00	-867.00	0.00	867.00	1372.69	686.35	1970.45	973.13	39.95	-3.695	0.000	0.601
108.00	-12.65	-26.04	0.00	-814.23	0.00	814.23	1365.09	682.55	1937.81	957.01	41.51	-3.769	0.000	0.572
110.00	-12.41	-25.71	0.00	-762.15	0.00	762.15	1357.32	678.66	1905.17	940.89	43.11	-3.840	0.000	0.543
112.00	-12.18	-25.37	0.00	-710.73	0.00	710.73	1349.39	674.69	1872.56	924.79	44.73	-3.909	0.000	0.513
113.50	-12.02	-25.12	0.00	-672.68	0.00	672.68	1343.33	671.66	1848.11	912.71	45.97	-3.959	0.000	0.491
113.50	-12.02	-25.12	0.00	-672.68	0.00	672.68	1343.33	671.66	1848.11	912.71	45.97	-3.959	0.000	0.491
114.00	-11.95	-25.04	0.00	-660.12	0.00	660.12	1341.28	670.64	1839.96	908.69	46.38	-3.975	0.000	0.737
115.00	-11.83	-24.88	0.00	-635.08	0.00	635.08	1337.17	668.58	1823.68	900.65	47.22	-4.024	0.000	0.715
116.00	-11.62	-24.71	0.00	-610.21	0.00	610.21	1333.01	666.51	1807.40	892.61	48.07	-4.072	0.000	0.694
118.00	-11.22	-24.38	0.00	-560.78	0.00	560.78	1324.58	662.29	1774.88	876.54	49.79	-4.164	0.000	0.650
120.00	-10.83	-24.04	0.00	-512.02	0.00	512.02	1327.18	663.59	1784.85	881.47	51.55	-4.250	0.000	0.590
122.00	-10.61	-23.72	0.00	-463.94	0.00	463.94	1318.63	659.32	1752.36	865.43	53.35	-4.332	0.000	0.545
124.00	-10.39	-23.40	0.00	-416.50	0.00	416.50	1309.91	654.95	1719.92	849.40	55.18	-4.405	0.000	0.500
126.00	-10.18	-23.08	0.00	-369.70	0.00	369.70	1301.02	650.51	1687.54	833.41	57.04	-4.473	0.000	0.453
127.00	-7.77	-17.22	0.00	-346.61	0.00	346.61	1296.51	648.26	1671.38	825.43	57.98	-4.505	0.000	0.427
128.00	-7.68	-17.06	0.00	-329.39	0.00	329.39	1291.97	645.98	1655.23	817.46	58.93	-4.536	0.000	0.410
130.00	-7.50	-16.75	0.00	-295.26	0.00	295.26	1282.74	641.37	1623.00	801.54	60.84	-4.594	0.000	0.375
132.00	-7.32	-16.44	0.00	-261.76	0.00	261.76	1273.35	636.68	1590.85	785.66	62.77	-4.647	0.000	0.340
134.00	-7.15	-16.14	0.00	-228.87	0.00	228.87	1263.80	631.90	1558.80	769.83	64.73	-4.696	0.000	0.304
136.00	-6.98	-15.84	0.00	-196.59	0.00	196.59	1254.07	627.04	1526.84	754.05	66.71	-4.740	0.000	0.267
137.00	-5.53	-13.38	0.00	-180.76	0.00	180.76	1249.15	624.57	1510.90	746.18	67.70	-4.761	0.000	0.247
138.00	-5.45	-13.23	0.00	-167.38	0.00	167.38	1244.18	622.09	1494.99	738.32	68.70	-4.780	0.000	0.232
140.00	-5.29	-12.93	0.00	-140.92	0.00	140.92	1234.12	617.06	1463.26	722.65	70.71	-4.814	0.000	0.200
142.00	-5.14	-12.64	0.00	-115.05	0.00	115.05	1223.90	611.95	1431.66	707.04	72.73	-4.844	0.000	0.167
144.00	-4.99	-12.35	0.00	-89.77	0.00	89.77	1213.50	606.75	1400.19	691.50	74.76	-4.869	0.000	0.134
146.00	-4.85	-12.06	0.00	-65.07	0.00	65.07	1202.94	601.47	1368.85	676.02	76.80	-4.889	0.000	0.101
147.00	-2.30	-7.06	0.00	-53.00	0.00	53.00	1197.60	598.80	1353.24	668.32	77.83	-4.896	0.000	0.081
148.00	-2.23	-6.92	0.00	-45.94	0.00	45.94	1192.22	596.11	1337.67	660.62	78.85	-4.903	0.000	0.072
150.00	-2.10	-6.64	0.00	-32.10	0.00	32.10	1181.32	590.66	1306.64	645.30	80.91	-4.914	0.000	0.052
152.00	-1.96	-6.36	0.00	-18.82	0.00	18.82	1170.26	585.13	1275.78	630.06	82.96	-4.921	0.000	0.032
154.00	-1.83	-6.09	0.00	-6.09	0.00	6.09	1159.03	579.51	1245.09	614.90	85.02	-4.925	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	86.05	-4.925	0.000	0.000

Wind Loading - Shaft

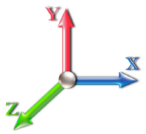
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 28	

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	7/14/2020	
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

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

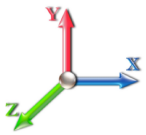
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 30	

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	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
2	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
3	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
4	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
5	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
6	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
7	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
8	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
9	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
10	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
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	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
13	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
14	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
15	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
16	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
17	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
18	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
19	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
20	137.00	(3) T-Framew/ platform	1	7.911	8.702	1.00	1.00	46.22	3258.65	0.000	0.000	402.22	0.00	0.00
21	137.00	APX18-206516S	3	7.911	8.702	0.58	0.80	8.10	356.24	0.000	0.000	70.49	0.00	0.00
22	137.00	RR90-17-XXDP	3	7.911	8.702	0.54	0.80	8.83	383.18	0.000	0.000	76.81	0.00	0.00
23	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
24	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
25	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
26	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
27	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
28	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
29	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
30	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
31	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
32	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
33	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
34	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
35	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
							Totals:		**26,263.59**			**4,238.30**		

Total Applied Force Summary

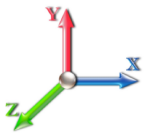
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 31	

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	988.12	0.00	0.00
4.00		115.75	1000.91	0.00	0.00
6.00		113.54	1005.80	0.00	0.00
8.00		111.32	1007.26	0.00	0.00
10.00		109.14	1006.79	0.00	0.00
11.50		80.57	753.78	0.00	0.00
12.00		26.68	250.86	0.00	0.00
14.00		104.89	1002.46	0.00	0.00
14.16		8.35	80.02	0.00	0.00
14.84		35.29	339.90	0.00	0.00
16.00		59.56	579.01	0.00	0.00
16.50		25.52	249.17	0.00	0.00
18.00		75.56	746.18	0.00	0.00
20.00		98.88	991.31	0.00	0.00
21.00		48.87	494.02	0.00	0.00
22.00		48.40	492.89	0.00	0.00
24.00		95.11	982.15	0.00	0.00
26.00		93.30	977.22	0.00	0.00
28.00		91.54	972.12	0.00	0.00
30.00		89.89	966.86	0.00	0.00
32.00		89.85	961.48	0.00	0.00
34.00		89.73	955.98	0.00	0.00
36.00		89.53	950.39	0.00	0.00
37.06		48.00	750.61	0.00	0.00
37.96		40.68	635.25	0.00	0.00
38.00		1.81	28.19	0.00	0.00
40.00		90.26	1404.20	0.00	0.00
41.00		44.95	698.69	0.00	0.00
42.00		44.86	696.29	0.00	0.00
44.00		89.46	869.73	0.00	0.00
46.00		89.00	864.40	0.00	0.00
48.00		88.51	859.04	0.00	0.00
50.00		87.98	853.63	0.00	0.00
52.00		87.42	848.20	0.00	0.00
54.00		86.85	842.73	0.00	0.00
56.00		86.25	837.24	0.00	0.00
57.11		47.59	462.50	0.00	0.00
58.00		38.02	369.65	0.00	0.00
58.50		21.30	185.40	0.00	0.00
60.00		63.68	553.79	0.00	0.00
62.00		84.35	733.29	0.00	0.00
64.00		83.69	727.72	0.00	0.00
66.00		83.02	722.14	0.00	0.00
68.00		82.34	716.55	0.00	0.00
70.00		81.66	710.95	0.00	0.00
72.00		82.10	1048.39	0.00	0.00

Total Applied Force Summary

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	7/14/2020
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	1039.64	0.00	0.00
76.00		80.69	1030.88	0.00	0.00
78.00		79.99	632.14	0.00	0.00
80.00		79.28	627.15	0.00	0.00
82.00		78.56	622.15	0.00	0.00
84.00		77.85	617.15	0.00	0.00
86.00		77.13	612.15	0.00	0.00
88.00		76.42	607.15	0.00	0.00
90.00		75.70	602.14	0.00	0.00
92.00		74.98	597.14	0.00	0.00
94.00		74.26	592.14	0.00	0.00
96.00		73.55	587.14	0.00	0.00
98.00		72.83	582.13	0.00	0.00
100.00		72.11	577.13	0.00	0.00
102.00		71.40	513.96	0.00	0.00
104.00		70.69	509.59	0.00	0.00
106.00		69.97	505.23	0.00	0.00
108.00		69.26	500.86	0.00	0.00
110.00		68.55	496.49	0.00	0.00
112.00		67.85	492.13	0.00	0.00
113.50		50.42	366.41	0.00	0.00
114.00		16.72	121.71	0.00	0.00
115.00		33.31	242.48	0.00	0.00
116.00		33.58	342.54	0.00	0.00
118.00		66.63	679.46	0.00	0.00
120.00		65.93	672.59	0.00	0.00
122.00		65.23	456.14	0.00	0.00
124.00		64.54	451.79	0.00	0.00
126.00		63.84	447.44	0.00	0.00
127.00	(34) attachments	1257.82	8119.04	0.00	0.00
128.00		31.49	205.75	0.00	0.00
130.00		62.45	407.78	0.00	0.00
132.00		61.76	403.43	0.00	0.00
134.00		61.07	399.08	0.00	0.00
136.00		60.39	394.74	0.00	0.00
137.00	(7) attachments	579.45	4194.04	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:	**10,412.37**	**82,018.90**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

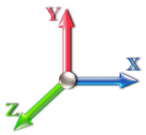
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 33	

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)

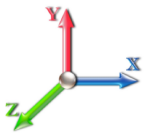
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 34	

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

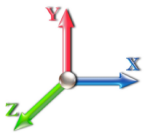
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 35	

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	-82.02	-10.42	0.00	-1092.9	0.00	1092.91	4048.32	2024.16	8933.65	4411.99	0.00	0.000	0.000	0.184
2.00	-81.03	-10.33	0.00	-1072.0	0.00	1072.07	4032.02	2016.01	8833.50	4362.53	0.00	-0.016	0.000	0.182
4.00	-80.02	-10.23	0.00	-1051.4	0.00	1051.41	4015.53	2007.77	8733.46	4313.13	0.01	-0.031	0.000	0.180
6.00	-79.01	-10.14	0.00	-1030.9	0.00	1030.95	3998.87	1999.43	8633.56	4263.79	0.03	-0.047	0.000	0.178
8.00	-78.00	-10.05	0.00	-1010.6	0.00	1010.67	3982.01	1991.01	8533.79	4214.52	0.05	-0.062	0.000	0.176
10.00	-77.00	-9.96	0.00	-990.58	0.00	990.58	3964.98	1982.49	8434.18	4165.32	0.08	-0.078	0.000	0.174
11.50	-76.24	-9.88	0.00	-975.65	0.00	975.65	3952.09	1976.04	8359.57	4128.48	0.11	-0.089	0.000	0.151
12.00	-75.99	-9.87	0.00	-970.70	0.00	970.70	3947.76	1973.88	8334.72	4116.20	0.12	-0.093	0.000	0.151
14.00	-74.98	-9.77	0.00	-950.97	0.00	950.97	3930.37	1965.18	8235.42	4067.17	0.16	-0.106	0.000	0.149
14.16	-74.90	-9.77	0.00	-949.40	0.00	949.40	3928.97	1964.48	8227.49	4063.25	0.16	-0.107	0.000	0.176
14.84	-74.56	-9.74	0.00	-942.76	0.00	942.76	3923.00	1961.50	8193.77	4046.60	0.18	-0.113	0.000	0.148
16.00	-73.98	-9.69	0.00	-931.47	0.00	931.47	3912.78	1956.39	8136.31	4018.22	0.21	-0.121	0.000	0.147
16.50	-73.73	-9.67	0.00	-926.62	0.00	926.62	3908.36	1954.18	8111.55	4005.99	0.22	-0.124	0.000	0.168
18.00	-72.98	-9.61	0.00	-912.12	0.00	912.12	3895.02	1947.51	8037.37	3969.35	0.26	-0.136	0.000	0.166
20.00	-71.99	-9.52	0.00	-892.90	0.00	892.90	3877.07	1938.54	7938.63	3920.59	0.32	-0.151	0.000	0.164
21.00	-71.50	-9.48	0.00	-883.38	0.00	883.38	3868.03	1934.02	7889.33	3896.24	0.35	-0.159	0.000	0.163
22.00	-71.00	-9.45	0.00	-873.89	0.00	873.89	3858.94	1929.47	7840.08	3871.92	0.39	-0.167	0.000	0.162
24.00	-70.02	-9.37	0.00	-855.00	0.00	855.00	3840.63	1920.32	7741.75	3823.36	0.46	-0.182	0.000	0.160
26.00	-69.04	-9.29	0.00	-836.27	0.00	836.27	3822.14	1911.07	7643.63	3774.90	0.54	-0.197	0.000	0.158
28.00	-68.06	-9.21	0.00	-817.69	0.00	817.69	3803.46	1901.73	7545.74	3726.56	0.63	-0.213	0.000	0.156
30.00	-67.09	-9.14	0.00	-799.26	0.00	799.26	3784.60	1892.30	7448.09	3678.33	0.72	-0.228	0.000	0.154
32.00	-66.13	-9.06	0.00	-780.99	0.00	780.99	3765.56	1882.78	7350.68	3630.22	0.82	-0.243	0.000	0.152
34.00	-65.17	-8.98	0.00	-762.87	0.00	762.87	3746.34	1873.17	7253.52	3582.24	0.92	-0.259	0.000	0.150
36.00	-64.22	-8.90	0.00	-744.90	0.00	744.90	3726.93	1863.47	7156.62	3534.39	1.04	-0.274	0.000	0.148
37.06	-63.47	-8.86	0.00	-735.46	0.00	735.46	3716.57	1858.29	7105.38	3509.08	1.10	-0.282	0.000	0.180
37.96	-62.83	-8.82	0.00	-727.48	0.00	727.48	3707.74	1853.87	7061.93	3487.62	1.15	-0.290	0.000	0.145
38.00	-62.80	-8.83	0.00	-727.13	0.00	727.13	3707.34	1853.67	7060.00	3486.67	1.15	-0.291	0.000	0.145
40.00	-61.40	-8.74	0.00	-709.48	0.00	709.48	3687.57	1843.78	6963.65	3439.09	1.28	-0.306	0.000	0.143
41.00	-60.70	-8.70	0.00	-700.73	0.00	700.73	3677.62	1838.81	6915.58	3415.35	1.34	-0.313	0.000	0.142
42.00	-60.00	-8.67	0.00	-692.03	0.00	692.03	3033.05	1516.53	5788.55	2858.75	1.41	-0.321	0.000	0.152
44.00	-59.13	-8.59	0.00	-674.70	0.00	674.70	3018.90	1509.45	5713.49	2821.68	1.55	-0.335	0.000	0.159
46.00	-58.26	-8.51	0.00	-657.53	0.00	657.53	3004.56	1502.28	5638.53	2784.66	1.69	-0.351	0.000	0.156
48.00	-57.40	-8.43	0.00	-640.51	0.00	640.51	2990.04	1495.02	5563.69	2747.70	1.84	-0.367	0.000	0.154
50.00	-56.55	-8.35	0.00	-623.65	0.00	623.65	2975.34	1487.67	5488.97	2710.80	2.00	-0.382	0.000	0.151
52.00	-55.70	-8.27	0.00	-606.95	0.00	606.95	2960.46	1480.23	5414.39	2673.96	2.16	-0.398	0.000	0.148
54.00	-54.85	-8.20	0.00	-590.41	0.00	590.41	2945.39	1472.69	5339.95	2637.20	2.33	-0.413	0.000	0.146
56.00	-54.02	-8.11	0.00	-574.02	0.00	574.02	2930.14	1465.07	5265.67	2600.52	2.51	-0.428	0.000	0.143
57.11	-53.55	-8.07	0.00	-565.01	0.00	565.01	2921.60	1460.80	5224.51	2580.19	2.61	-0.437	0.000	0.181
58.00	-53.18	-8.04	0.00	-557.83	0.00	557.83	2914.71	1457.35	5191.54	2563.91	2.69	-0.446	0.000	0.139
58.50	-53.00	-8.02	0.00	-553.81	0.00	553.81	2910.82	1455.41	5173.04	2554.77	2.74	-0.449	0.000	0.170
60.00	-52.44	-7.97	0.00	-541.78	0.00	541.78	2899.09	1449.55	5117.58	2527.38	2.88	-0.463	0.000	0.168
62.00	-51.71	-7.89	0.00	-525.84	0.00	525.84	2883.30	1441.65	5043.81	2490.95	3.08	-0.481	0.000	0.165
64.00	-50.98	-7.82	0.00	-510.06	0.00	510.06	2867.32	1433.66	4970.21	2454.60	3.29	-0.499	0.000	0.162
66.00	-50.25	-7.75	0.00	-494.42	0.00	494.42	2851.15	1425.58	4896.82	2418.35	3.50	-0.517	0.000	0.159
68.00	-49.53	-7.67	0.00	-478.92	0.00	478.92	2834.81	1417.40	4823.62	2382.21	3.72	-0.535	0.000	0.156
70.00	-48.82	-7.60	0.00	-463.58	0.00	463.58	2818.28	1409.14	4750.64	2346.16	3.95	-0.553	0.000	0.153
72.00	-47.77	-7.52	0.00	-448.38	0.00	448.38	2801.57	1400.79	4677.88	2310.23	4.18	-0.570	0.000	0.149
74.00	-46.73	-7.44	0.00	-433.34	0.00	433.34	2784.68	1392.34	4605.35	2274.41	4.43	-0.587	0.000	0.146

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
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	-45.70	-7.37	0.00	-418.45	0.00	418.45	2161.97	1080.98	3608.45	1782.08	4.68	-0.605	0.000	0.162
78.00	-45.07	-7.29	0.00	-403.72	0.00	403.72	2151.06	1075.53	3556.01	1756.18	4.93	-0.622	0.000	0.174
80.00	-44.44	-7.22	0.00	-389.14	0.00	389.14	2139.97	1069.98	3503.61	1730.30	5.20	-0.641	0.000	0.170
82.00	-43.81	-7.15	0.00	-374.69	0.00	374.69	2128.69	1064.35	3451.27	1704.45	5.47	-0.660	0.000	0.166
84.00	-43.19	-7.08	0.00	-360.39	0.00	360.39	2117.24	1058.62	3398.99	1678.63	5.75	-0.678	0.000	0.161
86.00	-42.58	-7.01	0.00	-346.23	0.00	346.23	2105.60	1052.80	3346.79	1652.86	6.04	-0.696	0.000	0.157
88.00	-41.97	-6.94	0.00	-332.22	0.00	332.22	2093.78	1046.89	3294.68	1627.12	6.33	-0.714	0.000	0.153
90.00	-41.37	-6.87	0.00	-318.34	0.00	318.34	2081.77	1040.89	3242.65	1601.42	6.64	-0.732	0.000	0.149
92.00	-40.77	-6.80	0.00	-304.61	0.00	304.61	2069.59	1034.79	3190.73	1575.78	6.95	-0.749	0.000	0.144
94.00	-40.18	-6.73	0.00	-291.02	0.00	291.02	2057.22	1028.61	3138.91	1550.19	7.27	-0.767	0.000	0.140
96.00	-39.59	-6.66	0.00	-277.57	0.00	277.57	2044.67	1022.33	3087.22	1524.66	7.59	-0.783	0.000	0.146
98.00	-39.01	-6.59	0.00	-264.25	0.00	264.25	2031.93	1015.97	3035.65	1499.19	7.92	-0.801	0.000	0.141
100.00	-38.43	-6.52	0.00	-251.08	0.00	251.08	2019.02	1009.51	2984.22	1473.79	8.26	-0.818	0.000	0.137
100.00	-38.43	-6.52	0.00	-251.08	0.00	251.08	1394.49	697.25	2068.33	1021.47	8.26	-0.818	0.000	0.159
102.00	-37.91	-6.45	0.00	-238.04	0.00	238.04	1387.39	693.70	2035.72	1005.36	8.61	-0.835	0.000	0.178
104.00	-37.40	-6.39	0.00	-225.14	0.00	225.14	1380.13	690.06	2003.09	989.25	8.96	-0.855	0.000	0.171
106.00	-36.90	-6.32	0.00	-212.36	0.00	212.36	1372.69	686.35	1970.45	973.13	9.32	-0.873	0.000	0.164
108.00	-36.40	-6.26	0.00	-199.72	0.00	199.72	1365.09	682.55	1937.81	957.01	9.69	-0.891	0.000	0.157
110.00	-35.90	-6.19	0.00	-187.21	0.00	187.21	1357.32	678.66	1905.17	940.89	10.07	-0.909	0.000	0.149
112.00	-35.41	-6.12	0.00	-174.83	0.00	174.83	1349.39	674.69	1872.56	924.79	10.46	-0.926	0.000	0.142
113.50	-35.04	-6.07	0.00	-165.65	0.00	165.65	1343.33	671.66	1848.11	912.71	10.75	-0.938	0.000	0.137
113.50	-35.04	-6.07	0.00	-165.65	0.00	165.65	1343.33	671.66	1848.11	912.71	10.75	-0.938	0.000	0.137
114.00	-34.92	-6.06	0.00	-162.61	0.00	162.61	1341.28	670.64	1839.96	908.69	10.85	-0.942	0.000	0.205
115.00	-34.67	-6.03	0.00	-156.56	0.00	156.56	1337.17	668.58	1823.68	900.65	11.05	-0.954	0.000	0.200
116.00	-34.33	-6.00	0.00	-150.53	0.00	150.53	1333.01	666.51	1807.40	892.61	11.25	-0.966	0.000	0.194
118.00	-33.65	-5.93	0.00	-138.53	0.00	138.53	1324.58	662.29	1774.88	876.54	11.66	-0.988	0.000	0.184
120.00	-32.98	-5.87	0.00	-126.67	0.00	126.67	1327.18	663.59	1784.85	881.47	12.08	-1.010	0.000	0.169
122.00	-32.52	-5.81	0.00	-114.93	0.00	114.93	1318.63	659.32	1752.36	865.43	12.50	-1.030	0.000	0.158
124.00	-32.07	-5.74	0.00	-103.32	0.00	103.32	1309.91	654.95	1719.92	849.40	12.94	-1.048	0.000	0.146
126.00	-31.62	-5.68	0.00	-91.83	0.00	91.83	1301.02	650.51	1687.54	833.41	13.38	-1.065	0.000	0.135
127.00	-23.53	-4.27	0.00	-86.16	0.00	86.16	1296.51	648.26	1671.38	825.43	13.61	-1.073	0.000	0.123
128.00	-23.32	-4.24	0.00	-81.89	0.00	81.89	1291.97	645.98	1655.23	817.46	13.83	-1.081	0.000	0.118
130.00	-22.91	-4.18	0.00	-73.41	0.00	73.41	1282.74	641.37	1623.00	801.54	14.29	-1.095	0.000	0.109
132.00	-22.51	-4.11	0.00	-65.05	0.00	65.05	1273.35	636.68	1590.85	785.66	14.75	-1.108	0.000	0.101
134.00	-22.11	-4.05	0.00	-56.83	0.00	56.83	1263.80	631.90	1558.80	769.83	15.22	-1.121	0.000	0.091
136.00	-21.72	-3.98	0.00	-48.74	0.00	48.74	1254.07	627.04	1526.84	754.05	15.69	-1.132	0.000	0.082
137.00	-17.53	-3.32	0.00	-44.76	0.00	44.76	1249.15	624.57	1510.90	746.18	15.93	-1.137	0.000	0.074
138.00	-17.34	-3.29	0.00	-41.43	0.00	41.43	1244.18	622.09	1494.99	738.32	16.17	-1.141	0.000	0.070
140.00	-16.97	-3.23	0.00	-34.86	0.00	34.86	1234.12	617.06	1463.26	722.65	16.65	-1.150	0.000	0.062
142.00	-16.60	-3.16	0.00	-28.40	0.00	28.40	1223.90	611.95	1431.66	707.04	17.13	-1.157	0.000	0.054
144.00	-16.23	-3.10	0.00	-22.08	0.00	22.08	1213.50	606.75	1400.19	691.50	17.62	-1.163	0.000	0.045
146.00	-15.87	-3.03	0.00	-15.88	0.00	15.88	1202.94	601.47	1368.85	676.02	18.10	-1.168	0.000	0.037
147.00	-8.04	-1.70	0.00	-12.85	0.00	12.85	1197.60	598.80	1353.24	668.32	18.35	-1.170	0.000	0.026
148.00	-7.87	-1.67	0.00	-11.15	0.00	11.15	1192.22	596.11	1337.67	660.62	18.59	-1.172	0.000	0.023
150.00	-7.52	-1.61	0.00	-7.80	0.00	7.80	1181.32	590.66	1306.64	645.30	19.09	-1.174	0.000	0.018
152.00	-7.18	-1.55	0.00	-4.58	0.00	4.58	1170.26	585.13	1275.78	630.06	19.58	-1.176	0.000	0.013
154.00	-6.84	-1.49	0.00	-1.49	0.00	1.49	1159.03	579.51	1245.09	614.90	20.07	-1.177	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	20.32	-1.177	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
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**	0.62		**S1**	0.62
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.34		**SA**	0.18	**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	0.90	
4.00		502.00	0.00	0.03	0.01	1.68	
6.00		498.37	0.00	0.04	0.02	2.36	
8.00		494.74	0.01	0.04	0.03	2.95	
10.00		491.11	0.01	0.05	0.03	3.48	
11.50	RB3	365.95	0.01	0.06	0.03	2.88	
12.00		121.53	0.01	0.06	0.03	0.99	
14.00		483.85	0.02	0.06	0.04	4.41	
14.16	RT2	38.55	0.02	0.06	0.04	0.35	
14.84	RB4	163.58	0.02	0.06	0.04	1.56	
16.00		278.08	0.02	0.06	0.04	2.80	
16.50	RT3	119.49	0.02	0.06	0.04	1.23	
18.00		357.10	0.03	0.07	0.04	3.92	
20.00		472.95	0.03	0.07	0.04	5.64	
21.00	RT1 RB5	235.12	0.03	0.07	0.04	2.91	
22.00		234.21	0.04	0.07	0.04	3.01	
24.00		465.69	0.05	0.07	0.04	6.44	
26.00		462.06	0.05	0.07	0.04	6.85	
28.00		458.43	0.06	0.07	0.04	7.28	
30.00		454.80	0.07	0.07	0.04	7.72	
32.00		451.17	0.08	0.07	0.04	8.19	
34.00		447.54	0.09	0.07	0.04	8.66	
36.00	Bot - Section 2	443.91	0.10	0.07	0.04	9.16	
37.06	RT4	439.75	0.11	0.07	0.04	9.39	
37.96	RB6	371.88	0.11	0.07	0.04	8.16	
38.00		16.50	0.11	0.07	0.04	0.36	
40.00		821.35	0.13	0.07	0.03	19.20	
41.00	RT5 RB7	408.14	0.13	0.07	0.03	9.84	
42.00	Top - Section 1	406.44	0.14	0.07	0.03	10.10	
44.00		378.42	0.15	0.07	0.03	9.98	
46.00		375.28	0.17	0.07	0.03	10.48	
48.00		372.13	0.18	0.06	0.03	11.00	
50.00		368.99	0.20	0.06	0.02	11.52	
52.00		365.85	0.21	0.06	0.02	12.05	
54.00		362.70	0.23	0.06	0.02	12.58	
56.00		359.56	0.25	0.06	0.02	13.11	
57.11	RT6	198.20	0.26	0.05	0.02	7.43	
58.00	RB8	158.22	0.26	0.05	0.02	6.06	
58.50	RT7	88.61	0.27	0.05	0.02	3.43	
60.00		264.66	0.28	0.05	0.01	10.62	
62.00		350.13	0.30	0.04	0.01	14.69	
64.00		346.98	0.32	0.04	0.01	15.20	
66.00		343.84	0.34	0.03	0.01	15.71	
68.00		340.69	0.36	0.03	0.01	16.21	
70.00	Bot - Section 3	337.55	0.39	0.02	0.01	16.69	

Seismic Segment Forces (Factored)

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
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	

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72.00		617.79	0.41	0.02	0.01	31.71		
74.00		612.02	0.43	0.01	0.01	32.57		
76.00	Top - Section 2 RT8 RB9	606.26	0.45	0.00	0.01	33.41		
78.00		275.52	0.48	-0.01	0.01	15.70		
80.00		272.90	0.50	-0.02	0.01	16.07		
82.00		270.28	0.53	-0.03	0.01	16.44		
84.00		267.66	0.56	-0.04	0.01	16.79		
86.00		265.04	0.58	-0.05	0.01	17.15		
88.00		262.42	0.61	-0.06	0.02	17.51		
90.00		259.80	0.64	-0.07	0.02	17.87		
92.00		257.18	0.67	-0.08	0.02	18.23		
94.00		254.56	0.70	-0.09	0.03	18.61		
96.00	RT9 RB10	251.94	0.73	-0.09	0.03	19.00		
98.00		249.32	0.76	-0.10	0.04	19.40		
100.00	Top - Section 3	246.70	0.79	-0.11	0.05	19.83		
102.00		195.61	0.82	-0.12	0.06	16.26		
104.00		193.51	0.85	-0.12	0.07	16.65		
106.00		191.42	0.88	-0.12	0.08	17.07		
108.00		189.32	0.92	-0.12	0.09	17.52		
110.00		187.22	0.95	-0.12	0.11	18.01		
112.00		185.13	0.99	-0.11	0.12	18.55		
113.50	RT10	137.47	1.01	-0.11	0.14	14.21		
114.00		45.56	1.02	-0.10	0.14	4.76		
115.00	Bot - Section 5	90.73	1.04	-0.10	0.15	9.69		
116.00		181.78	1.06	-0.09	0.16	19.85		
118.00		360.42	1.10	-0.07	0.18	41.20		
120.00	Top - Section 4	356.23	1.13	-0.05	0.21	42.70		
122.00		177.39	1.17	-0.02	0.23	22.33		
124.00		175.29	1.21	0.01	0.26	23.22		
126.00		173.19	1.25	0.06	0.29	24.17		
127.00	Appurtenance(s)	3127.7	1.27	0.08	0.31	448.22		
128.00		85.29	1.29	0.11	0.33	12.56		
130.00		169.00	1.33	0.16	0.36	26.28		
132.00		166.91	1.37	0.23	0.40	27.45		
134.00		164.81	1.41	0.31	0.44	28.69		
136.00		162.72	1.46	0.40	0.49	30.00		
137.00	Appurtenance(s)	1810.6	1.48	0.44	0.52	343.68		
138.00		80.05	1.50	0.50	0.54	15.64		
140.00		158.52	1.54	0.61	0.59	32.85		
142.00		156.43	1.59	0.74	0.65	34.38		
144.00		154.33	1.63	0.88	0.71	35.98		
146.00		152.24	1.68	1.04	0.78	37.65		
147.00	Appurtenance(s)	3275.6	1.70	1.12	0.81	834.46		
148.00		74.81	1.72	1.21	0.85	19.63		
150.00		148.04	1.77	1.41	0.93	41.19		
152.00		145.95	1.82	1.62	1.01	43.05		
154.00		143.85	1.87	1.85	1.09	44.96		
155.00	Appurtenance(s)	2595.6	1.89	1.98	1.14	834.99		
	Totals:	**36,604.0**				**3,847.3**	**Total Wind:**	**48,996.8**

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	7/14/2020	
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

Gust Response Factor	1.10			**Sds**	0.18			**Iterations**	23
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.62			**Ss**	0.17
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.34	**SA**	0.18			**S1**	0.62
								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	-49.54	-3.85	0.00	-510.63	0.00	510.63	4048.32	2024.16	8933.65	4411.99		0.00	0.00	0.088
2.00	-48.86	-3.85	0.00	-502.93	0.00	502.93	4032.02	2016.01	8833.50	4362.53		0.00	-0.01	0.087
4.00	-48.18	-3.86	0.00	-495.22	0.00	495.22	4015.53	2007.77	8733.46	4313.13		0.01	-0.01	0.086
6.00	-47.50	-3.86	0.00	-487.51	0.00	487.51	3998.87	1999.43	8633.56	4263.79		0.01	-0.02	0.086
8.00	-46.82	-3.86	0.00	-479.79	0.00	479.79	3982.01	1991.01	8533.79	4214.52		0.02	-0.03	0.085
10.00	-46.15	-3.87	0.00	-472.06	0.00	472.06	3964.98	1982.49	8434.18	4165.32		0.04	-0.04	0.084
11.50	-45.66	-3.87	0.00	-466.26	0.00	466.26	3952.09	1976.04	8359.57	4128.48		0.05	-0.04	0.074
12.00	-45.49	-3.87	0.00	-464.33	0.00	464.33	3947.76	1973.88	8334.72	4116.20		0.06	-0.04	0.074
14.00	-44.83	-3.87	0.00	-456.59	0.00	456.59	3930.37	1965.18	8235.42	4067.17		0.08	-0.05	0.073
14.16	-44.78	-3.87	0.00	-455.97	0.00	455.97	3928.97	1964.48	8227.49	4063.25		0.08	-0.05	0.086
14.84	-44.55	-3.87	0.00	-453.34	0.00	453.34	3923.00	1961.50	8193.77	4046.60		0.08	-0.05	0.073
16.00	-44.17	-3.87	0.00	-448.86	0.00	448.86	3912.78	1956.39	8136.31	4018.22		0.10	-0.06	0.072
16.50	-44.01	-3.87	0.00	-446.93	0.00	446.93	3908.36	1954.18	8111.55	4005.99		0.10	-0.06	0.082
18.00	-43.52	-3.87	0.00	-441.13	0.00	441.13	3895.02	1947.51	8037.37	3969.35		0.12	-0.06	0.082
20.00	-42.87	-3.87	0.00	-433.39	0.00	433.39	3877.07	1938.54	7938.63	3920.59		0.15	-0.07	0.081
21.00	-42.55	-3.86	0.00	-429.53	0.00	429.53	3868.03	1934.02	7889.33	3896.24		0.17	-0.08	0.081
22.00	-42.23	-3.87	0.00	-425.66	0.00	425.66	3858.94	1929.47	7840.08	3871.92		0.18	-0.08	0.080
24.00	-41.59	-3.86	0.00	-417.93	0.00	417.93	3840.63	1920.32	7741.75	3823.36		0.22	-0.09	0.080
26.00	-40.96	-3.86	0.00	-410.20	0.00	410.20	3822.14	1911.07	7643.63	3774.90		0.26	-0.09	0.079
28.00	-40.33	-3.86	0.00	-402.48	0.00	402.48	3803.46	1901.73	7545.74	3726.56		0.30	-0.10	0.078
30.00	-39.70	-3.85	0.00	-394.77	0.00	394.77	3784.60	1892.30	7448.09	3678.33		0.34	-0.11	0.077
32.00	-39.08	-3.85	0.00	-387.06	0.00	387.06	3765.56	1882.78	7350.68	3630.22		0.39	-0.12	0.077
34.00	-38.46	-3.85	0.00	-379.36	0.00	379.36	3746.34	1873.17	7253.52	3582.24		0.44	-0.12	0.076
36.00	-37.85	-3.84	0.00	-371.67	0.00	371.67	3726.93	1863.47	7156.62	3534.39		0.50	-0.13	0.075
37.06	-37.28	-3.83	0.00	-367.60	0.00	367.60	3716.57	1858.29	7105.38	3509.08		0.52	-0.14	0.091
37.96	-36.80	-3.82	0.00	-364.15	0.00	364.15	3707.74	1853.87	7061.93	3487.62		0.55	-0.14	0.073
38.00	-36.78	-3.82	0.00	-364.00	0.00	364.00	3707.34	1853.67	7060.00	3486.67		0.55	-0.14	0.073
40.00	-35.71	-3.81	0.00	-356.35	0.00	356.35	3687.57	1843.78	6963.65	3439.09		0.61	-0.15	0.072
41.00	-35.18	-3.80	0.00	-352.54	0.00	352.54	3677.62	1838.81	6915.58	3415.35		0.64	-0.15	0.072
42.00	-34.65	-3.79	0.00	-348.74	0.00	348.74	3033.05	1516.53	5788.55	2858.75		0.68	-0.16	0.077
44.00	-34.12	-3.78	0.00	-341.17	0.00	341.17	3018.90	1509.45	5713.49	2821.68		0.74	-0.16	0.081
46.00	-33.59	-3.78	0.00	-333.60	0.00	333.60	3004.56	1502.28	5638.53	2784.66		0.81	-0.17	0.080
48.00	-33.06	-3.77	0.00	-326.05	0.00	326.05	2990.04	1495.02	5563.69	2747.70		0.89	-0.18	0.079
50.00	-32.54	-3.76	0.00	-318.52	0.00	318.52	2975.34	1487.67	5488.97	2710.80		0.96	-0.19	0.078
52.00	-32.02	-3.75	0.00	-311.00	0.00	311.00	2960.46	1480.23	5414.39	2673.96		1.04	-0.20	0.077
54.00	-31.50	-3.74	0.00	-303.50	0.00	303.50	2945.39	1472.69	5339.95	2637.20		1.13	-0.20	0.076
56.00	-30.99	-3.73	0.00	-296.02	0.00	296.02	2930.14	1465.07	5265.67	2600.52		1.21	-0.21	0.074
57.11	-30.71	-3.72	0.00	-291.89	0.00	291.89	2921.60	1460.80	5224.51	2580.19		1.26	-0.22	0.094
58.00	-30.48	-3.72	0.00	-288.58	0.00	288.58	2914.71	1457.35	5191.54	2563.91		1.30	-0.22	0.073
58.50	-30.36	-3.71	0.00	-286.72	0.00	286.72	2910.82	1455.41	5173.04	2554.77		1.33	-0.22	0.089
60.00	-29.98	-3.71	0.00	-281.15	0.00	281.15	2899.09	1449.55	5117.58	2527.38		1.40	-0.23	0.088
62.00	-29.48	-3.69	0.00	-273.73	0.00	273.73	2883.30	1441.65	5043.81	2490.95		1.50	-0.24	0.087
64.00	-28.98	-3.68	0.00	-266.34	0.00	266.34	2867.32	1433.66	4970.21	2454.60		1.60	-0.25	0.085
66.00	-28.49	-3.67	0.00	-258.98	0.00	258.98	2851.15	1425.58	4896.82	2418.35		1.70	-0.26	0.084
68.00	-28.00	-3.66	0.00	-251.64	0.00	251.64	2834.81	1417.40	4823.62	2382.21		1.81	-0.27	0.083
70.00	-27.52	-3.64	0.00	-244.33	0.00	244.33	2818.28	1409.14	4750.64	2346.16		1.93	-0.28	0.081
72.00	-26.70	-3.61	0.00	-237.05	0.00	237.05	2801.57	1400.79	4677.88	2310.23		2.04	-0.28	0.079

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
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

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74.00	-25.88	-3.58	0.00	-229.83	0.00	229.83	2784.68	1392.34	4605.35	2274.41	2.17	-0.29	0.078
76.00	-25.07	-3.54	0.00	-222.68	0.00	222.68	2161.97	1080.98	3608.45	1782.08	2.29	-0.30	0.086
78.00	-24.66	-3.53	0.00	-215.59	0.00	215.59	2151.06	1075.53	3556.01	1756.18	2.42	-0.31	0.093
80.00	-24.26	-3.52	0.00	-208.53	0.00	208.53	2139.97	1069.98	3503.61	1730.30	2.55	-0.32	0.091
82.00	-23.85	-3.50	0.00	-201.50	0.00	201.50	2128.69	1064.35	3451.27	1704.45	2.69	-0.33	0.089
84.00	-23.45	-3.49	0.00	-194.50	0.00	194.50	2117.24	1058.62	3398.99	1678.63	2.83	-0.34	0.087
86.00	-23.05	-3.47	0.00	-187.53	0.00	187.53	2105.60	1052.80	3346.79	1652.86	2.98	-0.35	0.085
88.00	-22.66	-3.45	0.00	-180.59	0.00	180.59	2093.78	1046.89	3294.68	1627.12	3.13	-0.36	0.083
90.00	-22.27	-3.44	0.00	-173.68	0.00	173.68	2081.77	1040.89	3242.65	1601.42	3.28	-0.37	0.081
92.00	-21.88	-3.42	0.00	-166.80	0.00	166.80	2069.59	1034.79	3190.73	1575.78	3.44	-0.38	0.079
94.00	-21.49	-3.40	0.00	-159.96	0.00	159.96	2057.22	1028.61	3138.91	1550.19	3.60	-0.39	0.077
96.00	-21.11	-3.38	0.00	-153.16	0.00	153.16	2044.67	1022.33	3087.22	1524.66	3.77	-0.40	0.080
98.00	-20.73	-3.37	0.00	-146.39	0.00	146.39	2031.93	1015.97	3035.65	1499.19	3.94	-0.41	0.078
100.00	-20.35	-3.35	0.00	-139.66	0.00	139.66	2019.02	1009.51	2984.22	1473.79	4.11	-0.42	0.076
100.00	-20.35	-3.35	0.00	-139.66	0.00	139.66	1394.49	697.25	2068.33	1021.47	4.11	-0.42	0.088
102.00	-20.04	-3.33	0.00	-132.96	0.00	132.96	1387.39	693.70	2035.72	1005.36	4.29	-0.43	0.099
104.00	-19.73	-3.32	0.00	-126.30	0.00	126.30	1380.13	690.06	2003.09	989.25	4.47	-0.44	0.095
106.00	-19.42	-3.30	0.00	-119.66	0.00	119.66	1372.69	686.35	1970.45	973.13	4.66	-0.45	0.092
108.00	-19.11	-3.28	0.00	-113.06	0.00	113.06	1365.09	682.55	1937.81	957.01	4.85	-0.46	0.088
110.00	-18.81	-3.27	0.00	-106.50	0.00	106.50	1357.32	678.66	1905.17	940.89	5.04	-0.47	0.084
112.00	-18.50	-3.25	0.00	-99.96	0.00	99.96	1349.39	674.69	1872.56	924.79	5.24	-0.48	0.080
113.50	-18.28	-3.23	0.00	-95.09	0.00	95.09	1343.33	671.66	1848.11	912.71	5.39	-0.49	0.077
113.50	-18.28	-3.23	0.00	-95.09	0.00	95.09	1343.33	671.66	1848.11	912.71	5.39	-0.49	0.077
114.00	-18.20	-3.23	0.00	-93.47	0.00	93.47	1341.28	670.64	1839.96	908.69	5.44	-0.49	0.116
115.00	-18.06	-3.22	0.00	-90.24	0.00	90.24	1337.17	668.58	1823.68	900.65	5.55	-0.50	0.114
116.00	-17.80	-3.20	0.00	-87.02	0.00	87.02	1333.01	666.51	1807.40	892.61	5.65	-0.50	0.111
118.00	-17.28	-3.16	0.00	-80.62	0.00	80.62	1324.58	662.29	1774.88	876.54	5.87	-0.52	0.105
120.00	-16.78	-3.12	0.00	-74.29	0.00	74.29	1327.18	663.59	1784.85	881.47	6.08	-0.53	0.097
122.00	-16.48	-3.10	0.00	-68.06	0.00	68.06	1318.63	659.32	1752.36	865.43	6.31	-0.54	0.091
124.00	-16.19	-3.07	0.00	-61.87	0.00	61.87	1309.91	654.95	1719.92	849.40	6.54	-0.55	0.085
126.00	-15.91	-3.05	0.00	-55.73	0.00	55.73	1301.02	650.51	1687.54	833.41	6.77	-0.56	0.079
127.00	-12.12	-2.56	0.00	-52.68	0.00	52.68	1296.51	648.26	1671.38	825.43	6.89	-0.57	0.073
128.00	-11.99	-2.55	0.00	-50.12	0.00	50.12	1291.97	645.98	1655.23	817.46	7.01	-0.57	0.071
130.00	-11.74	-2.52	0.00	-45.02	0.00	45.02	1282.74	641.37	1623.00	801.54	7.25	-0.58	0.065
132.00	-11.49	-2.50	0.00	-39.97	0.00	39.97	1273.35	636.68	1590.85	785.66	7.49	-0.59	0.060
134.00	-11.24	-2.47	0.00	-34.98	0.00	34.98	1263.80	631.90	1558.80	769.83	7.74	-0.60	0.054
136.00	-11.00	-2.43	0.00	-30.05	0.00	30.05	1254.07	627.04	1526.84	754.05	7.99	-0.60	0.049
137.00	-8.81	-2.07	0.00	-27.61	0.00	27.61	1249.15	624.57	1510.90	746.18	8.12	-0.61	0.044
138.00	-8.69	-2.05	0.00	-25.55	0.00	25.55	1244.18	622.09	1494.99	738.32	8.25	-0.61	0.042
140.00	-8.46	-2.02	0.00	-21.44	0.00	21.44	1234.12	617.06	1463.26	722.65	8.50	-0.61	0.037
142.00	-8.24	-1.98	0.00	-17.41	0.00	17.41	1223.90	611.95	1431.66	707.04	8.76	-0.62	0.031
144.00	-8.01	-1.94	0.00	-13.45	0.00	13.45	1213.50	606.75	1400.19	691.50	9.02	-0.62	0.026
146.00	-7.79	-1.90	0.00	-9.56	0.00	9.56	1202.94	601.47	1368.85	676.02	9.28	-0.62	0.021
147.00	-3.85	-1.03	0.00	-7.66	0.00	7.66	1197.60	598.80	1353.24	668.32	9.41	-0.63	0.015
148.00	-3.74	-1.00	0.00	-6.64	0.00	6.64	1192.22	596.11	1337.67	660.62	9.54	-0.63	0.013
150.00	-3.53	-0.96	0.00	-4.63	0.00	4.63	1181.32	590.66	1306.64	645.30	9.81	-0.63	0.010
152.00	-3.33	-0.92	0.00	-2.70	0.00	2.70	1170.26	585.13	1275.78	630.06	10.07	-0.63	0.007
154.00	-3.12	-0.87	0.00	-0.87	0.00	0.87	1159.03	579.51	1245.09	614.90	10.33	-0.63	0.004
155.00	0.00	-0.83	0.00	0.00	0.00	0.00	1153.35	576.68	1229.81	607.36	10.47	-0.63	0.000

Seismic Segment Forces (Factored)

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	7/14/2020
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

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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**	0.62		**S1**	0.62
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.34		**SA**	0.18	**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	0.90	
4.00		502.00	0.00	0.03	0.01	1.68	
6.00		498.37	0.00	0.04	0.02	2.36	
8.00		494.74	0.01	0.04	0.03	2.95	
10.00		491.11	0.01	0.05	0.03	3.48	
11.50	RB3	365.95	0.01	0.06	0.03	2.88	
12.00		121.53	0.01	0.06	0.03	0.99	
14.00		483.85	0.02	0.06	0.04	4.41	
14.16	RT2	38.55	0.02	0.06	0.04	0.35	
14.84	RB4	163.58	0.02	0.06	0.04	1.56	
16.00		278.08	0.02	0.06	0.04	2.80	
16.50	RT3	119.49	0.02	0.06	0.04	1.23	
18.00		357.10	0.03	0.07	0.04	3.92	
20.00		472.95	0.03	0.07	0.04	5.64	
21.00	RT1 RB5	235.12	0.03	0.07	0.04	2.91	
22.00		234.21	0.04	0.07	0.04	3.01	
24.00		465.69	0.05	0.07	0.04	6.44	
26.00		462.06	0.05	0.07	0.04	6.85	
28.00		458.43	0.06	0.07	0.04	7.28	
30.00		454.80	0.07	0.07	0.04	7.72	
32.00		451.17	0.08	0.07	0.04	8.19	
34.00		447.54	0.09	0.07	0.04	8.66	
36.00	Bot - Section 2	443.91	0.10	0.07	0.04	9.16	
37.06	RT4	439.75	0.11	0.07	0.04	9.39	
37.96	RB6	371.88	0.11	0.07	0.04	8.16	
38.00		16.50	0.11	0.07	0.04	0.36	
40.00		821.35	0.13	0.07	0.03	19.20	
41.00	RT5 RB7	408.14	0.13	0.07	0.03	9.84	
42.00	Top - Section 1	406.44	0.14	0.07	0.03	10.10	
44.00		378.42	0.15	0.07	0.03	9.98	
46.00		375.28	0.17	0.07	0.03	10.48	
48.00		372.13	0.18	0.06	0.03	11.00	
50.00		368.99	0.20	0.06	0.02	11.52	
52.00		365.85	0.21	0.06	0.02	12.05	
54.00		362.70	0.23	0.06	0.02	12.58	
56.00		359.56	0.25	0.06	0.02	13.11	
57.11	RT6	198.20	0.26	0.05	0.02	7.43	
58.00	RB8	158.22	0.26	0.05	0.02	6.06	
58.50	RT7	88.61	0.27	0.05	0.02	3.43	
60.00		264.66	0.28	0.05	0.01	10.62	
62.00		350.13	0.30	0.04	0.01	14.69	
64.00		346.98	0.32	0.04	0.01	15.20	
66.00		343.84	0.34	0.03	0.01	15.71	
68.00		340.69	0.36	0.03	0.01	16.21	
70.00	Bot - Section 3	337.55	0.39	0.02	0.01	16.69	

Seismic Segment Forces (Factored)

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
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	

72.00		617.79	0.41	0.02	0.01	31.71	
74.00		612.02	0.43	0.01	0.01	32.57	
76.00	Top - Section 2 RT8 RB9	606.26	0.45	0.00	0.01	33.41	
78.00		275.52	0.48	-0.01	0.01	15.70	
80.00		272.90	0.50	-0.02	0.01	16.07	
82.00		270.28	0.53	-0.03	0.01	16.44	
84.00		267.66	0.56	-0.04	0.01	16.79	
86.00		265.04	0.58	-0.05	0.01	17.15	
88.00		262.42	0.61	-0.06	0.02	17.51	
90.00		259.80	0.64	-0.07	0.02	17.87	
92.00		257.18	0.67	-0.08	0.02	18.23	
94.00		254.56	0.70	-0.09	0.03	18.61	
96.00	RT9 RB10	251.94	0.73	-0.09	0.03	19.00	
98.00		249.32	0.76	-0.10	0.04	19.40	
100.00	Top - Section 3	246.70	0.79	-0.11	0.05	19.83	
102.00		195.61	0.82	-0.12	0.06	16.26	
104.00		193.51	0.85	-0.12	0.07	16.65	
106.00		191.42	0.88	-0.12	0.08	17.07	
108.00		189.32	0.92	-0.12	0.09	17.52	
110.00		187.22	0.95	-0.12	0.11	18.01	
112.00		185.13	0.99	-0.11	0.12	18.55	
113.50	RT10	137.47	1.01	-0.11	0.14	14.21	
114.00		45.56	1.02	-0.10	0.14	4.76	
115.00	Bot - Section 5	90.73	1.04	-0.10	0.15	9.69	
116.00		181.78	1.06	-0.09	0.16	19.85	
118.00		360.42	1.10	-0.07	0.18	41.20	
120.00	Top - Section 4	356.23	1.13	-0.05	0.21	42.70	
122.00		177.39	1.17	-0.02	0.23	22.33	
124.00		175.29	1.21	0.01	0.26	23.22	
126.00		173.19	1.25	0.06	0.29	24.17	
127.00	Appurtenance(s)	3127.7	1.27	0.08	0.31	448.22	
128.00		85.29	1.29	0.11	0.33	12.56	
130.00		169.00	1.33	0.16	0.36	26.28	
132.00		166.91	1.37	0.23	0.40	27.45	
134.00		164.81	1.41	0.31	0.44	28.69	
136.00		162.72	1.46	0.40	0.49	30.00	
137.00	Appurtenance(s)	1810.6	1.48	0.44	0.52	343.68	
138.00		80.05	1.50	0.50	0.54	15.64	
140.00		158.52	1.54	0.61	0.59	32.85	
142.00		156.43	1.59	0.74	0.65	34.38	
144.00		154.33	1.63	0.88	0.71	35.98	
146.00		152.24	1.68	1.04	0.78	37.65	
147.00	Appurtenance(s)	3275.6	1.70	1.12	0.81	834.46	
148.00		74.81	1.72	1.21	0.85	19.63	
150.00		148.04	1.77	1.41	0.93	41.19	
152.00		145.95	1.82	1.62	1.01	43.05	
154.00		143.85	1.87	1.85	1.09	44.96	
155.00	Appurtenance(s)	2595.6	1.89	1.98	1.14	834.99	
	Totals:	**36,604.0**				**3,847.3**	**Total Wind:** **48,996.8**

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	7/14/2020	
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**	0.62			**S1**	0.62
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.34	**SA**	0.18			**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	-37.16	-3.85	0.00	-506.42	0.00	506.42	4048.32	2024.16	8933.65	4411.99		0.00	0.00	0.085
2.00	-36.64	-3.85	0.00	-498.73	0.00	498.73	4032.02	2016.01	8833.50	4362.53		0.00	-0.01	0.084
4.00	-36.13	-3.85	0.00	-491.03	0.00	491.03	4015.53	2007.77	8733.46	4313.13		0.01	-0.01	0.084
6.00	-35.62	-3.86	0.00	-483.32	0.00	483.32	3998.87	1999.43	8633.56	4263.79		0.01	-0.02	0.083
8.00	-35.12	-3.86	0.00	-475.61	0.00	475.61	3982.01	1991.01	8533.79	4214.52		0.02	-0.03	0.083
10.00	-34.61	-3.86	0.00	-467.89	0.00	467.89	3964.98	1982.49	8434.18	4165.32		0.04	-0.04	0.082
11.50	-34.24	-3.86	0.00	-462.11	0.00	462.11	3952.09	1976.04	8359.57	4128.48		0.05	-0.04	0.071
12.00	-34.12	-3.86	0.00	-460.18	0.00	460.18	3947.76	1973.88	8334.72	4116.20		0.06	-0.04	0.071
14.00	-33.62	-3.86	0.00	-452.46	0.00	452.46	3930.37	1965.18	8235.42	4067.17		0.07	-0.05	0.071
14.16	-33.58	-3.86	0.00	-451.84	0.00	451.84	3928.97	1964.48	8227.49	4063.25		0.08	-0.05	0.083
14.84	-33.41	-3.86	0.00	-449.22	0.00	449.22	3923.00	1961.50	8193.77	4046.60		0.08	-0.05	0.070
16.00	-33.13	-3.85	0.00	-444.75	0.00	444.75	3912.78	1956.39	8136.31	4018.22		0.10	-0.06	0.070
16.50	-33.01	-3.85	0.00	-442.82	0.00	442.82	3908.36	1954.18	8111.55	4005.99		0.10	-0.06	0.080
18.00	-32.64	-3.85	0.00	-437.04	0.00	437.04	3895.02	1947.51	8037.37	3969.35		0.12	-0.06	0.079
20.00	-32.15	-3.85	0.00	-429.33	0.00	429.33	3877.07	1938.54	7938.63	3920.59		0.15	-0.07	0.079
21.00	-31.91	-3.85	0.00	-425.48	0.00	425.48	3868.03	1934.02	7889.33	3896.24		0.17	-0.08	0.078
22.00	-31.67	-3.85	0.00	-421.63	0.00	421.63	3858.94	1929.47	7840.08	3871.92		0.18	-0.08	0.078
24.00	-31.19	-3.85	0.00	-413.93	0.00	413.93	3840.63	1920.32	7741.75	3823.36		0.22	-0.09	0.077
26.00	-30.72	-3.84	0.00	-406.24	0.00	406.24	3822.14	1911.07	7643.63	3774.90		0.25	-0.09	0.076
28.00	-30.24	-3.84	0.00	-398.55	0.00	398.55	3803.46	1901.73	7545.74	3726.56		0.30	-0.10	0.076
30.00	-29.77	-3.83	0.00	-390.87	0.00	390.87	3784.60	1892.30	7448.09	3678.33		0.34	-0.11	0.075
32.00	-29.31	-3.83	0.00	-383.21	0.00	383.21	3765.56	1882.78	7350.68	3630.22		0.39	-0.12	0.074
34.00	-28.84	-3.82	0.00	-375.55	0.00	375.55	3746.34	1873.17	7253.52	3582.24		0.44	-0.12	0.073
36.00	-28.38	-3.82	0.00	-367.90	0.00	367.90	3726.93	1863.47	7156.62	3534.39		0.49	-0.13	0.073
37.06	-27.96	-3.81	0.00	-363.86	0.00	363.86	3716.57	1858.29	7105.38	3509.08		0.52	-0.14	0.088
37.96	-27.60	-3.80	0.00	-360.43	0.00	360.43	3707.74	1853.87	7061.93	3487.62		0.55	-0.14	0.071
38.00	-27.58	-3.80	0.00	-360.28	0.00	360.28	3707.34	1853.67	7060.00	3486.67		0.55	-0.14	0.071
40.00	-26.78	-3.78	0.00	-352.68	0.00	352.68	3687.57	1843.78	6963.65	3439.09		0.61	-0.15	0.070
41.00	-26.38	-3.77	0.00	-348.89	0.00	348.89	3677.62	1838.81	6915.58	3415.35		0.64	-0.15	0.070
42.00	-25.99	-3.76	0.00	-345.12	0.00	345.12	3033.05	1516.53	5788.55	2858.75		0.67	-0.15	0.075
44.00	-25.59	-3.76	0.00	-337.59	0.00	337.59	3018.90	1509.45	5713.49	2821.68		0.74	-0.16	0.079
46.00	-25.19	-3.75	0.00	-330.08	0.00	330.08	3004.56	1502.28	5638.53	2784.66		0.81	-0.17	0.078
48.00	-24.79	-3.74	0.00	-322.58	0.00	322.58	2990.04	1495.02	5563.69	2747.70		0.88	-0.18	0.077
50.00	-24.40	-3.73	0.00	-315.10	0.00	315.10	2975.34	1487.67	5488.97	2710.80		0.96	-0.19	0.075
52.00	-24.01	-3.72	0.00	-307.64	0.00	307.64	2960.46	1480.23	5414.39	2673.96		1.03	-0.19	0.074
54.00	-23.62	-3.71	0.00	-300.20	0.00	300.20	2945.39	1472.69	5339.95	2637.20		1.12	-0.20	0.073
56.00	-23.24	-3.70	0.00	-292.78	0.00	292.78	2930.14	1465.07	5265.67	2600.52		1.20	-0.21	0.072
57.11	-23.03	-3.69	0.00	-288.67	0.00	288.67	2921.60	1460.80	5224.51	2580.19		1.25	-0.21	0.092
58.00	-22.86	-3.69	0.00	-285.39	0.00	285.39	2914.71	1457.35	5191.54	2563.91		1.29	-0.22	0.070
58.50	-22.77	-3.68	0.00	-283.55	0.00	283.55	2910.82	1455.41	5173.04	2554.77		1.32	-0.22	0.086
60.00	-22.48	-3.68	0.00	-278.02	0.00	278.02	2899.09	1449.55	5117.58	2527.38		1.39	-0.23	0.085
62.00	-22.11	-3.66	0.00	-270.67	0.00	270.67	2883.30	1441.65	5043.81	2490.95		1.48	-0.24	0.084
64.00	-21.73	-3.65	0.00	-263.34	0.00	263.34	2867.32	1433.66	4970.21	2454.60		1.58	-0.25	0.083
66.00	-21.36	-3.64	0.00	-256.05	0.00	256.05	2851.15	1425.58	4896.82	2418.35		1.69	-0.25	0.081
68.00	-21.00	-3.62	0.00	-248.77	0.00	248.77	2834.81	1417.40	4823.62	2382.21		1.80	-0.26	0.080
70.00	-20.63	-3.61	0.00	-241.53	0.00	241.53	2818.28	1409.14	4750.64	2346.16		1.91	-0.27	0.079
72.00	-20.02	-3.57	0.00	-234.32	0.00	234.32	2801.57	1400.79	4677.88	2310.23		2.02	-0.28	0.077

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
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	-19.41	-3.54	0.00	-227.17	0.00	227.17	2784.68	1392.34	4605.35	2274.41	2.14	-0.29	0.075
76.00	-18.80	-3.51	0.00	-220.09	0.00	220.09	2161.97	1080.98	3608.45	1782.08	2.27	-0.30	0.084
78.00	-18.49	-3.49	0.00	-213.07	0.00	213.07	2151.06	1075.53	3556.01	1756.18	2.40	-0.31	0.090
80.00	-18.19	-3.48	0.00	-206.08	0.00	206.08	2139.97	1069.98	3503.61	1730.30	2.53	-0.32	0.088
82.00	-17.88	-3.46	0.00	-199.12	0.00	199.12	2128.69	1064.35	3451.27	1704.45	2.66	-0.33	0.086
84.00	-17.58	-3.45	0.00	-192.19	0.00	192.19	2117.24	1058.62	3398.99	1678.63	2.80	-0.34	0.084
86.00	-17.28	-3.43	0.00	-185.29	0.00	185.29	2105.60	1052.80	3346.79	1652.86	2.95	-0.35	0.082
88.00	-16.99	-3.42	0.00	-178.43	0.00	178.43	2093.78	1046.89	3294.68	1627.12	3.10	-0.36	0.080
90.00	-16.69	-3.40	0.00	-171.59	0.00	171.59	2081.77	1040.89	3242.65	1601.42	3.25	-0.37	0.078
92.00	-16.40	-3.38	0.00	-164.79	0.00	164.79	2069.59	1034.79	3190.73	1575.78	3.40	-0.38	0.076
94.00	-16.11	-3.36	0.00	-158.03	0.00	158.03	2057.22	1028.61	3138.91	1550.19	3.56	-0.39	0.074
96.00	-15.83	-3.35	0.00	-151.30	0.00	151.30	2044.67	1022.33	3087.22	1524.66	3.73	-0.40	0.078
98.00	-15.54	-3.33	0.00	-144.61	0.00	144.61	2031.93	1015.97	3035.65	1499.19	3.90	-0.41	0.075
100.00	-15.26	-3.31	0.00	-137.95	0.00	137.95	2019.02	1009.51	2984.22	1473.79	4.07	-0.41	0.073
100.00	-15.26	-3.31	0.00	-137.95	0.00	137.95	1394.49	697.25	2068.33	1021.47	4.07	-0.41	0.085
102.00	-15.02	-3.29	0.00	-131.34	0.00	131.34	1387.39	693.70	2035.72	1005.36	4.24	-0.42	0.095
104.00	-14.79	-3.28	0.00	-124.75	0.00	124.75	1380.13	690.06	2003.09	989.25	4.42	-0.43	0.092
106.00	-14.56	-3.26	0.00	-118.20	0.00	118.20	1372.69	686.35	1970.45	973.13	4.61	-0.45	0.088
108.00	-14.33	-3.24	0.00	-111.67	0.00	111.67	1365.09	682.55	1937.81	957.01	4.80	-0.46	0.085
110.00	-14.10	-3.23	0.00	-105.19	0.00	105.19	1357.32	678.66	1905.17	940.89	4.99	-0.47	0.081
112.00	-13.87	-3.21	0.00	-98.73	0.00	98.73	1349.39	674.69	1872.56	924.79	5.19	-0.47	0.077
113.50	-13.70	-3.19	0.00	-93.92	0.00	93.92	1343.33	671.66	1848.11	912.71	5.34	-0.48	0.074
113.50	-13.70	-3.19	0.00	-93.92	0.00	93.92	1343.33	671.66	1848.11	912.71	5.34	-0.48	0.074
114.00	-13.65	-3.19	0.00	-92.32	0.00	92.32	1341.28	670.64	1839.96	908.69	5.39	-0.48	0.112
115.00	-13.54	-3.18	0.00	-89.13	0.00	89.13	1337.17	668.58	1823.68	900.65	5.49	-0.49	0.109
116.00	-13.34	-3.16	0.00	-85.95	0.00	85.95	1333.01	666.51	1807.40	892.61	5.59	-0.50	0.106
118.00	-12.96	-3.12	0.00	-79.63	0.00	79.63	1324.58	662.29	1774.88	876.54	5.81	-0.51	0.101
120.00	-12.58	-3.08	0.00	-73.39	0.00	73.39	1327.18	663.59	1784.85	881.47	6.02	-0.52	0.093
122.00	-12.36	-3.05	0.00	-67.24	0.00	67.24	1318.63	659.32	1752.36	865.43	6.24	-0.53	0.087
124.00	-12.14	-3.03	0.00	-61.13	0.00	61.13	1309.91	654.95	1719.92	849.40	6.47	-0.55	0.081
126.00	-11.92	-3.01	0.00	-55.07	0.00	55.07	1301.02	650.51	1687.54	833.41	6.70	-0.56	0.075
127.00	-9.08	-2.53	0.00	-52.06	0.00	52.06	1296.51	648.26	1671.38	825.43	6.82	-0.56	0.070
128.00	-8.99	-2.52	0.00	-49.53	0.00	49.53	1291.97	645.98	1655.23	817.46	6.94	-0.56	0.068
130.00	-8.80	-2.49	0.00	-44.49	0.00	44.49	1282.74	641.37	1623.00	801.54	7.17	-0.57	0.062
132.00	-8.61	-2.46	0.00	-39.50	0.00	39.50	1273.35	636.68	1590.85	785.66	7.42	-0.58	0.057
134.00	-8.43	-2.43	0.00	-34.58	0.00	34.58	1263.80	631.90	1558.80	769.83	7.66	-0.59	0.052
136.00	-8.24	-2.40	0.00	-29.71	0.00	29.71	1254.07	627.04	1526.84	754.05	7.91	-0.60	0.046
137.00	-6.60	-2.04	0.00	-27.30	0.00	27.30	1249.15	624.57	1510.90	746.18	8.03	-0.60	0.042
138.00	-6.51	-2.03	0.00	-25.26	0.00	25.26	1244.18	622.09	1494.99	738.32	8.16	-0.60	0.039
140.00	-6.34	-1.99	0.00	-21.20	0.00	21.20	1234.12	617.06	1463.26	722.65	8.41	-0.61	0.034
142.00	-6.17	-1.96	0.00	-17.22	0.00	17.22	1223.90	611.95	1431.66	707.04	8.67	-0.61	0.029
144.00	-6.00	-1.92	0.00	-13.30	0.00	13.30	1213.50	606.75	1400.19	691.50	8.93	-0.61	0.024
146.00	-5.84	-1.88	0.00	-9.46	0.00	9.46	1202.94	601.47	1368.85	676.02	9.18	-0.62	0.019
147.00	-2.88	-1.01	0.00	-7.58	0.00	7.58	1197.60	598.80	1353.24	668.32	9.31	-0.62	0.014
148.00	-2.81	-0.99	0.00	-6.57	0.00	6.57	1192.22	596.11	1337.67	660.62	9.44	-0.62	0.012
150.00	-2.65	-0.95	0.00	-4.58	0.00	4.58	1181.32	590.66	1306.64	645.30	9.70	-0.62	0.009
152.00	-2.49	-0.91	0.00	-2.67	0.00	2.67	1170.26	585.13	1275.78	630.06	9.96	-0.62	0.006
154.00	-2.34	-0.86	0.00	-0.86	0.00	0.86	1159.03	579.51	1245.09	614.90	10.22	-0.62	0.003
155.00	0.00	-0.83	0.00	0.00	0.00	0.00	1153.35	576.68	1229.81	607.36	10.35	-0.62	0.000

Wind Loading - Shaft

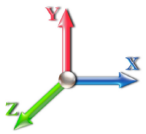
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 45	

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	7/14/2020	
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

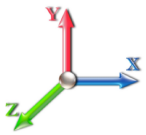
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 47	

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	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
2	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
3	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
4	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
5	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
6	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
7	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
8	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
9	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
10	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
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	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
13	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
14	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
15	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
16	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
17	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
18	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
19	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
20	137.00	(3) T-Framew/ platform	1	11.392	12.531	1.00	1.00	25.00	1620.00	0.000	0.000	313.28	0.00	0.00
21	137.00	APX18-206516S	3	11.392	12.531	0.58	0.80	6.32	56.10	0.000	0.000	79.26	0.00	0.00
22	137.00	RR90-17-XXDP	3	11.392	12.531	0.54	0.80	7.12	54.00	0.000	0.000	89.17	0.00	0.00
23	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
24	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
25	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
26	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
27	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
28	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
29	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
30	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
31	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
32	127.00	8843 B2 B66A	3	11.392	12.531	0.38	0.75	1.84	210.00	0.000	0.000	23.12	0.00	0.00
33	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
34	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
35	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
							Totals:		**10,496.83**			**3,993.67**		

Total Applied Force Summary

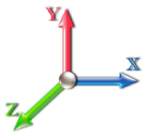
Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	7/14/2020
Site Name:	Danielson		**Exposure:**	B	
Height:	155.00 (ft)		**Crest Height:**	172.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 3	**Struct Class:**	II	Page: 48

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	571.92	0.00	0.00
4.00		131.38	568.29	0.00	0.00
6.00		128.57	564.66	0.00	0.00
8.00		125.84	561.02	0.00	0.00
10.00		123.19	557.39	0.00	0.00
11.50		90.85	415.66	0.00	0.00
12.00		30.07	138.10	0.00	0.00
14.00		118.11	550.13	0.00	0.00
14.16		9.40	43.85	0.00	0.00
14.84		39.71	186.12	0.00	0.00
16.00		66.99	316.53	0.00	0.00
16.50		28.69	136.06	0.00	0.00
18.00		84.91	406.81	0.00	0.00
20.00		111.03	539.24	0.00	0.00
21.00		54.85	268.26	0.00	0.00
22.00		54.30	267.35	0.00	0.00
24.00		106.63	531.98	0.00	0.00
26.00		104.52	528.35	0.00	0.00
28.00		102.47	524.71	0.00	0.00
30.00		100.56	521.08	0.00	0.00
32.00		100.44	517.45	0.00	0.00
34.00		100.23	513.82	0.00	0.00
36.00		99.94	510.19	0.00	0.00
37.06		53.61	474.88	0.00	0.00
37.96		45.43	401.71	0.00	0.00
38.00		2.02	17.82	0.00	0.00
40.00		100.74	887.64	0.00	0.00
41.00		50.15	441.28	0.00	0.00
42.00		50.02	439.58	0.00	0.00
44.00		99.72	444.71	0.00	0.00
46.00		99.14	441.56	0.00	0.00
48.00		98.52	438.42	0.00	0.00
50.00		97.87	435.27	0.00	0.00
52.00		97.19	432.13	0.00	0.00
54.00		96.48	428.99	0.00	0.00
56.00		95.75	425.84	0.00	0.00
57.11		52.81	234.99	0.00	0.00
58.00		42.17	187.71	0.00	0.00
58.50		23.63	105.18	0.00	0.00
60.00		70.60	314.37	0.00	0.00
62.00		93.45	416.41	0.00	0.00
64.00		92.66	413.27	0.00	0.00
66.00		91.85	410.12	0.00	0.00
68.00		91.04	406.98	0.00	0.00
70.00		90.21	403.83	0.00	0.00
72.00		90.74	684.07	0.00	0.00

Total Applied Force Summary

Structure:	CT00302-S-SBA		**Code:**	EIA/TIA-222-G	7/14/2020
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	678.31	0.00	0.00
76.00		89.06	672.54	0.00	0.00
78.00		88.21	341.80	0.00	0.00
80.00		87.36	339.18	0.00	0.00
82.00		86.51	336.56	0.00	0.00
84.00		85.65	333.94	0.00	0.00
86.00		84.80	331.32	0.00	0.00
88.00		83.94	328.70	0.00	0.00
90.00		83.08	326.08	0.00	0.00
92.00		82.23	323.46	0.00	0.00
94.00		81.37	320.84	0.00	0.00
96.00		80.51	318.22	0.00	0.00
98.00		79.65	315.60	0.00	0.00
100.00		78.80	312.98	0.00	0.00
102.00		77.94	261.89	0.00	0.00
104.00		77.09	259.80	0.00	0.00
106.00		76.24	257.70	0.00	0.00
108.00		75.39	255.60	0.00	0.00
110.00		74.54	253.51	0.00	0.00
112.00		73.69	251.41	0.00	0.00
113.50		54.72	187.18	0.00	0.00
114.00		18.13	62.13	0.00	0.00
115.00		36.11	123.87	0.00	0.00
116.00		36.44	214.92	0.00	0.00
118.00		72.25	426.70	0.00	0.00
120.00		71.41	422.51	0.00	0.00
122.00		70.57	243.67	0.00	0.00
124.00		69.73	241.57	0.00	0.00
126.00		68.90	239.48	0.00	0.00
127.00	(34) attachments	1248.88	3160.87	0.00	0.00
128.00		33.93	105.53	0.00	0.00
130.00		67.24	209.48	0.00	0.00
132.00		66.41	207.39	0.00	0.00
134.00		65.58	205.29	0.00	0.00
136.00		64.76	203.20	0.00	0.00
137.00	(7) attachments	513.77	1830.91	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:	**10,807.05**	**41,287.35**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

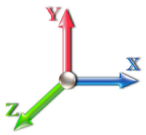
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 50	

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)

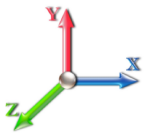
Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
Site Name:	Danielson	**Exposure:**	B		
Height:	155.00 (ft)	**Crest Height:**	172.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 3	**Struct Class:**	II	Page: 51	

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	7/14/2020	
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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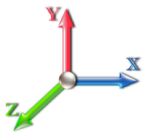
Load Case: 1.0D + 1.0W 60 mph Wind

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	-41.29	-10.81	0.00	-1062.5	0.00	1062.53	4048.32	2024.16	8933.65	4411.99	0.00	0.000	0.000	0.172
2.00	-40.71	-10.69	0.00	-1040.9	0.00	1040.91	4032.02	2016.01	8833.50	4362.53	0.00	-0.015	0.000	0.170
4.00	-40.14	-10.57	0.00	-1019.5	0.00	1019.53	4015.53	2007.77	8733.46	4313.13	0.01	-0.030	0.000	0.168
6.00	-39.57	-10.45	0.00	-998.40	0.00	998.40	3998.87	1999.43	8633.56	4263.79	0.03	-0.045	0.000	0.166
8.00	-39.01	-10.33	0.00	-977.50	0.00	977.50	3982.01	1991.01	8533.79	4214.52	0.05	-0.060	0.000	0.164
10.00	-38.45	-10.22	0.00	-956.84	0.00	956.84	3964.98	1982.49	8434.18	4165.32	0.08	-0.075	0.000	0.162
11.50	-38.03	-10.13	0.00	-941.51	0.00	941.51	3952.09	1976.04	8359.57	4128.48	0.11	-0.087	0.000	0.141
12.00	-37.89	-10.11	0.00	-936.45	0.00	936.45	3947.76	1973.88	8334.72	4116.20	0.11	-0.090	0.000	0.140
14.00	-37.34	-9.99	0.00	-916.24	0.00	916.24	3930.37	1965.18	8235.42	4067.17	0.16	-0.103	0.000	0.138
14.16	-37.30	-9.98	0.00	-914.64	0.00	914.64	3928.97	1964.48	8227.49	4063.25	0.16	-0.104	0.000	0.163
14.84	-37.11	-9.95	0.00	-907.85	0.00	907.85	3923.00	1961.50	8193.77	4046.60	0.17	-0.109	0.000	0.138
16.00	-36.79	-9.88	0.00	-896.31	0.00	896.31	3912.78	1956.39	8136.31	4018.22	0.20	-0.117	0.000	0.137
16.50	-36.66	-9.86	0.00	-891.37	0.00	891.37	3908.36	1954.18	8111.55	4005.99	0.21	-0.120	0.000	0.156
18.00	-36.25	-9.78	0.00	-876.58	0.00	876.58	3895.02	1947.51	8037.37	3969.35	0.25	-0.131	0.000	0.154
20.00	-35.71	-9.68	0.00	-857.02	0.00	857.02	3877.07	1938.54	7938.63	3920.59	0.31	-0.146	0.000	0.152
21.00	-35.44	-9.63	0.00	-847.34	0.00	847.34	3868.03	1934.02	7889.33	3896.24	0.34	-0.153	0.000	0.151
22.00	-35.17	-9.58	0.00	-837.72	0.00	837.72	3858.94	1929.47	7840.08	3871.92	0.38	-0.161	0.000	0.150
24.00	-34.63	-9.48	0.00	-818.56	0.00	818.56	3840.63	1920.32	7741.75	3823.36	0.45	-0.176	0.000	0.148
26.00	-34.10	-9.38	0.00	-799.61	0.00	799.61	3822.14	1911.07	7643.63	3774.90	0.52	-0.190	0.000	0.146
28.00	-33.58	-9.28	0.00	-780.85	0.00	780.85	3803.46	1901.73	7545.74	3726.56	0.61	-0.205	0.000	0.144
30.00	-33.05	-9.19	0.00	-762.28	0.00	762.28	3784.60	1892.30	7448.09	3678.33	0.70	-0.220	0.000	0.142
32.00	-32.53	-9.10	0.00	-743.90	0.00	743.90	3765.56	1882.78	7350.68	3630.22	0.79	-0.234	0.000	0.140
34.00	-32.02	-9.00	0.00	-725.70	0.00	725.70	3746.34	1873.17	7253.52	3582.24	0.89	-0.249	0.000	0.138
36.00	-31.51	-8.91	0.00	-707.70	0.00	707.70	3726.93	1863.47	7156.62	3534.39	1.00	-0.263	0.000	0.136
37.06	-31.03	-8.85	0.00	-698.26	0.00	698.26	3716.57	1858.29	7105.38	3509.08	1.06	-0.271	0.000	0.165
37.96	-30.63	-8.81	0.00	-690.29	0.00	690.29	3707.74	1853.87	7061.93	3487.62	1.11	-0.279	0.000	0.132
38.00	-30.61	-8.81	0.00	-689.94	0.00	689.94	3707.34	1853.67	7060.00	3486.67	1.11	-0.279	0.000	0.132
40.00	-29.72	-8.71	0.00	-672.32	0.00	672.32	3687.57	1843.78	6963.65	3439.09	1.23	-0.293	0.000	0.130
41.00	-29.28	-8.66	0.00	-663.61	0.00	663.61	3677.62	1838.81	6915.58	3415.35	1.30	-0.300	0.000	0.129
42.00	-28.84	-8.62	0.00	-654.94	0.00	654.94	3033.05	1516.53	5788.55	2858.75	1.36	-0.308	0.000	0.139
44.00	-28.39	-8.52	0.00	-637.71	0.00	637.71	3018.90	1509.45	5713.49	2821.68	1.49	-0.322	0.000	0.145
46.00	-27.95	-8.43	0.00	-620.67	0.00	620.67	3004.56	1502.28	5638.53	2784.66	1.63	-0.336	0.000	0.142
48.00	-27.51	-8.33	0.00	-603.82	0.00	603.82	2990.04	1495.02	5563.69	2747.70	1.77	-0.351	0.000	0.139
50.00	-27.07	-8.24	0.00	-587.16	0.00	587.16	2975.34	1487.67	5488.97	2710.80	1.92	-0.366	0.000	0.137
52.00	-26.64	-8.14	0.00	-570.68	0.00	570.68	2960.46	1480.23	5414.39	2673.96	2.08	-0.380	0.000	0.134
54.00	-26.21	-8.05	0.00	-554.39	0.00	554.39	2945.39	1472.69	5339.95	2637.20	2.24	-0.395	0.000	0.132
56.00	-25.78	-7.96	0.00	-538.29	0.00	538.29	2930.14	1465.07	5265.67	2600.52	2.41	-0.409	0.000	0.129
57.11	-25.55	-7.91	0.00	-529.45	0.00	529.45	2921.60	1460.80	5224.51	2580.19	2.51	-0.417	0.000	0.164
58.00	-25.36	-7.87	0.00	-522.42	0.00	522.42	2914.71	1457.35	5191.54	2563.91	2.59	-0.425	0.000	0.126
58.50	-25.25	-7.85	0.00	-518.48	0.00	518.48	2910.82	1455.41	5173.04	2554.77	2.63	-0.429	0.000	0.153
60.00	-24.94	-7.78	0.00	-506.71	0.00	506.71	2899.09	1449.55	5117.58	2527.38	2.77	-0.441	0.000	0.151
62.00	-24.52	-7.69	0.00	-491.16	0.00	491.16	2883.30	1441.65	5043.81	2490.95	2.96	-0.458	0.000	0.148
64.00	-24.10	-7.60	0.00	-475.78	0.00	475.78	2867.32	1433.66	4970.21	2454.60	3.15	-0.475	0.000	0.145
66.00	-23.69	-7.51	0.00	-460.57	0.00	460.57	2851.15	1425.58	4896.82	2418.35	3.35	-0.492	0.000	0.143
68.00	-23.28	-7.42	0.00	-445.55	0.00	445.55	2834.81	1417.40	4823.62	2382.21	3.56	-0.509	0.000	0.140
70.00	-22.88	-7.34	0.00	-430.70	0.00	430.70	2818.28	1409.14	4750.64	2346.16	3.78	-0.525	0.000	0.137
72.00	-22.19	-7.25	0.00	-416.03	0.00	416.03	2801.57	1400.79	4677.88	2310.23	4.00	-0.541	0.000	0.133
74.00	-21.51	-7.16	0.00	-401.53	0.00	401.53	2784.68	1392.34	4605.35	2274.41	4.23	-0.557	0.000	0.130

Calculated Forces

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
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	-20.84	-7.07	0.00	-387.22	0.00	387.22	2161.97	1080.98	3608.45	1782.08	4.47	-0.573	0.000	0.144
78.00	-20.50	-6.98	0.00	-373.09	0.00	373.09	2151.06	1075.53	3556.01	1756.18	4.72	-0.589	0.000	0.154
80.00	-20.16	-6.90	0.00	-359.13	0.00	359.13	2139.97	1069.98	3503.61	1730.30	4.97	-0.607	0.000	0.150
82.00	-19.82	-6.81	0.00	-345.34	0.00	345.34	2128.69	1064.35	3451.27	1704.45	5.22	-0.624	0.000	0.146
84.00	-19.48	-6.73	0.00	-331.72	0.00	331.72	2117.24	1058.62	3398.99	1678.63	5.49	-0.641	0.000	0.142
86.00	-19.15	-6.64	0.00	-318.26	0.00	318.26	2105.60	1052.80	3346.79	1652.86	5.76	-0.658	0.000	0.138
88.00	-18.82	-6.56	0.00	-304.97	0.00	304.97	2093.78	1046.89	3294.68	1627.12	6.04	-0.674	0.000	0.134
90.00	-18.50	-6.48	0.00	-291.85	0.00	291.85	2081.77	1040.89	3242.65	1601.42	6.33	-0.691	0.000	0.130
92.00	-18.17	-6.40	0.00	-278.88	0.00	278.88	2069.59	1034.79	3190.73	1575.78	6.62	-0.707	0.000	0.126
94.00	-17.85	-6.32	0.00	-266.08	0.00	266.08	2057.22	1028.61	3138.91	1550.19	6.92	-0.722	0.000	0.122
96.00	-17.53	-6.24	0.00	-253.45	0.00	253.45	2044.67	1022.33	3087.22	1524.66	7.22	-0.738	0.000	0.127
98.00	-17.21	-6.16	0.00	-240.97	0.00	240.97	2031.93	1015.97	3035.65	1499.19	7.54	-0.754	0.000	0.122
100.00	-16.90	-6.08	0.00	-228.65	0.00	228.65	2019.02	1009.51	2984.22	1473.79	7.86	-0.770	0.000	0.118
100.00	-16.90	-6.08	0.00	-228.65	0.00	228.65	1394.49	697.25	2068.33	1021.47	7.86	-0.770	0.000	0.137
102.00	-16.64	-6.01	0.00	-216.48	0.00	216.48	1387.39	693.70	2035.72	1005.36	8.18	-0.785	0.000	0.153
104.00	-16.38	-5.93	0.00	-204.47	0.00	204.47	1380.13	690.06	2003.09	989.25	8.52	-0.802	0.000	0.146
106.00	-16.12	-5.85	0.00	-192.61	0.00	192.61	1372.69	686.35	1970.45	973.13	8.86	-0.819	0.000	0.140
108.00	-15.86	-5.78	0.00	-180.90	0.00	180.90	1365.09	682.55	1937.81	957.01	9.20	-0.836	0.000	0.133
110.00	-15.61	-5.71	0.00	-169.34	0.00	169.34	1357.32	678.66	1905.17	940.89	9.56	-0.852	0.000	0.127
112.00	-15.36	-5.63	0.00	-157.93	0.00	157.93	1349.39	674.69	1872.56	924.79	9.92	-0.867	0.000	0.120
113.50	-15.17	-5.58	0.00	-149.48	0.00	149.48	1343.33	671.66	1848.11	912.71	10.19	-0.878	0.000	0.115
113.50	-15.17	-5.58	0.00	-149.48	0.00	149.48	1343.33	671.66	1848.11	912.71	10.19	-0.878	0.000	0.115
114.00	-15.11	-5.56	0.00	-146.70	0.00	146.70	1341.28	670.64	1839.96	908.69	10.28	-0.882	0.000	0.173
115.00	-14.98	-5.52	0.00	-141.14	0.00	141.14	1337.17	668.58	1823.68	900.65	10.47	-0.892	0.000	0.168
116.00	-14.77	-5.49	0.00	-135.61	0.00	135.61	1333.01	666.51	1807.40	892.61	10.66	-0.903	0.000	0.163
118.00	-14.34	-5.41	0.00	-124.64	0.00	124.64	1324.58	662.29	1774.88	876.54	11.04	-0.923	0.000	0.153
120.00	-13.92	-5.34	0.00	-113.81	0.00	113.81	1327.18	663.59	1784.85	881.47	11.43	-0.943	0.000	0.140
122.00	-13.67	-5.27	0.00	-103.13	0.00	103.13	1318.63	659.32	1752.36	865.43	11.83	-0.961	0.000	0.130
124.00	-13.43	-5.20	0.00	-92.59	0.00	92.59	1309.91	654.95	1719.92	849.40	12.24	-0.977	0.000	0.119
126.00	-13.19	-5.13	0.00	-82.19	0.00	82.19	1301.02	650.51	1687.54	833.41	12.65	-0.992	0.000	0.109
127.00	-10.05	-3.83	0.00	-77.06	0.00	77.06	1296.51	648.26	1671.38	825.43	12.86	-0.999	0.000	0.101
128.00	-9.95	-3.79	0.00	-73.23	0.00	73.23	1291.97	645.98	1655.23	817.46	13.07	-1.006	0.000	0.097
130.00	-9.74	-3.72	0.00	-65.64	0.00	65.64	1282.74	641.37	1623.00	801.54	13.49	-1.019	0.000	0.090
132.00	-9.53	-3.66	0.00	-58.19	0.00	58.19	1273.35	636.68	1590.85	785.66	13.92	-1.031	0.000	0.082
134.00	-9.33	-3.59	0.00	-50.88	0.00	50.88	1263.80	631.90	1558.80	769.83	14.36	-1.042	0.000	0.074
136.00	-9.13	-3.52	0.00	-43.71	0.00	43.71	1254.07	627.04	1526.84	754.05	14.79	-1.052	0.000	0.065
137.00	-7.30	-2.97	0.00	-40.18	0.00	40.18	1249.15	624.57	1510.90	746.18	15.02	-1.056	0.000	0.060
138.00	-7.21	-2.94	0.00	-37.21	0.00	37.21	1244.18	622.09	1494.99	738.32	15.24	-1.060	0.000	0.056
140.00	-7.02	-2.88	0.00	-31.33	0.00	31.33	1234.12	617.06	1463.26	722.65	15.68	-1.068	0.000	0.049
142.00	-6.83	-2.81	0.00	-25.57	0.00	25.57	1223.90	611.95	1431.66	707.04	16.13	-1.075	0.000	0.042
144.00	-6.64	-2.75	0.00	-19.95	0.00	19.95	1213.50	606.75	1400.19	691.50	16.58	-1.080	0.000	0.034
146.00	-6.46	-2.68	0.00	-14.46	0.00	14.46	1202.94	601.47	1368.85	676.02	17.04	-1.085	0.000	0.027
147.00	-3.19	-1.57	0.00	-11.78	0.00	11.78	1197.60	598.80	1353.24	668.32	17.26	-1.086	0.000	0.020
148.00	-3.10	-1.54	0.00	-10.21	0.00	10.21	1192.22	596.11	1337.67	660.62	17.49	-1.088	0.000	0.018
150.00	-2.93	-1.48	0.00	-7.13	0.00	7.13	1181.32	590.66	1306.64	645.30	17.95	-1.090	0.000	0.014
152.00	-2.75	-1.41	0.00	-4.18	0.00	4.18	1170.26	585.13	1275.78	630.06	18.41	-1.092	0.000	0.009
154.00	-2.58	-1.35	0.00	-1.35	0.00	1.35	1159.03	579.51	1245.09	614.90	18.86	-1.093	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	19.09	-1.093	0.000	0.000

Final Analysis Summary

Structure:	CT00302-S-SBA	**Code:**	EIA/TIA-222-G	7/14/2020	
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	

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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	49.0	0.00	49.51	0.00	0.00	4837.06
0.9D + 1.6W 101 mph Wind	49.0	0.00	37.13	0.00	0.00	4801.32
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.4	0.00	82.02	0.00	0.00	1092.91
1.2D + 1.0E	3.8	0.00	49.54	0.00	0.00	510.63
0.9D + 1.0E	3.8	0.00	37.16	0.00	0.00	506.42
1.0D + 1.0W 60 mph Wind	10.8	0.00	41.29	0.00	0.00	1062.53

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	-49.51	-49.03	0.00	-4837.0	0.00	-4837.0	4048.32	2024.1	8933.65	4411.99	0.00	0.762
0.9D + 1.6W 101 mph Wind	-37.13	-49.02	0.00	-4801.3	0.00	-4801.3	4048.32	2024.1	8933.65	4411.99	0.00	0.754
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-34.92	-6.06	0.00	-162.61	0.00	-162.61	1341.28	670.64	1839.96	908.69	114.00	0.205
1.2D + 1.0E	-18.20	-3.23	0.00	-93.47	0.00	-93.47	1341.28	670.64	1839.96	908.69	114.00	0.116
0.9D + 1.0E	-13.65	-3.19	0.00	-92.32	0.00	-92.32	1341.28	670.64	1839.96	908.69	114.00	0.112
1.0D + 1.0W 60 mph Wind	-15.11	-5.56	0.00	-146.70	0.00	-146.70	1341.28	670.64	1839.96	908.69	114.00	0.173

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	273.3	4.92	37.1	284.7	37.1	8	0	257.9	37.1			301.08	413.6	356.25	0.845
0.0	14.2	(3) PLT-10"x1/2" (90deg)	-186.8	-3.36	37.1	219.2	37.1	6	0	188.2	37.1	6	0	219.16	290.0	255.00	0.859
11.5	16.5	(1) PLT-6"X1-1/4"(1.25" Hole	-253.9	-4.57	37.1	241.2	37.1	7	11	235.1	37.1	7	11	279.82	413.6	356.25	0.785
14.8	37.1	(3) PLT-10"x1/2" (90deg)	190.4	3.43	37.1	186.4	37.1	6	0	180.6	37.1	5	0	199.71	290.0	255.00	0.783
21.0	41.0	(3) PLT-6"X1-1/4"(1.25" Hole	306.8	5.52	37.1	257.9	37.1			230.9	37.1			290.47	413.6	356.25	0.815
38.0	57.1	(3) PLT-10"x1/2" (90deg)	-213.3	-3.84	37.1	184.1	37.1	5	0	171.6	37.1	5	0	188.17	290.0	255.00	0.738
41.0	58.5	(3) PLT-6"X1-1/4"(1.25" Hole	339.9	6.12	37.1	230.9	37.1			212.5	37.1	6	11	273.02	413.6	356.25	0.766
58.0	76.0	(3) PLT-5"x1-1/4"(1.25"Hole)	-305.7	-5.50	37.1	197.3	37.1	6	8	201.2	37.1			232.75	344.6	281.25	0.828
76.0	96.0	(3) PLT-4.5"x 1-1/4"(1.25"ho	-325.5	-5.86	37.1	186.7	37.1			158.7	37.1			200.61	310.2	243.75	0.823
96.0	113.5	(3) PLT-3.5x1.25(1.25 Hole)	-334.4	-6.02	37.1	133.2	37.1			107.6	37.1	3	6	139.95	241.2	168.75	0.829

Monopole Mat Foundation Design

			Date: 7/14/2020
Customer Name:	AT&T	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	155
Site Number:	CT00302-S-SBA	**Engineer Name:**	J. Chen
Engr. Number:	95487	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

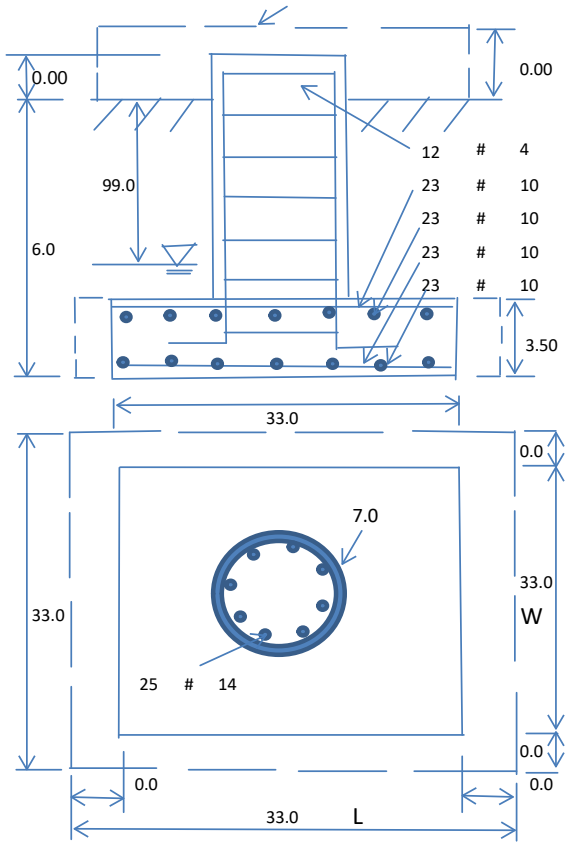
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	49.5	Shear Force (Kips):	49.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4837.1
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):	977.10

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1597	<	Allowable Factored Soil Bearing (psf):	24000	0.07	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	14591.7	>	Design Factored Momont (kips-ft):	5131	0.35	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.84	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	4959.6	0.58	OK!
Calculated Shear Capacity (Kips):	724.1	>	Design Factored Shear (Kips):	49.0	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):	49.5	0.01	OK!
Moment & Axial Strength Combination:	0.58	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):	297.7	0.24	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1248.5	>	One-Way Factored Shear (W-D., Kips)	297.7	0.24	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1258.9	>	One-Way Factored Shear (C-C, Kips):	285.7	0.23	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):	2250.6	0.46	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	4930.1	>	Moment at Bottom (W-Dir. K-Ft):	2250.6	0.46	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	6943.8	>	Moment at Bottom (C-C Dir. K-Ft):	3182.9	0.46	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):	1000.2	0.20	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	4930.1	>	Moment at the top (W-Dir K-Ft):	1000.2	0.20	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	6943.8	>	Moment at the top (C-C Dir. K-Ft):	933.0	0.13	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1934.8	k-ft.	Max. factored shear stress v_{u_CD}:		5.4	Psi
Max. factored shear stress v_{u_AB}:	10.6	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	10.6	Psi	Check Usage of Punching Shear Capacity:		0.06	OK!

April 24, 2020
May 12, 2020 (Rev.1)
June 9, 2020 (Rev.2)

SAI Communications
12 Industrial Way
Salem NH, 03079

RE:	SBA Site I.D.	CT00302-S
	Site Number:	CT5483 (LTE 5C)
	FA Number:	10071086
	PACE Number:	MRCTB047463
	PT Number:	2051A0VH9V
	Site Name:	KILLINGLY-DANIELSON
	Site Address:	246 East Franklin Street Danielson, CT 06239

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by SAI Communications to perform a mount analysis on the new AT&T antenna/RRH mounts to determine their capability of supporting the following additional loading:

- (3) 7770 Antennas (55.0"x11.0"x5.0" - Wt. = 35 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7"Ø – Wt. = 33 lbs.)
- **(3) DMP65R-BU8DA Antennas (96.0"x20.7"x7.7" – Wt. = 96 lbs. /each)**
- **(3) 840370799 Antennas (95.9"x14.9"x6.5"– Wt. = 93 lbs. /each)**
- **(3) 4449 B5/B12 RRH's (17.9"x13.2"x9.5" – Wt. = 71 lbs. /each)**
- **(3) B14 4478 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)3**
- **(3) B2/B66A 8843 RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)**
- **(3) 4415 B30 RRH's (16.5"x13.4"x5.9" – Wt. = 46 lbs. /each)**
- **(3) DTMABP7819VG12A TMA's (10.7"x11.1"x3.8" - Wt. = 20 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7"Ø – Wt. = 33 lbs.)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mounts on March 23, 2020.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R13.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 130 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.22 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 3; tower is located at the upper half of a hill.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 2.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing monopole with a ring mount. The connection is considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mounts **ARE NOT CAPABLE** of supporting the proposed installation. HDG recommends the following modifications:

- **Install new handrail kit, SitePro1 P/N HRK12 (or approved equal).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 5C) Mount Rating	52	LC1	178%	**FAIL**
Modified (LTE 5C) Mount Rating	92	LC4	96%	**PASS**

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

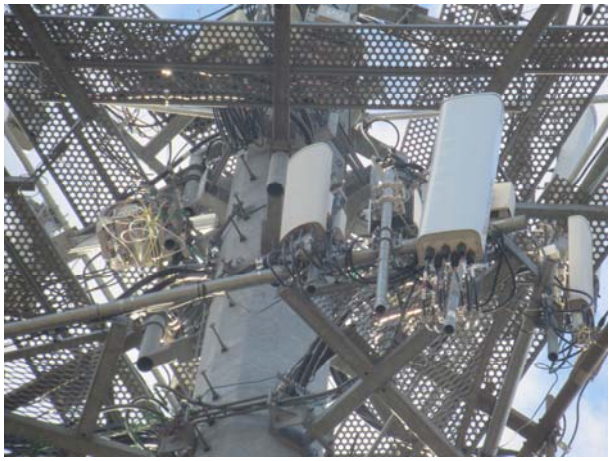
Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC

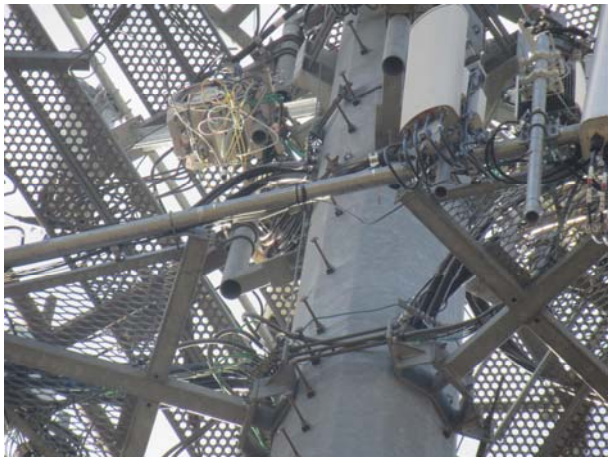
Michael Cabral
Vice President

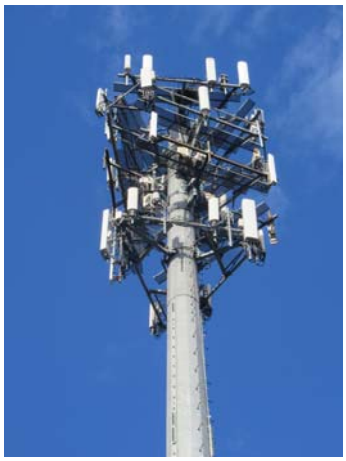
Daniel P. Hamm, PE
Principal

FIELD PHOTOS:







p: 978.557.5553 f: 978.336.5586 a: 45 Beechwood Drive, N. Andover, MA 01845
p: 203.208.3919 f: 203.234.6398 a: 110 Washington Avenue, 4th Floor, North Haven CT 06473

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 6/10/2020
Project Name: KILLINGLY-DANIELSON
Project No.: MA5483
Designed By: ID **Checked By:** MSC

HUDSON Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

$K_z = 2.01 (z/z_g)^{2/\alpha}$

z=	127	(ft)
z_g=	1200	(ft)
α=	7.0	
K_z=	**1.058**	

Kzmin ≤ Kz ≤ 2.01

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$K_{zt} = [1+(K_c K_t/K_h)]^2$

$K_h = e^{(f*z/H)}$

K_{zt}=	**1.19387954**	
K_h=	5.148522	
K_c=	0.9	(from Table 2-4)
K_t=	0.53	(from Table 2-5)
f=	2	(from Table 2-5)
z=	127	
z_s=	485	(Mean elevation of base of structure above sea level)
H=	155	(Ht. of the crest above surrounding terrain)
K_{zt}=	1.19	(from 2.6.6.2.1)
K_e=	0.98	(from 2.6.8)

(If Category 1 then K_{zt} =1.0)

Category= **3**

2.6.10 Design Ice Thickness

Max Ice Thickness = t_i = 1.00 in
Importance Factor = I= 1.0 (from Table 2-3)
K_{iz} = 1.14 (from Sec. 2.6.10)

$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$

t_{iz} = 1.22 in

Date: 6/10/2020
Project Name: KILLINGLY-DANIELSON
Project No.: MA5483
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

G_h = 1.0 Latticed Structures > 600 ft

G_h = 0.85 Latticed Structures 450 ft or less

G_h = 0.85 + 0.15 [h/150 - 3.0] h= ht. of structure

h=	155	G_h=	0.85

2.6.9.2 Guyed Masts G_h= 0.85

2.6.9.3 Pole Structures G_h= 1.1

2.6.9 Appurtenances G_h= 1.0

2.6.9.4 Structures Supported on Other Structures

(Cantilivered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

G_h=	1.35	**Gh=**	**1.00**

2.6.11.2 Design Wind Force on Appurtenances

$F = q_z * G_h * (EPA)_A$

$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$

		K_z=	1.058	(from 2.6.5.2)
		K_{zt}=	1.2	(from 2.6.6.2.1)
		K_s=	1.0	(from 2.6.7)
q_z=	**51.02**	K_e=	0.98	(from 2.6.8)
$q_{z\,(ice)}$=	**7.55**	K_d=	0.95	(from Table 2-2)
$q_{z\,(30)}$=	**2.72**	V_{max}=	130	mph (Ultimate Wind Speed)
		$V_{max\,(ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

Date: 6/10/2020
Project Name: KILLINGLY-DANIELSON
Project No.: MA5483
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		1.2 - 2.8(r_s) ≥ 0.85	1.4 - 4.0(r_s) ≥ 0.90	2.0 - 6.0(r_s) ≥ 1.25
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 78 (Transitional)	$4.14/(C^{0.485})$	$3.66/(C^{0.415})$	$46.8/(C^{-1.0})$
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
(Aspect ratio is independent of the spacing between support points of a linear appurtenance,

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = 1.22 in | **Angle =** 0 (deg) | **Equivalent Angle =** 180 (deg)

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	912	155	49
840370799 Antenna	95.9	14.9	6.5	9.92	6.44	1.37	696	123	37
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	281	53	15
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.88	1.20	72	15	4
4449 B5/B12 RRH (Side)	17.9	4.8	6.6	0.59	3.77	1.26	38	10	2
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.20	69	15	4
B2/B66A 8843 RRH (Side)	14.9	5.5	13.2	0.56	2.73	1.21	35	9	2
B14 4478 RRH	18.1	8.3	13.4	1.04	2.18	1.20	64	14	3
B14 4478 RRH (Side)	18.1	4.2	13.2	0.52	4.36	1.28	34	9	2
4415 B30 RRH	16.5	5.9	13.4	0.68	2.80	1.21	42	10	2
4415 B30 RRH (Side)	16.5	3.0	5.9	0.34	5.59	1.34	23	7	1
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.96	1.20	50	11	3
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	58	12	3
3" Pipe	3.5	12.0		0.29	0.29	1.20	18	5	1
L 2x2 Angles	2.0	12.0		0.17	0.17	1.20	10	4	1
PL 3x3/16	3.0	12.0		0.25	0.25	1.20	15	5	1
2" pipe	2.4	12.0		0.20	0.20	1.20	12	4	1
2-1/2" pipe	2.9	12.0		0.24	0.24	1.20	15	5	1
L 2-1/2x2-1/2 Angles	2.0	12.0		0.17	0.17	1.20	10	4	1
HSS 4x4	4.0	12.0		0.33	0.33	1.20	20	6	1

Date: 6/10/2020
Project Name: KILLINGLY-DANIELSON
Project No.: MA5483
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	30	(deg)	Ice Thickness =	1.22	in.	Equivalent Angle =	210	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	912	414	787
840370799 Antenna	95.9	14.9	6.5	9.92	4.33	6.44	14.75	1.37	1.66	696	366	614
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	281	149	248
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	72	100	79
4449 B5/B12 RRH (Side)	17.9	4.8	6.6	0.59	0.82	3.77	2.71	1.26	1.21	38	51	41
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	69	84	73
B2/B66A 8843 RRH (Side)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	35	84	47
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	64	103	74
B14 4478 RRH (Side)	18.1	4.2	13.2	0.52	1.66	4.36	1.37	1.28	1.20	34	102	51
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	42	94	55
4415 B30 RRH (Side)	16.5	3.0	5.9	0.34	0.68	5.59	2.80	1.34	1.21	23	42	28
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	50	17	42

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	98.4	23.1	10.1	15.81	6.93	4.25	9.71	1.28	1.49	153	78	134
840370799 Antenna	98.3	17.3	8.9	11.84	6.10	5.67	11.01	1.34	1.53	120	71	108
7770 Antenna	57.4	13.4	7.4	5.36	2.97	4.28	7.72	1.28	1.42	52	32	47
4449 B5/B12 RRH	20.3	11.9	15.6	1.69	2.21	1.70	1.30	1.20	1.20	15	20	16
4449 B5/B12 RRH (Side)	20.3	6.0	9.0	0.84	1.28	3.41	2.25	1.24	1.20	8	12	9
B2/B66A 8843 RRH	17.3	13.3	15.6	1.61	1.88	1.30	1.11	1.20	1.20	15	17	15
B2/B66A 8843 RRH (Side)	17.3	6.7	15.6	0.80	1.88	2.60	1.11	1.20	1.20	7	17	10
B14 4478 RRH	20.5	10.7	15.8	1.53	2.26	1.91	1.30	1.20	1.20	14	20	16
B14 4478 RRH (Side)	20.5	5.4	15.6	0.77	2.23	3.83	1.31	1.26	1.20	7	20	11
4415 B30 RRH	18.9	8.3	15.8	1.10	2.08	2.27	1.20	1.20	1.20	10	19	12
4415 B30 RRH (Side)	18.9	4.2	8.3	0.55	1.10	4.54	2.27	1.29	1.20	5	10	6
DTMABP7819VG12A TMA	13.1	13.5	6.2	1.23	0.57	0.97	2.11	1.20	1.20	11	5	10

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	49	22	42
840370799 Antenna	95.9	14.9	6.5	9.92	4.33	6.44	14.75	1.37	1.66	37	20	33
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	15	8	13
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	4	5	4
4449 B5/B12 RRH (Side)	17.9	4.8	6.6	0.59	0.82	3.77	2.71	1.26	1.21	2	3	2
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	4	4
B2/B66A 8843 RRH (Side)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	4	3
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	4
B14 4478 RRH (Side)	18.1	4.2	13.2	0.52	1.66	4.36	1.37	1.28	1.20	2	5	3
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	3
4415 B30 RRH (Side)	16.5	3.0	5.9	0.34	0.68	5.59	2.80	1.34	1.21	1	2	1
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	3	1	2

Date: 6/10/2020
Project Name: KILLINGLY-DANIELSON
Project No.: MA5483
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	1.22	in.	Equivalent Angle =	240	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	912	414	539
840370799 Antenna	95.9	14.9	6.5	9.92	4.33	6.44	14.75	1.37	1.66	696	366	449
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	281	149	182
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	72	100	93
4449 B5/B12 RRH (Side)	17.9	7.1	6.6	0.89	0.82	2.51	2.71	1.20	1.21	54	51	52
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	69	84	80
B2/B66A 8843 RRH (Side)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	52	84	76
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	64	103	93
B14 4478 RRH (Side)	18.1	6.2	13.2	0.78	1.66	2.91	1.37	1.22	1.20	49	102	88
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	42	94	81
4415 B30 RRH (Side)	16.5	4.4	5.9	0.51	0.68	3.73	2.80	1.25	1.21	32	42	39
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	50	17	26

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	98.4	23.1	10.1	15.81	6.93	4.25	9.71	1.28	1.49	153	78	97
840370799 Antenna	98.3	17.3	8.9	11.84	6.10	5.67	11.01	1.34	1.53	120	71	83
7770 Antenna	57.4	13.4	7.4	5.36	2.97	4.28	7.72	1.28	1.42	52	32	37
4449 B5/B12 RRH	20.3	11.9	15.6	1.69	2.21	1.70	1.30	1.20	1.20	15	20	19
4449 B5/B12 RRH (Side)	20.3	9.0	9.0	1.26	1.28	2.27	2.25	1.20	1.20	11	12	12
B2/B66A 8843 RRH	17.3	13.3	15.6	1.61	1.88	1.30	1.11	1.20	1.20	15	17	16
B2/B66A 8843 RRH (Side)	17.3	10.0	15.6	1.20	1.88	1.73	1.11	1.20	1.20	11	17	16
B14 4478 RRH	20.5	10.7	15.8	1.53	2.26	1.91	1.30	1.20	1.20	14	20	19
B14 4478 RRH (Side)	20.5	8.1	15.6	1.15	2.23	2.55	1.31	1.20	1.20	10	20	18
4415 B30 RRH	18.9	8.3	15.8	1.10	2.08	2.27	1.20	1.20	1.20	10	19	17
4415 B30 RRH (Side)	18.9	6.3	8.3	0.82	1.10	3.03	2.27	1.22	1.20	8	10	9
DTMABP7819VG12A TMA	13.1	13.5	6.2	1.23	0.57	0.97	2.11	1.20	1.20	11	5	7

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	49	22	29
840370799 Antenna	95.9	14.9	6.5	9.92	4.33	6.44	14.75	1.37	1.66	37	20	24
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	15	8	10
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	4	5	5
4449 B5/B12 RRH (Side)	17.9	7.1	6.6	0.89	0.82	2.51	2.71	1.20	1.21	3	3	3
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	4	4
B2/B66A 8843 RRH (Side)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	3	4	4
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	5
B14 4478 RRH (Side)	18.1	6.2	13.2	0.78	1.66	2.91	1.37	1.22	1.20	3	5	5
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	4
4415 B30 RRH (Side)	16.5	4.4	5.9	0.51	0.68	3.73	2.80	1.25	1.21	2	2	2
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	3	1	1

Date: 6/10/2020
Project Name: KILLINGLY-DANIELSON
Project No.: MA5483
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 90 (deg) | Ice Thickness = 1.22 in. | Equivalent Angle = 270 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	912	414	414
840370799 Antenna	95.9	14.9	6.5	9.92	4.33	6.44	14.75	1.37	1.66	696	366	366
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	281	149	149
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	72	100	100
4449 B5/B12 RRH (Side)	17.9	4.8	6.6	0.59	0.82	3.77	2.71	1.26	1.21	38	51	51
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	69	84	84
B2/B66A 8843 RRH (Side)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	35	84	84
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	64	103	103
B14 4478 RRH (Side)	18.1	4.2	13.2	0.52	1.66	4.36	1.37	1.28	1.20	34	102	102
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	42	94	94
4415 B30 RRH (Side)	16.5	3.0	5.9	0.34	0.68	5.59	2.80	1.34	1.21	23	42	42
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	50	17	17

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	98.4	23.1	10.1	15.81	6.93	4.25	9.71	1.28	1.49	153	78	78
840370799 Antenna	98.3	17.3	8.9	11.84	6.10	5.67	11.01	1.34	1.53	120	71	71
7770 Antenna	57.4	13.4	7.4	5.36	2.97	4.28	7.72	1.28	1.42	52	32	32
4449 B5/B12 RRH	20.3	11.9	15.6	1.69	2.21	1.70	1.30	1.20	1.20	15	20	20
4449 B5/B12 RRH (Side)	20.3	7.2	9.0	1.01	1.28	2.83	2.25	1.21	1.20	9	12	12
B2/B66A 8843 RRH	17.3	13.3	15.6	1.61	1.88	1.30	1.11	1.20	1.20	15	17	17
B2/B66A 8843 RRH (Side)	17.3	7.9	15.6	0.95	1.88	2.20	1.11	1.20	1.20	9	17	17
B14 4478 RRH	20.5	10.7	15.8	1.53	2.26	1.91	1.30	1.20	1.20	14	20	20
B14 4478 RRH (Side)	20.5	6.6	15.6	0.94	2.23	3.12	1.31	1.23	1.20	9	20	20
4415 B30 RRH	18.9	8.3	15.8	1.10	2.08	2.27	1.20	1.20	1.20	10	19	19
4415 B30 RRH (Side)	18.9	5.4	8.3	0.71	1.10	3.52	2.27	1.25	1.20	7	10	10
DTMABP7819VG12A TMA	13.1	13.5	6.2	1.23	0.57	0.97	2.11	1.20	1.20	11	5	5

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	49	22	22
840370799 Antenna	95.9	14.9	6.5	9.92	4.33	6.44	14.75	1.37	1.66	37	20	20
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	15	8	8
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	4	5	5
4449 B5/B12 RRH (Side)	17.9	4.8	6.6	0.59	0.82	3.77	2.71	1.26	1.21	2	3	3
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	4	4
B2/B66A 8843 RRH (Side)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	4	4
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	5
B14 4478 RRH (Side)	18.1	4.2	13.2	0.52	1.66	4.36	1.37	1.28	1.20	2	5	5
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	5
4415 B30 RRH (Side)	16.5	3.0	5.9	0.34	0.68	5.59	2.80	1.34	1.21	1	2	2
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	3	1	1

Date: 6/10/2020
Project Name: KILLINGLY-DANIELSON
Project No.: MA5483
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 120 (deg) | Ice Thickness = 1.22 in. | Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	912	414	539
840370799 Antenna	95.9	14.9	6.5	9.92	4.33	6.44	14.75	1.37	1.66	696	366	449
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	281	149	182
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	72	100	93
4449 B5/B12 RRH (Side)	17.9	7.1	6.6	0.89	0.82	2.51	2.71	1.20	1.21	54	51	52
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	69	84	80
B2/B66A 8843 RRH (Side)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	52	84	76
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	64	103	93
B14 4478 RRH (Side)	18.1	6.2	13.2	0.78	1.66	2.91	1.37	1.22	1.20	49	102	88
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	42	94	81
4415 B30 RRH (Side)	16.5	4.4	5.9	0.51	0.68	3.73	2.80	1.25	1.21	32	42	39
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	50	17	26

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	98.4	23.1	10.1	15.81	6.93	4.25	9.71	1.28	1.49	153	78	97
840370799 Antenna	98.3	17.3	8.9	11.84	6.10	5.67	11.01	1.34	1.53	120	71	83
7770 Antenna	57.4	13.4	7.4	5.36	2.97	4.28	7.72	1.28	1.42	52	32	37
4449 B5/B12 RRH	20.3	11.9	15.6	1.69	2.21	1.70	1.30	1.20	1.20	15	20	19
4449 B5/B12 RRH (Side)	20.3	9.0	9.0	1.26	1.28	2.27	2.25	1.20	1.20	11	12	12
B2/B66A 8843 RRH	17.3	13.3	15.6	1.61	1.88	1.30	1.11	1.20	1.20	15	17	16
B2/B66A 8843 RRH (Side)	17.3	10.0	15.6	1.20	1.88	1.73	1.11	1.20	1.20	11	17	16
B14 4478 RRH	20.5	10.7	15.8	1.53	2.26	1.91	1.30	1.20	1.20	14	20	19
B14 4478 RRH (Side)	20.5	8.1	15.6	1.15	2.23	2.55	1.31	1.20	1.20	10	20	18
4415 B30 RRH	18.9	8.3	15.8	1.10	2.08	2.27	1.20	1.20	1.20	10	19	17
4415 B30 RRH (Side)	18.9	6.3	8.3	0.82	1.10	3.03	2.27	1.22	1.20	8	10	9
DTMABP7819VG12A TMA	13.1	13.5	6.2	1.23	0.57	0.97	2.11	1.20	1.20	11	5	7

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	49	22	29
840370799 Antenna	95.9	14.9	6.5	9.92	4.33	6.44	14.75	1.37	1.66	37	20	24
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	15	8	10
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	4	5	5
4449 B5/B12 RRH (Side)	17.9	7.1	6.6	0.89	0.82	2.51	2.71	1.20	1.21	3	3	3
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	4	4
B2/B66A 8843 RRH (Side)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	3	4	4
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	5
B14 4478 RRH (Side)	18.1	6.2	13.2	0.78	1.66	2.91	1.37	1.22	1.20	3	5	5
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	4
4415 B30 RRH (Side)	16.5	4.4	5.9	0.51	0.68	3.73	2.80	1.25	1.21	2	2	2
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	3	1	1

Date: 6/10/2020
Project Name: KILLINGLY-DANIELSON
Project No.: MA5483
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 150 (deg) | Ice Thickness = 1.22 in. | Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	912	414	787
840370799 Antenna	95.9	14.9	6.5	9.92	4.33	6.44	14.75	1.37	1.66	696	366	614
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	281	149	248
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	72	100	79
4449 B5/B12 RRH (Side)	17.9	4.8	6.6	0.59	0.82	3.77	2.71	1.26	1.21	38	51	41
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	69	84	73
B2/B66A 8843 RRH (Side)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	35	84	47
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	64	103	74
B14 4478 RRH (Side)	18.1	4.2	13.2	0.52	1.66	4.36	1.37	1.28	1.20	34	102	51
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	42	94	55
4415 B30 RRH (Side)	16.5	3.0	5.9	0.34	0.68	5.59	2.80	1.34	1.21	23	42	28
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	50	17	42

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	98.4	23.1	10.1	15.81	6.93	4.25	9.71	1.28	1.49	153	78	134
840370799 Antenna	98.3	17.3	8.9	11.84	6.10	5.67	11.01	1.34	1.53	120	71	108
7770 Antenna	57.4	13.4	7.4	5.36	2.97	4.28	7.72	1.28	1.42	52	32	47
4449 B5/B12 RRH	20.3	11.9	15.6	1.69	2.21	1.70	1.30	1.20	1.20	15	20	16
4449 B5/B12 RRH (Side)	20.3	6.0	9.0	0.84	1.28	3.41	2.25	1.24	1.20	8	12	9
B2/B66A 8843 RRH	17.3	13.3	15.6	1.61	1.88	1.30	1.11	1.20	1.20	15	17	15
B2/B66A 8843 RRH (Side)	17.3	6.7	15.6	0.80	1.88	2.60	1.11	1.20	1.20	7	17	10
B14 4478 RRH	20.5	10.7	15.8	1.53	2.26	1.91	1.30	1.20	1.20	14	20	16
B14 4478 RRH (Side)	20.5	5.4	15.6	0.77	2.23	3.83	1.31	1.26	1.20	7	20	11
4415 B30 RRH	18.9	8.3	15.8	1.10	2.08	2.27	1.20	1.20	1.20	10	19	12
4415 B30 RRH (Side)	18.9	4.2	8.3	0.55	1.10	4.54	2.27	1.29	1.20	5	10	6
DTMABP7819VG12A TMA	13.1	13.5	6.2	1.23	0.57	0.97	2.11	1.20	1.20	11	5	10

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	49	22	42
840370799 Antenna	95.9	14.9	6.5	9.92	4.33	6.44	14.75	1.37	1.66	37	20	33
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	15	8	13
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	4	5	4
4449 B5/B12 RRH (Side)	17.9	4.8	6.6	0.59	0.82	3.77	2.71	1.26	1.21	2	3	2
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	4	4
B2/B66A 8843 RRH (Side)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	4	3
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	4
B14 4478 RRH (Side)	18.1	4.2	13.2	0.52	1.66	4.36	1.37	1.28	1.20	2	5	3
4415 B30 RRH	16.5	5.9	13.4	0.68	1.54	2.80	1.23	1.21	1.20	2	5	3
4415 B30 RRH (Side)	16.5	3.0	5.9	0.34	0.68	5.59	2.80	1.34	1.21	1	2	1
DTMABP7819VG12A TMA	10.7	11.1	3.8	0.82	0.28	0.96	2.82	1.20	1.21	3	1	2

Date: 6/11/2020
Project Name: KILLINGLY-DANIELSON
Project No.: CT5483
Designed By: ID **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.22 in.
Density of ice: 56 pcf

7770 Antenna
Weight of ice based on total radial SF area:
Height (in): 55.0
Width (in): 11.0
Depth (in): 5.0
Total weight of ice on object: 91 lbs
Weight of object: 35.0 lbs
Combined weight of ice and object: 126 lbs

DMP65R-BU8DA Antenna
Weight of ice based on total radial SF area:
Height (in): 96.0
Width (in): 20.7
Depth (in): 7.7
Total weight of ice on object: 278 lbs
Weight of object: 96.0 lbs
Combined weight of ice and object: 374 lbs

840370799 Antenna
Weight of ice based on total radial SF area:
Height (in): 95.9
Width (in): 14.9
Depth (in): 6.5
Total weight of ice on object: 208 lbs
Weight of object: 93.0 lbs
Combined weight of ice and object: 301 lbs

B14 4478 RRH
Weight of ice based on total radial SF area:
Height (in): 18.1
Width (in): 13.4
Depth (in): 8.3
Total weight of ice on object: 38 lbs
Weight of object: 60.0 lbs
Combined weight of ice and object: 98 lbs

4449 B5/B12 Antenna
Weight of ice based on total radial SF area:
Height (in): 17.9
Width (in): 13.2
Depth (in): 9.5
Total weight of ice on object: 39 lbs
Weight of object: 71.0 lbs
Combined weight of ice and object: 110 lbs

4415 B30 RRH
Weight of ice based on total radial SF area:
Height (in): 16.5
Width (in): 13.4
Depth (in): 5.9
Total weight of ice on object: 33 lbs
Weight of object: 46.0 lbs
Combined weight of ice and object: 79 lbs

B2/B66A 8843 RRH
Weight of ice based on total radial SF area:
Height (in): 14.9
Width (in): 13.2
Depth (in): 10.9
Total weight of ice on object: 34 lbs
Weight of object: 72.0 lbs
Combined weight of ice and object: 106 lbs

Squid Surge Arrestor
Weight of ice based on total radial SF area:
Depth (in): 24.0
Diameter(in): 9.7
Total weight of ice on object: 33 lbs
Weight of object: 33 lbs
Combined weight of ice and object: 66 lbs

L 2x2 Angles
Weight of ice based on total radial SF area:
Height (in): 2
Width (in): 2
Per foot weight of ice on object: 7 plf

DTMABP7819VG12A TMA
Weight of ice based on total radial SF area:
Height (in): 10.7
Width (in): 11.1
Depth (in): 3.8
Total weight of ice on object: 17 lbs
Weight of object: 20.0 lbs
Combined weight of ice and object: 37 lbs

3" Pipe
Per foot weight of ice:
diameter (in): 3.5
Per foot weight of ice on object: 7 plf

PL 3x3/16
Weight of ice based on total radial SF area:
Height (in): 3
Width (in): 0.1875
Per foot weight of ice on object: 6 plf

2-1/2" pipe
Per foot weight of ice:
diameter (in): 2.88
Per foot weight of ice on object: 6 plf

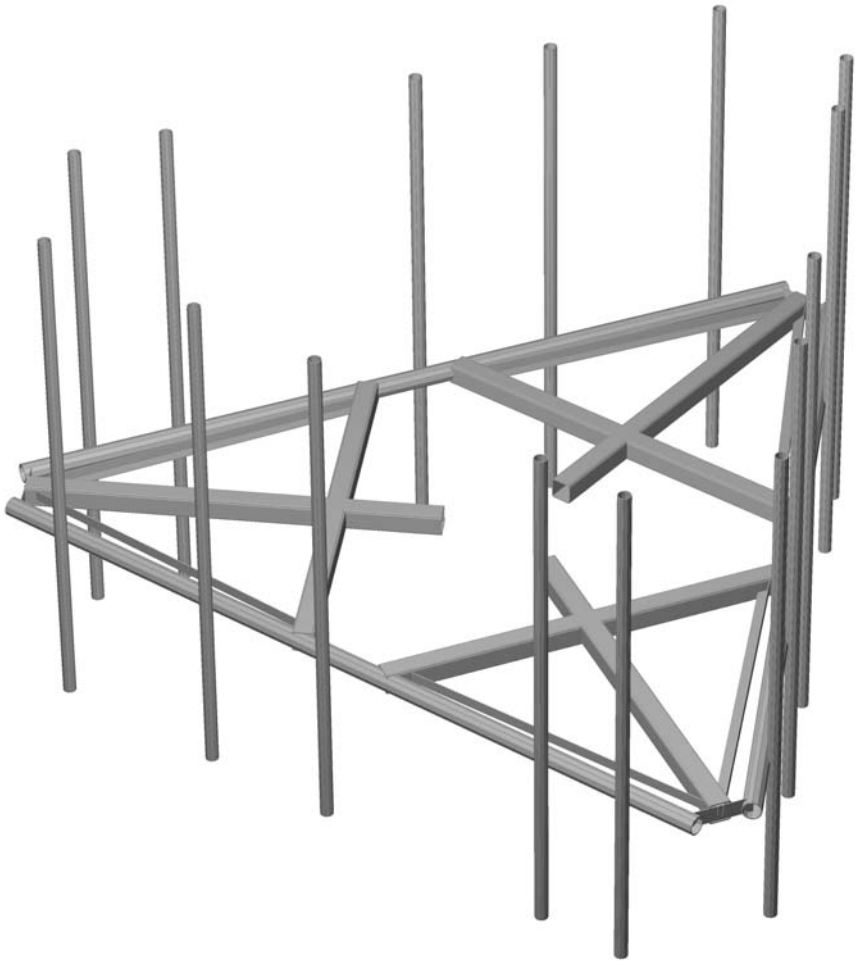
2" pipe
Per foot weight of ice:
diameter (in): 2.38
Per foot weight of ice on object: 5 plf

HSS 4x4
Weight of ice based on total radial SF area:
Height (in): 4
Width (in): 4
Per foot weight of ice on object: 10 plf

L 2-1/2x2-1/2 Angles
Weight of ice based on total radial SF area:
Height (in): 2.5
Width (in): 2.5
Per foot weight of ice on object: 7 plf

HUDSON
Design Group LLC

Mount Calculations
(Existing Conditions)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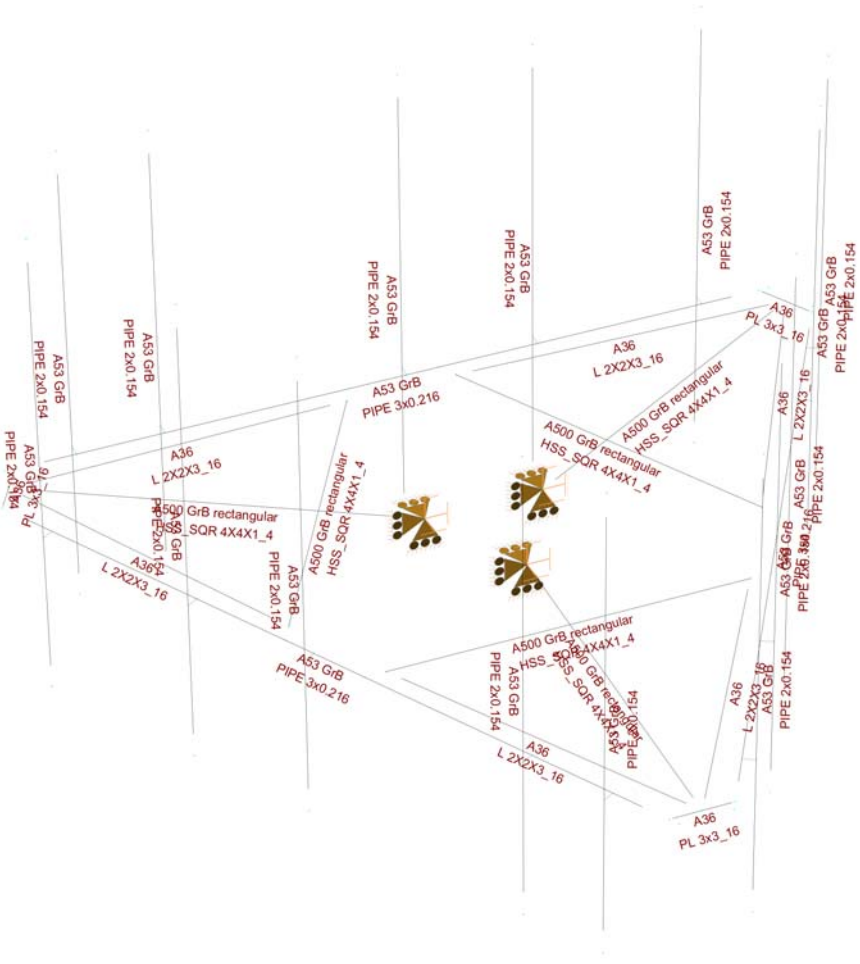
Z
X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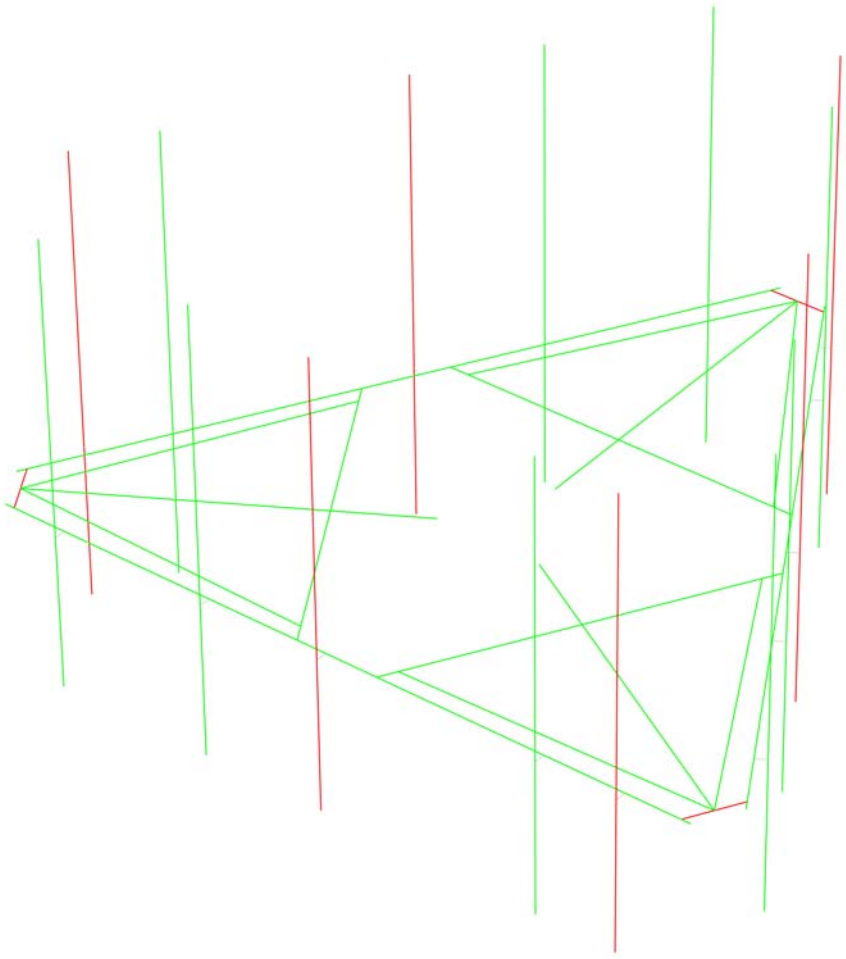
PIPE 2x0.154
A53 GrB
PIPE 3x0.216
A36
L 2X2X3_16
A36
PL 3x3_16
A500 GrB rectangular
HSS_SQR 4X4X1_4
Y
Z
X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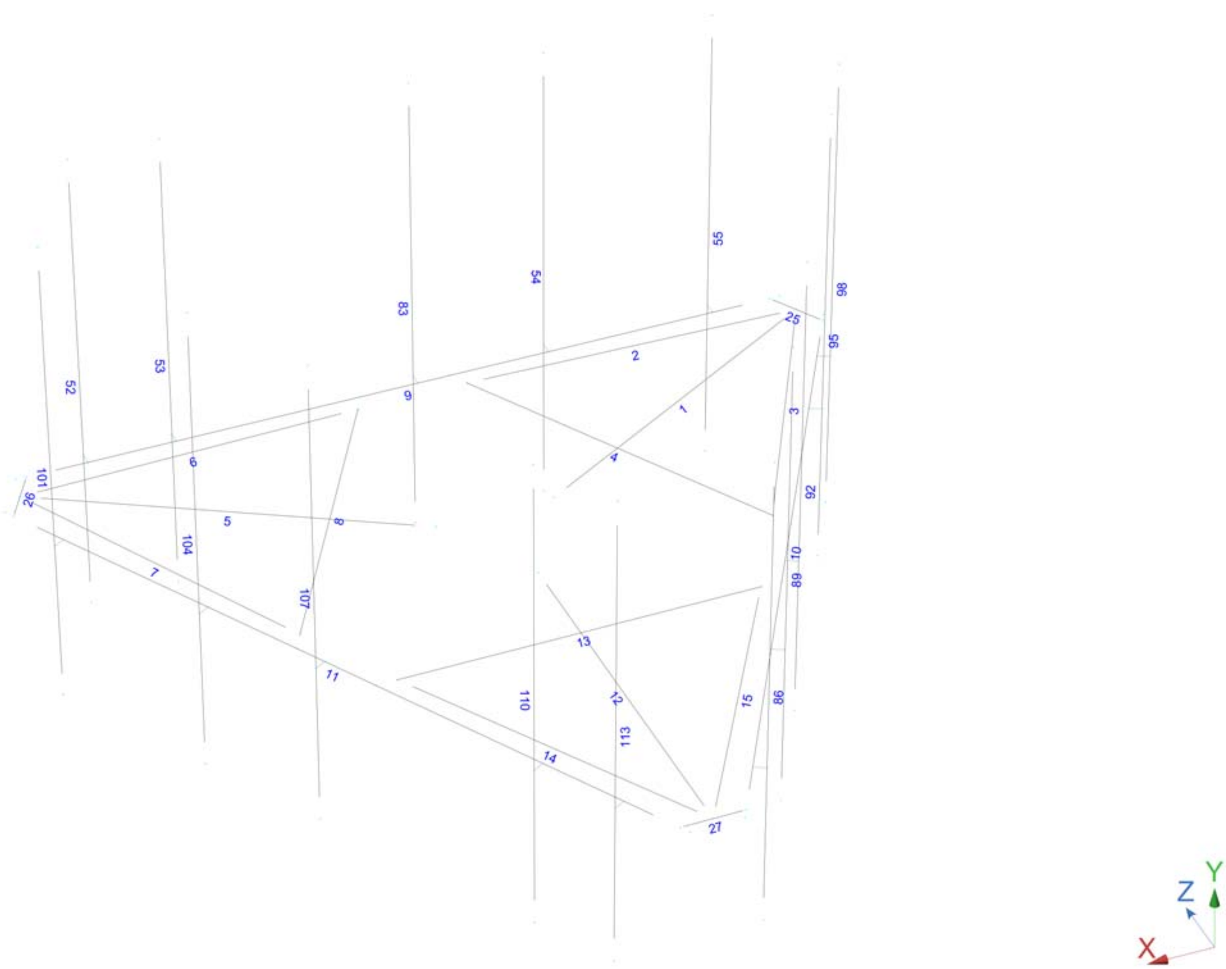
Z
X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54
98
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25
95
53
2
52
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1
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4
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101
26
92
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104
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27

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Units system: English
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Load data

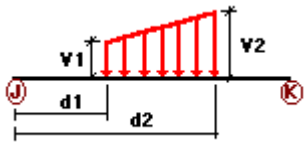
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL
LLa4	250 lb Live Load Antenna 4	No	LL

Distributed force on members

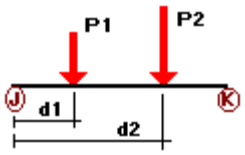


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	1	y	-0.01	0.00	0.00	No	0.00	No
	2	y	-0.01	0.00	0.00	No	0.00	No
	3	y	-0.01	0.00	0.00	No	0.00	No
	4	y	-0.01	0.00	0.00	No	0.00	No
	5	y	-0.01	0.00	0.00	No	0.00	No
	6	y	-0.01	0.00	0.00	No	0.00	No
	7	y	-0.01	0.00	0.00	No	0.00	No
	8	y	-0.01	0.00	0.00	No	0.00	No
	12	y	-0.01	0.00	0.00	No	0.00	No
	13	y	-0.01	0.00	0.00	No	0.00	No
	14	y	-0.01	0.00	0.00	No	0.00	No
	15	y	-0.01	0.00	0.00	No	0.00	No
W0	1	z	-0.02	0.00	0.00	No	0.00	No
	2	z	-0.01	0.00	0.00	No	0.00	No
	3	z	-0.01	0.00	0.00	No	0.00	No

	4	z	-0.02	0.00	0.00	No	0.00	No
	5	z	-0.02	0.00	0.00	No	0.00	No
	6	z	-0.01	0.00	0.00	No	0.00	No
	7	z	-0.01	0.00	0.00	No	0.00	No
	8	z	-0.02	0.00	0.00	No	0.00	No
	9	z	-0.018	0.00	0.00	No	0.00	No
	10	z	-0.018	0.00	0.00	No	0.00	No
	11	z	-0.018	0.00	0.00	No	0.00	No
	13	z	-0.02	0.00	0.00	No	0.00	No
	14	z	-0.01	0.00	0.00	No	0.00	No
	15	z	-0.01	0.00	0.00	No	0.00	No
	25	z	-0.015	0.00	0.00	No	0.00	No
	26	z	-0.015	0.00	0.00	No	0.00	No
	27	z	-0.015	0.00	0.00	No	0.00	No
	53	z	-0.012	0.00	0.00	No	0.00	No
	54	z	-0.012	0.00	0.00	No	0.00	No
	86	z	-0.012	0.00	0.00	No	0.00	No
	89	z	-0.012	0.00	0.00	No	0.00	No
	92	z	-0.012	0.00	0.00	No	0.00	No
	95	z	-0.012	0.00	0.00	No	0.00	No
	98	z	-0.012	0.00	0.00	No	0.00	No
	101	z	-0.012	0.00	0.00	No	0.00	No
	104	z	-0.012	0.00	0.00	No	0.00	No
	107	z	-0.012	0.00	0.00	No	0.00	No
	110	z	-0.012	0.00	0.00	No	0.00	No
	113	z	-0.012	0.00	0.00	No	0.00	No
W30	1	x	-0.02	0.00	0.00	No	0.00	No
	2	x	-0.01	0.00	0.00	No	0.00	No
	3	x	-0.01	0.00	0.00	No	0.00	No
	4	x	-0.02	0.00	0.00	No	0.00	No
	5	x	-0.02	0.00	0.00	No	0.00	No
	6	x	-0.01	0.00	0.00	No	0.00	No
	7	x	-0.01	0.00	0.00	No	0.00	No
	8	x	-0.02	0.00	0.00	No	0.00	No
	10	x	-0.018	0.00	0.00	No	0.00	No
	11	x	-0.018	0.00	0.00	No	0.00	No
	12	x	-0.02	0.00	0.00	No	0.00	No
	14	x	-0.01	0.00	0.00	No	0.00	No
	15	x	-0.01	0.00	0.00	No	0.00	No
	25	x	-0.015	0.00	0.00	No	0.00	No
	26	x	-0.015	0.00	0.00	No	0.00	No
	52	x	-0.012	0.00	0.00	No	0.00	No
	53	x	-0.012	0.00	0.00	No	0.00	No
	54	x	-0.012	0.00	0.00	No	0.00	No
	55	x	-0.012	0.00	0.00	No	0.00	No
	83	x	-0.012	0.00	0.00	No	0.00	No
	86	x	-0.012	0.00	0.00	No	0.00	No
	89	x	-0.012	0.00	0.00	No	0.00	No
	92	x	-0.012	0.00	0.00	No	0.00	No
	95	x	-0.012	0.00	0.00	No	0.00	No
	98	x	-0.012	0.00	0.00	No	0.00	No
	101	x	-0.012	0.00	0.00	No	0.00	No
	104	x	-0.012	0.00	0.00	No	0.00	No
	107	x	-0.012	0.00	0.00	No	0.00	No
	110	x	-0.012	0.00	0.00	No	0.00	No
	113	x	-0.012	0.00	0.00	No	0.00	No
Di	1	y	-0.01	0.00	0.00	No	0.00	No
	2	y	-0.007	0.00	0.00	No	0.00	No
	3	y	-0.007	0.00	0.00	No	0.00	No
	4	y	-0.01	0.00	0.00	No	0.00	No

5	y	-0.01	0.00	0.00	No	0.00	No
6	y	-0.007	0.00	0.00	No	0.00	No
7	y	-0.007	0.00	0.00	No	0.00	No
8	y	-0.01	0.00	0.00	No	0.00	No
9	y	-0.007	0.00	0.00	No	0.00	No
10	y	-0.007	0.00	0.00	No	0.00	No
11	y	-0.007	0.00	0.00	No	0.00	No
12	y	-0.01	0.00	0.00	No	0.00	No
13	y	-0.01	0.00	0.00	No	0.00	No
14	y	-0.007	0.00	0.00	No	0.00	No
15	y	-0.007	0.00	0.00	No	0.00	No
25	y	-0.006	0.00	0.00	No	0.00	No
26	y	-0.006	0.00	0.00	No	0.00	No
27	y	-0.006	0.00	0.00	No	0.00	No
52	y	-0.005	0.00	0.00	No	0.00	No
53	y	-0.005	0.00	0.00	No	0.00	No
54	y	-0.005	0.00	0.00	No	0.00	No
55	y	-0.005	0.00	0.00	No	0.00	No
83	y	-0.005	0.00	0.00	No	0.00	No
86	y	-0.005	0.00	0.00	No	0.00	No
89	y	-0.005	0.00	0.00	No	0.00	No
92	y	-0.005	0.00	0.00	No	0.00	No
95	y	-0.005	0.00	0.00	No	0.00	No
98	y	-0.005	0.00	0.00	No	0.00	No
101	y	-0.005	0.00	0.00	No	0.00	No
104	y	-0.005	0.00	0.00	No	0.00	No
107	y	-0.005	0.00	0.00	No	0.00	No
110	y	-0.005	0.00	0.00	No	0.00	No
113	y	-0.005	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	52	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.071	3.00	No
		y	-0.074	3.00	No
	54	y	-0.033	50.00	Yes
	55	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.02	4.00	No
	83	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.06	3.00	No
		y	-0.046	3.00	No
	86	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.02	4.00	No
	89	y	-0.033	50.00	Yes

	92	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.06	3.00	No
		y	-0.046	3.00	No
	98	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.071	3.00	No
		y	-0.074	3.00	No
	101	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.02	4.00	No
	104	y	-0.033	50.00	Yes
	107	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.06	3.00	No
		y	-0.046	3.00	No
	113	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.071	3.00	No
		y	-0.074	3.00	No
W0	52	z	-0.456	0.50	No
		z	-0.456	7.50	No
		z	-0.038	3.00	No
		z	-0.035	3.00	No
	54	z	-0.058	50.00	Yes
	55	z	-0.141	2.00	No
		z	-0.141	5.50	No
		z	-0.05	4.00	No
	83	z	-0.349	0.50	No
		z	-0.349	7.50	No
		z	-0.034	3.00	No
		z	-0.023	3.00	No
	86	z	-0.092	3.00	No
		z	-0.092	6.50	No
		z	-0.026	4.00	No
	89	z	-0.058	50.00	Yes
	92	z	-0.225	0.50	No
		z	-0.225	7.50	No
		z	-0.088	3.00	No
	98	z	-0.27	0.50	No
		z	-0.27	7.50	No
		z	-0.076	3.00	No
	101	z	-0.092	3.00	No
		z	-0.092	6.50	No
		z	-0.026	4.00	No
	104	z	-0.058	50.00	Yes
	107	z	-0.225	0.50	No
		z	-0.225	7.50	No
		z	-0.088	3.00	No
	113	z	-0.27	0.50	No
		z	-0.27	7.50	No
		z	-0.076	3.00	No
W30	52	x	-0.208	0.50	No
		x	-0.208	7.50	No
		x	-0.084	3.00	No
	54	x	-0.058	50.00	Yes
	55	x	-0.075	3.00	No
		x	-0.075	6.50	No
		x	-0.017	4.00	No
	83	x	-0.184	0.50	No

		x	-0.184	7.50	No
		x	-0.102	3.00	No
	86	x	-0.125	3.00	No
		x	-0.125	6.50	No
		x	-0.042	4.00	No
	89	x	-0.058	50.00	Yes
	92	x	-0.307	0.50	No
		x	-0.307	7.50	No
		x	-0.051	3.00	No
	98	x	-0.394	0.50	No
		x	-0.394	7.50	No
		x	-0.047	3.00	No
	101	x	-0.125	3.00	No
		x	-0.125	6.50	No
		x	-0.042	4.00	No
	104	x	-0.058	50.00	Yes
	107	x	-0.307	0.50	No
		x	-0.307	7.50	No
		x	-0.051	3.00	No
	113	x	-0.394	0.50	No
		x	-0.394	7.50	No
		x	-0.047	3.00	No
Di	52	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.039	3.00	No
		y	-0.037	3.00	No
	54	y	-0.033	50.00	Yes
	55	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.017	4.00	No
	83	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.038	3.00	No
		y	-0.033	3.00	No
	86	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.017	4.00	No
	89	y	-0.033	50.00	Yes
	92	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.038	3.00	No
		y	-0.033	3.00	No
	98	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.039	3.00	No
		y	-0.037	3.00	No
	101	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.017	4.00	No
	104	y	-0.033	50.00	Yes
	107	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.038	3.00	No
		y	-0.033	3.00	No
	113	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.039	3.00	No
		y	-0.037	3.00	No
Wi0	52	z	-0.078	0.50	No
		z	-0.078	7.50	No

		z	-0.01	3.00	No
		z	-0.009	3.00	No
	54	z	-0.012	50.00	Yes
	55	z	-0.027	3.00	No
		z	-0.027	6.50	No
		z	-0.011	4.00	No
	83	z	-0.062	0.50	No
		z	-0.062	7.50	No
		z	-0.009	3.00	No
		z	-0.007	3.00	No
	86	z	-0.019	3.00	No
		z	-0.019	6.50	No
		z	-0.007	4.00	No
	89	z	-0.012	50.00	Yes
	92	z	-0.042	0.50	No
		z	-0.042	7.50	No
		z	-0.018	3.00	No
	98	z	-0.049	0.50	No
		z	-0.049	7.50	No
		z	-0.016	3.00	No
	101	z	-0.019	3.00	No
		z	-0.019	6.50	No
		z	-0.007	4.00	No
	104	z	-0.012	50.00	Yes
	107	z	-0.042	0.50	No
		z	-0.042	7.50	No
		z	-0.018	3.00	No
	113	z	-0.049	0.50	No
		z	-0.049	7.50	No
		z	-0.016	3.00	No
Wi30	52	x	-0.039	0.50	No
		x	-0.039	7.50	No
		x	-0.017	3.00	No
	54	x	-0.012	50.00	Yes
	55	x	-0.016	3.00	No
		x	-0.016	6.50	No
		x	-0.005	4.00	No
	83	x	-0.036	0.50	No
		x	-0.036	7.50	No
		x	-0.02	3.00	No
	86	x	-0.024	3.00	No
		x	-0.024	6.50	No
		x	-0.01	4.00	No
	89	x	-0.012	50.00	Yes
	92	x	-0.054	0.50	No
		x	-0.054	7.50	No
		x	-0.011	3.00	No
	98	x	-0.067	0.50	No
		x	-0.067	7.50	No
		x	-0.01	3.00	No
	101	x	-0.024	3.00	No
		x	-0.024	6.50	No
		x	-0.01	4.00	No
	104	x	-0.012	50.00	Yes
	107	x	-0.054	0.50	No
		x	-0.054	7.50	No
		x	-0.011	3.00	No
	113	x	-0.067	0.50	No
		x	-0.067	7.50	No
		x	-0.01	3.00	No

WL0	52	z	-0.025	0.50	No
		z	-0.025	7.50	No
		z	-0.002	3.00	No
		z	-0.002	3.00	No
	54	z	-0.003	50.00	Yes
	55	z	-0.008	3.00	No
		z	-0.008	6.50	No
		z	-0.003	4.00	No
	83	z	-0.019	0.50	No
		z	-0.019	7.50	No
		z	-0.002	3.00	No
		z	-0.001	3.00	No
	86	z	-0.005	3.00	No
		z	-0.005	6.50	No
		z	-0.001	4.00	No
	89	z	-0.003	50.00	Yes
	92	z	-0.012	0.50	No
		z	-0.012	7.50	No
		z	-0.005	3.00	No
	98	z	-0.015	0.50	No
		z	-0.015	7.50	No
		z	-0.004	3.00	No
	101	z	-0.005	3.00	No
		z	-0.005	6.50	No
		z	-0.001	4.00	No
	104	z	-0.003	50.00	Yes
	107	z	-0.012	0.50	No
		z	-0.012	7.50	No
		z	-0.005	3.00	No
	113	z	-0.015	0.50	No
		z	-0.015	7.50	No
		z	-0.004	3.00	No
WL30	52	x	-0.012	0.50	No
		x	-0.012	7.50	No
		x	-0.004	3.00	No
	54	x	-0.003	50.00	Yes
	55	x	-0.004	3.00	No
		x	-0.004	6.50	No
		x	-0.001	4.00	No
	83	x	-0.01	0.50	No
		x	-0.01	7.50	No
		x	-0.005	3.00	No
	86	x	-0.007	3.00	No
		x	-0.007	6.50	No
		x	-0.002	4.00	No
	89	x	-0.003	50.00	Yes
	92	x	-0.017	0.50	No
		x	-0.017	7.50	No
		x	-0.003	3.00	No
	98	x	-0.021	0.50	No
		x	-0.021	7.50	No
		x	-0.003	3.00	No
	101	x	-0.007	3.00	No
		x	-0.007	6.50	No
		x	-0.002	4.00	No
	104	x	-0.003	50.00	Yes
	107	x	-0.017	0.50	No
		x	-0.017	7.50	No
		x	-0.003	3.00	No
	113	x	-0.021	0.50	No

		x	-0.021	7.50	No
		x	-0.003	3.00	No
LL1	9	y	-0.25	50.00	Yes
LL2	9	y	-0.25	0.00	Yes
LLa1	52	y	-0.25	50.00	Yes
LLa2	83	y	-0.25	50.00	Yes
LLa3	55	y	-0.25	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	250 lb Live Load Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00

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Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2DL+W0
LC2=1.2DL+W30
LC3=1.2DL-W0
LC4=1.2DL-W30
LC5=0.9DL+W0
LC6=0.9DL+W30
LC7=0.9DL-W0
LC8=0.9DL-W30
LC9=1.2DL+Di+Wi0
LC10=1.2DL+Di+Wi30
LC11=1.2DL+Di-Wi0
LC12=1.2DL+Di-Wi30
LC13=1.2DL
LC15=1.2DL+1.5LL1
LC16=1.2DL+1.5LL2
LC17=1.2DL+WL0+1.5LLa1
LC18=1.2DL+WL30+1.5LLa1
LC19=1.2DL-WL0+1.5LLa1
LC20=1.2DL-WL30+1.5LLa1
LC21=1.2DL+WL0+1.5LLa2
LC22=1.2DL+WL30+1.5LLa2
LC23=1.2DL-WL0+1.5LLa2
LC24=1.2DL-WL30+1.5LLa2
LC25=1.2DL+WL0+1.5LLa3
LC26=1.2DL+WL30+1.5LLa3
LC27=1.2DL-WL0+1.5LLa3
LC28=1.2DL-WL30+1.5LLa3
LC29=1.2DL+WL0+1.5LLa4
LC30=1.2DL+WL30+1.5LLa4
LC31=1.2DL-WL0+1.5LLa4
LC32=1.2DL-WL30+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_4	**1**	LC3 at 100.00%	0.60	OK	Eq. H1-1b
		4	LC2 at 48.44%	0.30	OK	Eq. H1-1b
		5	LC3 at 100.00%	**0.63**	**OK**	Eq. H1-1b
		8	LC4 at 48.44%	0.31	OK	Eq. H1-1b
		12	LC1 at 0.00%	0.63	OK	Eq. H1-1b
		13	LC1 at 48.44%	0.30	OK	Eq. H1-1b
	L 2X2X3_16	**2**	LC3 at 100.00%	0.56	OK	Eq. H2-1
		3	LC2 at 100.00%	**0.73**	**OK**	Eq. H2-1
		6	LC3 at 100.00%	0.65	OK	Eq. H2-1
		7	LC4 at 100.00%	0.60	OK	Eq. H2-1
		14	LC1 at 0.00%	0.64	OK	Eq. H2-1
		15	LC1 at 0.00%	0.52	OK	Eq. H2-1
	PIPE 2x0.154	**52**	LC1 at 62.50%	1.78	**N.G.**	Eq. H1-1b
		53	LC2 at 62.50%	0.12	OK	Eq. H1-1b
		54	LC1 at 62.50%	0.17	OK	Eq. H1-1b
		55	LC1 at 62.50%	0.38	OK	Eq. H1-1b

	83	LC1 at 62.50%	1.36	N.G.	Eq. H1-1b
	86	LC2 at 62.50%	0.36	OK	Eq. H1-1b
	89	LC3 at 62.50%	0.17	OK	Eq. H1-1b
	92	LC2 at 62.50%	1.32	N.G.	Eq. H1-1b
	95	LC2 at 62.50%	0.12	OK	Eq. H1-1b
	98	LC2 at 62.50%	1.63	N.G.	Eq. H1-1b
	101	LC2 at 62.50%	0.36	OK	Eq. H1-1b
	104	LC1 at 62.50%	0.17	OK	Eq. H1-1b
	107	LC2 at 62.50%	1.32	N.G.	Eq. H1-1b
	110	LC3 at 62.50%	0.12	OK	Eq. H1-1b
	113	LC2 at 62.50%	1.63	N.G.	Eq. H1-1b
PIPE 3x0.216	**9**	LC1 at 56.25%	0.38	OK	Eq. H1-1b
	10	LC2 at 51.88%	**0.43**	**OK**	Eq. H3-6
	11	LC4 at 51.25%	0.42	OK	Eq. H1-1b
PL 3x3_16	**25**	LC2 at 46.88%	1.11	N.G.	Eq. H1-1b
	26	LC5 at 0.00%	**1.32**	**N.G.**	Eq. H1-1a
	27	LC6 at 0.00%	1.08	N.G.	Eq. H1-1a

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Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
2	-0.7253	0.25	4.0896	0
3	-6.0833	0.25	4.0896	0
4	-6.25	0.25	4.0896	0
5	-6.3333	0.25	3.6566	0
6	-6.5833	0.25	3.2236	0
7	-3.7376	0.25	-1.128	0
8	-3.9043	0.25	-1.4166	0
9	-0.892	0.25	3.8009	0
10	-6.6667	0.25	3.3679	0
11	-3.179	0.25	-2.6729	0
12	-2.8457	0.25	-2.6729	0
13	-0.50	0.25	-7.3131	0
14	-0.4167	0.25	-7.4574	0
17	0.7253	0.25	4.0896	0
18	6.0833	0.25	4.0896	0
19	6.25	0.25	4.0896	0
20	6.3333	0.25	3.6566	0
21	6.5833	0.25	3.2236	0
22	3.7376	0.25	-1.128	0
23	3.9043	0.25	-1.4166	0
24	0.892	0.25	3.8009	0
25	6.6667	0.25	3.3679	0

26	3.179	0.25	-2.6729	0
27	2.8457	0.25	-2.6729	0
28	0.50	0.25	-7.3131	0
29	0.4167	0.25	-7.4574	0
32	0.00	0.25	-7.3131	0
69	0.9427	0.25	0.5443	0
70	0.00	0.25	-1.0885	0
71	-0.9427	0.25	0.5443	0
108	5.1136	5.50	4.2896	0
109	-5.1136	5.50	4.2896	0
110	5.1136	-2.50	4.2896	0
111	-5.1136	-2.50	4.2896	0
112	3.7046	5.50	4.2896	0
113	-2.3636	5.50	4.2896	0
114	3.7046	-2.50	4.2896	0
115	-2.3636	-2.50	4.2896	0
116	5.1136	0.25	4.0896	0
117	-5.1136	0.25	4.0896	0
118	3.7046	0.25	4.0896	0
119	-2.3636	0.25	4.0896	0
120	5.1136	0.25	4.2896	0
121	-5.1136	0.25	4.2896	0
122	3.7046	0.25	4.2896	0
123	-2.3636	0.25	4.2896	0
160	-0.2046	5.50	4.2896	0
161	-0.2046	-2.50	4.2896	0
162	-0.2046	0.25	4.0896	0
163	-0.2046	0.25	4.2896	0
166	-1.1581	5.50	-6.5733	0
167	-1.1581	-2.50	-6.5733	0
168	-0.9849	0.25	-6.4733	0
169	-1.1581	0.25	-6.5733	0
172	-2.5331	5.50	-4.1918	0
173	-2.5331	-2.50	-4.1918	0
174	-2.3599	0.25	-4.0918	0
175	-2.5331	0.25	-4.1918	0
178	-3.6126	5.50	-2.3219	0
179	-3.6126	-2.50	-2.3219	0
180	-3.4394	0.25	-2.2219	0
181	-3.6126	0.25	-2.3219	0
184	-5.5672	5.50	1.0634	0
185	-5.5672	-2.50	1.0634	0
186	-5.3939	0.25	1.1634	0
187	-5.5672	0.25	1.0634	0
190	-6.2717	5.50	2.2838	0
191	-6.2717	-2.50	2.2838	0
192	-6.0985	0.25	2.3838	0
193	-6.2717	0.25	2.2838	0
196	6.2717	5.50	2.2838	0
197	6.2717	-2.50	2.2838	0
198	6.0985	0.25	2.3838	0
199	6.2717	0.25	2.2838	0
202	4.8967	5.50	-0.0978	0
203	4.8967	-2.50	-0.0978	0
204	4.7235	0.25	0.0022	0
205	4.8967	0.25	-0.0978	0
208	3.8172	5.50	-1.9676	0
209	3.8172	-2.50	-1.9676	0
210	3.6439	0.25	-1.8676	0
211	3.8172	0.25	-1.9676	0

214	1.8626	5.50	-5.353	0
215	1.8626	-2.50	-5.353	0
216	1.6894	0.25	-5.253	0
217	1.8626	0.25	-5.353	0
220	1.1581	5.50	-6.5733	0
221	1.1581	-2.50	-6.5733	0
222	0.9849	0.25	-6.4733	0
223	1.1581	0.25	-6.5733	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
69	1	1	1	1	1	1
70	1	1	1	1	1	1
71	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	5	71		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
2	5	9		L 2X2X3_16	A36	0.00	0.00	0.00
3	5	7		L 2X2X3_16	A36	0.00	0.00	0.00
4	8	2		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
5	20	69		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
6	20	24		L 2X2X3_16	A36	0.00	0.00	0.00
7	20	22		L 2X2X3_16	A36	0.00	0.00	0.00
8	23	17		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
9	4	19		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
10	10	14		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
11	29	25		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
12	70	32		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
13	11	26		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
14	27	32		L 2X2X3_16	A36	0.00	0.00	0.00
15	12	32		L 2X2X3_16	A36	0.00	0.00	0.00
25	6	3		PL 3x3_16	A36	0.00	0.00	0.00
26	18	21		PL 3x3_16	A36	0.00	0.00	0.00
27	28	13		PL 3x3_16	A36	0.00	0.00	0.00
52	108	110		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
53	112	114		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
54	113	115		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
55	109	111		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
83	160	161		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
86	166	167		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
89	172	173		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
92	178	179		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
95	184	185		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
98	190	191		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
101	196	197		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
104	202	203		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
107	208	209		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

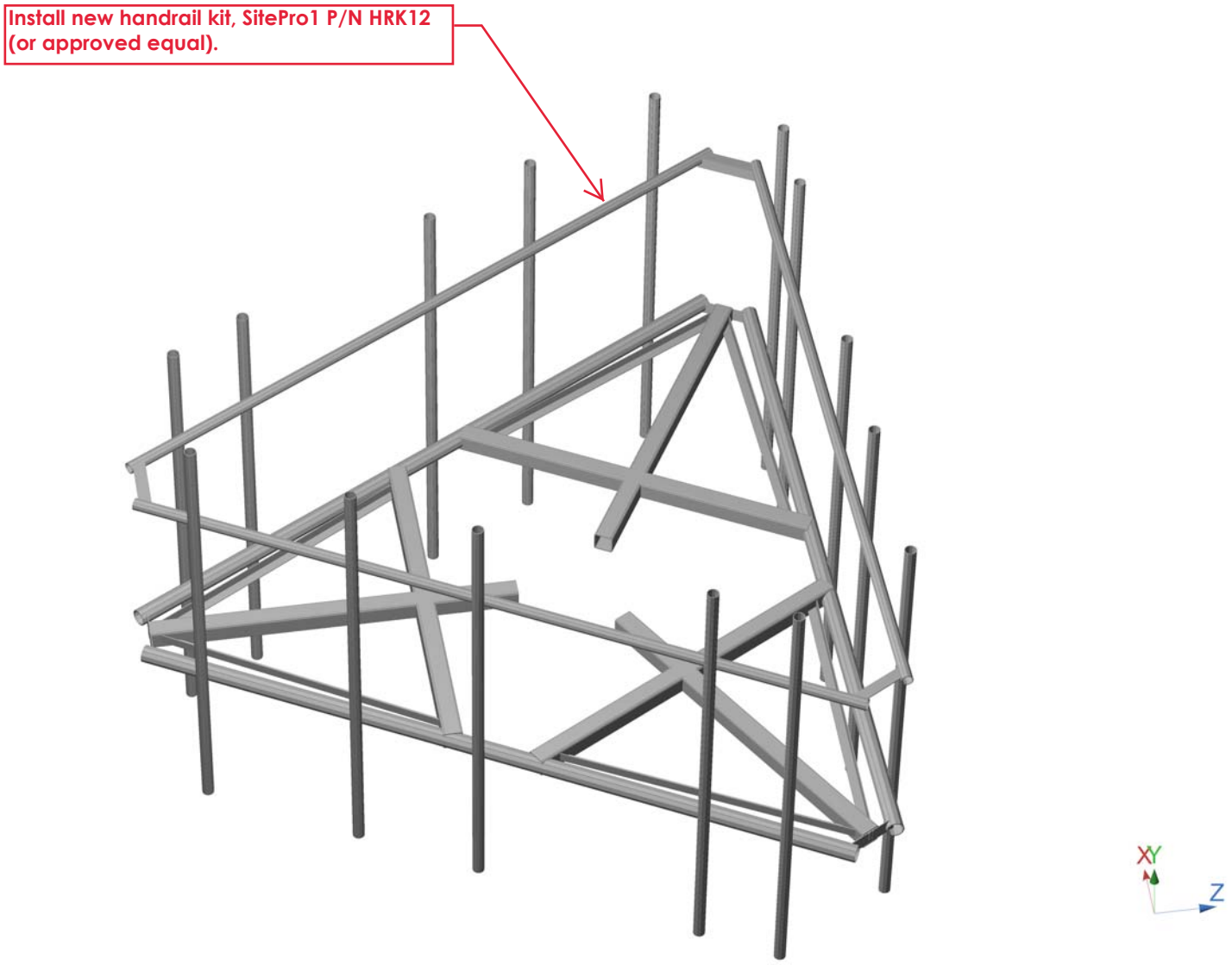
110	214	215		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
113	220	221		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

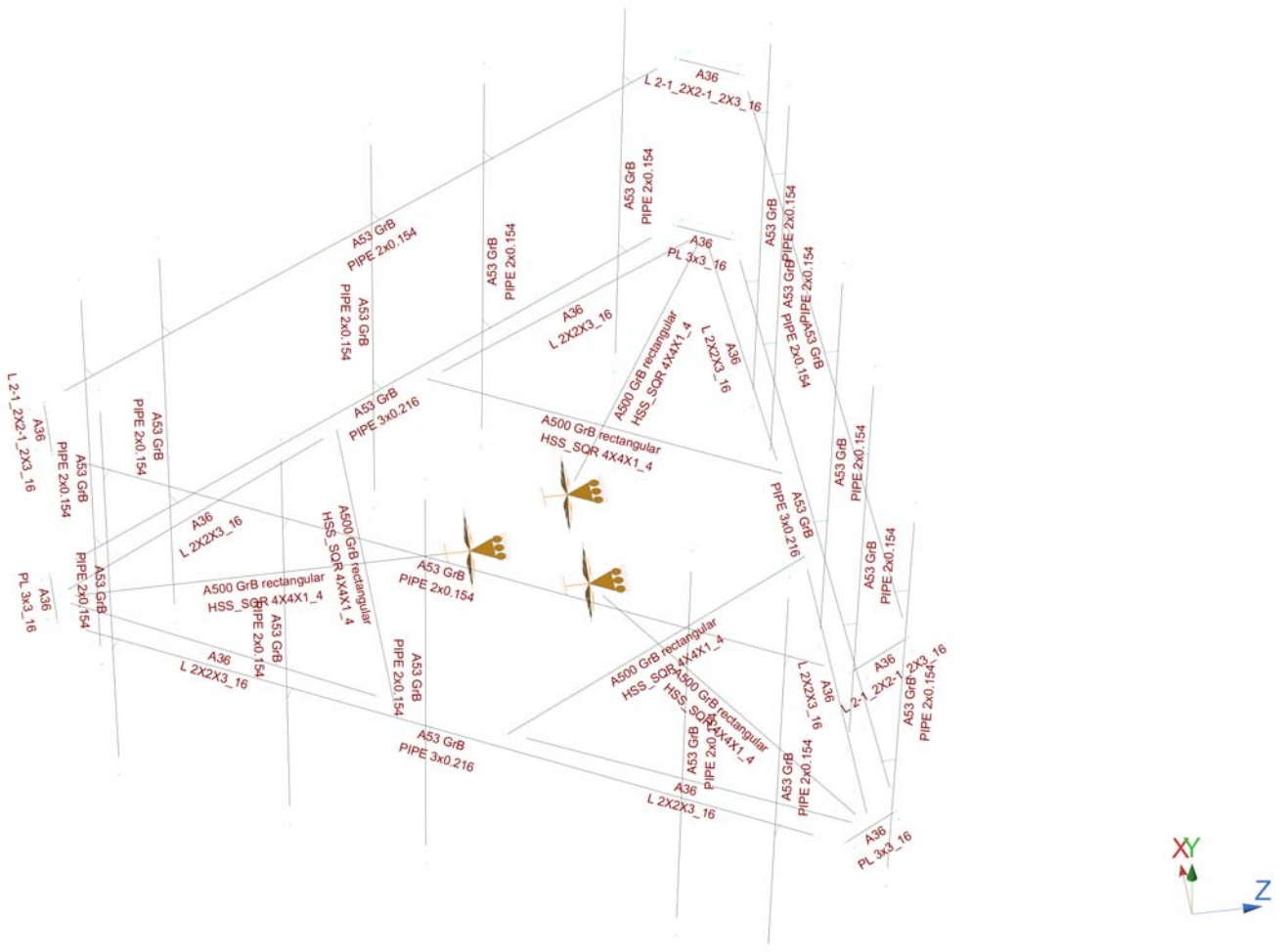
Orientation of local axes

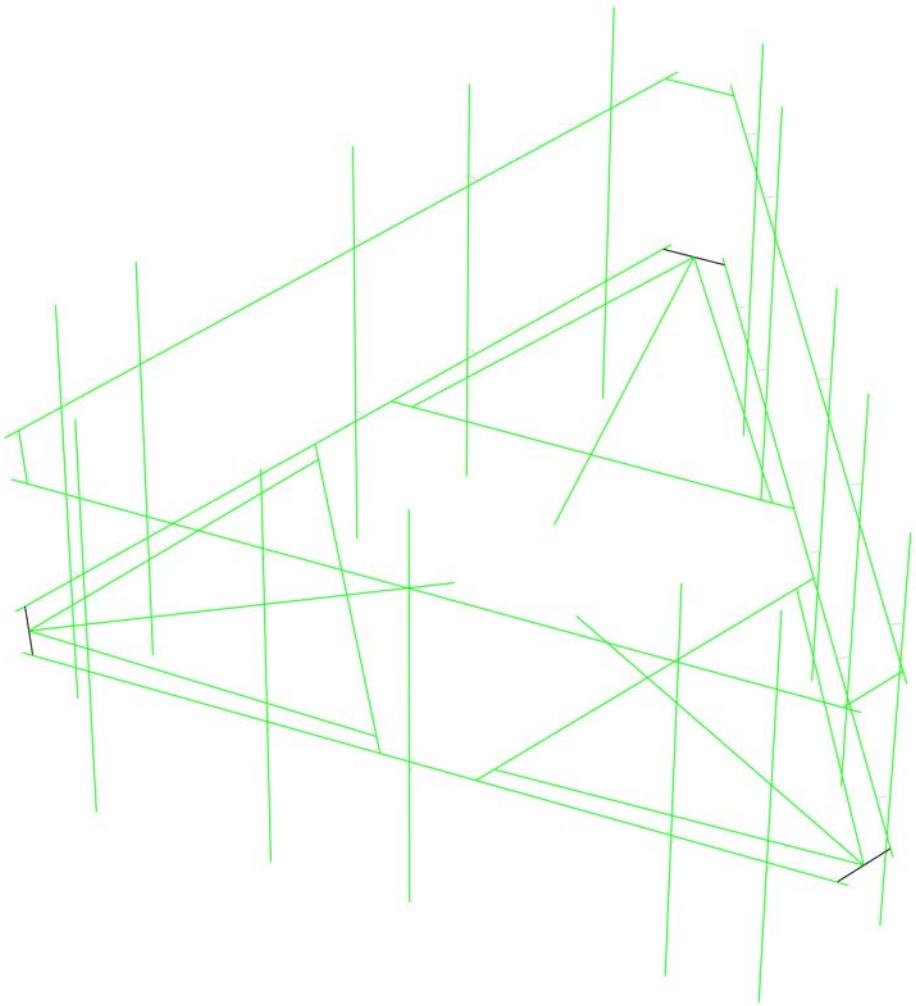
Member	Rotation [Deg]	Axes23	NX	NY	NZ
2	270.00	0	0.00	0.00	0.00
4	180.00	0	0.00	0.00	0.00
7	270.00	0	0.00	0.00	0.00
8	90.00	0	0.00	0.00	0.00
13	90.00	0	0.00	0.00	0.00
14	270.00	0	0.00	0.00	0.00
52	0.00	2	1.00	0.00	0.00
53	0.00	2	1.00	0.00	0.00
54	0.00	2	1.00	0.00	0.00
55	0.00	2	1.00	0.00	0.00
83	0.00	2	1.00	0.00	0.00
86	0.00	2	1.00	0.00	0.00
89	0.00	2	1.00	0.00	0.00
92	0.00	2	1.00	0.00	0.00
95	0.00	2	1.00	0.00	0.00
98	0.00	2	1.00	0.00	0.00
101	0.00	2	1.00	0.00	0.00
104	0.00	2	1.00	0.00	0.00
107	0.00	2	1.00	0.00	0.00
110	0.00	2	1.00	0.00	0.00
113	0.00	2	1.00	0.00	0.00

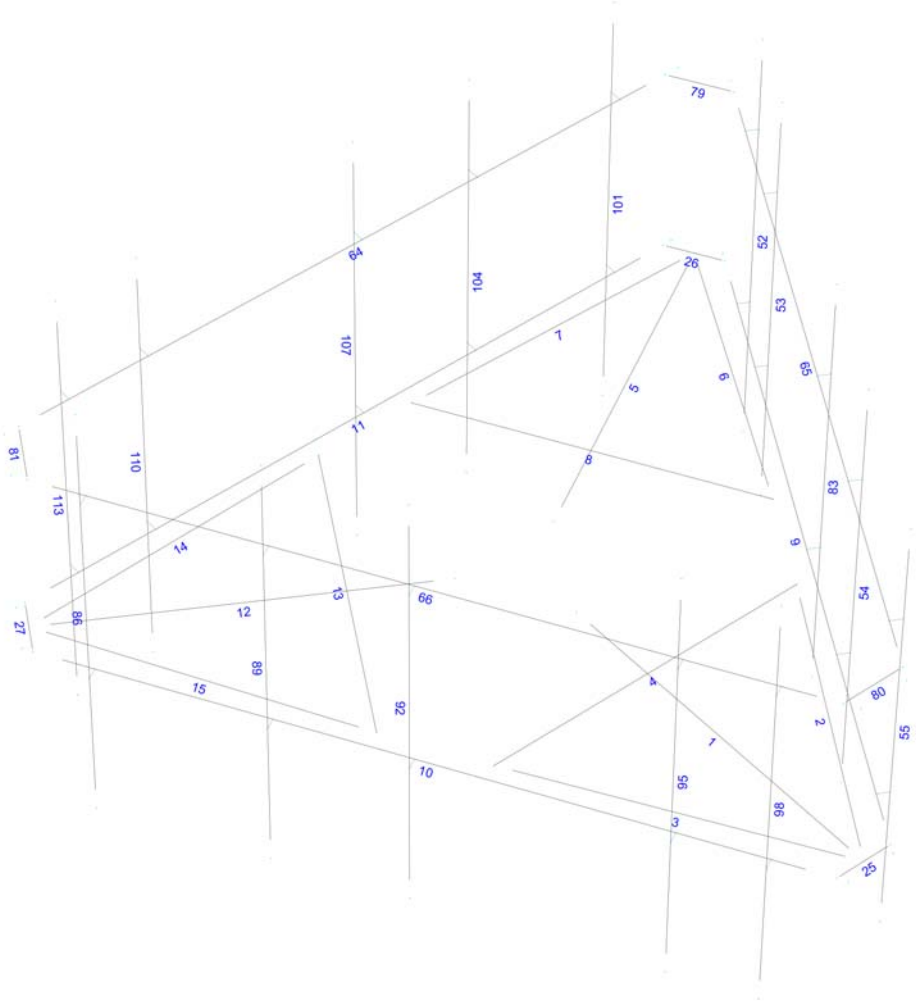
HUDSON
Design Group LLC

Mount Calculations
(Modified Conditions)


Install new handrail kit, SitePro1 P/N HRK12
(or approved equal).
XY
Z


A36
L 2-1_2X2-1_2X3_16
A53 GrB
PIPE 2x0.154
A36
PL 3x3_16
A36
L 2X2X3_16
A500 GrB rectangular
HSS_SQR 4X4X1_4
A53 GrB
PIPE 3x0.216
A36
L 2X2X3_16
A36
PL 3x3_16


XY
Z


79
101
64
104
26
52
53
107
1
69
5
6
11
8
81
110
83
113
14
9
12
13
66
54
27
86
89
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92
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25
XY
Z

Current Date: 6/10/2020 1:40 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5483\Rev.2\CT5483 (MOD).retx

Load data

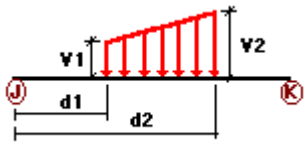
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL
LLa4	250 lb Live Load Antenna 4	No	LL

Distributed force on members

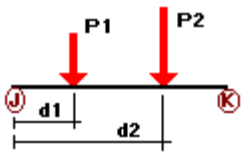


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	1	y	-0.01	0.00	0.00	No	0.00	No
	2	y	-0.01	0.00	0.00	No	0.00	No
	3	y	-0.01	0.00	0.00	No	0.00	No
	4	y	-0.01	0.00	0.00	No	0.00	No
	5	y	-0.01	0.00	0.00	No	0.00	No
	6	y	-0.01	0.00	0.00	No	0.00	No
	7	y	-0.01	0.00	0.00	No	0.00	No
	8	y	-0.01	0.00	0.00	No	0.00	No
	12	y	-0.01	0.00	0.00	No	0.00	No
	13	y	-0.01	0.00	0.00	No	0.00	No
	14	y	-0.01	0.00	0.00	No	0.00	No
	15	y	-0.01	0.00	0.00	No	0.00	No
W0	1	z	-0.02	0.00	0.00	No	0.00	No
	2	z	-0.01	0.00	0.00	No	0.00	No
	3	z	-0.01	0.00	0.00	No	0.00	No

	4	z	-0.02	0.00	0.00	No	0.00	No
	5	z	-0.02	0.00	0.00	No	0.00	No
	6	z	-0.01	0.00	0.00	No	0.00	No
	7	z	-0.01	0.00	0.00	No	0.00	No
	8	z	-0.02	0.00	0.00	No	0.00	No
	9	z	-0.018	0.00	0.00	No	0.00	No
	10	z	-0.018	0.00	0.00	No	0.00	No
	11	z	-0.018	0.00	0.00	No	0.00	No
	13	z	-0.02	0.00	0.00	No	0.00	No
	14	z	-0.01	0.00	0.00	No	0.00	No
	15	z	-0.01	0.00	0.00	No	0.00	No
	25	z	-0.015	0.00	0.00	No	0.00	No
	26	z	-0.015	0.00	0.00	No	0.00	No
	27	z	-0.015	0.00	0.00	No	0.00	No
	53	z	-0.012	0.00	0.00	No	0.00	No
	54	z	-0.012	0.00	0.00	No	0.00	No
	64	z	-0.012	0.00	0.00	No	0.00	No
	65	z	-0.012	0.00	0.00	No	0.00	No
	66	z	-0.012	0.00	0.00	No	0.00	No
	79	z	-0.01	0.00	0.00	No	0.00	No
	80	z	-0.01	0.00	0.00	No	0.00	No
	81	z	-0.01	0.00	0.00	No	0.00	No
	86	z	-0.012	0.00	0.00	No	0.00	No
	89	z	-0.012	0.00	0.00	No	0.00	No
	92	z	-0.012	0.00	0.00	No	0.00	No
	95	z	-0.012	0.00	0.00	No	0.00	No
	98	z	-0.012	0.00	0.00	No	0.00	No
	101	z	-0.012	0.00	0.00	No	0.00	No
	104	z	-0.012	0.00	0.00	No	0.00	No
	107	z	-0.012	0.00	0.00	No	0.00	No
	110	z	-0.012	0.00	0.00	No	0.00	No
	113	z	-0.012	0.00	0.00	No	0.00	No
W30	1	x	-0.02	0.00	0.00	No	0.00	No
	2	x	-0.01	0.00	0.00	No	0.00	No
	3	x	-0.01	0.00	0.00	No	0.00	No
	4	x	-0.02	0.00	0.00	No	0.00	No
	5	x	-0.02	0.00	0.00	No	0.00	No
	6	x	-0.01	0.00	0.00	No	0.00	No
	7	x	-0.01	0.00	0.00	No	0.00	No
	8	x	-0.02	0.00	0.00	No	0.00	No
	10	x	-0.018	0.00	0.00	No	0.00	No
	11	x	-0.018	0.00	0.00	No	0.00	No
	12	x	-0.02	0.00	0.00	No	0.00	No
	14	x	-0.01	0.00	0.00	No	0.00	No
	15	x	-0.01	0.00	0.00	No	0.00	No
	25	x	-0.015	0.00	0.00	No	0.00	No
	26	x	-0.015	0.00	0.00	No	0.00	No
	52	x	-0.012	0.00	0.00	No	0.00	No
	53	x	-0.012	0.00	0.00	No	0.00	No
	54	x	-0.012	0.00	0.00	No	0.00	No
	55	x	-0.012	0.00	0.00	No	0.00	No
	64	x	-0.012	0.00	0.00	No	0.00	No
	66	x	-0.012	0.00	0.00	No	0.00	No
	79	x	-0.01	0.00	0.00	No	0.00	No
	80	x	-0.01	0.00	0.00	No	0.00	No
	81	x	-0.01	0.00	0.00	No	0.00	No
	83	x	-0.012	0.00	0.00	No	0.00	No
	86	x	-0.012	0.00	0.00	No	0.00	No
	89	x	-0.012	0.00	0.00	No	0.00	No
	92	x	-0.012	0.00	0.00	No	0.00	No

	95	x	-0.012	0.00	0.00	No	0.00	No
	98	x	-0.012	0.00	0.00	No	0.00	No
	101	x	-0.012	0.00	0.00	No	0.00	No
	104	x	-0.012	0.00	0.00	No	0.00	No
	107	x	-0.012	0.00	0.00	No	0.00	No
	110	x	-0.012	0.00	0.00	No	0.00	No
	113	x	-0.012	0.00	0.00	No	0.00	No
Di	1	y	-0.01	0.00	0.00	No	0.00	No
	2	y	-0.007	0.00	0.00	No	0.00	No
	3	y	-0.007	0.00	0.00	No	0.00	No
	4	y	-0.01	0.00	0.00	No	0.00	No
	5	y	-0.01	0.00	0.00	No	0.00	No
	6	y	-0.007	0.00	0.00	No	0.00	No
	7	y	-0.007	0.00	0.00	No	0.00	No
	8	y	-0.01	0.00	0.00	No	0.00	No
	9	y	-0.007	0.00	0.00	No	0.00	No
	10	y	-0.007	0.00	0.00	No	0.00	No
	11	y	-0.007	0.00	0.00	No	0.00	No
	12	y	-0.01	0.00	0.00	No	0.00	No
	13	y	-0.01	0.00	0.00	No	0.00	No
	14	y	-0.007	0.00	0.00	No	0.00	No
	15	y	-0.007	0.00	0.00	No	0.00	No
	25	y	-0.006	0.00	0.00	No	0.00	No
	26	y	-0.006	0.00	0.00	No	0.00	No
	27	y	-0.006	0.00	0.00	No	0.00	No
	52	y	-0.005	0.00	0.00	No	0.00	No
	53	y	-0.005	0.00	0.00	No	0.00	No
	54	y	-0.005	0.00	0.00	No	0.00	No
	55	y	-0.005	0.00	0.00	No	0.00	No
	64	y	-0.005	0.00	0.00	No	0.00	No
	65	y	-0.005	0.00	0.00	No	0.00	No
	66	y	-0.005	0.00	0.00	No	0.00	No
	79	y	-0.007	0.00	0.00	No	0.00	No
	80	y	-0.007	0.00	0.00	No	0.00	No
	81	y	-0.007	0.00	0.00	No	0.00	No
	83	y	-0.005	0.00	0.00	No	0.00	No
	86	y	-0.005	0.00	0.00	No	0.00	No
	89	y	-0.005	0.00	0.00	No	0.00	No
	92	y	-0.005	0.00	0.00	No	0.00	No
	95	y	-0.005	0.00	0.00	No	0.00	No
	98	y	-0.005	0.00	0.00	No	0.00	No
	101	y	-0.005	0.00	0.00	No	0.00	No
	104	y	-0.005	0.00	0.00	No	0.00	No
	107	y	-0.005	0.00	0.00	No	0.00	No
	110	y	-0.005	0.00	0.00	No	0.00	No
	113	y	-0.005	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	52	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.071	3.00	No
		y	-0.074	3.00	No
	54	y	-0.033	50.00	Yes
	55	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.02	4.00	No
	83	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.06	3.00	No
		y	-0.046	3.00	No
	86	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.02	4.00	No
	89	y	-0.033	50.00	Yes
	92	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.06	3.00	No
		y	-0.046	3.00	No
	98	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.071	3.00	No
		y	-0.074	3.00	No
	101	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.02	4.00	No
	104	y	-0.033	50.00	Yes
	107	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.06	3.00	No
		y	-0.046	3.00	No
	113	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.071	3.00	No
		y	-0.074	3.00	No
W0	52	z	-0.456	0.50	No
		z	-0.456	7.50	No
		z	-0.038	3.00	No
		z	-0.035	3.00	No
	54	z	-0.058	50.00	Yes
	55	z	-0.141	2.00	No
		z	-0.141	5.50	No
		z	-0.05	4.00	No
	83	z	-0.349	0.50	No
		z	-0.349	7.50	No
		z	-0.034	3.00	No
		z	-0.023	3.00	No
	86	z	-0.092	3.00	No
		z	-0.092	6.50	No
		z	-0.026	4.00	No
	89	z	-0.058	50.00	Yes
	92	z	-0.225	0.50	No
		z	-0.225	7.50	No
		z	-0.088	3.00	No
	98	z	-0.27	0.50	No
		z	-0.27	7.50	No
		z	-0.076	3.00	No
	101	z	-0.092	3.00	No
		z	-0.092	6.50	No

		z	-0.026	4.00	No
	104	z	-0.058	50.00	Yes
	107	z	-0.225	0.50	No
		z	-0.225	7.50	No
		z	-0.088	3.00	No
	113	z	-0.27	0.50	No
		z	-0.27	7.50	No
		z	-0.076	3.00	No
W30	52	x	-0.208	0.50	No
		x	-0.208	7.50	No
		x	-0.084	3.00	No
	54	x	-0.058	50.00	Yes
	55	x	-0.075	3.00	No
		x	-0.075	6.50	No
		x	-0.017	4.00	No
	83	x	-0.184	0.50	No
		x	-0.184	7.50	No
		x	-0.102	3.00	No
	86	x	-0.125	3.00	No
		x	-0.125	6.50	No
		x	-0.042	4.00	No
	89	x	-0.058	50.00	Yes
	92	x	-0.307	0.50	No
		x	-0.307	7.50	No
		x	-0.051	3.00	No
	98	x	-0.394	0.50	No
		x	-0.394	7.50	No
		x	-0.047	3.00	No
	101	x	-0.125	3.00	No
		x	-0.125	6.50	No
		x	-0.042	4.00	No
	104	x	-0.058	50.00	Yes
	107	x	-0.307	0.50	No
		x	-0.307	7.50	No
		x	-0.051	3.00	No
	113	x	-0.394	0.50	No
		x	-0.394	7.50	No
		x	-0.047	3.00	No
Di	52	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.039	3.00	No
		y	-0.037	3.00	No
	54	y	-0.033	50.00	Yes
	55	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.017	4.00	No
	83	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.038	3.00	No
		y	-0.033	3.00	No
	86	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.017	4.00	No
	89	y	-0.033	50.00	Yes
	92	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.038	3.00	No
		y	-0.033	3.00	No
	98	y	-0.048	0.50	No
		y	-0.048	7.50	No

		y	-0.039	3.00	No
		y	-0.037	3.00	No
	101	y	-0.018	2.00	No
		y	-0.018	5.50	No
		y	-0.017	4.00	No
	104	y	-0.033	50.00	Yes
	107	y	-0.047	0.50	No
		y	-0.047	7.50	No
		y	-0.038	3.00	No
		y	-0.033	3.00	No
	113	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.039	3.00	No
		y	-0.037	3.00	No
Wi0	52	z	-0.078	0.50	No
		z	-0.078	7.50	No
		z	-0.01	3.00	No
		z	-0.009	3.00	No
	54	z	-0.012	50.00	Yes
	55	z	-0.027	3.00	No
		z	-0.027	6.50	No
		z	-0.011	4.00	No
	83	z	-0.062	0.50	No
		z	-0.062	7.50	No
		z	-0.009	3.00	No
		z	-0.007	3.00	No
	86	z	-0.019	3.00	No
		z	-0.019	6.50	No
		z	-0.007	4.00	No
	89	z	-0.012	50.00	Yes
	92	z	-0.042	0.50	No
		z	-0.042	7.50	No
		z	-0.018	3.00	No
	98	z	-0.049	0.50	No
		z	-0.049	7.50	No
		z	-0.016	3.00	No
	101	z	-0.019	3.00	No
		z	-0.019	6.50	No
		z	-0.007	4.00	No
	104	z	-0.012	50.00	Yes
	107	z	-0.042	0.50	No
		z	-0.042	7.50	No
		z	-0.018	3.00	No
	113	z	-0.049	0.50	No
		z	-0.049	7.50	No
		z	-0.016	3.00	No
Wi30	52	x	-0.039	0.50	No
		x	-0.039	7.50	No
		x	-0.017	3.00	No
	54	x	-0.012	50.00	Yes
	55	x	-0.016	3.00	No
		x	-0.016	6.50	No
		x	-0.005	4.00	No
	83	x	-0.036	0.50	No
		x	-0.036	7.50	No
		x	-0.02	3.00	No
	86	x	-0.024	3.00	No
		x	-0.024	6.50	No
		x	-0.01	4.00	No
	89	x	-0.012	50.00	Yes

	92	x	-0.054	0.50	No
		x	-0.054	7.50	No
		x	-0.011	3.00	No
	98	x	-0.067	0.50	No
		x	-0.067	7.50	No
		x	-0.01	3.00	No
	101	x	-0.024	3.00	No
		x	-0.024	6.50	No
		x	-0.01	4.00	No
	104	x	-0.012	50.00	Yes
	107	x	-0.054	0.50	No
		x	-0.054	7.50	No
		x	-0.011	3.00	No
	113	x	-0.067	0.50	No
		x	-0.067	7.50	No
		x	-0.01	3.00	No
WL0	52	z	-0.025	0.50	No
		z	-0.025	7.50	No
		z	-0.002	3.00	No
		z	-0.002	3.00	No
	54	z	-0.003	50.00	Yes
	55	z	-0.008	3.00	No
		z	-0.008	6.50	No
		z	-0.003	4.00	No
	83	z	-0.019	0.50	No
		z	-0.019	7.50	No
		z	-0.002	3.00	No
		z	-0.001	3.00	No
	86	z	-0.005	3.00	No
		z	-0.005	6.50	No
		z	-0.001	4.00	No
	89	z	-0.003	50.00	Yes
	92	z	-0.012	0.50	No
		z	-0.012	7.50	No
		z	-0.005	3.00	No
	98	z	-0.015	0.50	No
		z	-0.015	7.50	No
		z	-0.004	3.00	No
	101	z	-0.005	3.00	No
		z	-0.005	6.50	No
		z	-0.001	4.00	No
	104	z	-0.003	50.00	Yes
	107	z	-0.012	0.50	No
		z	-0.012	7.50	No
		z	-0.005	3.00	No
	113	z	-0.015	0.50	No
		z	-0.015	7.50	No
		z	-0.004	3.00	No
WL30	52	x	-0.012	0.50	No
		x	-0.012	7.50	No
		x	-0.004	3.00	No
	54	x	-0.003	50.00	Yes
	55	x	-0.004	3.00	No
		x	-0.004	6.50	No
		x	-0.001	4.00	No
	83	x	-0.01	0.50	No
		x	-0.01	7.50	No
		x	-0.005	3.00	No
	86	x	-0.007	3.00	No
		x	-0.007	6.50	No

		x	-0.002	4.00	No
	89	x	-0.003	50.00	Yes
	92	x	-0.017	0.50	No
		x	-0.017	7.50	No
		x	-0.003	3.00	No
	98	x	-0.021	0.50	No
		x	-0.021	7.50	No
		x	-0.003	3.00	No
	101	x	-0.007	3.00	No
		x	-0.007	6.50	No
		x	-0.002	4.00	No
	104	x	-0.003	50.00	Yes
	107	x	-0.017	0.50	No
		x	-0.017	7.50	No
		x	-0.003	3.00	No
	113	x	-0.021	0.50	No
		x	-0.021	7.50	No
		x	-0.003	3.00	No
LL1	65	y	-0.25	50.00	Yes
LL2	65	y	-0.25	0.00	Yes
LLa1	52	y	-0.25	50.00	Yes
LLa2	83	y	-0.25	50.00	Yes
LLa3	55	y	-0.25	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	250 lb Live Load Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00

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Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2DL+W0
LC2=1.2DL+W30
LC3=1.2DL-W0
LC4=1.2DL-W30
LC5=0.9DL+W0
LC6=0.9DL+W30
LC7=0.9DL-W0
LC8=0.9DL-W30
LC9=1.2DL+Di+Wi0
LC10=1.2DL+Di+Wi30
LC11=1.2DL+Di-Wi0
LC12=1.2DL+Di-Wi30
LC13=1.2DL
LC15=1.2DL+1.5LL1
LC16=1.2DL+1.5LL2
LC17=1.2DL+WL0+1.5LLa1
LC18=1.2DL+WL30+1.5LLa1
LC19=1.2DL-WL0+1.5LLa1
LC20=1.2DL-WL30+1.5LLa1
LC21=1.2DL+WL0+1.5LLa2
LC22=1.2DL+WL30+1.5LLa2
LC23=1.2DL-WL0+1.5LLa2
LC24=1.2DL-WL30+1.5LLa2
LC25=1.2DL+WL0+1.5LLa3
LC26=1.2DL+WL30+1.5LLa3
LC27=1.2DL-WL0+1.5LLa3
LC28=1.2DL-WL30+1.5LLa3
LC29=1.2DL+WL0+1.5LLa4
LC30=1.2DL+WL30+1.5LLa4
LC31=1.2DL-WL0+1.5LLa4
LC32=1.2DL-WL30+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_4	**1**	LC2 at 100.00%	0.57	OK	Eq. H1-1b
		4	LC2 at 48.44%	0.31	OK	Eq. H1-1b
		5	LC3 at 100.00%	0.61	OK	Eq. H1-1b
		8	LC4 at 48.44%	0.32	OK	Eq. H1-1b
		12	LC1 at 0.00%	**0.63**	**OK**	Eq. H1-1b
		13	LC1 at 50.00%	0.32	OK	Eq. H1-1b
	L 2-1_2X2-1_2X3_16	**79**	LC1 at 0.00%	**0.60**	**OK**	Sec. F1
		80	LC2 at 100.00%	0.58	OK	Eq. H2-1
		81	LC2 at 0.00%	0.59	OK	Sec. F1
	L 2X2X3_16	**2**	LC3 at 100.00%	0.50	OK	Eq. H2-1
		3	LC2 at 100.00%	**0.62**	**OK**	Eq. H2-1
		6	LC3 at 100.00%	0.54	OK	Eq. H2-1
		7	LC4 at 100.00%	0.59	OK	Eq. H2-1
		14	LC1 at 0.00%	0.57	OK	Eq. H2-1
		15	LC1 at 0.00%	0.54	OK	Eq. H2-1

PIPE 2x0.154	**52**	LC1 at 66.67%	0.80	OK	Eq. H1-1b
	53	LC3 at 64.58%	0.65	OK	Eq. H1-1b
	54	LC3 at 64.58%	0.61	OK	Eq. H1-1b
	55	LC4 at 64.58%	0.49	OK	Eq. H1-1b
	64	LC2 at 8.59%	0.72	OK	Eq. H1-1b
	65	LC1 at 91.41%	0.71	OK	Eq. H1-1b
	66	LC4 at 9.38%	0.70	OK	Eq. H1-1b
	83	LC1 at 64.58%	0.92	OK	Eq. H1-1b
	86	LC2 at 64.58%	0.71	OK	Eq. H1-1b
	89	LC2 at 64.58%	0.69	OK	Eq. H1-1b
	92	LC4 at 64.58%	**0.96**	**OK**	Eq. H1-1b
	95	LC1 at 64.58%	0.62	OK	Eq. H1-1b
	98	LC2 at 66.67%	0.72	OK	Eq. H1-1b
	101	LC1 at 64.58%	0.68	OK	Eq. H1-1b
	104	LC1 at 22.92%	0.62	OK	Eq. H1-1b
	107	LC2 at 64.58%	0.92	OK	Eq. H1-1b
	110	LC4 at 64.58%	0.69	OK	Eq. H1-1b
	113	LC4 at 64.58%	0.77	OK	Eq. H1-1b
PIPE 3x0.216	**9**	LC3 at 56.25%	**0.37**	**OK**	Eq. H1-1b
	10	LC2 at 43.75%	0.36	OK	Eq. H1-1b
	11	LC4 at 55.63%	0.37	OK	Eq. H1-1b
PL 3x3_16	**25**	LC5 at 50.00%	**0.61**	**With warnings**	Eq. H1-1b
	26	LC5 at 46.88%	0.51	With warnings	Eq. H1-1a
	27	LC4 at 50.00%	0.51	With warnings	Eq. H1-2

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Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
2	-0.7253	0.25	4.0896	0
3	-6.0833	0.25	4.0896	0
4	-6.25	0.25	4.0896	0
5	-6.3333	0.25	3.6566	0
6	-6.5833	0.25	3.2236	0
7	-3.7376	0.25	-1.128	0
8	-3.9043	0.25	-1.4166	0
9	-0.892	0.25	3.8009	0
10	-6.6667	0.25	3.3679	0
11	-3.179	0.25	-2.6729	0
12	-2.8457	0.25	-2.6729	0
13	-0.50	0.25	-7.3131	0
14	-0.4167	0.25	-7.4574	0
17	0.7253	0.25	4.0896	0
18	6.0833	0.25	4.0896	0
19	6.25	0.25	4.0896	0
20	6.3333	0.25	3.6566	0
21	6.5833	0.25	3.2236	0
22	3.7376	0.25	-1.128	0
23	3.9043	0.25	-1.4166	0
24	0.892	0.25	3.8009	0
25	6.6667	0.25	3.3679	0

26	3.179	0.25	-2.6729	0
27	2.8457	0.25	-2.6729	0
28	0.50	0.25	-7.3131	0
29	0.4167	0.25	-7.4574	0
32	0.00	0.25	-7.3131	0
69	0.9427	0.25	0.5443	0
70	0.00	0.25	-1.0885	0
71	-0.9427	0.25	0.5443	0
108	5.1136	5.50	4.2896	0
109	-5.1136	5.50	4.2896	0
110	5.1136	-2.50	4.2896	0
111	-5.1136	-2.50	4.2896	0
112	3.7046	5.50	4.2896	0
113	-2.3636	5.50	4.2896	0
114	3.7046	-2.50	4.2896	0
115	-2.3636	-2.50	4.2896	0
116	5.1136	0.25	4.0896	0
117	-5.1136	0.25	4.0896	0
118	3.7046	0.25	4.0896	0
119	-2.3636	0.25	4.0896	0
120	5.1136	0.25	4.2896	0
121	-5.1136	0.25	4.2896	0
122	3.7046	0.25	4.2896	0
123	-2.3636	0.25	4.2896	0
140	-5.1136	3.75	4.0896	0
141	-5.1136	3.75	4.2896	0
142	-2.3636	3.75	4.0896	0
143	-2.3636	3.75	4.2896	0
144	3.7046	3.75	4.0896	0
145	3.7046	3.75	4.2896	0
146	5.1136	3.75	4.0896	0
147	5.1136	3.75	4.2896	0
148	0.4167	3.75	-7.4574	0
149	6.6667	3.75	3.3679	0
150	-6.25	3.75	4.0896	0
151	6.25	3.75	4.0896	0
152	-6.6667	3.75	3.3679	0
153	-0.4167	3.75	-7.4574	0
154	6.00	3.75	4.0896	0
155	6.5416	3.75	3.1514	0
156	-6.5416	3.75	3.1514	0
157	-6.00	3.75	4.0896	0
158	0.5417	3.75	-7.2409	0
159	-0.5417	3.75	-7.2409	0
160	-0.2046	5.50	4.2896	0
161	-0.2046	-2.50	4.2896	0
162	-0.2046	0.25	4.0896	0
163	-0.2046	0.25	4.2896	0
164	-0.2046	3.75	4.0896	0
165	-0.2046	3.75	4.2896	0
166	-1.1581	5.50	-6.5733	0
167	-1.1581	-2.50	-6.5733	0
168	-0.9849	0.25	-6.4733	0
169	-1.1581	0.25	-6.5733	0
170	-0.9849	3.75	-6.4733	0
171	-1.1581	3.75	-6.5733	0
172	-2.5331	5.50	-4.1918	0
173	-2.5331	-2.50	-4.1918	0
174	-2.3599	0.25	-4.0918	0
175	-2.5331	0.25	-4.1918	0

176	-2.3599	3.75	-4.0918	0
177	-2.5331	3.75	-4.1918	0
178	-3.6126	5.50	-2.3219	0
179	-3.6126	-2.50	-2.3219	0
180	-3.4394	0.25	-2.2219	0
181	-3.6126	0.25	-2.3219	0
182	-3.4394	3.75	-2.2219	0
183	-3.6126	3.75	-2.3219	0
184	-5.5672	5.50	1.0634	0
185	-5.5672	-2.50	1.0634	0
186	-5.3939	0.25	1.1634	0
187	-5.5672	0.25	1.0634	0
188	-5.3939	3.75	1.1634	0
189	-5.5672	3.75	1.0634	0
190	-6.2717	5.50	2.2838	0
191	-6.2717	-2.50	2.2838	0
192	-6.0985	0.25	2.3838	0
193	-6.2717	0.25	2.2838	0
194	-6.0985	3.75	2.3838	0
195	-6.2717	3.75	2.2838	0
196	6.2717	5.50	2.2838	0
197	6.2717	-2.50	2.2838	0
198	6.0985	0.25	2.3838	0
199	6.2717	0.25	2.2838	0
200	6.0985	3.75	2.3838	0
201	6.2717	3.75	2.2838	0
202	4.8967	5.50	-0.0978	0
203	4.8967	-2.50	-0.0978	0
204	4.7235	0.25	0.0022	0
205	4.8967	0.25	-0.0978	0
206	4.7235	3.75	0.0022	0
207	4.8967	3.75	-0.0978	0
208	3.8172	5.50	-1.9676	0
209	3.8172	-2.50	-1.9676	0
210	3.6439	0.25	-1.8676	0
211	3.8172	0.25	-1.9676	0
212	3.6439	3.75	-1.8676	0
213	3.8172	3.75	-1.9676	0
214	1.8626	5.50	-5.353	0
215	1.8626	-2.50	-5.353	0
216	1.6894	0.25	-5.253	0
217	1.8626	0.25	-5.353	0
218	1.6894	3.75	-5.253	0
219	1.8626	3.75	-5.353	0
220	1.1581	5.50	-6.5733	0
221	1.1581	-2.50	-6.5733	0
222	0.9849	0.25	-6.4733	0
223	1.1581	0.25	-6.5733	0
224	0.9849	3.75	-6.4733	0
225	1.1581	3.75	-6.5733	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
69	1	1	1	1	1	1
70	1	1	1	1	1	1
71	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	5	71		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
2	5	9		L 2X2X3_16	A36	0.00	0.00	0.00
3	5	7		L 2X2X3_16	A36	0.00	0.00	0.00
4	8	2		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
5	20	69		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
6	20	24		L 2X2X3_16	A36	0.00	0.00	0.00
7	20	22		L 2X2X3_16	A36	0.00	0.00	0.00
8	23	17		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
9	4	19		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
10	10	14		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
11	29	25		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
12	70	32		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
13	11	26		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
14	27	32		L 2X2X3_16	A36	0.00	0.00	0.00
15	12	32		L 2X2X3_16	A36	0.00	0.00	0.00
25	6	3		PL 3x3_16	A36	0.00	0.00	0.00
26	18	21		PL 3x3_16	A36	0.00	0.00	0.00
27	28	13		PL 3x3_16	A36	0.00	0.00	0.00
52	108	110		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
53	112	114		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
54	113	115		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
55	109	111		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
64	148	149		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
65	150	151		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
66	152	153		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
79	154	155		L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
80	156	157		L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
81	158	159		L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
83	160	161		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
86	166	167		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
89	172	173		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
92	178	179		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
95	184	185		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
98	190	191		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
101	196	197		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
104	202	203		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
107	208	209		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
110	214	215		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
113	220	221		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
2	270.00	0	0.00	0.00	0.00
4	180.00	0	0.00	0.00	0.00
7	270.00	0	0.00	0.00	0.00
8	90.00	0	0.00	0.00	0.00
13	90.00	0	0.00	0.00	0.00
14	270.00	0	0.00	0.00	0.00
52	0.00	2	1.00	0.00	0.00
53	0.00	2	1.00	0.00	0.00
54	0.00	2	1.00	0.00	0.00
55	0.00	2	1.00	0.00	0.00
79	90.00	0	0.00	0.00	0.00
80	90.00	0	0.00	0.00	0.00
81	90.00	0	0.00	0.00	0.00
83	0.00	2	1.00	0.00	0.00
86	0.00	2	1.00	0.00	0.00
89	0.00	2	1.00	0.00	0.00
92	0.00	2	1.00	0.00	0.00
95	0.00	2	1.00	0.00	0.00
98	0.00	2	1.00	0.00	0.00
101	0.00	2	1.00	0.00	0.00
104	0.00	2	1.00	0.00	0.00
107	0.00	2	1.00	0.00	0.00
110	0.00	2	1.00	0.00	0.00
113	0.00	2	1.00	0.00	0.00

tyler clt division

RESIDENTIAL PROPERTY RECORD CARD 2020

TOWN OF KILLINGLY

Situs : 246 E FRANKLIN ST | **Map ID: 002601** | **Class: Single Family Residence** | Card: 1 of 1 | Printed: February 19, 2020

CURRENT OWNER

HUTCHINS CHARLES R LU &
MARTEL AMANDA TRUSTEE
CHARLES R HUTCHINS IRREVOCABLE TRUST
246 E FRANKLIN ST
KILLINGLY CT 06239

GENERAL INFORMATION

Living Units	1
Neighborhood	102
Alternate Id	216-12
Vol / Pg	1355/728
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	112,100
Building	173,670	248,100	248,100	0	248,100
Total	252,140	360,200	360,200	0	360,200

Manual Override Reason
Base Date of Value 10/01/2019
Value Flag COST APPROACH **Effective Date of Value** 10/01/2020
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
08/08/19	27023	20,000	31 ELEC	Telecommunications Facility Upgra	997
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

Sales/Ownership History

Transfer Date	Price	Type	Validity	Deed Reference	Deed Type	Grantee
02/11/19		Land & Bldg		1355/728	Quit Claim Retail Life Use	HUTCHINS CHARLES R LU MARTEL AMAND

tyler clt division

RESIDENTIAL PROPERTY RECORD CARD 2020

TOWN OF KILLINGLY

Situs : 246 E FRANKLIN ST	Parcel Id: 002601	Class: Single Family Residence	Card: 1 of 1	Printed: February 19, 2020

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

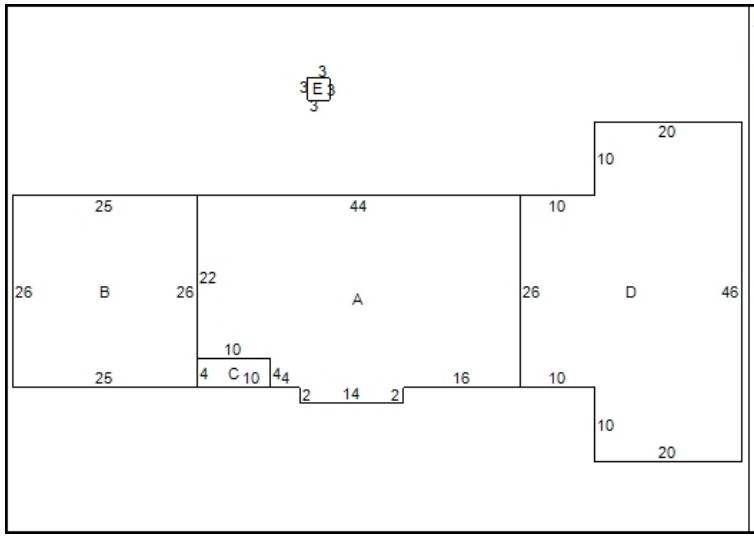
Grade & Depreciation

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

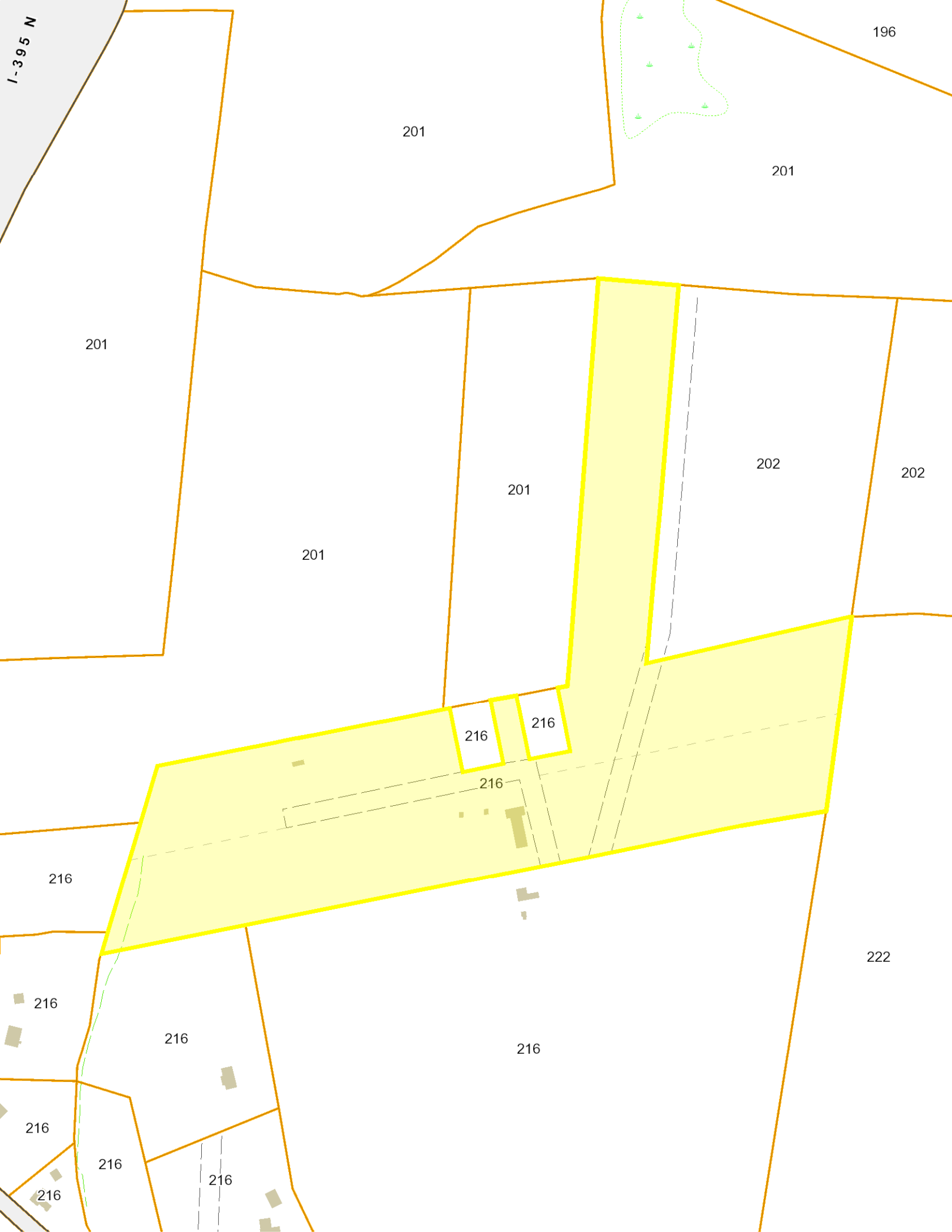
Type	Size 1	Size 2	Area	Qty	Yr Blt	Grade	Condition	Value
Poultry	11 x	12	132	1	2000	D	P	390
Frame Shed	x		174	1	2008	C	A	1,250

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


I-395 N
196
201
201
201
201
201
202
202
216
216
216
216
216
216
216
216
216
216
222

DATE: 2/02/99

TOWN OF KILLINGLY, CONNECTICUT
ZONING PERMIT

№ 006544

Complete Items #1-9 and the plot plan on the reverse side of the top sheet.

1. Location of Property 246 E. FRANKLIN ST.
   House # & Street
   Tax Map Number 3995 Block 022 Lot 106A Zoning District RD Volume 555 Page 118 List 2601
2. Property Owner's Name CHARLES R. HUTCHINS Phone 774-1903
3. Property Owner's Address if different from property location
4. Applicant's Name and Address if different from Property Owner's Name and Address SCOTT THOMAE SBA INC 125 SHAW ST NEW LONDON, CT 06372 Phone (860) 908-5356

5. Lot Size 21.6 AC. Lot Frontage NA
6. This permit is applied for in accordance with the requirements of the Town of Killingly and/or Borough of Danielson Zoning Regulations for:
   - ☑ new construction
   - ☐ addition
   - ☐ accessory structure (sheds, satellite dishes, etc.)
   - ☐ swimming pool
   - ☐ excavating/filling/earth removal
   - ☐ sign
   - ☐ change of use
   - ☐ other
7. Proposed structure or project — Provide description and dimensions:
   CONSTRUCTION OF A 160' MULTITENANT MONOPOLE TELECOM. FACILITY & PLACEMENT OF ASSOC EQUIPMENT
8. Property Use:
   - ☐ single family residential
   - ☐ two-family residential
   - ☐ mobile home — residential
   - ☐ multi-family — residential
   - ☐ Industrial specify
   - ☑ Commercial specify MONOPOLE TELECOM FACILITY
   - ☐ Professional and Business specify
9. PERMIT VOID IF ...
   work or activity is not commenced within one year from the date of issue and diligently prosecuted to completion.
   This permit, if issued, is based upon the plot plan submitted. Falsification, by misrepresentation or omission, or failure to comply with the conditions of approval of this permit shall constitute a violation of the Town of Killingly and/or Borough of Danielson Zoning Regulations.
   Agents of the Town of Killingly are authorized to enter upon the property for the purpose of inspection and verification of compliance with the terms of this permit.

SBA INC. (860) 908 5356
(Signature of Owner or authorized agent) (Agent's phone #)

FOR OFFICE USE ONLY:

Inland Wetlands N/A - OUTSIDE 200' REGULATED AREA 2-4-99
Historic District? Yes (No)
Slope greater than 15%? (Yes) No
Flood Hazard Zone? NO
Aquifer Protection Zone? Yes (No)
Public Sewer On-Site Septic
Site Plan Review Necessary? Yes No
Applicant's Name as part of spec. permit
Application No.
P&Z Commission Approval Date

Driveway Permit NA - existing
Special Permit necessary? (Yes) No
Applicant's Name SBA INC.
Application No. 98-704
P&Z Commission Approval Date July 13, 1998
Subdivision necessary? Yes (No)
Applicant's Name
Application No.
P&Z Commission Approval Date
Variance Necessary? Yes (No)
Applicant's Name
Application No.
ZBA Approval Date

Approved ✓ Disapproved Date February 5, 1999
Reason for Disapproval:
Comments: Adhere to all approval conditions and site work of special permit #98-704 Call for erosion + sediment control + other inspections

Linda E. Walden, CZEO
Zoning Enforcement Officer

Orig./White: Z.E.O. / Blue: P &Z / Green: Bldg. Official / Yellow: Applicant

APPLICATION FOR PLAN EXAMINATION AND BUILDING PERMIT

№ 013425

DATE 2-2-99

ALVIN N. KILBURN
Building Official
(203) 774-8601

TOWN OF KILLINGLY - DEPARTMENT OF BUILDING INSPECTION

DEED INFORMATION: VOL 555/118 PAGE 118 MAP 3995 BLOCK 022 LOT 1064 SOILS _____

ZONE RD CONFORMING ☐ NON-CONFORMING ☐ DRIVEWAY PERMIT STATE OF CONN. YES _____ NO _____

Aquifer Yes _____ No _____ Flood Hazard Yes _____ No _____ Inland Wetland Yes _____ No _____

1. Location of Building 246 EAST FRANKLIN STREET Lot 2601
2. Applicant SBA INC Address 125 SHAW ST NLondon Tel.: (860) 459-0152
3. Owner CHARLIE HUTCHINS Address 246 EAST FRANKLIN Tel.: _____
4. Contractor DICIN ELECTRIC Address 156 CROSS RD WATERFORD Tel.: (860) 442 0826
5. Elec. Cont. " RUDY CHIGLA Address " 1028346-1 Tel.: "
6. Plumbing - Htg. Cont. N/A Address N/A Tel.: N/A
7. ZONING PERMIT NO. _____ DRIVEWAY PERMIT NO. _____

8. TYPE OF IMPROVEMENT

- ☑ New building
- ☐ Addition (If residential, enter number of new housing units added, if any, in Part 9).
- ☐ Renovations
- ☐ Repair, replacement
- ☐ Demolition (If multifamily residential, enter number of units in building in Part 9).
- ☐ Moving (relocation)
- ☐ Foundation only

9. PROPOSED USE

Residential

- ☐ One family
- ☐ Two or more family — Enter number of units .....
- ☐ Transient hotel, motel, or dormitory - Enter number of units .....
- ☐ Garage
- ☐ Carport
- ☑ Other - Specify TELECOMMUNICATION TOWER + ASSOCIATED UTILITIES

Nonresidential

- ☐ Amusement, recreational
- ☐ Church, other religious
- ☐ Industrial
- ☐ Parking garage
- ☐ Service station, repair garage
- ☐ Hospital, institutional
- ☐ Office, bank, professional
- ☐ Public utility
- ☐ School, library, other educational
- ☐ Stores, mercantile
- ☐ Tanks, towers
- ☑ Other - Specify _____

10a. ESTIMATED COST
$ 210,000.00

10b. PERMIT FEE
$ 1,470.-

11. TYPE OF SEWAGE DISPOSAL
☐ Private ☐ Public N/A

12. TYPE OF WATER SUPPLY
☐ Private ☐ Public N/A

NONRESIDENTIAL — Describe in detail proposed use of buildings, e.g., food processing plant, machine shop, laundry building at hospital, elementary school, secondary school, college, parochial school, parking garage for department store, rental office building, office building at industrial plant. If use of existing building is being changed, enter proposed use.

TELECOMMUNICATION TOWER AND ASSOCIATED UTILITIES

13. PRINCIPAL TYPE OF FRAME

- ☐ Masonry (wall bearing)
- ☐ Wood frame
- ☐ Structural steel
- ☑ Reinforced concrete FOUNDATION
- ☐ Other - Specify _____

14. PRINCIPAL TYPE OF HEATING FUEL

HEATING SYSTEM

- ☐ Steam
- ☐ Water
- ☐ Air
- ☐ Electric
- ☐ Fireplace

N/A

The owner of this building and the undersigned agree to conform to the State of Conn. basic building Code, The Connecticut Fire Safety Code, and the laws of this jurisdiction and to notify the Building Official of any changes in plans for which this permit is requested.

Signature of Applicant _____ Date 2/2/99

Alvin N Kilburn 2-2-99
Date Permit Issued

BUILDING: White Copy / ASSESSOR: Yellow / OWNER: Pink

SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

T + 561.995.7670
F + 561.995.7626

sbasite.com

LETTER OF AUTHORIZATION

SBA Site ID: CT00302-S, Danielson

Property Located at: 246 East Franklin Street, Danielson, CT, 06239-3806

THE CITY/COUNTY OF: Danielson / Windham

APPLICATION FOR ZONING/USE/BUILDING PERMIT

This letter authorizes AT&T and its authorized agents to file for all necessary zoning, planning and building permits (local, state and federal) for the purposes of installing, operating and maintaining a telecommunications facility on the existing tower on the property referenced above on behalf of Amanda Martel, Trustee of the Charles R. Hutchins Irrevocable Trust dated 9/24/2018.

All approval conditions that may be granted to AT&T in connection with above referenced facility relating to this specific application are the sole responsibility of AT&T.

SBA Properties, LLC

Jason Silberstein

Executive VP, Site Leasing

Date: 8/20/2020

Hollis Redding

To: Michael McNamara
Subject: CT00302-S Danielson 246 East Franklin Road, Danielson, CT

Mike-

Attached please find an Exempt Modification which will be filed with the CT Siting Council on August 26, 2020. Thank you. Hollis

Hollis M. Redding

SAI Communications LLC
Mobile: 860-834-6964
hredding@saigrp.com

UNITED STATES POSTAL SERVICE® **Click-N-Ship®**

P

usps.com
$7.75
US POSTAGE
Flat Rate Env

9405 5036 9930 0004 3704 36 0077 5000 0010 6051

08/26/2020 Mailed from 06450 062S0000001307

PRIORITY MAIL 1-DAY™

HOLLIS REDDING
SAI COMMUNICATIONS
39 WESTVIEW DR
MERIDEN CT 06450-4723

Expected Delivery Date: 08/27/20

0005

C006

SHIP TO: MELANIE BACHMAN EXEC DIRECTOR
CT SITING COUNCIL
10 FRANKLIN SQ
NEW BRITAIN CT 06051-2655

USPS TRACKING #

9405 5036 9930 0004 3704 36

Electronic Rate Approved #038555749

UNITED STATES POSTAL SERVICE® **Click-N-Ship®**

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usps.com
$7.75
US POSTAGE
Flat Rate Env

9405 5036 9930 0004 3704 67 0077 5000 0010 6239

08/26/2020 Mailed from 06450 062S0000000309

PRIORITY MAIL 1-DAY™

HOLLIS REDDING
SAI COMMUNICATIONS
39 WESTVIEW DR
MERIDEN CT 06450-4723

Expected Delivery Date: 08/27/20

0005

Carrier -- Leave if No Response

R002

SHIP TO: CHARLES HUTCHINS AMANDA MARTEL TRUSTEE
246 E FRANKLIN ST
DANIELSON CT 06239-3806

USPS TRACKING #

9405 5036 9930 0004 3704 67

Electronic Rate Approved #038555749

UNITED STATES POSTAL SERVICE® **Click-N-Ship®**

P

usps.com
$7.75 9405 5036 9930 0004 3704 12 0077 5000 0010 6239
US POSTAGE
Flat Rate Env

08/26/2020 Mailed from 06450 062S0000001310

PRIORITY MAIL 1-DAY™

HOLLIS REDDING
SAI COMMUNICATIONS
39 WESTVIEW DR
MERIDEN CT 06450-4723

Expected Delivery Date: 08/27/20

0005

C005

SHIP TO: MARY CALORIO
TOWN MANAGER KILLINGLY TOWN HALL
172 MAIN ST
DANIELSON CT 06239-2822

USPS TRACKING #

9405 5036 9930 0004 3704 12

Electronic Rate Approved #038555749

UNITED STATES POSTAL SERVICE® **Click-N-Ship®**

P

usps.com
$7.75 9405 5036 9930 0004 3704 29 0077 5000 0010 6239
US POSTAGE
Flat Rate Env

08/26/2020 Mailed from 06450 062S0000001309

PRIORITY MAIL 1-DAY™

HOLLIS REDDING
SAI COMMUNICATIONS
39 WESTVIEW DR
MERIDEN CT 06450-4723

Expected Delivery Date: 08/27/20

0005

C005

SHIP TO: ANN-MARIE L AUBREY
DIRECTOR OF PLANNING & DEV TOWN OF KILLINGLY
172 MAIN ST
DANIELSON CT 06239-2822

USPS TRACKING #

9405 5036 9930 0004 3704 29

Electronic Rate Approved #038555749