NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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

September 21, 2022

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

RE: Tower Share Application
66 Wall Street, Hebron, CT
Latitude: 41.664630
Longitude: -72.361325
Site #: CT04374-S_BOBDL00120A_SBA_DISH

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Dish Wireless LLC. Dish Wireless LLC plans to install antennas and related equipment to the tower site located at 66 Wall Street, Hebron, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900 MHz 5G antennas at the 145-foot level of the existing 150-foot monopole tower, twelve (12) Coax cables will also be installed. Dish Wireless LLC equipment cabinets will be placed within a 7' x 5' lease area within the fenced compound. Included are plans by B+T, dated September 20, 2022, Exhibit C. Also included is a structural analysis prepared by TES, dated January 28, 2022, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit D. The facility was originally approved by the Town of Hebron Planning & Zoning Commission on July 11, 2000. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish Wireless LLC intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Daniel Larson, Chairman of the Board of Selectmen, Andrew Tierney, Town Manager and Pat Gallagher, Town Planner for the Town of Hebron, as well as the tower owner (SBA) and property owner (Town of Hebron).

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

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the existing tower is 150-feet and the Dish Wireless LLC antennas will be located at a center line height of 145-feet.

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

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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

4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. The combined site operations will result in a total power density of 13.07% as evidenced by Exhibit F.

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

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

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

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of Dish Wireless LLC equipment at the 145-foot level of the existing 150-foot tower would have an insignificant visual impact on the area around the tower. Dish Wireless LLC ground equipment would be installed within the existing facility compound. Dish Wireless LLC shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

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

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

Sincerely,

Denise Sabo

Denise Sabo
Mobile: 203-435-3640
Fax: 413-521-0558
Office: 4 Angela's Way, Burlington CT 06013
Email: denise@northeastsitesolutions.com

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Attachments

Cc: Daniel Larson, Elected Official & Property Owner
Town of Hebron
15 Gilead Street
Hebron, CT 06248

Andrew Tierney, Town Manager
Town of Hebron
15 Gilead Street
Hebron, CT 06248

Pat Gallagher, Town Planner
Town of Hebron
15 Gilead Street
Hebron, CT 06248

SBA - Tower Owner

Exhibit A

Original Facility Approval

TOWN OF HEBRON

15 Gilead Street, Hebron, CT 06248
TEL (860) 228-5971 FAX (860) 228-5980

CT 4374

Planning/Zoning Building Health Conservation

July 17, 2000 **CERTIFIED MAIL**

SBA, Inc.
ATT: Jim Smith
80 Eastern Boulevard
Glastonbury, CT 06033

Re: Petition #2000-21, Special Permit Application of SBA, Inc. and Sprint PCS, telecommunication facility, Veterans Memorial Park

Dear Mr. Smith:

Please be advised that at the July 11, 2000 meeting of the Planning and Zoning Commission, the Commission took the following action on the above-referenced application.

Approved, with the following conditions:

1. **No antenna(s) shall be located on the outside of the flagpole.**
2. **After the facility has been operational for 90 days, the applicant shall submit reports of non-ionizing electromagnetic radiation showing compliance with present Federal Communication Commission standards.**
3. **Lighting for the flag shall be at the minimum level, in consultation with Town staff, in accordance with proper flag etiquette.**
4. **The flag size shall be determined in consultation with Town staff.**
5. **Any subsequent co-location shall submit application to the Planning and Zoning Commission.**

Please have the plans revised to include the above conditions and forward one set of mylars and three blueline sets of plans for signature by the Commission. Also, a Special Permit Certification must be filed in the Town Clerk's Office before the approval is effective. We will prepare the Certificate for you. A filing fee will be needed before filing with the Town Clerk.

If you have any questions, please call me.

Very truly yours,

Michael K. O'Leary
Town Planner for the Hebron Planning and Zoning Commission.

MKO/dmg

cc: Petition File #2000-21
Robert E. Lee, Town Manager

PERMIT NO. 11043

APPLICATION FOR BUILDING PERMIT CT 4374

(Application must be typed or printed)

TOWN OF HEBRON CONNECTICUT

LOCATION OF JOB (NO. & STREET)	ZONE	MAP/PARCEL	SUBDIVISION NAME / LOT#
66 Wall Street	R1	13/LOT 15	Veteran's Memorial Park

OWNER	TEL.	ADDRESS (NO., STREET, TOWN, STATE, ZIP)
Town of Hebron		

APPLICANT	TEL.	ADDRESS (NO., STREET, TOWN, STATE, ZIP)
SBA, INC & SPRINT PCS	(860) 659 9101	80 Eastern Blvd. Glastonbury CT 06033

BUILDER	TEL.	ADDRESS (NO., STREET, TOWN, STATE, ZIP)
Westcott Construction Corporation	(508) 695-3561	135 E. Washington St. N. Attleboro, MA 02761

LICENSE OR REGISTRATION #	NAME & TEL. # OF PERSON RESPONSIBLE
CS 026881	Erik Pearson (860) 659-9101

SIZE OF BUILDING

N/A

STORIES ____ NO. OF FAMILIES ____

HEIGHT ____ DEPTH ____ FRONT ____

TOTAL FLOOR AREA (NEW) ____ SQ. FT.

DISTANCES FROM LOT LINE

FRONT	L. SIDE	R. SIDE	REAR
520	210	140	630

OTHER REQUIREMENTS

ZONING PERMIT ____ REQD. ____ ATTACHED

PLOT PLAN ____ REQD. ____ ATTACHED

SEPTIC PERMIT ____ REQD. ____ ATTACHED

PROPOSED USE

N/A

☐ NEW HOME (Single Family)

☐ MULTI FAMILY ____

\# OF BEDROOMS ____

WATER SUPPLY ____

SEPTIC OR SEWER ____

☐ ADDITION ____

☐ GARAGE ____

☐ DECK/PORCH ____

☐ SHED ____

☐ POOL ____

☐ COMMERCIAL/PUBLIC ____

☐ OTHER ____

APPROVALS

ZONING ____ FIRE MARSHALL ____

WETLAND ____ PLANNER ____

SANITATION ____ WPCA ____

TYPE OF WORK BEING DONE

☑ ORIG. CONSTRUCTION ☐ REPAIR

☐ ALTERATION ☐ DEMOLITION

☐ ADDITION ____

CONSTRUCTION VALUE

ESTIMATED $110,000.00

ACTUAL ____

FEE COVERS

	VALUE	FEE
☑ CONSTRUCTION	80,000	710 –
☐ PLUMBING		
☐ HEATING		
☑ ELECTRICAL	30,000	
☐ SEPTIC		
☐ ZONING	$110,000	
☐ OTHER	State	17.60
TOTAL		$727.60

CHECK # ____ DATE PAID Letter of Completion 10 – $737.60

TYPE OF HEAT

N/A

☐ ELECTRIC ☐ SOLAR

☐ GAS ☐ OTHER

☐ OIL ____

BUILDING PLANS ____ REQUIRED 3 ATTACHED

MATERIALS LIST ____ ON PLANS ____ ATTACHED

DESCRIPTION OF WORK/REMARKS:

installation of a 150' communication tower/Flag pole, enclosed with in a 40' x 60' Fence enclosure. Installation of Sprint PCC radio equipment frame and Radio equipment cabinets. Installation of Sprint PCS antennas on the flag pole @ 145' AGL.

PROOF OF WORKERS COMPENSATION COVERAGE MUST ACCOMPANY THIS APPLICATION

All work covered by this application has been authorized by the (owner) or (agent) of this property and will be done according to state regulations. This permit shall lapse if work does not commence within 6 months.

8/4/2000 — Date

[signature] — Owner/Agent Signature

☐ APPROVED ☐ DISAPPROVED

ok By Robert Egbert

12/22/00 — Date

[signature] — Building Official

Office Copy — White Owner Copy — Canary Assessor's Copy — Pink

Exhibit B

Property Card

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2021.

Information on the Property Records for the Municipality of Hebron was last updated on 9/1/2022.

Parcel Information

Location:	66 WALL ST	Property Use:	Entertainment	Primary Use:	Pavilion
Unique ID:	2347	Map Block Lot:	13-15	Acres:	15.6700
490 Acres:	0.00	Zone:	R-1	Volume / Page:	0141/0673
Developers Map / Lot:		Census:	5261		

Value Information

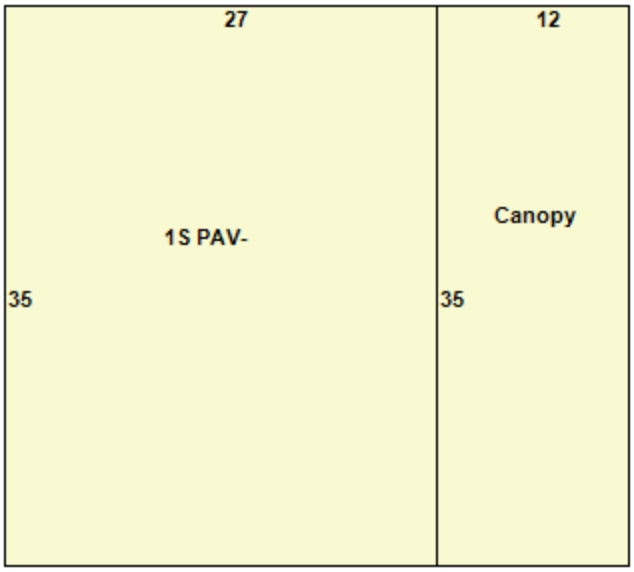
	Appraised Value	Assessed Value
Land	663,400	464,380
Buildings	97,500	68,250
Detached Outbuildings	78,100	54,670

	Appraised Value	Assessed Value
Total	839,000	587,300

Owner's Information

Owner's Data
HEBRON TOWN OF 15 GILEAD ST HEBRON, CT 06248-1501

Building 1



Category:	Entertainment	Use:	Pavilion	GLA:	945
Stories:	1.00	Construction:	Masonry	Year Built:	2005
Heating:	None	Fuel:	None	Cooling Percent:	0
Siding:		Roof Material:	Arch Shingles	Beds/Units:	0

Special Features

Attached Components

Type:	Year Built:	Area:
Canopy	2005	420

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Basketball Court	2000	0.00	0.00	1,800
4 Ft Chain Fence	2000	0.00	0.00	1,000
Asphalt Paving	2000	0.00	0.00	22,500
Light Poles	2000	0.00	0.00	4
Open Porch	2017	10.00	8.00	80
Frame Shed	2000	0.00	0.00	128
Lean To Shed	2017	30.00	8.00	240
Lean To Shed	2017	30.00	8.00	240

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Sale Price

Owner Name	Volume	Page	Sale Date	Deed Type	Sale Price
HEBRON TOWN OF	0141	0673	05/01/1990		$340,000

Building Permits

Permit Number	Permit Type	Date Opened	Reason
22-14	Other	06/09/2022	SEE PERMIT
22-2	Shed	03/23/2022	180 SQ FT SHED
22-6	Comm Renovations	02/01/2022	T-MOBILE CABINETS (2)
2021-0298	Comm Renovations	06/21/2021	CELL TOWER ANTENNA UPGRADES
2021-0196	Other	04/29/2021	SCOREBOARD INSTALLATION- RELOCATING ON SAME BASEBALL FIELD
2020-0241	Generator	06/30/2020	GENERATOR ON 4 X 10 CONCRETE PAD
2020-0233	Electrical	06/18/2020	WIRING FOR AUTOMATIC GENERATOR
27232	Comm Renovations	09/18/2018	ANTENNA WORK
27149	Other	08/07/2018	NEW SMOOTH ROUND SHROUDS; REPLACE TOP PLATE & FLAG TRUCK AND BALL
27106	Electrical	06/26/2018	OUTLETS
27020	Signs	04/27/2018	NEW SCORE BOARD FOR BASEBALL FIELD
26743	Outbuilding/Yard Item	09/29/2017	DUGOUTS FOR BASEBALL FIELD & SCOREBOARD
26529	Electrical	05/03/2017	INSTALL 2 HAND DRYERS
26176	Outbuilding/Yard Item	09/16/2016	DUGOUT FOR BASEBALL FIELDS
14-254B	Electrical	04/17/2014	
14-57E	Other	02/18/2014	
14-42E	Electrical	12/10/2013	CO ISSUED 3/24/14 #14-135CA
21091	Shed	05/30/2013	dug outs - baseball field; CO ISSUED 4/7/14
12-20848	Electrical	06/20/2012	

Permit Number	Permit Type	Date Opened	Reason
12-20830	Electrical	06/06/2012	
11761	Mechanical	07/25/2002	

66 WALL STREET

Hebron, CT

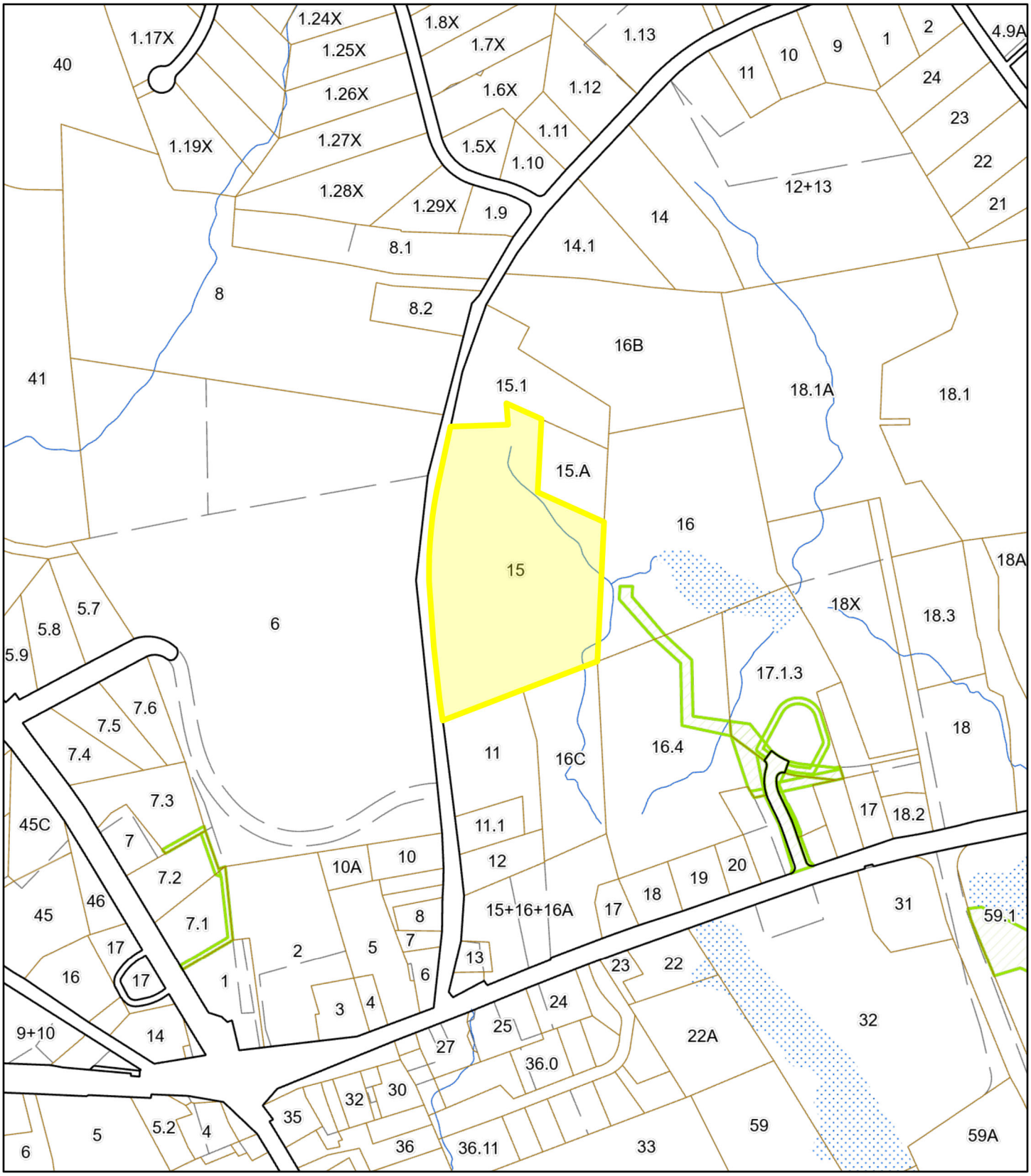
1 inch = 562 Feet

0 562 1124 1686

September 2, 2022

CAI Technologies
Precision Mapping. Geospatial Solutions.

www.cai-tech.com



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

Exhibit C

Construction Drawings

DISH Wireless L.L.C. SITE ID:

BOBDL00120A

DISH Wireless L.L.C. SITE ADDRESS:

66 WALL STREET
HEBRON, CT 06248

CONNECTICUT CODE OF COMPLIANCE

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

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

SHEET INDEX

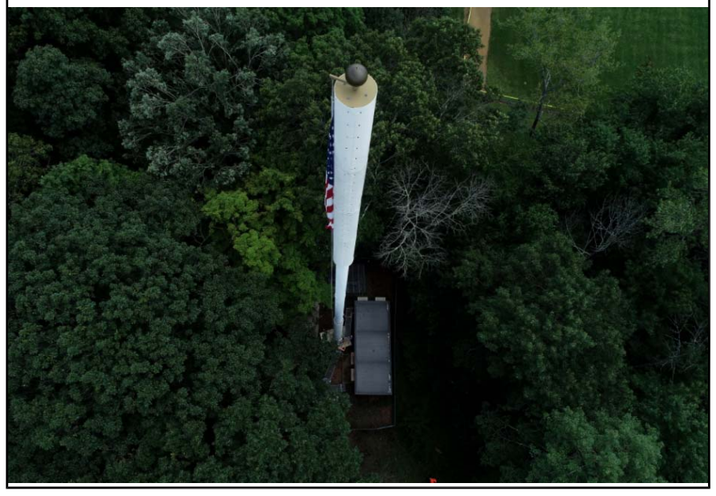
SCOPE OF WORK

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

TOWER SCOPE OF WORK:
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (1) PROPOSED ANTENNA FLUSH MOUNT
- INSTALL PROPOSED JUMPERS
- INSTALL (6) PROPOSED DIPLEXERS (2 PER SECTOR)
- INSTALL (12) PROPOSED 1-5/8" COAX CABLES
- INSTALL (1) PROPOSED CABLE CLAMP

GROUND SCOPE OF WORK:
- INSTALL (1) PROPOSED METAL PLATFORM
- INSTALL (6) PROPOSED RRUs
- INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)

SITE PHOTO



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

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

811

GENERAL NOTES

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

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

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

SITE INFORMATION

PROPERTY OWNER:	HEBRON TOWN OF (CT4374)
ADDRESS:	8051 CONGRESS AVE BOCA RATON, FL 33487
TOWER TYPE:	STEALTH POLE
TOWER CO SITE ID:	CT04374-S
TOWER APP NUMBER:	173176
COUNTY:	TOLLAND
LATITUDE (NAD 83):	41° 39' 52.67" N 41.66463056
LONGITUDE (NAD 83):	72° 21' 40.77" W -72.3613249999
ZONING JURISDICTION:	TOLLAND COUNTY
ZONING DISTRICT:	RESIDENTIAL
PARCEL NUMBER:	09013067-13-15.A
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	EVERSOURCE
TELEPHONE COMPANY:	FIBERTECH

PROJECT DIRECTORY

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

DIRECTIONS

DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT:

CONTINUE TO EAST GRANBY, HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT, SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT, CONTINUE STRAIGHT, TAKE I-91 S AND CT-2 E TO CT-66 E IN MARLBOROUGH. TAKE EXIT 13 FROM CT-2 E, CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON, CONTINUE ONTO CT-20 E/BRADLEY INTERNATIONAL AIRPORT CON, TAKE THE EXIT ONTO I-91 S TOWARD HARTFORD, USE THE LEFT LANE TO TAKE EXIT 30 TO MERGE WITH I-84 E, TAKE EXIT 55 FOR CT-2 E TOWARD NORWICH/NEW LONDON/I-84 E, CONTINUE ONTO CT-2 E, TAKE EXIT 13 TOWARD WILLIMANTIC, FOLLOW CT-66 E TO CT-316 N IN HEBRON, TURN LEFT ONTO CT-66 E, TURN LEFT ONTO CT-316 N, TURN RIGHT ONTO ACCESS RD AND ARRIVE AT BOBDL00120A.

VICINITY MAP

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

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

STATE OF CONNECTICUT
CHAD WILCOX
No. 23924
LICENSED
PROFESSIONAL ENGINEER
9/20/22
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	BEH	BEH

RFDS REV #: 4

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	10/20/21	ISSUED FOR REVIEW
B	03/15/22	ISSUED FOR REVIEW
0	3/29/22	ISSUED FOR CONSTRUCTION
1	9/20/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149444.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

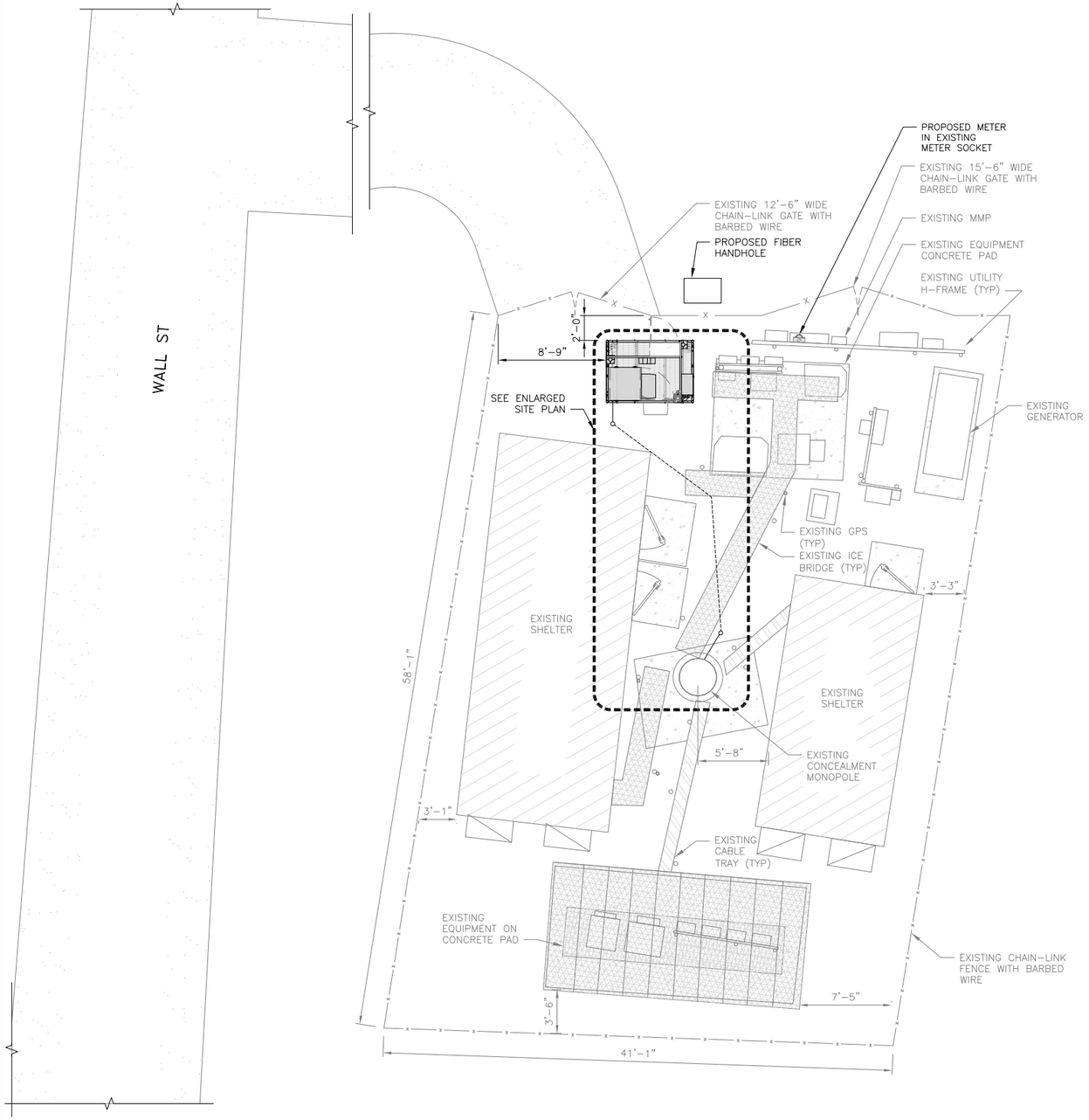
TITLE SHEET

SHEET NUMBER

T-1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



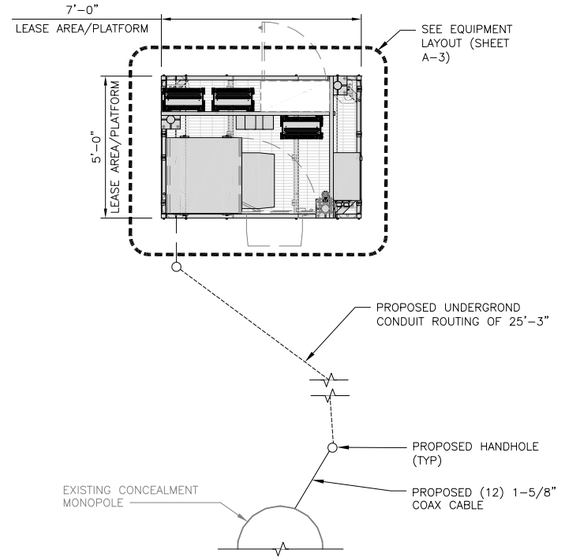
OVERALL SITE PLAN

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

1

NOTES

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



ENLARGED SITE PLAN

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

2

AN EXISTING CONDITIONS SURVEY WAS NOT AVAILABLE AT THE TIME THIS DRAWINGS CREATIONS.

AERIAL MAP

NO SCALE

3

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

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

STATE OF CONNECTICUT
CHAD W. TYLER
No. 23924
LICENSED PROFESSIONAL ENGINEER
9/20/22
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	BEH	BEH

RFDS REV #: 4

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	10/20/21	ISSUED FOR REVIEW
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0	3/29/22	ISSUED FOR CONSTRUCTION
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A&E PROJECT NUMBER

149444.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

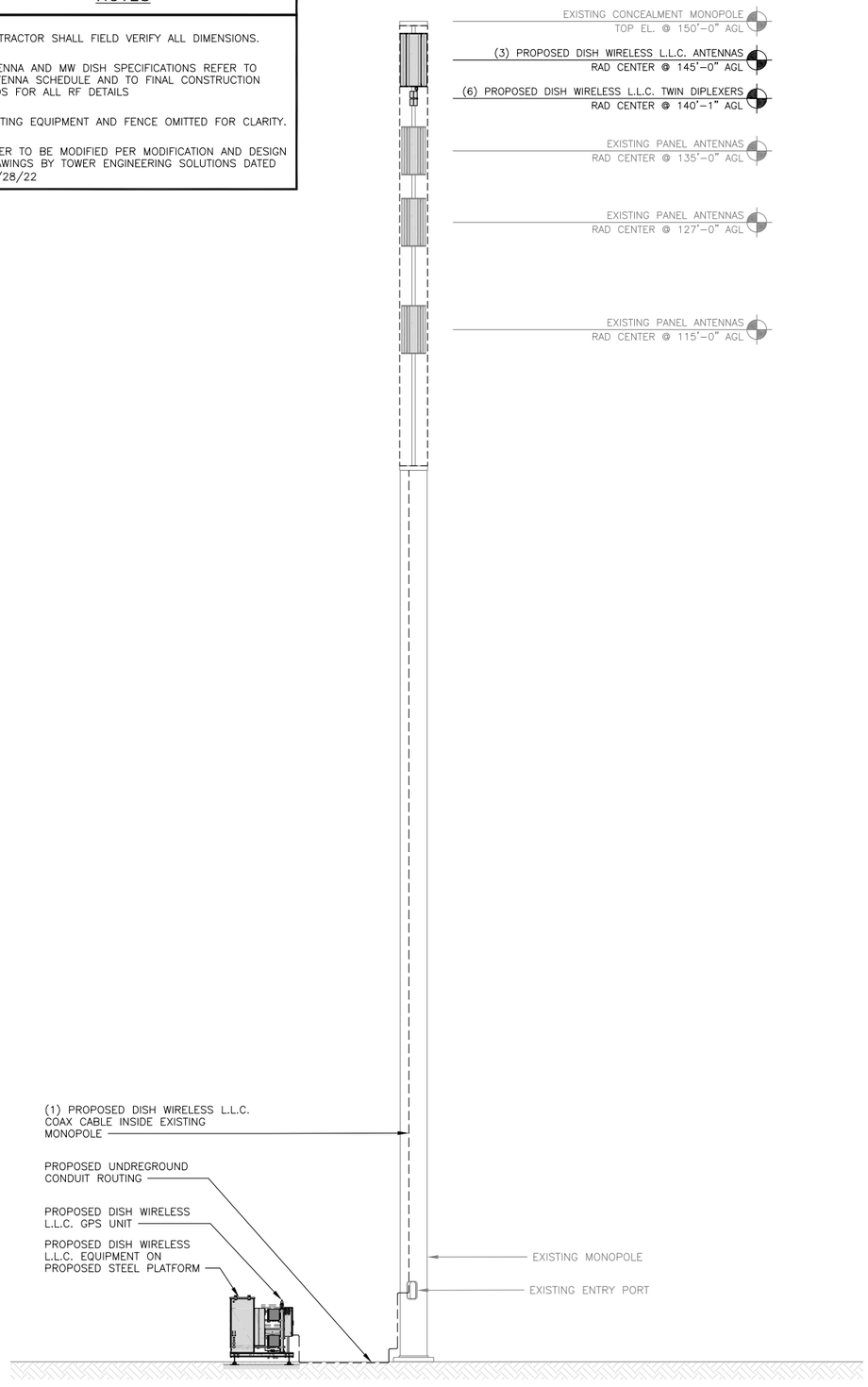
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER

A-1

NOTES

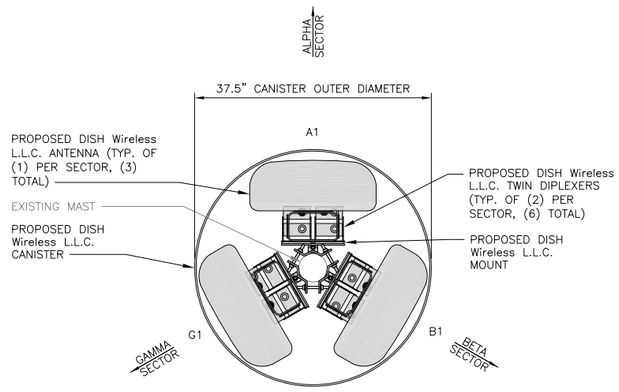
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.
4. TOWER TO BE MODIFIED PER MODIFICATION AND DESIGN DRAWINGS BY TOWER ENGINEERING SOLUTIONS DATED 01/28/22



PROPOSED SOUTH ELEVATION

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

1



RAD CENTER @ 145'-0" A.G.L.

N

ANTENNA LAYOUT

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

2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	COMMSCOPE – FFVV-65B-R3	5G	71.9" x 11.8"	0°	145'-0"	(12) 1-5/8" COAX CABLE (155' LONG)
BETA	B1	PROPOSED	COMMSCOPE – FFVV-65B-R3	5G	71.9" x 11.8"	120°	145'-0"	
GAMMA	G1	PROPOSED	COMMSCOPE – FFVV-65B-R3	5G	71.9" x 11.8"	240°	145'-0"	

SECTOR	POSITION	DIPLEXERS	
		MANUFACTURER – MODEL NUMBER	QUANTITY
ALPHA	A1	COMMSCOPE – CDX623T-DS-T	2
BETA	B1	COMMSCOPE – CDX623T-DS-T	2
GAMMA	G1	COMMSCOPE – CDX623T-DS-T	2

NOTES

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

ANTENNA SCHEDULE

NO SCALE

3

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CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

9/20/22

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

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YN	BEH	BEH

RFDS REV #: 4

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A&E PROJECT NUMBER

149444.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

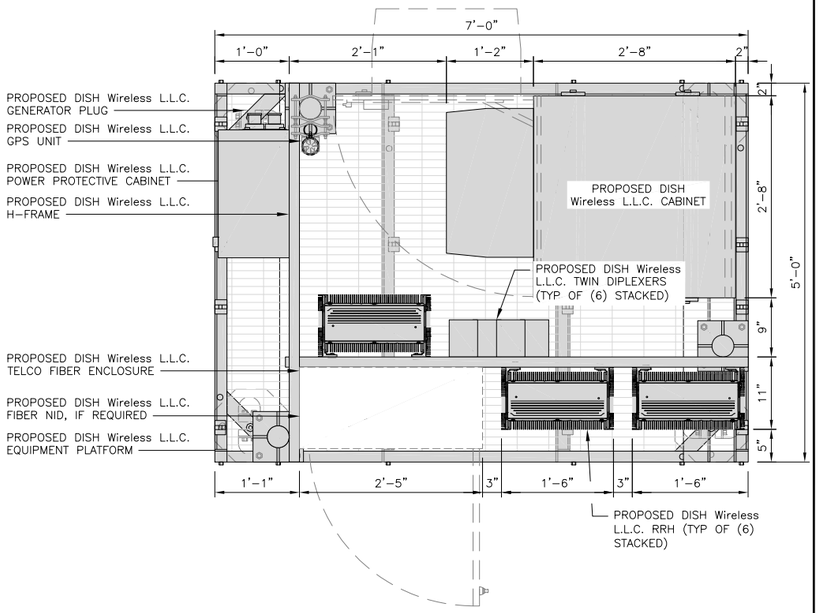
BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

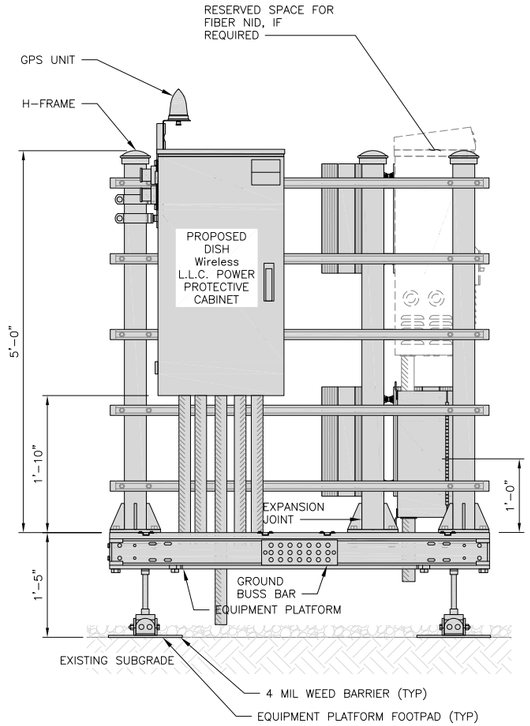
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

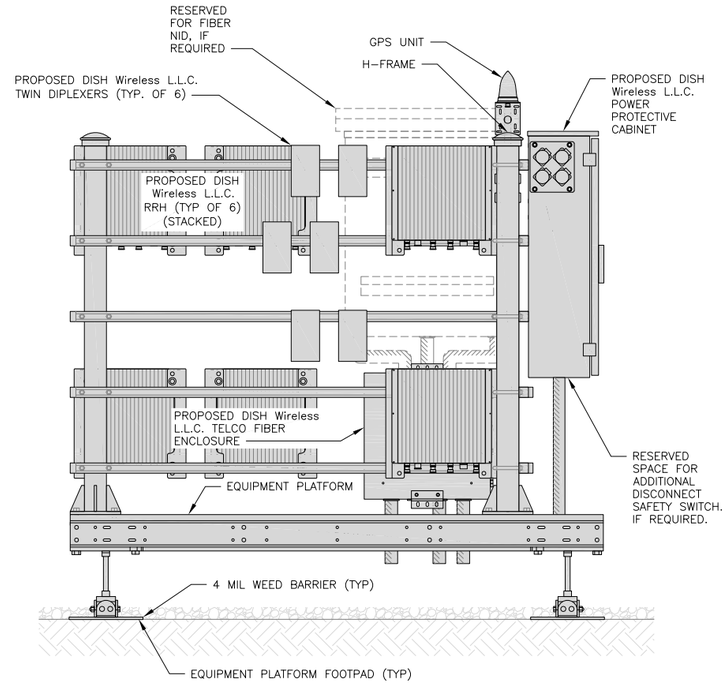
SHEET NUMBER

A-2



PLATFORM EQUIPMENT PLAN | NO SCALE | 1





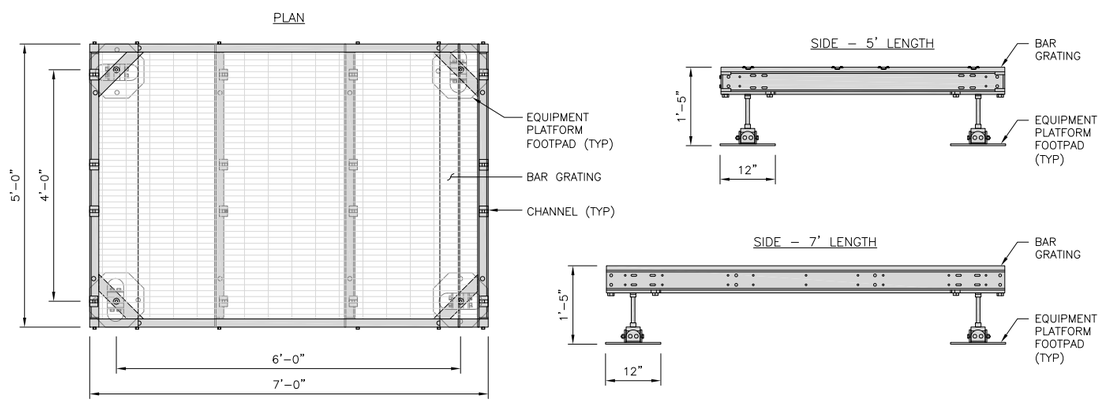
H-FRAME EQUIPMENT ELEVATION | NO SCALE | 2

NOTES

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

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

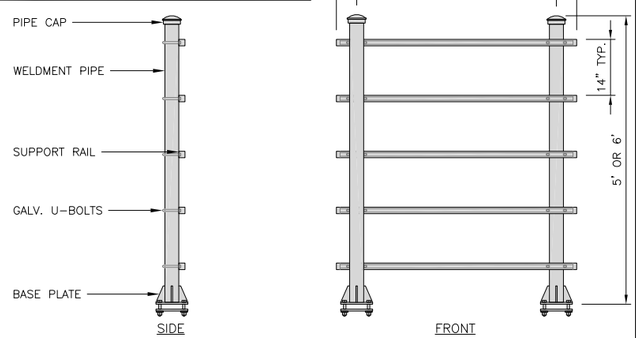
NOTE:
GC TO PROVIDE EXTENDED THREAD FOR PLATFORM IF REQUIRED HEIGHT EXCEEDS 17"



PLATFORM DETAIL | NO SCALE | 3

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

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



H-FRAME DETAIL | NO SCALE | 4

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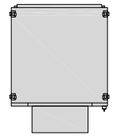
A&E PROJECT NUMBER
149444.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

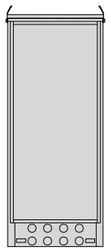
SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER
A-3

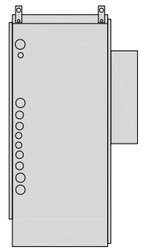
ENERSYS HVAC 2000005995	
DIMENSIONS (HxWxD)	73"x30"x32"
POWER SYSTEM	-48V ALPHA/600A
HVAC	600W
TOTAL WEIGHT (EMPTY)	371 lbs



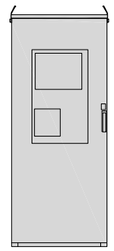
PLAN



BACK



SIDE

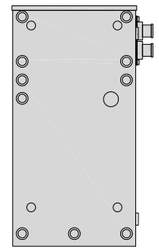


FRONT

CABINET DETAIL | NO SCALE | 1

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

TOP



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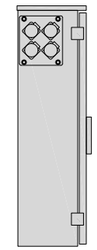
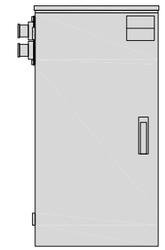
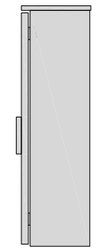


SIDE



FRONT



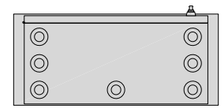
SIDE

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

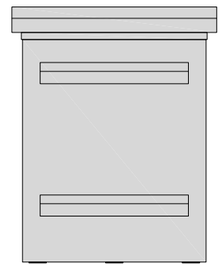
NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4

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



BOTTOM



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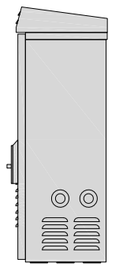

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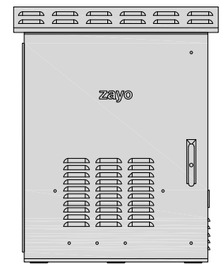
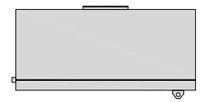


FRONT

FIBER NID ENCLOSURE DETAIL | NO SCALE | 5

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



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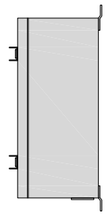
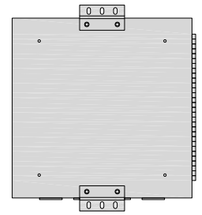


SIDE



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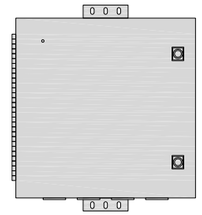

FRONT

FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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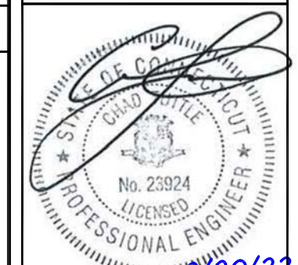

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

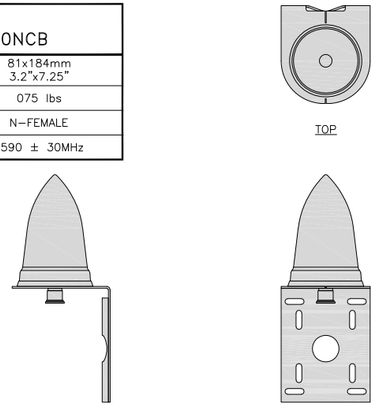
SHEET TITLE

EQUIPMENT DETAILS

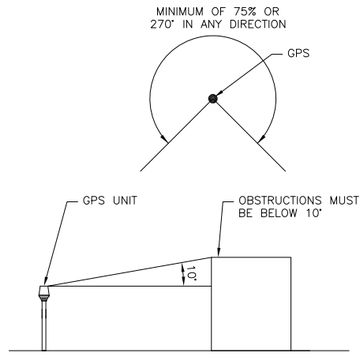
SHEET NUMBER

A-4

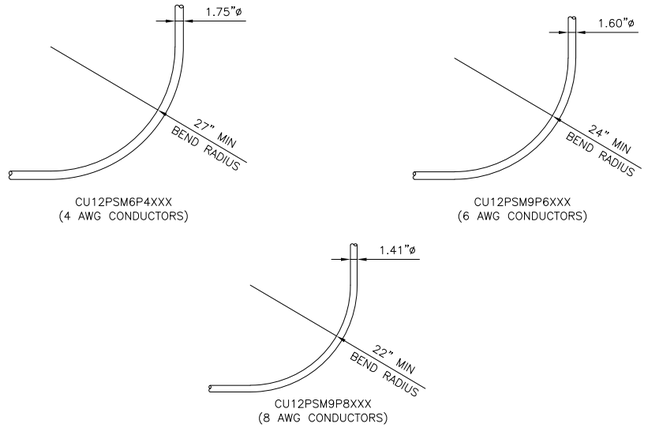
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



GPS DETAIL | NO SCALE | 1



GPS MINIMUM SKY VIEW REQUIREMENTS | NO SCALE | 2



CABLES UNLIMITED HYBRID CABLE MINIMUM BEND RADIUSES | NO SCALE | 3

NOT USED | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

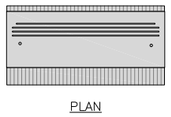
EQUIPMENT DETAILS

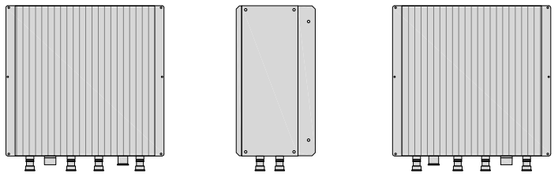
SHEET NUMBER

A-5

FUJITSU DUAL BAND TA08025-B604

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

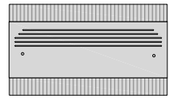

PLAN

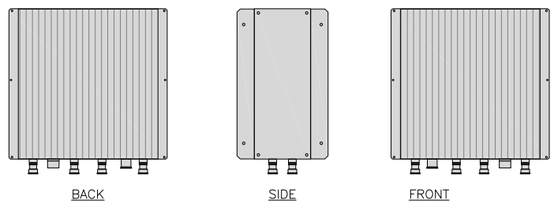

BACK SIDE FRONT

RRH DETAIL | NO SCALE | 1

FUJITSU TRIPLE BAND TA08025-B605

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


PLAN

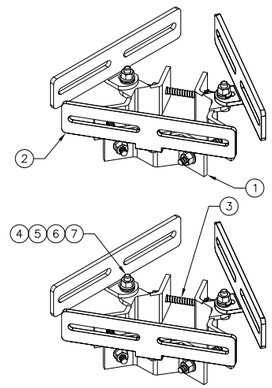

BACK SIDE FRONT

RRH DETAIL | NO SCALE | 2

EEI FPS-AB TRIAD FLUH MOUNT

DESCRIPTION	PART # - QTY
TRIAD-FPS - 1/4" BRACKET ASSEMBLY	PART 1 - QTY: 6
TRIAD-AB - 1/4" HRPO GUSSET ASSEMBLY	PART 2 - QTY: 6
3/8"x5-1/2" A36 THREADED ROD	PART 3 - QTY: 6
3/8"x1-1/4" A307 BOLT	PART 4 - QTY: 6
3/8" HEX NUT	PART 5 - QTY: 6
3/8" FLAT WASHER	PART 6 - QTY: 6
3/8" LOCK WASHER	PART 7 - QTY: 6
TOTAL WEIGHT	±8 lbs

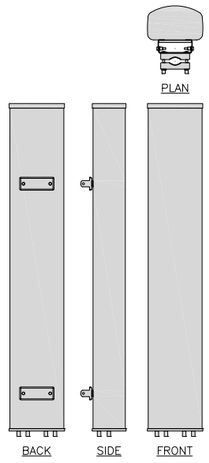
NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT



MAST MOUNT DETAIL | NO SCALE | 3

COMMSCOPE FVV-65B-R3

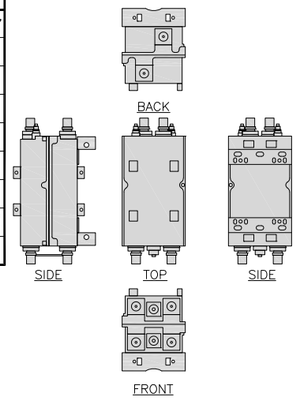
DIMENSIONS (HxWxD)(MM/IN)	1828x300x181 71.9"x11.8"x7.1"
RF CONNECTOR INTERFACE	4.3-10 FEMALE
WEIGHT	43.8 lbs
WEIGHT WITH BRACKETS	70.9 lbs


PLAN BACK SIDE FRONT

ANTENNA DETAIL | NO SCALE | 4

COMMSCOPE TWIN DIPLEXER CD623T-DS-T (TOP OF TOWER)

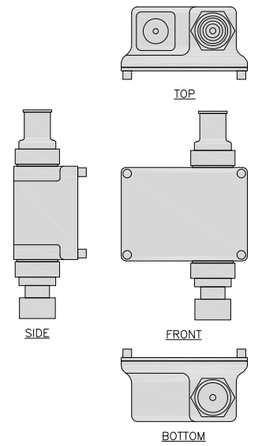
DIMENSIONS (HxWxD)	8.661"x4.961"x4.488"
WEIGHT	9.921 lbs
RF TO RF+AISG	
PASSBAND	555-2360 MHz
INSERTION LOSS	0.5dB MAX
RETURN LOSS	15dB MIN
MAX INPUT POWER	500W CW/5kW PEP
INTERMODULATION PRODUCTS	-160dBc(IM3)MAX @ 2x20W CW CARRIERS
RF IMPEDANCE	50 Ohms


BACK SIDE TOP SIDE FRONT

DIPLEXER DETAIL | NO SCALE | 5

KAELUS SMART BIAS TEE SBT0003F1V2 (TOP OF TOWER)

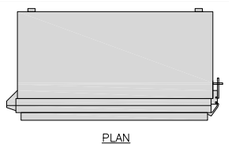
DIMENSIONS (HxWxD)	5.41"x3.27"x1.88"
WEIGHT	0.88 lbs
RF TO RF+AISG	
PASSBAND	555-3800 MHz
INSERTION LOSS	0.1dB MAX
RETURN LOSS	20dB MIN
MAX INPUT POWER	750W CW/5kW PEP
INTERMODULATION PRODUCTS	-160dBc(IM3)MAX @ 2x20W CW CARRIERS
RF IMPEDANCE	50 Ohms

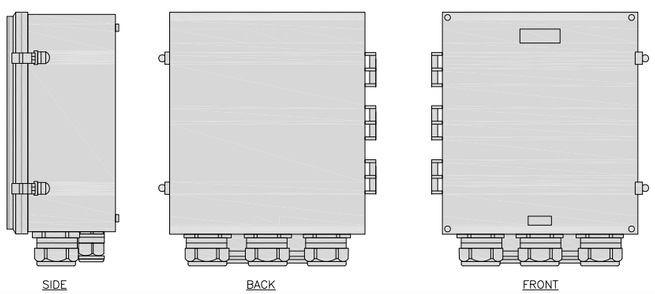

TOP SIDE FRONT BOTTOM

SMART BIAS TEE DETAIL | NO SCALE | 6

RAYCAP RDIDC-6715-PF-48 DC SURGE PROTECTION (OVP)

DIMENSIONS (HxWxD)	16"x14"x8"
WEIGHT	21.85 LBS

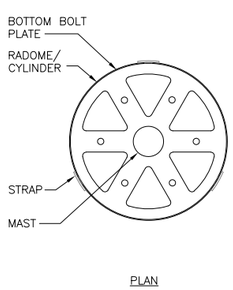

PLAN


SIDE BACK FRONT

SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

RAYCAP STEALTH SMOOTH MULTI-PART

RADOME OUTSIDE DIAMETERS	24"-60" DIA.
APPROX. MATERIAL THICKNESS	3/16"
MAX. HEIGHT	12'-0"
CONNECTION	BOLTS OR STRAPS



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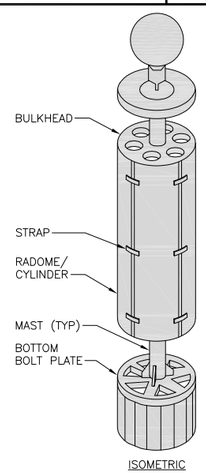

ISOMETRIC

RADOME CANISTER DETAIL | NO SCALE | 8

NOT USED | NO SCALE | 9

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STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER
9/20/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	BEH	BEH

RFDS REV #: 4

CONSTRUCTION DOCUMENTS

SUBMITTALS

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1	9/20/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149444.001.01

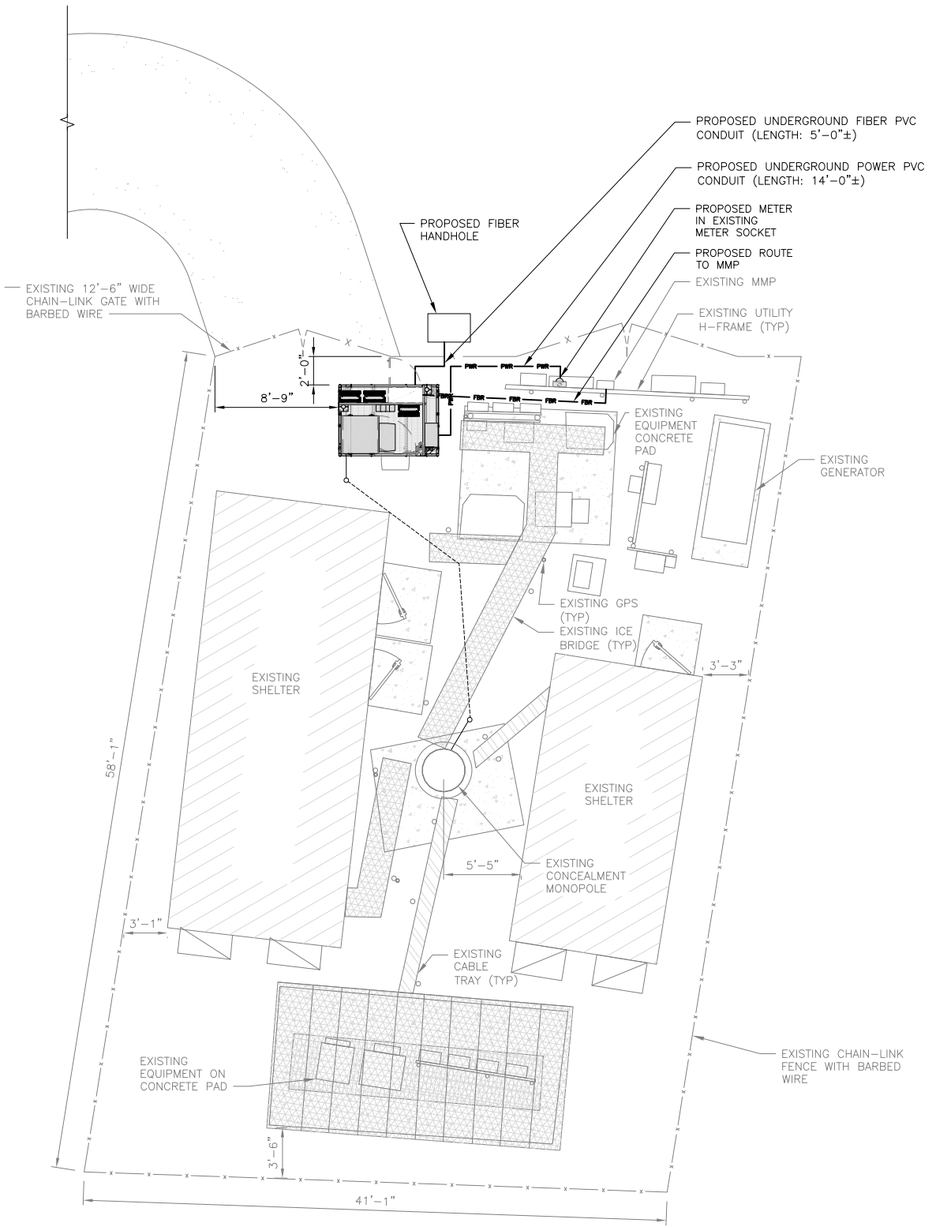
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-6

NOTES

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



UTILITY ROUTE PLAN

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

1

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

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

AN EXISTING CONDITIONS SURVEY WAS NOT AVAILABLE AT THE TIME THIS DRAWINGS CREATIONS.

AERIAL MAP

NO SCALE

2

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A&E PROJECT NUMBER
149444.001.01

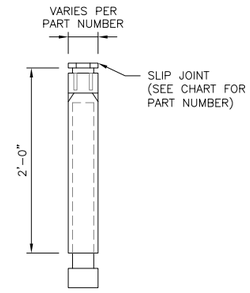
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER
E-1

CARLON EXPANSION FITTINGS

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

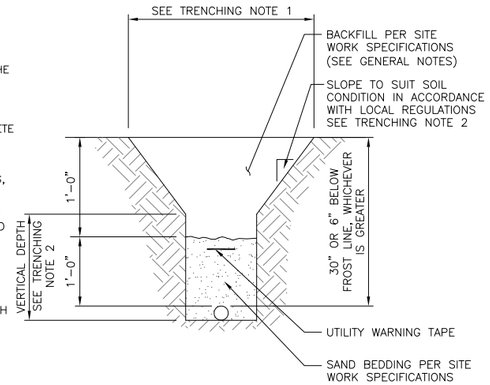


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

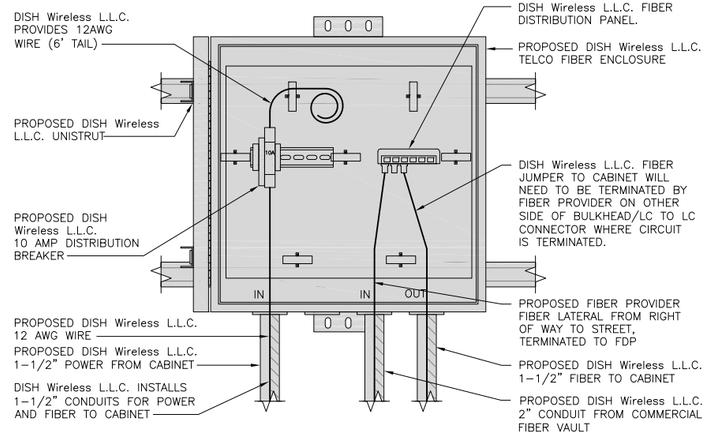
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

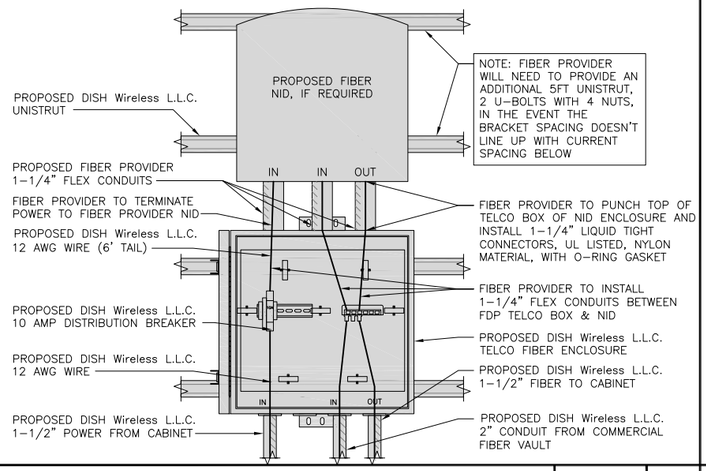
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT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



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



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



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL) | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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A&E PROJECT NUMBER

149444.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

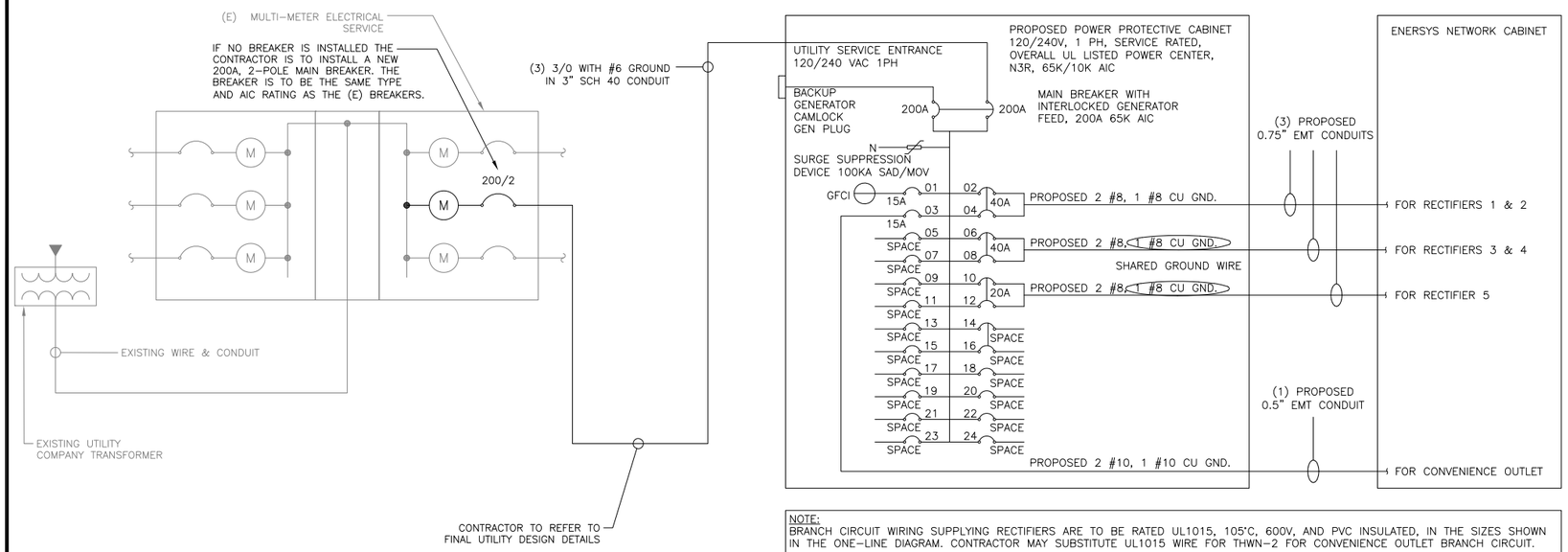
BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E-2



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

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

NOTES

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

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

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

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.

#10 - 0.0211 SQ. IN X 2 = 0.0422 SQ. IN
#10 - 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND
TOTAL = 0.0633 SQ. IN

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

RECTIFIER CONDUCTORS (3 CONDUITS): USING UL1015, CU.

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

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

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.

3/0 - 0.2679 SQ. IN X 3 = 0.8037 SQ. IN
#6 - 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND
TOTAL = 0.8544 SQ. IN

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

PPC ONE-LINE DIAGRAM

NO SCALE | 1

PROPOSED ENERSYS PANEL SCHEDULE

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

PANEL SCHEDULE

NO SCALE | 2

NOT USED

NO SCALE | 3

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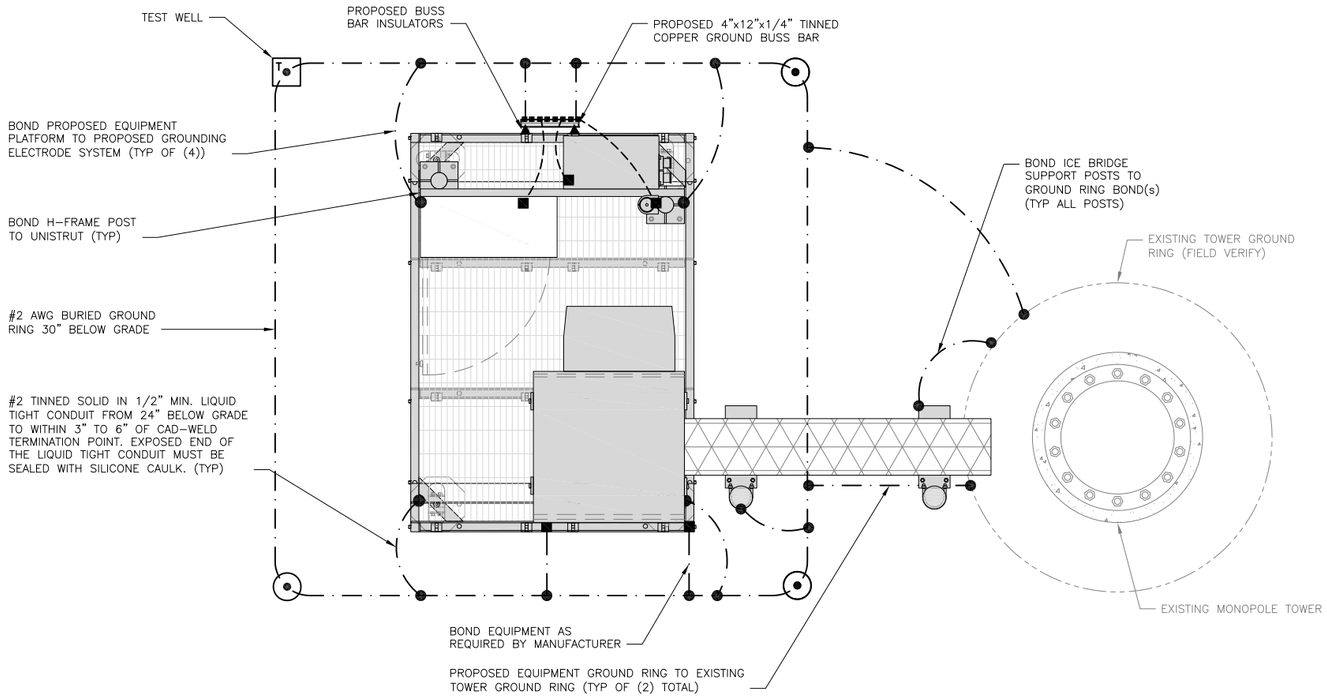
149444.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

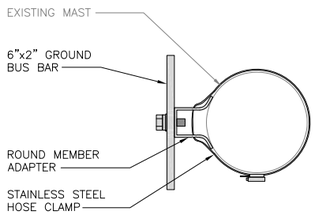
SHEET TITLE
ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE

SHEET NUMBER
E-3

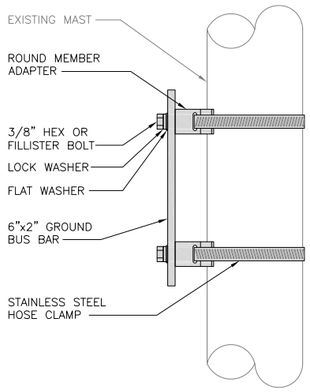


TYPICAL EQUIPMENT GROUNDING PLAN

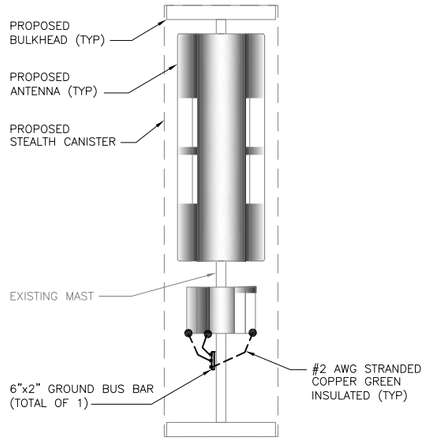
NO SCALE | 1



BUSS BAR PLAN



BUSS BAR ELEVATION



ANTENNA GROUNDING ELEVATION

TYPICAL ANTENNA GROUNDING DETAIL | NO SCALE | 2

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

GROUNDING LEGEND

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

GROUNDING KEY NOTES

(A) EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.

(B) TOWER GROUND RING: THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.

(C) INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.

(D) BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.

(F) CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.

(G) HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.

(H) EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE.

(I) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR AND EXTERIOR GROUND RING.

(J) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.

(K) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.

(L) FENCE AND GATE GROUNDING: METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.

(M) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE

(N) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.

(O) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR

(P) TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT.

REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES | NO SCALE | 3

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STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED PROFESSIONAL ENGINEER
9/20/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	BEH	BEH

RFDS REV #: 4

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A&E PROJECT NUMBER
149444.001.01

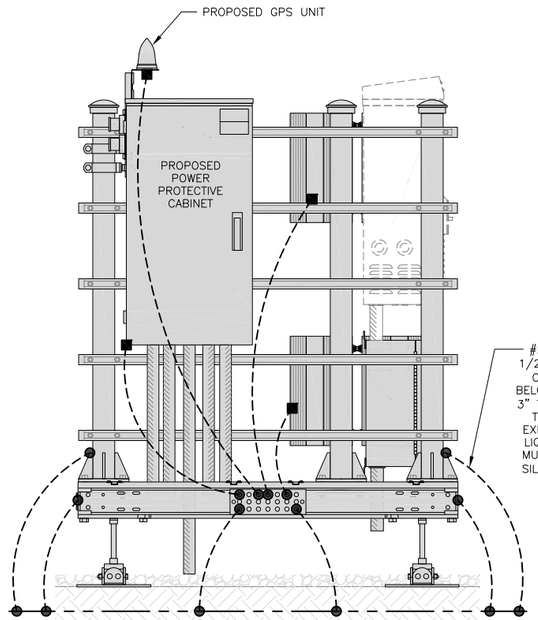
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE
GROUNDING PLANS AND NOTES

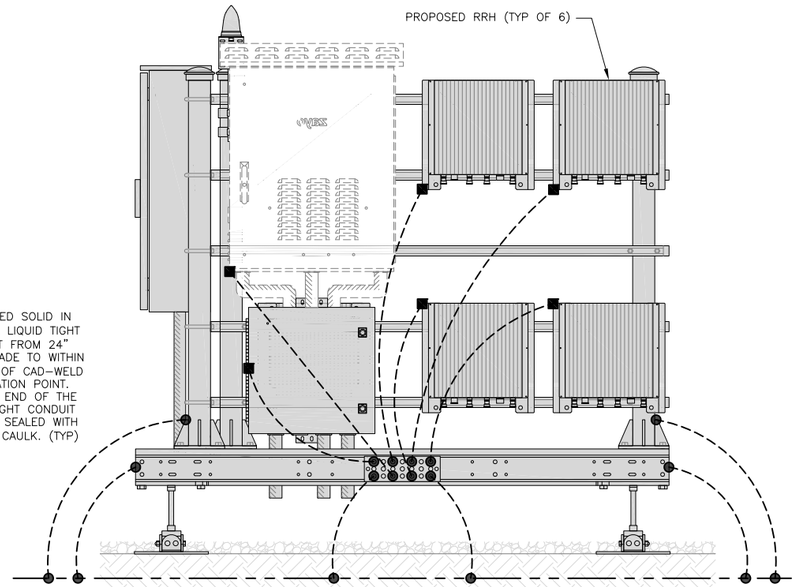
SHEET NUMBER
G-1

NOTES

EQUIPMENT CABINET OMITTED FOR CLARITY



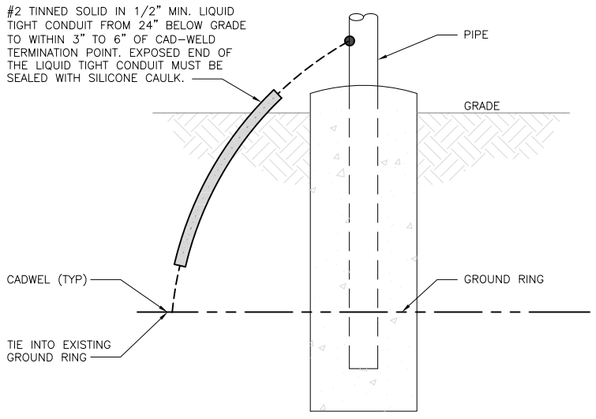
FRONT ELEVATION



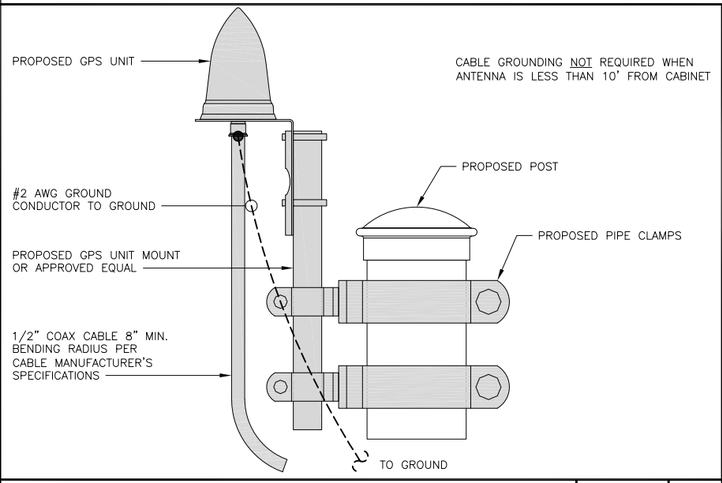
SIDE ELEVATION

NOT USED | NO SCALE | 1

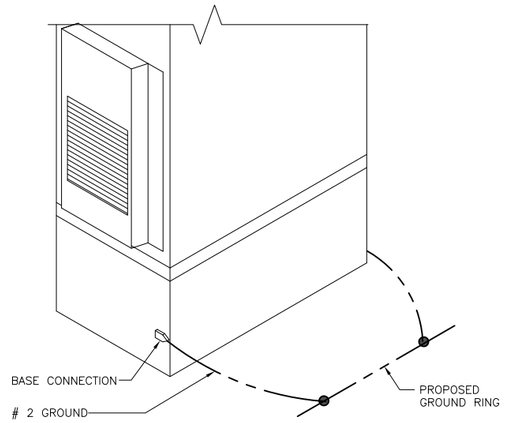
H-FRAME GROUNDING DETAIL | NO SCALE | 4



TRANSITIONING GROUND DETAIL | NO SCALE | 5



TYPICAL GPS UNIT GROUNDING | NO SCALE | 6



OUTDOOR CABINET GROUNDING | NO SCALE | 7

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

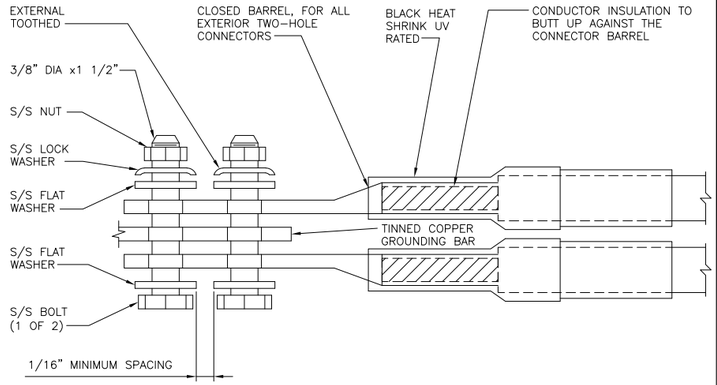
GROUNDING DETAILS

SHEET NUMBER

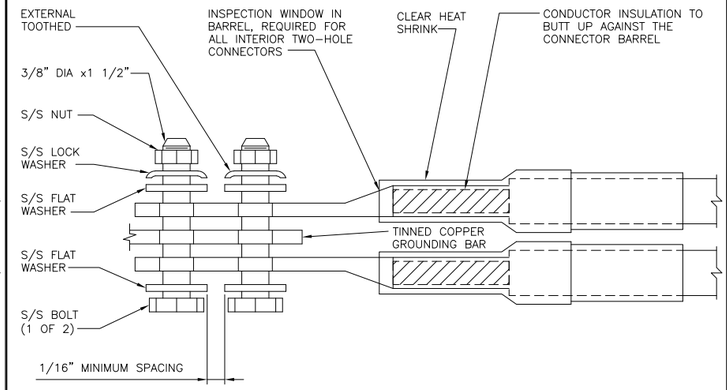
G-2

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

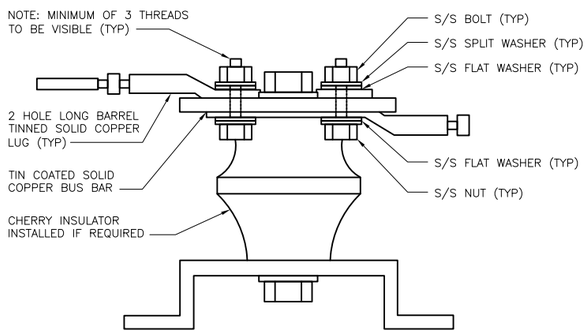
TYPICAL GROUNDING NOTES | NO SCALE | 1



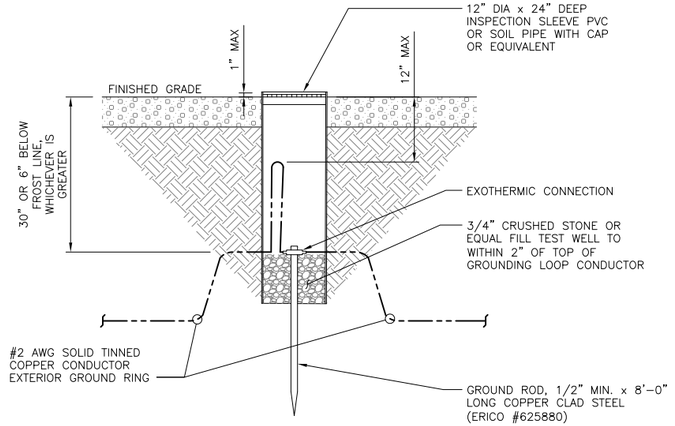
TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 2



TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 3



LUG DETAIL | NO SCALE | 4



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

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

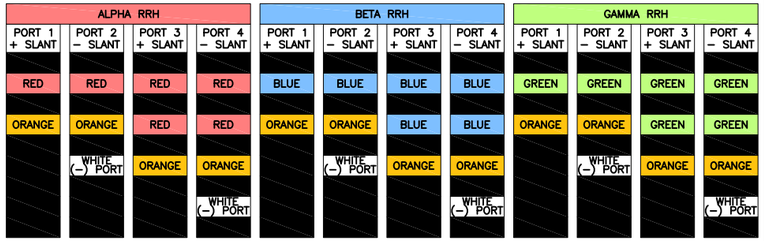
G-3

HYBRID/DISCREET CABLES

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

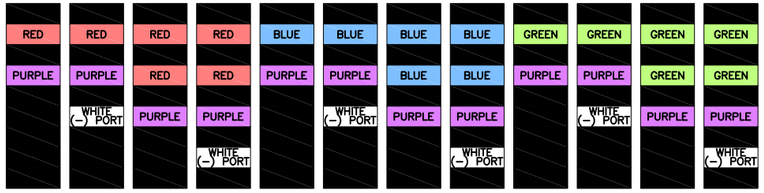
LOW–BAND RRH
(600 MHz N71 BASEBAND) +
(850 MHz N26 BAND) +
(700 MHz N29 BAND) – OPTIONAL PER MARKET

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



MID–BAND RRH
(AWS BANDS N66+N70)

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



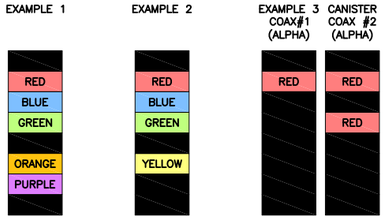
HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS.

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

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

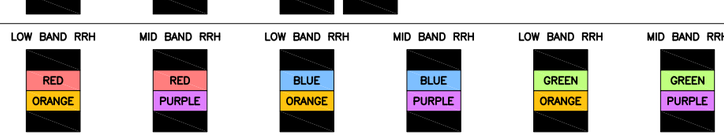
EXAMPLE 3 – MAIN COAX WITH GROUND MOUNTED RRHs.



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

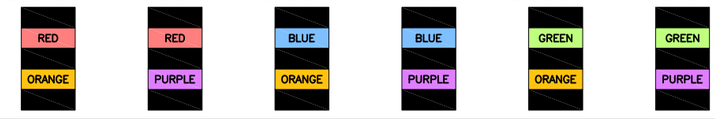
FIBER JUMPERS TO RRHs

LOW–BAND HHR FIBER CABLES HAVE SECTOR STRIPE ONLY.



POWER CABLES TO RRHs

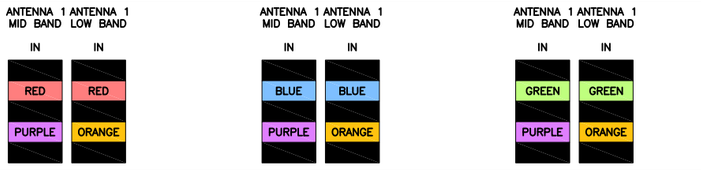
LOW–BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY



RET MOTORS AT ANTENNAS

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

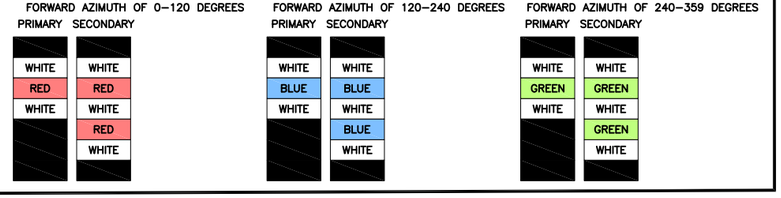
SEPARATE RET CABLES ARE USED WHEN ANTENNA PORTS PROVIDE INPUTS FOR BOTH LOW AND MID BANDS.



MICROWAVE RADIO LINKS

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

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



RF CABLE COLOR CODES | NO SCALE | 1

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

AWS
(N66+N70+H–BLOCK)
PURPLE

CBRS TECH
(3 GHz)
YELLOW

NEGATIVE SLANT PORT
ON ANT/RRH
WHITE

ALPHA SECTOR
RED

BETA SECTOR
BLUE

GAMMA SECTOR
GREEN

COLOR IDENTIFIER | NO SCALE | 2

NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE
RF
CABLE COLOR CODE

SHEET NUMBER
RF-1

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE

SINGLE POLE SWITCH

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE

FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48–T8

SMOKE DETECTION (DC)

EMERGENCY LIGHTING (DC)

SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED–1–25A400/51K–SR4–120–PE–DDBTXD

CHAIN LINK FENCE

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE

UNDERGROUND POWER

UNDERGROUND TELCO

OVERHEAD POWER

OVERHEAD TELCO

UNDERGROUND TELCO/POWER

ABOVE GROUND POWER

ABOVE GROUND TELCO

ABOVE GROUND TELCO/POWER

WORKPOINT

W.P.

SECTION REFERENCE

XX
X–X

DETAIL REFERENCE

XX
X–X

LEGEND

AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGL	ABOVE GROUND LEVEL
AIC	AMPERAGE INTERRUPTION CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE
ANT	ANTENNA
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BTC	BARE TINNED COPPER CONDUCTOR
BOF	BOTTOM OF FOOTING
CAB	CABINET
CANT	CANTILEVERED
CHG	CHARGING
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COMM	COMMON
CONC	CONCRETE
CONSTR	CONSTRUCTION
DBL	DOUBLE
DC	DIRECT CURRENT
DEPT	DEPARTMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EC	ELECTRICAL CONDUCTOR
EL.	ELEVATION
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FAB	FABRICATION
FF	FINISH FLOOR
FG	FINISH GRADE
FIF	FACILITY INTERFACE FRAME
FIN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GLB	GLUE LAMINATED BEAM
GLV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HVAC	HEAT/VENTILATION/AIR CONDITIONING
HT	HEIGHT
IGR	INTERIOR GROUND RING
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
LF	LINEAR FEET
LTE	LONG TERM EVOLUTION
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NEC	NATIONAL ELECTRIC CODE
NM	NEWTON METERS
NO.	NUMBER
#	NUMBER
NTS	NOT TO SCALE
OC	ON–CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OPNG	OPENING
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PCU	PRIMARY CONTROL UNIT
PRC	PRIMARY RADIO CABINET
PP	POLARIZING PRESERVING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PWR	POWER CABINET
QTY	QUANTITY
RAD	RADIUS
RECT	RECTIFIER
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RET	REMOTE ELECTRIC TILT
RF	RADIO FREQUENCY
RMC	RIGID METALLIC CONDUIT
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
RWY	RACEWAY
SCH	SCHEDULE
SHT	SHEET
SIAD	SMART INTEGRATED ACCESS DEVICE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
TN	TOE NAIL
TOA	TOP OF ANTENNA
TOC	TOP OF CURB
TOF	TOP OF FOUNDATION
TOP	TOP OF PLATE (PARAPET)
TOS	TOP OF STEEL
TOW	TOP OF WALL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS	UNITERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
WP	WEATHERPROOF
WT	WEIGHT

ABBREVIATIONS

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PROJECT INFORMATION

BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

LEGEND AND ABBREVIATIONS

SHEET NUMBER

GN-1

SITE ACTIVITY REQUIREMENTS:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GENERAL NOTES:

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

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH Wireless L.L.C.

TOWER OWNER:TOWER OWNER

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

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

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

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

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

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

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

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

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

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

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

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

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

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PROFESSIONAL ENGINEER
9/20/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	BEH	BEH

RFDS REV #: 4

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	10/20/21	ISSUED FOR REVIEW
B	03/15/22	ISSUED FOR REVIEW
0	3/29/22	ISSUED FOR CONSTRUCTION
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A&E PROJECT NUMBER

149444.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

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

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

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

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

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

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

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

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

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

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

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

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

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

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

8. TIE WRAPS ARE NOT ALLOWED.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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9/20/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	BEH	BEH

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CONSTRUCTION DOCUMENTS

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A&E PROJECT NUMBER

149444.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-3

GROUNDING NOTES:

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

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

3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.

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

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

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

7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.

8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.

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

10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.

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

12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.

13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.

14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.

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

18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.

19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.

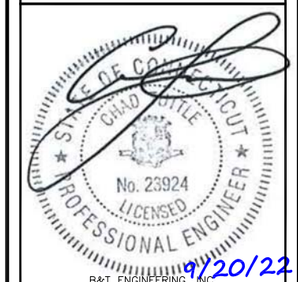
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).

21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

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



9/20/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
YN	BEH	BEH

RFDS REV #: 4

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	10/20/21	ISSUED FOR REVIEW
B	03/15/22	ISSUED FOR REVIEW
0	3/29/22	ISSUED FOR CONSTRUCTION
1	9/20/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149444.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00120A
66 WALL STREET
HEBRON, CT 06248

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-4

Exhibit D

Structural Analysis Report

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

Post-Mod Structural Analysis Report

Existing 150 ft Valmont Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT04374-S

Customer Site Name: Central Hebron

Carrier Name: Dish Wireless (App#: 173176, V2)

Carrier Site ID / Name: BOBDL00120A / SBA - Wall Street

Site Location: 66 Wall Street

Hebron, Connecticut

Tolland County

Latitude: 41.664631

Longitude: -72.361325

Analysis Result:

Max Structural Usage: 99.8% [Pass]

Max Foundation Usage: 99% [Pass]

Report Prepared By: Stacey Hesselbein

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
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Hebron, Connecticut

Tolland County

Latitude: 41.664631

Longitude: -72.361325

Analysis Result:

Max Structural Usage: 99.8% [Pass]

Max Foundation Usage: 99% [Pass]

Report Prepared By: Stacey Hesselbein

Introduction

The purpose of this report is to summarize the analysis results on the 150 ft Valmont Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Tower Drawings	Valmont, Eng. File # A-117319, Dated 07/19/2000
Foundation Drawing	Valmont, Eng. File # A-117319, Dated 07/19/2000
Geotechnical Report	FDH, Project # 1201291EG1 Dated 02/14/2012
Mount Analysis	N/A
Existing Modification	TES Job # 48686 R1 Dated 09/28/2018
Proposed Modification	TES Job # 118985

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 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 101.0 mph (3-Sec. Gust)
Basic Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" 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:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	SS = 0.177, S1 = 0.063

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
3	135.0	3	Andrew - SBNHH-1D65A - Panel	Inside 36" Canister from 130ft. to 140ft.	(2) 1 5/8" Hybriflex (12) 7/8"	Verizon
4		6	RFS Celwave - FDL85002/1C-3L			
5		2	RFS Celwave - DB-T1-6Z-8AB-0Z			
6	127.0	3	Rosenberger D2WC-21 (2LB+4MB) (HEX) Panel	Inside 36" Canister from 120ft. to 130ft.	(12) 7/8" (3) 1.99" 6x24 Hybrid	T-Mobile Sprint
7		6	Commscope CBC426T-DS-43 Diplexers			
8		3	Andrew Smart Bias-T/ATSBT TOP-FM RET			
9	115.0	3	Powerwave - 7770 - Panel	Inside 36" Canister from 110ft. to 120ft	(6) 1 5/8"	AT&T
10		6	Powerwave - LGP21401 - TMA			
11	75.0	1	GPS	Direct	(1) 1/2"	T-Mobile Sprint

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
1	145.0	3	Commscope FFVV-65B-R3 Panel	Inside 36" Canister from 140ft. to 150ft.	(12) 1 5/8"	Dish Wireless
2		6	Commscope CDX623T-DS-T Diplexers			

All transmission lines are considered running inside of the pole shafts.

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	Flange
Max. Usage:	**99.8%**	**83.0%**	**54.7%**	**97.5%**
Pass/Fail	**Pass**	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	1092.6	11.9	38.7

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 2.4167 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222-G-2 Standard after the following proposed modification is successfully completed.

- Proposed modification design drawing by **TES** Job # 118985

Pre-Mod Installation Determination

We have also checked this tower to determine if the proposed Dish Wireless equipment loading can be installed prior to the completion of the required modifications. We ran a reduced wind loading case as required by TIA-322 considering a construction period of no more than 6 months.

The tower and foundations passed, so the Carrier can proceed and install their proposed loading prior to the mods completion. Please be aware that this approval is being provided and is based on the method outlined in TIA-322. This approval is not a blanket approval and there is still a risk that the tower will experience a wind event that cannot be predicted by TIA-322 or our Engineers. In the event of an unforeseen wind event, Tower Engineering Solutions will not be liable nor responsible for damage to the tower or the Carriers equipment. Additionally, the tower cannot go beyond the 6 month construction period without the modifications being completed. If the modifications cannot be completed within 6 months from the completed installation of the Carrier's proposed equipment, TES must be notified immediately for further review.

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.

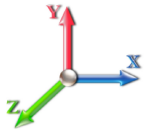
Usage Diagram - Max Ratio 99.83% at 112.0ft

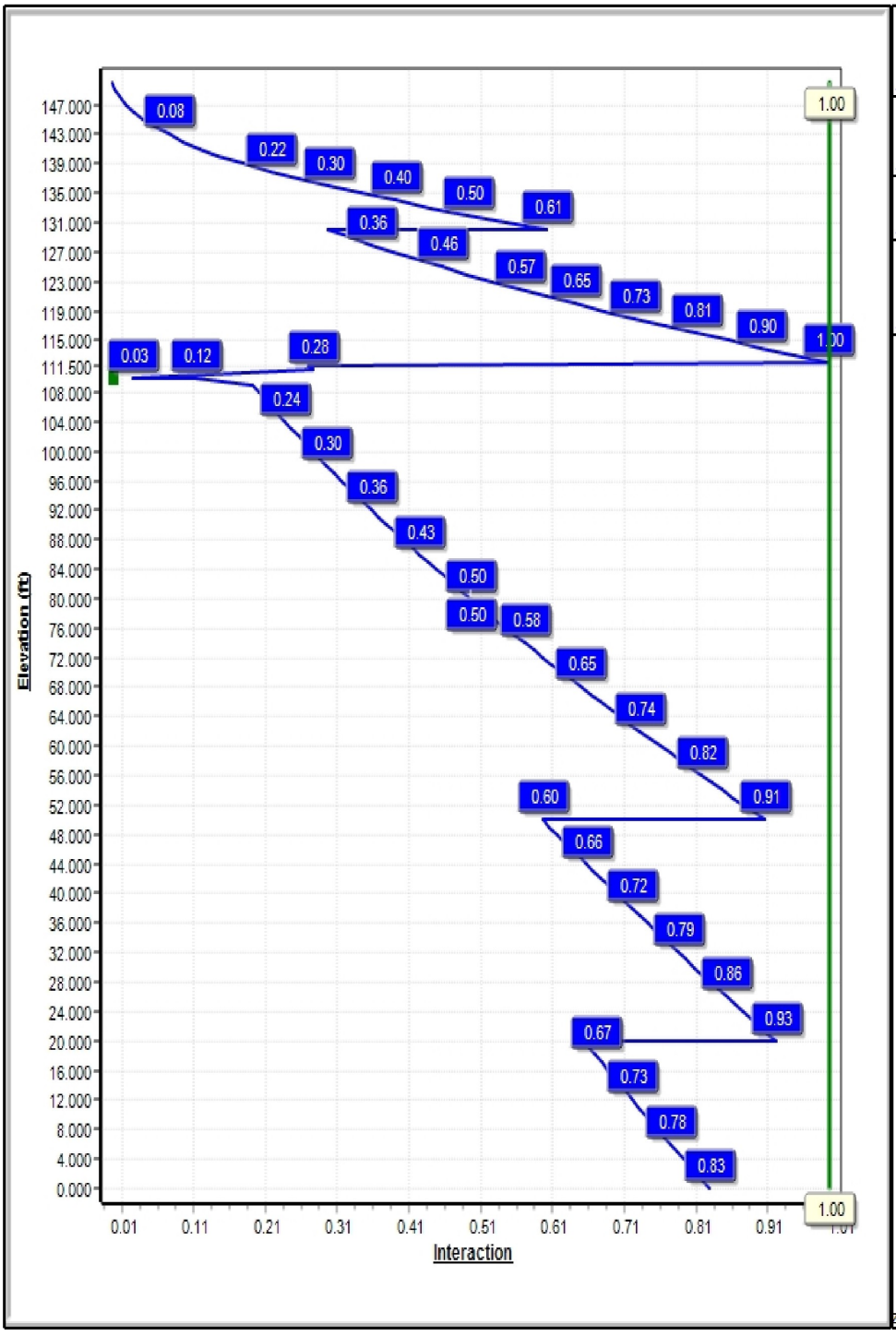
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Gh:**	1.1		
Base Elev:	0.000 (ft)			Page: 1	

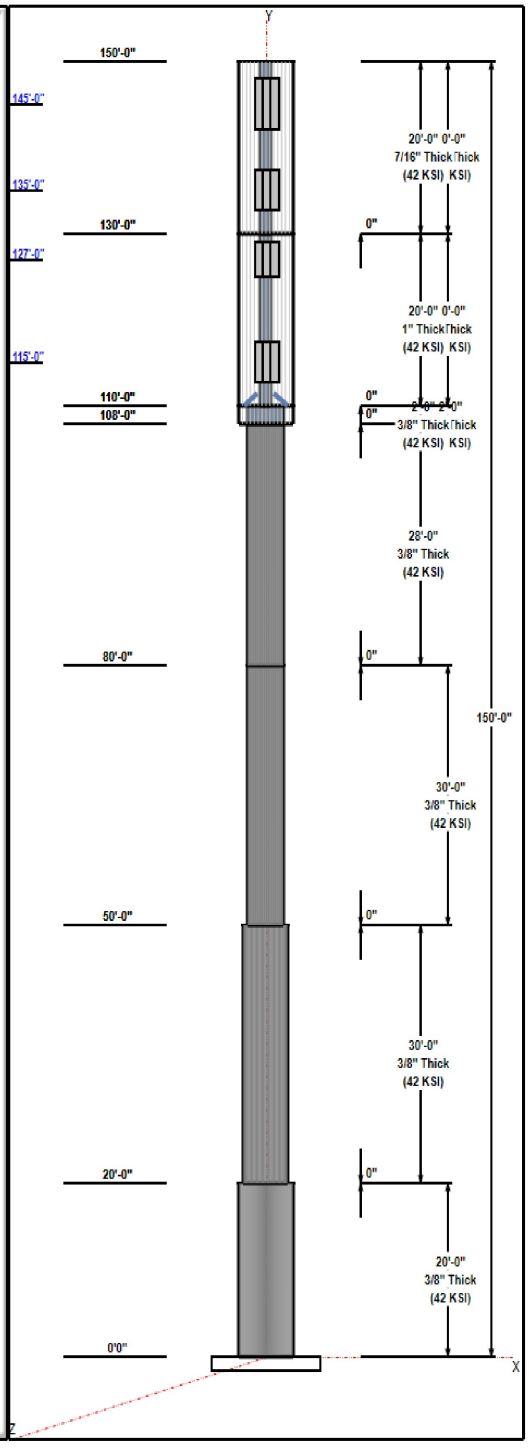
Tower Engineering Solutions

Dead Load Factor:	1.20	**Iterations:**	43
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 101 mph Wind







Structure: CT04374-S-SBA

Type: Custom
Site Name: Central Hebron
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: Round
Taper: 0.00000

1/21/2022

Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	20.00	36.00	36.00	0.375		0.00000	42
2	30.00	30.00	30.00	0.375	Butt	0.00000	42
3	30.00	24.00	24.00	0.375	Butt	0.00000	42
4	28.00	24.00	24.00	0.375	Butt	0.00000	42
5	2.00	24.00	24.00	0.375	Butt	0.00000	42
6	20.00	6.75	6.75	1.000	Butt	0.00000	42
7	20.00	6.63	6.63	0.432	Butt	0.00000	42

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
150.00	150.50	1	Truck Ball	
150.00	150.00	1	36" Canister Weight	
145.00	145.00	3	FFVV-65B-R3	Dish Wireless
145.00	145.00	6	CDX623T-DS	Dish Wireless
140.00	140.00	1	36" Canister Weight	
140.00	140.00	1	Flag	
135.00	135.00	3	SBNHH-1D65A	Verizon
135.00	135.00	6	FDL85002/1C-3L	Verizon
135.00	135.00	2	DB-T1-6Z-8AB-0Z	Verizon
135.00	135.00	1	Flush Mount	Verizon
130.00	130.00	1	36" Canister Weight	
127.00	127.00	6	CBC426T-DS-43	T-Mobile Sprint
127.00	127.00	3	ATSBT-TOP-FM	T-Mobile Sprint
127.00	127.00	3	D2WC-21 (2LB+4MB)	T-Mobile Sprint
127.00	127.00	1	Flush Mount	T-Mobile Sprint
120.00	120.00	1	36" Canister Weight	
115.00	115.00	3	7770.00	AT&T
115.00	115.00	6	LGP21401	AT&T
115.00	115.00	1	Flush Mount	AT&T
110.00	110.00	1	36" Canister Weight	
108.00	108.00	1	36" Canister Weight	
75.00	75.00	1	GPS	T-Mobile Sprint

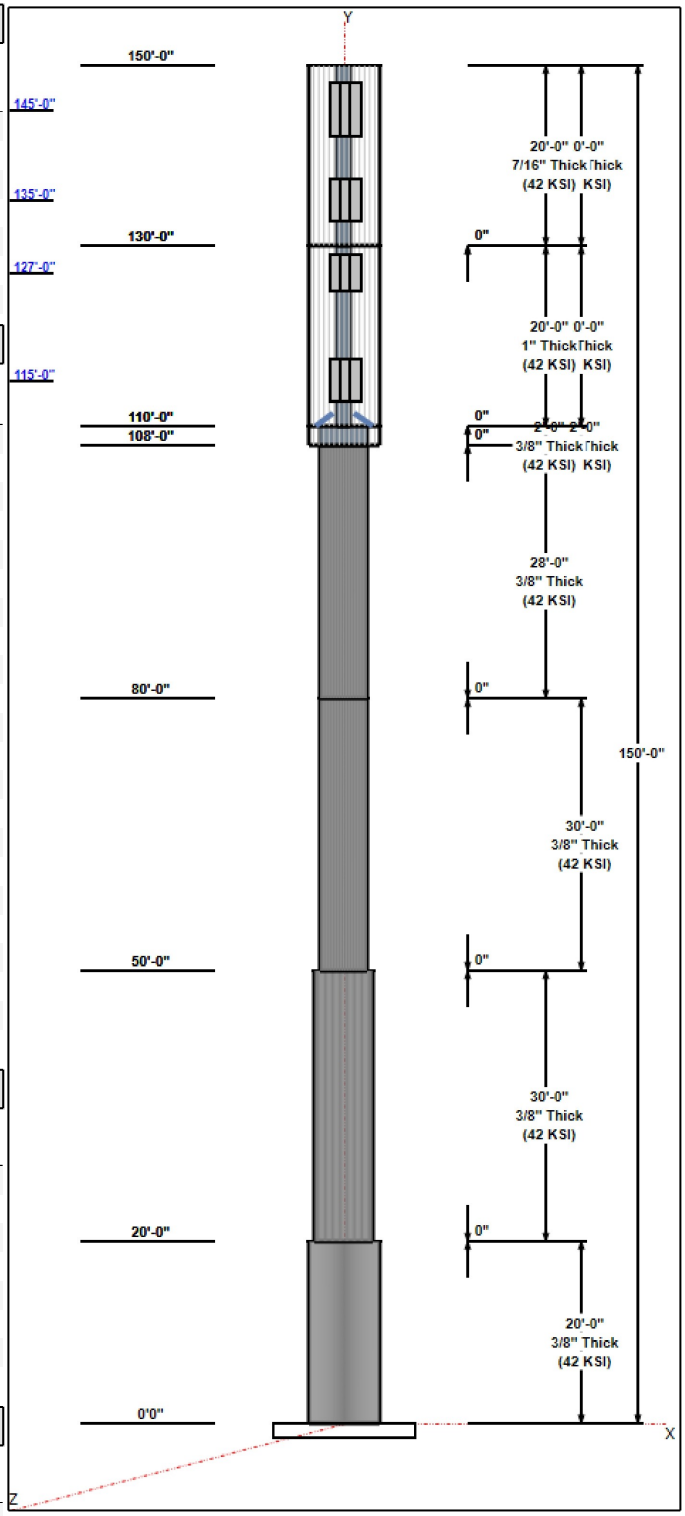
Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	145.00	Inside	1 5/8" Coax	Dish Wireless
0.00	135.00	Inside	1 5/8" Hybrid	Verizon
0.00	135.00	Inside	7/8" Coax	Verizon
0.00	127.00	Inside	1.99" 6x24 Hybrid	T-Mobile Sprint
0.00	127.00	Inside	7/8" Coax	T-Mobile Sprint
0.00	115.00	Inside	1 5/8" Coax	AT&T
0.00	75.00	Inside	1/2" Coax	T-Mobile Sprint
17.00	23.00	Outside	1" Reinforcing plate	

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
28	1.0" F1554 105	105.0	Radial

Base Plate



Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.2500	42.4	36.0	Round

Reactions

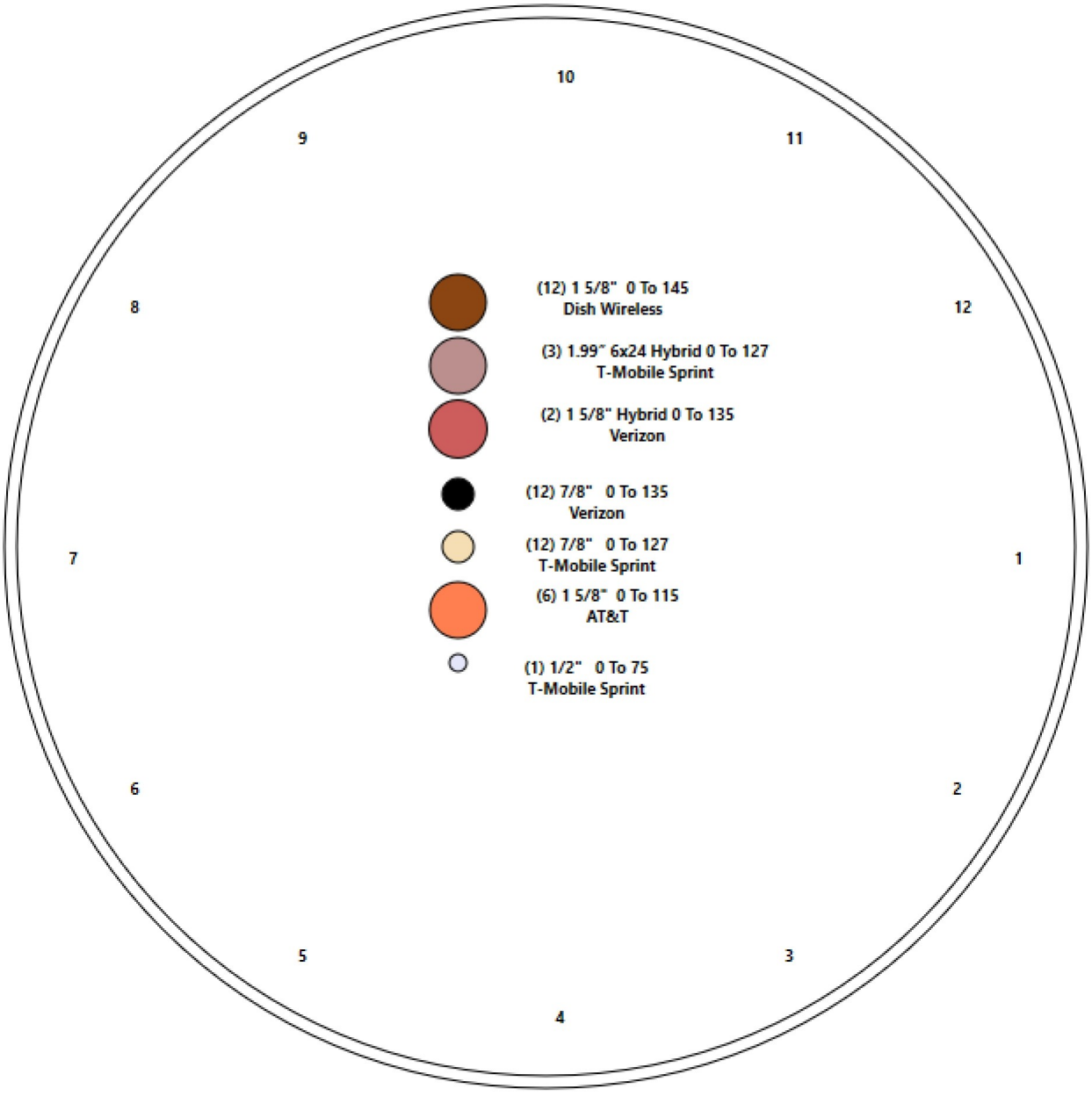
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	1092.6	11.9	24.4
0.9D + 1.6W 101 mph Wind	1073.7	11.9	18.3
1.2D + 1.0Di + 1.0Wi 50 mph Wind	523.7	4.9	38.7
1.2D + 1.0E	43.4	0.5	24.5
0.9D + 1.0E	42.6	0.5	18.3
1.0D + 1.0W 60 mph Wind	238.6	2.6	20.4

Structure: CT04374-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Central Hebron
Height: 150.00 (ft)

1/21/2022

Tower Engineering Solutions



Shaft Properties

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	R	20.000	0.3750	42		0.00	2,856
2	R	30.000	0.3750	42	Flange	0.00	3,563
3	R	30.000	0.3750	42	Flange	0.00	2,841
4	R	28.000	0.3750	42	Flange	0.00	2,652
5	R	2.000	0.3750	42	Flange	0.00	189
6	R	20.000	1.0000	42	Flange	0.00	1,229
7	R	20.000	0.4320	42	Flange	0.00	572
					Total Shaft Weight:		**13,903**

	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	Canister Diam (in)
1	36.00	0.00	41.97	6663.29	0.00	96.00	36.00	20.00	41.97	6663.29	0.00	96.00	0.000000	0.00
2	30.00	20.00	34.90	3831.77	0.00	80.00	30.00	50.00	34.90	3831.77	0.00	80.00	0.000000	0.00
3	24.00	50.00	27.83	1943.30	0.00	64.00	24.00	80.00	27.83	1943.30	0.00	64.00	0.000000	0.00
4	24.00	80.00	27.83	1943.30	0.00	64.00	24.00	108.00	27.83	1943.30	0.00	64.00	0.000000	0.00
5	24.00	108.0	27.83	1943.30	0.00	64.00	24.00	110.00	27.83	1943.30	0.00	64.00	0.000000	36.00
6	6.75	110.0	18.06	74.71	0.00	6.75	6.75	130.00	18.06	74.71	0.00	6.75	0.000000	36.00
7	6.63	130.0	8.40	40.33	0.00	15.34	6.63	150.00	8.40	40.33	0.00	15.34	0.000000	36.00

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
110.0	111.5	3	PLT 5"x3/4" STFNR	36	48	0.00	5/8" Hollo Bolt	0.00	5/8" Hollo Bolt			

Load Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 6

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	150.00	Truck Ball	1	5.00	1.41	1.00	5.47	1.541	1.00	0.00	0.50
2	150.00	36" Canister Weight	1	64.57	0.00	1.00	117.16	0.000	1.00	0.00	0.00
3	145.00	FFVV-65B-R3	3	43.80	0.00	0.00	327.19	9.763	0.00	0.00	0.00
4	145.00	CDX623T-DS	6	10.10	0.00	0.00	42.25	0.789	0.00	0.00	0.00
5	140.00	36" Canister Weight	1	129.14	0.00	1.00	233.59	0.000	1.00	0.00	0.00
6	140.00	Flag	1	25.00	6.89	1.00	27.31	7.527	1.00	0.00	0.00
7	135.00	SBNHH-1D65A	3	33.50	0.00	0.00	256.09	7.336	0.00	0.00	0.00
8	135.00	FDL85002/1C-3L	6	7.00	0.00	0.00	22.89	0.000	0.00	0.00	0.00
9	135.00	DB-T1-6Z-8AB-0Z	2	18.90	0.00	0.00	219.52	5.978	0.00	0.00	0.00
10	135.00	Flush Mount	1	25.00	0.00	0.00	52.63	0.000	0.00	0.00	0.00
11	130.00	36" Canister Weight	1	129.14	0.00	1.00	232.82	0.000	1.00	0.00	0.00
12	127.00	CBC426T-DS-43	6	7.30	0.00	0.00	29.07	0.000	0.00	0.00	0.00
13	127.00	ATSBT-TOP-FM	3	1.80	0.00	0.00	9.46	0.000	0.00	0.00	0.00
14	127.00	D2WC-21 (2LB+4MB) (HEX)	3	30.90	0.00	0.00	227.23	6.387	0.00	0.00	0.00
15	127.00	Flush Mount	1	25.00	0.00	0.00	52.46	0.000	0.00	0.00	0.00
16	120.00	36" Canister Weight	1	129.14	0.00	1.00	232.00	0.000	1.00	0.00	0.00
17	115.00	7770.00	3	35.00	0.00	0.00	222.59	6.910	0.00	0.00	0.00
18	115.00	LGP21401	6	14.10	0.00	0.00	46.56	0.000	0.00	0.00	0.00
19	115.00	Flush Mount	1	25.00	0.00	0.00	52.19	0.000	0.00	0.00	0.00
20	110.00	36" Canister Weight	1	77.48	0.00	1.00	138.66	0.000	1.00	0.00	0.00
21	108.00	36" Canister Weight	1	12.91	0.00	1.00	14.07	0.000	1.00	0.00	0.00
22	75.00	GPS	1	10.00	1.00	1.00	46.47	1.886	1.00	0.00	0.00
		Totals:	**53**	**1,361.18**			**5,616.14**				

Linear Appurtenances

Bottom Elev. (ft)	**Top Elev. (ft)**	**Description**	**Exposed Width**	**Exposed**
0.00	145.00	(12) 1 5/8" Coax	0.00	Inside
0.00	135.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	135.00	(12) 7/8" Coax	0.00	Inside
0.00	127.00	(3) 1.99" 6x24 Hybrid	0.00	Inside
0.00	127.00	(12) 7/8" Coax	0.00	Inside
0.00	115.00	(6) 1 5/8" Coax	0.00	Inside
0.00	75.00	(1) 1/2" Coax	0.00	Inside
17.00	23.00	(1) 1" Reinforcing plate	1.00	Outside

Shaft Section Properties

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 7	

Tower Engineering Solutions

Increment Length: **1 (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		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	0.0				
1.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
2.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
3.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
4.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
5.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
6.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
7.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
8.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
9.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
10.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
11.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
12.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
13.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
14.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
15.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
16.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
17.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
18.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
19.00		0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
20.00	Top - Section 1	0.3750	36.000	41.970	6663.3	0.00	96.00	42	39	142.8				
20.00	Bot - Section 2	0.3750	30.000	34.901	3831.8	0.00	96.00	42	42					
21.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
22.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
23.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
24.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
25.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
26.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
27.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
28.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
29.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
30.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
31.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
32.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
33.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
34.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
35.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
36.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
37.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
38.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
39.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
40.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
41.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
42.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
43.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
44.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
45.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
46.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
47.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
48.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				

Increment Length: 1 (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)
49.00		0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
50.00	Top - Section 2	0.3750	30.000	34.901	3831.8	0.00	80.00	42	42	118.8				
50.00	Bot - Section 3	0.3750	24.000	27.833	1943.3	0.00	80.00	42	42					
51.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
52.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
53.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
54.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
55.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
56.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
57.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
58.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
59.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
60.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
61.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
62.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
63.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
64.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
65.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
66.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
67.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
68.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
69.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
70.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
71.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
72.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
73.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
74.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
75.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
76.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
77.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
78.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
79.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
80.00	Top - Section 3	0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
80.00	Bot - Section 4	0.3750	24.000	27.833	1943.3	0.00	64.00	42	42					
81.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
82.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
83.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
84.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
85.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
86.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
87.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
88.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
89.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
90.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
91.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
92.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
93.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
94.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
95.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
96.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
97.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
98.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
99.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
100.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
101.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
102.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
103.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
104.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
105.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
106.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				

Increment Length: 1 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
107.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
108.00	Top - Section 4	0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
108.00	Bot - Section 5	0.3750	24.000	27.833	1943.3	0.00	64.00	42	42					
109.00		0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7				
110.00	Top - Section 5 RB1	0.3750	24.000	27.833	1943.3	0.00	64.00	42	42	94.7	11.25	1194.6	1194.6	38.3
110.00	Bot - Section 6	1.0000	6.750	18.064	74.7	0.00	24.00	42	42					
111.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5	11.25	206.1	206.1	38.3
111.50	RT1	1.0000	6.750	18.064	74.7	0.00	6.75	42	42	30.7	11.25	206.1	206.1	19.1
112.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	30.7				
113.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
114.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
115.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
116.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
117.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
118.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
119.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
120.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
121.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
122.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
123.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
124.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
125.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
126.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
127.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
128.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
129.00		1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
130.00	Top - Section 6	1.0000	6.750	18.064	74.7	0.00	6.75	42	42	61.5				
130.00	Bot - Section 7	0.4320	6.625	8.405	40.3	0.00	15.63	42	42					
131.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
132.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
133.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
134.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
135.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
136.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
137.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
138.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
139.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
140.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
141.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
142.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
143.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
144.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
145.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
146.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
147.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
148.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
149.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
150.00		0.4320	6.625	8.405	40.3	0.00	15.34	42	42	28.6				
									Total Weight	**13902.9**				**95.7**

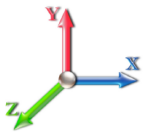
Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 43

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
2.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
3.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
4.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
5.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
6.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
7.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
8.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
9.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
10.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
11.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
12.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
13.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
14.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
15.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	171.4
16.00		1.00	0.86	21.348	23.48	281.07	0.600	0.000	1.00	3.000	1.80	67.6	0.0	171.4
17.00		1.00	0.87	21.622	23.78	282.87	0.600	0.000	1.00	3.000	1.80	68.5	0.0	171.4
18.00		1.00	0.88	21.884	24.07	284.58	0.600	0.000	1.00	3.000	1.80	69.3	0.0	171.4
19.00		1.00	0.89	22.134	24.35	286.20	0.600	0.000	1.00	3.000	1.80	70.1	0.0	171.4
20.00	Top - Section 1	1.00	0.90	22.375	24.61	287.75	0.600	0.000	1.00	3.000	1.80	70.9	0.0	171.4
21.00		1.00	0.91	22.606	24.87	241.03	0.600	0.000	1.00	2.500	1.50	59.7	0.0	142.5
22.00		1.00	0.92	22.828	25.11	242.21	0.600	0.000	1.00	2.500	1.50	60.3	0.0	142.5
23.00		1.00	0.93	23.043	25.35	243.35	0.600	0.000	1.00	2.500	1.50	60.8	0.0	142.5
24.00		1.00	0.94	23.250	25.58	244.44	0.600	0.000	1.00	2.500	1.50	61.4	0.0	142.5
25.00		1.00	0.95	23.451	25.80	245.49	0.600	0.000	1.00	2.500	1.50	61.9	0.0	142.5
26.00		1.00	0.95	23.645	26.01	246.51	0.600	0.000	1.00	2.500	1.50	62.4	0.0	142.5
27.00		1.00	0.96	23.834	26.22	247.49	0.600	0.000	1.00	2.500	1.50	62.9	0.0	142.5
28.00		1.00	0.97	24.017	26.42	248.44	0.600	0.000	1.00	2.500	1.50	63.4	0.0	142.5
29.00		1.00	0.98	24.195	26.61	249.36	0.600	0.000	1.00	2.500	1.50	63.9	0.0	142.5
30.00		1.00	0.98	24.369	26.81	250.25	0.600	0.000	1.00	2.500	1.50	64.3	0.0	142.5
31.00		1.00	0.99	24.537	26.99	251.11	0.600	0.000	1.00	2.500	1.50	64.8	0.0	142.5
32.00		1.00	1.00	24.702	27.17	251.96	0.600	0.000	1.00	2.500	1.50	65.2	0.0	142.5
33.00		1.00	1.00	24.862	27.35	252.77	0.600	0.000	1.00	2.500	1.50	65.6	0.0	142.5
34.00		1.00	1.01	25.019	27.52	253.57	0.600	0.000	1.00	2.500	1.50	66.1	0.0	142.5
35.00		1.00	1.01	25.172	27.69	254.34	0.600	0.000	1.00	2.500	1.50	66.5	0.0	142.5
36.00		1.00	1.02	25.322	27.85	255.10	0.600	0.000	1.00	2.500	1.50	66.9	0.0	142.5
37.00		1.00	1.03	25.469	28.02	255.84	0.600	0.000	1.00	2.500	1.50	67.2	0.0	142.5
38.00		1.00	1.03	25.612	28.17	256.55	0.600	0.000	1.00	2.500	1.50	67.6	0.0	142.5
39.00		1.00	1.04	25.752	28.33	257.26	0.600	0.000	1.00	2.500	1.50	68.0	0.0	142.5
40.00		1.00	1.04	25.890	28.48	257.94	0.600	0.000	1.00	2.500	1.50	68.3	0.0	142.5
41.00		1.00	1.05	26.025	28.63	258.61	0.600	0.000	1.00	2.500	1.50	68.7	0.0	142.5
42.00		1.00	1.05	26.157	28.77	259.27	0.600	0.000	1.00	2.500	1.50	69.1	0.0	142.5
43.00		1.00	1.06	26.287	28.92	259.91	0.600	0.000	1.00	2.500	1.50	69.4	0.0	142.5
44.00		1.00	1.06	26.415	29.06	260.54	0.600	0.000	1.00	2.500	1.50	69.7	0.0	142.5
45.00		1.00	1.07	26.540	29.19	261.16	0.600	0.000	1.00	2.500	1.50	70.1	0.0	142.5
46.00		1.00	1.07	26.663	29.33	261.77	0.600	0.000	1.00	2.500	1.50	70.4	0.0	142.5

Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

47.00		1.00	1.08	26.784	29.46	262.36	0.600	0.000	1.00	2.500	1.50	70.7	0.0	142.5
48.00		1.00	1.08	26.903	29.59	262.94	0.600	0.000	1.00	2.500	1.50	71.0	0.0	142.5
49.00		1.00	1.09	27.020	29.72	263.51	0.600	0.000	1.00	2.500	1.50	71.3	0.0	142.5
50.00	Top - Section 2	1.00	1.09	27.135	29.85	264.07	0.600	0.000	1.00	2.500	1.50	71.6	0.0	142.5
51.00		1.00	1.10	27.249	29.97	211.70	0.600	0.000	1.00	2.000	1.20	57.5	0.0	113.6
52.00		1.00	1.10	27.360	30.10	212.13	0.600	0.000	1.00	2.000	1.20	57.8	0.0	113.6
53.00		1.00	1.11	27.470	30.22	212.56	0.600	0.000	1.00	2.000	1.20	58.0	0.0	113.6
54.00		1.00	1.11	27.579	30.34	212.98	0.600	0.000	1.00	2.000	1.20	58.2	0.0	113.6
55.00		1.00	1.12	27.685	30.45	213.39	0.600	0.000	1.00	2.000	1.20	58.5	0.0	113.6
56.00		1.00	1.12	27.790	30.57	213.79	0.600	0.000	1.00	2.000	1.20	58.7	0.0	113.6
57.00		1.00	1.12	27.894	30.68	214.19	0.600	0.000	1.00	2.000	1.20	58.9	0.0	113.6
58.00		1.00	1.13	27.997	30.80	214.59	0.600	0.000	1.00	2.000	1.20	59.1	0.0	113.6
59.00		1.00	1.13	28.097	30.91	214.97	0.600	0.000	1.00	2.000	1.20	59.3	0.0	113.6
60.00		1.00	1.14	28.197	31.02	215.35	0.600	0.000	1.00	2.000	1.20	59.6	0.0	113.6
61.00		1.00	1.14	28.295	31.12	215.73	0.600	0.000	1.00	2.000	1.20	59.8	0.0	113.6
62.00		1.00	1.14	28.392	31.23	216.10	0.600	0.000	1.00	2.000	1.20	60.0	0.0	113.6
63.00		1.00	1.15	28.488	31.34	216.46	0.600	0.000	1.00	2.000	1.20	60.2	0.0	113.6
64.00		1.00	1.15	28.583	31.44	216.82	0.600	0.000	1.00	2.000	1.20	60.4	0.0	113.6
65.00		1.00	1.16	28.676	31.54	217.17	0.600	0.000	1.00	2.000	1.20	60.6	0.0	113.6
66.00		1.00	1.16	28.769	31.65	217.52	0.600	0.000	1.00	2.000	1.20	60.8	0.0	113.6
67.00		1.00	1.16	28.860	31.75	217.87	0.600	0.000	1.00	2.000	1.20	61.0	0.0	113.6
68.00		1.00	1.17	28.950	31.84	218.21	0.600	0.000	1.00	2.000	1.20	61.1	0.0	113.6
69.00		1.00	1.17	29.039	31.94	218.54	0.600	0.000	1.00	2.000	1.20	61.3	0.0	113.6
70.00		1.00	1.17	29.127	32.04	218.88	0.600	0.000	1.00	2.000	1.20	61.5	0.0	113.6
71.00		1.00	1.18	29.214	32.14	219.20	0.600	0.000	1.00	2.000	1.20	61.7	0.0	113.6
72.00		1.00	1.18	29.300	32.23	219.53	0.600	0.000	1.00	2.000	1.20	61.9	0.0	113.6
73.00		1.00	1.18	29.386	32.32	219.84	0.600	0.000	1.00	2.000	1.20	62.1	0.0	113.6
74.00		1.00	1.19	29.470	32.42	220.16	0.600	0.000	1.00	2.000	1.20	62.2	0.0	113.6
75.00	Appurtenance(s)	1.00	1.19	29.553	32.51	220.47	0.600	0.000	1.00	2.000	1.20	62.4	0.0	113.6
76.00		1.00	1.19	29.636	32.60	220.78	0.600	0.000	1.00	2.000	1.20	62.6	0.0	113.6
77.00		1.00	1.20	29.718	32.69	221.08	0.600	0.000	1.00	2.000	1.20	62.8	0.0	113.6
78.00		1.00	1.20	29.798	32.78	221.38	0.600	0.000	1.00	2.000	1.20	62.9	0.0	113.6
79.00		1.00	1.20	29.878	32.87	221.68	0.600	0.000	1.00	2.000	1.20	63.1	0.0	113.6
80.00	Top - Section 3	1.00	1.21	29.958	32.95	221.97	0.600	0.000	1.00	2.000	1.20	63.3	0.0	113.6
81.00		1.00	1.21	30.036	33.04	222.26	0.600	0.000	1.00	2.000	1.20	63.4	0.0	113.6
82.00		1.00	1.21	30.114	33.13	222.55	0.600	0.000	1.00	2.000	1.20	63.6	0.0	113.6
83.00		1.00	1.22	30.191	33.21	222.84	0.600	0.000	1.00	2.000	1.20	63.8	0.0	113.6
84.00		1.00	1.22	30.267	33.29	223.12	0.600	0.000	1.00	2.000	1.20	63.9	0.0	113.6
85.00		1.00	1.22	30.342	33.38	223.39	0.600	0.000	1.00	2.000	1.20	64.1	0.0	113.6
86.00		1.00	1.23	30.417	33.46	223.67	0.600	0.000	1.00	2.000	1.20	64.2	0.0	113.6
87.00		1.00	1.23	30.491	33.54	223.94	0.600	0.000	1.00	2.000	1.20	64.4	0.0	113.6
88.00		1.00	1.23	30.565	33.62	224.21	0.600	0.000	1.00	2.000	1.20	64.6	0.0	113.6
89.00		1.00	1.23	30.638	33.70	224.48	0.600	0.000	1.00	2.000	1.20	64.7	0.0	113.6
90.00		1.00	1.24	30.710	33.78	224.74	0.600	0.000	1.00	2.000	1.20	64.9	0.0	113.6
91.00		1.00	1.24	30.781	33.86	225.00	0.600	0.000	1.00	2.000	1.20	65.0	0.0	113.6
92.00		1.00	1.24	30.852	33.94	225.26	0.600	0.000	1.00	2.000	1.20	65.2	0.0	113.6
93.00		1.00	1.25	30.922	34.01	225.52	0.600	0.000	1.00	2.000	1.20	65.3	0.0	113.6
94.00		1.00	1.25	30.992	34.09	225.77	0.600	0.000	1.00	2.000	1.20	65.5	0.0	113.6
95.00		1.00	1.25	31.061	34.17	226.03	0.600	0.000	1.00	2.000	1.20	65.6	0.0	113.6
96.00		1.00	1.25	31.130	34.24	226.28	0.600	0.000	1.00	2.000	1.20	65.7	0.0	113.6
97.00		1.00	1.26	31.198	34.32	226.52	0.600	0.000	1.00	2.000	1.20	65.9	0.0	113.6
98.00		1.00	1.26	31.265	34.39	226.77	0.600	0.000	1.00	2.000	1.20	66.0	0.0	113.6
99.00		1.00	1.26	31.332	34.47	227.01	0.600	0.000	1.00	2.000	1.20	66.2	0.0	113.6
100.00		1.00	1.27	31.399	34.54	227.25	0.600	0.000	1.00	2.000	1.20	66.3	0.0	113.6
101.00		1.00	1.27	31.464	34.61	227.49	0.600	0.000	1.00	2.000	1.20	66.5	0.0	113.6
102.00		1.00	1.27	31.530	34.68	227.72	0.600	0.000	1.00	2.000	1.20	66.6	0.0	113.6
103.00		1.00	1.27	31.595	34.75	227.96	0.600	0.000	1.00	2.000	1.20	66.7	0.0	113.6

Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 12

104.00		1.00	1.28	31.659	34.82	228.19	0.600	0.000	1.00	2.000	1.20	66.9	0.0	113.6
105.00		1.00	1.28	31.723	34.89	228.42	0.600	0.000	1.00	2.000	1.20	67.0	0.0	113.6
106.00		1.00	1.28	31.786	34.96	228.65	0.600	0.000	1.00	2.000	1.20	67.1	0.0	113.6
107.00		1.00	1.28	31.849	35.03	228.87	0.600	0.000	1.00	2.000	1.20	67.3	0.0	113.6
108.00	Top - Section 4	1.00	1.29	31.911	35.10	229.10	0.600	0.000	1.00	2.000	1.20	67.4	0.0	113.6
109.00		1.00	1.29	31.973	35.17	343.98	0.600	0.000	1.00	3.000	1.80	101.3	0.0	125.2
110.00	Top - Section 5 RB1	1.00	1.29	32.035	35.24	344.31	0.600	0.000	1.00	3.000	1.80	101.5	0.0	125.2
111.00		1.00	1.29	32.096	35.31	344.64	0.600	0.000	1.00	3.000	1.80	101.7	0.0	85.3
111.50	RT1	1.00	1.29	32.126	35.34	344.80	0.600	0.000	0.50	1.500	0.90	50.9	0.0	42.6
112.00		1.00	1.30	32.157	35.37	344.96	0.600	0.000	0.50	1.500	0.90	50.9	0.0	42.6
113.00		1.00	1.30	32.217	35.44	345.29	0.600	0.000	1.00	3.000	1.80	102.1	0.0	85.3
114.00		1.00	1.30	32.277	35.50	345.61	0.600	0.000	1.00	3.000	1.80	102.3	0.0	85.3
115.00	Appurtenance(s)	1.00	1.30	32.336	35.57	345.93	0.600	0.000	1.00	3.000	1.80	102.4	0.0	85.3
116.00		1.00	1.31	32.395	35.63	346.24	0.600	0.000	1.00	3.000	1.80	102.6	0.0	85.3
117.00		1.00	1.31	32.454	35.70	346.55	0.600	0.000	1.00	3.000	1.80	102.8	0.0	85.3
118.00		1.00	1.31	32.512	35.76	346.87	0.600	0.000	1.00	3.000	1.80	103.0	0.0	85.3
119.00		1.00	1.31	32.570	35.83	347.17	0.600	0.000	1.00	3.000	1.80	103.2	0.0	85.3
120.00	Appurtenance(s)	1.00	1.32	32.627	35.89	347.48	0.600	0.000	1.00	3.000	1.80	103.4	0.0	85.3
121.00		1.00	1.32	32.684	35.95	347.78	0.600	0.000	1.00	3.000	1.80	103.5	0.0	85.3
122.00		1.00	1.32	32.741	36.01	348.08	0.600	0.000	1.00	3.000	1.80	103.7	0.0	85.3
123.00		1.00	1.32	32.797	36.08	348.38	0.600	0.000	1.00	3.000	1.80	103.9	0.0	85.3
124.00		1.00	1.32	32.853	36.14	348.68	0.600	0.000	1.00	3.000	1.80	104.1	0.0	85.3
125.00		1.00	1.33	32.909	36.20	348.98	0.600	0.000	1.00	3.000	1.80	104.3	0.0	85.3
126.00		1.00	1.33	32.964	36.26	349.27	0.600	0.000	1.00	3.000	1.80	104.4	0.0	85.3
127.00	Appurtenance(s)	1.00	1.33	33.019	36.32	349.56	0.600	0.000	1.00	3.000	1.80	104.6	0.0	85.3
128.00		1.00	1.33	33.073	36.38	349.85	0.600	0.000	1.00	3.000	1.80	104.8	0.0	85.3
129.00		1.00	1.34	33.128	36.44	350.13	0.600	0.000	1.00	3.000	1.80	104.9	0.0	85.3
130.00	Top - Section 6	1.00	1.34	33.182	36.50	350.42	0.600	0.000	1.00	3.000	1.80	105.1	0.0	85.3
131.00		1.00	1.34	33.235	36.56	350.70	0.600	0.000	1.00	3.000	1.80	105.3	0.0	45.8
132.00		1.00	1.34	33.288	36.62	350.98	0.600	0.000	1.00	3.000	1.80	105.5	0.0	45.8
133.00		1.00	1.34	33.341	36.68	351.26	0.600	0.000	1.00	3.000	1.80	105.6	0.0	45.8
134.00		1.00	1.35	33.394	36.73	351.54	0.600	0.000	1.00	3.000	1.80	105.8	0.0	45.8
135.00	Appurtenance(s)	1.00	1.35	33.446	36.79	351.81	0.600	0.000	1.00	3.000	1.80	106.0	0.0	45.8
136.00		1.00	1.35	33.498	36.85	352.09	0.600	0.000	1.00	3.000	1.80	106.1	0.0	45.8
137.00		1.00	1.35	33.550	36.90	352.36	0.600	0.000	1.00	3.000	1.80	106.3	0.0	45.8
138.00		1.00	1.35	33.601	36.96	352.63	0.600	0.000	1.00	3.000	1.80	106.4	0.0	45.8
139.00		1.00	1.36	33.653	37.02	352.90	0.600	0.000	1.00	3.000	1.80	106.6	0.0	45.8
140.00	Appurtenance(s)	1.00	1.36	33.703	37.07	353.16	0.600	0.000	1.00	3.000	1.80	106.8	0.0	45.8
141.00		1.00	1.36	33.754	37.13	353.43	0.600	0.000	1.00	3.000	1.80	106.9	0.0	45.8
142.00		1.00	1.36	33.804	37.18	353.69	0.600	0.000	1.00	3.000	1.80	107.1	0.0	45.8
143.00		1.00	1.36	33.854	37.24	353.95	0.600	0.000	1.00	3.000	1.80	107.2	0.0	45.8
144.00		1.00	1.37	33.904	37.29	354.21	0.600	0.000	1.00	3.000	1.80	107.4	0.0	45.8
145.00	Appurtenance(s)	1.00	1.37	33.953	37.35	354.47	0.600	0.000	1.00	3.000	1.80	107.6	0.0	45.8
146.00		1.00	1.37	34.002	37.40	354.73	0.600	0.000	1.00	3.000	1.80	107.7	0.0	45.8
147.00		1.00	1.37	34.051	37.46	354.98	0.600	0.000	1.00	3.000	1.80	107.9	0.0	45.8
148.00		1.00	1.37	34.100	37.51	355.24	0.600	0.000	1.00	3.000	1.80	108.0	0.0	45.8
149.00		1.00	1.38	34.148	37.56	355.49	0.600	0.000	1.00	3.000	1.80	108.2	0.0	45.8
150.00	Appurtenance(s)	1.00	1.38	34.196	37.62	355.74	0.600	0.000	1.00	3.000	1.80	108.3	0.0	45.8
								Totals:	**150.00**			**11,396.8**		**17,167.4**

Discrete Appurtenance Forces

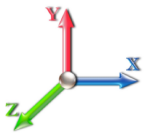
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 43

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	150.00	36" Canister Weight	1	34.196	37.616	1.00	1.00	0.00	77.48	0.000	0.000	0.00	0.00	0.00
2	150.00	Truck Ball	1	34.220	37.642	1.00	1.00	1.41	6.00	0.000	0.500	84.92	0.00	42.46
3	145.00	CDX623T-DS	6	33.953	37.349	0.00	1.00	0.00	72.72	0.000	0.000	0.00	0.00	0.00
4	145.00	FFVV-65B-R3	3	33.953	37.349	0.00	1.00	0.00	157.68	0.000	0.000	0.00	0.00	0.00
5	140.00	36" Canister Weight	1	33.703	37.074	1.00	1.00	0.00	154.97	0.000	0.000	0.00	0.00	0.00
6	140.00	Flag	1	33.703	37.074	1.00	1.00	6.89	30.00	0.000	0.000	408.70	0.00	0.00
7	135.00	Flush Mount	1	33.446	36.791	0.00	1.00	0.00	30.00	0.000	0.000	0.00	0.00	0.00
8	135.00	DB-T1-6Z-8AB-0Z	2	33.446	36.791	0.00	1.00	0.00	45.36	0.000	0.000	0.00	0.00	0.00
9	135.00	FDL85002/1C-3L	6	33.446	36.791	0.00	1.00	0.00	50.40	0.000	0.000	0.00	0.00	0.00
10	135.00	SBNHH-1D65A	3	33.446	36.791	0.00	1.00	0.00	120.60	0.000	0.000	0.00	0.00	0.00
11	130.00	36" Canister Weight	1	33.182	36.500	1.00	1.00	0.00	154.97	0.000	0.000	0.00	0.00	0.00
12	127.00	Flush Mount	1	33.019	36.321	0.00	1.00	0.00	30.00	0.000	0.000	0.00	0.00	0.00
13	127.00	D2WC-21 (2LB+4MB)	3	33.019	36.321	0.00	1.00	0.00	111.24	0.000	0.000	0.00	0.00	0.00
14	127.00	ATSBT-TOP-FM	3	33.019	36.321	0.00	1.00	0.00	6.48	0.000	0.000	0.00	0.00	0.00
15	127.00	CBC426T-DS-43	6	33.019	36.321	0.00	1.00	0.00	52.56	0.000	0.000	0.00	0.00	0.00
16	120.00	36" Canister Weight	1	32.627	35.890	1.00	1.00	0.00	154.97	0.000	0.000	0.00	0.00	0.00
17	115.00	Flush Mount	1	32.336	35.570	0.00	1.00	0.00	30.00	0.000	0.000	0.00	0.00	0.00
18	115.00	LGP21401	6	32.336	35.570	0.00	1.00	0.00	101.52	0.000	0.000	0.00	0.00	0.00
19	115.00	7770.00	3	32.336	35.570	0.00	1.00	0.00	126.00	0.000	0.000	0.00	0.00	0.00
20	110.00	36" Canister Weight	1	32.035	35.238	1.00	1.00	0.00	92.98	0.000	0.000	0.00	0.00	0.00
21	108.00	36" Canister Weight	1	31.911	35.103	1.00	1.00	0.00	15.49	0.000	0.000	0.00	0.00	0.00
22	75.00	GPS	1	29.553	32.509	0.80	0.80	0.80	12.00	0.000	0.000	41.61	0.00	0.00
							Totals:		**1,633.42**			**535.23**		

Total Applied Force Summary

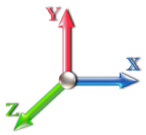
Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 43

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		66.81	213.88	0.00	0.00
2.00		66.81	213.88	0.00	0.00
3.00		66.81	213.88	0.00	0.00
4.00		66.81	213.88	0.00	0.00
5.00		66.81	213.88	0.00	0.00
6.00		66.81	213.88	0.00	0.00
7.00		66.81	213.88	0.00	0.00
8.00		66.81	213.88	0.00	0.00
9.00		66.81	213.88	0.00	0.00
10.00		66.81	213.88	0.00	0.00
11.00		66.81	213.88	0.00	0.00
12.00		66.81	213.88	0.00	0.00
13.00		66.81	213.88	0.00	0.00
14.00		66.81	213.88	0.00	0.00
15.00		66.81	213.88	0.00	0.00
16.00		67.63	213.88	0.00	0.00
17.00		68.50	213.88	0.00	0.00
18.00		69.33	213.88	0.00	0.00
19.00		70.12	213.88	0.00	0.00
20.00		70.88	213.88	0.00	0.00
21.00		59.68	185.02	0.00	0.00
22.00		60.27	185.02	0.00	0.00
23.00		60.83	185.02	0.00	0.00
24.00		61.38	185.02	0.00	0.00
25.00		61.91	185.02	0.00	0.00
26.00		62.42	185.02	0.00	0.00
27.00		62.92	185.02	0.00	0.00
28.00		63.41	185.02	0.00	0.00
29.00		63.88	185.02	0.00	0.00
30.00		64.33	185.02	0.00	0.00
31.00		64.78	185.02	0.00	0.00
32.00		65.21	185.02	0.00	0.00
33.00		65.64	185.02	0.00	0.00
34.00		66.05	185.02	0.00	0.00
35.00		66.45	185.02	0.00	0.00
36.00		66.85	185.02	0.00	0.00
37.00		67.24	185.02	0.00	0.00
38.00		67.62	185.02	0.00	0.00
39.00		67.99	185.02	0.00	0.00
40.00		68.35	185.02	0.00	0.00
41.00		68.71	185.02	0.00	0.00
42.00		69.06	185.02	0.00	0.00
43.00		69.40	185.02	0.00	0.00
44.00		69.73	185.02	0.00	0.00
45.00		70.07	185.02	0.00	0.00
46.00		70.39	185.02	0.00	0.00

Total Applied Force Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 15

47.00		70.71	185.02	0.00	0.00
48.00		71.02	185.02	0.00	0.00
49.00		71.33	185.02	0.00	0.00
50.00		71.64	185.02	0.00	0.00
51.00		57.55	156.15	0.00	0.00
52.00		57.78	156.15	0.00	0.00
53.00		58.02	156.15	0.00	0.00
54.00		58.25	156.15	0.00	0.00
55.00		58.47	156.15	0.00	0.00
56.00		58.69	156.15	0.00	0.00
57.00		58.91	156.15	0.00	0.00
58.00		59.13	156.15	0.00	0.00
59.00		59.34	156.15	0.00	0.00
60.00		59.55	156.15	0.00	0.00
61.00		59.76	156.15	0.00	0.00
62.00		59.96	156.15	0.00	0.00
63.00		60.17	156.15	0.00	0.00
64.00		60.37	156.15	0.00	0.00
65.00		60.56	156.15	0.00	0.00
66.00		60.76	156.15	0.00	0.00
67.00		60.95	156.15	0.00	0.00
68.00		61.14	156.15	0.00	0.00
69.00		61.33	156.15	0.00	0.00
70.00		61.52	156.15	0.00	0.00
71.00		61.70	156.15	0.00	0.00
72.00		61.88	156.15	0.00	0.00
73.00		62.06	156.15	0.00	0.00
74.00		62.24	156.15	0.00	0.00
75.00	(1) attachments	104.03	168.15	0.00	0.00
76.00		62.59	155.96	0.00	0.00
77.00		62.76	155.96	0.00	0.00
78.00		62.93	155.96	0.00	0.00
79.00		63.10	155.96	0.00	0.00
80.00		63.27	155.96	0.00	0.00
81.00		63.44	155.96	0.00	0.00
82.00		63.60	155.96	0.00	0.00
83.00		63.76	155.96	0.00	0.00
84.00		63.92	155.96	0.00	0.00
85.00		64.08	155.96	0.00	0.00
86.00		64.24	155.96	0.00	0.00
87.00		64.40	155.96	0.00	0.00
88.00		64.55	155.96	0.00	0.00
89.00		64.71	155.96	0.00	0.00
90.00		64.86	155.96	0.00	0.00
91.00		65.01	155.96	0.00	0.00
92.00		65.16	155.96	0.00	0.00
93.00		65.31	155.96	0.00	0.00
94.00		65.46	155.96	0.00	0.00
95.00		65.60	155.96	0.00	0.00
96.00		65.75	155.96	0.00	0.00
97.00		65.89	155.96	0.00	0.00
98.00		66.03	155.96	0.00	0.00
99.00		66.17	155.96	0.00	0.00
100.00		66.31	155.96	0.00	0.00
101.00		66.45	155.96	0.00	0.00
102.00		66.59	155.96	0.00	0.00
103.00		66.73	155.96	0.00	0.00

Total Applied Force Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 16

104.00		66.86	155.96	0.00	0.00
105.00		67.00	155.96	0.00	0.00
106.00		67.13	155.96	0.00	0.00
107.00		67.27	155.96	0.00	0.00
108.00	(1) attachments	67.40	171.45	0.00	0.00
109.00		101.29	167.48	0.00	0.00
110.00	(1) attachments	101.49	260.46	0.00	0.00
111.00		101.68	127.59	0.00	0.00
111.50		50.89	63.80	0.00	0.00
112.00		50.94	63.80	0.00	0.00
113.00		102.06	127.59	0.00	0.00
114.00		102.25	127.59	0.00	0.00
115.00	(10) attachments	102.44	385.11	0.00	0.00
116.00		102.63	120.54	0.00	0.00
117.00		102.81	120.54	0.00	0.00
118.00		103.00	120.54	0.00	0.00
119.00		103.18	120.54	0.00	0.00
120.00	(1) attachments	103.36	275.51	0.00	0.00
121.00		103.54	120.54	0.00	0.00
122.00		103.72	120.54	0.00	0.00
123.00		103.90	120.54	0.00	0.00
124.00		104.08	120.54	0.00	0.00
125.00		104.25	120.54	0.00	0.00
126.00		104.43	120.54	0.00	0.00
127.00	(13) attachments	104.60	320.82	0.00	0.00
128.00		104.78	109.81	0.00	0.00
129.00		104.95	109.81	0.00	0.00
130.00	(1) attachments	105.12	264.78	0.00	0.00
131.00		105.29	70.37	0.00	0.00
132.00		105.46	70.37	0.00	0.00
133.00		105.63	70.37	0.00	0.00
134.00		105.79	70.37	0.00	0.00
135.00	(12) attachments	105.96	316.73	0.00	0.00
136.00		106.12	60.82	0.00	0.00
137.00		106.29	60.82	0.00	0.00
138.00		106.45	60.82	0.00	0.00
139.00		106.61	60.82	0.00	0.00
140.00	(2) attachments	515.47	245.78	0.00	0.00
141.00		106.93	60.82	0.00	0.00
142.00		107.09	60.82	0.00	0.00
143.00		107.25	60.82	0.00	0.00
144.00		107.41	60.82	0.00	0.00
145.00	(9) attachments	107.56	291.22	0.00	0.00
146.00		107.72	45.84	0.00	0.00
147.00		107.87	45.84	0.00	0.00
148.00		108.03	45.84	0.00	0.00
149.00		108.18	45.84	0.00	0.00
150.00	(2) attachments	193.26	129.32	0.00	42.46
	Totals:	**11,932.05**	**24,450.12**	**0.00**	**42.46**

Linear Appurtenance Segment Forces (Factored)

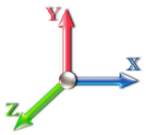
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 43

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
18.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.028	0.000	21.884	0.00	0.00
19.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.028	0.000	22.134	0.00	0.00
20.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.028	0.000	22.375	0.00	0.00
21.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.033	0.000	22.606	0.00	0.00
22.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.033	0.000	22.828	0.00	0.00
23.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.033	0.000	23.043	0.00	0.00
										Totals:	**0.0**	**0.0**

Calculated Forces

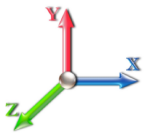
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 43

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	-24.44	-11.94	0.00	-1092.5	0.00	1092.57	1490.10	745.05	2187.51	1339.68	0.00	0.000	0.000	0.832
1.00	-24.22	-11.89	0.00	-1080.6	0.00	1080.62	1490.10	745.05	2187.51	1339.68	0.01	-0.046	0.000	0.823
2.00	-24.00	-11.85	0.00	-1068.7	0.00	1068.73	1490.10	745.05	2187.51	1339.68	0.02	-0.092	0.000	0.814
3.00	-23.78	-11.80	0.00	-1056.8	0.00	1056.88	1490.10	745.05	2187.51	1339.68	0.04	-0.138	0.000	0.805
4.00	-23.55	-11.75	0.00	-1045.0	0.00	1045.09	1490.10	745.05	2187.51	1339.68	0.08	-0.183	0.000	0.796
5.00	-23.33	-11.70	0.00	-1033.3	0.00	1033.34	1490.10	745.05	2187.51	1339.68	0.12	-0.227	0.000	0.787
6.00	-23.11	-11.65	0.00	-1021.6	0.00	1021.64	1490.10	745.05	2187.51	1339.68	0.17	-0.271	0.000	0.778
7.00	-22.89	-11.60	0.00	-1009.9	0.00	1009.99	1490.10	745.05	2187.51	1339.68	0.23	-0.314	0.000	0.770
8.00	-22.66	-11.55	0.00	-998.39	0.00	998.39	1490.10	745.05	2187.51	1339.68	0.31	-0.357	0.000	0.761
9.00	-22.44	-11.50	0.00	-986.85	0.00	986.85	1490.10	745.05	2187.51	1339.68	0.38	-0.399	0.000	0.752
10.00	-22.22	-11.44	0.00	-975.35	0.00	975.35	1490.10	745.05	2187.51	1339.68	0.47	-0.441	0.000	0.743
11.00	-22.00	-11.39	0.00	-963.91	0.00	963.91	1490.10	745.05	2187.51	1339.68	0.57	-0.483	0.000	0.735
12.00	-21.78	-11.34	0.00	-952.52	0.00	952.52	1490.10	745.05	2187.51	1339.68	0.68	-0.524	0.000	0.726
13.00	-21.56	-11.28	0.00	-941.18	0.00	941.18	1490.10	745.05	2187.51	1339.68	0.79	-0.564	0.000	0.717
14.00	-21.33	-11.23	0.00	-929.90	0.00	929.90	1490.10	745.05	2187.51	1339.68	0.91	-0.604	0.000	0.709
15.00	-21.11	-11.17	0.00	-918.67	0.00	918.67	1490.10	745.05	2187.51	1339.68	1.04	-0.643	0.000	0.700
16.00	-20.89	-11.12	0.00	-907.50	0.00	907.50	1490.10	745.05	2187.51	1339.68	1.18	-0.682	0.000	0.692
17.00	-20.67	-11.06	0.00	-896.38	0.00	896.38	1490.10	745.05	2187.51	1339.68	1.33	-0.721	0.000	0.683
18.00	-20.45	-11.00	0.00	-885.32	0.00	885.32	1490.10	745.05	2187.51	1339.68	1.48	-0.759	0.000	0.675
19.00	-20.23	-10.94	0.00	-874.31	0.00	874.31	1490.10	745.05	2187.51	1339.68	1.65	-0.797	0.000	0.666
20.00	-20.01	-10.88	0.00	-863.37	0.00	863.37	1490.10	745.05	2187.51	1339.68	1.82	-0.834	0.000	0.658
20.00	-20.01	-10.88	0.00	-863.37	0.00	863.37	1311.06	655.53	1597.15	948.43	1.82	-0.834	0.000	0.926
21.00	-19.82	-10.84	0.00	-852.49	0.00	852.49	1311.06	655.53	1597.15	948.43	2.00	-0.870	0.000	0.914
22.00	-19.62	-10.79	0.00	-841.65	0.00	841.65	1311.06	655.53	1597.15	948.43	2.19	-0.933	0.000	0.903
23.00	-19.43	-10.75	0.00	-830.86	0.00	830.86	1311.06	655.53	1597.15	948.43	2.39	-0.995	0.000	0.891
24.00	-19.23	-10.71	0.00	-820.11	0.00	820.11	1311.06	655.53	1597.15	948.43	2.60	-1.057	0.000	0.880
25.00	-19.04	-10.66	0.00	-809.40	0.00	809.40	1311.06	655.53	1597.15	948.43	2.83	-1.117	0.000	0.868
26.00	-18.84	-10.62	0.00	-798.74	0.00	798.74	1311.06	655.53	1597.15	948.43	3.07	-1.177	0.000	0.857
27.00	-18.65	-10.57	0.00	-788.12	0.00	788.12	1311.06	655.53	1597.15	948.43	3.33	-1.236	0.000	0.845
28.00	-18.45	-10.52	0.00	-777.56	0.00	777.56	1311.06	655.53	1597.15	948.43	3.59	-1.294	0.000	0.834
29.00	-18.26	-10.47	0.00	-767.04	0.00	767.04	1311.06	655.53	1597.15	948.43	3.87	-1.351	0.000	0.823
30.00	-18.07	-10.42	0.00	-756.57	0.00	756.57	1311.06	655.53	1597.15	948.43	4.16	-1.408	0.000	0.812
31.00	-17.87	-10.37	0.00	-746.15	0.00	746.15	1311.06	655.53	1597.15	948.43	4.46	-1.463	0.000	0.801
32.00	-17.68	-10.31	0.00	-735.79	0.00	735.79	1311.06	655.53	1597.15	948.43	4.77	-1.518	0.000	0.790
33.00	-17.49	-10.26	0.00	-725.47	0.00	725.47	1311.06	655.53	1597.15	948.43	5.09	-1.573	0.000	0.779
34.00	-17.29	-10.20	0.00	-715.21	0.00	715.21	1311.06	655.53	1597.15	948.43	5.43	-1.626	0.000	0.768
35.00	-17.10	-10.15	0.00	-705.01	0.00	705.01	1311.06	655.53	1597.15	948.43	5.78	-1.679	0.000	0.757
36.00	-16.91	-10.09	0.00	-694.86	0.00	694.86	1311.06	655.53	1597.15	948.43	6.13	-1.731	0.000	0.746
37.00	-16.72	-10.03	0.00	-684.77	0.00	684.77	1311.06	655.53	1597.15	948.43	6.50	-1.782	0.000	0.735
38.00	-16.53	-9.97	0.00	-674.74	0.00	674.74	1311.06	655.53	1597.15	948.43	6.88	-1.833	0.000	0.724
39.00	-16.34	-9.91	0.00	-664.77	0.00	664.77	1311.06	655.53	1597.15	948.43	7.27	-1.882	0.000	0.714
40.00	-16.15	-9.85	0.00	-654.86	0.00	654.86	1311.06	655.53	1597.15	948.43	7.67	-1.931	0.000	0.703
41.00	-15.95	-9.79	0.00	-645.01	0.00	645.01	1311.06	655.53	1597.15	948.43	8.08	-1.980	0.000	0.692
42.00	-15.76	-9.73	0.00	-635.21	0.00	635.21	1311.06	655.53	1597.15	948.43	8.50	-2.027	0.000	0.682
43.00	-15.57	-9.66	0.00	-625.49	0.00	625.49	1311.06	655.53	1597.15	948.43	8.93	-2.074	0.000	0.672
44.00	-15.38	-9.60	0.00	-615.82	0.00	615.82	1311.06	655.53	1597.15	948.43	9.37	-2.120	0.000	0.661
45.00	-15.19	-9.54	0.00	-606.22	0.00	606.22	1311.06	655.53	1597.15	948.43	9.82	-2.165	0.000	0.651
46.00	-15.00	-9.47	0.00	-596.69	0.00	596.69	1311.06	655.53	1597.15	948.43	10.27	-2.210	0.000	0.641

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 19

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47.00	-14.82	-9.40	0.00	-587.22	0.00	587.22	1311.06	655.53	1597.15	948.43	10.74	-2.254	0.000	0.631
48.00	-14.63	-9.34	0.00	-577.81	0.00	577.81	1311.06	655.53	1597.15	948.43	11.22	-2.297	0.000	0.621
49.00	-14.44	-9.27	0.00	-568.48	0.00	568.48	1311.06	655.53	1597.15	948.43	11.70	-2.340	0.000	0.611
50.00	-14.25	-9.20	0.00	-559.21	0.00	559.21	1311.06	655.53	1597.15	948.43	12.20	-2.382	0.000	0.601
50.00	-14.25	-9.20	0.00	-559.21	0.00	559.21	1052.07	526.04	1018.84	624.04	12.20	-2.382	0.000	0.910
51.00	-14.09	-9.15	0.00	-550.01	0.00	550.01	1052.07	526.04	1018.84	624.04	12.70	-2.423	0.000	0.895
52.00	-13.92	-9.10	0.00	-540.86	0.00	540.86	1052.07	526.04	1018.84	624.04	13.22	-2.503	0.000	0.880
53.00	-13.75	-9.06	0.00	-531.76	0.00	531.76	1052.07	526.04	1018.84	624.04	13.75	-2.581	0.000	0.865
54.00	-13.59	-9.01	0.00	-522.70	0.00	522.70	1052.07	526.04	1018.84	624.04	14.30	-2.658	0.000	0.851
55.00	-13.42	-8.96	0.00	-513.69	0.00	513.69	1052.07	526.04	1018.84	624.04	14.86	-2.734	0.000	0.836
56.00	-13.26	-8.91	0.00	-504.72	0.00	504.72	1052.07	526.04	1018.84	624.04	15.44	-2.809	0.000	0.822
57.00	-13.09	-8.86	0.00	-495.81	0.00	495.81	1052.07	526.04	1018.84	624.04	16.04	-2.882	0.000	0.807
58.00	-12.93	-8.81	0.00	-486.95	0.00	486.95	1052.07	526.04	1018.84	624.04	16.65	-2.954	0.000	0.793
59.00	-12.77	-8.76	0.00	-478.13	0.00	478.13	1052.07	526.04	1018.84	624.04	17.28	-3.025	0.000	0.779
60.00	-12.60	-8.71	0.00	-469.37	0.00	469.37	1052.07	526.04	1018.84	624.04	17.92	-3.094	0.000	0.764
61.00	-12.44	-8.66	0.00	-460.66	0.00	460.66	1052.07	526.04	1018.84	624.04	18.57	-3.162	0.000	0.750
62.00	-12.28	-8.60	0.00	-452.01	0.00	452.01	1052.07	526.04	1018.84	624.04	19.24	-3.229	0.000	0.736
63.00	-12.12	-8.55	0.00	-443.41	0.00	443.41	1052.07	526.04	1018.84	624.04	19.93	-3.294	0.000	0.722
64.00	-11.95	-8.49	0.00	-434.86	0.00	434.86	1052.07	526.04	1018.84	624.04	20.62	-3.359	0.000	0.708
65.00	-11.79	-8.43	0.00	-426.37	0.00	426.37	1052.07	526.04	1018.84	624.04	21.33	-3.422	0.000	0.695
66.00	-11.63	-8.38	0.00	-417.94	0.00	417.94	1052.07	526.04	1018.84	624.04	22.05	-3.484	0.000	0.681
67.00	-11.47	-8.32	0.00	-409.57	0.00	409.57	1052.07	526.04	1018.84	624.04	22.79	-3.544	0.000	0.667
68.00	-11.31	-8.26	0.00	-401.25	0.00	401.25	1052.07	526.04	1018.84	624.04	23.54	-3.603	0.000	0.654
69.00	-11.15	-8.20	0.00	-392.99	0.00	392.99	1052.07	526.04	1018.84	624.04	24.30	-3.662	0.000	0.641
70.00	-10.99	-8.14	0.00	-384.80	0.00	384.80	1052.07	526.04	1018.84	624.04	25.07	-3.719	0.000	0.627
71.00	-10.83	-8.08	0.00	-376.66	0.00	376.66	1052.07	526.04	1018.84	624.04	25.86	-3.774	0.000	0.614
72.00	-10.67	-8.01	0.00	-368.58	0.00	368.58	1052.07	526.04	1018.84	624.04	26.65	-3.829	0.000	0.601
73.00	-10.51	-7.95	0.00	-360.57	0.00	360.57	1052.07	526.04	1018.84	624.04	27.46	-3.882	0.000	0.588
74.00	-10.35	-7.89	0.00	-352.62	0.00	352.62	1052.07	526.04	1018.84	624.04	28.28	-3.934	0.000	0.575
75.00	-10.19	-7.78	0.00	-344.73	0.00	344.73	1052.07	526.04	1018.84	624.04	29.11	-3.985	0.000	0.562
76.00	-10.03	-7.72	0.00	-336.95	0.00	336.95	1052.07	526.04	1018.84	624.04	29.95	-4.035	0.000	0.550
77.00	-9.87	-7.65	0.00	-329.23	0.00	329.23	1052.07	526.04	1018.84	624.04	30.80	-4.084	0.000	0.537
78.00	-9.71	-7.59	0.00	-321.58	0.00	321.58	1052.07	526.04	1018.84	624.04	31.66	-4.132	0.000	0.525
79.00	-9.56	-7.52	0.00	-314.00	0.00	314.00	1052.07	526.04	1018.84	624.04	32.52	-4.178	0.000	0.512
80.00	-9.40	-7.45	0.00	-306.48	0.00	306.48	1052.07	526.04	1018.84	624.04	33.40	-4.224	0.000	0.500
80.00	-9.40	-7.45	0.00	-306.48	0.00	306.48	1052.07	526.04	1018.84	624.04	33.40	-4.224	0.000	0.500
81.00	-9.24	-7.38	0.00	-299.03	0.00	299.03	1052.07	526.04	1018.84	624.04	34.29	-4.268	0.000	0.488
82.00	-9.09	-7.32	0.00	-291.65	0.00	291.65	1052.07	526.04	1018.84	624.04	35.19	-4.311	0.000	0.476
83.00	-8.93	-7.25	0.00	-284.33	0.00	284.33	1052.07	526.04	1018.84	624.04	36.10	-4.353	0.000	0.464
84.00	-8.78	-7.18	0.00	-277.08	0.00	277.08	1052.07	526.04	1018.84	624.04	37.01	-4.395	0.000	0.453
85.00	-8.62	-7.11	0.00	-269.91	0.00	269.91	1052.07	526.04	1018.84	624.04	37.94	-4.435	0.000	0.441
86.00	-8.47	-7.04	0.00	-262.80	0.00	262.80	1052.07	526.04	1018.84	624.04	38.87	-4.474	0.000	0.429
87.00	-8.31	-6.97	0.00	-255.76	0.00	255.76	1052.07	526.04	1018.84	624.04	39.81	-4.512	0.000	0.418
88.00	-8.16	-6.89	0.00	-248.80	0.00	248.80	1052.07	526.04	1018.84	624.04	40.76	-4.548	0.000	0.407
89.00	-8.00	-6.82	0.00	-241.91	0.00	241.91	1052.07	526.04	1018.84	624.04	41.71	-4.584	0.000	0.395
90.00	-7.85	-6.75	0.00	-235.08	0.00	235.08	1052.07	526.04	1018.84	624.04	42.68	-4.619	0.000	0.384
91.00	-7.69	-6.68	0.00	-228.33	0.00	228.33	1052.07	526.04	1018.84	624.04	43.65	-4.653	0.000	0.373
92.00	-7.54	-6.60	0.00	-221.66	0.00	221.66	1052.07	526.04	1018.84	624.04	44.62	-4.686	0.000	0.363
93.00	-7.39	-6.53	0.00	-215.05	0.00	215.05	1052.07	526.04	1018.84	624.04	45.61	-4.718	0.000	0.352
94.00	-7.23	-6.46	0.00	-208.52	0.00	208.52	1052.07	526.04	1018.84	624.04	46.60	-4.749	0.000	0.341
95.00	-7.08	-6.38	0.00	-202.07	0.00	202.07	1052.07	526.04	1018.84	624.04	47.59	-4.779	0.000	0.331
96.00	-6.93	-6.31	0.00	-195.69	0.00	195.69	1052.07	526.04	1018.84	624.04	48.60	-4.808	0.000	0.320
97.00	-6.77	-6.23	0.00	-189.38	0.00	189.38	1052.07	526.04	1018.84	624.04	49.61	-4.837	0.000	0.310
98.00	-6.62	-6.15	0.00	-183.15	0.00	183.15	1052.07	526.04	1018.84	624.04	50.62	-4.864	0.000	0.300
99.00	-6.47	-6.08	0.00	-177.00	0.00	177.00	1052.07	526.04	1018.84	624.04	51.64	-4.890	0.000	0.290
100.00	-6.31	-6.00	0.00	-170.92	0.00	170.92	1052.07	526.04	1018.84	624.04	52.67	-4.916	0.000	0.280
101.00	-6.16	-5.92	0.00	-164.92	0.00	164.92	1052.07	526.04	1018.84	624.04	53.70	-4.940	0.000	0.270

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

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102.00	-6.01	-5.85	0.00	-159.00	0.00	159.00	1052.07	526.04	1018.84	624.04	54.73	-4.964	0.000	0.261
103.00	-5.86	-5.77	0.00	-153.15	0.00	153.15	1052.07	526.04	1018.84	624.04	55.78	-4.987	0.000	0.251
104.00	-5.71	-5.69	0.00	-147.38	0.00	147.38	1052.07	526.04	1018.84	624.04	56.82	-5.009	0.000	0.242
105.00	-5.56	-5.61	0.00	-141.69	0.00	141.69	1052.07	526.04	1018.84	624.04	57.87	-5.030	0.000	0.232
106.00	-5.40	-5.53	0.00	-136.08	0.00	136.08	1052.07	526.04	1018.84	624.04	58.93	-5.050	0.000	0.223
107.00	-5.25	-5.46	0.00	-130.54	0.00	130.54	1052.07	526.04	1018.84	624.04	59.98	-5.070	0.000	0.214
108.00	-5.09	-5.37	0.00	-125.09	0.00	125.09	1052.07	526.04	1018.84	624.04	61.05	-5.088	0.000	0.205
108.00	-5.09	-5.37	0.00	-125.09	0.00	125.09	1052.07	526.04	1018.84	624.04	61.05	-5.088	0.000	0.205
109.00	-4.93	-5.26	0.00	-119.71	0.00	119.71	1052.07	526.04	1018.84	624.04	62.11	-5.106	0.000	0.197
110.00	-4.68	-5.14	0.00	-114.45	0.00	114.45	1052.07	526.04	1018.84	624.04	63.18	-5.124	0.000	0.117
110.00	-4.68	-5.14	0.00	-114.45	0.00	114.45	682.83	341.41	139.27	105.20	63.18	-5.124	0.000	0.029
111.00	-4.55	-5.03	0.00	-109.32	0.00	109.32	682.83	341.41	139.27	105.20	64.26	-5.134	0.000	0.281
111.50	-4.49	-4.97	0.00	-106.80	0.00	106.80	682.83	341.41	139.27	105.20	64.80	-5.188	0.000	0.274
111.50	-4.49	-4.97	0.00	-106.80	0.00	106.80	682.83	341.41	139.27	105.20	64.80	-5.188	0.000	0.274
112.00	-4.41	-4.94	0.00	-104.31	0.00	104.31	682.83	341.41	139.27	105.20	65.34	-5.242	0.000	0.998
113.00	-4.26	-4.85	0.00	-99.38	0.00	99.38	682.83	341.41	139.27	105.20	66.48	-5.630	0.000	0.951
114.00	-4.12	-4.76	0.00	-94.53	0.00	94.53	682.83	341.41	139.27	105.20	67.69	-5.999	0.000	0.905
115.00	-3.72	-4.64	0.00	-89.77	0.00	89.77	682.83	341.41	139.27	105.20	68.99	-6.350	0.000	0.859
116.00	-3.58	-4.54	0.00	-85.13	0.00	85.13	682.83	341.41	139.27	105.20	70.35	-6.683	0.000	0.815
117.00	-3.45	-4.45	0.00	-80.58	0.00	80.58	682.83	341.41	139.27	105.20	71.78	-6.998	0.000	0.771
118.00	-3.32	-4.35	0.00	-76.14	0.00	76.14	682.83	341.41	139.27	105.20	73.27	-7.297	0.000	0.729
119.00	-3.20	-4.24	0.00	-71.79	0.00	71.79	682.83	341.41	139.27	105.20	74.82	-7.578	0.000	0.687
120.00	-2.92	-4.12	0.00	-67.55	0.00	67.55	682.83	341.41	139.27	105.20	76.44	-7.844	0.000	0.647
121.00	-2.80	-4.01	0.00	-63.43	0.00	63.43	682.83	341.41	139.27	105.20	78.10	-8.093	0.000	0.607
122.00	-2.68	-3.90	0.00	-59.42	0.00	59.42	682.83	341.41	139.27	105.20	79.81	-8.327	0.000	0.569
123.00	-2.56	-3.79	0.00	-55.52	0.00	55.52	682.83	341.41	139.27	105.20	81.57	-8.546	0.000	0.532
124.00	-2.44	-3.68	0.00	-51.73	0.00	51.73	682.83	341.41	139.27	105.20	83.38	-8.750	0.000	0.495
125.00	-2.33	-3.56	0.00	-48.05	0.00	48.05	682.83	341.41	139.27	105.20	85.22	-8.940	0.000	0.460
126.00	-2.22	-3.45	0.00	-44.48	0.00	44.48	682.83	341.41	139.27	105.20	87.11	-9.116	0.000	0.426
127.00	-1.91	-3.30	0.00	-41.04	0.00	41.04	682.83	341.41	139.27	105.20	89.03	-9.279	0.000	0.393
128.00	-1.81	-3.18	0.00	-37.74	0.00	37.74	682.83	341.41	139.27	105.20	90.98	-9.429	0.000	0.361
129.00	-1.71	-3.06	0.00	-34.55	0.00	34.55	682.83	341.41	139.27	105.20	92.96	-9.566	0.000	0.331
130.00	-1.46	-2.92	0.00	-31.49	0.00	31.49	682.83	341.41	139.27	105.20	94.97	-9.692	0.000	0.302
130.00	-1.46	-2.92	0.00	-31.49	0.00	31.49	317.71	158.85	76.59	52.28	94.97	-9.692	0.000	0.607
131.00	-1.40	-2.81	0.00	-28.57	0.00	28.57	317.71	158.85	76.59	52.28	97.00	-9.807	0.000	0.551
132.00	-1.34	-2.70	0.00	-25.76	0.00	25.76	317.71	158.85	76.59	52.28	99.06	-9.998	0.000	0.497
133.00	-1.28	-2.58	0.00	-23.07	0.00	23.07	317.71	158.85	76.59	52.28	101.16	-10.170	0.000	0.446
134.00	-1.23	-2.47	0.00	-20.48	0.00	20.48	317.71	158.85	76.59	52.28	103.30	-10.324	0.000	0.396
135.00	-0.93	-2.31	0.00	-18.01	0.00	18.01	317.71	158.85	76.59	52.28	105.46	-10.460	0.000	0.348
136.00	-0.89	-2.20	0.00	-15.70	0.00	15.70	317.71	158.85	76.59	52.28	107.66	-10.579	0.000	0.303
137.00	-0.84	-2.08	0.00	-13.51	0.00	13.51	317.71	158.85	76.59	52.28	109.87	-10.682	0.000	0.261
138.00	-0.80	-1.97	0.00	-11.42	0.00	11.42	317.71	158.85	76.59	52.28	112.10	-10.770	0.000	0.221
139.00	-0.76	-1.85	0.00	-9.46	0.00	9.46	317.71	158.85	76.59	52.28	114.35	-10.843	0.000	0.183
140.00	-0.61	-1.30	0.00	-7.60	0.00	7.60	317.71	158.85	76.59	52.28	116.62	-10.904	0.000	0.147
141.00	-0.57	-1.18	0.00	-6.30	0.00	6.30	317.71	158.85	76.59	52.28	118.89	-10.953	0.000	0.122
142.00	-0.53	-1.07	0.00	-5.12	0.00	5.12	317.71	158.85	76.59	52.28	121.18	-10.993	0.000	0.100
143.00	-0.49	-0.95	0.00	-4.05	0.00	4.05	317.71	158.85	76.59	52.28	123.47	-11.025	0.000	0.079
144.00	-0.45	-0.83	0.00	-3.10	0.00	3.10	317.71	158.85	76.59	52.28	125.77	-11.051	0.000	0.061
145.00	-0.19	-0.67	0.00	-2.26	0.00	2.26	317.71	158.85	76.59	52.28	128.07	-11.069	0.000	0.044
146.00	-0.16	-0.56	0.00	-1.59	0.00	1.59	317.71	158.85	76.59	52.28	130.37	-11.083	0.000	0.031
147.00	-0.14	-0.44	0.00	-1.03	0.00	1.03	317.71	158.85	76.59	52.28	132.68	-11.092	0.000	0.020
148.00	-0.11	-0.33	0.00	-0.59	0.00	0.59	317.71	158.85	76.59	52.28	134.99	-11.098	0.000	0.012
149.00	-0.09	-0.21	0.00	-0.26	0.00	0.26	317.71	158.85	76.59	52.28	137.30	-11.101	0.000	0.005
150.00	0.00	-0.19	0.00	-0.04	0.00	0.04	317.71	158.85	76.59	52.28	139.61	-11.102	0.000	0.001

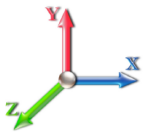
Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 43

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
2.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
3.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
4.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
5.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
6.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
7.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
8.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
9.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
10.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
11.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
12.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
13.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
14.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
15.00		1.00	0.85	21.088	23.20	279.35	0.600	0.000	1.00	3.000	1.80	66.8	0.0	128.5
16.00		1.00	0.86	21.348	23.48	281.07	0.600	0.000	1.00	3.000	1.80	67.6	0.0	128.5
17.00		1.00	0.87	21.622	23.78	282.87	0.600	0.000	1.00	3.000	1.80	68.5	0.0	128.5
18.00		1.00	0.88	21.884	24.07	284.58	0.600	0.000	1.00	3.000	1.80	69.3	0.0	128.5
19.00		1.00	0.89	22.134	24.35	286.20	0.600	0.000	1.00	3.000	1.80	70.1	0.0	128.5
20.00	Top - Section 1	1.00	0.90	22.375	24.61	287.75	0.600	0.000	1.00	3.000	1.80	70.9	0.0	128.5
21.00		1.00	0.91	22.606	24.87	241.03	0.600	0.000	1.00	2.500	1.50	59.7	0.0	106.9
22.00		1.00	0.92	22.828	25.11	242.21	0.600	0.000	1.00	2.500	1.50	60.3	0.0	106.9
23.00		1.00	0.93	23.043	25.35	243.35	0.600	0.000	1.00	2.500	1.50	60.8	0.0	106.9
24.00		1.00	0.94	23.250	25.58	244.44	0.600	0.000	1.00	2.500	1.50	61.4	0.0	106.9
25.00		1.00	0.95	23.451	25.80	245.49	0.600	0.000	1.00	2.500	1.50	61.9	0.0	106.9
26.00		1.00	0.95	23.645	26.01	246.51	0.600	0.000	1.00	2.500	1.50	62.4	0.0	106.9
27.00		1.00	0.96	23.834	26.22	247.49	0.600	0.000	1.00	2.500	1.50	62.9	0.0	106.9
28.00		1.00	0.97	24.017	26.42	248.44	0.600	0.000	1.00	2.500	1.50	63.4	0.0	106.9
29.00		1.00	0.98	24.195	26.61	249.36	0.600	0.000	1.00	2.500	1.50	63.9	0.0	106.9
30.00		1.00	0.98	24.369	26.81	250.25	0.600	0.000	1.00	2.500	1.50	64.3	0.0	106.9
31.00		1.00	0.99	24.537	26.99	251.11	0.600	0.000	1.00	2.500	1.50	64.8	0.0	106.9
32.00		1.00	1.00	24.702	27.17	251.96	0.600	0.000	1.00	2.500	1.50	65.2	0.0	106.9
33.00		1.00	1.00	24.862	27.35	252.77	0.600	0.000	1.00	2.500	1.50	65.6	0.0	106.9
34.00		1.00	1.01	25.019	27.52	253.57	0.600	0.000	1.00	2.500	1.50	66.1	0.0	106.9
35.00		1.00	1.01	25.172	27.69	254.34	0.600	0.000	1.00	2.500	1.50	66.5	0.0	106.9
36.00		1.00	1.02	25.322	27.85	255.10	0.600	0.000	1.00	2.500	1.50	66.9	0.0	106.9
37.00		1.00	1.03	25.469	28.02	255.84	0.600	0.000	1.00	2.500	1.50	67.2	0.0	106.9
38.00		1.00	1.03	25.612	28.17	256.55	0.600	0.000	1.00	2.500	1.50	67.6	0.0	106.9
39.00		1.00	1.04	25.752	28.33	257.26	0.600	0.000	1.00	2.500	1.50	68.0	0.0	106.9
40.00		1.00	1.04	25.890	28.48	257.94	0.600	0.000	1.00	2.500	1.50	68.3	0.0	106.9
41.00		1.00	1.05	26.025	28.63	258.61	0.600	0.000	1.00	2.500	1.50	68.7	0.0	106.9
42.00		1.00	1.05	26.157	28.77	259.27	0.600	0.000	1.00	2.500	1.50	69.1	0.0	106.9
43.00		1.00	1.06	26.287	28.92	259.91	0.600	0.000	1.00	2.500	1.50	69.4	0.0	106.9
44.00		1.00	1.06	26.415	29.06	260.54	0.600	0.000	1.00	2.500	1.50	69.7	0.0	106.9
45.00		1.00	1.07	26.540	29.19	261.16	0.600	0.000	1.00	2.500	1.50	70.1	0.0	106.9
46.00		1.00	1.07	26.663	29.33	261.77	0.600	0.000	1.00	2.500	1.50	70.4	0.0	106.9

Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 22

47.00		1.00	1.08	26.784	29.46	262.36	0.600	0.000	1.00	2.500	1.50	70.7	0.0	106.9
48.00		1.00	1.08	26.903	29.59	262.94	0.600	0.000	1.00	2.500	1.50	71.0	0.0	106.9
49.00		1.00	1.09	27.020	29.72	263.51	0.600	0.000	1.00	2.500	1.50	71.3	0.0	106.9
50.00	Top - Section 2	1.00	1.09	27.135	29.85	264.07	0.600	0.000	1.00	2.500	1.50	71.6	0.0	106.9
51.00		1.00	1.10	27.249	29.97	211.70	0.600	0.000	1.00	2.000	1.20	57.5	0.0	85.2
52.00		1.00	1.10	27.360	30.10	212.13	0.600	0.000	1.00	2.000	1.20	57.8	0.0	85.2
53.00		1.00	1.11	27.470	30.22	212.56	0.600	0.000	1.00	2.000	1.20	58.0	0.0	85.2
54.00		1.00	1.11	27.579	30.34	212.98	0.600	0.000	1.00	2.000	1.20	58.2	0.0	85.2
55.00		1.00	1.12	27.685	30.45	213.39	0.600	0.000	1.00	2.000	1.20	58.5	0.0	85.2
56.00		1.00	1.12	27.790	30.57	213.79	0.600	0.000	1.00	2.000	1.20	58.7	0.0	85.2
57.00		1.00	1.12	27.894	30.68	214.19	0.600	0.000	1.00	2.000	1.20	58.9	0.0	85.2
58.00		1.00	1.13	27.997	30.80	214.59	0.600	0.000	1.00	2.000	1.20	59.1	0.0	85.2
59.00		1.00	1.13	28.097	30.91	214.97	0.600	0.000	1.00	2.000	1.20	59.3	0.0	85.2
60.00		1.00	1.14	28.197	31.02	215.35	0.600	0.000	1.00	2.000	1.20	59.6	0.0	85.2
61.00		1.00	1.14	28.295	31.12	215.73	0.600	0.000	1.00	2.000	1.20	59.8	0.0	85.2
62.00		1.00	1.14	28.392	31.23	216.10	0.600	0.000	1.00	2.000	1.20	60.0	0.0	85.2
63.00		1.00	1.15	28.488	31.34	216.46	0.600	0.000	1.00	2.000	1.20	60.2	0.0	85.2
64.00		1.00	1.15	28.583	31.44	216.82	0.600	0.000	1.00	2.000	1.20	60.4	0.0	85.2
65.00		1.00	1.16	28.676	31.54	217.17	0.600	0.000	1.00	2.000	1.20	60.6	0.0	85.2
66.00		1.00	1.16	28.769	31.65	217.52	0.600	0.000	1.00	2.000	1.20	60.8	0.0	85.2
67.00		1.00	1.16	28.860	31.75	217.87	0.600	0.000	1.00	2.000	1.20	61.0	0.0	85.2
68.00		1.00	1.17	28.950	31.84	218.21	0.600	0.000	1.00	2.000	1.20	61.1	0.0	85.2
69.00		1.00	1.17	29.039	31.94	218.54	0.600	0.000	1.00	2.000	1.20	61.3	0.0	85.2
70.00		1.00	1.17	29.127	32.04	218.88	0.600	0.000	1.00	2.000	1.20	61.5	0.0	85.2
71.00		1.00	1.18	29.214	32.14	219.20	0.600	0.000	1.00	2.000	1.20	61.7	0.0	85.2
72.00		1.00	1.18	29.300	32.23	219.53	0.600	0.000	1.00	2.000	1.20	61.9	0.0	85.2
73.00		1.00	1.18	29.386	32.32	219.84	0.600	0.000	1.00	2.000	1.20	62.1	0.0	85.2
74.00		1.00	1.19	29.470	32.42	220.16	0.600	0.000	1.00	2.000	1.20	62.2	0.0	85.2
75.00	Appurtenance(s)	1.00	1.19	29.553	32.51	220.47	0.600	0.000	1.00	2.000	1.20	62.4	0.0	85.2
76.00		1.00	1.19	29.636	32.60	220.78	0.600	0.000	1.00	2.000	1.20	62.6	0.0	85.2
77.00		1.00	1.20	29.718	32.69	221.08	0.600	0.000	1.00	2.000	1.20	62.8	0.0	85.2
78.00		1.00	1.20	29.798	32.78	221.38	0.600	0.000	1.00	2.000	1.20	62.9	0.0	85.2
79.00		1.00	1.20	29.878	32.87	221.68	0.600	0.000	1.00	2.000	1.20	63.1	0.0	85.2
80.00	Top - Section 3	1.00	1.21	29.958	32.95	221.97	0.600	0.000	1.00	2.000	1.20	63.3	0.0	85.2
81.00		1.00	1.21	30.036	33.04	222.26	0.600	0.000	1.00	2.000	1.20	63.4	0.0	85.2
82.00		1.00	1.21	30.114	33.13	222.55	0.600	0.000	1.00	2.000	1.20	63.6	0.0	85.2
83.00		1.00	1.22	30.191	33.21	222.84	0.600	0.000	1.00	2.000	1.20	63.8	0.0	85.2
84.00		1.00	1.22	30.267	33.29	223.12	0.600	0.000	1.00	2.000	1.20	63.9	0.0	85.2
85.00		1.00	1.22	30.342	33.38	223.39	0.600	0.000	1.00	2.000	1.20	64.1	0.0	85.2
86.00		1.00	1.23	30.417	33.46	223.67	0.600	0.000	1.00	2.000	1.20	64.2	0.0	85.2
87.00		1.00	1.23	30.491	33.54	223.94	0.600	0.000	1.00	2.000	1.20	64.4	0.0	85.2
88.00		1.00	1.23	30.565	33.62	224.21	0.600	0.000	1.00	2.000	1.20	64.6	0.0	85.2
89.00		1.00	1.23	30.638	33.70	224.48	0.600	0.000	1.00	2.000	1.20	64.7	0.0	85.2
90.00		1.00	1.24	30.710	33.78	224.74	0.600	0.000	1.00	2.000	1.20	64.9	0.0	85.2
91.00		1.00	1.24	30.781	33.86	225.00	0.600	0.000	1.00	2.000	1.20	65.0	0.0	85.2
92.00		1.00	1.24	30.852	33.94	225.26	0.600	0.000	1.00	2.000	1.20	65.2	0.0	85.2
93.00		1.00	1.25	30.922	34.01	225.52	0.600	0.000	1.00	2.000	1.20	65.3	0.0	85.2
94.00		1.00	1.25	30.992	34.09	225.77	0.600	0.000	1.00	2.000	1.20	65.5	0.0	85.2
95.00		1.00	1.25	31.061	34.17	226.03	0.600	0.000	1.00	2.000	1.20	65.6	0.0	85.2
96.00		1.00	1.25	31.130	34.24	226.28	0.600	0.000	1.00	2.000	1.20	65.7	0.0	85.2
97.00		1.00	1.26	31.198	34.32	226.52	0.600	0.000	1.00	2.000	1.20	65.9	0.0	85.2
98.00		1.00	1.26	31.265	34.39	226.77	0.600	0.000	1.00	2.000	1.20	66.0	0.0	85.2
99.00		1.00	1.26	31.332	34.47	227.01	0.600	0.000	1.00	2.000	1.20	66.2	0.0	85.2
100.00		1.00	1.27	31.399	34.54	227.25	0.600	0.000	1.00	2.000	1.20	66.3	0.0	85.2
101.00		1.00	1.27	31.464	34.61	227.49	0.600	0.000	1.00	2.000	1.20	66.5	0.0	85.2
102.00		1.00	1.27	31.530	34.68	227.72	0.600	0.000	1.00	2.000	1.20	66.6	0.0	85.2
103.00		1.00	1.27	31.595	34.75	227.96	0.600	0.000	1.00	2.000	1.20	66.7	0.0	85.2

Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 23

104.00		1.00	1.28	31.659	34.82	228.19	0.600	0.000	1.00	2.000	1.20	66.9	0.0	85.2
105.00		1.00	1.28	31.723	34.89	228.42	0.600	0.000	1.00	2.000	1.20	67.0	0.0	85.2
106.00		1.00	1.28	31.786	34.96	228.65	0.600	0.000	1.00	2.000	1.20	67.1	0.0	85.2
107.00		1.00	1.28	31.849	35.03	228.87	0.600	0.000	1.00	2.000	1.20	67.3	0.0	85.2
108.00	Top - Section 4	1.00	1.29	31.911	35.10	229.10	0.600	0.000	1.00	2.000	1.20	67.4	0.0	85.2
109.00		1.00	1.29	31.973	35.17	343.98	0.600	0.000	1.00	3.000	1.80	101.3	0.0	93.9
110.00	Top - Section 5 RB1	1.00	1.29	32.035	35.24	344.31	0.600	0.000	1.00	3.000	1.80	101.5	0.0	93.9
111.00		1.00	1.29	32.096	35.31	344.64	0.600	0.000	1.00	3.000	1.80	101.7	0.0	64.0
111.50	RT1	1.00	1.29	32.126	35.34	344.80	0.600	0.000	0.50	1.500	0.90	50.9	0.0	32.0
112.00		1.00	1.30	32.157	35.37	344.96	0.600	0.000	0.50	1.500	0.90	50.9	0.0	32.0
113.00		1.00	1.30	32.217	35.44	345.29	0.600	0.000	1.00	3.000	1.80	102.1	0.0	64.0
114.00		1.00	1.30	32.277	35.50	345.61	0.600	0.000	1.00	3.000	1.80	102.3	0.0	64.0
115.00	Appurtenance(s)	1.00	1.30	32.336	35.57	345.93	0.600	0.000	1.00	3.000	1.80	102.4	0.0	64.0
116.00		1.00	1.31	32.395	35.63	346.24	0.600	0.000	1.00	3.000	1.80	102.6	0.0	64.0
117.00		1.00	1.31	32.454	35.70	346.55	0.600	0.000	1.00	3.000	1.80	102.8	0.0	64.0
118.00		1.00	1.31	32.512	35.76	346.87	0.600	0.000	1.00	3.000	1.80	103.0	0.0	64.0
119.00		1.00	1.31	32.570	35.83	347.17	0.600	0.000	1.00	3.000	1.80	103.2	0.0	64.0
120.00	Appurtenance(s)	1.00	1.32	32.627	35.89	347.48	0.600	0.000	1.00	3.000	1.80	103.4	0.0	64.0
121.00		1.00	1.32	32.684	35.95	347.78	0.600	0.000	1.00	3.000	1.80	103.5	0.0	64.0
122.00		1.00	1.32	32.741	36.01	348.08	0.600	0.000	1.00	3.000	1.80	103.7	0.0	64.0
123.00		1.00	1.32	32.797	36.08	348.38	0.600	0.000	1.00	3.000	1.80	103.9	0.0	64.0
124.00		1.00	1.32	32.853	36.14	348.68	0.600	0.000	1.00	3.000	1.80	104.1	0.0	64.0
125.00		1.00	1.33	32.909	36.20	348.98	0.600	0.000	1.00	3.000	1.80	104.3	0.0	64.0
126.00		1.00	1.33	32.964	36.26	349.27	0.600	0.000	1.00	3.000	1.80	104.4	0.0	64.0
127.00	Appurtenance(s)	1.00	1.33	33.019	36.32	349.56	0.600	0.000	1.00	3.000	1.80	104.6	0.0	64.0
128.00		1.00	1.33	33.073	36.38	349.85	0.600	0.000	1.00	3.000	1.80	104.8	0.0	64.0
129.00		1.00	1.34	33.128	36.44	350.13	0.600	0.000	1.00	3.000	1.80	104.9	0.0	64.0
130.00	Top - Section 6	1.00	1.34	33.182	36.50	350.42	0.600	0.000	1.00	3.000	1.80	105.1	0.0	64.0
131.00		1.00	1.34	33.235	36.56	350.70	0.600	0.000	1.00	3.000	1.80	105.3	0.0	34.4
132.00		1.00	1.34	33.288	36.62	350.98	0.600	0.000	1.00	3.000	1.80	105.5	0.0	34.4
133.00		1.00	1.34	33.341	36.68	351.26	0.600	0.000	1.00	3.000	1.80	105.6	0.0	34.4
134.00		1.00	1.35	33.394	36.73	351.54	0.600	0.000	1.00	3.000	1.80	105.8	0.0	34.4
135.00	Appurtenance(s)	1.00	1.35	33.446	36.79	351.81	0.600	0.000	1.00	3.000	1.80	106.0	0.0	34.4
136.00		1.00	1.35	33.498	36.85	352.09	0.600	0.000	1.00	3.000	1.80	106.1	0.0	34.4
137.00		1.00	1.35	33.550	36.90	352.36	0.600	0.000	1.00	3.000	1.80	106.3	0.0	34.4
138.00		1.00	1.35	33.601	36.96	352.63	0.600	0.000	1.00	3.000	1.80	106.4	0.0	34.4
139.00		1.00	1.36	33.653	37.02	352.90	0.600	0.000	1.00	3.000	1.80	106.6	0.0	34.4
140.00	Appurtenance(s)	1.00	1.36	33.703	37.07	353.16	0.600	0.000	1.00	3.000	1.80	106.8	0.0	34.4
141.00		1.00	1.36	33.754	37.13	353.43	0.600	0.000	1.00	3.000	1.80	106.9	0.0	34.4
142.00		1.00	1.36	33.804	37.18	353.69	0.600	0.000	1.00	3.000	1.80	107.1	0.0	34.4
143.00		1.00	1.36	33.854	37.24	353.95	0.600	0.000	1.00	3.000	1.80	107.2	0.0	34.4
144.00		1.00	1.37	33.904	37.29	354.21	0.600	0.000	1.00	3.000	1.80	107.4	0.0	34.4
145.00	Appurtenance(s)	1.00	1.37	33.953	37.35	354.47	0.600	0.000	1.00	3.000	1.80	107.6	0.0	34.4
146.00		1.00	1.37	34.002	37.40	354.73	0.600	0.000	1.00	3.000	1.80	107.7	0.0	34.4
147.00		1.00	1.37	34.051	37.46	354.98	0.600	0.000	1.00	3.000	1.80	107.9	0.0	34.4
148.00		1.00	1.37	34.100	37.51	355.24	0.600	0.000	1.00	3.000	1.80	108.0	0.0	34.4
149.00		1.00	1.38	34.148	37.56	355.49	0.600	0.000	1.00	3.000	1.80	108.2	0.0	34.4
150.00	Appurtenance(s)	1.00	1.38	34.196	37.62	355.74	0.600	0.000	1.00	3.000	1.80	108.3	0.0	34.4
								Totals:	**150.00**			**11,396.8**		**12,875.5**

Discrete Appurtenance Forces

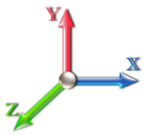
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 43

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	150.00	36" Canister Weight	1	34.196	37.616	1.00	1.00	0.00	58.11	0.000	0.000	0.00	0.00	0.00
2	150.00	Truck Ball	1	34.220	37.642	1.00	1.00	1.41	4.50	0.000	0.500	84.92	0.00	42.46
3	145.00	CDX623T-DS	6	33.953	37.349	0.00	1.00	0.00	54.54	0.000	0.000	0.00	0.00	0.00
4	145.00	FFVV-65B-R3	3	33.953	37.349	0.00	1.00	0.00	118.26	0.000	0.000	0.00	0.00	0.00
5	140.00	36" Canister Weight	1	33.703	37.074	1.00	1.00	0.00	116.23	0.000	0.000	0.00	0.00	0.00
6	140.00	Flag	1	33.703	37.074	1.00	1.00	6.89	22.50	0.000	0.000	408.70	0.00	0.00
7	135.00	Flush Mount	1	33.446	36.791	0.00	1.00	0.00	22.50	0.000	0.000	0.00	0.00	0.00
8	135.00	DB-T1-6Z-8AB-0Z	2	33.446	36.791	0.00	1.00	0.00	34.02	0.000	0.000	0.00	0.00	0.00
9	135.00	FDL85002/1C-3L	6	33.446	36.791	0.00	1.00	0.00	37.80	0.000	0.000	0.00	0.00	0.00
10	135.00	SBNHH-1D65A	3	33.446	36.791	0.00	1.00	0.00	90.45	0.000	0.000	0.00	0.00	0.00
11	130.00	36" Canister Weight	1	33.182	36.500	1.00	1.00	0.00	116.23	0.000	0.000	0.00	0.00	0.00
12	127.00	Flush Mount	1	33.019	36.321	0.00	1.00	0.00	22.50	0.000	0.000	0.00	0.00	0.00
13	127.00	D2WC-21 (2LB+4MB)	3	33.019	36.321	0.00	1.00	0.00	83.43	0.000	0.000	0.00	0.00	0.00
14	127.00	ATSBT-TOP-FM	3	33.019	36.321	0.00	1.00	0.00	4.86	0.000	0.000	0.00	0.00	0.00
15	127.00	CBC426T-DS-43	6	33.019	36.321	0.00	1.00	0.00	39.42	0.000	0.000	0.00	0.00	0.00
16	120.00	36" Canister Weight	1	32.627	35.890	1.00	1.00	0.00	116.23	0.000	0.000	0.00	0.00	0.00
17	115.00	Flush Mount	1	32.336	35.570	0.00	1.00	0.00	22.50	0.000	0.000	0.00	0.00	0.00
18	115.00	LGP21401	6	32.336	35.570	0.00	1.00	0.00	76.14	0.000	0.000	0.00	0.00	0.00
19	115.00	7770.00	3	32.336	35.570	0.00	1.00	0.00	94.50	0.000	0.000	0.00	0.00	0.00
20	110.00	36" Canister Weight	1	32.035	35.238	1.00	1.00	0.00	69.73	0.000	0.000	0.00	0.00	0.00
21	108.00	36" Canister Weight	1	31.911	35.103	1.00	1.00	0.00	11.62	0.000	0.000	0.00	0.00	0.00
22	75.00	GPS	1	29.553	32.509	0.80	0.80	0.80	9.00	0.000	0.000	41.61	0.00	0.00
							Totals:		**1,225.06**			**535.23**		

Total Applied Force Summary

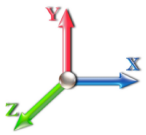
Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 25

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 43

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		66.81	160.41	0.00	0.00
2.00		66.81	160.41	0.00	0.00
3.00		66.81	160.41	0.00	0.00
4.00		66.81	160.41	0.00	0.00
5.00		66.81	160.41	0.00	0.00
6.00		66.81	160.41	0.00	0.00
7.00		66.81	160.41	0.00	0.00
8.00		66.81	160.41	0.00	0.00
9.00		66.81	160.41	0.00	0.00
10.00		66.81	160.41	0.00	0.00
11.00		66.81	160.41	0.00	0.00
12.00		66.81	160.41	0.00	0.00
13.00		66.81	160.41	0.00	0.00
14.00		66.81	160.41	0.00	0.00
15.00		66.81	160.41	0.00	0.00
16.00		67.63	160.41	0.00	0.00
17.00		68.50	160.41	0.00	0.00
18.00		69.33	160.41	0.00	0.00
19.00		70.12	160.41	0.00	0.00
20.00		70.88	160.41	0.00	0.00
21.00		59.68	138.76	0.00	0.00
22.00		60.27	138.76	0.00	0.00
23.00		60.83	138.76	0.00	0.00
24.00		61.38	138.76	0.00	0.00
25.00		61.91	138.76	0.00	0.00
26.00		62.42	138.76	0.00	0.00
27.00		62.92	138.76	0.00	0.00
28.00		63.41	138.76	0.00	0.00
29.00		63.88	138.76	0.00	0.00
30.00		64.33	138.76	0.00	0.00
31.00		64.78	138.76	0.00	0.00
32.00		65.21	138.76	0.00	0.00
33.00		65.64	138.76	0.00	0.00
34.00		66.05	138.76	0.00	0.00
35.00		66.45	138.76	0.00	0.00
36.00		66.85	138.76	0.00	0.00
37.00		67.24	138.76	0.00	0.00
38.00		67.62	138.76	0.00	0.00
39.00		67.99	138.76	0.00	0.00
40.00		68.35	138.76	0.00	0.00
41.00		68.71	138.76	0.00	0.00
42.00		69.06	138.76	0.00	0.00
43.00		69.40	138.76	0.00	0.00
44.00		69.73	138.76	0.00	0.00
45.00		70.07	138.76	0.00	0.00
46.00		70.39	138.76	0.00	0.00

Total Applied Force Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 26

47.00		70.71	138.76	0.00	0.00
48.00		71.02	138.76	0.00	0.00
49.00		71.33	138.76	0.00	0.00
50.00		71.64	138.76	0.00	0.00
51.00		57.55	117.12	0.00	0.00
52.00		57.78	117.12	0.00	0.00
53.00		58.02	117.12	0.00	0.00
54.00		58.25	117.12	0.00	0.00
55.00		58.47	117.12	0.00	0.00
56.00		58.69	117.12	0.00	0.00
57.00		58.91	117.12	0.00	0.00
58.00		59.13	117.12	0.00	0.00
59.00		59.34	117.12	0.00	0.00
60.00		59.55	117.12	0.00	0.00
61.00		59.76	117.12	0.00	0.00
62.00		59.96	117.12	0.00	0.00
63.00		60.17	117.12	0.00	0.00
64.00		60.37	117.12	0.00	0.00
65.00		60.56	117.12	0.00	0.00
66.00		60.76	117.12	0.00	0.00
67.00		60.95	117.12	0.00	0.00
68.00		61.14	117.12	0.00	0.00
69.00		61.33	117.12	0.00	0.00
70.00		61.52	117.12	0.00	0.00
71.00		61.70	117.12	0.00	0.00
72.00		61.88	117.12	0.00	0.00
73.00		62.06	117.12	0.00	0.00
74.00		62.24	117.12	0.00	0.00
75.00	(1) attachments	104.03	126.12	0.00	0.00
76.00		62.59	116.97	0.00	0.00
77.00		62.76	116.97	0.00	0.00
78.00		62.93	116.97	0.00	0.00
79.00		63.10	116.97	0.00	0.00
80.00		63.27	116.97	0.00	0.00
81.00		63.44	116.97	0.00	0.00
82.00		63.60	116.97	0.00	0.00
83.00		63.76	116.97	0.00	0.00
84.00		63.92	116.97	0.00	0.00
85.00		64.08	116.97	0.00	0.00
86.00		64.24	116.97	0.00	0.00
87.00		64.40	116.97	0.00	0.00
88.00		64.55	116.97	0.00	0.00
89.00		64.71	116.97	0.00	0.00
90.00		64.86	116.97	0.00	0.00
91.00		65.01	116.97	0.00	0.00
92.00		65.16	116.97	0.00	0.00
93.00		65.31	116.97	0.00	0.00
94.00		65.46	116.97	0.00	0.00
95.00		65.60	116.97	0.00	0.00
96.00		65.75	116.97	0.00	0.00
97.00		65.89	116.97	0.00	0.00
98.00		66.03	116.97	0.00	0.00
99.00		66.17	116.97	0.00	0.00
100.00		66.31	116.97	0.00	0.00
101.00		66.45	116.97	0.00	0.00
102.00		66.59	116.97	0.00	0.00
103.00		66.73	116.97	0.00	0.00

Total Applied Force Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 27

104.00		66.86	116.97	0.00	0.00
105.00		67.00	116.97	0.00	0.00
106.00		67.13	116.97	0.00	0.00
107.00		67.27	116.97	0.00	0.00
108.00	(1) attachments	67.40	128.59	0.00	0.00
109.00		101.29	125.61	0.00	0.00
110.00	(1) attachments	101.49	195.34	0.00	0.00
111.00		101.68	95.70	0.00	0.00
111.50		50.89	47.85	0.00	0.00
112.00		50.94	47.85	0.00	0.00
113.00		102.06	95.70	0.00	0.00
114.00		102.25	95.70	0.00	0.00
115.00	(10) attachments	102.44	288.84	0.00	0.00
116.00		102.63	90.40	0.00	0.00
117.00		102.81	90.40	0.00	0.00
118.00		103.00	90.40	0.00	0.00
119.00		103.18	90.40	0.00	0.00
120.00	(1) attachments	103.36	206.63	0.00	0.00
121.00		103.54	90.40	0.00	0.00
122.00		103.72	90.40	0.00	0.00
123.00		103.90	90.40	0.00	0.00
124.00		104.08	90.40	0.00	0.00
125.00		104.25	90.40	0.00	0.00
126.00		104.43	90.40	0.00	0.00
127.00	(13) attachments	104.60	240.61	0.00	0.00
128.00		104.78	82.36	0.00	0.00
129.00		104.95	82.36	0.00	0.00
130.00	(1) attachments	105.12	198.58	0.00	0.00
131.00		105.29	52.78	0.00	0.00
132.00		105.46	52.78	0.00	0.00
133.00		105.63	52.78	0.00	0.00
134.00		105.79	52.78	0.00	0.00
135.00	(12) attachments	105.96	237.55	0.00	0.00
136.00		106.12	45.61	0.00	0.00
137.00		106.29	45.61	0.00	0.00
138.00		106.45	45.61	0.00	0.00
139.00		106.61	45.61	0.00	0.00
140.00	(2) attachments	515.47	184.34	0.00	0.00
141.00		106.93	45.61	0.00	0.00
142.00		107.09	45.61	0.00	0.00
143.00		107.25	45.61	0.00	0.00
144.00		107.41	45.61	0.00	0.00
145.00	(9) attachments	107.56	218.41	0.00	0.00
146.00		107.72	34.38	0.00	0.00
147.00		107.87	34.38	0.00	0.00
148.00		108.03	34.38	0.00	0.00
149.00		108.18	34.38	0.00	0.00
150.00	(2) attachments	193.26	96.99	0.00	42.46
	Totals:	**11,932.05**	**18,337.59**	**0.00**	**42.46**

Linear Appurtenance Segment Forces (Factored)

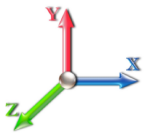
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 43

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
18.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.028	0.000	21.884	0.00	0.00
19.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.028	0.000	22.134	0.00	0.00
20.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.028	0.000	22.375	0.00	0.00
21.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.033	0.000	22.606	0.00	0.00
22.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.033	0.000	22.828	0.00	0.00
23.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.033	0.000	23.043	0.00	0.00
										Totals:	**0.0**	**0.0**

Calculated Forces

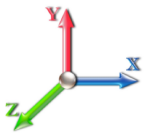
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 43

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	-18.33	-11.94	0.00	-1073.6	0.00	1073.68	1490.10	745.05	2187.51	1339.68	0.00	0.000	0.000	0.814
1.00	-18.16	-11.89	0.00	-1061.7	0.00	1061.75	1490.10	745.05	2187.51	1339.68	0.01	-0.046	0.000	0.805
2.00	-17.99	-11.83	0.00	-1049.8	0.00	1049.86	1490.10	745.05	2187.51	1339.68	0.02	-0.091	0.000	0.796
3.00	-17.82	-11.78	0.00	-1038.0	0.00	1038.03	1490.10	745.05	2187.51	1339.68	0.04	-0.135	0.000	0.787
4.00	-17.65	-11.73	0.00	-1026.2	0.00	1026.25	1490.10	745.05	2187.51	1339.68	0.08	-0.179	0.000	0.778
5.00	-17.49	-11.67	0.00	-1014.5	0.00	1014.52	1490.10	745.05	2187.51	1339.68	0.12	-0.223	0.000	0.769
6.00	-17.32	-11.62	0.00	-1002.8	0.00	1002.85	1490.10	745.05	2187.51	1339.68	0.17	-0.266	0.000	0.760
7.00	-17.15	-11.56	0.00	-991.23	0.00	991.23	1490.10	745.05	2187.51	1339.68	0.23	-0.309	0.000	0.752
8.00	-16.98	-11.51	0.00	-979.67	0.00	979.67	1490.10	745.05	2187.51	1339.68	0.30	-0.351	0.000	0.743
9.00	-16.81	-11.45	0.00	-968.16	0.00	968.16	1490.10	745.05	2187.51	1339.68	0.38	-0.392	0.000	0.734
10.00	-16.64	-11.40	0.00	-956.71	0.00	956.71	1490.10	745.05	2187.51	1339.68	0.46	-0.433	0.000	0.726
11.00	-16.48	-11.34	0.00	-945.31	0.00	945.31	1490.10	745.05	2187.51	1339.68	0.56	-0.474	0.000	0.717
12.00	-16.31	-11.28	0.00	-933.97	0.00	933.97	1490.10	745.05	2187.51	1339.68	0.66	-0.514	0.000	0.708
13.00	-16.14	-11.23	0.00	-922.69	0.00	922.69	1490.10	745.05	2187.51	1339.68	0.78	-0.554	0.000	0.700
14.00	-15.97	-11.17	0.00	-911.47	0.00	911.47	1490.10	745.05	2187.51	1339.68	0.90	-0.593	0.000	0.691
15.00	-15.81	-11.11	0.00	-900.30	0.00	900.30	1490.10	745.05	2187.51	1339.68	1.02	-0.631	0.000	0.683
16.00	-15.64	-11.05	0.00	-889.19	0.00	889.19	1490.10	745.05	2187.51	1339.68	1.16	-0.670	0.000	0.674
17.00	-15.47	-10.99	0.00	-878.14	0.00	878.14	1490.10	745.05	2187.51	1339.68	1.31	-0.707	0.000	0.666
18.00	-15.31	-10.93	0.00	-867.15	0.00	867.15	1490.10	745.05	2187.51	1339.68	1.46	-0.745	0.000	0.658
19.00	-15.14	-10.87	0.00	-856.22	0.00	856.22	1490.10	745.05	2187.51	1339.68	1.62	-0.781	0.000	0.649
20.00	-14.97	-10.80	0.00	-845.35	0.00	845.35	1490.10	745.05	2187.51	1339.68	1.79	-0.818	0.000	0.641
20.00	-14.97	-10.80	0.00	-845.35	0.00	845.35	1311.06	655.53	1597.15	948.43	1.79	-0.818	0.000	0.903
21.00	-14.83	-10.75	0.00	-834.55	0.00	834.55	1311.06	655.53	1597.15	948.43	1.96	-0.854	0.000	0.892
22.00	-14.68	-10.71	0.00	-823.80	0.00	823.80	1311.06	655.53	1597.15	948.43	2.15	-0.915	0.000	0.880
23.00	-14.53	-10.66	0.00	-813.09	0.00	813.09	1311.06	655.53	1597.15	948.43	2.34	-0.976	0.000	0.869
24.00	-14.38	-10.61	0.00	-802.43	0.00	802.43	1311.06	655.53	1597.15	948.43	2.56	-1.036	0.000	0.857
25.00	-14.23	-10.56	0.00	-791.82	0.00	791.82	1311.06	655.53	1597.15	948.43	2.78	-1.095	0.000	0.846
26.00	-14.08	-10.51	0.00	-781.26	0.00	781.26	1311.06	655.53	1597.15	948.43	3.01	-1.154	0.000	0.835
27.00	-13.93	-10.46	0.00	-770.75	0.00	770.75	1311.06	655.53	1597.15	948.43	3.26	-1.211	0.000	0.824
28.00	-13.79	-10.40	0.00	-760.30	0.00	760.30	1311.06	655.53	1597.15	948.43	3.52	-1.268	0.000	0.812
29.00	-13.64	-10.35	0.00	-749.89	0.00	749.89	1311.06	655.53	1597.15	948.43	3.79	-1.324	0.000	0.801
30.00	-13.49	-10.30	0.00	-739.54	0.00	739.54	1311.06	655.53	1597.15	948.43	4.08	-1.379	0.000	0.790
31.00	-13.35	-10.24	0.00	-729.24	0.00	729.24	1311.06	655.53	1597.15	948.43	4.37	-1.434	0.000	0.779
32.00	-13.20	-10.18	0.00	-719.00	0.00	719.00	1311.06	655.53	1597.15	948.43	4.68	-1.488	0.000	0.768
33.00	-13.05	-10.13	0.00	-708.82	0.00	708.82	1311.06	655.53	1597.15	948.43	5.00	-1.541	0.000	0.758
34.00	-12.91	-10.07	0.00	-698.69	0.00	698.69	1311.06	655.53	1597.15	948.43	5.32	-1.593	0.000	0.747
35.00	-12.76	-10.01	0.00	-688.62	0.00	688.62	1311.06	655.53	1597.15	948.43	5.66	-1.644	0.000	0.736
36.00	-12.62	-9.95	0.00	-678.61	0.00	678.61	1311.06	655.53	1597.15	948.43	6.01	-1.695	0.000	0.725
37.00	-12.47	-9.89	0.00	-668.66	0.00	668.66	1311.06	655.53	1597.15	948.43	6.37	-1.745	0.000	0.715
38.00	-12.33	-9.83	0.00	-658.77	0.00	658.77	1311.06	655.53	1597.15	948.43	6.74	-1.794	0.000	0.704
39.00	-12.18	-9.77	0.00	-648.95	0.00	648.95	1311.06	655.53	1597.15	948.43	7.13	-1.843	0.000	0.694
40.00	-12.04	-9.70	0.00	-639.18	0.00	639.18	1311.06	655.53	1597.15	948.43	7.52	-1.891	0.000	0.683
41.00	-11.89	-9.64	0.00	-629.48	0.00	629.48	1311.06	655.53	1597.15	948.43	7.92	-1.938	0.000	0.673
42.00	-11.75	-9.58	0.00	-619.84	0.00	619.84	1311.06	655.53	1597.15	948.43	8.33	-1.984	0.000	0.663
43.00	-11.60	-9.51	0.00	-610.26	0.00	610.26	1311.06	655.53	1597.15	948.43	8.75	-2.030	0.000	0.653
44.00	-11.46	-9.44	0.00	-600.75	0.00	600.75	1311.06	655.53	1597.15	948.43	9.18	-2.075	0.000	0.642
45.00	-11.32	-9.38	0.00	-591.31	0.00	591.31	1311.06	655.53	1597.15	948.43	9.62	-2.119	0.000	0.632
46.00	-11.17	-9.31	0.00	-581.93	0.00	581.93	1311.06	655.53	1597.15	948.43	10.07	-2.163	0.000	0.622

Calculated Forces

Structure:	CT04374-S-SBA					**Code:**	EIA/TIA-222-G				1/21/2022			
Site Name:	Central Hebron					**Exposure:**	C							
Height:	150.00 (ft)					**Crest Height:**	0.00							
Base Elev:	0.000 (ft)					**Site Class:**	D - Stiff Soil							
Gh:	1.1			**Topography:**	1	**Struct Class:**	II				Page: 30			

47.00	-11.03	-9.24	0.00	-572.62	0.00	572.62	1311.06	655.53	1597.15	948.43	10.52	-2.206	0.000	0.612
48.00	-10.89	-9.17	0.00	-563.38	0.00	563.38	1311.06	655.53	1597.15	948.43	10.99	-2.248	0.000	0.603
49.00	-10.75	-9.11	0.00	-554.20	0.00	554.20	1311.06	655.53	1597.15	948.43	11.47	-2.289	0.000	0.593
50.00	-10.60	-9.04	0.00	-545.10	0.00	545.10	1311.06	655.53	1597.15	948.43	11.95	-2.330	0.000	0.583
50.00	-10.60	-9.04	0.00	-545.10	0.00	545.10	1052.07	526.04	1018.84	624.04	11.95	-2.330	0.000	0.884
51.00	-10.48	-8.98	0.00	-536.06	0.00	536.06	1052.07	526.04	1018.84	624.04	12.44	-2.370	0.000	0.869
52.00	-10.35	-8.94	0.00	-527.07	0.00	527.07	1052.07	526.04	1018.84	624.04	12.95	-2.448	0.000	0.855
53.00	-10.23	-8.89	0.00	-518.14	0.00	518.14	1052.07	526.04	1018.84	624.04	13.47	-2.525	0.000	0.840
54.00	-10.10	-8.84	0.00	-509.25	0.00	509.25	1052.07	526.04	1018.84	624.04	14.00	-2.600	0.000	0.826
55.00	-9.98	-8.79	0.00	-500.42	0.00	500.42	1052.07	526.04	1018.84	624.04	14.56	-2.674	0.000	0.812
56.00	-9.85	-8.73	0.00	-491.63	0.00	491.63	1052.07	526.04	1018.84	624.04	15.12	-2.746	0.000	0.797
57.00	-9.73	-8.68	0.00	-482.90	0.00	482.90	1052.07	526.04	1018.84	624.04	15.71	-2.818	0.000	0.783
58.00	-9.60	-8.63	0.00	-474.22	0.00	474.22	1052.07	526.04	1018.84	624.04	16.30	-2.888	0.000	0.769
59.00	-9.48	-8.57	0.00	-465.59	0.00	465.59	1052.07	526.04	1018.84	624.04	16.92	-2.956	0.000	0.755
60.00	-9.35	-8.52	0.00	-457.02	0.00	457.02	1052.07	526.04	1018.84	624.04	17.54	-3.024	0.000	0.742
61.00	-9.23	-8.46	0.00	-448.50	0.00	448.50	1052.07	526.04	1018.84	624.04	18.18	-3.090	0.000	0.728
62.00	-9.11	-8.41	0.00	-440.03	0.00	440.03	1052.07	526.04	1018.84	624.04	18.84	-3.155	0.000	0.714
63.00	-8.98	-8.35	0.00	-431.63	0.00	431.63	1052.07	526.04	1018.84	624.04	19.50	-3.219	0.000	0.700
64.00	-8.86	-8.29	0.00	-423.28	0.00	423.28	1052.07	526.04	1018.84	624.04	20.19	-3.282	0.000	0.687
65.00	-8.74	-8.24	0.00	-414.98	0.00	414.98	1052.07	526.04	1018.84	624.04	20.88	-3.343	0.000	0.674
66.00	-8.62	-8.18	0.00	-406.75	0.00	406.75	1052.07	526.04	1018.84	624.04	21.59	-3.403	0.000	0.660
67.00	-8.50	-8.12	0.00	-398.57	0.00	398.57	1052.07	526.04	1018.84	624.04	22.30	-3.462	0.000	0.647
68.00	-8.38	-8.06	0.00	-390.45	0.00	390.45	1052.07	526.04	1018.84	624.04	23.03	-3.520	0.000	0.634
69.00	-8.25	-8.00	0.00	-382.39	0.00	382.39	1052.07	526.04	1018.84	624.04	23.78	-3.577	0.000	0.621
70.00	-8.13	-7.94	0.00	-374.40	0.00	374.40	1052.07	526.04	1018.84	624.04	24.53	-3.632	0.000	0.608
71.00	-8.01	-7.88	0.00	-366.46	0.00	366.46	1052.07	526.04	1018.84	624.04	25.30	-3.686	0.000	0.595
72.00	-7.89	-7.81	0.00	-358.58	0.00	358.58	1052.07	526.04	1018.84	624.04	26.08	-3.739	0.000	0.582
73.00	-7.77	-7.75	0.00	-350.77	0.00	350.77	1052.07	526.04	1018.84	624.04	26.86	-3.791	0.000	0.570
74.00	-7.65	-7.69	0.00	-343.02	0.00	343.02	1052.07	526.04	1018.84	624.04	27.66	-3.842	0.000	0.557
75.00	-7.53	-7.58	0.00	-335.33	0.00	335.33	1052.07	526.04	1018.84	624.04	28.47	-3.892	0.000	0.545
76.00	-7.41	-7.52	0.00	-327.75	0.00	327.75	1052.07	526.04	1018.84	624.04	29.29	-3.940	0.000	0.532
77.00	-7.29	-7.45	0.00	-320.23	0.00	320.23	1052.07	526.04	1018.84	624.04	30.12	-3.988	0.000	0.520
78.00	-7.17	-7.39	0.00	-312.78	0.00	312.78	1052.07	526.04	1018.84	624.04	30.96	-4.034	0.000	0.508
79.00	-7.06	-7.32	0.00	-305.39	0.00	305.39	1052.07	526.04	1018.84	624.04	31.81	-4.079	0.000	0.496
80.00	-6.94	-7.26	0.00	-298.07	0.00	298.07	1052.07	526.04	1018.84	624.04	32.67	-4.123	0.000	0.484
80.00	-6.94	-7.26	0.00	-298.07	0.00	298.07	1052.07	526.04	1018.84	624.04	32.67	-4.123	0.000	0.484
81.00	-6.82	-7.19	0.00	-290.82	0.00	290.82	1052.07	526.04	1018.84	624.04	33.54	-4.166	0.000	0.473
82.00	-6.70	-7.12	0.00	-283.63	0.00	283.63	1052.07	526.04	1018.84	624.04	34.41	-4.208	0.000	0.461
83.00	-6.59	-7.05	0.00	-276.51	0.00	276.51	1052.07	526.04	1018.84	624.04	35.30	-4.249	0.000	0.450
84.00	-6.47	-6.99	0.00	-269.45	0.00	269.45	1052.07	526.04	1018.84	624.04	36.19	-4.289	0.000	0.438
85.00	-6.35	-6.92	0.00	-262.47	0.00	262.47	1052.07	526.04	1018.84	624.04	37.09	-4.328	0.000	0.427
86.00	-6.24	-6.85	0.00	-255.55	0.00	255.55	1052.07	526.04	1018.84	624.04	38.00	-4.366	0.000	0.416
87.00	-6.12	-6.78	0.00	-248.70	0.00	248.70	1052.07	526.04	1018.84	624.04	38.92	-4.403	0.000	0.405
88.00	-6.01	-6.71	0.00	-241.92	0.00	241.92	1052.07	526.04	1018.84	624.04	39.85	-4.439	0.000	0.394
89.00	-5.89	-6.64	0.00	-235.21	0.00	235.21	1052.07	526.04	1018.84	624.04	40.78	-4.474	0.000	0.383
90.00	-5.77	-6.57	0.00	-228.57	0.00	228.57	1052.07	526.04	1018.84	624.04	41.72	-4.508	0.000	0.372
91.00	-5.66	-6.50	0.00	-222.00	0.00	222.00	1052.07	526.04	1018.84	624.04	42.67	-4.541	0.000	0.361
92.00	-5.54	-6.43	0.00	-215.50	0.00	215.50	1052.07	526.04	1018.84	624.04	43.62	-4.573	0.000	0.351
93.00	-5.43	-6.36	0.00	-209.08	0.00	209.08	1052.07	526.04	1018.84	624.04	44.58	-4.604	0.000	0.340
94.00	-5.32	-6.28	0.00	-202.72	0.00	202.72	1052.07	526.04	1018.84	624.04	45.55	-4.634	0.000	0.330
95.00	-5.20	-6.21	0.00	-196.44	0.00	196.44	1052.07	526.04	1018.84	624.04	46.52	-4.663	0.000	0.320
96.00	-5.09	-6.14	0.00	-190.23	0.00	190.23	1052.07	526.04	1018.84	624.04	47.50	-4.692	0.000	0.310
97.00	-4.97	-6.07	0.00	-184.09	0.00	184.09	1052.07	526.04	1018.84	624.04	48.48	-4.719	0.000	0.300
98.00	-4.86	-5.99	0.00	-178.02	0.00	178.02	1052.07	526.04	1018.84	624.04	49.47	-4.746	0.000	0.290
99.00	-4.75	-5.92	0.00	-172.03	0.00	172.03	1052.07	526.04	1018.84	624.04	50.47	-4.771	0.000	0.280
100.00	-4.63	-5.85	0.00	-166.11	0.00	166.11	1052.07	526.04	1018.84	624.04	51.47	-4.796	0.000	0.271
101.00	-4.52	-5.77	0.00	-160.26	0.00	160.26	1052.07	526.04	1018.84	624.04	52.48	-4.820	0.000	0.261

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 31

TES Tower Engineering Solutions

102.00	-4.41	-5.70	0.00	-154.49	0.00	154.49	1052.07	526.04	1018.84	624.04	53.49	-4.843	0.000	0.252
103.00	-4.29	-5.62	0.00	-148.80	0.00	148.80	1052.07	526.04	1018.84	624.04	54.50	-4.865	0.000	0.243
104.00	-4.18	-5.55	0.00	-143.17	0.00	143.17	1052.07	526.04	1018.84	624.04	55.52	-4.887	0.000	0.234
105.00	-4.07	-5.47	0.00	-137.63	0.00	137.63	1052.07	526.04	1018.84	624.04	56.55	-4.907	0.000	0.225
106.00	-3.95	-5.40	0.00	-132.15	0.00	132.15	1052.07	526.04	1018.84	624.04	57.58	-4.927	0.000	0.216
107.00	-3.84	-5.32	0.00	-126.76	0.00	126.76	1052.07	526.04	1018.84	624.04	58.61	-4.946	0.000	0.207
108.00	-3.72	-5.24	0.00	-121.44	0.00	121.44	1052.07	526.04	1018.84	624.04	59.64	-4.964	0.000	0.198
108.00	-3.72	-5.24	0.00	-121.44	0.00	121.44	1052.07	526.04	1018.84	624.04	59.64	-4.964	0.000	0.198
109.00	-3.60	-5.13	0.00	-116.19	0.00	116.19	1052.07	526.04	1018.84	624.04	60.68	-4.981	0.000	0.190
110.00	-3.41	-5.02	0.00	-111.06	0.00	111.06	1052.07	526.04	1018.84	624.04	61.73	-4.998	0.000	0.113
110.00	-3.41	-5.02	0.00	-111.06	0.00	111.06	682.83	341.41	139.27	105.20	61.73	-4.998	0.000	0.028
111.00	-3.32	-4.91	0.00	-106.05	0.00	106.05	682.83	341.41	139.27	105.20	62.78	-5.008	0.000	0.271
111.50	-3.28	-4.86	0.00	-103.59	0.00	103.59	682.83	341.41	139.27	105.20	63.30	-5.061	0.000	0.265
111.50	-3.28	-4.86	0.00	-103.59	0.00	103.59	682.83	341.41	139.27	105.20	63.30	-5.061	0.000	0.265
112.00	-3.21	-4.81	0.00	-101.17	0.00	101.17	682.83	341.41	139.27	105.20	63.83	-5.113	0.000	0.967
113.00	-3.10	-4.72	0.00	-96.35	0.00	96.35	682.83	341.41	139.27	105.20	64.94	-5.489	0.000	0.921
114.00	-2.99	-4.63	0.00	-91.63	0.00	91.63	682.83	341.41	139.27	105.20	66.13	-5.847	0.000	0.876
115.00	-2.68	-4.51	0.00	-87.00	0.00	87.00	682.83	341.41	139.27	105.20	67.39	-6.187	0.000	0.831
116.00	-2.58	-4.41	0.00	-82.49	0.00	82.49	682.83	341.41	139.27	105.20	68.71	-6.510	0.000	0.788
117.00	-2.48	-4.32	0.00	-78.07	0.00	78.07	682.83	341.41	139.27	105.20	70.11	-6.815	0.000	0.746
118.00	-2.38	-4.21	0.00	-73.76	0.00	73.76	682.83	341.41	139.27	105.20	71.56	-7.104	0.000	0.705
119.00	-2.29	-4.11	0.00	-69.54	0.00	69.54	682.83	341.41	139.27	105.20	73.07	-7.377	0.000	0.665
120.00	-2.08	-3.99	0.00	-65.43	0.00	65.43	682.83	341.41	139.27	105.20	74.64	-7.634	0.000	0.625
121.00	-1.99	-3.88	0.00	-61.44	0.00	61.44	682.83	341.41	139.27	105.20	76.26	-7.876	0.000	0.587
122.00	-1.90	-3.78	0.00	-57.56	0.00	57.56	682.83	341.41	139.27	105.20	77.93	-8.102	0.000	0.550
123.00	-1.81	-3.67	0.00	-53.78	0.00	53.78	682.83	341.41	139.27	105.20	79.64	-8.314	0.000	0.514
124.00	-1.72	-3.56	0.00	-50.12	0.00	50.12	682.83	341.41	139.27	105.20	81.40	-8.512	0.000	0.479
125.00	-1.64	-3.44	0.00	-46.56	0.00	46.56	682.83	341.41	139.27	105.20	83.20	-8.696	0.000	0.445
126.00	-1.56	-3.33	0.00	-43.12	0.00	43.12	682.83	341.41	139.27	105.20	85.03	-8.867	0.000	0.412
127.00	-1.33	-3.19	0.00	-39.79	0.00	39.79	682.83	341.41	139.27	105.20	86.89	-9.025	0.000	0.380
128.00	-1.25	-3.08	0.00	-36.59	0.00	36.59	682.83	341.41	139.27	105.20	88.79	-9.170	0.000	0.350
129.00	-1.18	-2.97	0.00	-33.51	0.00	33.51	682.83	341.41	139.27	105.20	90.72	-9.304	0.000	0.320
130.00	-1.00	-2.83	0.00	-30.54	0.00	30.54	682.83	341.41	139.27	105.20	92.67	-9.426	0.000	0.292
130.00	-1.00	-2.83	0.00	-30.54	0.00	30.54	317.71	158.85	76.59	52.28	92.67	-9.426	0.000	0.588
131.00	-0.96	-2.72	0.00	-27.71	0.00	27.71	317.71	158.85	76.59	52.28	94.65	-9.537	0.000	0.533
132.00	-0.91	-2.61	0.00	-24.99	0.00	24.99	317.71	158.85	76.59	52.28	96.66	-9.723	0.000	0.481
133.00	-0.87	-2.50	0.00	-22.37	0.00	22.37	317.71	158.85	76.59	52.28	98.70	-9.890	0.000	0.431
134.00	-0.83	-2.39	0.00	-19.87	0.00	19.87	317.71	158.85	76.59	52.28	100.78	-10.039	0.000	0.383
135.00	-0.61	-2.25	0.00	-17.48	0.00	17.48	317.71	158.85	76.59	52.28	102.88	-10.170	0.000	0.337
136.00	-0.58	-2.14	0.00	-15.23	0.00	15.23	317.71	158.85	76.59	52.28	105.02	-10.286	0.000	0.293
137.00	-0.55	-2.02	0.00	-13.10	0.00	13.10	317.71	158.85	76.59	52.28	107.17	-10.386	0.000	0.252
138.00	-0.53	-1.91	0.00	-11.07	0.00	11.07	317.71	158.85	76.59	52.28	109.34	-10.471	0.000	0.214
139.00	-0.50	-1.80	0.00	-9.16	0.00	9.16	317.71	158.85	76.59	52.28	111.53	-10.542	0.000	0.177
140.00	-0.41	-1.26	0.00	-7.37	0.00	7.37	317.71	158.85	76.59	52.28	113.73	-10.601	0.000	0.142
141.00	-0.38	-1.15	0.00	-6.11	0.00	6.11	317.71	158.85	76.59	52.28	115.94	-10.648	0.000	0.118
142.00	-0.36	-1.03	0.00	-4.96	0.00	4.96	317.71	158.85	76.59	52.28	118.17	-10.687	0.000	0.096
143.00	-0.33	-0.92	0.00	-3.93	0.00	3.93	317.71	158.85	76.59	52.28	120.40	-10.719	0.000	0.076
144.00	-0.31	-0.80	0.00	-3.01	0.00	3.01	317.71	158.85	76.59	52.28	122.63	-10.743	0.000	0.059
145.00	-0.11	-0.66	0.00	-2.21	0.00	2.21	317.71	158.85	76.59	52.28	124.87	-10.762	0.000	0.043
146.00	-0.10	-0.55	0.00	-1.55	0.00	1.55	317.71	158.85	76.59	52.28	127.11	-10.775	0.000	0.030
147.00	-0.09	-0.43	0.00	-1.00	0.00	1.00	317.71	158.85	76.59	52.28	129.36	-10.784	0.000	0.019
148.00	-0.07	-0.32	0.00	-0.57	0.00	0.57	317.71	158.85	76.59	52.28	131.60	-10.789	0.000	0.011
149.00	-0.06	-0.21	0.00	-0.25	0.00	0.25	317.71	158.85	76.59	52.28	133.85	-10.792	0.000	0.005
150.00	0.00	-0.19	0.00	-0.04	0.00	0.04	317.71	158.85	76.59	52.28	136.09	-10.793	0.000	0.001

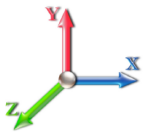
Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 44

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00		1.00	0.85	5.168	5.68	0.00	1.200	1.410	1.00	3.235	3.88	22.1	64.4	235.8
2.00		1.00	0.85	5.168	5.68	0.00	1.200	1.511	1.00	3.252	3.90	22.2	69.2	240.6
3.00		1.00	0.85	5.168	5.68	0.00	1.200	1.574	1.00	3.262	3.91	22.3	72.2	243.6
4.00		1.00	0.85	5.168	5.68	0.00	1.200	1.620	1.00	3.270	3.92	22.3	74.4	245.8
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	1.00	3.276	3.93	22.3	76.2	247.6
6.00		1.00	0.85	5.168	5.68	0.00	1.200	1.687	1.00	3.281	3.94	22.4	77.7	249.0
7.00		1.00	0.85	5.168	5.68	0.00	1.200	1.713	1.00	3.285	3.94	22.4	78.9	250.3
8.00		1.00	0.85	5.168	5.68	0.00	1.200	1.736	1.00	3.289	3.95	22.4	80.0	251.4
9.00		1.00	0.85	5.168	5.68	0.00	1.200	1.756	1.00	3.293	3.95	22.5	81.0	252.4
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	1.00	3.296	3.95	22.5	81.9	253.3
11.00		1.00	0.85	5.168	5.68	0.00	1.200	1.792	1.00	3.299	3.96	22.5	82.7	254.1
12.00		1.00	0.85	5.168	5.68	0.00	1.200	1.808	1.00	3.301	3.96	22.5	83.5	254.9
13.00		1.00	0.85	5.168	5.68	0.00	1.200	1.822	1.00	3.304	3.96	22.5	84.2	255.6
14.00		1.00	0.85	5.168	5.68	0.00	1.200	1.836	1.00	3.306	3.97	22.6	84.9	256.2
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	1.00	3.308	3.97	22.6	85.5	256.8
16.00		1.00	0.86	5.232	5.76	0.00	1.200	1.860	1.00	3.310	3.97	22.9	86.0	257.4
17.00		1.00	0.87	5.299	5.83	0.00	1.200	1.872	1.00	3.312	3.97	23.2	86.6	258.0
18.00		1.00	0.88	5.363	5.90	0.00	1.200	1.882	1.00	3.314	3.98	23.5	87.1	258.5
19.00		1.00	0.89	5.425	5.97	0.00	1.200	1.893	1.00	3.315	3.98	23.7	87.6	259.0
20.00	Top - Section 1	1.00	0.90	5.483	6.03	0.00	1.200	1.902	1.00	3.317	3.98	24.0	88.1	259.5
21.00		1.00	0.91	5.540	6.09	0.00	1.200	1.912	1.00	2.819	3.38	20.6	74.5	217.0
22.00		1.00	0.92	5.595	6.15	0.00	1.200	1.921	1.00	2.820	3.38	20.8	74.9	217.4
23.00		1.00	0.93	5.647	6.21	0.00	1.200	1.929	1.00	2.822	3.39	21.0	75.3	217.8
24.00		1.00	0.94	5.698	6.27	0.00	1.200	1.937	1.00	2.823	3.39	21.2	75.6	218.1
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	1.00	2.824	3.39	21.4	75.9	218.4
26.00		1.00	0.95	5.795	6.37	0.00	1.200	1.953	1.00	2.825	3.39	21.6	76.2	218.7
27.00		1.00	0.96	5.841	6.43	0.00	1.200	1.960	1.00	2.827	3.39	21.8	76.5	219.1
28.00		1.00	0.97	5.886	6.47	0.00	1.200	1.967	1.00	2.828	3.39	22.0	76.8	219.4
29.00		1.00	0.98	5.930	6.52	0.00	1.200	1.974	1.00	2.829	3.39	22.1	77.1	219.6
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	1.00	2.830	3.40	22.3	77.4	219.9
31.00		1.00	0.99	6.013	6.61	0.00	1.200	1.988	1.00	2.831	3.40	22.5	77.7	220.2
32.00		1.00	1.00	6.054	6.66	0.00	1.200	1.994	1.00	2.832	3.40	22.6	77.9	220.4
33.00		1.00	1.00	6.093	6.70	0.00	1.200	2.000	1.00	2.833	3.40	22.8	78.2	220.7
34.00		1.00	1.01	6.132	6.74	0.00	1.200	2.006	1.00	2.834	3.40	22.9	78.4	221.0
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	1.00	2.835	3.40	23.1	78.7	221.2
36.00		1.00	1.02	6.206	6.83	0.00	1.200	2.017	1.00	2.836	3.40	23.2	78.9	221.4
37.00		1.00	1.03	6.242	6.87	0.00	1.200	2.023	1.00	2.837	3.40	23.4	79.1	221.7
38.00		1.00	1.03	6.277	6.90	0.00	1.200	2.028	1.00	2.838	3.41	23.5	79.4	221.9
39.00		1.00	1.04	6.311	6.94	0.00	1.200	2.034	1.00	2.839	3.41	23.7	79.6	222.1
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	1.00	2.840	3.41	23.8	79.8	222.3
41.00		1.00	1.05	6.378	7.02	0.00	1.200	2.044	1.00	2.841	3.41	23.9	80.0	222.5
42.00		1.00	1.05	6.410	7.05	0.00	1.200	2.049	1.00	2.841	3.41	24.0	80.2	222.7
43.00		1.00	1.06	6.442	7.09	0.00	1.200	2.054	1.00	2.842	3.41	24.2	80.4	222.9
44.00		1.00	1.06	6.474	7.12	0.00	1.200	2.058	1.00	2.843	3.41	24.3	80.6	223.1
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	1.00	2.844	3.41	24.4	80.8	223.3
46.00		1.00	1.07	6.534	7.19	0.00	1.200	2.068	1.00	2.845	3.41	24.5	81.0	223.5

Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

47.00		1.00	1.08	6.564	7.22	0.00	1.200	2.072	1.00	2.845	3.41	24.7	81.2	223.7
48.00		1.00	1.08	6.593	7.25	0.00	1.200	2.076	1.00	2.846	3.42	24.8	81.4	223.9
49.00		1.00	1.09	6.622	7.28	0.00	1.200	2.081	1.00	2.847	3.42	24.9	81.5	224.1
50.00	Top - Section 2	1.00	1.09	6.650	7.32	0.00	1.200	2.085	1.00	2.847	3.42	25.0	81.7	224.2
51.00		1.00	1.10	6.678	7.35	0.00	1.200	2.089	1.00	2.348	2.82	20.7	66.6	180.2
52.00		1.00	1.10	6.705	7.38	0.00	1.200	2.093	1.00	2.349	2.82	20.8	66.7	180.4
53.00		1.00	1.11	6.732	7.41	0.00	1.200	2.097	1.00	2.350	2.82	20.9	66.9	180.5
54.00		1.00	1.11	6.759	7.43	0.00	1.200	2.101	1.00	2.350	2.82	21.0	67.0	180.6
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	1.00	2.351	2.82	21.1	67.1	180.8
56.00		1.00	1.12	6.811	7.49	0.00	1.200	2.109	1.00	2.351	2.82	21.1	67.3	180.9
57.00		1.00	1.12	6.836	7.52	0.00	1.200	2.112	1.00	2.352	2.82	21.2	67.4	181.0
58.00		1.00	1.13	6.861	7.55	0.00	1.200	2.116	1.00	2.353	2.82	21.3	67.5	181.2
59.00		1.00	1.13	6.886	7.57	0.00	1.200	2.120	1.00	2.353	2.82	21.4	67.6	181.3
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	1.00	2.354	2.82	21.5	67.8	181.4
61.00		1.00	1.14	6.934	7.63	0.00	1.200	2.127	1.00	2.354	2.83	21.6	67.9	181.5
62.00		1.00	1.14	6.958	7.65	0.00	1.200	2.130	1.00	2.355	2.83	21.6	68.0	181.7
63.00		1.00	1.15	6.982	7.68	0.00	1.200	2.134	1.00	2.356	2.83	21.7	68.1	181.8
64.00		1.00	1.15	7.005	7.71	0.00	1.200	2.137	1.00	2.356	2.83	21.8	68.2	181.9
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	1.00	2.357	2.83	21.9	68.4	182.0
66.00		1.00	1.16	7.050	7.76	0.00	1.200	2.144	1.00	2.357	2.83	21.9	68.5	182.1
67.00		1.00	1.16	7.073	7.78	0.00	1.200	2.147	1.00	2.358	2.83	22.0	68.6	182.2
68.00		1.00	1.17	7.095	7.80	0.00	1.200	2.150	1.00	2.358	2.83	22.1	68.7	182.3
69.00		1.00	1.17	7.117	7.83	0.00	1.200	2.153	1.00	2.359	2.83	22.2	68.8	182.4
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	1.00	2.359	2.83	22.2	68.9	182.6
71.00		1.00	1.18	7.160	7.88	0.00	1.200	2.159	1.00	2.360	2.83	22.3	69.0	182.7
72.00		1.00	1.18	7.181	7.90	0.00	1.200	2.162	1.00	2.360	2.83	22.4	69.1	182.8
73.00		1.00	1.18	7.202	7.92	0.00	1.200	2.165	1.00	2.361	2.83	22.4	69.2	182.9
74.00		1.00	1.19	7.222	7.94	0.00	1.200	2.168	1.00	2.361	2.83	22.5	69.3	183.0
75.00	Appurtenance(s)	1.00	1.19	7.243	7.97	0.00	1.200	2.171	1.00	2.362	2.83	22.6	69.4	183.1
76.00		1.00	1.19	7.263	7.99	0.00	1.200	2.174	1.00	2.362	2.83	22.6	69.5	183.2
77.00		1.00	1.20	7.283	8.01	0.00	1.200	2.177	1.00	2.363	2.84	22.7	69.6	183.3
78.00		1.00	1.20	7.303	8.03	0.00	1.200	2.180	1.00	2.363	2.84	22.8	69.7	183.4
79.00		1.00	1.20	7.322	8.05	0.00	1.200	2.182	1.00	2.364	2.84	22.8	69.8	183.5
80.00	Top - Section 3	1.00	1.21	7.342	8.08	0.00	1.200	2.185	1.00	2.364	2.84	22.9	69.9	183.6
81.00		1.00	1.21	7.361	8.10	0.00	1.200	2.188	1.00	2.365	2.84	23.0	70.0	183.7
82.00		1.00	1.21	7.380	8.12	0.00	1.200	2.191	1.00	2.365	2.84	23.0	70.1	183.7
83.00		1.00	1.22	7.399	8.14	0.00	1.200	2.193	1.00	2.366	2.84	23.1	70.2	183.8
84.00		1.00	1.22	7.418	8.16	0.00	1.200	2.196	1.00	2.366	2.84	23.2	70.3	183.9
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	1.00	2.366	2.84	23.2	70.4	184.0
86.00		1.00	1.23	7.454	8.20	0.00	1.200	2.201	1.00	2.367	2.84	23.3	70.5	184.1
87.00		1.00	1.23	7.473	8.22	0.00	1.200	2.204	1.00	2.367	2.84	23.4	70.5	184.2
88.00		1.00	1.23	7.491	8.24	0.00	1.200	2.206	1.00	2.368	2.84	23.4	70.6	184.3
89.00		1.00	1.23	7.508	8.26	0.00	1.200	2.209	1.00	2.368	2.84	23.5	70.7	184.4
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	1.00	2.369	2.84	23.5	70.8	184.5
91.00		1.00	1.24	7.544	8.30	0.00	1.200	2.214	1.00	2.369	2.84	23.6	70.9	184.5
92.00		1.00	1.24	7.561	8.32	0.00	1.200	2.216	1.00	2.369	2.84	23.6	71.0	184.6
93.00		1.00	1.25	7.578	8.34	0.00	1.200	2.218	1.00	2.370	2.84	23.7	71.1	184.7
94.00		1.00	1.25	7.595	8.35	0.00	1.200	2.221	1.00	2.370	2.84	23.8	71.1	184.8
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	1.00	2.371	2.84	23.8	71.2	184.9
96.00		1.00	1.25	7.629	8.39	0.00	1.200	2.225	1.00	2.371	2.85	23.9	71.3	185.0
97.00		1.00	1.26	7.646	8.41	0.00	1.200	2.228	1.00	2.371	2.85	23.9	71.4	185.0
98.00		1.00	1.26	7.662	8.43	0.00	1.200	2.230	1.00	2.372	2.85	24.0	71.5	185.1
99.00		1.00	1.26	7.679	8.45	0.00	1.200	2.232	1.00	2.372	2.85	24.0	71.5	185.2
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	1.00	2.372	2.85	24.1	71.6	185.3
101.00		1.00	1.27	7.711	8.48	0.00	1.200	2.237	1.00	2.373	2.85	24.2	71.7	185.3
102.00		1.00	1.27	7.727	8.50	0.00	1.200	2.239	1.00	2.373	2.85	24.2	71.8	185.4
103.00		1.00	1.27	7.743	8.52	0.00	1.200	2.241	1.00	2.374	2.85	24.3	71.8	185.5

Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

104.00	1.00	1.28	7.759	8.53	0.00	1.200	2.243	1.00	2.374	2.85	24.3	71.9	185.6
105.00	1.00	1.28	7.774	8.55	0.00	1.200	2.245	1.00	2.374	2.85	24.4	72.0	185.6
106.00	1.00	1.28	7.790	8.57	0.00	1.200	2.248	1.00	2.375	2.85	24.4	72.1	185.7
107.00	1.00	1.28	7.805	8.59	0.00	1.200	2.250	1.00	2.375	2.85	24.5	72.1	185.8
108.00 Top - Section 4	1.00	1.29	7.821	8.60	0.00	1.200	2.252	1.00	2.375	2.85	24.5	72.2	185.9
109.00	1.00	1.29	7.836	8.62	0.00	1.200	2.254	1.00	3.000	3.60	31.0	122.0	247.2
110.00 Top - Section 5 RB1	1.00	1.29	7.851	8.64	0.00	1.200	2.256	1.00	3.000	3.60	31.1	122.1	247.2
111.00	1.00	1.29	7.866	8.65	0.00	1.200	2.258	1.00	3.000	3.60	31.1	74.5	159.8
111.50 RT1	1.00	1.29	7.873	8.66	0.00	1.200	2.259	0.50	1.500	1.80	15.6	37.3	79.9
112.00	1.00	1.30	7.881	8.67	0.00	1.200	2.260	0.50	1.500	1.80	15.6	37.3	79.9
113.00	1.00	1.30	7.896	8.69	0.00	1.200	2.262	1.00	3.000	3.60	31.3	74.6	159.9
114.00	1.00	1.30	7.910	8.70	0.00	1.200	2.264	1.00	3.000	3.60	31.3	74.6	159.9
115.00 Appurtenance(s)	1.00	1.30	7.925	8.72	0.00	1.200	2.266	1.00	3.000	3.60	31.4	74.6	159.9
116.00	1.00	1.31	7.939	8.73	0.00	1.200	2.268	1.00	3.000	3.60	31.4	74.7	160.0
117.00	1.00	1.31	7.954	8.75	0.00	1.200	2.270	1.00	3.000	3.60	31.5	74.7	160.0
118.00	1.00	1.31	7.968	8.76	0.00	1.200	2.272	1.00	3.000	3.60	31.6	74.7	160.0
119.00	1.00	1.31	7.982	8.78	0.00	1.200	2.274	1.00	3.000	3.60	31.6	74.8	160.0
120.00 Appurtenance(s)	1.00	1.32	7.996	8.80	0.00	1.200	2.276	1.00	3.000	3.60	31.7	74.8	160.1
121.00	1.00	1.32	8.010	8.81	0.00	1.200	2.277	1.00	3.000	3.60	31.7	74.8	160.1
122.00	1.00	1.32	8.024	8.83	0.00	1.200	2.279	1.00	3.000	3.60	31.8	74.8	160.1
123.00	1.00	1.32	8.038	8.84	0.00	1.200	2.281	1.00	3.000	3.60	31.8	74.9	160.1
124.00	1.00	1.32	8.051	8.86	0.00	1.200	2.283	1.00	3.000	3.60	31.9	74.9	160.2
125.00	1.00	1.33	8.065	8.87	0.00	1.200	2.285	1.00	3.000	3.60	31.9	74.9	160.2
126.00	1.00	1.33	8.079	8.89	0.00	1.200	2.287	1.00	3.000	3.60	32.0	74.9	160.2
127.00 Appurtenance(s)	1.00	1.33	8.092	8.90	0.00	1.200	2.289	1.00	3.000	3.60	32.0	75.0	160.2
128.00	1.00	1.33	8.105	8.92	0.00	1.200	2.290	1.00	3.000	3.60	32.1	75.0	160.3
129.00	1.00	1.34	8.119	8.93	0.00	1.200	2.292	1.00	3.000	3.60	32.2	75.0	160.3
130.00 Top - Section 6	1.00	1.34	8.132	8.95	0.00	1.200	2.294	1.00	3.000	3.60	32.2	75.0	160.3
131.00	1.00	1.34	8.145	8.96	0.00	1.200	2.296	1.00	3.000	3.60	32.3	74.7	120.5
132.00	1.00	1.34	8.158	8.97	0.00	1.200	2.297	1.00	3.000	3.60	32.3	74.7	120.6
133.00	1.00	1.34	8.171	8.99	0.00	1.200	2.299	1.00	3.000	3.60	32.4	74.8	120.6
134.00	1.00	1.35	8.184	9.00	0.00	1.200	2.301	1.00	3.000	3.60	32.4	74.8	120.6
135.00 Appurtenance(s)	1.00	1.35	8.197	9.02	0.00	1.200	2.303	1.00	3.000	3.60	32.5	74.8	120.6
136.00	1.00	1.35	8.210	9.03	0.00	1.200	2.304	1.00	3.000	3.60	32.5	74.8	120.7
137.00	1.00	1.35	8.222	9.04	0.00	1.200	2.306	1.00	3.000	3.60	32.6	74.9	120.7
138.00	1.00	1.35	8.235	9.06	0.00	1.200	2.308	1.00	3.000	3.60	32.6	74.9	120.7
139.00	1.00	1.36	8.247	9.07	0.00	1.200	2.309	1.00	3.000	3.60	32.7	74.9	120.7
140.00 Appurtenance(s)	1.00	1.36	8.260	9.09	0.00	1.200	2.311	1.00	3.000	3.60	32.7	74.9	120.8
141.00	1.00	1.36	8.272	9.10	0.00	1.200	2.313	1.00	3.000	3.60	32.8	74.9	120.8
142.00	1.00	1.36	8.285	9.11	0.00	1.200	2.314	1.00	3.000	3.60	32.8	75.0	120.8
143.00	1.00	1.36	8.297	9.13	0.00	1.200	2.316	1.00	3.000	3.60	32.9	75.0	120.8
144.00	1.00	1.37	8.309	9.14	0.00	1.200	2.317	1.00	3.000	3.60	32.9	75.0	120.8
145.00 Appurtenance(s)	1.00	1.37	8.321	9.15	0.00	1.200	2.319	1.00	3.000	3.60	33.0	75.0	120.9
146.00	1.00	1.37	8.333	9.17	0.00	1.200	2.321	1.00	3.000	3.60	33.0	75.1	120.9
147.00	1.00	1.37	8.345	9.18	0.00	1.200	2.322	1.00	3.000	3.60	33.0	75.1	120.9
148.00	1.00	1.37	8.357	9.19	0.00	1.200	2.324	1.00	3.000	3.60	33.1	75.1	120.9
149.00	1.00	1.38	8.369	9.21	0.00	1.200	2.325	1.00	3.000	3.60	33.1	75.1	121.0
150.00 Appurtenance(s)	1.00	1.38	8.381	9.22	0.00	1.200	2.327	1.00	3.000	3.60	33.2	75.1	121.0
							Totals:	**150.00**			**3,816.5**		**28,418.0**

Discrete Appurtenance Forces

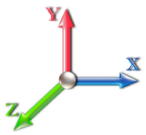
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 44

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	150.00	36" Canister Weight	1	8.381	9.219	1.00	1.00	0.00	103.92	0.000	0.000	0.00	0.00	0.00
2	150.00	Truck Ball	1	8.387	9.225	1.00	1.00	1.54	0.53	0.000	0.500	14.22	0.00	7.11
3	145.00	CDX623T-DS	6	8.321	9.153	0.00	1.00	4.73	265.63	0.000	0.000	43.32	0.00	0.00
4	145.00	FFVV-65B-R3	3	8.321	9.153	0.00	1.00	29.29	1007.84	0.000	0.000	268.08	0.00	0.00
5	140.00	36" Canister Weight	1	8.260	9.086	1.00	1.00	0.00	388.56	0.000	0.000	0.00	0.00	0.00
6	140.00	Flag	1	8.260	9.086	1.00	1.00	7.53	2.69	0.000	0.000	68.39	0.00	0.00
7	135.00	Flush Mount	1	8.197	9.016	0.00	1.00	0.00	-367.37	0.000	0.000	0.00	0.00	0.00
8	135.00	DB-T1-6Z-8AB-0Z	2	8.197	9.016	0.00	1.00	11.96	446.61	0.000	0.000	107.79	0.00	0.00
9	135.00	FDL85002/1C-3L	6	8.197	9.016	0.00	1.00	0.00	125.32	0.000	0.000	0.00	0.00	0.00
10	135.00	SBNHH-1D65A	3	8.197	9.016	0.00	1.00	22.01	788.37	0.000	0.000	198.43	0.00	0.00
11	130.00	36" Canister Weight	1	8.132	8.945	1.00	1.00	0.00	387.79	0.000	0.000	0.00	0.00	0.00
12	127.00	Flush Mount	1	8.092	8.901	0.00	1.00	0.00	-367.54	0.000	0.000	0.00	0.00	0.00
13	127.00	D2WC-21 (2LB+4MB)	3	8.092	8.901	0.00	1.00	19.16	700.24	0.000	0.000	170.55	0.00	0.00
14	127.00	ATSBT-TOP-FM	3	8.092	8.901	0.00	1.00	0.00	24.35	0.000	0.000	0.00	0.00	0.00
15	127.00	CBC426T-DS-43	6	8.092	8.901	0.00	1.00	0.00	183.15	0.000	0.000	0.00	0.00	0.00
16	120.00	36" Canister Weight	1	7.996	8.796	1.00	1.00	0.00	386.96	0.000	0.000	0.00	0.00	0.00
17	115.00	Flush Mount	1	7.925	8.717	0.00	1.00	0.00	-367.81	0.000	0.000	0.00	0.00	0.00
18	115.00	LGP21401	6	7.925	8.717	0.00	1.00	0.00	253.69	0.000	0.000	0.00	0.00	0.00
19	115.00	7770.00	3	7.925	8.717	0.00	1.00	20.73	688.78	0.000	0.000	180.71	0.00	0.00
20	110.00	36" Canister Weight	1	7.851	8.636	1.00	1.00	0.00	52.68	0.000	0.000	0.00	0.00	0.00
21	108.00	36" Canister Weight	1	7.821	8.603	1.00	1.00	0.00	-110.73	0.000	0.000	0.00	0.00	0.00
22	75.00	GPS	1	7.243	7.967	0.80	0.80	1.51	40.47	0.000	0.000	12.02	0.00	0.00
							Totals:		**4,634.14**			**1,063.52**		

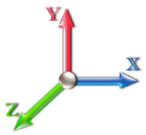
Total Applied Force Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 36

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 44

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		22.07	278.32	0.00	0.00
2.00		22.18	283.13	0.00	0.00
3.00		22.25	286.12	0.00	0.00
4.00		22.31	288.31	0.00	0.00
5.00		22.35	290.07	0.00	0.00
6.00		22.38	291.53	0.00	0.00
7.00		22.41	292.79	0.00	0.00
8.00		22.44	293.90	0.00	0.00
9.00		22.46	294.90	0.00	0.00
10.00		22.48	295.79	0.00	0.00
11.00		22.50	296.62	0.00	0.00
12.00		22.52	297.37	0.00	0.00
13.00		22.54	298.08	0.00	0.00
14.00		22.55	298.73	0.00	0.00
15.00		22.57	299.35	0.00	0.00
16.00		22.86	299.93	0.00	0.00
17.00		23.17	300.48	0.00	0.00
18.00		23.46	306.88	0.00	0.00
19.00		23.74	307.43	0.00	0.00
20.00		24.01	307.95	0.00	0.00
21.00		20.61	265.58	0.00	0.00
22.00		20.83	266.00	0.00	0.00
23.00		21.03	266.40	0.00	0.00
24.00		21.23	260.61	0.00	0.00
25.00		21.43	260.94	0.00	0.00
26.00		21.61	261.25	0.00	0.00
27.00		21.79	261.56	0.00	0.00
28.00		21.97	261.86	0.00	0.00
29.00		22.14	262.14	0.00	0.00
30.00		22.31	262.42	0.00	0.00
31.00		22.47	262.69	0.00	0.00
32.00		22.63	262.95	0.00	0.00
33.00		22.79	263.21	0.00	0.00
34.00		22.94	263.46	0.00	0.00
35.00		23.09	263.70	0.00	0.00
36.00		23.23	263.93	0.00	0.00
37.00		23.38	264.16	0.00	0.00
38.00		23.51	264.39	0.00	0.00
39.00		23.65	264.61	0.00	0.00
40.00		23.78	264.82	0.00	0.00
41.00		23.92	265.03	0.00	0.00
42.00		24.04	265.24	0.00	0.00
43.00		24.17	265.44	0.00	0.00
44.00		24.29	265.64	0.00	0.00
45.00		24.42	265.83	0.00	0.00
46.00		24.54	266.02	0.00	0.00

Total Applied Force Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 37

47.00		24.65	266.20	0.00	0.00
48.00		24.77	266.39	0.00	0.00
49.00		24.88	266.57	0.00	0.00
50.00		25.00	266.74	0.00	0.00
51.00		20.70	222.74	0.00	0.00
52.00		20.79	222.88	0.00	0.00
53.00		20.88	223.01	0.00	0.00
54.00		20.97	223.15	0.00	0.00
55.00		21.05	223.28	0.00	0.00
56.00		21.14	223.41	0.00	0.00
57.00		21.22	223.54	0.00	0.00
58.00		21.31	223.67	0.00	0.00
59.00		21.39	223.79	0.00	0.00
60.00		21.47	223.92	0.00	0.00
61.00		21.55	224.04	0.00	0.00
62.00		21.63	224.16	0.00	0.00
63.00		21.71	224.28	0.00	0.00
64.00		21.79	224.39	0.00	0.00
65.00		21.86	224.51	0.00	0.00
66.00		21.94	224.62	0.00	0.00
67.00		22.01	224.73	0.00	0.00
68.00		22.09	224.84	0.00	0.00
69.00		22.16	224.95	0.00	0.00
70.00		22.23	225.06	0.00	0.00
71.00		22.30	225.16	0.00	0.00
72.00		22.37	225.27	0.00	0.00
73.00		22.44	225.37	0.00	0.00
74.00		22.51	225.47	0.00	0.00
75.00	(1) attachments	34.60	266.05	0.00	0.00
76.00		22.65	225.48	0.00	0.00
77.00		22.71	225.58	0.00	0.00
78.00		22.78	225.68	0.00	0.00
79.00		22.85	225.77	0.00	0.00
80.00		22.91	225.87	0.00	0.00
81.00		22.98	225.96	0.00	0.00
82.00		23.04	226.06	0.00	0.00
83.00		23.10	226.15	0.00	0.00
84.00		23.17	226.24	0.00	0.00
85.00		23.23	226.33	0.00	0.00
86.00		23.29	226.42	0.00	0.00
87.00		23.35	226.51	0.00	0.00
88.00		23.41	226.59	0.00	0.00
89.00		23.47	226.68	0.00	0.00
90.00		23.53	226.77	0.00	0.00
91.00		23.59	226.85	0.00	0.00
92.00		23.65	226.94	0.00	0.00
93.00		23.71	227.02	0.00	0.00
94.00		23.76	227.10	0.00	0.00
95.00		23.82	227.18	0.00	0.00
96.00		23.88	227.26	0.00	0.00
97.00		23.93	227.34	0.00	0.00
98.00		23.99	227.42	0.00	0.00
99.00		24.04	227.50	0.00	0.00
100.00		24.10	227.58	0.00	0.00
101.00		24.15	227.66	0.00	0.00
102.00		24.21	227.73	0.00	0.00
103.00		24.26	227.81	0.00	0.00

Total Applied Force Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 38

104.00		24.31	227.89	0.00	0.00
105.00		24.36	227.96	0.00	0.00
106.00		24.42	228.03	0.00	0.00
107.00		24.47	228.11	0.00	0.00
108.00	(1) attachments	24.52	117.45	0.00	0.00
109.00		31.03	289.46	0.00	0.00
110.00	(1) attachments	31.09	342.21	0.00	0.00
111.00		31.15	202.13	0.00	0.00
111.50		15.59	101.07	0.00	0.00
112.00		15.60	101.08	0.00	0.00
113.00		31.27	202.19	0.00	0.00
114.00		31.32	202.22	0.00	0.00
115.00	(10) attachments	212.09	776.90	0.00	0.00
116.00		31.44	195.21	0.00	0.00
117.00		31.50	195.24	0.00	0.00
118.00		31.55	195.27	0.00	0.00
119.00		31.61	195.29	0.00	0.00
120.00	(1) attachments	31.66	582.28	0.00	0.00
121.00		31.72	195.35	0.00	0.00
122.00		31.77	195.37	0.00	0.00
123.00		31.83	195.40	0.00	0.00
124.00		31.88	195.42	0.00	0.00
125.00		31.94	195.45	0.00	0.00
126.00		31.99	195.47	0.00	0.00
127.00	(13) attachments	202.60	735.70	0.00	0.00
128.00		32.10	184.80	0.00	0.00
129.00		32.15	184.82	0.00	0.00
130.00	(1) attachments	32.20	572.63	0.00	0.00
131.00		32.25	145.08	0.00	0.00
132.00		32.31	145.10	0.00	0.00
133.00		32.36	145.12	0.00	0.00
134.00		32.41	145.15	0.00	0.00
135.00	(12) attachments	338.68	1138.09	0.00	0.00
136.00		32.51	135.64	0.00	0.00
137.00		32.56	135.67	0.00	0.00
138.00		32.61	135.69	0.00	0.00
139.00		32.66	135.71	0.00	0.00
140.00	(2) attachments	101.10	526.99	0.00	0.00
141.00		32.76	135.76	0.00	0.00
142.00		32.81	135.78	0.00	0.00
143.00		32.86	135.80	0.00	0.00
144.00		32.90	135.82	0.00	0.00
145.00	(9) attachments	344.35	1409.32	0.00	0.00
146.00		33.00	120.89	0.00	0.00
147.00		33.05	120.91	0.00	0.00
148.00		33.09	120.94	0.00	0.00
149.00		33.14	120.96	0.00	0.00
150.00	(2) attachments	47.41	225.43	0.00	7.11
	Totals:	**4,880.02**	**38,737.51**	**0.00**	**7.11**

Linear Appurtenance Segment Forces (Factored)

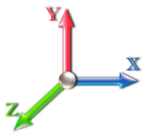
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 39	

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 44

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
18.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.40	0.00	0.028	0.000	5.363	0.00	5.88
19.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.40	0.00	0.028	0.000	5.425	0.00	5.93
20.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.40	0.00	0.028	0.000	5.483	0.00	5.98
21.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.40	0.00	0.033	0.000	5.540	0.00	6.03
22.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.40	0.00	0.033	0.000	5.595	0.00	6.08
23.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.40	0.00	0.033	0.000	5.647	0.00	6.13
										Totals:	**0.0**	**36.0**

Calculated Forces

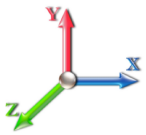
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 40	

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 44

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-38.74	-4.89	0.00	-523.71	0.00	523.71	1490.10	745.05	2187.51	1339.68	0.00	0.000	0.000	0.417
1.00	-38.46	-4.88	0.00	-518.82	0.00	518.82	1490.10	745.05	2187.51	1339.68	0.00	-0.022	0.000	0.413
2.00	-38.17	-4.87	0.00	-513.94	0.00	513.94	1490.10	745.05	2187.51	1339.68	0.01	-0.044	0.000	0.409
3.00	-37.88	-4.86	0.00	-509.07	0.00	509.07	1490.10	745.05	2187.51	1339.68	0.02	-0.066	0.000	0.405
4.00	-37.59	-4.86	0.00	-504.21	0.00	504.21	1490.10	745.05	2187.51	1339.68	0.04	-0.088	0.000	0.402
5.00	-37.30	-4.85	0.00	-499.35	0.00	499.35	1490.10	745.05	2187.51	1339.68	0.06	-0.109	0.000	0.398
6.00	-37.01	-4.84	0.00	-494.50	0.00	494.50	1490.10	745.05	2187.51	1339.68	0.08	-0.130	0.000	0.394
7.00	-36.71	-4.83	0.00	-489.67	0.00	489.67	1490.10	745.05	2187.51	1339.68	0.11	-0.151	0.000	0.390
8.00	-36.42	-4.82	0.00	-484.84	0.00	484.84	1490.10	745.05	2187.51	1339.68	0.15	-0.172	0.000	0.386
9.00	-36.12	-4.81	0.00	-480.02	0.00	480.02	1490.10	745.05	2187.51	1339.68	0.19	-0.193	0.000	0.383
10.00	-35.82	-4.80	0.00	-475.22	0.00	475.22	1490.10	745.05	2187.51	1339.68	0.23	-0.213	0.000	0.379
11.00	-35.53	-4.78	0.00	-470.42	0.00	470.42	1490.10	745.05	2187.51	1339.68	0.27	-0.233	0.000	0.375
12.00	-35.23	-4.77	0.00	-465.63	0.00	465.63	1490.10	745.05	2187.51	1339.68	0.33	-0.253	0.000	0.371
13.00	-34.93	-4.76	0.00	-460.86	0.00	460.86	1490.10	745.05	2187.51	1339.68	0.38	-0.273	0.000	0.367
14.00	-34.63	-4.75	0.00	-456.10	0.00	456.10	1490.10	745.05	2187.51	1339.68	0.44	-0.293	0.000	0.364
15.00	-34.33	-4.74	0.00	-451.35	0.00	451.35	1490.10	745.05	2187.51	1339.68	0.50	-0.312	0.000	0.360
16.00	-34.02	-4.72	0.00	-446.61	0.00	446.61	1490.10	745.05	2187.51	1339.68	0.57	-0.331	0.000	0.356
17.00	-33.72	-4.71	0.00	-441.89	0.00	441.89	1490.10	745.05	2187.51	1339.68	0.64	-0.350	0.000	0.353
18.00	-33.41	-4.70	0.00	-437.18	0.00	437.18	1490.10	745.05	2187.51	1339.68	0.72	-0.369	0.000	0.349
19.00	-33.11	-4.68	0.00	-432.49	0.00	432.49	1490.10	745.05	2187.51	1339.68	0.80	-0.388	0.000	0.345
20.00	-32.80	-4.66	0.00	-427.81	0.00	427.81	1490.10	745.05	2187.51	1339.68	0.88	-0.406	0.000	0.341
20.00	-32.80	-4.66	0.00	-427.81	0.00	427.81	1311.06	655.53	1597.15	948.43	0.88	-0.406	0.000	0.476
21.00	-32.53	-4.66	0.00	-423.14	0.00	423.14	1311.06	655.53	1597.15	948.43	0.97	-0.424	0.000	0.471
22.00	-32.26	-4.65	0.00	-418.49	0.00	418.49	1311.06	655.53	1597.15	948.43	1.06	-0.455	0.000	0.466
23.00	-31.99	-4.64	0.00	-413.84	0.00	413.84	1311.06	655.53	1597.15	948.43	1.16	-0.486	0.000	0.461
24.00	-31.73	-4.64	0.00	-409.19	0.00	409.19	1311.06	655.53	1597.15	948.43	1.26	-0.517	0.000	0.456
25.00	-31.47	-4.63	0.00	-404.56	0.00	404.56	1311.06	655.53	1597.15	948.43	1.38	-0.547	0.000	0.451
26.00	-31.20	-4.62	0.00	-399.93	0.00	399.93	1311.06	655.53	1597.15	948.43	1.49	-0.577	0.000	0.446
27.00	-30.94	-4.61	0.00	-395.30	0.00	395.30	1311.06	655.53	1597.15	948.43	1.62	-0.606	0.000	0.440
28.00	-30.68	-4.60	0.00	-390.69	0.00	390.69	1311.06	655.53	1597.15	948.43	1.75	-0.636	0.000	0.435
29.00	-30.41	-4.59	0.00	-386.09	0.00	386.09	1311.06	655.53	1597.15	948.43	1.88	-0.664	0.000	0.430
30.00	-30.15	-4.58	0.00	-381.49	0.00	381.49	1311.06	655.53	1597.15	948.43	2.03	-0.693	0.000	0.425
31.00	-29.88	-4.57	0.00	-376.91	0.00	376.91	1311.06	655.53	1597.15	948.43	2.17	-0.721	0.000	0.420
32.00	-29.62	-4.56	0.00	-372.33	0.00	372.33	1311.06	655.53	1597.15	948.43	2.33	-0.749	0.000	0.415
33.00	-29.35	-4.55	0.00	-367.77	0.00	367.77	1311.06	655.53	1597.15	948.43	2.49	-0.776	0.000	0.410
34.00	-29.09	-4.54	0.00	-363.23	0.00	363.23	1311.06	655.53	1597.15	948.43	2.65	-0.804	0.000	0.405
35.00	-28.82	-4.52	0.00	-358.69	0.00	358.69	1311.06	655.53	1597.15	948.43	2.82	-0.830	0.000	0.400
36.00	-28.56	-4.51	0.00	-354.17	0.00	354.17	1311.06	655.53	1597.15	948.43	3.00	-0.857	0.000	0.395
37.00	-28.29	-4.49	0.00	-349.66	0.00	349.66	1311.06	655.53	1597.15	948.43	3.18	-0.883	0.000	0.390
38.00	-28.02	-4.48	0.00	-345.16	0.00	345.16	1311.06	655.53	1597.15	948.43	3.37	-0.909	0.000	0.385
39.00	-27.76	-4.46	0.00	-340.69	0.00	340.69	1311.06	655.53	1597.15	948.43	3.56	-0.934	0.000	0.380
40.00	-27.49	-4.45	0.00	-336.22	0.00	336.22	1311.06	655.53	1597.15	948.43	3.76	-0.959	0.000	0.376
41.00	-27.23	-4.43	0.00	-331.78	0.00	331.78	1311.06	655.53	1597.15	948.43	3.97	-0.984	0.000	0.371
42.00	-26.96	-4.41	0.00	-327.35	0.00	327.35	1311.06	655.53	1597.15	948.43	4.18	-1.009	0.000	0.366
43.00	-26.69	-4.40	0.00	-322.93	0.00	322.93	1311.06	655.53	1597.15	948.43	4.39	-1.033	0.000	0.361
44.00	-26.42	-4.38	0.00	-318.54	0.00	318.54	1311.06	655.53	1597.15	948.43	4.61	-1.057	0.000	0.356
45.00	-26.16	-4.36	0.00	-314.16	0.00	314.16	1311.06	655.53	1597.15	948.43	4.83	-1.080	0.000	0.351
46.00	-25.89	-4.34	0.00	-309.80	0.00	309.80	1311.06	655.53	1597.15	948.43	5.06	-1.103	0.000	0.346

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 41

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47.00	-25.62	-4.32	0.00	-305.46	0.00	305.46	1311.06	655.53	1597.15	948.43	5.29	-1.126	0.000	0.342
48.00	-25.36	-4.30	0.00	-301.14	0.00	301.14	1311.06	655.53	1597.15	948.43	5.53	-1.149	0.000	0.337
49.00	-25.09	-4.28	0.00	-296.85	0.00	296.85	1311.06	655.53	1597.15	948.43	5.78	-1.171	0.000	0.332
50.00	-24.82	-4.26	0.00	-292.57	0.00	292.57	1311.06	655.53	1597.15	948.43	6.02	-1.193	0.000	0.327
50.00	-24.82	-4.26	0.00	-292.57	0.00	292.57	1052.07	526.04	1018.84	624.04	6.02	-1.193	0.000	0.492
51.00	-24.60	-4.25	0.00	-288.31	0.00	288.31	1052.07	526.04	1018.84	624.04	6.28	-1.214	0.000	0.485
52.00	-24.37	-4.24	0.00	-284.06	0.00	284.06	1052.07	526.04	1018.84	624.04	6.53	-1.256	0.000	0.478
53.00	-24.14	-4.23	0.00	-279.83	0.00	279.83	1052.07	526.04	1018.84	624.04	6.80	-1.297	0.000	0.471
54.00	-23.92	-4.22	0.00	-275.60	0.00	275.60	1052.07	526.04	1018.84	624.04	7.08	-1.338	0.000	0.464
55.00	-23.69	-4.21	0.00	-271.38	0.00	271.38	1052.07	526.04	1018.84	624.04	7.36	-1.378	0.000	0.457
56.00	-23.47	-4.20	0.00	-267.17	0.00	267.17	1052.07	526.04	1018.84	624.04	7.65	-1.417	0.000	0.450
57.00	-23.24	-4.19	0.00	-262.97	0.00	262.97	1052.07	526.04	1018.84	624.04	7.96	-1.456	0.000	0.444
58.00	-23.02	-4.18	0.00	-258.78	0.00	258.78	1052.07	526.04	1018.84	624.04	8.26	-1.494	0.000	0.437
59.00	-22.79	-4.16	0.00	-254.60	0.00	254.60	1052.07	526.04	1018.84	624.04	8.58	-1.532	0.000	0.430
60.00	-22.56	-4.15	0.00	-250.44	0.00	250.44	1052.07	526.04	1018.84	624.04	8.91	-1.569	0.000	0.423
61.00	-22.34	-4.14	0.00	-246.29	0.00	246.29	1052.07	526.04	1018.84	624.04	9.24	-1.605	0.000	0.416
62.00	-22.11	-4.12	0.00	-242.15	0.00	242.15	1052.07	526.04	1018.84	624.04	9.58	-1.641	0.000	0.409
63.00	-21.89	-4.11	0.00	-238.03	0.00	238.03	1052.07	526.04	1018.84	624.04	9.93	-1.676	0.000	0.402
64.00	-21.66	-4.09	0.00	-233.92	0.00	233.92	1052.07	526.04	1018.84	624.04	10.28	-1.711	0.000	0.395
65.00	-21.43	-4.08	0.00	-229.83	0.00	229.83	1052.07	526.04	1018.84	624.04	10.64	-1.745	0.000	0.389
66.00	-21.21	-4.06	0.00	-225.75	0.00	225.75	1052.07	526.04	1018.84	624.04	11.01	-1.778	0.000	0.382
67.00	-20.98	-4.04	0.00	-221.69	0.00	221.69	1052.07	526.04	1018.84	624.04	11.39	-1.811	0.000	0.375
68.00	-20.76	-4.03	0.00	-217.65	0.00	217.65	1052.07	526.04	1018.84	624.04	11.77	-1.843	0.000	0.369
69.00	-20.53	-4.01	0.00	-213.62	0.00	213.62	1052.07	526.04	1018.84	624.04	12.16	-1.875	0.000	0.362
70.00	-20.30	-3.99	0.00	-209.61	0.00	209.61	1052.07	526.04	1018.84	624.04	12.56	-1.906	0.000	0.355
71.00	-20.08	-3.97	0.00	-205.63	0.00	205.63	1052.07	526.04	1018.84	624.04	12.96	-1.936	0.000	0.349
72.00	-19.85	-3.95	0.00	-201.66	0.00	201.66	1052.07	526.04	1018.84	624.04	13.37	-1.966	0.000	0.342
73.00	-19.62	-3.93	0.00	-197.71	0.00	197.71	1052.07	526.04	1018.84	624.04	13.78	-1.995	0.000	0.336
74.00	-19.40	-3.91	0.00	-193.78	0.00	193.78	1052.07	526.04	1018.84	624.04	14.20	-2.024	0.000	0.329
75.00	-19.13	-3.87	0.00	-189.87	0.00	189.87	1052.07	526.04	1018.84	624.04	14.63	-2.052	0.000	0.322
76.00	-18.90	-3.85	0.00	-186.00	0.00	186.00	1052.07	526.04	1018.84	624.04	15.06	-2.079	0.000	0.316
77.00	-18.68	-3.83	0.00	-182.15	0.00	182.15	1052.07	526.04	1018.84	624.04	15.50	-2.106	0.000	0.310
78.00	-18.45	-3.81	0.00	-178.32	0.00	178.32	1052.07	526.04	1018.84	624.04	15.94	-2.133	0.000	0.303
79.00	-18.22	-3.78	0.00	-174.51	0.00	174.51	1052.07	526.04	1018.84	624.04	16.39	-2.158	0.000	0.297
80.00	-18.00	-3.76	0.00	-170.73	0.00	170.73	1052.07	526.04	1018.84	624.04	16.85	-2.184	0.000	0.291
80.00	-18.00	-3.76	0.00	-170.73	0.00	170.73	1052.07	526.04	1018.84	624.04	16.85	-2.184	0.000	0.291
81.00	-17.77	-3.74	0.00	-166.97	0.00	166.97	1052.07	526.04	1018.84	624.04	17.31	-2.208	0.000	0.285
82.00	-17.55	-3.71	0.00	-163.23	0.00	163.23	1052.07	526.04	1018.84	624.04	17.77	-2.233	0.000	0.278
83.00	-17.32	-3.69	0.00	-159.52	0.00	159.52	1052.07	526.04	1018.84	624.04	18.24	-2.256	0.000	0.272
84.00	-17.09	-3.66	0.00	-155.83	0.00	155.83	1052.07	526.04	1018.84	624.04	18.72	-2.279	0.000	0.266
85.00	-16.87	-3.64	0.00	-152.17	0.00	152.17	1052.07	526.04	1018.84	624.04	19.20	-2.302	0.000	0.260
86.00	-16.64	-3.61	0.00	-148.54	0.00	148.54	1052.07	526.04	1018.84	624.04	19.68	-2.324	0.000	0.254
87.00	-16.41	-3.58	0.00	-144.93	0.00	144.93	1052.07	526.04	1018.84	624.04	20.17	-2.345	0.000	0.248
88.00	-16.19	-3.56	0.00	-141.35	0.00	141.35	1052.07	526.04	1018.84	624.04	20.67	-2.366	0.000	0.242
89.00	-15.96	-3.53	0.00	-137.79	0.00	137.79	1052.07	526.04	1018.84	624.04	21.16	-2.387	0.000	0.236
90.00	-15.73	-3.50	0.00	-134.26	0.00	134.26	1052.07	526.04	1018.84	624.04	21.66	-2.407	0.000	0.230
91.00	-15.51	-3.47	0.00	-130.76	0.00	130.76	1052.07	526.04	1018.84	624.04	22.17	-2.426	0.000	0.224
92.00	-15.28	-3.44	0.00	-127.29	0.00	127.29	1052.07	526.04	1018.84	624.04	22.68	-2.445	0.000	0.219
93.00	-15.05	-3.42	0.00	-123.84	0.00	123.84	1052.07	526.04	1018.84	624.04	23.19	-2.463	0.000	0.213
94.00	-14.82	-3.39	0.00	-120.43	0.00	120.43	1052.07	526.04	1018.84	624.04	23.71	-2.481	0.000	0.207
95.00	-14.60	-3.36	0.00	-117.04	0.00	117.04	1052.07	526.04	1018.84	624.04	24.23	-2.499	0.000	0.201
96.00	-14.37	-3.33	0.00	-113.68	0.00	113.68	1052.07	526.04	1018.84	624.04	24.76	-2.515	0.000	0.196
97.00	-14.14	-3.30	0.00	-110.35	0.00	110.35	1052.07	526.04	1018.84	624.04	25.29	-2.532	0.000	0.190
98.00	-13.92	-3.27	0.00	-107.05	0.00	107.05	1052.07	526.04	1018.84	624.04	25.82	-2.548	0.000	0.185
99.00	-13.69	-3.24	0.00	-103.78	0.00	103.78	1052.07	526.04	1018.84	624.04	26.35	-2.563	0.000	0.179
100.00	-13.46	-3.21	0.00	-100.55	0.00	100.55	1052.07	526.04	1018.84	624.04	26.89	-2.578	0.000	0.174
101.00	-13.24	-3.18	0.00	-97.34	0.00	97.34	1052.07	526.04	1018.84	624.04	27.43	-2.593	0.000	0.169

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 42	

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102.00	-13.01	-3.14	0.00	-94.16	0.00	94.16	1052.07	526.04	1018.84	624.04	27.98	-2.607	0.000	0.163
103.00	-12.78	-3.11	0.00	-91.02	0.00	91.02	1052.07	526.04	1018.84	624.04	28.53	-2.620	0.000	0.158
104.00	-12.55	-3.08	0.00	-87.91	0.00	87.91	1052.07	526.04	1018.84	624.04	29.08	-2.633	0.000	0.153
105.00	-12.33	-3.05	0.00	-84.83	0.00	84.83	1052.07	526.04	1018.84	624.04	29.63	-2.646	0.000	0.148
106.00	-12.10	-3.02	0.00	-81.78	0.00	81.78	1052.07	526.04	1018.84	624.04	30.18	-2.658	0.000	0.143
107.00	-11.87	-2.98	0.00	-78.76	0.00	78.76	1052.07	526.04	1018.84	624.04	30.74	-2.670	0.000	0.138
108.00	-11.76	-2.96	0.00	-75.78	0.00	75.78	1052.07	526.04	1018.84	624.04	31.30	-2.681	0.000	0.133
108.00	-11.76	-2.96	0.00	-75.78	0.00	75.78	1052.07	526.04	1018.84	624.04	31.30	-2.681	0.000	0.133
109.00	-11.47	-2.91	0.00	-72.82	0.00	72.82	1052.07	526.04	1018.84	624.04	31.86	-2.692	0.000	0.128
110.00	-11.13	-2.87	0.00	-69.91	0.00	69.91	1052.07	526.04	1018.84	624.04	32.43	-2.703	0.000	0.077
110.00	-11.13	-2.87	0.00	-69.91	0.00	69.91	682.83	341.41	139.27	105.20	32.43	-2.703	0.000	0.023
111.00	-10.92	-2.83	0.00	-67.04	0.00	67.04	682.83	341.41	139.27	105.20	33.00	-2.709	0.000	0.179
111.50	-10.82	-2.82	0.00	-65.63	0.00	65.63	682.83	341.41	139.27	105.20	33.28	-2.742	0.000	0.176
111.50	-10.82	-2.82	0.00	-65.63	0.00	65.63	682.83	341.41	139.27	105.20	33.28	-2.742	0.000	0.176
112.00	-10.72	-2.82	0.00	-64.22	0.00	64.22	682.83	341.41	139.27	105.20	33.57	-2.775	0.000	0.626
113.00	-10.50	-2.82	0.00	-61.39	0.00	61.39	682.83	341.41	139.27	105.20	34.18	-3.014	0.000	0.599
114.00	-10.29	-2.82	0.00	-58.57	0.00	58.57	682.83	341.41	139.27	105.20	34.83	-3.243	0.000	0.572
115.00	-9.52	-2.60	0.00	-55.75	0.00	55.75	682.83	341.41	139.27	105.20	35.53	-3.461	0.000	0.544
116.00	-9.32	-2.59	0.00	-53.15	0.00	53.15	682.83	341.41	139.27	105.20	36.28	-3.668	0.000	0.519
117.00	-9.12	-2.58	0.00	-50.56	0.00	50.56	682.83	341.41	139.27	105.20	37.07	-3.865	0.000	0.494
118.00	-8.92	-2.56	0.00	-47.99	0.00	47.99	682.83	341.41	139.27	105.20	37.90	-4.053	0.000	0.469
119.00	-8.72	-2.54	0.00	-45.43	0.00	45.43	682.83	341.41	139.27	105.20	38.76	-4.231	0.000	0.445
120.00	-8.13	-2.49	0.00	-42.89	0.00	42.89	682.83	341.41	139.27	105.20	39.67	-4.399	0.000	0.420
121.00	-7.93	-2.46	0.00	-40.40	0.00	40.40	682.83	341.41	139.27	105.20	40.60	-4.558	0.000	0.396
122.00	-7.73	-2.43	0.00	-37.94	0.00	37.94	682.83	341.41	139.27	105.20	41.57	-4.707	0.000	0.372
123.00	-7.54	-2.40	0.00	-35.50	0.00	35.50	682.83	341.41	139.27	105.20	42.57	-4.847	0.000	0.349
124.00	-7.34	-2.37	0.00	-33.10	0.00	33.10	682.83	341.41	139.27	105.20	43.60	-4.977	0.000	0.325
125.00	-7.14	-2.34	0.00	-30.73	0.00	30.73	682.83	341.41	139.27	105.20	44.66	-5.099	0.000	0.303
126.00	-6.95	-2.30	0.00	-28.39	0.00	28.39	682.83	341.41	139.27	105.20	45.73	-5.211	0.000	0.280
127.00	-6.23	-2.04	0.00	-26.09	0.00	26.09	682.83	341.41	139.27	105.20	46.83	-5.315	0.000	0.257
128.00	-6.04	-2.00	0.00	-24.05	0.00	24.05	682.83	341.41	139.27	105.20	47.96	-5.410	0.000	0.238
129.00	-5.86	-1.96	0.00	-22.05	0.00	22.05	682.83	341.41	139.27	105.20	49.10	-5.498	0.000	0.218
130.00	-5.29	-1.88	0.00	-20.09	0.00	20.09	682.83	341.41	139.27	105.20	50.26	-5.578	0.000	0.199
130.00	-5.29	-1.88	0.00	-20.09	0.00	20.09	317.71	158.85	76.59	52.28	50.26	-5.578	0.000	0.401
131.00	-5.15	-1.84	0.00	-18.20	0.00	18.20	317.71	158.85	76.59	52.28	51.43	-5.651	0.000	0.365
132.00	-5.00	-1.81	0.00	-16.36	0.00	16.36	317.71	158.85	76.59	52.28	52.62	-5.773	0.000	0.329
133.00	-4.86	-1.77	0.00	-14.55	0.00	14.55	317.71	158.85	76.59	52.28	53.84	-5.882	0.000	0.294
134.00	-4.71	-1.73	0.00	-12.78	0.00	12.78	317.71	158.85	76.59	52.28	55.08	-5.979	0.000	0.259
135.00	-3.62	-1.28	0.00	-11.05	0.00	11.05	317.71	158.85	76.59	52.28	56.34	-6.063	0.000	0.223
136.00	-3.48	-1.24	0.00	-9.78	0.00	9.78	317.71	158.85	76.59	52.28	57.62	-6.136	0.000	0.198
137.00	-3.35	-1.19	0.00	-8.54	0.00	8.54	317.71	158.85	76.59	52.28	58.91	-6.201	0.000	0.174
138.00	-3.22	-1.15	0.00	-7.35	0.00	7.35	317.71	158.85	76.59	52.28	60.21	-6.257	0.000	0.151
139.00	-3.09	-1.10	0.00	-6.20	0.00	6.20	317.71	158.85	76.59	52.28	61.52	-6.305	0.000	0.128
140.00	-2.57	-0.95	0.00	-5.10	0.00	5.10	317.71	158.85	76.59	52.28	62.85	-6.345	0.000	0.106
141.00	-2.44	-0.90	0.00	-4.15	0.00	4.15	317.71	158.85	76.59	52.28	64.18	-6.377	0.000	0.087
142.00	-2.31	-0.85	0.00	-3.25	0.00	3.25	317.71	158.85	76.59	52.28	65.51	-6.403	0.000	0.069
143.00	-2.18	-0.81	0.00	-2.40	0.00	2.40	317.71	158.85	76.59	52.28	66.85	-6.423	0.000	0.053
144.00	-2.05	-0.76	0.00	-1.59	0.00	1.59	317.71	158.85	76.59	52.28	68.20	-6.437	0.000	0.037
145.00	-0.68	-0.26	0.00	-0.83	0.00	0.83	317.71	158.85	76.59	52.28	69.54	-6.446	0.000	0.018
146.00	-0.57	-0.21	0.00	-0.58	0.00	0.58	317.71	158.85	76.59	52.28	70.89	-6.451	0.000	0.013
147.00	-0.45	-0.17	0.00	-0.36	0.00	0.36	317.71	158.85	76.59	52.28	72.24	-6.454	0.000	0.008
148.00	-0.34	-0.12	0.00	-0.20	0.00	0.20	317.71	158.85	76.59	52.28	73.59	-6.456	0.000	0.005
149.00	-0.22	-0.07	0.00	-0.08	0.00	0.08	317.71	158.85	76.59	52.28	74.94	-6.457	0.000	0.002
150.00	0.00	-0.05	0.00	-0.01	0.00	0.01	317.71	158.85	76.59	52.28	76.29	-6.457	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 43	

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Load Case:	1.2D + 1.0E							**Iterations**	37
Gust Response Factor	1.10				**Sds**	0.19		**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.32		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
1.00		142.81	0.00	0.01	0.00	0.76	
2.00		142.81	0.00	0.01	0.01	1.38	
3.00		142.81	0.00	0.02	0.01	1.89	
4.00		142.81	0.00	0.03	0.01	2.32	
5.00		142.81	0.00	0.03	0.02	2.68	
6.00		142.81	0.00	0.04	0.02	2.99	
7.00		142.81	0.00	0.04	0.02	3.26	
8.00		142.81	0.01	0.05	0.03	3.49	
9.00		142.81	0.01	0.05	0.03	3.69	
10.00		142.81	0.01	0.05	0.03	3.86	
11.00		142.81	0.01	0.06	0.03	4.01	
12.00		142.81	0.01	0.06	0.03	4.14	
13.00		142.81	0.01	0.06	0.03	4.25	
14.00		142.81	0.02	0.06	0.04	4.35	
15.00		142.81	0.02	0.06	0.04	4.43	
16.00		142.81	0.02	0.06	0.04	4.51	
17.00		142.81	0.02	0.07	0.04	4.57	
18.00		142.81	0.03	0.07	0.04	4.63	
19.00		142.81	0.03	0.07	0.04	4.68	
20.00	Top - Section 1	142.81	0.03	0.07	0.04	4.72	
21.00		118.76	0.04	0.07	0.04	3.96	
22.00		118.76	0.04	0.07	0.04	3.99	
23.00		118.76	0.04	0.07	0.04	4.02	
24.00		118.76	0.05	0.07	0.04	4.05	
25.00		118.76	0.05	0.07	0.04	4.07	
26.00		118.76	0.06	0.07	0.04	4.09	
27.00		118.76	0.06	0.07	0.04	4.11	
28.00		118.76	0.07	0.07	0.04	4.14	
29.00		118.76	0.07	0.07	0.04	4.16	
30.00		118.76	0.08	0.07	0.04	4.18	
31.00		118.76	0.08	0.07	0.04	4.20	
32.00		118.76	0.09	0.07	0.04	4.22	
33.00		118.76	0.09	0.07	0.04	4.24	
34.00		118.76	0.10	0.07	0.04	4.26	
35.00		118.76	0.10	0.07	0.04	4.28	
36.00		118.76	0.11	0.07	0.04	4.30	
37.00		118.76	0.11	0.07	0.04	4.32	
38.00		118.76	0.12	0.07	0.03	4.34	
39.00		118.76	0.13	0.07	0.03	4.36	
40.00		118.76	0.13	0.07	0.03	4.38	
41.00		118.76	0.14	0.07	0.03	4.40	
42.00		118.76	0.15	0.07	0.03	4.41	
43.00		118.76	0.16	0.07	0.03	4.43	
44.00		118.76	0.16	0.07	0.03	4.44	
45.00		118.76	0.17	0.07	0.03	4.45	

Seismic Segment Forces (Factored)

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 44	

46.00		118.76	0.18	0.07	0.03	4.46
47.00		118.76	0.19	0.06	0.03	4.46
48.00		118.76	0.19	0.06	0.02	4.46
49.00		118.76	0.20	0.06	0.02	4.46
50.00	Top - Section 2	118.76	0.21	0.06	0.02	4.45
51.00		94.71	0.22	0.06	0.02	3.54
52.00		94.71	0.23	0.06	0.02	3.52
53.00		94.71	0.24	0.06	0.02	3.50
54.00		94.71	0.24	0.06	0.02	3.47
55.00		94.71	0.25	0.05	0.02	3.43
56.00		94.71	0.26	0.05	0.02	3.39
57.00		94.71	0.27	0.05	0.01	3.34
58.00		94.71	0.28	0.05	0.01	3.28
59.00		94.71	0.29	0.05	0.01	3.21
60.00		94.71	0.30	0.04	0.01	3.13
61.00		94.71	0.31	0.04	0.01	3.04
62.00		94.71	0.32	0.04	0.01	2.94
63.00		94.71	0.33	0.04	0.01	2.83
64.00		94.71	0.34	0.03	0.01	2.70
65.00		94.71	0.35	0.03	0.01	2.56
66.00		94.71	0.37	0.03	0.01	2.41
67.00		94.71	0.38	0.03	0.01	2.25
68.00		94.71	0.39	0.02	0.01	2.07
69.00		94.71	0.40	0.02	0.01	1.88
70.00		94.71	0.41	0.01	0.01	1.68
71.00		94.71	0.42	0.01	0.01	1.46
72.00		94.71	0.44	0.01	0.01	1.23
73.00		94.71	0.45	0.00	0.01	1.00
74.00		94.71	0.46	0.00	0.01	0.75
75.00	Appurtenance(s)	104.71	0.47	-0.01	0.01	0.55
76.00		94.71	0.49	-0.01	0.01	0.23
77.00		94.71	0.50	-0.02	0.01	-0.03
78.00		94.71	0.51	-0.02	0.01	-0.30
79.00		94.71	0.52	-0.03	0.01	-0.57
80.00	Top - Section 3	94.71	0.54	-0.03	0.01	-0.84
81.00		94.71	0.55	-0.03	0.01	-1.10
82.00		94.71	0.56	-0.04	0.01	-1.36
83.00		94.71	0.58	-0.05	0.01	-1.61
84.00		94.71	0.59	-0.05	0.01	-1.86
85.00		94.71	0.61	-0.06	0.02	-2.09
86.00		94.71	0.62	-0.06	0.02	-2.31
87.00		94.71	0.64	-0.07	0.02	-2.52
88.00		94.71	0.65	-0.07	0.02	-2.71
89.00		94.71	0.67	-0.08	0.02	-2.88
90.00		94.71	0.68	-0.08	0.03	-3.04
91.00		94.71	0.70	-0.09	0.03	-3.18
92.00		94.71	0.71	-0.09	0.03	-3.30
93.00		94.71	0.73	-0.09	0.04	-3.40
94.00		94.71	0.74	-0.10	0.04	-3.49
95.00		94.71	0.76	-0.10	0.04	-3.55
96.00		94.71	0.77	-0.11	0.05	-3.59
97.00		94.71	0.79	-0.11	0.05	-3.62
98.00		94.71	0.81	-0.11	0.06	-3.62
99.00		94.71	0.82	-0.12	0.06	-3.61
100.00		94.71	0.84	-0.12	0.07	-3.58
101.00		94.71	0.86	-0.12	0.07	-3.52
102.00		94.71	0.87	-0.12	0.08	-3.45

Seismic Segment Forces (Factored)

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 45	

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103.00		94.71	0.89	-0.12	0.08	-3.36		
104.00		94.71	0.91	-0.12	0.09	-3.24		
105.00		94.71	0.93	-0.12	0.10	-3.11		
106.00		94.71	0.94	-0.12	0.11	-2.96		
107.00		94.71	0.96	-0.12	0.11	-2.79		
108.00	Top - Section 4	107.62	0.98	-0.11	0.12	-2.96		
109.00		94.71	1.00	-0.11	0.13	-2.40		
110.00	Top - Section 5 RB1	172.19	1.02	-0.11	0.14	-3.95		
111.00		61.47	1.03	-0.10	0.15	-1.25		
111.50	RT1	30.73	1.04	-0.10	0.15	-0.58		
112.00		30.73	1.05	-0.09	0.16	-0.54		
113.00		61.47	1.07	-0.08	0.17	-0.90		
114.00		61.47	1.09	-0.07	0.18	-0.70		
115.00	Appurtenance(s)	276.07	1.11	-0.06	0.19	-2.23		
116.00		61.47	1.13	-0.05	0.21	-0.28		
117.00		61.47	1.15	-0.04	0.22	-0.05		
118.00		61.47	1.17	-0.02	0.23	0.20		
119.00		61.47	1.19	0.00	0.25	0.45		
120.00	Appurtenance(s)	190.61	1.21	0.01	0.26	2.23		
121.00		61.47	1.23	0.03	0.28	1.00		
122.00		61.47	1.25	0.06	0.29	1.29		
123.00		61.47	1.27	0.08	0.31	1.59		
124.00		61.47	1.29	0.11	0.33	1.91		
125.00		61.47	1.31	0.14	0.35	2.24		
126.00		61.47	1.33	0.17	0.37	2.58		
127.00	Appurtenance(s)	228.37	1.35	0.20	0.39	10.88		
128.00		61.47	1.38	0.24	0.41	3.29		
129.00		61.47	1.40	0.28	0.43	3.67		
130.00	Top - Section 6	190.61	1.42	0.32	0.45	12.59		
131.00		28.60	1.44	0.37	0.48	2.08		
132.00		28.60	1.46	0.42	0.50	2.27		
133.00		28.60	1.49	0.47	0.53	2.47		
134.00		28.60	1.51	0.52	0.55	2.67		
135.00	Appurtenance(s)	233.90	1.53	0.58	0.58	23.59		
136.00		28.60	1.55	0.64	0.61	3.10		
137.00		28.60	1.58	0.71	0.64	3.32		
138.00		28.60	1.60	0.78	0.67	3.55		
139.00		28.60	1.62	0.85	0.70	3.79		
140.00	Appurtenance(s)	182.74	1.65	0.93	0.73	25.74		
141.00		28.60	1.67	1.01	0.77	4.28		
142.00		28.60	1.69	1.10	0.81	4.53		
143.00		28.60	1.72	1.19	0.84	4.79		
144.00		28.60	1.74	1.29	0.88	5.05		
145.00	Appurtenance(s)	220.60	1.77	1.39	0.92	41.07		
146.00		28.60	1.79	1.50	0.96	5.60		
147.00		28.60	1.82	1.61	1.00	5.89		
148.00		28.60	1.84	1.73	1.05	6.18		
149.00		28.60	1.86	1.85	1.09	6.47		
150.00	Appurtenance(s)	98.17	1.89	1.98	1.14	23.27		
	Totals:	**15,264.1**				**389.2**	**Total Wind:**	**11,932.0**

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

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 46	

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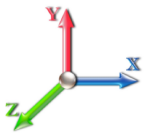
Load Case: 1.2D + 1.0E



Gust Response Factor	1.10			**Sds**	0.19			**Iterations**	37
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.32	**SA**	0.03			**S1**	0.06
								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	-24.45	-0.48	0.00	-43.35	0.00	43.35	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.049
1.00	-24.24	-0.48	0.00	-42.87	0.00	42.87	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.048
2.00	-24.02	-0.48	0.00	-42.38	0.00	42.38	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.048
3.00	-23.81	-0.48	0.00	-41.90	0.00	41.90	1490.10	745.05	2187.51	1339.68		0.00	-0.01	0.047
4.00	-23.59	-0.48	0.00	-41.42	0.00	41.42	1490.10	745.05	2187.51	1339.68		0.00	-0.01	0.047
5.00	-23.38	-0.48	0.00	-40.94	0.00	40.94	1490.10	745.05	2187.51	1339.68		0.00	-0.01	0.046
6.00	-23.17	-0.48	0.00	-40.46	0.00	40.46	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.046
7.00	-22.95	-0.47	0.00	-39.98	0.00	39.98	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.045
8.00	-22.74	-0.47	0.00	-39.51	0.00	39.51	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.045
9.00	-22.53	-0.47	0.00	-39.03	0.00	39.03	1490.10	745.05	2187.51	1339.68		0.02	-0.02	0.044
10.00	-22.31	-0.47	0.00	-38.57	0.00	38.57	1490.10	745.05	2187.51	1339.68		0.02	-0.02	0.044
11.00	-22.10	-0.46	0.00	-38.10	0.00	38.10	1490.10	745.05	2187.51	1339.68		0.02	-0.02	0.043
12.00	-21.88	-0.46	0.00	-37.64	0.00	37.64	1490.10	745.05	2187.51	1339.68		0.03	-0.02	0.043
13.00	-21.67	-0.45	0.00	-37.18	0.00	37.18	1490.10	745.05	2187.51	1339.68		0.03	-0.02	0.042
14.00	-21.46	-0.45	0.00	-36.73	0.00	36.73	1490.10	745.05	2187.51	1339.68		0.04	-0.02	0.042
15.00	-21.24	-0.45	0.00	-36.28	0.00	36.28	1490.10	745.05	2187.51	1339.68		0.04	-0.03	0.041
16.00	-21.03	-0.44	0.00	-35.83	0.00	35.83	1490.10	745.05	2187.51	1339.68		0.05	-0.03	0.041
17.00	-20.81	-0.44	0.00	-35.39	0.00	35.39	1490.10	745.05	2187.51	1339.68		0.05	-0.03	0.040
18.00	-20.60	-0.43	0.00	-34.95	0.00	34.95	1490.10	745.05	2187.51	1339.68		0.06	-0.03	0.040
19.00	-20.39	-0.43	0.00	-34.52	0.00	34.52	1490.10	745.05	2187.51	1339.68		0.07	-0.03	0.039
20.00	-20.17	-0.43	0.00	-34.09	0.00	34.09	1490.10	745.05	2187.51	1339.68		0.07	-0.03	0.039
20.00	-20.17	-0.43	0.00	-34.09	0.00	34.09	1311.06	655.53	1597.15	948.43		0.07	-0.03	0.051
21.00	-19.99	-0.42	0.00	-33.66	0.00	33.66	1311.06	655.53	1597.15	948.43		0.08	-0.03	0.051
22.00	-19.80	-0.42	0.00	-33.24	0.00	33.24	1311.06	655.53	1597.15	948.43		0.09	-0.04	0.050
23.00	-19.62	-0.42	0.00	-32.82	0.00	32.82	1311.06	655.53	1597.15	948.43		0.09	-0.04	0.050
24.00	-19.43	-0.41	0.00	-32.40	0.00	32.40	1311.06	655.53	1597.15	948.43		0.10	-0.04	0.049
25.00	-19.25	-0.41	0.00	-31.99	0.00	31.99	1311.06	655.53	1597.15	948.43		0.11	-0.04	0.048
26.00	-19.06	-0.41	0.00	-31.58	0.00	31.58	1311.06	655.53	1597.15	948.43		0.12	-0.05	0.048
27.00	-18.88	-0.40	0.00	-31.18	0.00	31.18	1311.06	655.53	1597.15	948.43		0.13	-0.05	0.047
28.00	-18.69	-0.40	0.00	-30.78	0.00	30.78	1311.06	655.53	1597.15	948.43		0.14	-0.05	0.047
29.00	-18.51	-0.39	0.00	-30.38	0.00	30.38	1311.06	655.53	1597.15	948.43		0.15	-0.05	0.046
30.00	-18.32	-0.39	0.00	-29.98	0.00	29.98	1311.06	655.53	1597.15	948.43		0.16	-0.06	0.046
31.00	-18.14	-0.39	0.00	-29.59	0.00	29.59	1311.06	655.53	1597.15	948.43		0.18	-0.06	0.045
32.00	-17.95	-0.38	0.00	-29.21	0.00	29.21	1311.06	655.53	1597.15	948.43		0.19	-0.06	0.044
33.00	-17.77	-0.38	0.00	-28.82	0.00	28.82	1311.06	655.53	1597.15	948.43		0.20	-0.06	0.044
34.00	-17.58	-0.38	0.00	-28.44	0.00	28.44	1311.06	655.53	1597.15	948.43		0.21	-0.06	0.043
35.00	-17.40	-0.37	0.00	-28.07	0.00	28.07	1311.06	655.53	1597.15	948.43		0.23	-0.07	0.043
36.00	-17.21	-0.37	0.00	-27.69	0.00	27.69	1311.06	655.53	1597.15	948.43		0.24	-0.07	0.042
37.00	-17.03	-0.36	0.00	-27.33	0.00	27.33	1311.06	655.53	1597.15	948.43		0.26	-0.07	0.042
38.00	-16.84	-0.36	0.00	-26.96	0.00	26.96	1311.06	655.53	1597.15	948.43		0.27	-0.07	0.041
39.00	-16.66	-0.36	0.00	-26.60	0.00	26.60	1311.06	655.53	1597.15	948.43		0.29	-0.07	0.041
40.00	-16.47	-0.35	0.00	-26.24	0.00	26.24	1311.06	655.53	1597.15	948.43		0.30	-0.08	0.040
41.00	-16.29	-0.35	0.00	-25.89	0.00	25.89	1311.06	655.53	1597.15	948.43		0.32	-0.08	0.040
42.00	-16.10	-0.34	0.00	-25.54	0.00	25.54	1311.06	655.53	1597.15	948.43		0.34	-0.08	0.039
43.00	-15.92	-0.34	0.00	-25.20	0.00	25.20	1311.06	655.53	1597.15	948.43		0.35	-0.08	0.039
44.00	-15.73	-0.34	0.00	-24.86	0.00	24.86	1311.06	655.53	1597.15	948.43		0.37	-0.08	0.038
45.00	-15.55	-0.33	0.00	-24.53	0.00	24.53	1311.06	655.53	1597.15	948.43		0.39	-0.09	0.038

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 47

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46.00	-15.36	-0.33	0.00	-24.19	0.00	24.19	1311.06	655.53	1597.15	948.43	0.41	-0.09	0.037
47.00	-15.18	-0.32	0.00	-23.87	0.00	23.87	1311.06	655.53	1597.15	948.43	0.43	-0.09	0.037
48.00	-14.99	-0.32	0.00	-23.54	0.00	23.54	1311.06	655.53	1597.15	948.43	0.44	-0.09	0.036
49.00	-14.81	-0.31	0.00	-23.23	0.00	23.23	1311.06	655.53	1597.15	948.43	0.46	-0.09	0.036
50.00	-14.62	-0.31	0.00	-22.91	0.00	22.91	1311.06	655.53	1597.15	948.43	0.48	-0.09	0.035
50.00	-14.62	-0.31	0.00	-22.91	0.00	22.91	1052.07	526.04	1018.84	624.04	0.48	-0.09	0.051
51.00	-14.47	-0.31	0.00	-22.60	0.00	22.60	1052.07	526.04	1018.84	624.04	0.50	-0.10	0.050
52.00	-14.31	-0.30	0.00	-22.29	0.00	22.29	1052.07	526.04	1018.84	624.04	0.52	-0.10	0.049
53.00	-14.15	-0.30	0.00	-21.99	0.00	21.99	1052.07	526.04	1018.84	624.04	0.55	-0.10	0.049
54.00	-14.00	-0.30	0.00	-21.69	0.00	21.69	1052.07	526.04	1018.84	624.04	0.57	-0.11	0.048
55.00	-13.84	-0.29	0.00	-21.39	0.00	21.39	1052.07	526.04	1018.84	624.04	0.59	-0.11	0.047
56.00	-13.68	-0.29	0.00	-21.10	0.00	21.10	1052.07	526.04	1018.84	624.04	0.61	-0.11	0.047
57.00	-13.53	-0.29	0.00	-20.80	0.00	20.80	1052.07	526.04	1018.84	624.04	0.64	-0.12	0.046
58.00	-13.37	-0.29	0.00	-20.52	0.00	20.52	1052.07	526.04	1018.84	624.04	0.66	-0.12	0.046
59.00	-13.22	-0.28	0.00	-20.23	0.00	20.23	1052.07	526.04	1018.84	624.04	0.69	-0.12	0.045
60.00	-13.06	-0.28	0.00	-19.95	0.00	19.95	1052.07	526.04	1018.84	624.04	0.71	-0.12	0.044
61.00	-12.90	-0.28	0.00	-19.67	0.00	19.67	1052.07	526.04	1018.84	624.04	0.74	-0.13	0.044
62.00	-12.75	-0.28	0.00	-19.39	0.00	19.39	1052.07	526.04	1018.84	624.04	0.77	-0.13	0.043
63.00	-12.59	-0.27	0.00	-19.11	0.00	19.11	1052.07	526.04	1018.84	624.04	0.79	-0.13	0.043
64.00	-12.44	-0.27	0.00	-18.84	0.00	18.84	1052.07	526.04	1018.84	624.04	0.82	-0.14	0.042
65.00	-12.28	-0.27	0.00	-18.57	0.00	18.57	1052.07	526.04	1018.84	624.04	0.85	-0.14	0.041
66.00	-12.12	-0.27	0.00	-18.30	0.00	18.30	1052.07	526.04	1018.84	624.04	0.88	-0.14	0.041
67.00	-11.97	-0.26	0.00	-18.04	0.00	18.04	1052.07	526.04	1018.84	624.04	0.91	-0.14	0.040
68.00	-11.81	-0.26	0.00	-17.77	0.00	17.77	1052.07	526.04	1018.84	624.04	0.94	-0.15	0.040
69.00	-11.65	-0.26	0.00	-17.51	0.00	17.51	1052.07	526.04	1018.84	624.04	0.97	-0.15	0.039
70.00	-11.50	-0.26	0.00	-17.25	0.00	17.25	1052.07	526.04	1018.84	624.04	1.00	-0.15	0.039
71.00	-11.34	-0.26	0.00	-16.99	0.00	16.99	1052.07	526.04	1018.84	624.04	1.03	-0.15	0.038
72.00	-11.19	-0.26	0.00	-16.74	0.00	16.74	1052.07	526.04	1018.84	624.04	1.07	-0.16	0.037
73.00	-11.03	-0.25	0.00	-16.48	0.00	16.48	1052.07	526.04	1018.84	624.04	1.10	-0.16	0.037
74.00	-10.87	-0.25	0.00	-16.23	0.00	16.23	1052.07	526.04	1018.84	624.04	1.13	-0.16	0.036
75.00	-10.71	-0.25	0.00	-15.97	0.00	15.97	1052.07	526.04	1018.84	624.04	1.17	-0.16	0.036
76.00	-10.55	-0.25	0.00	-15.72	0.00	15.72	1052.07	526.04	1018.84	624.04	1.20	-0.17	0.035
77.00	-10.39	-0.25	0.00	-15.47	0.00	15.47	1052.07	526.04	1018.84	624.04	1.24	-0.17	0.035
78.00	-10.24	-0.25	0.00	-15.21	0.00	15.21	1052.07	526.04	1018.84	624.04	1.27	-0.17	0.034
79.00	-10.08	-0.25	0.00	-14.96	0.00	14.96	1052.07	526.04	1018.84	624.04	1.31	-0.17	0.034
80.00	-9.93	-0.25	0.00	-14.71	0.00	14.71	1052.07	526.04	1018.84	624.04	1.34	-0.18	0.033
80.00	-9.93	-0.25	0.00	-14.71	0.00	14.71	1052.07	526.04	1018.84	624.04	1.34	-0.18	0.033
81.00	-9.77	-0.25	0.00	-14.46	0.00	14.46	1052.07	526.04	1018.84	624.04	1.38	-0.18	0.032
82.00	-9.61	-0.25	0.00	-14.20	0.00	14.20	1052.07	526.04	1018.84	624.04	1.42	-0.18	0.032
83.00	-9.46	-0.25	0.00	-13.95	0.00	13.95	1052.07	526.04	1018.84	624.04	1.46	-0.18	0.031
84.00	-9.30	-0.25	0.00	-13.70	0.00	13.70	1052.07	526.04	1018.84	624.04	1.50	-0.18	0.031
85.00	-9.15	-0.25	0.00	-13.45	0.00	13.45	1052.07	526.04	1018.84	624.04	1.53	-0.19	0.030
86.00	-8.99	-0.25	0.00	-13.19	0.00	13.19	1052.07	526.04	1018.84	624.04	1.57	-0.19	0.030
87.00	-8.83	-0.25	0.00	-12.94	0.00	12.94	1052.07	526.04	1018.84	624.04	1.61	-0.19	0.029
88.00	-8.68	-0.25	0.00	-12.69	0.00	12.69	1052.07	526.04	1018.84	624.04	1.65	-0.19	0.029
89.00	-8.52	-0.25	0.00	-12.44	0.00	12.44	1052.07	526.04	1018.84	624.04	1.69	-0.19	0.028
90.00	-8.37	-0.25	0.00	-12.19	0.00	12.19	1052.07	526.04	1018.84	624.04	1.73	-0.19	0.027
91.00	-8.21	-0.25	0.00	-11.94	0.00	11.94	1052.07	526.04	1018.84	624.04	1.77	-0.20	0.027
92.00	-8.05	-0.25	0.00	-11.69	0.00	11.69	1052.07	526.04	1018.84	624.04	1.82	-0.20	0.026
93.00	-7.90	-0.25	0.00	-11.44	0.00	11.44	1052.07	526.04	1018.84	624.04	1.86	-0.20	0.026
94.00	-7.74	-0.25	0.00	-11.19	0.00	11.19	1052.07	526.04	1018.84	624.04	1.90	-0.20	0.025
95.00	-7.59	-0.25	0.00	-10.94	0.00	10.94	1052.07	526.04	1018.84	624.04	1.94	-0.20	0.025
96.00	-7.43	-0.25	0.00	-10.69	0.00	10.69	1052.07	526.04	1018.84	624.04	1.98	-0.20	0.024
97.00	-7.27	-0.25	0.00	-10.44	0.00	10.44	1052.07	526.04	1018.84	624.04	2.03	-0.21	0.024
98.00	-7.12	-0.25	0.00	-10.19	0.00	10.19	1052.07	526.04	1018.84	624.04	2.07	-0.21	0.023
99.00	-6.96	-0.25	0.00	-9.94	0.00	9.94	1052.07	526.04	1018.84	624.04	2.11	-0.21	0.023
100.00	-6.81	-0.25	0.00	-9.69	0.00	9.69	1052.07	526.04	1018.84	624.04	2.16	-0.21	0.022

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 48	

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101.00	-6.65	-0.25	0.00	-9.44	0.00	9.44	1052.07	526.04	1018.84	624.04	2.20	-0.21	0.021
102.00	-6.49	-0.25	0.00	-9.20	0.00	9.20	1052.07	526.04	1018.84	624.04	2.25	-0.21	0.021
103.00	-6.34	-0.25	0.00	-8.95	0.00	8.95	1052.07	526.04	1018.84	624.04	2.29	-0.21	0.020
104.00	-6.18	-0.25	0.00	-8.70	0.00	8.70	1052.07	526.04	1018.84	624.04	2.34	-0.22	0.020
105.00	-6.03	-0.25	0.00	-8.46	0.00	8.46	1052.07	526.04	1018.84	624.04	2.38	-0.22	0.019
106.00	-5.87	-0.25	0.00	-8.21	0.00	8.21	1052.07	526.04	1018.84	624.04	2.43	-0.22	0.019
107.00	-5.71	-0.24	0.00	-7.97	0.00	7.97	1052.07	526.04	1018.84	624.04	2.47	-0.22	0.018
108.00	-5.54	-0.24	0.00	-7.72	0.00	7.72	1052.07	526.04	1018.84	624.04	2.52	-0.22	0.018
108.00	-5.54	-0.24	0.00	-7.72	0.00	7.72	1052.07	526.04	1018.84	624.04	2.52	-0.22	0.018
109.00	-5.38	-0.24	0.00	-7.48	0.00	7.48	1052.07	526.04	1018.84	624.04	2.57	-0.22	0.017
110.00	-5.12	-0.24	0.00	-7.24	0.00	7.24	1052.07	526.04	1018.84	624.04	2.61	-0.22	0.011
110.00	-5.12	-0.24	0.00	-7.24	0.00	7.24	682.83	341.41	139.27	105.20	2.61	-0.22	0.005
111.00	-4.99	-0.24	0.00	-6.99	0.00	6.99	682.83	341.41	139.27	105.20	2.66	-0.22	0.022
111.50	-4.92	-0.24	0.00	-6.87	0.00	6.87	682.83	341.41	139.27	105.20	2.68	-0.23	0.022
111.50	-4.92	-0.24	0.00	-6.87	0.00	6.87	682.83	341.41	139.27	105.20	2.68	-0.23	0.022
112.00	-4.86	-0.24	0.00	-6.75	0.00	6.75	682.83	341.41	139.27	105.20	2.71	-0.23	0.071
113.00	-4.73	-0.24	0.00	-6.51	0.00	6.51	682.83	341.41	139.27	105.20	2.76	-0.26	0.069
114.00	-4.60	-0.25	0.00	-6.26	0.00	6.26	682.83	341.41	139.27	105.20	2.81	-0.28	0.066
115.00	-4.22	-0.25	0.00	-6.02	0.00	6.02	682.83	341.41	139.27	105.20	2.88	-0.30	0.063
116.00	-4.10	-0.25	0.00	-5.77	0.00	5.77	682.83	341.41	139.27	105.20	2.94	-0.33	0.061
117.00	-3.98	-0.25	0.00	-5.52	0.00	5.52	682.83	341.41	139.27	105.20	3.01	-0.35	0.058
118.00	-3.86	-0.25	0.00	-5.28	0.00	5.28	682.83	341.41	139.27	105.20	3.09	-0.37	0.056
119.00	-3.74	-0.25	0.00	-5.03	0.00	5.03	682.83	341.41	139.27	105.20	3.17	-0.39	0.053
120.00	-3.46	-0.25	0.00	-4.78	0.00	4.78	682.83	341.41	139.27	105.20	3.25	-0.41	0.051
121.00	-3.34	-0.24	0.00	-4.53	0.00	4.53	682.83	341.41	139.27	105.20	3.34	-0.42	0.048
122.00	-3.22	-0.24	0.00	-4.29	0.00	4.29	682.83	341.41	139.27	105.20	3.43	-0.44	0.045
123.00	-3.10	-0.24	0.00	-4.05	0.00	4.05	682.83	341.41	139.27	105.20	3.52	-0.46	0.043
124.00	-2.98	-0.24	0.00	-3.81	0.00	3.81	682.83	341.41	139.27	105.20	3.62	-0.47	0.041
125.00	-2.86	-0.24	0.00	-3.57	0.00	3.57	682.83	341.41	139.27	105.20	3.72	-0.49	0.038
126.00	-2.74	-0.23	0.00	-3.33	0.00	3.33	682.83	341.41	139.27	105.20	3.82	-0.50	0.036
127.00	-2.42	-0.22	0.00	-3.10	0.00	3.10	682.83	341.41	139.27	105.20	3.93	-0.51	0.033
128.00	-2.31	-0.22	0.00	-2.88	0.00	2.88	682.83	341.41	139.27	105.20	4.04	-0.52	0.031
129.00	-2.20	-0.21	0.00	-2.66	0.00	2.66	682.83	341.41	139.27	105.20	4.15	-0.53	0.028
130.00	-1.93	-0.20	0.00	-2.45	0.00	2.45	682.83	341.41	139.27	105.20	4.26	-0.54	0.026
130.00	-1.93	-0.20	0.00	-2.45	0.00	2.45	317.71	158.85	76.59	52.28	4.26	-0.54	0.053
131.00	-1.86	-0.20	0.00	-2.25	0.00	2.25	317.71	158.85	76.59	52.28	4.37	-0.55	0.049
132.00	-1.79	-0.19	0.00	-2.05	0.00	2.05	317.71	158.85	76.59	52.28	4.49	-0.57	0.045
133.00	-1.72	-0.19	0.00	-1.86	0.00	1.86	317.71	158.85	76.59	52.28	4.61	-0.58	0.041
134.00	-1.65	-0.19	0.00	-1.67	0.00	1.67	317.71	158.85	76.59	52.28	4.73	-0.59	0.037
135.00	-1.33	-0.16	0.00	-1.48	0.00	1.48	317.71	158.85	76.59	52.28	4.86	-0.60	0.033
136.00	-1.27	-0.16	0.00	-1.32	0.00	1.32	317.71	158.85	76.59	52.28	4.99	-0.61	0.029
137.00	-1.21	-0.15	0.00	-1.17	0.00	1.17	317.71	158.85	76.59	52.28	5.12	-0.62	0.026
138.00	-1.15	-0.15	0.00	-1.01	0.00	1.01	317.71	158.85	76.59	52.28	5.25	-0.63	0.023
139.00	-1.09	-0.14	0.00	-0.87	0.00	0.87	317.71	158.85	76.59	52.28	5.38	-0.64	0.020
140.00	-0.85	-0.12	0.00	-0.72	0.00	0.72	317.71	158.85	76.59	52.28	5.52	-0.64	0.016
141.00	-0.79	-0.11	0.00	-0.60	0.00	0.60	317.71	158.85	76.59	52.28	5.65	-0.65	0.014
142.00	-0.72	-0.11	0.00	-0.49	0.00	0.49	317.71	158.85	76.59	52.28	5.79	-0.65	0.012
143.00	-0.66	-0.10	0.00	-0.39	0.00	0.39	317.71	158.85	76.59	52.28	5.92	-0.65	0.009
144.00	-0.60	-0.10	0.00	-0.29	0.00	0.29	317.71	158.85	76.59	52.28	6.06	-0.66	0.007
145.00	-0.31	-0.05	0.00	-0.19	0.00	0.19	317.71	158.85	76.59	52.28	6.20	-0.66	0.005
146.00	-0.27	-0.04	0.00	-0.14	0.00	0.14	317.71	158.85	76.59	52.28	6.34	-0.66	0.004
147.00	-0.22	-0.04	0.00	-0.09	0.00	0.09	317.71	158.85	76.59	52.28	6.48	-0.66	0.003
148.00	-0.17	-0.03	0.00	-0.06	0.00	0.06	317.71	158.85	76.59	52.28	6.61	-0.66	0.002
149.00	-0.13	-0.02	0.00	-0.02	0.00	0.02	317.71	158.85	76.59	52.28	6.75	-0.66	0.001
150.00	0.00	-0.02	0.00	0.00	0.00	0.00	317.71	158.85	76.59	52.28	6.89	-0.66	0.000

Seismic Segment Forces (Factored)

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 49	

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Load Case:	0.9D + 1.0E							**Iterations**	37
Gust Response Factor	1.10				**Sds**	0.19		**Ss**	0.18
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.32		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
1.00		142.81	0.00	0.01	0.00	0.76	
2.00		142.81	0.00	0.01	0.01	1.38	
3.00		142.81	0.00	0.02	0.01	1.89	
4.00		142.81	0.00	0.03	0.01	2.32	
5.00		142.81	0.00	0.03	0.02	2.68	
6.00		142.81	0.00	0.04	0.02	2.99	
7.00		142.81	0.00	0.04	0.02	3.26	
8.00		142.81	0.01	0.05	0.03	3.49	
9.00		142.81	0.01	0.05	0.03	3.69	
10.00		142.81	0.01	0.05	0.03	3.86	
11.00		142.81	0.01	0.06	0.03	4.01	
12.00		142.81	0.01	0.06	0.03	4.14	
13.00		142.81	0.01	0.06	0.03	4.25	
14.00		142.81	0.02	0.06	0.04	4.35	
15.00		142.81	0.02	0.06	0.04	4.43	
16.00		142.81	0.02	0.06	0.04	4.51	
17.00		142.81	0.02	0.07	0.04	4.57	
18.00		142.81	0.03	0.07	0.04	4.63	
19.00		142.81	0.03	0.07	0.04	4.68	
20.00	Top - Section 1	142.81	0.03	0.07	0.04	4.72	
21.00		118.76	0.04	0.07	0.04	3.96	
22.00		118.76	0.04	0.07	0.04	3.99	
23.00		118.76	0.04	0.07	0.04	4.02	
24.00		118.76	0.05	0.07	0.04	4.05	
25.00		118.76	0.05	0.07	0.04	4.07	
26.00		118.76	0.06	0.07	0.04	4.09	
27.00		118.76	0.06	0.07	0.04	4.11	
28.00		118.76	0.07	0.07	0.04	4.14	
29.00		118.76	0.07	0.07	0.04	4.16	
30.00		118.76	0.08	0.07	0.04	4.18	
31.00		118.76	0.08	0.07	0.04	4.20	
32.00		118.76	0.09	0.07	0.04	4.22	
33.00		118.76	0.09	0.07	0.04	4.24	
34.00		118.76	0.10	0.07	0.04	4.26	
35.00		118.76	0.10	0.07	0.04	4.28	
36.00		118.76	0.11	0.07	0.04	4.30	
37.00		118.76	0.11	0.07	0.04	4.32	
38.00		118.76	0.12	0.07	0.03	4.34	
39.00		118.76	0.13	0.07	0.03	4.36	
40.00		118.76	0.13	0.07	0.03	4.38	
41.00		118.76	0.14	0.07	0.03	4.40	
42.00		118.76	0.15	0.07	0.03	4.41	
43.00		118.76	0.16	0.07	0.03	4.43	
44.00		118.76	0.16	0.07	0.03	4.44	
45.00		118.76	0.17	0.07	0.03	4.45	

Seismic Segment Forces (Factored)

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 50	

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46.00		118.76	0.18	0.07	0.03	4.46
47.00		118.76	0.19	0.06	0.03	4.46
48.00		118.76	0.19	0.06	0.02	4.46
49.00		118.76	0.20	0.06	0.02	4.46
50.00	Top - Section 2	118.76	0.21	0.06	0.02	4.45
51.00		94.71	0.22	0.06	0.02	3.54
52.00		94.71	0.23	0.06	0.02	3.52
53.00		94.71	0.24	0.06	0.02	3.50
54.00		94.71	0.24	0.06	0.02	3.47
55.00		94.71	0.25	0.05	0.02	3.43
56.00		94.71	0.26	0.05	0.02	3.39
57.00		94.71	0.27	0.05	0.01	3.34
58.00		94.71	0.28	0.05	0.01	3.28
59.00		94.71	0.29	0.05	0.01	3.21
60.00		94.71	0.30	0.04	0.01	3.13
61.00		94.71	0.31	0.04	0.01	3.04
62.00		94.71	0.32	0.04	0.01	2.94
63.00		94.71	0.33	0.04	0.01	2.83
64.00		94.71	0.34	0.03	0.01	2.70
65.00		94.71	0.35	0.03	0.01	2.56
66.00		94.71	0.37	0.03	0.01	2.41
67.00		94.71	0.38	0.03	0.01	2.25
68.00		94.71	0.39	0.02	0.01	2.07
69.00		94.71	0.40	0.02	0.01	1.88
70.00		94.71	0.41	0.01	0.01	1.68
71.00		94.71	0.42	0.01	0.01	1.46
72.00		94.71	0.44	0.01	0.01	1.23
73.00		94.71	0.45	0.00	0.01	1.00
74.00		94.71	0.46	0.00	0.01	0.75
75.00	Appurtenance(s)	104.71	0.47	-0.01	0.01	0.55
76.00		94.71	0.49	-0.01	0.01	0.23
77.00		94.71	0.50	-0.02	0.01	-0.03
78.00		94.71	0.51	-0.02	0.01	-0.30
79.00		94.71	0.52	-0.03	0.01	-0.57
80.00	Top - Section 3	94.71	0.54	-0.03	0.01	-0.84
81.00		94.71	0.55	-0.03	0.01	-1.10
82.00		94.71	0.56	-0.04	0.01	-1.36
83.00		94.71	0.58	-0.05	0.01	-1.61
84.00		94.71	0.59	-0.05	0.01	-1.86
85.00		94.71	0.61	-0.06	0.02	-2.09
86.00		94.71	0.62	-0.06	0.02	-2.31
87.00		94.71	0.64	-0.07	0.02	-2.52
88.00		94.71	0.65	-0.07	0.02	-2.71
89.00		94.71	0.67	-0.08	0.02	-2.88
90.00		94.71	0.68	-0.08	0.03	-3.04
91.00		94.71	0.70	-0.09	0.03	-3.18
92.00		94.71	0.71	-0.09	0.03	-3.30
93.00		94.71	0.73	-0.09	0.04	-3.40
94.00		94.71	0.74	-0.10	0.04	-3.49
95.00		94.71	0.76	-0.10	0.04	-3.55
96.00		94.71	0.77	-0.11	0.05	-3.59
97.00		94.71	0.79	-0.11	0.05	-3.62
98.00		94.71	0.81	-0.11	0.06	-3.62
99.00		94.71	0.82	-0.12	0.06	-3.61
100.00		94.71	0.84	-0.12	0.07	-3.58
101.00		94.71	0.86	-0.12	0.07	-3.52
102.00		94.71	0.87	-0.12	0.08	-3.45

Seismic Segment Forces (Factored)

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 51

103.00		94.71	0.89	-0.12	0.08	-3.36		
104.00		94.71	0.91	-0.12	0.09	-3.24		
105.00		94.71	0.93	-0.12	0.10	-3.11		
106.00		94.71	0.94	-0.12	0.11	-2.96		
107.00		94.71	0.96	-0.12	0.11	-2.79		
108.00	Top - Section 4	107.62	0.98	-0.11	0.12	-2.96		
109.00		94.71	1.00	-0.11	0.13	-2.40		
110.00	Top - Section 5 RB1	172.19	1.02	-0.11	0.14	-3.95		
111.00		61.47	1.03	-0.10	0.15	-1.25		
111.50	RT1	30.73	1.04	-0.10	0.15	-0.58		
112.00		30.73	1.05	-0.09	0.16	-0.54		
113.00		61.47	1.07	-0.08	0.17	-0.90		
114.00		61.47	1.09	-0.07	0.18	-0.70		
115.00	Appurtenance(s)	276.07	1.11	-0.06	0.19	-2.23		
116.00		61.47	1.13	-0.05	0.21	-0.28		
117.00		61.47	1.15	-0.04	0.22	-0.05		
118.00		61.47	1.17	-0.02	0.23	0.20		
119.00		61.47	1.19	0.00	0.25	0.45		
120.00	Appurtenance(s)	190.61	1.21	0.01	0.26	2.23		
121.00		61.47	1.23	0.03	0.28	1.00		
122.00		61.47	1.25	0.06	0.29	1.29		
123.00		61.47	1.27	0.08	0.31	1.59		
124.00		61.47	1.29	0.11	0.33	1.91		
125.00		61.47	1.31	0.14	0.35	2.24		
126.00		61.47	1.33	0.17	0.37	2.58		
127.00	Appurtenance(s)	228.37	1.35	0.20	0.39	10.88		
128.00		61.47	1.38	0.24	0.41	3.29		
129.00		61.47	1.40	0.28	0.43	3.67		
130.00	Top - Section 6	190.61	1.42	0.32	0.45	12.59		
131.00		28.60	1.44	0.37	0.48	2.08		
132.00		28.60	1.46	0.42	0.50	2.27		
133.00		28.60	1.49	0.47	0.53	2.47		
134.00		28.60	1.51	0.52	0.55	2.67		
135.00	Appurtenance(s)	233.90	1.53	0.58	0.58	23.59		
136.00		28.60	1.55	0.64	0.61	3.10		
137.00		28.60	1.58	0.71	0.64	3.32		
138.00		28.60	1.60	0.78	0.67	3.55		
139.00		28.60	1.62	0.85	0.70	3.79		
140.00	Appurtenance(s)	182.74	1.65	0.93	0.73	25.74		
141.00		28.60	1.67	1.01	0.77	4.28		
142.00		28.60	1.69	1.10	0.81	4.53		
143.00		28.60	1.72	1.19	0.84	4.79		
144.00		28.60	1.74	1.29	0.88	5.05		
145.00	Appurtenance(s)	220.60	1.77	1.39	0.92	41.07		
146.00		28.60	1.79	1.50	0.96	5.60		
147.00		28.60	1.82	1.61	1.00	5.89		
148.00		28.60	1.84	1.73	1.05	6.18		
149.00		28.60	1.86	1.85	1.09	6.47		
150.00	Appurtenance(s)	98.17	1.89	1.98	1.14	23.27		
	Totals:	**15,264.1**				**389.2**	**Total Wind:**	**11,932.0**

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

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 52	

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Load Case: 0.9D + 1.0E

Iterations 37

Gust Response Factor	1.10			**Sds**	0.19			**Ss**	0.18
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.32	**SA**	0.03	**Seismic Importance Factor**			1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-18.34	-0.48	0.00	-42.55	0.00	42.55	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.044
1.00	-18.18	-0.48	0.00	-42.07	0.00	42.07	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.044
2.00	-18.02	-0.48	0.00	-41.58	0.00	41.58	1490.10	745.05	2187.51	1339.68		0.00	0.00	0.043
3.00	-17.86	-0.48	0.00	-41.10	0.00	41.10	1490.10	745.05	2187.51	1339.68		0.00	-0.01	0.043
4.00	-17.70	-0.48	0.00	-40.62	0.00	40.62	1490.10	745.05	2187.51	1339.68		0.00	-0.01	0.042
5.00	-17.54	-0.48	0.00	-40.14	0.00	40.14	1490.10	745.05	2187.51	1339.68		0.00	-0.01	0.042
6.00	-17.38	-0.48	0.00	-39.66	0.00	39.66	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.041
7.00	-17.21	-0.47	0.00	-39.18	0.00	39.18	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.041
8.00	-17.05	-0.47	0.00	-38.71	0.00	38.71	1490.10	745.05	2187.51	1339.68		0.01	-0.01	0.040
9.00	-16.89	-0.47	0.00	-38.24	0.00	38.24	1490.10	745.05	2187.51	1339.68		0.01	-0.02	0.040
10.00	-16.73	-0.46	0.00	-37.77	0.00	37.77	1490.10	745.05	2187.51	1339.68		0.02	-0.02	0.039
11.00	-16.57	-0.46	0.00	-37.31	0.00	37.31	1490.10	745.05	2187.51	1339.68		0.02	-0.02	0.039
12.00	-16.41	-0.46	0.00	-36.85	0.00	36.85	1490.10	745.05	2187.51	1339.68		0.03	-0.02	0.039
13.00	-16.25	-0.45	0.00	-36.39	0.00	36.39	1490.10	745.05	2187.51	1339.68		0.03	-0.02	0.038
14.00	-16.09	-0.45	0.00	-35.94	0.00	35.94	1490.10	745.05	2187.51	1339.68		0.04	-0.02	0.038
15.00	-15.93	-0.44	0.00	-35.49	0.00	35.49	1490.10	745.05	2187.51	1339.68		0.04	-0.02	0.037
16.00	-15.77	-0.44	0.00	-35.05	0.00	35.05	1490.10	745.05	2187.51	1339.68		0.05	-0.03	0.037
17.00	-15.61	-0.44	0.00	-34.61	0.00	34.61	1490.10	745.05	2187.51	1339.68		0.05	-0.03	0.036
18.00	-15.45	-0.43	0.00	-34.17	0.00	34.17	1490.10	745.05	2187.51	1339.68		0.06	-0.03	0.036
19.00	-15.29	-0.43	0.00	-33.74	0.00	33.74	1490.10	745.05	2187.51	1339.68		0.06	-0.03	0.035
20.00	-15.13	-0.42	0.00	-33.32	0.00	33.32	1490.10	745.05	2187.51	1339.68		0.07	-0.03	0.035
20.00	-15.13	-0.42	0.00	-33.32	0.00	33.32	1311.06	655.53	1597.15	948.43		0.07	-0.03	0.047
21.00	-14.99	-0.42	0.00	-32.89	0.00	32.89	1311.06	655.53	1597.15	948.43		0.08	-0.03	0.046
22.00	-14.85	-0.42	0.00	-32.47	0.00	32.47	1311.06	655.53	1597.15	948.43		0.08	-0.04	0.046
23.00	-14.71	-0.41	0.00	-32.06	0.00	32.06	1311.06	655.53	1597.15	948.43		0.09	-0.04	0.045
24.00	-14.57	-0.41	0.00	-31.65	0.00	31.65	1311.06	655.53	1597.15	948.43		0.10	-0.04	0.044
25.00	-14.44	-0.40	0.00	-31.24	0.00	31.24	1311.06	655.53	1597.15	948.43		0.11	-0.04	0.044
26.00	-14.30	-0.40	0.00	-30.83	0.00	30.83	1311.06	655.53	1597.15	948.43		0.12	-0.05	0.043
27.00	-14.16	-0.40	0.00	-30.43	0.00	30.43	1311.06	655.53	1597.15	948.43		0.13	-0.05	0.043
28.00	-14.02	-0.39	0.00	-30.04	0.00	30.04	1311.06	655.53	1597.15	948.43		0.14	-0.05	0.042
29.00	-13.88	-0.39	0.00	-29.64	0.00	29.64	1311.06	655.53	1597.15	948.43		0.15	-0.05	0.042
30.00	-13.74	-0.39	0.00	-29.25	0.00	29.25	1311.06	655.53	1597.15	948.43		0.16	-0.05	0.041
31.00	-13.60	-0.38	0.00	-28.86	0.00	28.86	1311.06	655.53	1597.15	948.43		0.17	-0.06	0.041
32.00	-13.46	-0.38	0.00	-28.48	0.00	28.48	1311.06	655.53	1597.15	948.43		0.18	-0.06	0.040
33.00	-13.33	-0.37	0.00	-28.10	0.00	28.10	1311.06	655.53	1597.15	948.43		0.20	-0.06	0.040
34.00	-13.19	-0.37	0.00	-27.73	0.00	27.73	1311.06	655.53	1597.15	948.43		0.21	-0.06	0.039
35.00	-13.05	-0.37	0.00	-27.36	0.00	27.36	1311.06	655.53	1597.15	948.43		0.22	-0.06	0.039
36.00	-12.91	-0.36	0.00	-26.99	0.00	26.99	1311.06	655.53	1597.15	948.43		0.24	-0.07	0.038
37.00	-12.77	-0.36	0.00	-26.63	0.00	26.63	1311.06	655.53	1597.15	948.43		0.25	-0.07	0.038
38.00	-12.63	-0.35	0.00	-26.27	0.00	26.27	1311.06	655.53	1597.15	948.43		0.27	-0.07	0.037
39.00	-12.49	-0.35	0.00	-25.92	0.00	25.92	1311.06	655.53	1597.15	948.43		0.28	-0.07	0.037
40.00	-12.35	-0.35	0.00	-25.56	0.00	25.56	1311.06	655.53	1597.15	948.43		0.30	-0.07	0.036
41.00	-12.21	-0.34	0.00	-25.22	0.00	25.22	1311.06	655.53	1597.15	948.43		0.31	-0.08	0.036
42.00	-12.08	-0.34	0.00	-24.88	0.00	24.88	1311.06	655.53	1597.15	948.43		0.33	-0.08	0.035
43.00	-11.94	-0.33	0.00	-24.54	0.00	24.54	1311.06	655.53	1597.15	948.43		0.35	-0.08	0.035
44.00	-11.80	-0.33	0.00	-24.20	0.00	24.20	1311.06	655.53	1597.15	948.43		0.36	-0.08	0.035
45.00	-11.66	-0.33	0.00	-23.87	0.00	23.87	1311.06	655.53	1597.15	948.43		0.38	-0.08	0.034

Calculated Forces

Structure:	CT04374-S-SBA					**Code:**	EIA/TIA-222-G				1/21/2022		
Site Name:	Central Hebron					**Exposure:**	C						
Height:	150.00 (ft)					**Crest Height:**	0.00						
Base Elev:	0.000 (ft)					**Site Class:**	D - Stiff Soil						
Gh:	1.1			**Topography:**	1	**Struct Class:**	II				Page: 53		

46.00	-11.52	-0.32	0.00	-23.55	0.00	23.55	1311.06	655.53	1597.15	948.43	0.40	-0.09	0.034
47.00	-11.38	-0.32	0.00	-23.23	0.00	23.23	1311.06	655.53	1597.15	948.43	0.42	-0.09	0.033
48.00	-11.24	-0.31	0.00	-22.91	0.00	22.91	1311.06	655.53	1597.15	948.43	0.43	-0.09	0.033
49.00	-11.10	-0.31	0.00	-22.60	0.00	22.60	1311.06	655.53	1597.15	948.43	0.45	-0.09	0.032
50.00	-10.97	-0.30	0.00	-22.29	0.00	22.29	1311.06	655.53	1597.15	948.43	0.47	-0.09	0.032
50.00	-10.97	-0.30	0.00	-22.29	0.00	22.29	1052.07	526.04	1018.84	624.04	0.47	-0.09	0.046
51.00	-10.85	-0.30	0.00	-21.99	0.00	21.99	1052.07	526.04	1018.84	624.04	0.49	-0.09	0.046
52.00	-10.73	-0.30	0.00	-21.69	0.00	21.69	1052.07	526.04	1018.84	624.04	0.51	-0.10	0.045
53.00	-10.61	-0.29	0.00	-21.39	0.00	21.39	1052.07	526.04	1018.84	624.04	0.53	-0.10	0.044
54.00	-10.50	-0.29	0.00	-21.10	0.00	21.10	1052.07	526.04	1018.84	624.04	0.55	-0.10	0.044
55.00	-10.38	-0.29	0.00	-20.81	0.00	20.81	1052.07	526.04	1018.84	624.04	0.58	-0.11	0.043
56.00	-10.26	-0.28	0.00	-20.52	0.00	20.52	1052.07	526.04	1018.84	624.04	0.60	-0.11	0.043
57.00	-10.15	-0.28	0.00	-20.23	0.00	20.23	1052.07	526.04	1018.84	624.04	0.62	-0.11	0.042
58.00	-10.03	-0.28	0.00	-19.95	0.00	19.95	1052.07	526.04	1018.84	624.04	0.65	-0.12	0.042
59.00	-9.91	-0.28	0.00	-19.67	0.00	19.67	1052.07	526.04	1018.84	624.04	0.67	-0.12	0.041
60.00	-9.79	-0.27	0.00	-19.40	0.00	19.40	1052.07	526.04	1018.84	624.04	0.70	-0.12	0.040
61.00	-9.68	-0.27	0.00	-19.12	0.00	19.12	1052.07	526.04	1018.84	624.04	0.72	-0.12	0.040
62.00	-9.56	-0.27	0.00	-18.85	0.00	18.85	1052.07	526.04	1018.84	624.04	0.75	-0.13	0.039
63.00	-9.44	-0.26	0.00	-18.59	0.00	18.59	1052.07	526.04	1018.84	624.04	0.78	-0.13	0.039
64.00	-9.33	-0.26	0.00	-18.32	0.00	18.32	1052.07	526.04	1018.84	624.04	0.80	-0.13	0.038
65.00	-9.21	-0.26	0.00	-18.06	0.00	18.06	1052.07	526.04	1018.84	624.04	0.83	-0.14	0.038
66.00	-9.09	-0.26	0.00	-17.80	0.00	17.80	1052.07	526.04	1018.84	624.04	0.86	-0.14	0.037
67.00	-8.97	-0.26	0.00	-17.54	0.00	17.54	1052.07	526.04	1018.84	624.04	0.89	-0.14	0.037
68.00	-8.86	-0.25	0.00	-17.29	0.00	17.29	1052.07	526.04	1018.84	624.04	0.92	-0.14	0.036
69.00	-8.74	-0.25	0.00	-17.03	0.00	17.03	1052.07	526.04	1018.84	624.04	0.95	-0.15	0.036
70.00	-8.62	-0.25	0.00	-16.78	0.00	16.78	1052.07	526.04	1018.84	624.04	0.98	-0.15	0.035
71.00	-8.51	-0.25	0.00	-16.53	0.00	16.53	1052.07	526.04	1018.84	624.04	1.01	-0.15	0.035
72.00	-8.39	-0.25	0.00	-16.28	0.00	16.28	1052.07	526.04	1018.84	624.04	1.04	-0.15	0.034
73.00	-8.27	-0.25	0.00	-16.03	0.00	16.03	1052.07	526.04	1018.84	624.04	1.07	-0.16	0.034
74.00	-8.16	-0.25	0.00	-15.79	0.00	15.79	1052.07	526.04	1018.84	624.04	1.11	-0.16	0.033
75.00	-8.03	-0.25	0.00	-15.54	0.00	15.54	1052.07	526.04	1018.84	624.04	1.14	-0.16	0.033
76.00	-7.91	-0.24	0.00	-15.30	0.00	15.30	1052.07	526.04	1018.84	624.04	1.17	-0.16	0.032
77.00	-7.79	-0.24	0.00	-15.05	0.00	15.05	1052.07	526.04	1018.84	624.04	1.21	-0.16	0.032
78.00	-7.68	-0.24	0.00	-14.81	0.00	14.81	1052.07	526.04	1018.84	624.04	1.24	-0.17	0.031
79.00	-7.56	-0.24	0.00	-14.56	0.00	14.56	1052.07	526.04	1018.84	624.04	1.28	-0.17	0.031
80.00	-7.44	-0.24	0.00	-14.32	0.00	14.32	1052.07	526.04	1018.84	624.04	1.31	-0.17	0.030
80.00	-7.44	-0.24	0.00	-14.32	0.00	14.32	1052.07	526.04	1018.84	624.04	1.31	-0.17	0.030
81.00	-7.33	-0.24	0.00	-14.07	0.00	14.07	1052.07	526.04	1018.84	624.04	1.35	-0.17	0.030
82.00	-7.21	-0.24	0.00	-13.83	0.00	13.83	1052.07	526.04	1018.84	624.04	1.39	-0.17	0.029
83.00	-7.09	-0.24	0.00	-13.58	0.00	13.58	1052.07	526.04	1018.84	624.04	1.42	-0.18	0.029
84.00	-6.98	-0.24	0.00	-13.34	0.00	13.34	1052.07	526.04	1018.84	624.04	1.46	-0.18	0.028
85.00	-6.86	-0.24	0.00	-13.10	0.00	13.10	1052.07	526.04	1018.84	624.04	1.50	-0.18	0.028
86.00	-6.74	-0.24	0.00	-12.85	0.00	12.85	1052.07	526.04	1018.84	624.04	1.54	-0.18	0.027
87.00	-6.63	-0.24	0.00	-12.61	0.00	12.61	1052.07	526.04	1018.84	624.04	1.57	-0.18	0.026
88.00	-6.51	-0.24	0.00	-12.36	0.00	12.36	1052.07	526.04	1018.84	624.04	1.61	-0.19	0.026
89.00	-6.39	-0.24	0.00	-12.12	0.00	12.12	1052.07	526.04	1018.84	624.04	1.65	-0.19	0.025
90.00	-6.27	-0.24	0.00	-11.88	0.00	11.88	1052.07	526.04	1018.84	624.04	1.69	-0.19	0.025
91.00	-6.16	-0.24	0.00	-11.63	0.00	11.63	1052.07	526.04	1018.84	624.04	1.73	-0.19	0.024
92.00	-6.04	-0.24	0.00	-11.39	0.00	11.39	1052.07	526.04	1018.84	624.04	1.77	-0.19	0.024
93.00	-5.92	-0.24	0.00	-11.15	0.00	11.15	1052.07	526.04	1018.84	624.04	1.81	-0.19	0.023
94.00	-5.81	-0.24	0.00	-10.90	0.00	10.90	1052.07	526.04	1018.84	624.04	1.85	-0.20	0.023
95.00	-5.69	-0.24	0.00	-10.66	0.00	10.66	1052.07	526.04	1018.84	624.04	1.89	-0.20	0.022
96.00	-5.57	-0.24	0.00	-10.42	0.00	10.42	1052.07	526.04	1018.84	624.04	1.94	-0.20	0.022
97.00	-5.46	-0.24	0.00	-10.18	0.00	10.18	1052.07	526.04	1018.84	624.04	1.98	-0.20	0.021
98.00	-5.34	-0.24	0.00	-9.93	0.00	9.93	1052.07	526.04	1018.84	624.04	2.02	-0.20	0.021
99.00	-5.22	-0.24	0.00	-9.69	0.00	9.69	1052.07	526.04	1018.84	624.04	2.06	-0.20	0.020
100.00	-5.10	-0.24	0.00	-9.45	0.00	9.45	1052.07	526.04	1018.84	624.04	2.11	-0.21	0.020

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 54	

101.00	-4.99	-0.24	0.00	-9.21	0.00	9.21	1052.07	526.04	1018.84	624.04	2.15	-0.21	0.020
102.00	-4.87	-0.24	0.00	-8.97	0.00	8.97	1052.07	526.04	1018.84	624.04	2.19	-0.21	0.019
103.00	-4.75	-0.24	0.00	-8.73	0.00	8.73	1052.07	526.04	1018.84	624.04	2.24	-0.21	0.019
104.00	-4.64	-0.24	0.00	-8.49	0.00	8.49	1052.07	526.04	1018.84	624.04	2.28	-0.21	0.018
105.00	-4.52	-0.24	0.00	-8.25	0.00	8.25	1052.07	526.04	1018.84	624.04	2.32	-0.21	0.018
106.00	-4.40	-0.24	0.00	-8.01	0.00	8.01	1052.07	526.04	1018.84	624.04	2.37	-0.21	0.017
107.00	-4.29	-0.24	0.00	-7.77	0.00	7.77	1052.07	526.04	1018.84	624.04	2.41	-0.21	0.017
108.00	-4.16	-0.24	0.00	-7.53	0.00	7.53	1052.07	526.04	1018.84	624.04	2.46	-0.22	0.016
108.00	-4.16	-0.24	0.00	-7.53	0.00	7.53	1052.07	526.04	1018.84	624.04	2.46	-0.22	0.016
109.00	-4.03	-0.24	0.00	-7.29	0.00	7.29	1052.07	526.04	1018.84	624.04	2.50	-0.22	0.016
110.00	-3.84	-0.24	0.00	-7.06	0.00	7.06	1052.07	526.04	1018.84	624.04	2.55	-0.22	0.010
110.00	-3.84	-0.24	0.00	-7.06	0.00	7.06	682.83	341.41	139.27	105.20	2.55	-0.22	0.004
111.00	-3.74	-0.24	0.00	-6.82	0.00	6.82	682.83	341.41	139.27	105.20	2.59	-0.22	0.021
111.50	-3.69	-0.24	0.00	-6.70	0.00	6.70	682.83	341.41	139.27	105.20	2.62	-0.22	0.020
111.50	-3.69	-0.24	0.00	-6.70	0.00	6.70	682.83	341.41	139.27	105.20	2.62	-0.22	0.020
112.00	-3.64	-0.24	0.00	-6.58	0.00	6.58	682.83	341.41	139.27	105.20	2.64	-0.22	0.068
113.00	-3.55	-0.24	0.00	-6.34	0.00	6.34	682.83	341.41	139.27	105.20	2.69	-0.25	0.065
114.00	-3.45	-0.24	0.00	-6.10	0.00	6.10	682.83	341.41	139.27	105.20	2.75	-0.27	0.063
115.00	-3.16	-0.24	0.00	-5.86	0.00	5.86	682.83	341.41	139.27	105.20	2.81	-0.30	0.060
116.00	-3.07	-0.24	0.00	-5.62	0.00	5.62	682.83	341.41	139.27	105.20	2.87	-0.32	0.058
117.00	-2.98	-0.24	0.00	-5.38	0.00	5.38	682.83	341.41	139.27	105.20	2.94	-0.34	0.056
118.00	-2.89	-0.24	0.00	-5.14	0.00	5.14	682.83	341.41	139.27	105.20	3.01	-0.36	0.053
119.00	-2.80	-0.24	0.00	-4.90	0.00	4.90	682.83	341.41	139.27	105.20	3.09	-0.38	0.051
120.00	-2.60	-0.24	0.00	-4.66	0.00	4.66	682.83	341.41	139.27	105.20	3.17	-0.40	0.048
121.00	-2.50	-0.24	0.00	-4.42	0.00	4.42	682.83	341.41	139.27	105.20	3.25	-0.41	0.046
122.00	-2.41	-0.24	0.00	-4.18	0.00	4.18	682.83	341.41	139.27	105.20	3.34	-0.43	0.043
123.00	-2.32	-0.23	0.00	-3.95	0.00	3.95	682.83	341.41	139.27	105.20	3.43	-0.45	0.041
124.00	-2.23	-0.23	0.00	-3.71	0.00	3.71	682.83	341.41	139.27	105.20	3.53	-0.46	0.039
125.00	-2.14	-0.23	0.00	-3.48	0.00	3.48	682.83	341.41	139.27	105.20	3.63	-0.47	0.036
126.00	-2.05	-0.23	0.00	-3.25	0.00	3.25	682.83	341.41	139.27	105.20	3.73	-0.49	0.034
127.00	-1.81	-0.21	0.00	-3.02	0.00	3.02	682.83	341.41	139.27	105.20	3.83	-0.50	0.031
128.00	-1.73	-0.21	0.00	-2.81	0.00	2.81	682.83	341.41	139.27	105.20	3.94	-0.51	0.029
129.00	-1.65	-0.21	0.00	-2.60	0.00	2.60	682.83	341.41	139.27	105.20	4.04	-0.52	0.027
130.00	-1.45	-0.19	0.00	-2.39	0.00	2.39	682.83	341.41	139.27	105.20	4.15	-0.53	0.025
130.00	-1.45	-0.19	0.00	-2.39	0.00	2.39	317.71	158.85	76.59	52.28	4.15	-0.53	0.050
131.00	-1.40	-0.19	0.00	-2.20	0.00	2.20	317.71	158.85	76.59	52.28	4.27	-0.54	0.046
132.00	-1.34	-0.19	0.00	-2.01	0.00	2.01	317.71	158.85	76.59	52.28	4.38	-0.55	0.043
133.00	-1.29	-0.19	0.00	-1.82	0.00	1.82	317.71	158.85	76.59	52.28	4.50	-0.57	0.039
134.00	-1.24	-0.18	0.00	-1.64	0.00	1.64	317.71	158.85	76.59	52.28	4.62	-0.58	0.035
135.00	-1.00	-0.16	0.00	-1.45	0.00	1.45	317.71	158.85	76.59	52.28	4.74	-0.59	0.031
136.00	-0.95	-0.15	0.00	-1.30	0.00	1.30	317.71	158.85	76.59	52.28	4.86	-0.60	0.028
137.00	-0.91	-0.15	0.00	-1.14	0.00	1.14	317.71	158.85	76.59	52.28	4.99	-0.61	0.025
138.00	-0.86	-0.15	0.00	-0.99	0.00	0.99	317.71	158.85	76.59	52.28	5.12	-0.62	0.022
139.00	-0.82	-0.14	0.00	-0.85	0.00	0.85	317.71	158.85	76.59	52.28	5.25	-0.62	0.019
140.00	-0.63	-0.11	0.00	-0.71	0.00	0.71	317.71	158.85	76.59	52.28	5.38	-0.63	0.016
141.00	-0.59	-0.11	0.00	-0.59	0.00	0.59	317.71	158.85	76.59	52.28	5.51	-0.63	0.013
142.00	-0.54	-0.10	0.00	-0.48	0.00	0.48	317.71	158.85	76.59	52.28	5.64	-0.64	0.011
143.00	-0.50	-0.10	0.00	-0.38	0.00	0.38	317.71	158.85	76.59	52.28	5.78	-0.64	0.009
144.00	-0.45	-0.09	0.00	-0.28	0.00	0.28	317.71	158.85	76.59	52.28	5.91	-0.64	0.007
145.00	-0.23	-0.05	0.00	-0.19	0.00	0.19	317.71	158.85	76.59	52.28	6.05	-0.64	0.004
146.00	-0.20	-0.04	0.00	-0.14	0.00	0.14	317.71	158.85	76.59	52.28	6.18	-0.64	0.003
147.00	-0.17	-0.04	0.00	-0.09	0.00	0.09	317.71	158.85	76.59	52.28	6.32	-0.64	0.002
148.00	-0.13	-0.03	0.00	-0.06	0.00	0.06	317.71	158.85	76.59	52.28	6.45	-0.65	0.001
149.00	-0.10	-0.02	0.00	-0.02	0.00	0.02	317.71	158.85	76.59	52.28	6.59	-0.65	0.001
150.00	0.00	-0.02	0.00	0.00	0.00	0.00	317.71	158.85	76.59	52.28	6.72	-0.65	0.000

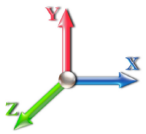
Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 55	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 40

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
2.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
3.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
4.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
5.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
6.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
7.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
8.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
9.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
10.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
11.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
12.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
13.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
14.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
15.00		1.00	0.85	7.442	8.19	165.95	0.600	0.000	1.00	3.000	1.80	14.7	0.0	142.8
16.00		1.00	0.86	7.534	8.29	166.97	0.600	0.000	1.00	3.000	1.80	14.9	0.0	142.8
17.00		1.00	0.87	7.631	8.39	168.04	0.600	0.000	1.00	3.000	1.80	15.1	0.0	142.8
18.00		1.00	0.88	7.723	8.50	169.06	0.600	0.000	1.00	3.000	1.80	15.3	0.0	142.8
19.00		1.00	0.89	7.811	8.59	170.02	0.600	0.000	1.00	3.000	1.80	15.5	0.0	142.8
20.00	Top - Section 1	1.00	0.90	7.896	8.69	170.94	0.600	0.000	1.00	3.000	1.80	15.6	0.0	142.8
21.00		1.00	0.91	7.978	8.78	143.18	0.600	0.000	1.00	2.500	1.50	13.2	0.0	118.8
22.00		1.00	0.92	8.056	8.86	143.89	0.600	0.000	1.00	2.500	1.50	13.3	0.0	118.8
23.00		1.00	0.93	8.132	8.95	144.56	0.600	0.000	1.00	2.500	1.50	13.4	0.0	118.8
24.00		1.00	0.94	8.205	9.03	145.21	0.600	0.000	1.00	2.500	1.50	13.5	0.0	118.8
25.00		1.00	0.95	8.276	9.10	145.84	0.600	0.000	1.00	2.500	1.50	13.7	0.0	118.8
26.00		1.00	0.95	8.345	9.18	146.44	0.600	0.000	1.00	2.500	1.50	13.8	0.0	118.8
27.00		1.00	0.96	8.411	9.25	147.02	0.600	0.000	1.00	2.500	1.50	13.9	0.0	118.8
28.00		1.00	0.97	8.476	9.32	147.59	0.600	0.000	1.00	2.500	1.50	14.0	0.0	118.8
29.00		1.00	0.98	8.539	9.39	148.13	0.600	0.000	1.00	2.500	1.50	14.1	0.0	118.8
30.00		1.00	0.98	8.600	9.46	148.66	0.600	0.000	1.00	2.500	1.50	14.2	0.0	118.8
31.00		1.00	0.99	8.659	9.53	149.18	0.600	0.000	1.00	2.500	1.50	14.3	0.0	118.8
32.00		1.00	1.00	8.717	9.59	149.68	0.600	0.000	1.00	2.500	1.50	14.4	0.0	118.8
33.00		1.00	1.00	8.774	9.65	150.16	0.600	0.000	1.00	2.500	1.50	14.5	0.0	118.8
34.00		1.00	1.01	8.829	9.71	150.63	0.600	0.000	1.00	2.500	1.50	14.6	0.0	118.8
35.00		1.00	1.01	8.883	9.77	151.09	0.600	0.000	1.00	2.500	1.50	14.7	0.0	118.8
36.00		1.00	1.02	8.936	9.83	151.54	0.600	0.000	1.00	2.500	1.50	14.7	0.0	118.8
37.00		1.00	1.03	8.988	9.89	151.98	0.600	0.000	1.00	2.500	1.50	14.8	0.0	118.8
38.00		1.00	1.03	9.039	9.94	152.41	0.600	0.000	1.00	2.500	1.50	14.9	0.0	118.8
39.00		1.00	1.04	9.088	10.00	152.83	0.600	0.000	1.00	2.500	1.50	15.0	0.0	118.8
40.00		1.00	1.04	9.137	10.05	153.23	0.600	0.000	1.00	2.500	1.50	15.1	0.0	118.8
41.00		1.00	1.05	9.184	10.10	153.63	0.600	0.000	1.00	2.500	1.50	15.2	0.0	118.8
42.00		1.00	1.05	9.231	10.15	154.02	0.600	0.000	1.00	2.500	1.50	15.2	0.0	118.8
43.00		1.00	1.06	9.277	10.20	154.40	0.600	0.000	1.00	2.500	1.50	15.3	0.0	118.8
44.00		1.00	1.06	9.322	10.25	154.78	0.600	0.000	1.00	2.500	1.50	15.4	0.0	118.8
45.00		1.00	1.07	9.366	10.30	155.15	0.600	0.000	1.00	2.500	1.50	15.5	0.0	118.8
46.00		1.00	1.07	9.410	10.35	155.50	0.600	0.000	1.00	2.500	1.50	15.5	0.0	118.8

Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 56

47.00		1.00	1.08	9.452	10.40	155.86	0.600	0.000	1.00	2.500	1.50	15.6	0.0	118.8
48.00		1.00	1.08	9.494	10.44	156.20	0.600	0.000	1.00	2.500	1.50	15.7	0.0	118.8
49.00		1.00	1.09	9.536	10.49	156.54	0.600	0.000	1.00	2.500	1.50	15.7	0.0	118.8
50.00	Top - Section 2	1.00	1.09	9.576	10.53	156.88	0.600	0.000	1.00	2.500	1.50	15.8	0.0	118.8
51.00		1.00	1.10	9.616	10.58	125.76	0.600	0.000	1.00	2.000	1.20	12.7	0.0	94.7
52.00		1.00	1.10	9.656	10.62	126.02	0.600	0.000	1.00	2.000	1.20	12.7	0.0	94.7
53.00		1.00	1.11	9.694	10.66	126.27	0.600	0.000	1.00	2.000	1.20	12.8	0.0	94.7
54.00		1.00	1.11	9.733	10.71	126.52	0.600	0.000	1.00	2.000	1.20	12.8	0.0	94.7
55.00		1.00	1.12	9.770	10.75	126.77	0.600	0.000	1.00	2.000	1.20	12.9	0.0	94.7
56.00		1.00	1.12	9.807	10.79	127.01	0.600	0.000	1.00	2.000	1.20	12.9	0.0	94.7
57.00		1.00	1.12	9.844	10.83	127.24	0.600	0.000	1.00	2.000	1.20	13.0	0.0	94.7
58.00		1.00	1.13	9.880	10.87	127.48	0.600	0.000	1.00	2.000	1.20	13.0	0.0	94.7
59.00		1.00	1.13	9.916	10.91	127.71	0.600	0.000	1.00	2.000	1.20	13.1	0.0	94.7
60.00		1.00	1.14	9.951	10.95	127.93	0.600	0.000	1.00	2.000	1.20	13.1	0.0	94.7
61.00		1.00	1.14	9.986	10.98	128.16	0.600	0.000	1.00	2.000	1.20	13.2	0.0	94.7
62.00		1.00	1.14	10.020	11.02	128.37	0.600	0.000	1.00	2.000	1.20	13.2	0.0	94.7
63.00		1.00	1.15	10.054	11.06	128.59	0.600	0.000	1.00	2.000	1.20	13.3	0.0	94.7
64.00		1.00	1.15	10.087	11.10	128.80	0.600	0.000	1.00	2.000	1.20	13.3	0.0	94.7
65.00		1.00	1.16	10.120	11.13	129.01	0.600	0.000	1.00	2.000	1.20	13.4	0.0	94.7
66.00		1.00	1.16	10.153	11.17	129.22	0.600	0.000	1.00	2.000	1.20	13.4	0.0	94.7
67.00		1.00	1.16	10.185	11.20	129.43	0.600	0.000	1.00	2.000	1.20	13.4	0.0	94.7
68.00		1.00	1.17	10.217	11.24	129.63	0.600	0.000	1.00	2.000	1.20	13.5	0.0	94.7
69.00		1.00	1.17	10.248	11.27	129.83	0.600	0.000	1.00	2.000	1.20	13.5	0.0	94.7
70.00		1.00	1.17	10.279	11.31	130.03	0.600	0.000	1.00	2.000	1.20	13.6	0.0	94.7
71.00		1.00	1.18	10.310	11.34	130.22	0.600	0.000	1.00	2.000	1.20	13.6	0.0	94.7
72.00		1.00	1.18	10.340	11.37	130.41	0.600	0.000	1.00	2.000	1.20	13.6	0.0	94.7
73.00		1.00	1.18	10.370	11.41	130.60	0.600	0.000	1.00	2.000	1.20	13.7	0.0	94.7
74.00		1.00	1.19	10.400	11.44	130.79	0.600	0.000	1.00	2.000	1.20	13.7	0.0	94.7
75.00	Appurtenance(s)	1.00	1.19	10.430	11.47	130.97	0.600	0.000	1.00	2.000	1.20	13.8	0.0	94.7
76.00		1.00	1.19	10.459	11.50	131.16	0.600	0.000	1.00	2.000	1.20	13.8	0.0	94.7
77.00		1.00	1.20	10.488	11.54	131.34	0.600	0.000	1.00	2.000	1.20	13.8	0.0	94.7
78.00		1.00	1.20	10.516	11.57	131.51	0.600	0.000	1.00	2.000	1.20	13.9	0.0	94.7
79.00		1.00	1.20	10.544	11.60	131.69	0.600	0.000	1.00	2.000	1.20	13.9	0.0	94.7
80.00	Top - Section 3	1.00	1.21	10.572	11.63	131.87	0.600	0.000	1.00	2.000	1.20	14.0	0.0	94.7
81.00		1.00	1.21	10.600	11.66	132.04	0.600	0.000	1.00	2.000	1.20	14.0	0.0	94.7
82.00		1.00	1.21	10.627	11.69	132.21	0.600	0.000	1.00	2.000	1.20	14.0	0.0	94.7
83.00		1.00	1.22	10.654	11.72	132.38	0.600	0.000	1.00	2.000	1.20	14.1	0.0	94.7
84.00		1.00	1.22	10.681	11.75	132.54	0.600	0.000	1.00	2.000	1.20	14.1	0.0	94.7
85.00		1.00	1.22	10.708	11.78	132.71	0.600	0.000	1.00	2.000	1.20	14.1	0.0	94.7
86.00		1.00	1.23	10.734	11.81	132.87	0.600	0.000	1.00	2.000	1.20	14.2	0.0	94.7
87.00		1.00	1.23	10.761	11.84	133.04	0.600	0.000	1.00	2.000	1.20	14.2	0.0	94.7
88.00		1.00	1.23	10.787	11.87	133.20	0.600	0.000	1.00	2.000	1.20	14.2	0.0	94.7
89.00		1.00	1.23	10.812	11.89	133.35	0.600	0.000	1.00	2.000	1.20	14.3	0.0	94.7
90.00		1.00	1.24	10.838	11.92	133.51	0.600	0.000	1.00	2.000	1.20	14.3	0.0	94.7
91.00		1.00	1.24	10.863	11.95	133.67	0.600	0.000	1.00	2.000	1.20	14.3	0.0	94.7
92.00		1.00	1.24	10.888	11.98	133.82	0.600	0.000	1.00	2.000	1.20	14.4	0.0	94.7
93.00		1.00	1.25	10.913	12.00	133.97	0.600	0.000	1.00	2.000	1.20	14.4	0.0	94.7
94.00		1.00	1.25	10.937	12.03	134.12	0.600	0.000	1.00	2.000	1.20	14.4	0.0	94.7
95.00		1.00	1.25	10.962	12.06	134.27	0.600	0.000	1.00	2.000	1.20	14.5	0.0	94.7
96.00		1.00	1.25	10.986	12.08	134.42	0.600	0.000	1.00	2.000	1.20	14.5	0.0	94.7
97.00		1.00	1.26	11.010	12.11	134.57	0.600	0.000	1.00	2.000	1.20	14.5	0.0	94.7
98.00		1.00	1.26	11.034	12.14	134.71	0.600	0.000	1.00	2.000	1.20	14.6	0.0	94.7
99.00		1.00	1.26	11.057	12.16	134.86	0.600	0.000	1.00	2.000	1.20	14.6	0.0	94.7
100.00		1.00	1.27	11.081	12.19	135.00	0.600	0.000	1.00	2.000	1.20	14.6	0.0	94.7
101.00		1.00	1.27	11.104	12.21	135.14	0.600	0.000	1.00	2.000	1.20	14.7	0.0	94.7
102.00		1.00	1.27	11.127	12.24	135.28	0.600	0.000	1.00	2.000	1.20	14.7	0.0	94.7
103.00		1.00	1.27	11.150	12.26	135.42	0.600	0.000	1.00	2.000	1.20	14.7	0.0	94.7

Wind Loading - Shaft

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 57

Tower Engineering Solutions

104.00		1.00	1.28	11.173	12.29	135.56	0.600	0.000	1.00	2.000	1.20	14.7	0.0	94.7
105.00		1.00	1.28	11.195	12.31	135.69	0.600	0.000	1.00	2.000	1.20	14.8	0.0	94.7
106.00		1.00	1.28	11.218	12.34	135.83	0.600	0.000	1.00	2.000	1.20	14.8	0.0	94.7
107.00		1.00	1.28	11.240	12.36	135.96	0.600	0.000	1.00	2.000	1.20	14.8	0.0	94.7
108.00	Top - Section 4	1.00	1.29	11.262	12.39	136.10	0.600	0.000	1.00	2.000	1.20	14.9	0.0	94.7
109.00		1.00	1.29	11.284	12.41	204.34	0.600	0.000	1.00	3.000	1.80	22.3	0.0	104.3
110.00	Top - Section 5 RB1	1.00	1.29	11.305	12.44	204.54	0.600	0.000	1.00	3.000	1.80	22.4	0.0	104.3
111.00		1.00	1.29	11.327	12.46	204.74	0.600	0.000	1.00	3.000	1.80	22.4	0.0	71.1
111.50	RT1	1.00	1.29	11.338	12.47	204.83	0.600	0.000	0.50	1.500	0.90	11.2	0.0	35.5
112.00		1.00	1.30	11.348	12.48	204.93	0.600	0.000	0.50	1.500	0.90	11.2	0.0	35.5
113.00		1.00	1.30	11.370	12.51	205.12	0.600	0.000	1.00	3.000	1.80	22.5	0.0	71.1
114.00		1.00	1.30	11.391	12.53	205.31	0.600	0.000	1.00	3.000	1.80	22.6	0.0	71.1
115.00	Appurtenance(s)	1.00	1.30	11.412	12.55	205.50	0.600	0.000	1.00	3.000	1.80	22.6	0.0	71.1
116.00		1.00	1.31	11.432	12.58	205.69	0.600	0.000	1.00	3.000	1.80	22.6	0.0	71.1
117.00		1.00	1.31	11.453	12.60	205.87	0.600	0.000	1.00	3.000	1.80	22.7	0.0	71.1
118.00		1.00	1.31	11.474	12.62	206.06	0.600	0.000	1.00	3.000	1.80	22.7	0.0	71.1
119.00		1.00	1.31	11.494	12.64	206.24	0.600	0.000	1.00	3.000	1.80	22.8	0.0	71.1
120.00	Appurtenance(s)	1.00	1.32	11.514	12.67	206.42	0.600	0.000	1.00	3.000	1.80	22.8	0.0	71.1
121.00		1.00	1.32	11.534	12.69	206.60	0.600	0.000	1.00	3.000	1.80	22.8	0.0	71.1
122.00		1.00	1.32	11.554	12.71	206.78	0.600	0.000	1.00	3.000	1.80	22.9	0.0	71.1
123.00		1.00	1.32	11.574	12.73	206.96	0.600	0.000	1.00	3.000	1.80	22.9	0.0	71.1
124.00		1.00	1.32	11.594	12.75	207.14	0.600	0.000	1.00	3.000	1.80	23.0	0.0	71.1
125.00		1.00	1.33	11.614	12.78	207.31	0.600	0.000	1.00	3.000	1.80	23.0	0.0	71.1
126.00		1.00	1.33	11.633	12.80	207.49	0.600	0.000	1.00	3.000	1.80	23.0	0.0	71.1
127.00	Appurtenance(s)	1.00	1.33	11.653	12.82	207.66	0.600	0.000	1.00	3.000	1.80	23.1	0.0	71.1
128.00		1.00	1.33	11.672	12.84	207.83	0.600	0.000	1.00	3.000	1.80	23.1	0.0	71.1
129.00		1.00	1.34	11.691	12.86	208.00	0.600	0.000	1.00	3.000	1.80	23.1	0.0	71.1
130.00	Top - Section 6	1.00	1.34	11.710	12.88	208.17	0.600	0.000	1.00	3.000	1.80	23.2	0.0	71.1
131.00		1.00	1.34	11.729	12.90	208.34	0.600	0.000	1.00	3.000	1.80	23.2	0.0	38.2
132.00		1.00	1.34	11.748	12.92	208.50	0.600	0.000	1.00	3.000	1.80	23.3	0.0	38.2
133.00		1.00	1.34	11.766	12.94	208.67	0.600	0.000	1.00	3.000	1.80	23.3	0.0	38.2
134.00		1.00	1.35	11.785	12.96	208.84	0.600	0.000	1.00	3.000	1.80	23.3	0.0	38.2
135.00	Appurtenance(s)	1.00	1.35	11.803	12.98	209.00	0.600	0.000	1.00	3.000	1.80	23.4	0.0	38.2
136.00		1.00	1.35	11.822	13.00	209.16	0.600	0.000	1.00	3.000	1.80	23.4	0.0	38.2
137.00		1.00	1.35	11.840	13.02	209.32	0.600	0.000	1.00	3.000	1.80	23.4	0.0	38.2
138.00		1.00	1.35	11.858	13.04	209.48	0.600	0.000	1.00	3.000	1.80	23.5	0.0	38.2
139.00		1.00	1.36	11.876	13.06	209.64	0.600	0.000	1.00	3.000	1.80	23.5	0.0	38.2
140.00	Appurtenance(s)	1.00	1.36	11.894	13.08	209.80	0.600	0.000	1.00	3.000	1.80	23.6	0.0	38.2
141.00		1.00	1.36	11.912	13.10	209.96	0.600	0.000	1.00	3.000	1.80	23.6	0.0	38.2
142.00		1.00	1.36	11.930	13.12	210.11	0.600	0.000	1.00	3.000	1.80	23.6	0.0	38.2
143.00		1.00	1.36	11.947	13.14	210.27	0.600	0.000	1.00	3.000	1.80	23.7	0.0	38.2
144.00		1.00	1.37	11.965	13.16	210.42	0.600	0.000	1.00	3.000	1.80	23.7	0.0	38.2
145.00	Appurtenance(s)	1.00	1.37	11.982	13.18	210.58	0.600	0.000	1.00	3.000	1.80	23.7	0.0	38.2
146.00		1.00	1.37	12.000	13.20	210.73	0.600	0.000	1.00	3.000	1.80	23.8	0.0	38.2
147.00		1.00	1.37	12.017	13.22	210.88	0.600	0.000	1.00	3.000	1.80	23.8	0.0	38.2
148.00		1.00	1.37	12.034	13.24	211.03	0.600	0.000	1.00	3.000	1.80	23.8	0.0	38.2
149.00		1.00	1.38	12.051	13.26	211.18	0.600	0.000	1.00	3.000	1.80	23.9	0.0	38.2
150.00	Appurtenance(s)	1.00	1.38	12.068	13.27	211.33	0.600	0.000	1.00	3.000	1.80	23.9	0.0	38.2
								Totals:	**150.00**			**2,513.8**		**14,306.1**

Discrete Appurtenance Forces

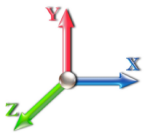
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 58	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 40

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	150.00	36" Canister Weight	1	12.068	13.275	1.00	1.00	0.00	64.57	0.000	0.000	0.00	0.00	0.00
2	150.00	Truck Ball	1	12.077	13.284	1.00	1.00	1.41	5.00	0.000	0.500	18.73	0.00	9.37
3	145.00	CDX623T-DS	6	11.982	13.181	0.00	1.00	0.00	60.60	0.000	0.000	0.00	0.00	0.00
4	145.00	FFVV-65B-R3	3	11.982	13.181	0.00	1.00	0.00	131.40	0.000	0.000	0.00	0.00	0.00
5	140.00	36" Canister Weight	1	11.894	13.084	1.00	1.00	0.00	129.14	0.000	0.000	0.00	0.00	0.00
6	140.00	Flag	1	11.894	13.084	1.00	1.00	6.89	25.00	0.000	0.000	90.15	0.00	0.00
7	135.00	Flush Mount	1	11.803	12.984	0.00	1.00	0.00	25.00	0.000	0.000	0.00	0.00	0.00
8	135.00	DB-T1-6Z-8AB-0Z	2	11.803	12.984	0.00	1.00	0.00	37.80	0.000	0.000	0.00	0.00	0.00
9	135.00	FDL85002/1C-3L	6	11.803	12.984	0.00	1.00	0.00	42.00	0.000	0.000	0.00	0.00	0.00
10	135.00	SBNHH-1D65A	3	11.803	12.984	0.00	1.00	0.00	100.50	0.000	0.000	0.00	0.00	0.00
11	130.00	36" Canister Weight	1	11.710	12.881	1.00	1.00	0.00	129.14	0.000	0.000	0.00	0.00	0.00
12	127.00	Flush Mount	1	11.653	12.818	0.00	1.00	0.00	25.00	0.000	0.000	0.00	0.00	0.00
13	127.00	D2WC-21 (2LB+4MB)	3	11.653	12.818	0.00	1.00	0.00	92.70	0.000	0.000	0.00	0.00	0.00
14	127.00	ATSBT-TOP-FM	3	11.653	12.818	0.00	1.00	0.00	5.40	0.000	0.000	0.00	0.00	0.00
15	127.00	CBC426T-DS-43	6	11.653	12.818	0.00	1.00	0.00	43.80	0.000	0.000	0.00	0.00	0.00
16	120.00	36" Canister Weight	1	11.514	12.666	1.00	1.00	0.00	129.14	0.000	0.000	0.00	0.00	0.00
17	115.00	Flush Mount	1	11.412	12.553	0.00	1.00	0.00	25.00	0.000	0.000	0.00	0.00	0.00
18	115.00	LGP21401	6	11.412	12.553	0.00	1.00	0.00	84.60	0.000	0.000	0.00	0.00	0.00
19	115.00	7770.00	3	11.412	12.553	0.00	1.00	0.00	105.00	0.000	0.000	0.00	0.00	0.00
20	110.00	36" Canister Weight	1	11.305	12.436	1.00	1.00	0.00	77.48	0.000	0.000	0.00	0.00	0.00
21	108.00	36" Canister Weight	1	11.262	12.388	1.00	1.00	0.00	12.91	0.000	0.000	0.00	0.00	0.00
22	75.00	GPS	1	10.430	11.473	0.80	0.80	0.80	10.00	0.000	0.000	9.18	0.00	0.00
							Totals:		**1,361.18**			**118.05**		

Total Applied Force Summary

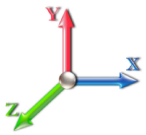
Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 59

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 40

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		14.74	178.23	0.00	0.00
2.00		14.74	178.23	0.00	0.00
3.00		14.74	178.23	0.00	0.00
4.00		14.74	178.23	0.00	0.00
5.00		14.74	178.23	0.00	0.00
6.00		14.74	178.23	0.00	0.00
7.00		14.74	178.23	0.00	0.00
8.00		14.74	178.23	0.00	0.00
9.00		14.74	178.23	0.00	0.00
10.00		14.74	178.23	0.00	0.00
11.00		14.74	178.23	0.00	0.00
12.00		14.74	178.23	0.00	0.00
13.00		14.74	178.23	0.00	0.00
14.00		14.74	178.23	0.00	0.00
15.00		14.74	178.23	0.00	0.00
16.00		14.92	178.23	0.00	0.00
17.00		15.11	178.23	0.00	0.00
18.00		15.29	178.23	0.00	0.00
19.00		15.47	178.23	0.00	0.00
20.00		15.63	178.23	0.00	0.00
21.00		13.16	154.18	0.00	0.00
22.00		13.29	154.18	0.00	0.00
23.00		13.42	154.18	0.00	0.00
24.00		13.54	154.18	0.00	0.00
25.00		13.66	154.18	0.00	0.00
26.00		13.77	154.18	0.00	0.00
27.00		13.88	154.18	0.00	0.00
28.00		13.99	154.18	0.00	0.00
29.00		14.09	154.18	0.00	0.00
30.00		14.19	154.18	0.00	0.00
31.00		14.29	154.18	0.00	0.00
32.00		14.38	154.18	0.00	0.00
33.00		14.48	154.18	0.00	0.00
34.00		14.57	154.18	0.00	0.00
35.00		14.66	154.18	0.00	0.00
36.00		14.74	154.18	0.00	0.00
37.00		14.83	154.18	0.00	0.00
38.00		14.91	154.18	0.00	0.00
39.00		15.00	154.18	0.00	0.00
40.00		15.08	154.18	0.00	0.00
41.00		15.15	154.18	0.00	0.00
42.00		15.23	154.18	0.00	0.00
43.00		15.31	154.18	0.00	0.00
44.00		15.38	154.18	0.00	0.00
45.00		15.45	154.18	0.00	0.00
46.00		15.53	154.18	0.00	0.00

Total Applied Force Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 60

47.00		15.60	154.18	0.00	0.00
48.00		15.67	154.18	0.00	0.00
49.00		15.73	154.18	0.00	0.00
50.00		15.80	154.18	0.00	0.00
51.00		12.69	130.13	0.00	0.00
52.00		12.75	130.13	0.00	0.00
53.00		12.80	130.13	0.00	0.00
54.00		12.85	130.13	0.00	0.00
55.00		12.90	130.13	0.00	0.00
56.00		12.95	130.13	0.00	0.00
57.00		12.99	130.13	0.00	0.00
58.00		13.04	130.13	0.00	0.00
59.00		13.09	130.13	0.00	0.00
60.00		13.14	130.13	0.00	0.00
61.00		13.18	130.13	0.00	0.00
62.00		13.23	130.13	0.00	0.00
63.00		13.27	130.13	0.00	0.00
64.00		13.31	130.13	0.00	0.00
65.00		13.36	130.13	0.00	0.00
66.00		13.40	130.13	0.00	0.00
67.00		13.44	130.13	0.00	0.00
68.00		13.49	130.13	0.00	0.00
69.00		13.53	130.13	0.00	0.00
70.00		13.57	130.13	0.00	0.00
71.00		13.61	130.13	0.00	0.00
72.00		13.65	130.13	0.00	0.00
73.00		13.69	130.13	0.00	0.00
74.00		13.73	130.13	0.00	0.00
75.00	(1) attachments	22.95	140.13	0.00	0.00
76.00		13.81	129.97	0.00	0.00
77.00		13.84	129.97	0.00	0.00
78.00		13.88	129.97	0.00	0.00
79.00		13.92	129.97	0.00	0.00
80.00		13.96	129.97	0.00	0.00
81.00		13.99	129.97	0.00	0.00
82.00		14.03	129.97	0.00	0.00
83.00		14.06	129.97	0.00	0.00
84.00		14.10	129.97	0.00	0.00
85.00		14.13	129.97	0.00	0.00
86.00		14.17	129.97	0.00	0.00
87.00		14.20	129.97	0.00	0.00
88.00		14.24	129.97	0.00	0.00
89.00		14.27	129.97	0.00	0.00
90.00		14.31	129.97	0.00	0.00
91.00		14.34	129.97	0.00	0.00
92.00		14.37	129.97	0.00	0.00
93.00		14.40	129.97	0.00	0.00
94.00		14.44	129.97	0.00	0.00
95.00		14.47	129.97	0.00	0.00
96.00		14.50	129.97	0.00	0.00
97.00		14.53	129.97	0.00	0.00
98.00		14.56	129.97	0.00	0.00
99.00		14.60	129.97	0.00	0.00
100.00		14.63	129.97	0.00	0.00
101.00		14.66	129.97	0.00	0.00
102.00		14.69	129.97	0.00	0.00
103.00		14.72	129.97	0.00	0.00

Total Applied Force Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 61

104.00		14.75	129.97	0.00	0.00
105.00		14.78	129.97	0.00	0.00
106.00		14.81	129.97	0.00	0.00
107.00		14.84	129.97	0.00	0.00
108.00	(1) attachments	14.87	142.88	0.00	0.00
109.00		22.34	139.57	0.00	0.00
110.00	(1) attachments	22.38	217.05	0.00	0.00
111.00		22.43	106.33	0.00	0.00
111.50		11.22	53.16	0.00	0.00
112.00		11.23	53.16	0.00	0.00
113.00		22.51	106.33	0.00	0.00
114.00		22.55	106.33	0.00	0.00
115.00	(10) attachments	22.60	320.93	0.00	0.00
116.00		22.64	100.45	0.00	0.00
117.00		22.68	100.45	0.00	0.00
118.00		22.72	100.45	0.00	0.00
119.00		22.76	100.45	0.00	0.00
120.00	(1) attachments	22.80	229.59	0.00	0.00
121.00		22.84	100.45	0.00	0.00
122.00		22.88	100.45	0.00	0.00
123.00		22.92	100.45	0.00	0.00
124.00		22.96	100.45	0.00	0.00
125.00		23.00	100.45	0.00	0.00
126.00		23.03	100.45	0.00	0.00
127.00	(13) attachments	23.07	267.35	0.00	0.00
128.00		23.11	91.51	0.00	0.00
129.00		23.15	91.51	0.00	0.00
130.00	(1) attachments	23.19	220.65	0.00	0.00
131.00		23.22	58.64	0.00	0.00
132.00		23.26	58.64	0.00	0.00
133.00		23.30	58.64	0.00	0.00
134.00		23.33	58.64	0.00	0.00
135.00	(12) attachments	23.37	263.94	0.00	0.00
136.00		23.41	50.68	0.00	0.00
137.00		23.44	50.68	0.00	0.00
138.00		23.48	50.68	0.00	0.00
139.00		23.51	50.68	0.00	0.00
140.00	(2) attachments	113.70	204.82	0.00	0.00
141.00		23.59	50.68	0.00	0.00
142.00		23.62	50.68	0.00	0.00
143.00		23.66	50.68	0.00	0.00
144.00		23.69	50.68	0.00	0.00
145.00	(9) attachments	23.73	242.68	0.00	0.00
146.00		23.76	38.20	0.00	0.00
147.00		23.79	38.20	0.00	0.00
148.00		23.83	38.20	0.00	0.00
149.00		23.86	38.20	0.00	0.00
150.00	(2) attachments	42.63	107.77	0.00	9.37
	Totals:	**2,631.81**	**20,375.10**	**0.00**	**9.37**

Linear Appurtenance Segment Forces (Factored)

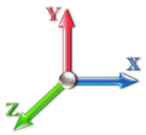
Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 62	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 40

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
18.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.028	0.000	7.723	0.00	0.00
19.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.028	0.000	7.811	0.00	0.00
20.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.028	0.000	7.896	0.00	0.00
21.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.033	0.000	7.978	0.00	0.00
22.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.033	0.000	8.056	0.00	0.00
23.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.033	0.000	8.132	0.00	0.00
										Totals:	**0.0**	**0.0**

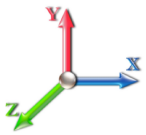
Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 63	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 40

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	-20.37	-2.63	0.00	-238.59	0.00	238.59	1490.10	745.05	2187.51	1339.68	0.00	0.000	0.000	0.192
1.00	-20.20	-2.62	0.00	-235.96	0.00	235.96	1490.10	745.05	2187.51	1339.68	0.00	-0.010	0.000	0.190
2.00	-20.02	-2.61	0.00	-233.33	0.00	233.33	1490.10	745.05	2187.51	1339.68	0.00	-0.020	0.000	0.188
3.00	-19.84	-2.60	0.00	-230.72	0.00	230.72	1490.10	745.05	2187.51	1339.68	0.01	-0.030	0.000	0.186
4.00	-19.66	-2.59	0.00	-228.13	0.00	228.13	1490.10	745.05	2187.51	1339.68	0.02	-0.040	0.000	0.183
5.00	-19.48	-2.58	0.00	-225.54	0.00	225.54	1490.10	745.05	2187.51	1339.68	0.03	-0.050	0.000	0.181
6.00	-19.30	-2.56	0.00	-222.96	0.00	222.96	1490.10	745.05	2187.51	1339.68	0.04	-0.059	0.000	0.179
7.00	-19.12	-2.55	0.00	-220.40	0.00	220.40	1490.10	745.05	2187.51	1339.68	0.05	-0.069	0.000	0.177
8.00	-18.95	-2.54	0.00	-217.85	0.00	217.85	1490.10	745.05	2187.51	1339.68	0.07	-0.078	0.000	0.175
9.00	-18.77	-2.53	0.00	-215.31	0.00	215.31	1490.10	745.05	2187.51	1339.68	0.08	-0.087	0.000	0.173
10.00	-18.59	-2.52	0.00	-212.78	0.00	212.78	1490.10	745.05	2187.51	1339.68	0.10	-0.096	0.000	0.171
11.00	-18.41	-2.50	0.00	-210.26	0.00	210.26	1490.10	745.05	2187.51	1339.68	0.12	-0.105	0.000	0.169
12.00	-18.23	-2.49	0.00	-207.76	0.00	207.76	1490.10	745.05	2187.51	1339.68	0.15	-0.114	0.000	0.167
13.00	-18.05	-2.48	0.00	-205.27	0.00	205.27	1490.10	745.05	2187.51	1339.68	0.17	-0.123	0.000	0.165
14.00	-17.87	-2.47	0.00	-202.79	0.00	202.79	1490.10	745.05	2187.51	1339.68	0.20	-0.132	0.000	0.163
15.00	-17.70	-2.45	0.00	-200.32	0.00	200.32	1490.10	745.05	2187.51	1339.68	0.23	-0.140	0.000	0.161
16.00	-17.52	-2.44	0.00	-197.87	0.00	197.87	1490.10	745.05	2187.51	1339.68	0.26	-0.149	0.000	0.159
17.00	-17.34	-2.43	0.00	-195.42	0.00	195.42	1490.10	745.05	2187.51	1339.68	0.29	-0.157	0.000	0.158
18.00	-17.16	-2.42	0.00	-193.00	0.00	193.00	1490.10	745.05	2187.51	1339.68	0.32	-0.166	0.000	0.156
19.00	-16.98	-2.40	0.00	-190.58	0.00	190.58	1490.10	745.05	2187.51	1339.68	0.36	-0.174	0.000	0.154
20.00	-16.80	-2.39	0.00	-188.18	0.00	188.18	1490.10	745.05	2187.51	1339.68	0.40	-0.182	0.000	0.152
20.00	-16.80	-2.39	0.00	-188.18	0.00	188.18	1311.06	655.53	1597.15	948.43	0.40	-0.182	0.000	0.211
21.00	-16.65	-2.38	0.00	-185.79	0.00	185.79	1311.06	655.53	1597.15	948.43	0.44	-0.190	0.000	0.209
22.00	-16.49	-2.37	0.00	-183.41	0.00	183.41	1311.06	655.53	1597.15	948.43	0.48	-0.204	0.000	0.206
23.00	-16.34	-2.36	0.00	-181.05	0.00	181.05	1311.06	655.53	1597.15	948.43	0.52	-0.217	0.000	0.203
24.00	-16.18	-2.35	0.00	-178.69	0.00	178.69	1311.06	655.53	1597.15	948.43	0.57	-0.230	0.000	0.201
25.00	-16.03	-2.34	0.00	-176.34	0.00	176.34	1311.06	655.53	1597.15	948.43	0.62	-0.244	0.000	0.198
26.00	-15.87	-2.33	0.00	-174.01	0.00	174.01	1311.06	655.53	1597.15	948.43	0.67	-0.257	0.000	0.196
27.00	-15.72	-2.31	0.00	-171.68	0.00	171.68	1311.06	655.53	1597.15	948.43	0.73	-0.269	0.000	0.193
28.00	-15.57	-2.30	0.00	-169.37	0.00	169.37	1311.06	655.53	1597.15	948.43	0.78	-0.282	0.000	0.190
29.00	-15.41	-2.29	0.00	-167.06	0.00	167.06	1311.06	655.53	1597.15	948.43	0.84	-0.295	0.000	0.188
30.00	-15.26	-2.28	0.00	-164.77	0.00	164.77	1311.06	655.53	1597.15	948.43	0.91	-0.307	0.000	0.185
31.00	-15.10	-2.27	0.00	-162.49	0.00	162.49	1311.06	655.53	1597.15	948.43	0.97	-0.319	0.000	0.183
32.00	-14.95	-2.26	0.00	-160.23	0.00	160.23	1311.06	655.53	1597.15	948.43	1.04	-0.331	0.000	0.180
33.00	-14.79	-2.24	0.00	-157.97	0.00	157.97	1311.06	655.53	1597.15	948.43	1.11	-0.343	0.000	0.178
34.00	-14.64	-2.23	0.00	-155.73	0.00	155.73	1311.06	655.53	1597.15	948.43	1.18	-0.355	0.000	0.175
35.00	-14.48	-2.22	0.00	-153.50	0.00	153.50	1311.06	655.53	1597.15	948.43	1.26	-0.366	0.000	0.173
36.00	-14.33	-2.21	0.00	-151.28	0.00	151.28	1311.06	655.53	1597.15	948.43	1.34	-0.377	0.000	0.170
37.00	-14.17	-2.19	0.00	-149.07	0.00	149.07	1311.06	655.53	1597.15	948.43	1.42	-0.388	0.000	0.168
38.00	-14.02	-2.18	0.00	-146.88	0.00	146.88	1311.06	655.53	1597.15	948.43	1.50	-0.399	0.000	0.166
39.00	-13.87	-2.17	0.00	-144.70	0.00	144.70	1311.06	655.53	1597.15	948.43	1.59	-0.410	0.000	0.163
40.00	-13.71	-2.15	0.00	-142.54	0.00	142.54	1311.06	655.53	1597.15	948.43	1.67	-0.421	0.000	0.161
41.00	-13.56	-2.14	0.00	-140.39	0.00	140.39	1311.06	655.53	1597.15	948.43	1.76	-0.431	0.000	0.158
42.00	-13.40	-2.12	0.00	-138.25	0.00	138.25	1311.06	655.53	1597.15	948.43	1.85	-0.442	0.000	0.156
43.00	-13.25	-2.11	0.00	-136.13	0.00	136.13	1311.06	655.53	1597.15	948.43	1.95	-0.452	0.000	0.154
44.00	-13.09	-2.10	0.00	-134.02	0.00	134.02	1311.06	655.53	1597.15	948.43	2.04	-0.462	0.000	0.151
45.00	-12.94	-2.08	0.00	-131.92	0.00	131.92	1311.06	655.53	1597.15	948.43	2.14	-0.472	0.000	0.149
46.00	-12.78	-2.07	0.00	-129.84	0.00	129.84	1311.06	655.53	1597.15	948.43	2.24	-0.482	0.000	0.147

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 64	

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47.00	-12.63	-2.05	0.00	-127.77	0.00	127.77	1311.06	655.53	1597.15	948.43	2.34	-0.491	0.000	0.144
48.00	-12.48	-2.04	0.00	-125.72	0.00	125.72	1311.06	655.53	1597.15	948.43	2.45	-0.501	0.000	0.142
49.00	-12.32	-2.02	0.00	-123.69	0.00	123.69	1311.06	655.53	1597.15	948.43	2.55	-0.510	0.000	0.140
50.00	-12.17	-2.01	0.00	-121.67	0.00	121.67	1311.06	655.53	1597.15	948.43	2.66	-0.519	0.000	0.138
50.00	-12.17	-2.01	0.00	-121.67	0.00	121.67	1052.07	526.04	1018.84	624.04	2.66	-0.519	0.000	0.207
51.00	-12.04	-1.99	0.00	-119.66	0.00	119.66	1052.07	526.04	1018.84	624.04	2.77	-0.528	0.000	0.203
52.00	-11.91	-1.98	0.00	-117.67	0.00	117.67	1052.07	526.04	1018.84	624.04	2.88	-0.545	0.000	0.200
53.00	-11.78	-1.97	0.00	-115.68	0.00	115.68	1052.07	526.04	1018.84	624.04	3.00	-0.562	0.000	0.197
54.00	-11.65	-1.96	0.00	-113.71	0.00	113.71	1052.07	526.04	1018.84	624.04	3.12	-0.579	0.000	0.193
55.00	-11.51	-1.95	0.00	-111.74	0.00	111.74	1052.07	526.04	1018.84	624.04	3.24	-0.596	0.000	0.190
56.00	-11.38	-1.94	0.00	-109.79	0.00	109.79	1052.07	526.04	1018.84	624.04	3.37	-0.612	0.000	0.187
57.00	-11.25	-1.93	0.00	-107.85	0.00	107.85	1052.07	526.04	1018.84	624.04	3.50	-0.628	0.000	0.184
58.00	-11.12	-1.92	0.00	-105.92	0.00	105.92	1052.07	526.04	1018.84	624.04	3.63	-0.643	0.000	0.180
59.00	-10.99	-1.91	0.00	-104.00	0.00	104.00	1052.07	526.04	1018.84	624.04	3.77	-0.659	0.000	0.177
60.00	-10.86	-1.89	0.00	-102.10	0.00	102.10	1052.07	526.04	1018.84	624.04	3.91	-0.674	0.000	0.174
61.00	-10.73	-1.88	0.00	-100.20	0.00	100.20	1052.07	526.04	1018.84	624.04	4.05	-0.689	0.000	0.171
62.00	-10.60	-1.87	0.00	-98.32	0.00	98.32	1052.07	526.04	1018.84	624.04	4.19	-0.703	0.000	0.168
63.00	-10.47	-1.86	0.00	-96.45	0.00	96.45	1052.07	526.04	1018.84	624.04	4.34	-0.718	0.000	0.165
64.00	-10.34	-1.85	0.00	-94.59	0.00	94.59	1052.07	526.04	1018.84	624.04	4.50	-0.731	0.000	0.161
65.00	-10.21	-1.83	0.00	-92.75	0.00	92.75	1052.07	526.04	1018.84	624.04	4.65	-0.745	0.000	0.158
66.00	-10.08	-1.82	0.00	-90.91	0.00	90.91	1052.07	526.04	1018.84	624.04	4.81	-0.759	0.000	0.155
67.00	-9.95	-1.81	0.00	-89.09	0.00	89.09	1052.07	526.04	1018.84	624.04	4.97	-0.772	0.000	0.152
68.00	-9.82	-1.79	0.00	-87.28	0.00	87.28	1052.07	526.04	1018.84	624.04	5.13	-0.785	0.000	0.149
69.00	-9.69	-1.78	0.00	-85.49	0.00	85.49	1052.07	526.04	1018.84	624.04	5.30	-0.797	0.000	0.146
70.00	-9.56	-1.77	0.00	-83.71	0.00	83.71	1052.07	526.04	1018.84	624.04	5.47	-0.810	0.000	0.143
71.00	-9.43	-1.75	0.00	-81.94	0.00	81.94	1052.07	526.04	1018.84	624.04	5.64	-0.822	0.000	0.140
72.00	-9.30	-1.74	0.00	-80.19	0.00	80.19	1052.07	526.04	1018.84	624.04	5.81	-0.834	0.000	0.137
73.00	-9.17	-1.73	0.00	-78.45	0.00	78.45	1052.07	526.04	1018.84	624.04	5.99	-0.845	0.000	0.134
74.00	-9.04	-1.71	0.00	-76.72	0.00	76.72	1052.07	526.04	1018.84	624.04	6.16	-0.857	0.000	0.132
75.00	-8.90	-1.69	0.00	-75.01	0.00	75.01	1052.07	526.04	1018.84	624.04	6.34	-0.868	0.000	0.129
76.00	-8.77	-1.68	0.00	-73.32	0.00	73.32	1052.07	526.04	1018.84	624.04	6.53	-0.879	0.000	0.126
77.00	-8.64	-1.66	0.00	-71.64	0.00	71.64	1052.07	526.04	1018.84	624.04	6.71	-0.889	0.000	0.123
78.00	-8.51	-1.65	0.00	-69.98	0.00	69.98	1052.07	526.04	1018.84	624.04	6.90	-0.900	0.000	0.120
79.00	-8.38	-1.63	0.00	-68.33	0.00	68.33	1052.07	526.04	1018.84	624.04	7.09	-0.910	0.000	0.117
80.00	-8.25	-1.62	0.00	-66.70	0.00	66.70	1052.07	526.04	1018.84	624.04	7.28	-0.920	0.000	0.115
80.00	-8.25	-1.62	0.00	-66.70	0.00	66.70	1052.07	526.04	1018.84	624.04	7.28	-0.920	0.000	0.115
81.00	-8.12	-1.60	0.00	-65.08	0.00	65.08	1052.07	526.04	1018.84	624.04	7.47	-0.929	0.000	0.112
82.00	-7.99	-1.59	0.00	-63.48	0.00	63.48	1052.07	526.04	1018.84	624.04	7.67	-0.939	0.000	0.109
83.00	-7.86	-1.57	0.00	-61.89	0.00	61.89	1052.07	526.04	1018.84	624.04	7.87	-0.948	0.000	0.107
84.00	-7.73	-1.56	0.00	-60.32	0.00	60.32	1052.07	526.04	1018.84	624.04	8.07	-0.957	0.000	0.104
85.00	-7.60	-1.54	0.00	-58.76	0.00	58.76	1052.07	526.04	1018.84	624.04	8.27	-0.966	0.000	0.101
86.00	-7.47	-1.53	0.00	-57.22	0.00	57.22	1052.07	526.04	1018.84	624.04	8.47	-0.974	0.000	0.099
87.00	-7.34	-1.51	0.00	-55.69	0.00	55.69	1052.07	526.04	1018.84	624.04	8.68	-0.982	0.000	0.096
88.00	-7.21	-1.50	0.00	-54.18	0.00	54.18	1052.07	526.04	1018.84	624.04	8.88	-0.990	0.000	0.094
89.00	-7.08	-1.48	0.00	-52.68	0.00	52.68	1052.07	526.04	1018.84	624.04	9.09	-0.998	0.000	0.091
90.00	-6.95	-1.47	0.00	-51.20	0.00	51.20	1052.07	526.04	1018.84	624.04	9.30	-1.006	0.000	0.089
91.00	-6.82	-1.45	0.00	-49.73	0.00	49.73	1052.07	526.04	1018.84	624.04	9.51	-1.013	0.000	0.086
92.00	-6.69	-1.43	0.00	-48.28	0.00	48.28	1052.07	526.04	1018.84	624.04	9.73	-1.020	0.000	0.084
93.00	-6.56	-1.42	0.00	-46.85	0.00	46.85	1052.07	526.04	1018.84	624.04	9.94	-1.027	0.000	0.081
94.00	-6.43	-1.40	0.00	-45.43	0.00	45.43	1052.07	526.04	1018.84	624.04	10.16	-1.034	0.000	0.079
95.00	-6.30	-1.39	0.00	-44.03	0.00	44.03	1052.07	526.04	1018.84	624.04	10.37	-1.041	0.000	0.077
96.00	-6.17	-1.37	0.00	-42.64	0.00	42.64	1052.07	526.04	1018.84	624.04	10.59	-1.047	0.000	0.074
97.00	-6.04	-1.35	0.00	-41.27	0.00	41.27	1052.07	526.04	1018.84	624.04	10.81	-1.053	0.000	0.072
98.00	-5.91	-1.34	0.00	-39.92	0.00	39.92	1052.07	526.04	1018.84	624.04	11.03	-1.059	0.000	0.070
99.00	-5.78	-1.32	0.00	-38.58	0.00	38.58	1052.07	526.04	1018.84	624.04	11.26	-1.065	0.000	0.067
100.00	-5.65	-1.30	0.00	-37.26	0.00	37.26	1052.07	526.04	1018.84	624.04	11.48	-1.070	0.000	0.065
101.00	-5.52	-1.29	0.00	-35.95	0.00	35.95	1052.07	526.04	1018.84	624.04	11.70	-1.076	0.000	0.063

Calculated Forces

Structure:	CT04374-S-SBA	**Code:**	EIA/TIA-222-G	1/21/2022	
Site Name:	Central Hebron	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 65

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102.00	-5.39	-1.27	0.00	-34.67	0.00	34.67	1052.07	526.04	1018.84	624.04	11.93	-1.081	0.000	0.061
103.00	-5.26	-1.25	0.00	-33.39	0.00	33.39	1052.07	526.04	1018.84	624.04	12.16	-1.086	0.000	0.059
104.00	-5.13	-1.24	0.00	-32.14	0.00	32.14	1052.07	526.04	1018.84	624.04	12.39	-1.091	0.000	0.056
105.00	-5.00	-1.22	0.00	-30.90	0.00	30.90	1052.07	526.04	1018.84	624.04	12.61	-1.095	0.000	0.054
106.00	-4.87	-1.20	0.00	-29.68	0.00	29.68	1052.07	526.04	1018.84	624.04	12.84	-1.100	0.000	0.052
107.00	-4.74	-1.19	0.00	-28.48	0.00	28.48	1052.07	526.04	1018.84	624.04	13.07	-1.104	0.000	0.050
108.00	-4.60	-1.17	0.00	-27.29	0.00	27.29	1052.07	526.04	1018.84	624.04	13.31	-1.108	0.000	0.048
108.00	-4.60	-1.17	0.00	-27.29	0.00	27.29	1052.07	526.04	1018.84	624.04	13.31	-1.108	0.000	0.048
109.00	-4.46	-1.14	0.00	-26.12	0.00	26.12	1052.07	526.04	1018.84	624.04	13.54	-1.112	0.000	0.046
110.00	-4.24	-1.12	0.00	-24.98	0.00	24.98	1052.07	526.04	1018.84	624.04	13.77	-1.116	0.000	0.028
110.00	-4.24	-1.12	0.00	-24.98	0.00	24.98	682.83	341.41	139.27	105.20	13.77	-1.116	0.000	0.009
111.00	-4.14	-1.09	0.00	-23.86	0.00	23.86	682.83	341.41	139.27	105.20	14.01	-1.118	0.000	0.064
111.50	-4.08	-1.08	0.00	-23.31	0.00	23.31	682.83	341.41	139.27	105.20	14.12	-1.130	0.000	0.063
111.50	-4.08	-1.08	0.00	-23.31	0.00	23.31	682.83	341.41	139.27	105.20	14.12	-1.130	0.000	0.063
112.00	-4.03	-1.07	0.00	-22.77	0.00	22.77	682.83	341.41	139.27	105.20	14.24	-1.142	0.000	0.222
113.00	-3.92	-1.06	0.00	-21.69	0.00	21.69	682.83	341.41	139.27	105.20	14.49	-1.226	0.000	0.212
114.00	-3.81	-1.04	0.00	-20.64	0.00	20.64	682.83	341.41	139.27	105.20	14.76	-1.307	0.000	0.202
115.00	-3.49	-1.01	0.00	-19.60	0.00	19.60	682.83	341.41	139.27	105.20	15.04	-1.383	0.000	0.191
116.00	-3.39	-0.99	0.00	-18.59	0.00	18.59	682.83	341.41	139.27	105.20	15.34	-1.456	0.000	0.182
117.00	-3.29	-0.97	0.00	-17.60	0.00	17.60	682.83	341.41	139.27	105.20	15.65	-1.525	0.000	0.172
118.00	-3.19	-0.95	0.00	-16.64	0.00	16.64	682.83	341.41	139.27	105.20	15.97	-1.590	0.000	0.163
119.00	-3.09	-0.92	0.00	-15.69	0.00	15.69	682.83	341.41	139.27	105.20	16.31	-1.652	0.000	0.154
120.00	-2.86	-0.90	0.00	-14.77	0.00	14.77	682.83	341.41	139.27	105.20	16.67	-1.710	0.000	0.145
121.00	-2.76	-0.87	0.00	-13.87	0.00	13.87	682.83	341.41	139.27	105.20	17.03	-1.764	0.000	0.136
122.00	-2.66	-0.85	0.00	-13.00	0.00	13.00	682.83	341.41	139.27	105.20	17.40	-1.815	0.000	0.127
123.00	-2.56	-0.83	0.00	-12.15	0.00	12.15	682.83	341.41	139.27	105.20	17.79	-1.863	0.000	0.119
124.00	-2.46	-0.80	0.00	-11.32	0.00	11.32	682.83	341.41	139.27	105.20	18.18	-1.908	0.000	0.111
125.00	-2.36	-0.78	0.00	-10.52	0.00	10.52	682.83	341.41	139.27	105.20	18.59	-1.950	0.000	0.103
126.00	-2.26	-0.75	0.00	-9.74	0.00	9.74	682.83	341.41	139.27	105.20	19.00	-1.988	0.000	0.096
127.00	-1.99	-0.72	0.00	-8.99	0.00	8.99	682.83	341.41	139.27	105.20	19.42	-2.024	0.000	0.088
128.00	-1.90	-0.70	0.00	-8.27	0.00	8.27	682.83	341.41	139.27	105.20	19.85	-2.057	0.000	0.081
129.00	-1.81	-0.67	0.00	-7.58	0.00	7.58	682.83	341.41	139.27	105.20	20.28	-2.087	0.000	0.075
130.00	-1.59	-0.64	0.00	-6.91	0.00	6.91	682.83	341.41	139.27	105.20	20.72	-2.114	0.000	0.068
130.00	-1.59	-0.64	0.00	-6.91	0.00	6.91	317.71	158.85	76.59	52.28	20.72	-2.114	0.000	0.137
131.00	-1.53	-0.61	0.00	-6.27	0.00	6.27	317.71	158.85	76.59	52.28	21.17	-2.140	0.000	0.125
132.00	-1.47	-0.59	0.00	-5.65	0.00	5.65	317.71	158.85	76.59	52.28	21.62	-2.182	0.000	0.113
133.00	-1.42	-0.57	0.00	-5.06	0.00	5.06	317.71	158.85	76.59	52.28	22.08	-2.219	0.000	0.101
134.00	-1.36	-0.54	0.00	-4.50	0.00	4.50	317.71	158.85	76.59	52.28	22.55	-2.253	0.000	0.090
135.00	-1.09	-0.51	0.00	-3.96	0.00	3.96	317.71	158.85	76.59	52.28	23.02	-2.283	0.000	0.079
136.00	-1.04	-0.48	0.00	-3.45	0.00	3.45	317.71	158.85	76.59	52.28	23.51	-2.309	0.000	0.069
137.00	-0.99	-0.46	0.00	-2.96	0.00	2.96	317.71	158.85	76.59	52.28	23.99	-2.332	0.000	0.060
138.00	-0.94	-0.43	0.00	-2.51	0.00	2.51	317.71	158.85	76.59	52.28	24.48	-2.351	0.000	0.051
139.00	-0.89	-0.41	0.00	-2.08	0.00	2.08	317.71	158.85	76.59	52.28	24.98	-2.367	0.000	0.043
140.00	-0.69	-0.29	0.00	-1.67	0.00	1.67	317.71	158.85	76.59	52.28	25.47	-2.380	0.000	0.034
141.00	-0.64	-0.26	0.00	-1.38	0.00	1.38	317.71	158.85	76.59	52.28	25.97	-2.391	0.000	0.028
142.00	-0.60	-0.23	0.00	-1.12	0.00	1.12	317.71	158.85	76.59	52.28	26.47	-2.400	0.000	0.023
143.00	-0.55	-0.21	0.00	-0.89	0.00	0.89	317.71	158.85	76.59	52.28	26.98	-2.407	0.000	0.019
144.00	-0.50	-0.18	0.00	-0.68	0.00	0.68	317.71	158.85	76.59	52.28	27.48	-2.413	0.000	0.015
145.00	-0.25	-0.15	0.00	-0.50	0.00	0.50	317.71	158.85	76.59	52.28	27.99	-2.417	0.000	0.010
146.00	-0.22	-0.12	0.00	-0.35	0.00	0.35	317.71	158.85	76.59	52.28	28.49	-2.420	0.000	0.007
147.00	-0.18	-0.10	0.00	-0.23	0.00	0.23	317.71	158.85	76.59	52.28	29.00	-2.422	0.000	0.005
148.00	-0.14	-0.07	0.00	-0.13	0.00	0.13	317.71	158.85	76.59	52.28	29.51	-2.423	0.000	0.003
149.00	-0.11	-0.05	0.00	-0.06	0.00	0.06	317.71	158.85	76.59	52.28	30.02	-2.424	0.000	0.001
150.00	0.00	-0.04	0.00	-0.01	0.00	0.01	317.71	158.85	76.59	52.28	30.52	-2.424	0.000	0.000

Final Analysis Summary

Structure:	CT04374-S-SBA		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 66

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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	11.9	0.00	24.44	0.00	0.00	1092.57
0.9D + 1.6W 101 mph Wind	11.9	0.00	18.33	0.00	0.00	1073.68
1.2D + 1.0Di + 1.0Wi 50 mph Wind	4.9	0.00	38.74	0.00	0.00	523.71
1.2D + 1.0E	0.5	0.00	24.45	0.00	0.00	43.35
0.9D + 1.0E	0.5	0.00	18.34	0.00	0.00	42.55
1.0D + 1.0W 60 mph Wind	2.6	0.00	20.37	0.00	0.00	238.59

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	-4.41	-4.94	0.00	-104.31	0.00	-104.31	682.83	341.41	139.27	105.20	112.00	0.998
0.9D + 1.6W 101 mph Wind	-3.21	-4.81	0.00	-101.17	0.00	-101.17	682.83	341.41	139.27	105.20	112.00	0.967
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-10.72	-2.82	0.00	-64.22	0.00	-64.22	682.83	341.41	139.27	105.20	112.00	0.626
1.2D + 1.0E	-4.86	-0.24	0.00	-6.75	0.00	-6.75	682.83	341.41	139.27	105.20	112.00	0.071
0.9D + 1.0E	-3.64	-0.24	0.00	-6.58	0.00	-6.58	682.83	341.41	139.27	105.20	112.00	0.068
1.0D + 1.0W 60 mph Wind	-4.03	-1.07	0.00	-22.77	0.00	-22.77	682.83	341.41	139.27	105.20	112.00	0.222

Additional Steel Summary

			Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
Elev From (ft)	Elev To (ft)	Member	VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
110.0	111.5	(3) PLT-5"x3/4" STFNR	394.3	0.00	25.3	23.8	25.3	1	0	100.5	25.3	4	0	102.90	121.5	121.50	0.847

Base Plate Summary

Structure:	CT04374-S-SB		**Code:**	EIA/TIA-222-G	1/21/2022
Site Name:	Central Hebron		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 67

Tower Engineering Solutions

Reactions	
Original Design	
Moment (kip-ft):	666.50
Axial (kip):	16.50
Shear (kip):	8.00
Analysis (1.2D + 1.6W)	
Moment (kip-ft):	1092.57
Axial (kip):	24.44
Shear (kip):	11.94

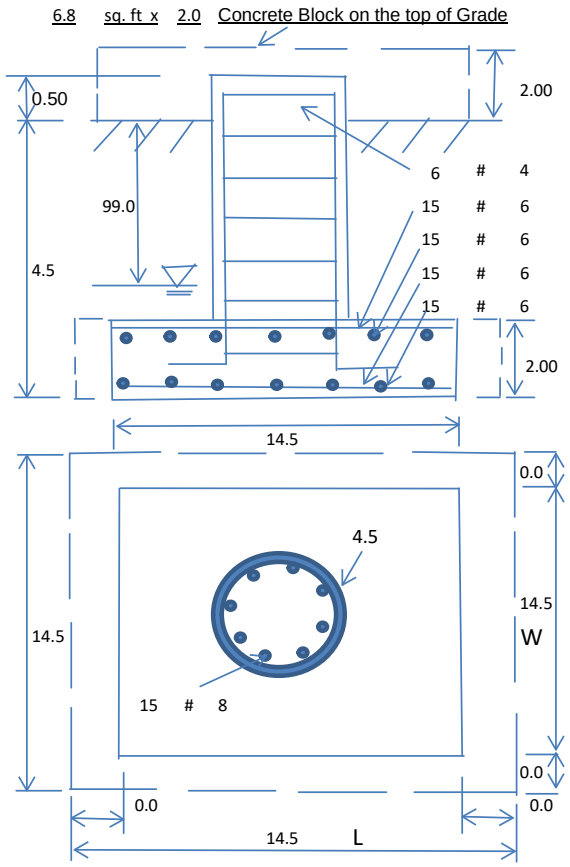
Base Plate	
Yield (ksi):	36.00
Width (in):	42.38
Style:	Round
Polygon Sides:	0.00
Clip Length (in):	0.00
Effective Len (in):	10.71
Moment (kip-in):	74.11
Allow Stress (ksi):	48.60
Applied Stress (ksi):	26.73
Stress Ratio:	0.55

Anchor Bolts	
Bolt Circle:	39.00
Number Bolts:	28.00
Bolt Type:	1.0" F1554 105
Bolt Diameter (in):	1.00
Yield (ksi):	105.00
Ultimate (ksi):	125.00
Arrangement:	Radial
Cluster Dist (in):	0.00
Start Angle (deg):	0.00
Compression	
Force (kip):	49.41
Allowable (kip):	60.57
Ratio:	0.83
Tension	
Force (kip):	46.64
Allowable (kip):	60.57
Ratio:	0.78

Monopole Mat Foundation Design

				Date
				1/21/2022
Customer Name:	Dish Wireless	**TIA Standard:**	EIA-222-G
Site Name:	Central Hebron	**Structure Height (Ft.):**	150
Site Number:	CT04374-S-SBA	**Engineer Name:**	S. Hesselbein
Engr. Number:	118985	**Engineer Login ID:**	

Foundation Info Obtained from:	Drawings/Calculations			
Structure Type:	Monopole			
Analysis or Design?	Analysis			
Base Reactions (Factored):				
Axial Load (Kips):	24.4	Shear Force (Kips):	11.9	
Uplift Force (Kips):	0.0	Moment (Kips-ft):	1092.6	
Allowable overstress %:	5.0%			
Foundation Geometries:				
		Mods required -Yes/No ?:	Yes	
Diameter of Pier (ft.):	4.5	Depth of Base BG (ft.):	4.5	
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	2.00	
Length of Pad (ft.):	14.5	Width of Pad (ft.):	14.5	
Add Concrete Width & Length (ft.)	6.8	Add Concrete Thick. (ft)	2	
Final Length of pad (ft)	14.5	Final width of pad (ft):	14.5	
Material Properties and Reabr Info:				
Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	15	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	6	
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):	15	Qty. of Rebar in Pad (W):	15	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	15	Qty. of Rebar in Pad (W):	15	
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):	30000	Ultimate Skin Friction:	200	Psf	Angle from Bottm of Pad:	25	
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25	
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:			1.00		

Foundation Analysis and Design:	Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor: 0.75
Total Dry Soil Volume (cu. Ft.):	485.86	Total Dry Soil Weight (Kips):	63.16
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	63.16	Weight from the Concrete Block at Top (K):	12.68
Total Dry Concrete Volume (cu. Ft.):	552.74	Total Dry Concrete Weight (Kips):	82.91
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	82.91	Total Vertical Load on Base (Kips):	170.47

Check Soil Capacities:					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	5260	<	Allowable Factored Soil Bearing (psf):	22500	0.23	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	1130.0	>	Design Factored Momont (kips-ft):	1115	0.99	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.01	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):	0.79		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	1204.2	>	Design Factored Moment (Mu, Kips-F	1128.3	0.94	OK!
Calculated Shear Capacity (Kips):	303.7	>	Design Factored Shear (Kips):	11.9	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	639.9	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	4028.2	>	Design Factored Axial Load (Pu Kips):	24.4	0.01	OK!
Moment & Axial Strength Combination:	0.94	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.005		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	340.5	>	One-Way Factored Shear (L-D. Kips):	115.4	0.34	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	340.5	>	One-Way Factored Shear (W-D., Kips)	115.4	0.34	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	295.1	>	One-Way Factored Shear (C-C, Kips):	118.8	0.40	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0018		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	602.6	>	Moment at Bottom (L-Dir. K-Ft):	336.7	0.56	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	602.6	>	Moment at Bottom (W-Dir. K-Ft):	336.7	0.56	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	848.3	>	Moment at Bottom (C-C Dir. K-Ft):	476.1	0.56	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	602.6	>	Moment at the top (L-Dir K-Ft):	134.1	0.22	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	602.6	>	Moment at the top (W-Dir K-Ft):	134.1	0.22	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	848.3	>	Moment at the top (C-C Dir. K-Ft):	126.4	0.15	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	437.0	k-ft.	Max. factored shear stress v_{u_CD}:		4.0	Psi
Max. factored shear stress v_{u_AB}:	11.9	Psi	Factored shear Strength ϕv_n:		189.7	Psi
Max. factored shear stress v_u:	11.9	Psi	Check Usage of Punching Shear Capacity:		0.06	OK!

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

Modification Inspection Report

Existing 150 Ft. Valmont Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT04374-S

Customer Site Name: Central Hebron

Carrier Name: Dish Wireless

Carrier Site ID / Name: BOBDL00120A / SBA - Wall Street

Site Location: 66 Wall Street

Hebron, Connecticut

Tolland County

Latitude: 41.664631

Longitude: -72.361325

Inspection Result: [Pass]

Report Prepared By: Stacey Hesselbein

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Latitude: 41.664631

Longitude: -72.361325

Inspection Result: [Pass]

Report Prepared By: Stacey Hesselbein

Introduction

The purpose of this modification Inspection Report is to summarize the modification has been completed in in accordance with the modification drawings listed below. The designed modification is outlined under Modification Summary below.

Based on our review of the project closeout documents, we have determined that the modification **has been** completed in accordance with the design modification drawings. The noted deviations (if there is any) from the design were approved by TES and are documented in the modification summary below.

Project Closeout Documents

Modification Design Drawings	TES, Project # 118985 Dated 01/28/2022
Contractor As-Built Drawing	Provided by Northern Pride Communications, Inc. Dated 07/07/2022
Installation Photos	Provided by Northern Pride Communications, Inc.
Others	N/A

Modification Summary and Photos

Modification: Install flange reinforcement at the 20ft. elevation
Deviations: None.
Comments: No deficiencies found.

PER THE INTERNATIONAL BUILDING CODE THIS STRUCTURE IS CLASSIFIED AS:

1. CONSTRUCTION TYPE II-B (TABLE 601)
2. GROUP U OCCUPANCY (SECTION 312.1 UNOCCUPIED TOWER SITE)

MODIFICATION AND DESIGN DRAWINGS FOR AN EXISTING 150' VALMONT MONOPOLE TOWER

PROPOSED CARRIER: DISH WIRELESS

SITE: CT04374-S-SBA / CENTRAL HEBRON

COORDINATES (LATITUDE: 41.664631°, LONGITUDE: -72.361325°)

CONSTRUCTION CLASS

THE RIGGING PLAN FOR THIS SITE WOULD BE A MINIMUM OF A CLASS I AND THE CONTRACTOR SHALL MAKE FINAL DETERMINATION

PLEASE NOTE THIS SET OF DRAWINGS IS FOR INSTALLATION AND ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	TOWER PROFILE	0
A-2	REINFORCEMENT ASSEMBLY	0
SPEC-1	NEXGEN2 BLIND BOLT ASSEMBLY INSTALLATION GUIDE	0
SPEC-2	NEXGEN2 BLIND BOLT ASSEMBLY INSTALLATION GUIDE	0

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE **TES** PROJECT NO. 118516, DATED 11/05/21.

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07-07-2022

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BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
118985

CUSTOMER SITE NO:
CT04374-S-SBA

CUSTOMER SITE NAME:
CENTRAL HEBRON

66 WALL STREET
HEBRON, CT 06248

STATE OF CONNECTICUT
JARRYD TIBBETTS
No. 34170
LICENSED
PROFESSIONAL ENGINEER
1/28/22

DRAWN BY: CH | CHECKED BY: SH/AD

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CH	01/28/22

SHEET TITLE:

TITLE SHEET

SHEET NUMBER: T-1

REV #: 0

BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	LENGTH	SHEET LIST (INSTALLATION)	SHEET LIST (FABRICATE)	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
			MATERIAL & HARDWARE						
			Following Items are Non-standard Parts						
3	3	RFR6X100-W56	PL 1" X 6" X 4'-8" A572-65 WELDMENT	---	A-2	F-1	206.7	620.1	Galvanized
21	24	2NG2127	M20 X 175 NEXGEN2 BLIND BOLT ASSEMBLY	---	A-2	---	---	---	Galvanized
21	24	2NG2057	M20 X 95 NEXGEN2 BLIND BOLT ASSEMBLY	---	A-2	---	---	---	Galvanized
3	3	SPL-1	PL 1/2" X 6 1/2" X 1'-9" A36	---	A-2	F-1	19.8	59.4	Galvanized
			ALL APLXXXX, LPXXXX AND RLPXXXX ARE PATENTED PRODUCTS AND CANNOT BE FABRICATED BY THIRD PARTIES. THESE PARTS ARE AVAILABLE FROM: **METROSITE, LLC.** **180 IND PARK BLVD COMMERCE, GA 30529** **OFFICE: (706) 335-7045** **FAX: (706) 335-7056**						
			NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.						
						TOTAL WEIGHT (LBS) =		**679.5**	

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CT04374-S-SBA

CUSTOMER SITE NAME:
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HEBRON, CT 06248

DRAWN BY: CH | CHECKED BY: SH/AD

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CH	01/28/22

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER: BOM
REV #: 0

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, 2018 CONNECTICUT STATE BUILDING CODE AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 - FOR STEEL CONSTRUCTION & TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

POST INSTALLED EPOXY INJECTED ANCHOR BOLTS:

1. CONCRETE MUST BE A MINIMUM OF 28 DAYS OLD.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR CURE TIME VS. AMBIENT TEMPERATURE.
3. DRILL HOLE TO REQUIRED DIAMETER AND DEPTH. ALL WATER, DIRT, OIL, DEBRIS, GREASE OR DUST MUST BE REMOVED FROM EACH CORE HOLE. FOLLOW MANUFACTURER'S RECOMMENDATION FOR CORRECT TYPE OF CORE BIT. AVOID DAMAGING EXISTING REINFORCING STEEL OR OTHER EMBEDDED ITEMS. NOTIFY TES ENGINEERING IF VOIDS IN THE CONCRETE, REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED. STOP CORING IMMEDIATELY IF THIS OCCURS.
4. A HOLE ROUGHENING DEVICE FROM EITHER HILTI OR ALLFASTENERS SHALL BE USED WITH ALL HOLES. FOLLOW ALL MANUFACTURER'S RECOMMENDED CORING AND INSTALLATION INSTRUCTIONS.
5. AFTER CORING AND ROUGHENING, FLUSH EACH HOLE WITH RUNNING WATER TO REMOVE ANY SLURRY OR DEBRIS. REMOVE ALL WATER FROM THE HOLE BY MECHANICAL PUMPING.
6. BRUSH EACH HOLE WITH AN APPROPRIATE SIZED NYLON BRUSH AND FLUSH WITH RUNNING WATER A SECOND TIME. REMOVE ALL WATER FROM THE HOLE.
7. AFTER THE SECOND WATER FLUSH BRUSH THE HOLE AGAIN WITH THE APPROPRIATE SIZED NYLON BRUSH.
8. BLOW EACH HOLE WITH COMPRESSED AIR TWO TIMES MINIMUM.
9. CONFIRM THAT EACH HOLE IS PROPERLY ROUGHED AND DRY.
10. NO EPOXY INJECTION SHALL TAKE PLACE IN RAINY CONDITIONS.
11. EPOXY SHOULD BE VISIBLE AT THE TOP OF THE CORE HOLE AFTER INSTALLATION.
12. CONTRACTOR TO SUPPLY ONE PHOTO OF EACH ROUGHED AND CLEANED HOLE IN CLOSEOUT PHOTO PACKAGE.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING [a,b]

BOLT LENGTH [c]	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 [d]	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS [d]
NOT MORE THAN $4d_b$	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN $4d_b$ BUT NOT MORE THAN $8d_b$	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN $8d_b$ BUT NOT MORE THAN $12d_b$	2/3 TURN	5/6 TURN	1 TURN

[a] NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES.

[b] APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

[c] WHEN THE BOLT LENGTH EXCEEDS $12d_b$, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

[d] BEVELED WASHER NOT USED.

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004
RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

1. HB12 HOLLO BOLT: 59 FT-LBS
2. HB16 HOLLO BOLT: 140 FT-LBS
3. HB20 HOLLO BOLT: 221 FT-LBS
4. M20 AJAX BOLT: 280 FT-LBS.

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.

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TES JOB NO:
118985

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CT04374-S-SBA
CUSTOMER SITE NAME:
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66 WALL STREET
HEBRON, CT 06248

DRAWN BY: CH | CHECKED BY: SH/AD

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CH	01/28/22

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: GN-1
REV #: 0

NOTES:

1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE MONOPOLE AND ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.

AS-BUILT
07-07-2022

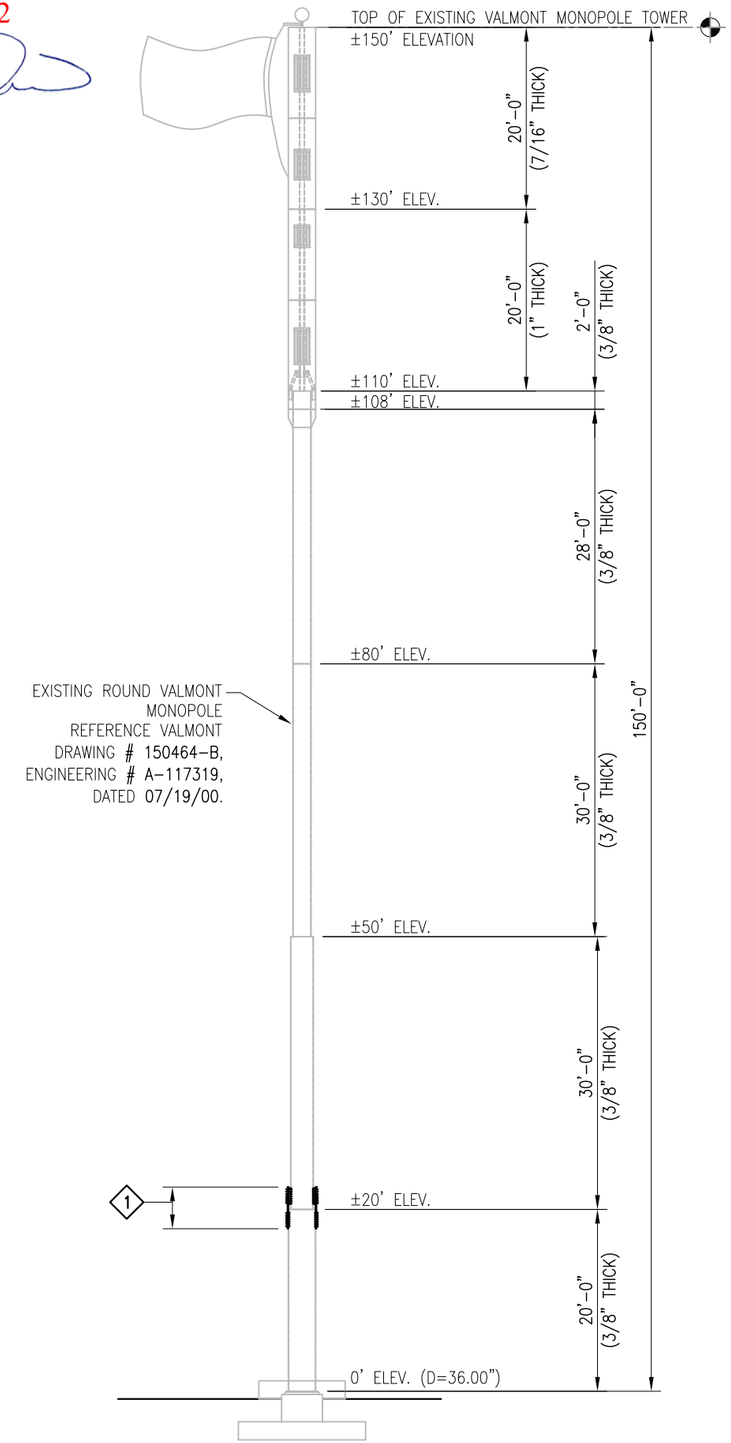
SCOPE OF WORK

1. INSTALL (3) RFR6X100-W56 FLANGE REINFORCEMENT AT ±20'-0" ELEV. SEE SHEET A-2 FOR DETAILS. **NOTE:** CONTRACTOR TO PAINT FLANGE REINFORCEMENTS TO MATCH EXISTING TOWER COLOR.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.

PHOTO 2

PHOTO 1

PHOTO 3



ELEVATION VIEW

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CH	01/28/22

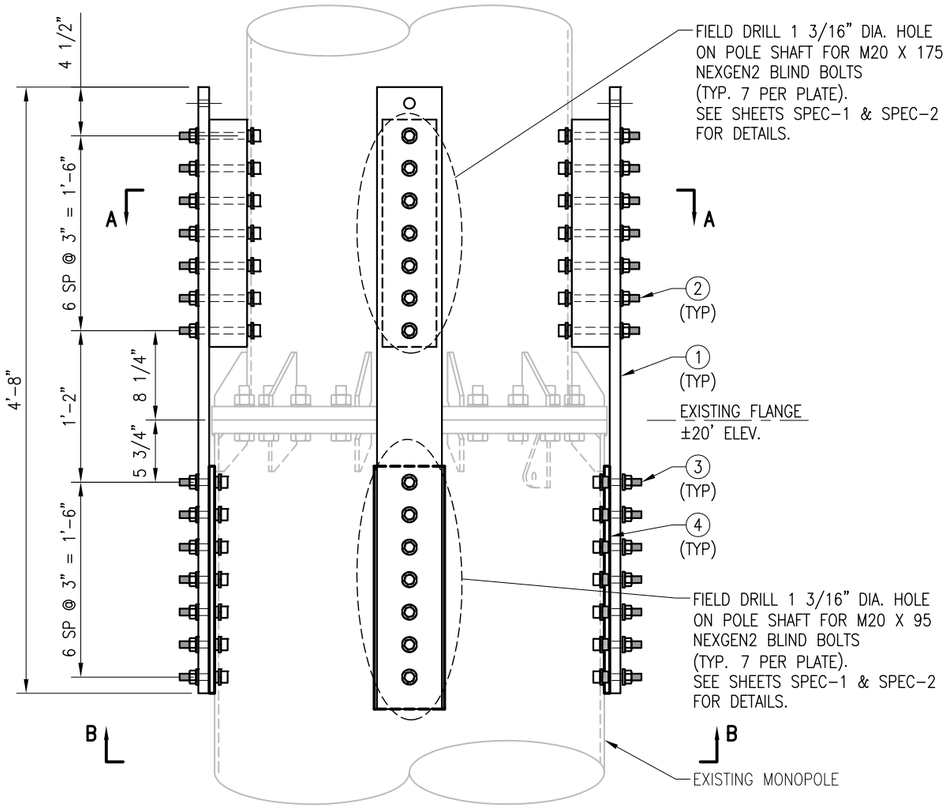
SHEET TITLE: TOWER PROFILE

SHEET NUMBER: A-1

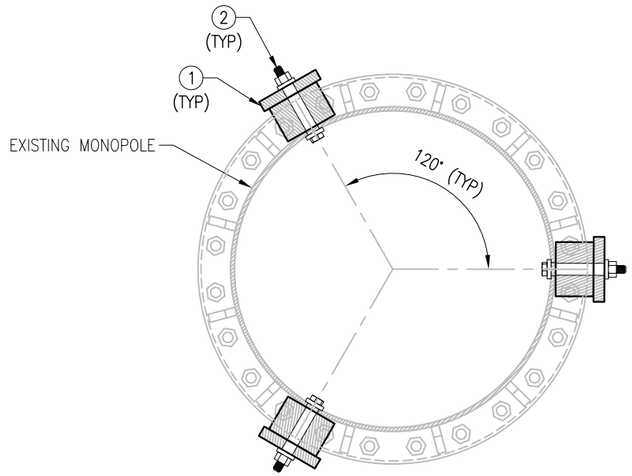
REV #: 0

NOTES:

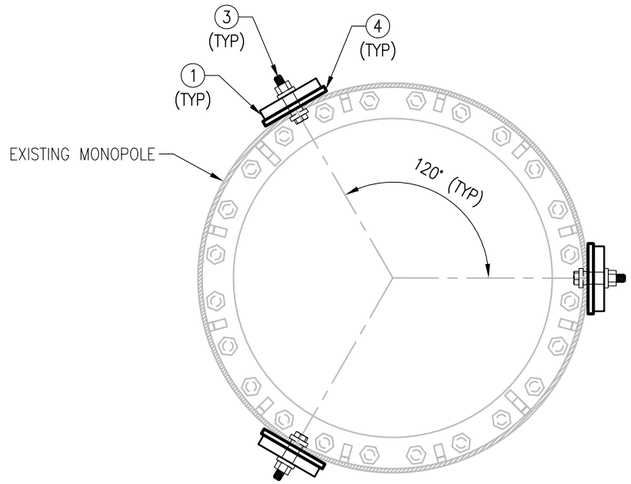
1. REFER TO SHEET A–1 FOR FLAT BAR WELDMENT ELEVATION.
2. SEE SHEETS SPEC–1 & 2 FOR NEXGEN2 BLIND BOLT INSTALLATION. IT IS REQUIRED THAT THE CONTRACTOR TAKE PHOTOS OF THE INSTALLED BOLT FOR VERIFICATION OF PROPER INSTALLATION.
3. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS TO ALL FIELD DRILLED AND EXPOSED AREAS.
4. INSTALLATION MUST BE STARTED FROM THE TOP PIECE TO THE BOTTOM PIECE.
5. CONTRACTOR TO FIELD VERIFY IF THERE ARE ANY EXISTING INTERNAL FLANGE STIFFENERS/ANGLES PRIOR TO DRILLING HOLES.



ELEVATION VIEW
(@ ±20' ELEV.)



SECTION "A–A"



SECTION "B–B"

AS-BUILT
07-07-2022

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	3	RFR6X100–W56	PL 1" X 6" X 4'–8" A572–65 WELDMENT
2	21	2NG2127	M20 X 175 NEXGEN2 BLIND BOLT ASSEMBLY
3	21	2NG2057	M20 X 95 NEXGEN2 BLIND BOLT ASSEMBLY
4	3	SPL–1	PL 1/2" X 6 1/2" X 1'–9" A36

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DRAWN BY: CH | CHECKED BY: SH/AD

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CH	01/28/22

SHEET TITLE:
REINFORCEMENT ASSEMBLY

SHEET NUMBER: A–2
REV #: 0

NEXGEN2 BLIND BOLT ASSEMBLY

INSTALLATION GUIDE

PRE-INSTALL BOLT ON INSTALL TOOL:

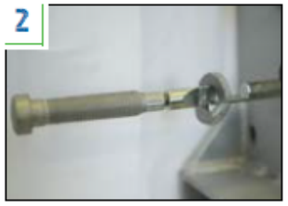
1 Thread the installation tool tip into the splined end of the bolt.

2 Remove the nut, the face washer and the spring shear sleeve and slide along the handle of the tool.

3 Move the collapsible washer to the correct location on the tool and fold in place.

INSTALLATION:

1 Install the bolt into the hole followed by the collapsible washer.



2 Rotate the tool 180°.

3 Pulling back, rock the tool side-to-side to engage the collapsible washer.

4 Engage the spring shear sleeve into the shear plane.

5 Slide the face washer forward and move the nut up to fasten to the bolt. Tighten the nut snug tight at this point.

6 Remove the tool by unscrewing it from bolt (counterclockwise).

7 Using the shear wrench engage the outer socket with the splined end of the bolt. Press the trigger until correct tension has been achieved (the bolt spline separates from the bolt).

8 Press the small trigger on the shear wrench to eject the bolt spline. The application is now complete.

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THIS INSTALLATION GUIDE WAS CREATED BY ALLFASTENERS. IT WAS ATTACHED FOR REFERENCE ONLY.

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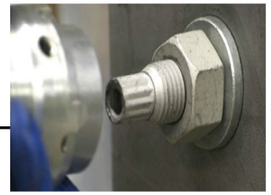
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CH	01/28/22

SHEET TITLE:
NEXGEN2 BLIND BOLT ASSEMBLY INSTALLATION GUIDE

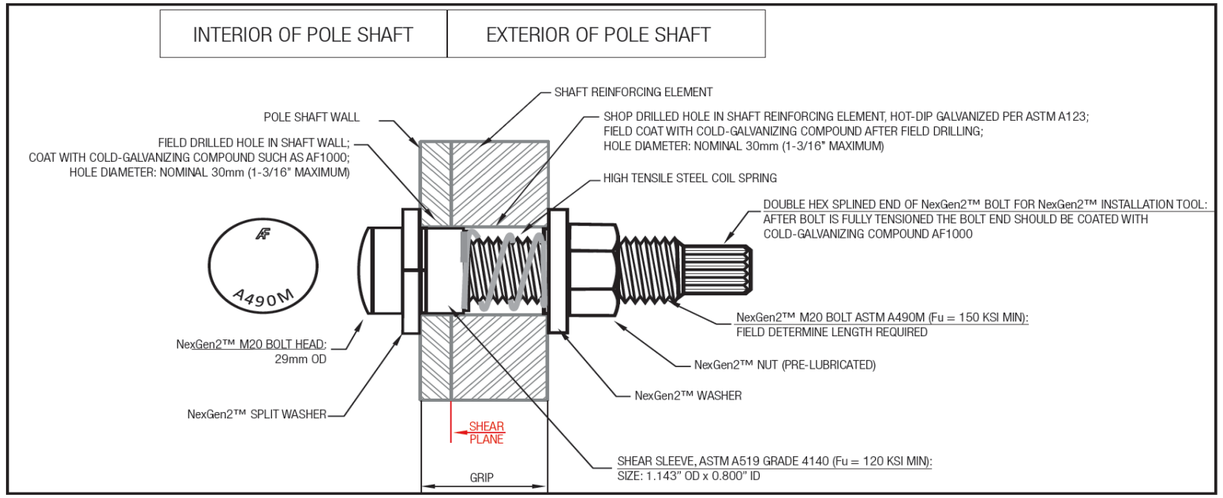
SHEET NUMBER: SPEC-1
REV #: 0

Pre-Tension

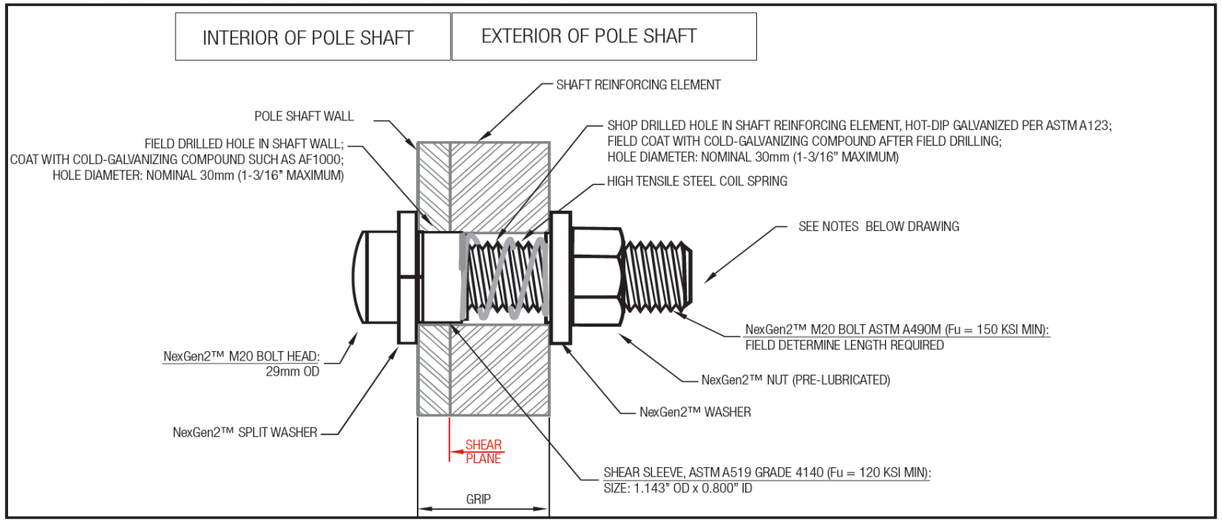


Post-Tension

TYPICAL NG2™ BOLT DETAIL: ***PRE-TENSION***



TYPICAL NG2™ BOLT DETAIL: ***POST-TENSION***



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0	FIRST ISSUE	CH	01/28/22

SHEET TITLE:
NEXGEN2 BLIND BOLT ASSEMBLY INSTALLATION GUIDE

SHEET NUMBER: SPEC-2

REV #: 0

Exhibit E

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

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

Dish Wireless Existing Facility

Site ID: BOBDL00120A

66 Wall Street
Hebron, Connecticut 06248

September 13, 2022

EBI Project Number: 6222001167

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**13.07%**

21 B Street, Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

September 13, 2022

Dish Wireless

Emissions Analysis for Site: BOBDL00120A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **66 Wall Street** in **Hebron, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless Wireless antenna facility located at 66 Wall Street in Hebron, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since Dish Wireless is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 4 n71 channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 4 n70 channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

3) 4 n66 channels (AWS Band - 2190 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

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

estimate as gain reductions for these particular antennas are typically much higher in this direction.

6) The antennas used in this modeling are the Commscope FFVV-65B-R3 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the Commscope FFVV-65B-R3 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the Commscope FFVV-65B-R3 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antenna mounting height centerline of the proposed antennas is 145 feet above ground level (AGL).

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

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

EBI Consulting

environmental | engineering | due diligence

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Commscope FFVV-65B-R3	Make / Model:	Commscope FFVV-65B-R3	Make / Model:	Commscope FFVV-65B-R3
Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz
Gain:	11.65 dBd / 15.8 dBd / 16.19 dBd	Gain:	11.65 dBd / 15.8 dBd / 16.19 dBd	Gain:	11.65 dBd / 15.8 dBd / 16.19 dBd
Height (AGL):	145 feet	Height (AGL):	145 feet	Height (AGL):	145 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts
ERP (W):	14,492.21	ERP (W):	14,492.21	ERP (W):	14,492.21
Antenna A1 MPE %:	**3.19%**	Antenna B1 MPE %:	**3.19%**	Antenna C1 MPE %:	**3.19%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	3.19%
Verizon	2.01%
T-Mobile	3.99%
AT&T	3.88%
Site Total MPE % :	13.07%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	3.19%
Dish Wireless Sector B Total:	3.19%
Dish Wireless Sector C Total:	3.19%
Site Total MPE % :	13.07%

Dish Wireless Maximum MPE Power Values (Sector A)

Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
Dish Wireless 600 MHz n71	4	438.65	145.0	3.26	600 MHz n71	400	0.82%
Dish Wireless 1900 MHz n70	4	1520.76	145.0	11.32	1900 MHz n70	1000	1.13%
Dish Wireless 2190 MHz n66	4	1663.64	145.0	12.38	2190 MHz n66	1000	1.24%
						Total:	**3.19%**

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

Summary

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

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

Dish Wireless Sector	Power Density Value (%)
Sector A:	3.19%
Sector B:	3.19%
Sector C:	3.19%
Dish Wireless Maximum MPE % (Sector A):	3.19%
Site Total:	13.07%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **13.07%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Exhibit F

Letter of Authorization

SBA Letter of Authorization

CT - CONNECTICUT SITING COUNCIL
Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

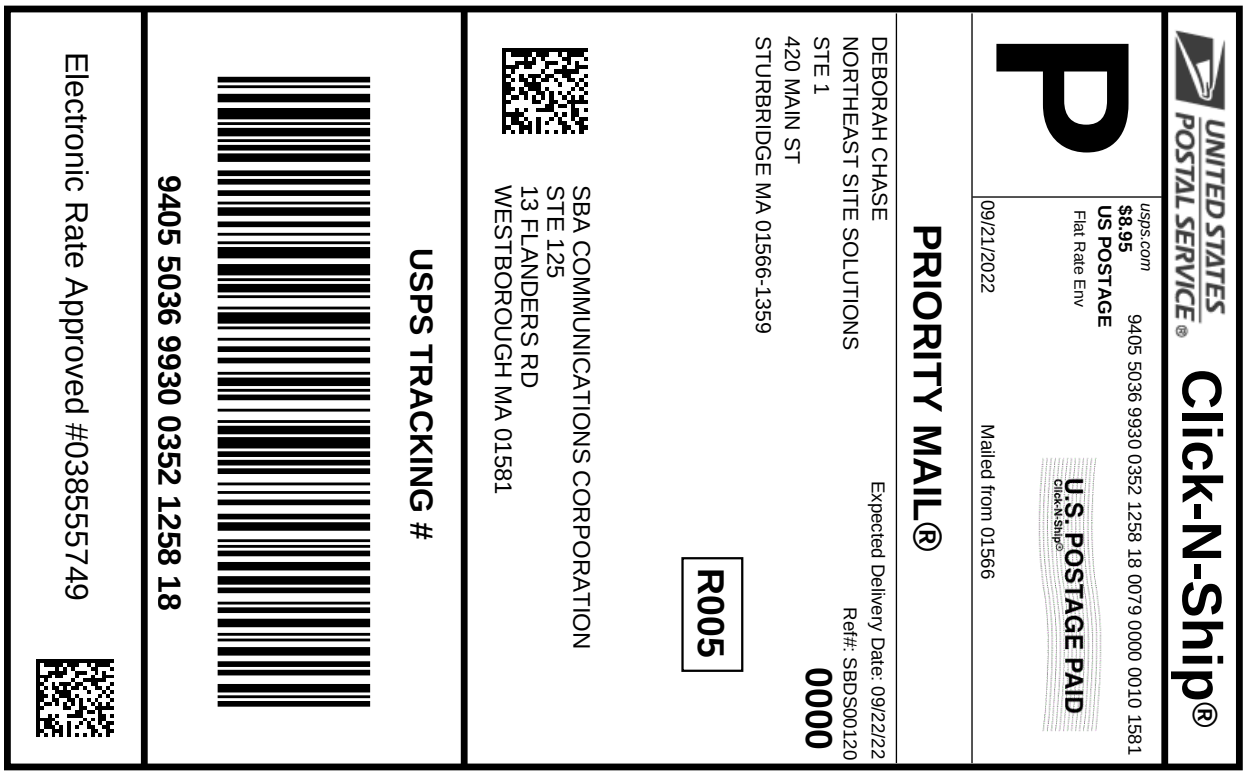
Re: Tower Share Application

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

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

Exhibit G

Recipient Mailings



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Trans. #:	572255362
Print Date:	09/21/2022
Ship Date:	09/21/2022
Expected Delivery Date:	09/22/2022

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

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

Ref#: SBDS00120

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

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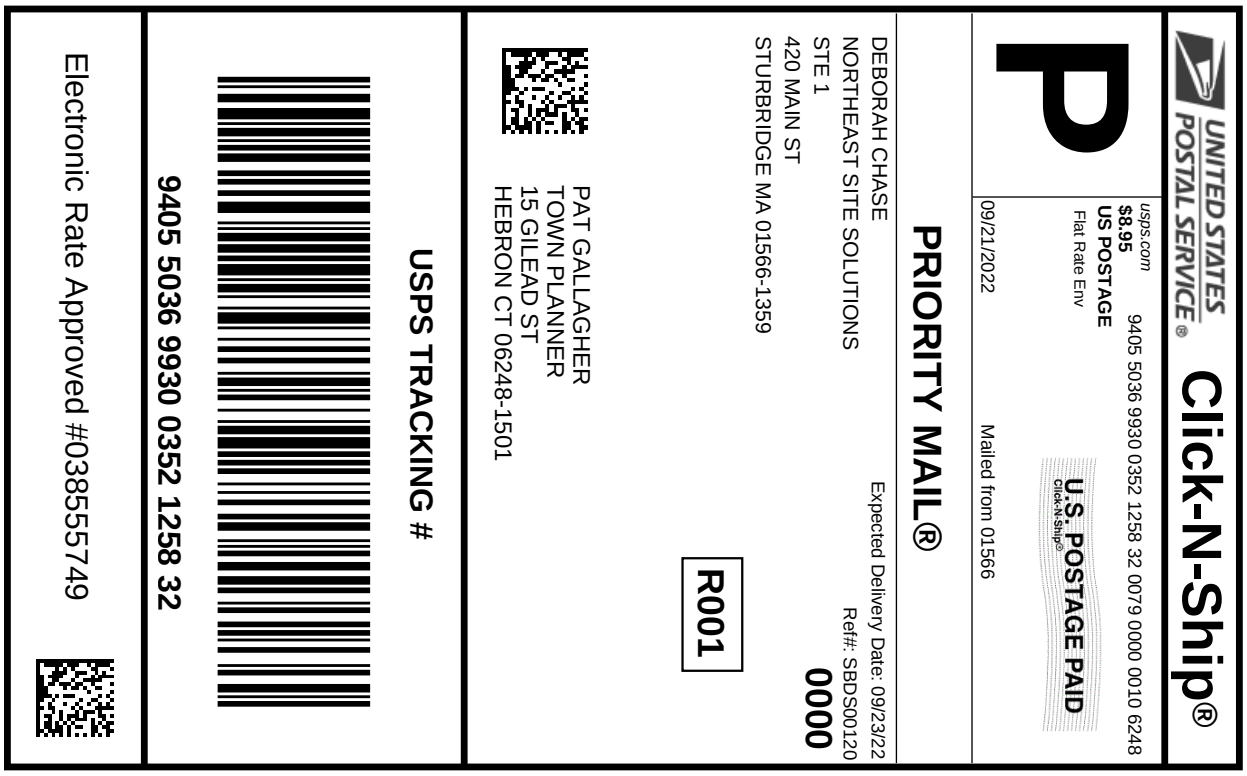

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Trans. #:	572255362
Print Date:	09/21/2022
Ship Date:	09/21/2022
Expected Delivery Date:	09/23/2022

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

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

Ref#: SBDS00120

To: PAT GALLAGHER
TOWN PLANNER
15 GILEAD ST
HEBRON CT 06248-1501

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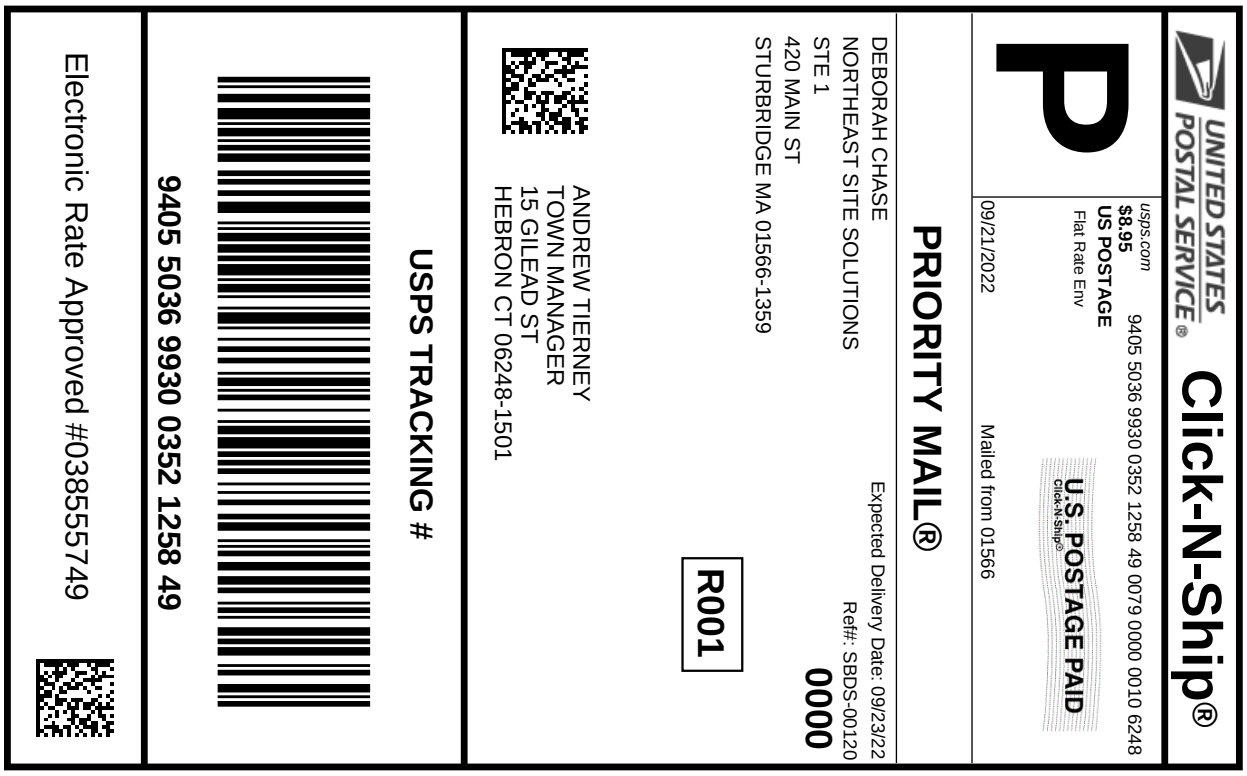

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0352 1258 49

Trans. #:	572255362
Print Date:	09/21/2022
Ship Date:	09/21/2022
Expected Delivery Date:	09/23/2022

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

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

Ref#: SBDS-00120

To: ANDREW TIERNEY
TOWN MANAGER
15 GILEAD ST
HEBRON CT 06248-1501

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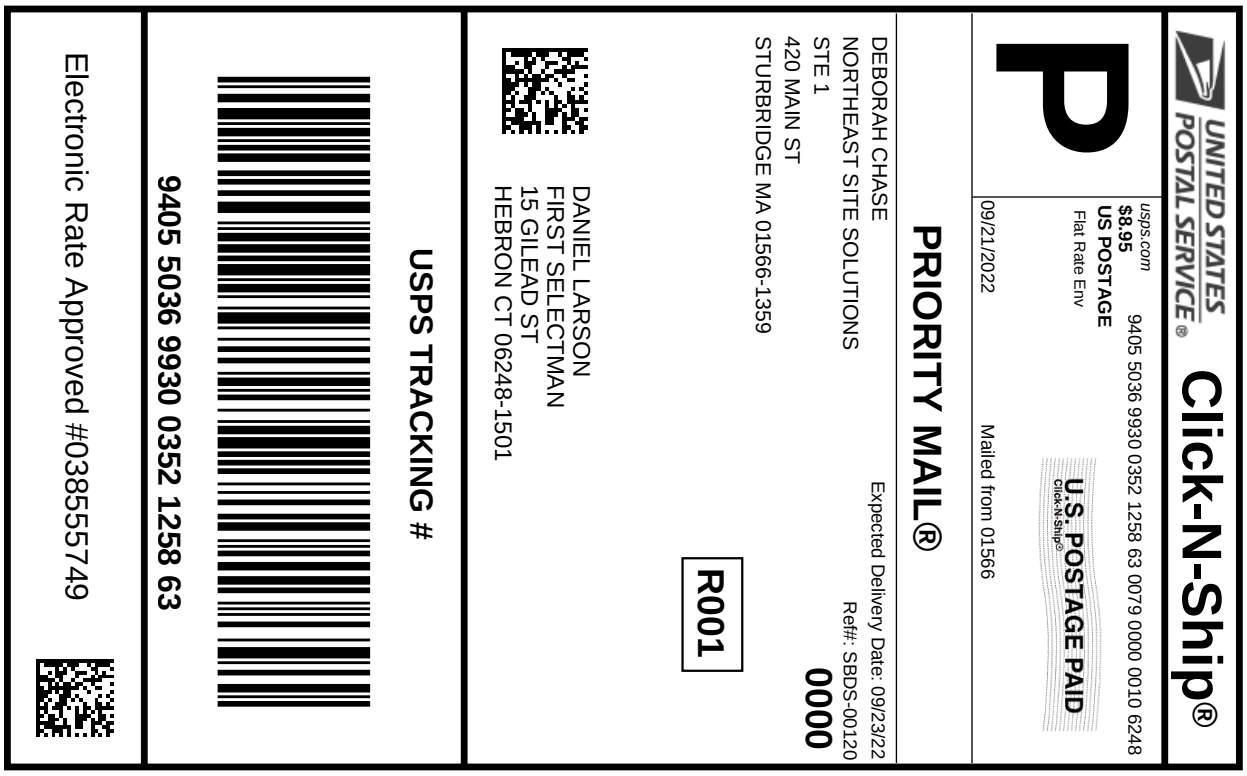

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Trans. #:	572255362
Print Date:	09/21/2022
Ship Date:	09/21/2022
Expected Delivery Date:	09/23/2022

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

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

Ref#: SBDS-00120

To: DANIEL LARSON
FIRST SELECTMAN
15 GILEAD ST
HEBRON CT 06248-1501

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Product	Qty	Unit Price	Price
Prepaid Mail Hebron, CT 06248 Weight: 0 lb 7.60 oz Acceptance Date: Mon 09/26/2022 Tracking #: 9405 5036 9930 0352 1258 49	1		$0.00
Prepaid Mail Hebron, CT 06248 Weight: 0 lb 7.60 oz Acceptance Date: Mon 09/26/2022 Tracking #: 9405 5036 9930 0352 1258 32	1		$0.00
Prepaid Mail Hebron, CT 06248 Weight: 0 lb 7.60 oz Acceptance Date: Mon 09/26/2022 Tracking #: 9405 5036 9930 0352 1258 63	1		$0.00
Prepaid Mail Westborough, MA 01581 Weight: 0 lb 2.00 oz Acceptance Date: Mon 09/26/2022 Tracking #: 9405 5036 9930 0352 1258 18	1		$0.00

Grand Total: $0.00

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