Filed by:
G. Scott Shepherd, Sr. Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3807 - GShepherd@sbasite.com

November 30, 2021

Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Tower Share Application
540 Cherry Brook Rd., Canton, CT
Latitude: 41.894052
Longitude: -72.893850
Dish Site# BOBDL00116A

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 540 Cherry Brook Rd., Canton, CT

Dish Wireless LLC proposes to install three (3) 600/1900/2100 MHz antennas and six (6) RRUs, at the 105-foot level of the existing 150-foot monopole tower, one (1) Hybrid cable will also be installed. Dish Wireless LLC equipment cabinets will be placed within 7'x 5' lease area. Included are plans by B + T Group, dated Sept. 21, 2021 Exhibit 10. Also included is a structural analysis prepared by TES, dated Sept. 1, 2021, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit 8. This facility was approved by the Judicial District of Hartford Superior Court on October 23, 2000. Please see attached Exhibit 6.

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 Robert Bessel, First Selectman for the Town of Canton, Building Official, Jerry Waters and Chief Administrative Officer, Robert Skinner. Separate notice is not being sent to the tower owner as it belongs to SBA.

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 tower is 150-feet; Dish Wireless LLC proposed antennas will be located at a center line height of 105-feet.

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

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. As indicated in the attached power density calculations, the combined site operations will result in a total power density of 11.07% as evidenced by Exhibit 7.

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 indicates 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 8.

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 support tower in Canton. 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 2, 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 105-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 7, 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 Intent 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 guyed 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 Westbrook.

Sincerely,

Scott Shepherd
Site Development Specialist II
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3807 + T
508.366.2610 + F
508.868.6000 + C
GShepherd@sbasite.com

Attachments:

cc: Robert Bessel, First Selectman / with attachments
Canton Town Hall, 4 Market St., P.O. Box 168
Collinsville, CT 06022
Jerry Waters, Building Official / with attachments 5 Town
Canton Town Hall, 4 Market St.,P.O. Box 168
Collinsville, CT 06022
Robert Skinner, Chief Administrative Officer / with attachments
P.O. Box 393 North Canton, CT 06059-393 (SBA address on file)

EXHIBIT LIST

Exhibit 1	Copy of Check	X
Exhibit 2	Letter of Intent to Allow Shared Use of the Existing SBA Telecommunications Site	X
Exhibit 3	Notification Receipts	x
Exhibit 4	Property Card	x
Exhibit 5	Property Map	x
Exhibit 6	Original Zoning Approval	Stipulation of Judgment 10/19/2000
Exhibit 7	EME Report	EBI Consulting 11/30/21
Exhibit 8	Structural Analysis	TES 9/1/21
Exhibit 9	Mount Analysis	B + T Group 8/30/21
Exhibit 10	Construction Drawings	B + T Group 9/21/21

EXHIBIT 1

Copy of check

EXHIBIT 2
Letter of Intent

November 30, 2021

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

RE: **Notice of Intent to Allow Shared Use of the Existing SBA Telecommunications Site**
Location: 540 Cherry Brook Rd., Canton, CT
Dish Wireless Site No: BOBDL00116A
Site No: CT01500-S

Dear Ms. Bachman:

Please let the following serve as Evidence of Intent to allow Dish Wireless' shared use of the existing SBA telecommunications site at **540 Cherry Brook Rd., Canton, CT**.

SBA Towers, LLC ("Owner") and Dish Wireless ("Tenant") are entering into a Site Lease Agreement. Tenant will be provided ground space within the existing site compound for its base station equipment and space at the height of 105' for antennas and associated equipment.

Thank you,

Rick Woods
Site Development Manager
SBA COMMUNICATIONS CORPORATION
134 Flanders Road, Suite 125
Westboro, MA 01581

508.251.0720 x3800 + T
508.366.2610 + F
508.614.0389 + C
rwoods@sbasite.com

EXHIBIT 3

Fedex Labels

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

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

FedEx

TRACK ANOTHER SHIPMENT

775347294286

ADD NICKNAME

ON TIME

Scheduled delivery:
Wednesday, 12/1/2021 before 11:30 am

PICKED UP
WESTBOROUGH, MA

GET STATUS UPDATES

FROM	TO
WESTBOROUGH, MA US	NEW BRITAIN, CT US

MANAGE DELIVERY

Travel History | Shipment Facts

Travel History

TIME ZONE
Local Scan Time

Tuesday, November 30, 2021		
4:28 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
1:46 PM		Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER 775347294286	**SERVICE** FedEx Priority Overnight	**WEIGHT** 2 lbs / 0.91 kgs
TOTAL PIECES 1	**TOTAL SHIPMENT WEIGHT** 2 lbs / 0.91 kgs	**TERMS** Shipper
SHIPPER REFERENCE 10-56-92009-6089	**PACKAGING** FedEx Pak	**SPECIAL HANDLING SECTION** Deliver Weekday
ACTUAL PICK UP	**STANDARD TRANSIT**	**SCHEDULED DELIVERY**

G. SHEPHERD
SBA COMMUNICATIONS
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581

UNITED STATES POSTAL SERVICE.

WESTBOROUGH
150 E MAIN ST
WESTBOROUGH, MA 01581-9998
(800)275-8777

11/30/2021 03:59 PM

Product	Qty	Unit Price	Price
Priority Mail® 2-Day 1 North Canton, CT 06059 Weight: 0 lb 14.10 oz Expected Delivery Date Fri 12/03/2021 Tracking #: 9505 5112 4892 1334 7405 97			$7.95
Insurance Up to $50.00 included			$0.00
Total			$7.95
Priority Mail® 2-Day 1 Canton, CT 06019 Weight: 0 lb 14.10 oz Expected Delivery Date Fri 12/03/2021 Tracking #: 9505 5112 4892 1334 7406 10			$7.95
Insurance Up to $50.00 included			$0.00
Total			$7.95
Priority Mail® 2-Day 1 Canton, CT 06019 Weight: 0 lb 14.10 oz Expected Delivery Date Fri 12/03/2021 Tracking #: 9505 5112 4892 1334 7406 27			$7.95
Insurance Up to $50.00 included			$0.00
Total			$7.95

CANTON TOWN HALL
c/o ROBERT BESSEL
FIRST SELECTMAN
4 MARKET ST. P.O. BOX 168
COLLINSVILLE, CT. 06022

G. SHEPHERD
SRA COMMUNICATIONS
134 FLANDERS RD
Suite 125
WESTBOROUGH, MA 01581

UNITED STATES POSTAL SERVICE.

WESTBOROUGH
150 E MAIN ST
WESTBOROUGH, MA 01581-9998
(800)275-8777

11/30/2021 03:59 PM

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Insurance Up to $50.00 included			$0.00

CANTON TOWN HALL
C/O JERRY WATERS
BUILDING OFFICIAL
4 MARKET ST. P.O. BOX 168
COLLINSVILLE, CT. 06022

G. SHEPHERD
SBA COMMUNICATIONS
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581

UNITED STATES POSTAL SERVICE.

WESTBOROUGH
150 E MAIN ST
WESTBOROUGH, MA 01581-9998
(800)275-8777

11/30/2021 03:59 PM

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Tracking #:			
9505 5112 4892 1334 7405 97			
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Up to $50.00 included			
Total			$7.95

Priority Mail® 2-Day 1			$7.95
Canton, CT 06019			
Weight: 0 lb 14.10 oz			
Expected Delivery Date			
Fri 12/03/2021			
Tracking #:			
9505 5112 4892 1334 7406 10			
Insurance			$0.00
Up to $50.00 included			
Total			$7.95

Priority Mail® 2-Day 1			$7.95
Canton, CT 06019			
Weight: 0 lb 14.10 oz			
Expected Delivery Date			
Fri 12/03/2021			
Tracking #:			
9505 5112 4892 1334 7406 27			
Insurance			$0.00
Up to $50.00 included			

ROBERT SKINNER
P.O. BOX 393
NO. CANTON, CT 06059

EXHIBIT 4

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 2018.

TOWN OF CANTON CT

Information on the Property Records for the Municipality of Canton was last updated on 9/28/2021.

Parcel Information

Location:	540 T CHERRY BROOK ROAD	Property Use:	Vacant Land	Primary Use:	Commercial Vacant Land
Unique ID:	1850540T	Map Block Lot:	7/185/0540T	Acres:	0.11
490 Acres:	0.00	Zone:	AR-3	Volume / Page:	438/ 33
Developers Map / Lot:		Census:			

Value Information

	Appraised Value	Assessed Value
Land	400,000	280,000
Buildings	0	0
Detached Outbuildings	2,688	1,880

	Appraised Value	Assessed Value
Total	402,688	281,880

Owner's Information

Owner's Data
CANTON TOWN OF SBA TOWERS 8051 CONGRESS AVE BOCA RATON FL 33487

Detached Outbuildings

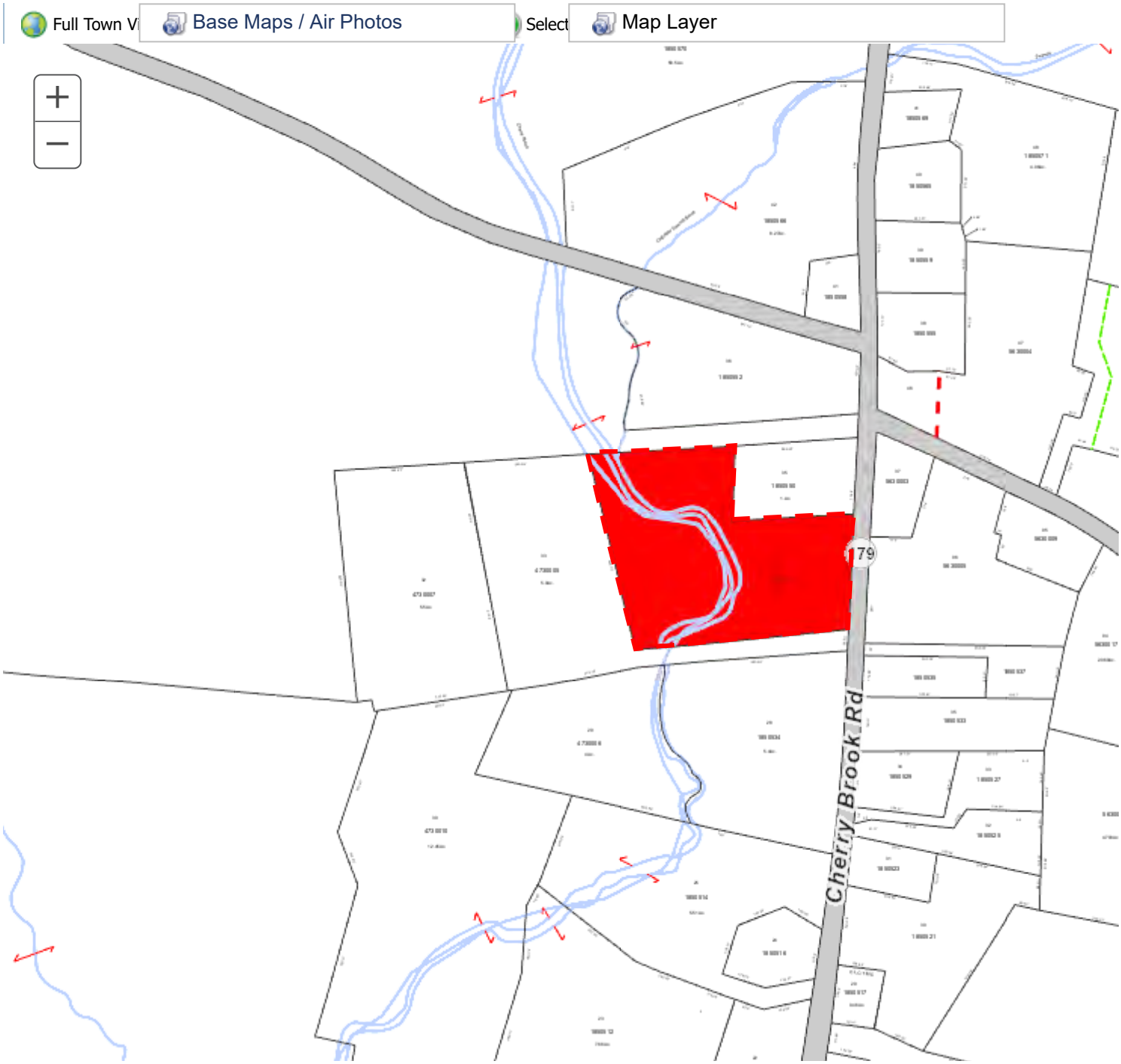
Type:	Year Built:	Length:	Width:	Area:
Cblk/Fr Shed	1999	20.00	12.00	240

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Sale Price
CANTON TOWN OF	438	33	01/25/2018	Warranty Deed	$0

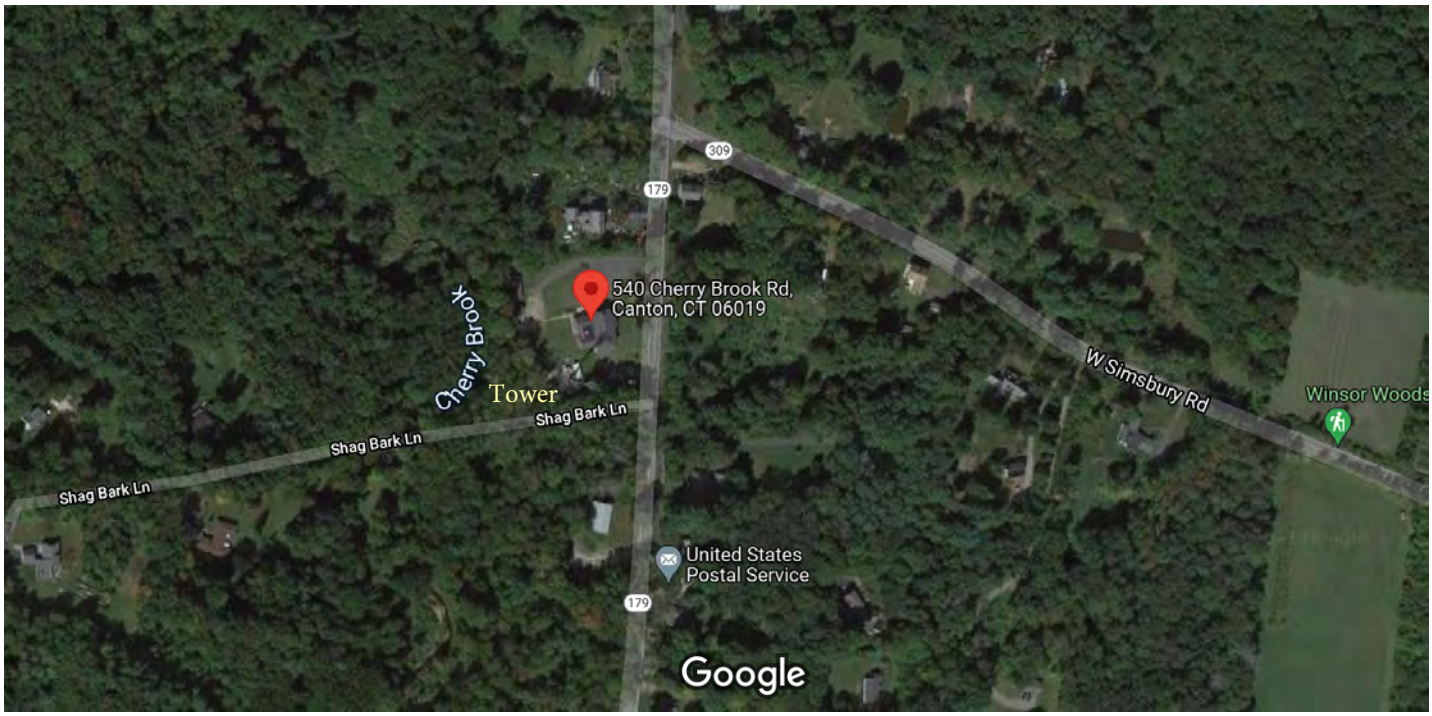
EXHIBIT 5

Property Map



MapXpress v1.2

Google Maps 540 Cherry Brook Rd



Imagery ©2021 Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2021 200 ft

EXHIBIT 6

Zoning Approval

Canton 2 /CT01500-S

SITE ID #4275-011 SITE NAME: North Canton, 2

JOB COST #001500

ZONING/PERMITTING COMPLETION FORM

Zoning Classification for Site: AR-3

Special Relief (setback, height variance, special use permit, wetlands permit etc.):

Special Permit Approval

* Date of Zoning Decision: 10/19/00

Summary of zoning conditions **(Include details of any conditions relative to time restrictions, expiration dates, renewal obligations, monetary obligations, performance obligation, inspection fees).**

See attached Stipulation for Judgment. Settlement was reached via litigation. Included in the stipulated judgment is a condition that the Special Permit is to be renewed by SBA every five years.

Submitted by: Esther McNany Title: Territory Manager

Territory Manager Approval:

* Attach a copy of the Zoning decision and forward to the Regional Compliance Manager as soon as possible, after the decision.

John W. Knuff
JWK@hurwitz-sagarin.com

HURWITZ & SAGARIN LLC

October 23, 2000

Sheila Becker, Esq.
SBA, Inc.
900 Cummings Center
Suite 216U
Beverly, MA 01915

Ms.Esther McNany
SBA, Inc.
80 Eastern Boulevard
Glastonbury, CT 06033

Re: SBA v. Canton

Dear Sheila and Esther:

Enclosed please find a Motion For Judgment and Stipulation For Judgment in the captioned matter. The Court entered judgment in accordance with the stipulation this morning. Counsel for the Town will let me know when the special exception will be issued. Once it is, the federal action will be withdrawn.

Please call me with any questions.

Very truly yours,

John W. Knuff
JWK:kvc

Enclosures

LAW OFFICES
147 North Broad Street, P.O. Box 112, Milford, Connecticut 06460-0112
Tel. 203-877-8000 • Fax 203-878-9800

NO. CV 00 0595406S	:	SUPERIOR COURT
SBA COMMUNICATIONS, INC.	:	JUDICIAL DISTRICT OF HARTFORD
v.	:	
ZONING COMMISSION OF THE TOWN OF CANTON	:	OCTOBER 23, 2000

MOTION FOR JUDGMENT

Defendant Zoning Commission of the Town of Canton hereby move for judgment in accordance with the attached Stipulation of Judgment. John Knuff, counsel for plaintiff SBA Communications, Inc. has been contacted regarding this Motion and has no objection.

DEFENDANT,
ZONING COMMISSION OF THE TOWN OF CANTON

By _____
John T. Harris
Matthew Ranelli
For Shipman & Goodwin LLP
Its Attorneys

ORAL ARGUMENT REQUESTED
TESTIMONY NOT REQUIRED

ORDER

The foregoing Motion having been heard, it is hereby ORDERED: GRANTED/DENIED.

BY THE COURT,

DATE _____ _____
Judge/Assistant Clerk

CERTIFICATION OF SERVICE

I hereby certify that a copy of the foregoing Motion for Judgment was mailed, postage prepaid, this 23rd day of October, 2000, to:

John W. Knuff, Esq.
Margaret E. Haering, Esq.
Hurwitz & Sagarin, LLC
147 North Broad Street
Milford, Connecticut 06460

Matthew Ranelli

276153

NO. CV 00 0595406S	:	SUPERIOR COURT
	:	
SBA COMMUNICATIONS, INC.	:	JUDICIAL DISTRICT
	:	OF HARTFORD
v.	:	
	:	
ZONING COMMISSION OF THE TOWN OF CANTON	:	
	:	OCTOBER 19, 2000

STIPULATION FOR JUDGMENT

The parties hereby stipulate to the following facts:

1. Plaintiff SBA Communications, Inc. ("SBA") is a Florida corporation in the business of providing services to licensed personal wireless telecommunications carriers.

2. The Zoning Commission of the Town of Canton (the "Commission") is the duly authorized Zoning Commission of the Town of Canton.

3. On September 2, 1999, SBA submitted to the Commission an application for a special exception and site plan approval for a facility consisting of a 195 foot monopole with a fenced-in compound area to be located on property owned by the North Canton Volunteer Fire Association, Inc. (the "Fire Association"). The plan included provisions to tear down the existing communications tower also located on the Fire Association's property and to erect a 195 foot monopole and

relocate the Fire Association's emergency radio service antennas to the new pole.

4. The location of the proposed tower is zoned AR-3.

5. Telecommunication towers are a permitted use in all districts, including AR-3, in Canton subject to approval of a special exception. The regulations limit tower height to 70 feet and impose front and side yard setback requirements.

6. On August 9, 1999, SBA obtained a variance from the Canton Zoning Board of Appeals of the tower height limitation.

7. After holding duly-noticed public hearings on November 17, 1999 and December 15, 1999, the Commission denied SBA's application for special exception for the reasons stated in its denial letter to SBA dated April 10, 2000.

8. On January 4, 2000, SBA appealed the Commission's decision to the Connecticut Superior Court and filed an action in the United States District Court for the District of Connecticut (SBA Communications, Inc. v. Zoning Commission of the Town of Canton, Civil Action No. 3:00 CV 007 (RNC)) setting forth claims under the federal Telecommunications Act of 1996, 47 U.S.C. § 332.

9. While these state and federal court claims were pending, the parties made cooperative settlement efforts resulting in this Stipulation for Judgment.

10. The parties agree that this Stipulation is subject to Superior Court approval.

11. The defendant Commission hereby agrees to issue a special exception and site plan approval for a 150 foot monopole at the Fire Association site in settlement of the state and federal court actions as approved at its October 18, 2000 meeting. The monopole would house the Fire Association's emergency communications system and be subject to the following conditions:

a. The facility is approved and will be constructed in accordance with the revised site plan dated December 13, 1999 except that the tower height shall be a maximum of 150 feet rather than 195 feet and that the diameter of the tower at the base and top shall be the lesser of the dimensions shown on the reference plan or as prescribed by the ANSI standard;

b. If more than five carriers are to be installed, the applicant must submit a site plan modification;

c. Additional landscaping shall be provided to satisfactorily screen the fencing and auxiliary structures according to the requirements of the Town Planner;

d. Any auxiliary equipment deviations from the drawings dated December 13, 1999 must be submitted for site plan review;

e. A removal bond must be posted in the initial amount of $50,000 and adjusted upon renewal dates to reflect the true cost of removal;

f. The tower shall be inspected for structural integrity every five years and the removal bond shall be renewed concurrently;

g. Approval is for a five year period and is renewable for an additional five years subject to a successful submission of a re-inspection report and renewals of a removal bond; and

h. Approval of the special exception is subject to approval of the settlement by the Superior Court.

12. The defendant Commission will issue the special exception permit to plaintiff SBA promptly after the Court's approval and entry of this Stipulation for Judgment. Within five days after issuance of the special exception by the

defendant Commission in accordance with this Stipulation, the parties will file a Stipulation of Dismissal of the pending action in the United States District Court for the District of Connecticut.

13. Plaintiff SBA agrees to provide counsel for defendant with an executed Stipulation of Dismissal to be held in escrow, pending issuance of the special exception permit and site plan.

THE PLAINTIFFS

By: _____

Elias A. Alexiades
John W. Knuff
Hurwitz & Sagarin, LLC
147 North Broad Street
Milford, Connecticut 06460
Juris No. 26616
Telephone: (203) 877-8000

THE DEFENDANTS

By: _____

John T. Harris
Matthew Ranelli
Shipman & Goodwin, LLP
One American Row
Hartford, Connecticut 06101
Juris No.
Telephone: 860-251-5602

EXHIBIT 7

EME 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: BOBDL00116A

BOBDL00116A
540 Cherry Brook Road (Rte. 179)
Canton, Connecticut 06019

November 30, 2021

EBI Project Number: 6221007170

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**11.07%**

November 30, 2021

Dish Wireless

Emissions Analysis for Site: BOBDL00116A - BOBDL00116A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **540 Cherry Brook Road (Rte. 179)** in **Canton, 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 540 Cherry Brook Road (Rte. 179) in Canton, 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 20 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 20 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 JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the JMA MX08FRO665-21 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 20 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 105 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.

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21
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:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd
Height (AGL):	105 feet	Height (AGL):	105 feet	Height (AGL):	105 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):	5,236.31	ERP (W):	5,236.31	ERP (W):	5,236.31
Antenna A1 MPE %:	**2.41%**	Antenna B1 MPE %:	**2.41%**	Antenna C1 MPE %:	**2.41%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	2.41%
Verizon	1.85%
T-Mobile	4.31%
AT&T	1.97%
Town of Canton	0.53%
Site Total MPE % :	11.07%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	2.41%
Dish Wireless Sector B Total:	2.41%
Dish Wireless Sector C Total:	2.41%
Site Total MPE % :	11.07%

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	223.68	105.0	3.28	600 MHz n71	400	0.82%
Dish Wireless 1900 MHz n70	4	542.70	105.0	7.96	1900 MHz n70	1000	0.80%
Dish Wireless 2190 MHz n66	4	542.70	105.0	7.96	2190 MHz n66	1000	0.80%
						Total:	**2.41%**

• 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:	2.41%
Sector B:	2.41%
Sector C:	2.41%
Dish Wireless Maximum MPE % (Sector A):	2.41%
Site Total:	11.07%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **11.07%** 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 8

Structural Analysis

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

Structural Analysis Report

Existing 150 ft Nudd Corporation Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT01500-S
Customer Site Name: Canton 2 CT
Carrier Name: Dish Wireless (App#: 167815, V1)
Carrier Site ID / Name: BOBDL00116A / 0
Site Location: 540 Cherry Brook Rd., (Rt. 179)
Canton, Connecticut
Hartford County
Latitude: 41.894052
Longitude: -72.893850

Exp.10/31/2021

09/01/2021

Analysis Result:

Max Structural Usage: 76.1% [Pass]
Max Foundation Usage: 31.0% [Pass]
Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By : Dipika Dhungana

Introduction

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

Sources of Information

Tower Drawings	Original structural design report prepared by Fred. A. Nudd Corporation. Dated 11-02-2000. Drawing No 00-7221-1. Project No 4275-011. Previous structural report prepared by FDH Engineering, Inc. Dated 06-03-2014. Project No 1466BU1400.
Foundation Drawing	Original foundation report prepared by Fred. A. Nudd Corporation. Dated 11-02-2000. Drawing No 00-7221-1. Project No 4275-011.
Geotechnical Report	Geotechnical report prepared by Jaworski Geotech, Inc. Dated 11-29-1999. Project No 99503G.
Modification Drawings	Previous modifications by Vertical Structures, Inc. Dated 10-07-2008. Job No 2008-007-029. / Post rework report prepared by Vertical Structures, Inc. Dated 01-13-2009. Job No 2009-012-001.
Mount Analysis	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_u$lt = 120.0mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 93.0 mph (3-Sec. Gust)
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:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.178, S_1 = 0.065

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	161.0	2	Cellwave PD220 20' Omni	(3) T-Arms w/ Working Platforms	(1) 1 5/8"	North Canton Volunteer
2	159.0	1	Cellwave TD1142 14' Omni		(1) 1 5/8"	
3	150.0	3	Antel BXA-70063/6CF - Panel		(18) 1 5/8"; (1) 1/2"	Verizon
4		2	Antel BXA-171085-12BF - Panel			
5		2	Antel LPA-80063/6CF - Panel			
6		1	Antel BXA-171063/12BF-2 - Panel			
7		4	Antel LPA-80080/6CF - Panel			
8		1	ADC DD1900			
9	138.0	6	Powerwave 7770.00 - Panel	Low Profile Platform	(12) 1 5/8"; (3) 1/2"; [(2) 3/4" DC Power & (1) 7/16" Fiber within (1) 3" Innerduct]	AT&T
10		3	Powerwave P65-17-XLH-RR - Panel			
11		3	Decibel 978QNB120E-M - Panel			
12		6	Ericsson RRUS-11			
13		6	Powerwave LGP 21401			
14		6	Powerwave 21903			
15		1	Commscope ABT-DF-DM-ADBH			
16		1	Raycap DC6-48-60-18-8F			
17	129.0	3	RFS APXVAARR24_43-U-NA20 - Panel	(3) T-Arms w/ Support Rail Pipe (MS-P-TARM) w/ T-Arms	(4) 1 5/8" Fiber; (3) 1 5/8" Coax	T-Mobile
18		3	Ericsson Air 21 B4A/B2P - Panel			
19		3	Ericsson Air 32 KRD901146-1_B66A_B2A - Panel			
20		3	Ericsson Radio 4449 B71+B12 RRU's			
25	92.0	1	MYA 4505 4' Yagi	(1) Standoff	(2) 1/2"	North Canton Volunteer

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
21	105.0	3	JMA Wireless MX08FRO665-21	Platform w/ HRK Commscope MC-PK8-DSH	(1) 1.6" Hybrid	Dish Wireless
22		3	Fujitsu TA08025-B605			
23		3	Fujitsu TA08025-B604			
24		1	Raycap RDIDC-9181-PF-48			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**63.2%**	**50.4%**	**76.1%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Analysis Reactions	2808.7	24.7

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 1.0418 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 63.18% at 50.0ft

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021
Site Name:	Canton 2 CT	**Exposure:**	B	
Height:	150.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

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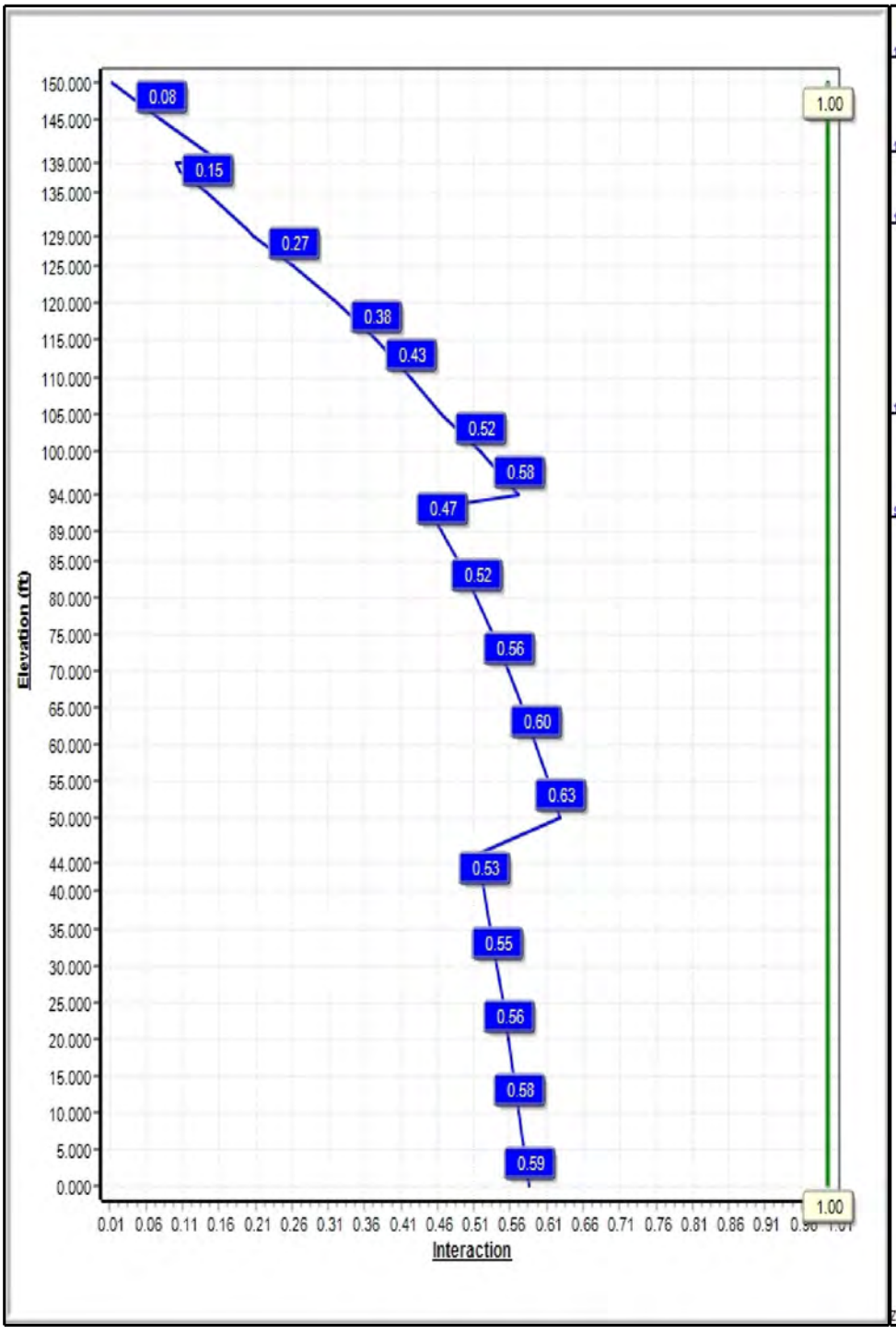
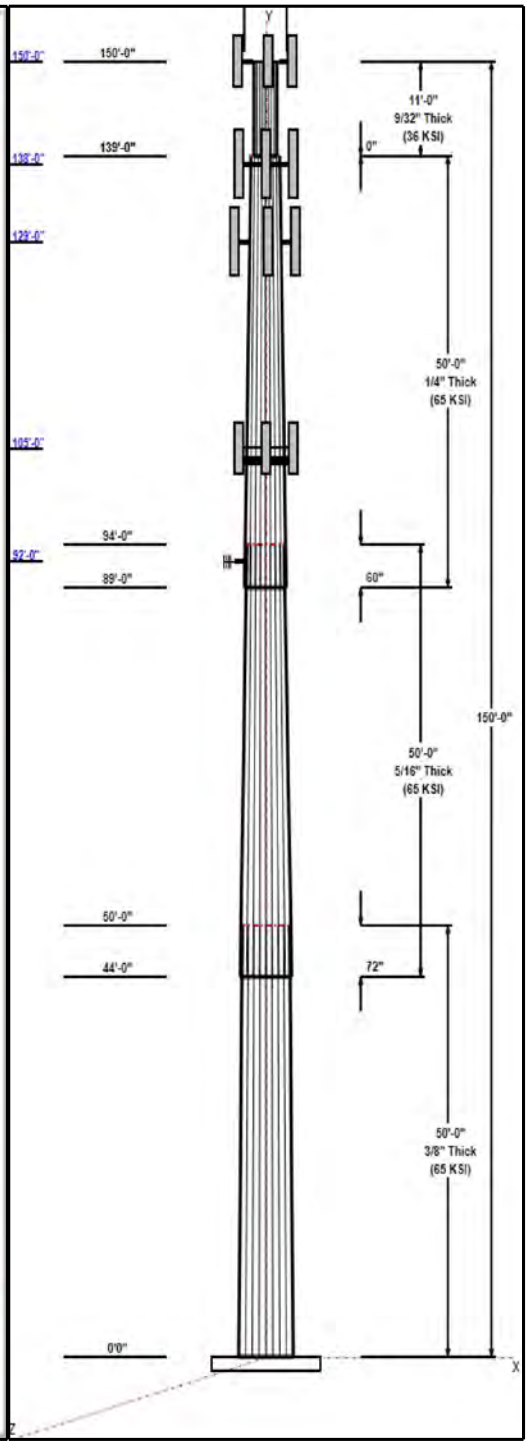
Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 93 mph Wind

Iterations: 24





Structure: CT01500-S-SBA

Type: Custom
Site Name: Canton 2 CT
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23471

9/1/2021

Tower Engineering Solutions

Shaft Properties

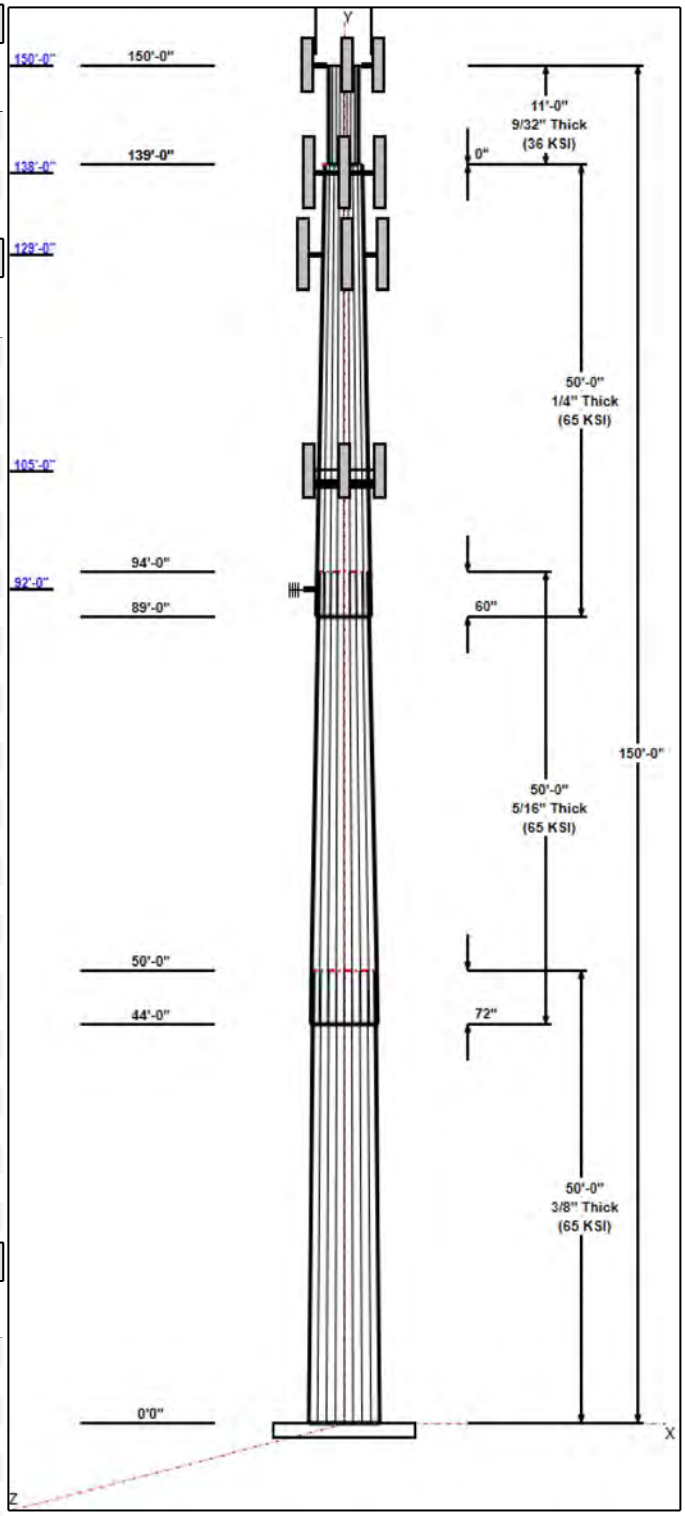
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	50.00	43.76	55.50	0.375		0.23471	65
2	50.00	34.06	45.80	0.313	Slip	0.23471	65
3	50.00	24.00	35.74	0.250	Slip	0.23471	65
4	11.00	24.00	24.00	0.281	Butt	0.00000	36

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
150.00	161.00	2	Cellwave PD220 20' Omni	North Canton
150.00	159.00	1	Cellwave TD1142 14' Omni	North Canton
150.00	150.00	3	Antel BXA-70063/6CF	Verizon
150.00	150.00	2	Antel BXA-171085-12BF	Verizon
150.00	150.00	2	Antel LPA-80063/6CF	Verizon
150.00	150.00	1	Antel BXA-171063/12BF-2	Verizon
150.00	150.00	4	Antel LPA-80080/6CF	Verizon
150.00	150.00	1	ADC DD1900	Verizon
150.00	150.00	3	T-Arms w/ Working	Verizon
138.00	138.00	6	Powerwave 7770.00	AT&T
138.00	138.00	3	Powerwave	AT&T
138.00	138.00	3	Decibel 978QNB120E-M	AT&T
138.00	138.00	6	Ericsson RRUS-11	AT&T
138.00	138.00	6	Powerwave LGP 21401	AT&T
138.00	138.00	6	Powerwave 21903	AT&T
138.00	138.00	1	Commscope	AT&T
138.00	138.00	1	Raycap DC6-48-60-18-8F	AT&T
138.00	138.00	1	Low Profile Platform	AT&T
129.00	129.00	3	T-Arms	T-Mobile
129.00	129.00	3	RFS	T-Mobile
129.00	129.00	3	Ericsson Air 21 B4A/B2P	T-Mobile
129.00	129.00	3	Ericsson Air 32	T-Mobile
129.00	129.00	3	Ericsson Radio 4449	T-Mobile
129.00	129.00	1	Support Rail Pipe	T-Mobile
105.00	105.00	3	MX08FRO665-21	Dish Wireless
105.00	105.00	3	TA08025-B604	Dish Wireless
105.00	105.00	3	TA08025-B605	Dish Wireless
105.00	105.00	1	RDIDC-9181-OF-48	Dish Wireless
105.00	105.00	1	MC-PK8-DSH	Dish Wireless
92.00	92.00	1	MYA 4505 4' Yagi	North Canton
92.00	92.00	1	Standoff	North Canton

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	150.00	Inside	1 5/8" Coax	North Canton
3.00	150.00	Inside	1 5/8" Coax	Verizon
3.00	150.00	Inside	1/2" Coax	Verizon
3.00	138.00	Inside	1 5/8" Coax	AT&T
3.00	138.00	Inside	1/2" Coax	AT&T
3.00	138.00	Inside	3" Innerduct	AT&T
3.00	138.00	Inside	3/4" DC Power	AT&T
3.00	138.00	Inside	7/16" Fiber	AT&T
3.00	129.00	Inside	1 5/8" Coax	T-Mobile
3.00	129.00	Inside	1 5/8" Fiber	T-Mobile
3.00	119.00	Inside	1.619" Hybrid	Sprint Nextel



3.00	105.00	Inside	1.619" Hybrid	Dish Wireless
3.00	92.00	Inside	1/2" Coax	North Canton

Anchor Bolts

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

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	68.0	50.0	Round

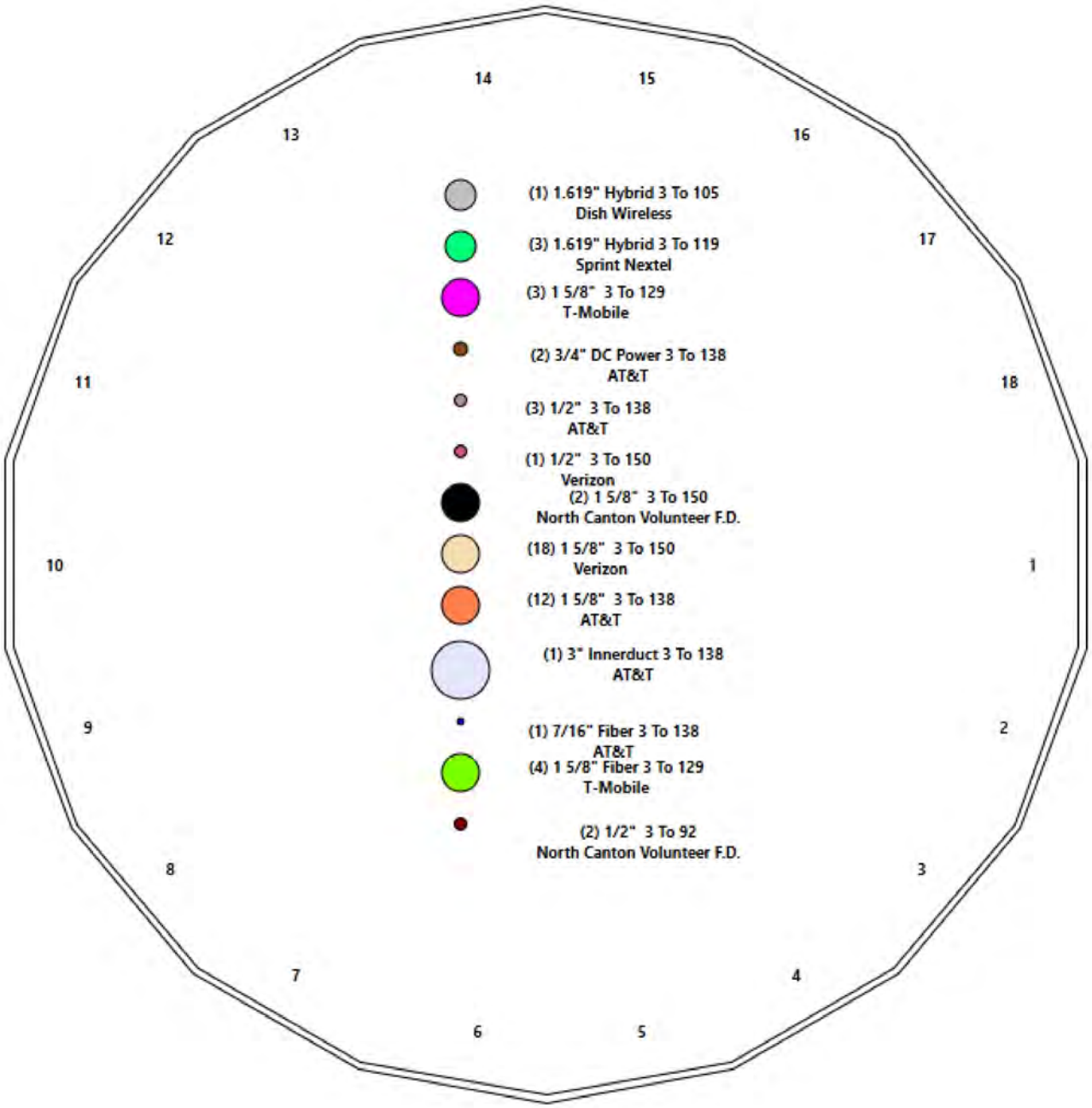
Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	2808.7	24.7	44.6
0.9D + 1.6W 93 mph Wind	2777.6	24.7	33.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	968.8	8.3	78.6
1.2D + 1.0E	145.1	1.2	44.6
0.9D + 1.0E	143.4	1.2	33.4
1.0D + 1.0W 60 mph Wind	726.0	6.4	37.2

Structure: CT01500-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Canton 2 CT
Height: 150.00 (ft)

9/1/2021



Shaft Properties

Structure:	CT01500-S-SBA		**Code:**	EIA/TIA-222-G	9/1/2021
Site Name:	Canton 2 CT		**Exposure:**	B	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	50.000	0.3750	65		0.00	9,975
2	18	50.000	0.3125	65	Slip	72.00	6,685
3	18	50.000	0.2500	65	Slip	60.00	3,998
4	18	11.000	0.2813	36	Flange	0.00	793
					Total Shaft Weight:		**21,451**

	Bottom						Top						
Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	55.50	0.00	65.61	25189.61	24.69	148.00	43.76	50.00	51.64	12283.6	19.17	116.7	0.234712
2	45.80	44.00	45.11	11792.44	24.43	146.55	34.06	94.00	33.47	4817.24	17.81	109.0	0.234712
3	35.74	89.00	28.16	4479.62	23.79	142.94	24.00	139.00	18.84	1343.00	15.52	96.00	0.234712
4	24.00	139.0	21.17	1504.92	13.64	85.33	24.00	150.00	21.17	1504.92	13.64	85.33	0.000000

Load Summary

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

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	Cellwave PD220 20' Omni	2	55.00	6.00	1.00	255.88	15.461	1.00	0.00	11.00
2	150.00	Cellwave TD1142 14' Omni	1	40.00	4.20	1.00	181.18	10.869	1.00	0.00	9.00
3	150.00	Antel BXA-70063/6CF	3	14.90	7.57	0.78	210.38	11.255	0.78	0.00	0.00
4	150.00	Antel BXA-171085-12BF	2	15.00	4.73	0.88	141.58	7.856	0.88	0.00	0.00
5	150.00	Antel LPA-80063/6CF	2	27.00	9.59	0.95	429.87	11.440	0.95	0.00	0.00
6	150.00	Antel BXA-171063/12BF-2	1	5.00	4.73	0.88	48.16	9.384	0.88	0.00	0.00
7	150.00	Antel LPA-80080/6CF	4	21.00	8.62	0.75	297.98	10.407	0.75	0.00	0.00
8	150.00	ADC DD1900	1	10.40	1.10	0.60	32.13	2.492	0.60	0.00	0.00
9	150.00	T-Arms w/ Working Platforms	3	500.00	18.20	0.75	1430.78	43.610	0.75	0.00	0.00
10	138.00	Powerwave 7770.00	6	35.00	5.51	0.77	227.04	6.938	0.77	0.00	0.00
11	138.00	Powerwave P65-17-XLH-RR	3	59.00	11.44	0.80	345.41	15.717	0.80	0.00	0.00
12	138.00	Decibel 978QNB120E-M	3	35.00	7.59	0.69	231.23	10.455	0.69	0.00	0.00
13	138.00	Ericsson RRUS-11	6	50.70	2.52	0.67	165.61	3.406	0.67	0.00	0.00
14	138.00	Powerwave LGP 21401	6	17.50	1.05	0.60	66.56	1.670	0.60	0.00	0.00
15	138.00	Powerwave 21903	6	5.50	0.20	0.60	16.64	0.590	0.60	0.00	0.00
16	138.00	Commscope ABT-DF-DM-ADBH	1	1.10	0.04	0.60	4.05	0.244	0.60	0.00	0.00
17	138.00	Raycap DC6-48-60-18-8F	1	16.00	2.20	0.67	93.00	3.485	0.67	0.00	0.00
18	138.00	Low Profile Platform	1	1500.00	22.00	1.00	3230.72	45.353	1.00	0.00	0.00
19	129.00	T-Arms	3	350.00	8.00	0.75	670.90	17.169	0.75	0.00	0.00
20	129.00	RFS APXVAARR24_43-U-NA20	3	128.00	20.24	0.72	698.97	22.765	0.72	0.00	0.00
21	129.00	Ericsson Air 21 B4A/B2P	3	90.30	6.04	0.85	323.32	7.502	0.85	0.00	0.00
22	129.00	Ericsson Air 32	3	132.20	6.51	0.86	386.88	8.013	0.86	0.00	0.00
23	129.00	Ericsson Radio 4449 B71+B12	3	74.00	1.63	0.67	169.73	2.353	0.67	0.00	0.00
24	129.00	Support Rail Pipe (MS-P-TARM)	1	261.72	6.75	1.00	669.65	15.414	1.00	0.00	0.00
25	105.00	MX08FRO665-21	3	64.50	12.49	0.74	438.74	14.375	0.74	0.00	0.00
26	105.00	TA08025-B604	3	63.90	1.96	0.67	129.04	2.682	0.67	0.00	0.00
27	105.00	TA08025-B605	3	75.00	1.96	0.67	142.30	2.682	0.67	0.00	0.00
28	105.00	RDIDC-9181-OF-48	1	21.90	2.01	0.67	90.41	2.741	0.67	0.00	0.00
29	105.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3898.59	98.362	1.00	0.00	0.00
30	92.00	MYA 4505 4' Yagi	1	15.00	2.50	1.00	199.12	10.903	1.00	0.00	0.00
31	92.00	Standoff	1	40.00	2.63	1.00	141.93	10.209	1.00	0.00	0.00
		Totals:	**81**	**9,328.72**			**29,823.66**				

Linear Appurtenances

Bottom Elev. (ft)	**Top Elev. (ft)**	**Description**	**Exposed Width**	**Exposed**
3.00	150.00	(2) 1 5/8" Coax	0.00	Inside
3.00	150.00	(18) 1 5/8" Coax	0.00	Inside
3.00	150.00	(1) 1/2" Coax	0.00	Inside
3.00	138.00	(12) 1 5/8" Coax	0.00	Inside
3.00	138.00	(3) 1/2" Coax	0.00	Inside
3.00	138.00	(1) 3" Innerduct	0.00	Inside
3.00	138.00	(2) 3/4" DC Power	0.00	Inside
3.00	138.00	(1) 7/16" Fiber	0.00	Inside
3.00	129.00	(3) 1 5/8" Coax	0.00	Inside
3.00	129.00	(4) 1 5/8" Fiber	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
3.00	119.00	(3) 1.619" Hybrid			0.00	Inside					
3.00	105.00	(1) 1.619" Hybrid			0.00	Inside					
3.00	92.00	(2) 1/2" Coax			0.00	Inside					

Shaft Section Properties

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3750	55.500	65.610	25189.6	24.69	148.00	72.4	893.9	0.0
5.00		0.3750	54.326	64.213	23614.8	24.13	144.87	73.0	856.2	1104.4
10.00		0.3750	53.153	62.817	22107.1	23.58	141.74	73.7	819.2	1080.6
15.00		0.3750	51.979	61.420	20664.9	23.03	138.61	74.3	783.0	1056.9
20.00		0.3750	50.806	60.023	19286.9	22.48	135.48	75.0	747.7	1033.1
25.00		0.3750	49.632	58.626	17971.5	21.93	132.35	75.6	713.2	1009.3
30.00		0.3750	48.459	57.229	16717.4	21.37	129.22	76.3	679.5	985.6
35.00		0.3750	47.285	55.833	15522.9	20.82	126.09	76.9	646.6	961.8
40.00		0.3750	46.112	54.436	14386.8	20.27	122.96	77.6	614.5	938.0
44.00	Bot - Section 2	0.3750	45.173	53.318	13518.9	19.83	120.46	78.1	589.5	733.3
45.00		0.3750	44.938	53.039	13307.5	19.72	119.83	78.2	583.3	334.1
50.00	Top - Section 1	0.3125	44.389	43.717	10730.7	23.64	142.05	0.0	0.0	1644.2
55.00		0.3125	43.216	42.553	9896.2	22.97	138.29	74.4	451.0	733.9
60.00		0.3125	42.042	41.389	9106.1	22.31	134.54	75.2	426.6	714.1
65.00		0.3125	40.869	40.225	8359.2	21.65	130.78	75.9	402.9	694.3
70.00		0.3125	39.695	39.061	7654.4	20.99	127.02	76.7	379.8	674.5
75.00		0.3125	38.522	37.897	6990.3	20.33	123.27	77.5	357.4	654.7
80.00		0.3125	37.348	36.733	6365.8	19.66	119.51	78.3	335.7	634.9
85.00		0.3125	36.174	35.569	5779.6	19.00	115.76	79.1	314.7	615.1
89.00	Bot - Section 3	0.3125	35.236	34.638	5337.4	18.47	112.75	79.7	298.4	477.8
90.00		0.3125	35.001	34.405	5230.5	18.34	112.00	79.8	294.3	213.0
92.00		0.3125	34.531	33.940	5021.1	18.07	110.50	80.1	286.4	421.7
94.00	Top - Section 2	0.2500	34.562	27.226	4049.7	22.97	138.25	0.0	0.0	415.9
95.00		0.2500	34.327	27.039	3967.2	22.80	137.31	74.6	227.6	92.3
100.00		0.2500	33.154	26.108	3571.3	21.97	132.62	75.6	212.2	452.1
105.00		0.2500	31.980	25.177	3202.6	21.15	127.92	76.5	197.2	436.3
110.00		0.2500	30.807	24.246	2860.2	20.32	123.23	77.5	182.9	420.4
115.00		0.2500	29.633	23.315	2543.2	19.49	118.53	78.5	169.0	404.6
120.00		0.2500	28.460	22.383	2250.5	18.66	113.84	79.5	155.7	388.8
125.00		0.2500	27.286	21.452	1981.1	17.83	109.14	80.4	143.0	372.9
129.00		0.2500	26.347	20.707	1781.8	17.17	105.39	81.2	133.2	286.9
130.00		0.2500	26.112	20.521	1734.2	17.01	104.45	81.4	130.8	70.1
135.00		0.2500	24.939	19.590	1508.6	16.18	99.76	82.4	119.1	341.2
138.00		0.2500	24.235	19.031	1383.2	15.68	96.94	82.6	112.4	197.1
139.00	Top - Section 3	0.2500	24.000	18.845	1343.0	15.52	96.00	82.6	110.2	64.4
139.00	Bot - Section 4	0.2813	24.000	21.173	1504.9	13.79	85.33	45.7	123.5	
140.00		0.2813	24.000	21.173	1504.9	13.64	85.33	45.7	123.5	72.0
145.00		0.2813	24.000	21.173	1504.9	13.64	85.33	45.7	123.5	360.2
150.00		0.2813	24.000	21.173	1504.9	13.64	85.33	45.7	123.5	360.2
										21451.0

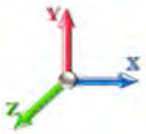
Wind Loading - Shaft

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	14.724	16.20	365.42	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	14.724	16.20	357.69	0.650	0.000	5.00	23.233	15.10	391.4	0.0	1325.3
10.00		1.00	0.70	14.724	16.20	349.97	0.650	0.000	5.00	22.737	14.78	383.0	0.0	1296.8
15.00		1.00	0.70	14.724	16.20	342.24	0.650	0.000	5.00	22.240	14.46	374.6	0.0	1268.2
20.00		1.00	0.70	14.724	16.20	334.51	0.650	0.000	5.00	21.744	14.13	366.3	0.0	1239.7
25.00		1.00	0.70	14.724	16.20	326.79	0.650	0.000	5.00	21.247	13.81	357.9	0.0	1211.2
30.00		1.00	0.70	14.736	16.21	319.19	0.650	0.000	5.00	20.751	13.49	349.8	0.0	1182.7
35.00		1.00	0.73	15.400	16.94	318.40	0.650	0.000	5.00	20.254	13.17	356.8	0.0	1154.2
40.00		1.00	0.76	15.999	17.60	316.48	0.650	0.000	5.00	19.758	12.84	361.6	0.0	1125.7
44.00	Bot - Section 2	1.00	0.78	16.441	18.08	314.28	0.650	0.000	4.00	15.449	10.04	290.6	0.0	880.0
45.00		1.00	0.79	16.546	18.20	313.65	0.650	0.000	1.00	3.865	2.51	73.2	0.0	400.9
50.00	Top - Section 1	1.00	0.81	17.052	18.76	310.10	0.650	0.000	5.00	19.029	12.37	371.2	0.0	1973.1
55.00		1.00	0.83	17.523	19.28	310.41	0.650	0.000	5.00	18.533	12.05	371.5	0.0	880.7
60.00		1.00	0.85	17.964	19.76	305.75	0.650	0.000	5.00	18.036	11.72	370.7	0.0	856.9
65.00		1.00	0.87	18.380	20.22	300.64	0.650	0.000	5.00	17.540	11.40	368.8	0.0	833.1
70.00		1.00	0.89	18.773	20.65	295.11	0.650	0.000	5.00	17.043	11.08	366.0	0.0	809.4
75.00		1.00	0.91	19.147	21.06	289.22	0.650	0.000	5.00	16.547	10.76	362.4	0.0	785.6
80.00		1.00	0.93	19.503	21.45	283.01	0.650	0.000	5.00	16.050	10.43	358.1	0.0	761.9
85.00		1.00	0.94	19.844	21.83	276.50	0.650	0.000	5.00	15.553	10.11	353.1	0.0	738.1
89.00	Bot - Section 3	1.00	0.96	20.106	22.12	271.10	0.650	0.000	4.00	12.085	7.86	278.0	0.0	573.4
90.00		1.00	0.96	20.170	22.19	269.73	0.650	0.000	1.00	3.014	1.96	69.5	0.0	255.6
92.00	Appurtenance(s)	1.00	0.96	20.297	22.33	266.94	0.650	0.000	2.00	5.968	3.88	138.6	0.0	506.0
94.00	Top - Section 2	1.00	0.97	20.423	22.46	264.13	0.650	0.000	2.00	5.889	3.83	137.6	0.0	499.1
95.00		1.00	0.97	20.484	22.53	266.59	0.650	0.000	1.00	2.915	1.89	68.3	0.0	110.8
100.00		1.00	0.99	20.787	22.87	259.37	0.650	0.000	5.00	14.275	9.28	339.5	0.0	542.5
105.00	Appurtenance(s)	1.00	1.00	21.079	23.19	251.93	0.650	0.000	5.00	13.779	8.96	332.3	0.0	523.5
110.00		1.00	1.02	21.361	23.50	244.31	0.650	0.000	5.00	13.282	8.63	324.6	0.0	504.5
115.00		1.00	1.03	21.634	23.80	236.50	0.650	0.000	5.00	12.786	8.31	316.4	0.0	485.5
120.00		1.00	1.04	21.898	24.09	228.52	0.650	0.000	5.00	12.289	7.99	307.9	0.0	466.5
125.00		1.00	1.05	22.155	24.37	220.38	0.650	0.000	5.00	11.793	7.67	298.9	0.0	447.5
129.00	Appurtenance(s)	1.00	1.06	22.356	24.59	213.75	0.650	0.000	4.00	9.077	5.90	232.1	0.0	344.3
130.00		1.00	1.07	22.405	24.65	212.08	0.650	0.000	1.00	2.220	1.44	56.9	0.0	84.2
135.00		1.00	1.08	22.648	24.91	203.65	0.650	0.000	5.00	10.800	7.02	279.8	0.0	409.5
138.00	Appurtenance(s)	1.00	1.08	22.790	25.07	198.52	0.650	0.000	3.00	6.242	4.06	162.7	0.0	236.6
139.00	Top - Section 3	1.00	1.09	22.838	25.12	196.80	0.650	0.000	1.00	2.041	1.33	53.3	0.0	77.3
140.00		1.00	1.09	22.884	25.17	197.00	0.650	0.000	1.00	2.031	1.32	53.2	0.0	86.5
145.00		1.00	1.10	23.115	25.43	197.99	0.650	0.000	5.00	10.154	6.60	268.5	0.0	432.3
150.00	Appurtenance(s)	1.00	1.11	23.340	25.67	198.95	0.650	0.000	5.00	10.154	6.60	271.1	0.0	432.3
								Totals:	**150.00**			**10,216.1**		**25,741.2**

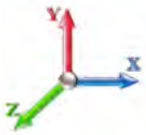
Discrete Appurtenance Forces

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	Antel BXA-171085-12BF	2	23.340	25.674	0.88	1.00	8.32	36.00	0.000	0.000	341.97	0.00	0.00
2	150.00	Cellwave PD220 20' Omni	2	23.817	26.198	1.00	1.00	12.00	132.00	0.000	11.000	503.01	0.00	5533.09
3	150.00	Cellwave TD1142 14'	1	23.732	26.105	1.00	1.00	4.20	48.00	0.000	9.000	175.43	0.00	1578.83
4	150.00	Antel BXA-70063/6CF	3	23.340	25.674	0.78	1.00	17.71	53.64	0.000	0.000	727.65	0.00	0.00
5	150.00	T-Arms w/ Working	3	23.340	25.674	0.56	0.75	30.71	1800.00	0.000	0.000	1261.62	0.00	0.00
6	150.00	Antel LPA-80063/6CF	2	23.340	25.674	0.95	1.00	18.22	64.80	0.000	0.000	748.49	0.00	0.00
7	150.00	Antel BXA-171063/12BF-2	1	23.340	25.674	0.88	1.00	4.16	6.00	0.000	0.000	170.98	0.00	0.00
8	150.00	Antel LPA-80080/6CF	4	23.340	25.674	0.75	1.00	25.86	100.80	0.000	0.000	1062.28	0.00	0.00
9	150.00	ADC DD1900	1	23.340	25.674	0.60	1.00	0.66	12.48	0.000	0.000	27.11	0.00	0.00
10	138.00	Low Profile Platform	1	22.790	25.070	1.00	1.00	22.00	1800.00	0.000	0.000	882.45	0.00	0.00
11	138.00	Raycap DC6-48-60-18-8F	1	22.790	25.070	0.54	0.80	1.18	19.20	0.000	0.000	47.30	0.00	0.00
12	138.00	Commscope	1	22.790	25.070	0.48	0.80	0.02	1.32	0.000	0.000	0.77	0.00	0.00
13	138.00	Powerwave 21903	6	22.790	25.070	0.48	0.80	0.58	39.60	0.000	0.000	23.10	0.00	0.00
14	138.00	Powerwave LGP 21401	6	22.790	25.070	0.48	0.80	3.02	126.00	0.000	0.000	121.30	0.00	0.00
15	138.00	Ericsson RRUS-11	6	22.790	25.070	0.54	0.80	8.10	365.04	0.000	0.000	325.07	0.00	0.00
16	138.00	Decibel 978QNB120E-M	3	22.790	25.070	0.55	0.80	12.57	126.00	0.000	0.000	504.16	0.00	0.00
17	138.00	Powerwave 7770.00	6	22.790	25.070	0.62	0.80	20.36	252.00	0.000	0.000	816.86	0.00	0.00
18	138.00	Powerwave	3	22.790	25.070	0.64	0.80	21.96	212.40	0.000	0.000	881.04	0.00	0.00
19	129.00	Ericsson Air 21 B4A/B2P	3	22.356	24.591	0.68	0.80	12.32	325.08	0.000	0.000	484.80	0.00	0.00
20	129.00	RFS	3	22.356	24.591	0.58	0.80	34.97	460.80	0.000	0.000	1376.11	0.00	0.00
21	129.00	T-Arms	3	22.356	24.591	0.56	0.75	13.50	1260.00	0.000	0.000	531.17	0.00	0.00
22	129.00	Ericsson Air 32	3	22.356	24.591	0.69	0.80	13.44	475.92	0.000	0.000	528.67	0.00	0.00
23	129.00	Ericsson Radio 4449	3	22.356	24.591	0.54	0.80	2.62	266.40	0.000	0.000	103.13	0.00	0.00
24	129.00	Support Rail Pipe	1	22.356	24.591	0.75	0.75	5.06	314.06	0.000	0.000	199.19	0.00	0.00
25	105.00	MC-PK8-DSH	1	21.079	23.186	1.00	1.00	37.59	2072.40	0.000	0.000	1394.53	0.00	0.00
26	105.00	RDIDC-9181-OF-48	1	21.079	23.186	0.50	0.75	1.01	26.28	0.000	0.000	37.47	0.00	0.00
27	105.00	TA08025-B605	3	21.079	23.186	0.50	0.75	2.95	270.00	0.000	0.000	109.61	0.00	0.00
28	105.00	TA08025-B604	3	21.079	23.186	0.50	0.75	2.95	230.04	0.000	0.000	109.61	0.00	0.00
29	105.00	MX08FRO665-21	3	21.079	23.186	0.55	0.75	20.80	232.20	0.000	0.000	771.49	0.00	0.00
30	92.00	Standoff	1	20.297	22.327	1.00	1.00	2.63	48.00	0.000	0.000	93.95	0.00	0.00
31	92.00	MYA 4505 4' Yagi	1	20.297	22.327	1.00	1.00	2.50	18.00	0.000	0.000	89.31	0.00	0.00
							Totals:		**11,194.46**			**14,449.64**		

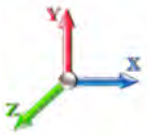
Total Applied Force Summary

Structure:	CT01500-S-SBA		**Code:**	EIA/TIA-222-G	9/1/2021
Site Name:	Canton 2 CT		**Exposure:**	B	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		391.35	1437.24	0.00	0.00
10.00		382.99	1576.66	0.00	0.00
15.00		374.62	1548.15	0.00	0.00
20.00		366.26	1519.63	0.00	0.00
25.00		357.90	1491.11	0.00	0.00
30.00		349.83	1462.59	0.00	0.00
35.00		356.83	1434.08	0.00	0.00
40.00		361.62	1405.56	0.00	0.00
44.00		290.56	1103.91	0.00	0.00
45.00		73.17	456.87	0.00	0.00
50.00		371.21	2252.97	0.00	0.00
55.00		371.51	1160.58	0.00	0.00
60.00		370.66	1136.81	0.00	0.00
65.00		368.79	1113.05	0.00	0.00
70.00		366.02	1089.28	0.00	0.00
75.00		362.43	1065.52	0.00	0.00
80.00		358.10	1041.75	0.00	0.00
85.00		353.08	1017.99	0.00	0.00
89.00		277.98	797.28	0.00	0.00
90.00		69.55	311.54	0.00	0.00
92.00	(2) attachments	321.85	683.94	0.00	0.00
94.00		137.59	610.33	0.00	0.00
95.00		68.30	166.39	0.00	0.00
100.00		339.47	820.53	0.00	0.00
105.00	(11) attachments	2754.98	3632.44	0.00	0.00
110.00		324.58	776.50	0.00	0.00
115.00		316.44	757.49	0.00	0.00
120.00		307.87	734.88	0.00	0.00
125.00		298.90	701.47	0.00	0.00
129.00	(16) attachments	3455.20	3649.75	0.00	0.00
130.00		56.89	126.23	0.00	0.00
135.00		279.81	619.77	0.00	0.00
138.00	(33) attachments	3764.78	3304.29	0.00	0.00
139.00		53.32	102.48	0.00	0.00
140.00		53.17	111.61	0.00	0.00
145.00		268.51	558.04	0.00	0.00
150.00	(19) attachments	5289.67	2811.76	0.00	7111.92
	Totals:	**24,665.78**	**44,590.47**	**0.00**	**7,111.92**

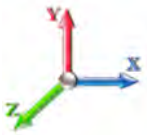
Calculated Forces

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-44.56	-24.73	0.00	-2808.6	0.00	2808.65	4273.14	2136.57	9689.25	4851.82	0.00	0.000	0.000	0.589
5.00	-43.05	-24.45	0.00	-2685.0	0.00	2685.02	4219.68	2109.84	9362.95	4688.43	0.08	-0.155	0.000	0.583
10.00	-41.41	-24.18	0.00	-2562.7	0.00	2562.77	4164.59	2082.29	9038.31	4525.87	0.33	-0.313	0.000	0.576
15.00	-39.80	-23.91	0.00	-2441.8	0.00	2441.88	4107.86	2053.93	8715.56	4364.26	0.75	-0.474	0.000	0.569
20.00	-38.21	-23.63	0.00	-2322.3	0.00	2322.36	4049.50	2024.75	8394.94	4203.71	1.33	-0.638	0.000	0.562
25.00	-36.66	-23.37	0.00	-2204.1	0.00	2204.19	3989.51	1994.75	8076.69	4044.35	2.09	-0.805	0.000	0.554
30.00	-35.13	-23.10	0.00	-2087.3	0.00	2087.36	3927.89	1963.94	7761.05	3886.29	3.02	-0.975	0.000	0.546
35.00	-33.64	-22.82	0.00	-1971.8	0.00	1971.87	3864.63	1932.32	7448.26	3729.66	4.14	-1.148	0.000	0.538
40.00	-32.18	-22.52	0.00	-1857.7	0.00	1857.78	3799.75	1899.87	7138.54	3574.58	5.43	-1.323	0.000	0.528
44.00	-31.04	-22.25	0.00	-1767.7	0.00	1767.72	3746.66	1873.33	6893.15	3451.70	6.60	-1.467	0.000	0.521
45.00	-30.55	-22.22	0.00	-1745.4	0.00	1745.48	3733.23	1866.62	6832.15	3421.15	6.91	-1.503	0.000	0.519
50.00	-28.24	-21.88	0.00	-1634.3	0.00	1634.38	2895.85	1447.93	5248.77	2628.28	8.59	-1.684	0.000	0.632
55.00	-27.01	-21.56	0.00	-1525.0	0.00	1525.01	2848.58	1424.29	5024.64	2516.06	10.45	-1.867	0.000	0.616
60.00	-25.81	-21.25	0.00	-1417.2	0.00	1417.20	2799.67	1399.83	4802.32	2404.73	12.52	-2.079	0.000	0.599
65.00	-24.64	-20.93	0.00	-1310.9	0.00	1310.96	2749.13	1374.56	4582.02	2294.42	14.81	-2.292	0.000	0.581
70.00	-23.49	-20.61	0.00	-1206.3	0.00	1206.32	2696.96	1348.48	4364.00	2185.24	17.32	-2.506	0.000	0.561
75.00	-22.36	-20.28	0.00	-1103.2	0.00	1103.29	2643.16	1321.58	4148.49	2077.33	20.06	-2.720	0.000	0.540
80.00	-21.27	-19.95	0.00	-1001.9	0.00	1001.90	2587.72	1293.86	3935.73	1970.79	23.03	-2.935	0.000	0.517
85.00	-20.20	-19.61	0.00	-902.16	0.00	902.16	2530.65	1265.33	3725.95	1865.74	26.21	-3.147	0.000	0.492
89.00	-19.39	-19.32	0.00	-823.72	0.00	823.72	2483.83	1241.91	3560.44	1782.87	28.92	-3.317	0.000	0.470
90.00	-19.06	-19.26	0.00	-804.39	0.00	804.39	2471.96	1235.98	3519.40	1762.31	29.62	-3.361	0.000	0.464
92.00	-18.37	-18.92	0.00	-765.88	0.00	765.88	2448.02	1224.01	3437.73	1721.42	31.05	-3.446	0.000	0.453
94.00	-17.74	-18.77	0.00	-728.04	0.00	728.04	1822.74	911.37	2571.33	1287.57	32.51	-3.531	0.000	0.576
95.00	-17.54	-18.73	0.00	-709.27	0.00	709.27	1815.01	907.51	2542.78	1273.28	33.25	-3.573	0.000	0.567
100.00	-16.66	-18.41	0.00	-615.61	0.00	615.61	1775.38	887.69	2400.98	1202.27	37.12	-3.811	0.000	0.522
105.00	-13.17	-15.46	0.00	-523.56	0.00	523.56	1734.12	867.06	2260.90	1132.13	41.23	-4.038	0.000	0.470
110.00	-12.36	-15.13	0.00	-446.25	0.00	446.25	1691.22	845.61	2122.79	1062.97	45.58	-4.253	0.000	0.427
115.00	-11.58	-14.79	0.00	-370.61	0.00	370.61	1646.70	823.35	1986.87	994.91	50.14	-4.456	0.000	0.380
120.00	-10.83	-14.46	0.00	-296.64	0.00	296.64	1600.54	800.27	1853.40	928.08	54.90	-4.643	0.000	0.327
125.00	-10.12	-14.13	0.00	-224.33	0.00	224.33	1552.75	776.38	1722.60	862.58	59.85	-4.807	0.000	0.267
129.00	-6.77	-10.39	0.00	-167.81	0.00	167.81	1513.35	756.67	1620.05	811.23	63.93	-4.920	0.000	0.212
130.00	-6.63	-10.33	0.00	-157.42	0.00	157.42	1503.33	751.67	1594.72	798.54	64.96	-4.946	0.000	0.202
135.00	-6.03	-10.00	0.00	-105.79	0.00	105.79	1452.28	726.14	1469.99	736.09	70.19	-5.054	0.000	0.148
138.00	-3.06	-5.96	0.00	-75.78	0.00	75.78	1413.92	706.96	1389.94	696.00	73.38	-5.105	0.000	0.111
139.00	-2.97	-5.90	0.00	-69.82	0.00	69.82	1400.09	700.04	1362.73	682.38	74.45	-5.120	0.000	0.105
139.00	-2.97	-5.90	0.00	-69.82	0.00	69.82	871.21	435.61	845.74	423.50	74.45	-5.120	0.000	0.168
140.00	-2.86	-5.84	0.00	-63.92	0.00	63.92	871.21	435.61	845.74	423.50	75.53	-5.134	0.000	0.154
145.00	-2.32	-5.52	0.00	-34.72	0.00	34.72	871.21	435.61	845.74	423.50	80.92	-5.181	0.000	0.085
150.00	0.00	-5.29	0.00	-7.11	0.00	7.11	871.21	435.61	845.74	423.50	86.35	-5.201	0.000	0.017

Wind Loading - Shaft

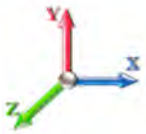
Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	14.724	16.20	365.42	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	14.724	16.20	357.69	0.650	0.000	5.00	23.233	15.10	391.4	0.0	994.0
10.00		1.00	0.70	14.724	16.20	349.97	0.650	0.000	5.00	22.737	14.78	383.0	0.0	972.6
15.00		1.00	0.70	14.724	16.20	342.24	0.650	0.000	5.00	22.240	14.46	374.6	0.0	951.2
20.00		1.00	0.70	14.724	16.20	334.51	0.650	0.000	5.00	21.744	14.13	366.3	0.0	929.8
25.00		1.00	0.70	14.724	16.20	326.79	0.650	0.000	5.00	21.247	13.81	357.9	0.0	908.4
30.00		1.00	0.70	14.736	16.21	319.19	0.650	0.000	5.00	20.751	13.49	349.8	0.0	887.0
35.00		1.00	0.73	15.400	16.94	318.40	0.650	0.000	5.00	20.254	13.17	356.8	0.0	865.6
40.00		1.00	0.76	15.999	17.60	316.48	0.650	0.000	5.00	19.758	12.84	361.6	0.0	844.2
44.00	Bot - Section 2	1.00	0.78	16.441	18.08	314.28	0.650	0.000	4.00	15.449	10.04	290.6	0.0	660.0
45.00		1.00	0.79	16.546	18.20	313.65	0.650	0.000	1.00	3.865	2.51	73.2	0.0	300.7
50.00	Top - Section 1	1.00	0.81	17.052	18.76	310.10	0.650	0.000	5.00	19.029	12.37	371.2	0.0	1479.8
55.00		1.00	0.83	17.523	19.28	310.41	0.650	0.000	5.00	18.533	12.05	371.5	0.0	660.5
60.00		1.00	0.85	17.964	19.76	305.75	0.650	0.000	5.00	18.036	11.72	370.7	0.0	642.7
65.00		1.00	0.87	18.380	20.22	300.64	0.650	0.000	5.00	17.540	11.40	368.8	0.0	624.9
70.00		1.00	0.89	18.773	20.65	295.11	0.650	0.000	5.00	17.043	11.08	366.0	0.0	607.0
75.00		1.00	0.91	19.147	21.06	289.22	0.650	0.000	5.00	16.547	10.76	362.4	0.0	589.2
80.00		1.00	0.93	19.503	21.45	283.01	0.650	0.000	5.00	16.050	10.43	358.1	0.0	571.4
85.00		1.00	0.94	19.844	21.83	276.50	0.650	0.000	5.00	15.553	10.11	353.1	0.0	553.6
89.00	Bot - Section 3	1.00	0.96	20.106	22.12	271.10	0.650	0.000	4.00	12.085	7.86	278.0	0.0	430.0
90.00		1.00	0.96	20.170	22.19	269.73	0.650	0.000	1.00	3.014	1.96	69.5	0.0	191.7
92.00	Appurtenance(s)	1.00	0.96	20.297	22.33	266.94	0.650	0.000	2.00	5.968	3.88	138.6	0.0	379.5
94.00	Top - Section 2	1.00	0.97	20.423	22.46	264.13	0.650	0.000	2.00	5.889	3.83	137.6	0.0	374.4
95.00		1.00	0.97	20.484	22.53	266.59	0.650	0.000	1.00	2.915	1.89	68.3	0.0	83.1
100.00		1.00	0.99	20.787	22.87	259.37	0.650	0.000	5.00	14.275	9.28	339.5	0.0	406.9
105.00	Appurtenance(s)	1.00	1.00	21.079	23.19	251.93	0.650	0.000	5.00	13.779	8.96	332.3	0.0	392.7
110.00		1.00	1.02	21.361	23.50	244.31	0.650	0.000	5.00	13.282	8.63	324.6	0.0	378.4
115.00		1.00	1.03	21.634	23.80	236.50	0.650	0.000	5.00	12.786	8.31	316.4	0.0	364.1
120.00		1.00	1.04	21.898	24.09	228.52	0.650	0.000	5.00	12.289	7.99	307.9	0.0	349.9
125.00		1.00	1.05	22.155	24.37	220.38	0.650	0.000	5.00	11.793	7.67	298.9	0.0	335.6
129.00	Appurtenance(s)	1.00	1.06	22.356	24.59	213.75	0.650	0.000	4.00	9.077	5.90	232.1	0.0	258.2
130.00		1.00	1.07	22.405	24.65	212.08	0.650	0.000	1.00	2.220	1.44	56.9	0.0	63.1
135.00		1.00	1.08	22.648	24.91	203.65	0.650	0.000	5.00	10.800	7.02	279.8	0.0	307.1
138.00	Appurtenance(s)	1.00	1.08	22.790	25.07	198.52	0.650	0.000	3.00	6.242	4.06	162.7	0.0	177.4
139.00	Top - Section 3	1.00	1.09	22.838	25.12	196.80	0.650	0.000	1.00	2.041	1.33	53.3	0.0	58.0
140.00		1.00	1.09	22.884	25.17	197.00	0.650	0.000	1.00	2.031	1.32	53.2	0.0	64.8
145.00		1.00	1.10	23.115	25.43	197.99	0.650	0.000	5.00	10.154	6.60	268.5	0.0	324.2
150.00	Appurtenance(s)	1.00	1.11	23.340	25.67	198.95	0.650	0.000	5.00	10.154	6.60	271.1	0.0	324.2
								Totals:	**150.00**			**10,216.1**		**19,305.9**

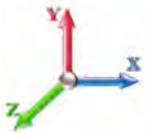
Discrete Appurtenance Forces

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	Antel BXA-171085-12BF	2	23.340	25.674	0.88	1.00	8.32	27.00	0.000	0.000	341.97	0.00	0.00
2	150.00	Cellwave PD220 20' Omni	2	23.817	26.198	1.00	1.00	12.00	99.00	0.000	11.000	503.01	0.00	5533.09
3	150.00	Cellwave TD1142 14'	1	23.732	26.105	1.00	1.00	4.20	36.00	0.000	9.000	175.43	0.00	1578.83
4	150.00	Antel BXA-70063/6CF	3	23.340	25.674	0.78	1.00	17.71	40.23	0.000	0.000	727.65	0.00	0.00
5	150.00	T-Arms w/ Working	3	23.340	25.674	0.56	0.75	30.71	1350.00	0.000	0.000	1261.62	0.00	0.00
6	150.00	Antel LPA-80063/6CF	2	23.340	25.674	0.95	1.00	18.22	48.60	0.000	0.000	748.49	0.00	0.00
7	150.00	Antel BXA-171063/12BF-2	1	23.340	25.674	0.88	1.00	4.16	4.50	0.000	0.000	170.98	0.00	0.00
8	150.00	Antel LPA-80080/6CF	4	23.340	25.674	0.75	1.00	25.86	75.60	0.000	0.000	1062.28	0.00	0.00
9	150.00	ADC DD1900	1	23.340	25.674	0.60	1.00	0.66	9.36	0.000	0.000	27.11	0.00	0.00
10	138.00	Low Profile Platform	1	22.790	25.070	1.00	1.00	22.00	1350.00	0.000	0.000	882.45	0.00	0.00
11	138.00	Raycap DC6-48-60-18-8F	1	22.790	25.070	0.54	0.80	1.18	14.40	0.000	0.000	47.30	0.00	0.00
12	138.00	Commscope	1	22.790	25.070	0.48	0.80	0.02	0.99	0.000	0.000	0.77	0.00	0.00
13	138.00	Powerwave 21903	6	22.790	25.070	0.48	0.80	0.58	29.70	0.000	0.000	23.10	0.00	0.00
14	138.00	Powerwave LGP 21401	6	22.790	25.070	0.48	0.80	3.02	94.50	0.000	0.000	121.30	0.00	0.00
15	138.00	Ericsson RRUS-11	6	22.790	25.070	0.54	0.80	8.10	273.78	0.000	0.000	325.07	0.00	0.00
16	138.00	Decibel 978QNB120E-M	3	22.790	25.070	0.55	0.80	12.57	94.50	0.000	0.000	504.16	0.00	0.00
17	138.00	Powerwave 7770.00	6	22.790	25.070	0.62	0.80	20.36	189.00	0.000	0.000	816.86	0.00	0.00
18	138.00	Powerwave	3	22.790	25.070	0.64	0.80	21.96	159.30	0.000	0.000	881.04	0.00	0.00
19	129.00	Ericsson Air 21 B4A/B2P	3	22.356	24.591	0.68	0.80	12.32	243.81	0.000	0.000	484.80	0.00	0.00
20	129.00	RFS	3	22.356	24.591	0.58	0.80	34.97	345.60	0.000	0.000	1376.11	0.00	0.00
21	129.00	T-Arms	3	22.356	24.591	0.56	0.75	13.50	945.00	0.000	0.000	531.17	0.00	0.00
22	129.00	Ericsson Air 32	3	22.356	24.591	0.69	0.80	13.44	356.94	0.000	0.000	528.67	0.00	0.00
23	129.00	Ericsson Radio 4449	3	22.356	24.591	0.54	0.80	2.62	199.80	0.000	0.000	103.13	0.00	0.00
24	129.00	Support Rail Pipe	1	22.356	24.591	0.75	0.75	5.06	235.55	0.000	0.000	199.19	0.00	0.00
25	105.00	MC-PK8-DSH	1	21.079	23.186	1.00	1.00	37.59	1554.30	0.000	0.000	1394.53	0.00	0.00
26	105.00	RDIDC-9181-OF-48	1	21.079	23.186	0.50	0.75	1.01	19.71	0.000	0.000	37.47	0.00	0.00
27	105.00	TA08025-B605	3	21.079	23.186	0.50	0.75	2.95	202.50	0.000	0.000	109.61	0.00	0.00
28	105.00	TA08025-B604	3	21.079	23.186	0.50	0.75	2.95	172.53	0.000	0.000	109.61	0.00	0.00
29	105.00	MX08FRO665-21	3	21.079	23.186	0.55	0.75	20.80	174.15	0.000	0.000	771.49	0.00	0.00
30	92.00	Standoff	1	20.297	22.327	1.00	1.00	2.63	36.00	0.000	0.000	93.95	0.00	0.00
31	92.00	MYA 4505 4' Yagi	1	20.297	22.327	1.00	1.00	2.50	13.50	0.000	0.000	89.31	0.00	0.00
							Totals:		**8,395.85**			**14,449.64**		

Total Applied Force Summary

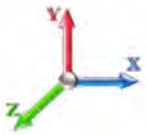
Structure:	CT01500-S-SBA		**Code:**	EIA/TIA-222-G	9/1/2021
Site Name:	Canton 2 CT		**Exposure:**	B	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 15

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		391.35	1077.93	0.00	0.00
10.00		382.99	1182.50	0.00	0.00
15.00		374.62	1161.11	0.00	0.00
20.00		366.26	1139.72	0.00	0.00
25.00		357.90	1118.33	0.00	0.00
30.00		349.83	1096.95	0.00	0.00
35.00		356.83	1075.56	0.00	0.00
40.00		361.62	1054.17	0.00	0.00
44.00		290.56	827.94	0.00	0.00
45.00		73.17	342.65	0.00	0.00
50.00		371.21	1689.72	0.00	0.00
55.00		371.51	870.43	0.00	0.00
60.00		370.66	852.61	0.00	0.00
65.00		368.79	834.79	0.00	0.00
70.00		366.02	816.96	0.00	0.00
75.00		362.43	799.14	0.00	0.00
80.00		358.10	781.32	0.00	0.00
85.00		353.08	763.49	0.00	0.00
89.00		277.98	597.96	0.00	0.00
90.00		69.55	233.65	0.00	0.00
92.00	(2) attachments	321.85	512.96	0.00	0.00
94.00		137.59	457.75	0.00	0.00
95.00		68.30	124.79	0.00	0.00
100.00		339.47	615.40	0.00	0.00
105.00	(11) attachments	2754.98	2724.33	0.00	0.00
110.00		324.58	582.38	0.00	0.00
115.00		316.44	568.12	0.00	0.00
120.00		307.87	551.16	0.00	0.00
125.00		298.90	526.10	0.00	0.00
129.00	(16) attachments	3455.20	2737.31	0.00	0.00
130.00		56.89	94.68	0.00	0.00
135.00		279.81	464.82	0.00	0.00
138.00	(33) attachments	3764.78	2478.22	0.00	0.00
139.00		53.32	76.86	0.00	0.00
140.00		53.17	83.71	0.00	0.00
145.00		268.51	418.53	0.00	0.00
150.00	(19) attachments	5289.67	2108.82	0.00	7111.92
	Totals:	**24,665.78**	**33,442.85**	**0.00**	**7,111.92**

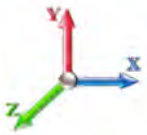
Calculated Forces

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-33.41	-24.71	0.00	-2777.6	0.00	2777.61	4273.14	2136.57	9689.25	4851.82	0.00	0.000	0.000	0.580
5.00	-32.27	-24.41	0.00	-2654.0	0.00	2654.05	4219.68	2109.84	9362.95	4688.43	0.08	-0.153	0.000	0.574
10.00	-31.02	-24.10	0.00	-2532.0	0.00	2532.03	4164.59	2082.29	9038.31	4525.87	0.33	-0.310	0.000	0.567
15.00	-29.79	-23.80	0.00	-2411.5	0.00	2411.51	4107.86	2053.93	8715.56	4364.26	0.74	-0.469	0.000	0.560
20.00	-28.59	-23.51	0.00	-2292.4	0.00	2292.49	4049.50	2024.75	8394.94	4203.71	1.31	-0.631	0.000	0.553
25.00	-27.41	-23.22	0.00	-2174.9	0.00	2174.95	3989.51	1994.75	8076.69	4044.35	2.06	-0.795	0.000	0.545
30.00	-26.25	-22.93	0.00	-2058.8	0.00	2058.87	3927.89	1963.94	7761.05	3886.29	2.99	-0.963	0.000	0.537
35.00	-25.11	-22.63	0.00	-1944.2	0.00	1944.24	3864.63	1932.32	7448.26	3729.66	4.09	-1.133	0.000	0.528
40.00	-24.01	-22.31	0.00	-1831.1	0.00	1831.11	3799.75	1899.87	7138.54	3574.58	5.37	-1.306	0.000	0.519
44.00	-23.15	-22.03	0.00	-1741.8	0.00	1741.87	3746.66	1873.33	6893.15	3451.70	6.52	-1.447	0.000	0.511
45.00	-22.77	-21.99	0.00	-1719.8	0.00	1719.84	3733.23	1866.62	6832.15	3421.15	6.83	-1.484	0.000	0.509
50.00	-21.02	-21.64	0.00	-1609.8	0.00	1609.87	2895.85	1447.93	5248.77	2628.28	8.48	-1.662	0.000	0.620
55.00	-20.09	-21.31	0.00	-1501.6	0.00	1501.66	2848.58	1424.29	5024.64	2516.06	10.32	-1.842	0.000	0.604
60.00	-19.18	-20.98	0.00	-1395.0	0.00	1395.09	2799.67	1399.83	4802.32	2404.73	12.36	-2.050	0.000	0.587
65.00	-18.28	-20.65	0.00	-1290.1	0.00	1290.17	2749.13	1374.56	4582.02	2294.42	14.62	-2.260	0.000	0.569
70.00	-17.40	-20.32	0.00	-1186.9	0.00	1186.92	2696.96	1348.48	4364.00	2185.24	17.10	-2.471	0.000	0.550
75.00	-16.55	-19.98	0.00	-1085.3	0.00	1085.34	2643.16	1321.58	4148.49	2077.33	19.80	-2.682	0.000	0.529
80.00	-15.71	-19.64	0.00	-985.45	0.00	985.45	2587.72	1293.86	3935.73	1970.79	22.72	-2.893	0.000	0.506
85.00	-14.91	-19.30	0.00	-887.24	0.00	887.24	2530.65	1265.33	3725.95	1865.74	25.86	-3.102	0.000	0.482
89.00	-14.29	-19.01	0.00	-810.05	0.00	810.05	2483.83	1241.91	3560.44	1782.87	28.53	-3.269	0.000	0.460
90.00	-14.04	-18.95	0.00	-791.04	0.00	791.04	2471.96	1235.98	3519.40	1762.31	29.22	-3.312	0.000	0.455
92.00	-13.52	-18.61	0.00	-753.15	0.00	753.15	2448.02	1224.01	3437.73	1721.42	30.62	-3.396	0.000	0.443
94.00	-13.05	-18.46	0.00	-715.92	0.00	715.92	1822.74	911.37	2571.33	1287.57	32.06	-3.479	0.000	0.564
95.00	-12.89	-18.42	0.00	-697.46	0.00	697.46	1815.01	907.51	2542.78	1273.28	32.80	-3.521	0.000	0.555
100.00	-12.22	-18.09	0.00	-605.37	0.00	605.37	1775.38	887.69	2400.98	1202.27	36.61	-3.754	0.000	0.511
105.00	-9.63	-15.19	0.00	-514.92	0.00	514.92	1734.12	867.06	2260.90	1132.13	40.66	-3.977	0.000	0.461
110.00	-9.02	-14.86	0.00	-438.95	0.00	438.95	1691.22	845.61	2122.79	1062.97	44.94	-4.189	0.000	0.419
115.00	-8.43	-14.53	0.00	-364.64	0.00	364.64	1646.70	823.35	1986.87	994.91	49.43	-4.389	0.000	0.372
120.00	-7.86	-14.21	0.00	-291.98	0.00	291.98	1600.54	800.27	1853.40	928.08	54.12	-4.573	0.000	0.320
125.00	-7.33	-13.88	0.00	-220.96	0.00	220.96	1552.75	776.38	1722.60	862.58	59.00	-4.735	0.000	0.261
129.00	-4.88	-10.22	0.00	-165.43	0.00	165.43	1513.35	756.67	1620.05	811.23	63.01	-4.846	0.000	0.207
130.00	-4.78	-10.16	0.00	-155.21	0.00	155.21	1503.33	751.67	1594.72	798.54	64.03	-4.871	0.000	0.198
135.00	-4.32	-9.84	0.00	-104.43	0.00	104.43	1452.28	726.14	1469.99	736.09	69.18	-4.978	0.000	0.145
138.00	-2.18	-5.88	0.00	-74.89	0.00	74.89	1413.92	706.96	1389.94	696.00	72.32	-5.028	0.000	0.109
139.00	-2.11	-5.82	0.00	-69.02	0.00	69.02	1400.09	700.04	1362.73	682.38	73.38	-5.043	0.000	0.103
139.00	-2.11	-5.82	0.00	-69.02	0.00	69.02	871.21	435.61	845.74	423.50	73.38	-5.043	0.000	0.166
140.00	-2.02	-5.76	0.00	-63.20	0.00	63.20	871.21	435.61	845.74	423.50	74.44	-5.057	0.000	0.152
145.00	-1.63	-5.46	0.00	-34.39	0.00	34.39	871.21	435.61	845.74	423.50	79.75	-5.103	0.000	0.083
150.00	0.00	-5.29	0.00	-7.11	0.00	7.11	871.21	435.61	845.74	423.50	85.10	-5.123	0.000	0.017

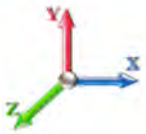
Wind Loading - Shaft

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.256	4.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.68	0.00	1.200	1.656	5.00	24.614	29.54	138.3	580.7	1906.0
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.775	5.00	24.216	29.06	136.0	610.7	1907.4
15.00		1.00	0.70	4.256	4.68	0.00	1.200	1.848	5.00	23.781	28.54	133.6	623.2	1891.4
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.902	5.00	23.329	27.99	131.1	628.0	1867.7
25.00		1.00	0.70	4.256	4.68	0.00	1.200	1.945	5.00	22.868	27.44	128.5	628.4	1839.6
30.00		1.00	0.70	4.260	4.69	0.00	1.200	1.981	5.00	22.402	26.88	126.0	625.8	1808.5
35.00		1.00	0.73	4.451	4.90	0.00	1.200	2.012	5.00	21.931	26.32	128.9	621.1	1775.3
40.00		1.00	0.76	4.625	5.09	0.00	1.200	2.039	5.00	21.457	25.75	131.0	614.8	1740.5
44.00	Bot - Section 2	1.00	0.78	4.752	5.23	0.00	1.200	2.058	4.00	16.821	20.19	105.5	487.1	1367.1
45.00		1.00	0.79	4.783	5.26	0.00	1.200	2.063	1.00	4.209	5.05	26.6	123.1	523.9
50.00	Top - Section 1	1.00	0.81	4.929	5.42	0.00	1.200	2.085	5.00	20.767	24.92	135.1	606.8	2579.8
55.00		1.00	0.83	5.065	5.57	0.00	1.200	2.105	5.00	20.287	24.34	135.6	597.4	1478.0
60.00		1.00	0.85	5.193	5.71	0.00	1.200	2.123	5.00	19.805	23.77	135.7	587.2	1444.1
65.00		1.00	0.87	5.313	5.84	0.00	1.200	2.140	5.00	19.323	23.19	135.5	576.4	1409.6
70.00		1.00	0.89	5.426	5.97	0.00	1.200	2.156	5.00	18.840	22.61	134.9	565.1	1374.4
75.00		1.00	0.91	5.534	6.09	0.00	1.200	2.171	5.00	18.356	22.03	134.1	553.2	1338.8
80.00		1.00	0.93	5.637	6.20	0.00	1.200	2.185	5.00	17.871	21.45	133.0	540.9	1302.8
85.00		1.00	0.94	5.736	6.31	0.00	1.200	2.198	5.00	17.386	20.86	131.6	528.2	1266.3
89.00	Bot - Section 3	1.00	0.96	5.812	6.39	0.00	1.200	2.209	4.00	13.558	16.27	104.0	414.2	987.6
90.00		1.00	0.96	5.830	6.41	0.00	1.200	2.211	1.00	3.382	4.06	26.0	104.4	360.0
92.00	Appurtenance(s)	1.00	0.96	5.867	6.45	0.00	1.200	2.216	2.00	6.707	8.05	51.9	206.7	712.7
94.00	Top - Section 2	1.00	0.97	5.903	6.49	0.00	1.200	2.221	2.00	6.629	7.95	51.7	204.6	703.7
95.00		1.00	0.97	5.921	6.51	0.00	1.200	2.223	1.00	3.285	3.94	25.7	101.7	212.5
100.00		1.00	0.99	6.008	6.61	0.00	1.200	2.234	5.00	16.138	19.37	128.0	495.1	1037.6
105.00	Appurtenance(s)	1.00	1.00	6.093	6.70	0.00	1.200	2.245	5.00	15.650	18.78	125.9	481.1	1004.7
110.00		1.00	1.02	6.174	6.79	0.00	1.200	2.256	5.00	15.162	18.19	123.6	466.9	971.4
115.00		1.00	1.03	6.253	6.88	0.00	1.200	2.266	5.00	14.674	17.61	121.1	452.5	938.0
120.00		1.00	1.04	6.330	6.96	0.00	1.200	2.276	5.00	14.186	17.02	118.5	437.8	904.3
125.00		1.00	1.05	6.404	7.04	0.00	1.200	2.285	5.00	13.697	16.44	115.8	422.9	870.4
129.00	Appurtenance(s)	1.00	1.06	6.462	7.11	0.00	1.200	2.292	4.00	10.605	12.73	90.5	328.7	673.0
130.00		1.00	1.07	6.476	7.12	0.00	1.200	2.294	1.00	2.602	3.12	22.2	81.6	165.7
135.00		1.00	1.08	6.546	7.20	0.00	1.200	2.303	5.00	12.719	15.26	109.9	392.6	802.0
138.00	Appurtenance(s)	1.00	1.08	6.588	7.25	0.00	1.200	2.308	3.00	7.395	8.87	64.3	230.0	466.5
139.00	Top - Section 3	1.00	1.09	6.601	7.26	0.00	1.200	2.309	1.00	2.426	2.91	21.1	76.0	153.4
140.00		1.00	1.09	6.615	7.28	0.00	1.200	2.311	1.00	2.416	2.90	21.1	76.1	162.6
145.00		1.00	1.10	6.681	7.35	0.00	1.200	2.319	5.00	12.087	14.50	106.6	382.0	814.3
150.00	Appurtenance(s)	1.00	1.11	6.746	7.42	0.00	1.200	2.327	5.00	12.093	14.51	107.7	383.4	815.7
								Totals:	**150.00**			**3,796.6**		**41,577.4**

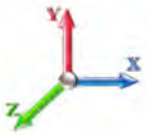
Discrete Appurtenance Forces

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	Antel BXA-171085-12BF	2	6.746	7.421	0.88	1.00	13.83	234.75	0.000	0.000	102.61	0.00	0.00
2	150.00	Cellwave PD220 20' Omni	2	6.884	7.573	1.00	1.00	30.92	447.56	0.000	11.000	234.15	0.00	2575.69
3	150.00	Cellwave TD1142 14'	1	6.860	7.546	1.00	1.00	10.87	158.88	0.000	9.000	82.02	0.00	738.14
4	150.00	Antel BXA-70063/6CF	3	6.746	7.421	0.78	1.00	26.34	514.08	0.000	0.000	195.45	0.00	0.00
5	150.00	T-Arms w/ Working	3	6.746	7.421	0.56	0.75	73.59	3932.34	0.000	0.000	546.13	0.00	0.00
6	150.00	Antel LPA-80063/6CF	2	6.746	7.421	0.95	1.00	21.74	870.54	0.000	0.000	161.30	0.00	0.00
7	150.00	Antel BXA-171063/12BF-2	1	6.746	7.421	0.88	1.00	8.26	39.86	0.000	0.000	61.28	0.00	0.00
8	150.00	Antel LPA-80080/6CF	4	6.746	7.421	0.75	1.00	31.22	1208.70	0.000	0.000	231.69	0.00	0.00
9	150.00	ADC DD1900	1	6.746	7.421	0.60	1.00	1.50	29.51	0.000	0.000	11.10	0.00	0.00
10	138.00	Low Profile Platform	1	6.588	7.246	1.00	1.00	45.35	3230.72	0.000	0.000	328.65	0.00	0.00
11	138.00	Raycap DC6-48-60-18-8F	1	6.588	7.246	0.54	0.80	1.87	79.60	0.000	0.000	13.54	0.00	0.00
12	138.00	Commscope	1	6.588	7.246	0.48	0.80	0.12	3.57	0.000	0.000	0.85	0.00	0.00
13	138.00	Powerwave 21903	6	6.588	7.246	0.48	0.80	1.70	92.06	0.000	0.000	12.30	0.00	0.00
14	138.00	Powerwave LGP 21401	6	6.588	7.246	0.48	0.80	4.81	420.36	0.000	0.000	34.84	0.00	0.00
15	138.00	Ericsson RRUS-11	6	6.588	7.246	0.54	0.80	10.95	1054.52	0.000	0.000	79.37	0.00	0.00
16	138.00	Decibel 978QNB120E-M	3	6.588	7.246	0.55	0.80	17.31	587.20	0.000	0.000	125.47	0.00	0.00
17	138.00	Powerwave 7770.00	6	6.588	7.246	0.62	0.80	25.64	1404.26	0.000	0.000	185.82	0.00	0.00
18	138.00	Powerwave	3	6.588	7.246	0.64	0.80	30.18	885.62	0.000	0.000	218.67	0.00	0.00
19	129.00	Ericsson Air 21 B4A/B2P	3	6.462	7.108	0.68	0.80	15.30	1024.13	0.000	0.000	108.78	0.00	0.00
20	129.00	RFS	3	6.462	7.108	0.58	0.80	39.34	2173.70	0.000	0.000	279.61	0.00	0.00
21	129.00	T-Arms	3	6.462	7.108	0.56	0.75	28.97	2012.69	0.000	0.000	205.93	0.00	0.00
22	129.00	Ericsson Air 32	3	6.462	7.108	0.69	0.80	16.54	1239.96	0.000	0.000	117.56	0.00	0.00
23	129.00	Ericsson Radio 4449	3	6.462	7.108	0.54	0.80	3.78	553.58	0.000	0.000	26.89	0.00	0.00
24	129.00	Support Rail Pipe	1	6.462	7.108	0.75	0.75	11.56	983.71	0.000	0.000	82.17	0.00	0.00
25	105.00	MC-PK8-DSH	1	6.093	6.702	1.00	1.00	98.36	3870.99	0.000	0.000	659.23	0.00	0.00
26	105.00	RDIDC-9181-OF-48	1	6.093	6.702	0.50	0.75	1.38	82.09	0.000	0.000	9.23	0.00	0.00
27	105.00	TA08025-B605	3	6.093	6.702	0.50	0.75	4.04	434.09	0.000	0.000	27.09	0.00	0.00
28	105.00	TA08025-B604	3	6.093	6.702	0.50	0.75	4.04	389.16	0.000	0.000	27.09	0.00	0.00
29	105.00	MX08FRO665-21	3	6.093	6.702	0.55	0.75	23.93	1153.32	0.000	0.000	160.41	0.00	0.00
30	92.00	Standoff	1	5.867	6.454	1.00	1.00	10.21	126.93	0.000	0.000	65.88	0.00	0.00
31	92.00	MYA 4505 4' Yagi	1	5.867	6.454	1.00	1.00	10.90	160.62	0.000	0.000	70.36	0.00	0.00
							Totals:		**29,399.12**			**4,465.49**		

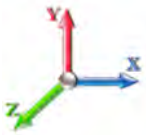
Total Applied Force Summary

Structure:	CT01500-S-SBA		**Code:**	EIA/TIA-222-G	9/1/2021
Site Name:	Canton 2 CT		**Exposure:**	B	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 19

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		138.28	2017.96	0.00	0.00
10.00		136.04	2187.32	0.00	0.00
15.00		133.60	2171.31	0.00	0.00
20.00		131.06	2147.62	0.00	0.00
25.00		128.47	2119.49	0.00	0.00
30.00		125.96	2088.40	0.00	0.00
35.00		128.86	2055.19	0.00	0.00
40.00		130.98	2020.37	0.00	0.00
44.00		105.52	1590.98	0.00	0.00
45.00		26.57	579.93	0.00	0.00
50.00		135.11	2859.74	0.00	0.00
55.00		135.63	1757.94	0.00	0.00
60.00		135.75	1724.02	0.00	0.00
65.00		135.51	1689.46	0.00	0.00
70.00		134.94	1654.34	0.00	0.00
75.00		134.10	1618.72	0.00	0.00
80.00		132.98	1582.66	0.00	0.00
85.00		131.63	1546.19	0.00	0.00
89.00		104.01	1211.51	0.00	0.00
90.00		26.03	415.95	0.00	0.00
92.00	(2) attachments	188.19	1112.20	0.00	0.00
94.00		51.66	814.89	0.00	0.00
95.00		25.68	268.13	0.00	0.00
100.00		127.99	1315.59	0.00	0.00
105.00	(11) attachments	1008.92	7212.28	0.00	0.00
110.00		123.57	1243.42	0.00	0.00
115.00		121.12	1209.97	0.00	0.00
120.00		118.52	1172.68	0.00	0.00
125.00		115.78	1124.39	0.00	0.00
129.00	(16) attachments	911.40	8863.95	0.00	0.00
130.00		22.24	207.80	0.00	0.00
135.00		109.90	1012.34	0.00	0.00
138.00	(33) attachments	1063.81	8350.65	0.00	0.00
139.00		21.14	178.53	0.00	0.00
140.00		21.10	187.71	0.00	0.00
145.00		106.60	940.01	0.00	0.00
150.00	(19) attachments	1733.42	8377.66	0.00	3313.83
	Totals:	**8,262.09**	**78,631.32**	**0.00**	**3,313.83**

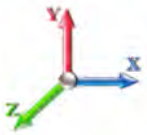
Calculated Forces

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-78.63	-8.30	0.00	-968.83	0.00	968.83	4273.14	2136.57	9689.25	4851.82	0.00	0.000	0.000	0.218
5.00	-76.60	-8.23	0.00	-927.33	0.00	927.33	4219.68	2109.84	9362.95	4688.43	0.03	-0.054	0.000	0.216
10.00	-74.41	-8.17	0.00	-886.17	0.00	886.17	4164.59	2082.29	9038.31	4525.87	0.11	-0.108	0.000	0.214
15.00	-72.23	-8.10	0.00	-845.35	0.00	845.35	4107.86	2053.93	8715.56	4364.26	0.26	-0.164	0.000	0.211
20.00	-70.07	-8.03	0.00	-804.86	0.00	804.86	4049.50	2024.75	8394.94	4203.71	0.46	-0.221	0.000	0.209
25.00	-67.95	-7.96	0.00	-764.72	0.00	764.72	3989.51	1994.75	8076.69	4044.35	0.72	-0.279	0.000	0.206
30.00	-65.85	-7.89	0.00	-724.92	0.00	724.92	3927.89	1963.94	7761.05	3886.29	1.05	-0.338	0.000	0.203
35.00	-63.79	-7.82	0.00	-685.46	0.00	685.46	3864.63	1932.32	7448.26	3729.66	1.43	-0.398	0.000	0.200
40.00	-61.76	-7.73	0.00	-646.38	0.00	646.38	3799.75	1899.87	7138.54	3574.58	1.88	-0.459	0.000	0.197
44.00	-60.17	-7.64	0.00	-615.45	0.00	615.45	3746.66	1873.33	6893.15	3451.70	2.29	-0.508	0.000	0.194
45.00	-59.58	-7.65	0.00	-607.81	0.00	607.81	3733.23	1866.62	6832.15	3421.15	2.39	-0.521	0.000	0.194
50.00	-56.71	-7.55	0.00	-569.55	0.00	569.55	2895.85	1447.93	5248.77	2628.28	2.97	-0.584	0.000	0.236
55.00	-54.95	-7.46	0.00	-531.79	0.00	531.79	2848.58	1424.29	5024.64	2516.06	3.62	-0.648	0.000	0.231
60.00	-53.22	-7.38	0.00	-494.47	0.00	494.47	2799.67	1399.83	4802.32	2404.73	4.34	-0.722	0.000	0.225
65.00	-51.52	-7.29	0.00	-457.59	0.00	457.59	2749.13	1374.56	4582.02	2294.42	5.13	-0.796	0.000	0.218
70.00	-49.86	-7.19	0.00	-421.16	0.00	421.16	2696.96	1348.48	4364.00	2185.24	6.01	-0.871	0.000	0.211
75.00	-48.23	-7.10	0.00	-385.20	0.00	385.20	2643.16	1321.58	4148.49	2077.33	6.96	-0.946	0.000	0.204
80.00	-46.64	-7.00	0.00	-349.72	0.00	349.72	2587.72	1293.86	3935.73	1970.79	7.99	-1.021	0.000	0.196
85.00	-45.09	-6.89	0.00	-314.75	0.00	314.75	2530.65	1265.33	3725.95	1865.74	9.10	-1.095	0.000	0.187
89.00	-43.88	-6.79	0.00	-287.20	0.00	287.20	2483.83	1241.91	3560.44	1782.87	10.04	-1.154	0.000	0.179
90.00	-43.46	-6.77	0.00	-280.41	0.00	280.41	2471.96	1235.98	3519.40	1762.31	10.29	-1.169	0.000	0.177
92.00	-42.35	-6.58	0.00	-266.87	0.00	266.87	2448.02	1224.01	3437.73	1721.42	10.78	-1.199	0.000	0.172
94.00	-41.53	-6.53	0.00	-253.70	0.00	253.70	1822.74	911.37	2571.33	1287.57	11.29	-1.229	0.000	0.220
95.00	-41.26	-6.53	0.00	-247.17	0.00	247.17	1815.01	907.51	2542.78	1273.28	11.55	-1.243	0.000	0.217
100.00	-39.94	-6.43	0.00	-214.51	0.00	214.51	1775.38	887.69	2400.98	1202.27	12.90	-1.326	0.000	0.201
105.00	-32.75	-5.30	0.00	-182.35	0.00	182.35	1734.12	867.06	2260.90	1132.13	14.33	-1.405	0.000	0.180
110.00	-31.50	-5.18	0.00	-155.87	0.00	155.87	1691.22	845.61	2122.79	1062.97	15.84	-1.480	0.000	0.165
115.00	-30.29	-5.06	0.00	-129.97	0.00	129.97	1646.70	823.35	1986.87	994.91	17.43	-1.551	0.000	0.149
120.00	-29.11	-4.94	0.00	-104.65	0.00	104.65	1600.54	800.27	1853.40	928.08	19.09	-1.617	0.000	0.131
125.00	-27.99	-4.82	0.00	-79.93	0.00	79.93	1552.75	776.38	1722.60	862.58	20.82	-1.675	0.000	0.111
129.00	-19.15	-3.66	0.00	-60.65	0.00	60.65	1513.35	756.67	1620.05	811.23	22.24	-1.716	0.000	0.087
130.00	-18.94	-3.63	0.00	-56.99	0.00	56.99	1503.33	751.67	1594.72	798.54	22.60	-1.725	0.000	0.084
135.00	-17.93	-3.50	0.00	-38.82	0.00	38.82	1452.28	726.14	1469.99	736.09	24.43	-1.764	0.000	0.065
138.00	-9.62	-2.18	0.00	-28.31	0.00	28.31	1413.92	706.96	1389.94	696.00	25.54	-1.783	0.000	0.047
139.00	-9.44	-2.16	0.00	-26.12	0.00	26.12	1400.09	700.04	1362.73	682.38	25.92	-1.789	0.000	0.045
139.00	-9.44	-2.16	0.00	-26.12	0.00	26.12	871.21	435.61	845.74	423.50	25.92	-1.789	0.000	0.073
140.00	-9.26	-2.13	0.00	-23.97	0.00	23.97	871.21	435.61	845.74	423.50	26.29	-1.794	0.000	0.067
145.00	-8.32	-2.00	0.00	-13.30	0.00	13.30	871.21	435.61	845.74	423.50	28.18	-1.812	0.000	0.041
150.00	0.00	-1.73	0.00	-3.31	0.00	3.31	871.21	435.61	845.74	423.50	30.08	-1.820	0.000	0.008

Seismic Segment Forces (Factored)

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Load Case:	1.2D + 1.0E							**Iterations**	21
Gust Response Factor	1.10				**Sds**	0.14		**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.07		**S1**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1104.4	0.00	0.03	0.02	14.72	
10.00		1080.6	0.01	0.05	0.03	20.98	
15.00		1056.8	0.02	0.06	0.04	23.71	
20.00		1033.1	0.03	0.07	0.04	24.79	
25.00		1009.3	0.05	0.07	0.04	25.14	
30.00		985.58	0.08	0.07	0.04	25.21	
35.00		961.81	0.10	0.07	0.04	25.21	
40.00		938.05	0.13	0.07	0.03	25.15	
44.00	Bot - Section 2	733.33	0.16	0.07	0.03	19.93	
45.00		334.07	0.17	0.07	0.03	9.10	
50.00	Top - Section 1	1644.2	0.21	0.06	0.02	44.76	
55.00		733.90	0.25	0.05	0.02	19.33	
60.00		714.09	0.30	0.04	0.01	17.20	
65.00		694.29	0.35	0.03	0.01	13.83	
70.00		674.49	0.41	0.01	0.01	9.11	
75.00		654.68	0.47	-0.01	0.01	3.27	
80.00		634.88	0.54	-0.03	0.01	-2.99	
85.00		615.07	0.61	-0.06	0.02	-8.63	
89.00	Bot - Section 3	477.80	0.67	-0.08	0.02	-9.61	
90.00		212.96	0.68	-0.08	0.03	-4.55	
92.00	Appurtenance(s)	476.65	0.71	-0.09	0.03	-11.18	
94.00	Top - Section 2	415.95	0.74	-0.10	0.04	-10.40	
95.00		92.33	0.76	-0.10	0.04	-2.36	
100.00		452.12	0.84	-0.12	0.07	-11.78	
105.00	Appurtenance(s)	2795.3	0.93	-0.12	0.10	-63.50	
110.00		420.44	1.02	-0.11	0.14	-6.54	
115.00		404.59	1.11	-0.06	0.19	-1.88	
120.00		388.75	1.21	0.01	0.26	3.90	
125.00		372.91	1.31	0.14	0.35	10.61	
129.00	Appurtenance(s)	2872.1	1.40	0.28	0.43	131.96	
130.00		70.15	1.42	0.32	0.45	3.56	
135.00		341.22	1.53	0.58	0.58	26.21	
138.00	Appurtenance(s)	2648.4	1.60	0.78	0.67	250.00	
139.00	Top - Section 3	64.44	1.62	0.85	0.70	6.48	
140.00		72.05	1.65	0.93	0.73	7.70	
145.00		360.23	1.77	1.39	0.92	50.81	
150.00	Appurtenance(s)	2238.3	1.89	1.98	1.14	401.33	
	Totals:	**30,779.7**				**1,080.6**	**Total Wind:** **24,665.8**

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

Calculated Forces

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Load Case:	1.2D + 1.0E							**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.14			**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.07			**S1**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37	**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	-44.59	-1.22	0.00	-145.10	0.00	145.10	4273.14	2136.57	9689.25	4851.82		0.00	0.00	0.040
5.00	-43.15	-1.21	0.00	-139.02	0.00	139.02	4219.68	2109.84	9362.95	4688.43		0.00	-0.01	0.040
10.00	-41.58	-1.19	0.00	-132.98	0.00	132.98	4164.59	2082.29	9038.31	4525.87		0.02	-0.02	0.039
15.00	-40.03	-1.17	0.00	-127.02	0.00	127.02	4107.86	2053.93	8715.56	4364.26		0.04	-0.02	0.039
20.00	-38.51	-1.15	0.00	-121.15	0.00	121.15	4049.50	2024.75	8394.94	4203.71		0.07	-0.03	0.038
25.00	-37.02	-1.13	0.00	-115.38	0.00	115.38	3989.51	1994.75	8076.69	4044.35		0.11	-0.04	0.038
30.00	-35.55	-1.11	0.00	-109.71	0.00	109.71	3927.89	1963.94	7761.05	3886.29		0.16	-0.05	0.037
35.00	-34.12	-1.09	0.00	-104.15	0.00	104.15	3864.63	1932.32	7448.26	3729.66		0.21	-0.06	0.037
40.00	-32.71	-1.07	0.00	-98.69	0.00	98.69	3799.75	1899.87	7138.54	3574.58		0.28	-0.07	0.036
44.00	-31.61	-1.05	0.00	-94.41	0.00	94.41	3746.66	1873.33	6893.15	3451.70		0.34	-0.08	0.036
45.00	-31.15	-1.04	0.00	-93.36	0.00	93.36	3733.23	1866.62	6832.15	3421.15		0.36	-0.08	0.036
50.00	-28.90	-1.00	0.00	-88.14	0.00	88.14	2895.85	1447.93	5248.77	2628.28		0.45	-0.09	0.044
55.00	-27.74	-0.99	0.00	-83.13	0.00	83.13	2848.58	1424.29	5024.64	2516.06		0.55	-0.10	0.043
60.00	-26.60	-0.97	0.00	-78.21	0.00	78.21	2799.67	1399.83	4802.32	2404.73		0.65	-0.11	0.042
65.00	-25.49	-0.96	0.00	-73.35	0.00	73.35	2749.13	1374.56	4582.02	2294.42		0.78	-0.12	0.041
70.00	-24.40	-0.95	0.00	-68.54	0.00	68.54	2696.96	1348.48	4364.00	2185.24		0.91	-0.13	0.040
75.00	-23.33	-0.95	0.00	-63.77	0.00	63.77	2643.16	1321.58	4148.49	2077.33		1.06	-0.15	0.040
80.00	-22.29	-0.96	0.00	-59.00	0.00	59.00	2587.72	1293.86	3935.73	1970.79		1.22	-0.16	0.039
85.00	-21.27	-0.96	0.00	-54.22	0.00	54.22	2530.65	1265.33	3725.95	1865.74		1.39	-0.17	0.037
89.00	-20.48	-0.96	0.00	-50.40	0.00	50.40	2483.83	1241.91	3560.44	1782.87		1.54	-0.18	0.037
90.00	-20.16	-0.96	0.00	-49.44	0.00	49.44	2471.96	1235.98	3519.40	1762.31		1.58	-0.18	0.036
92.00	-19.48	-0.96	0.00	-47.52	0.00	47.52	2448.02	1224.01	3437.73	1721.42		1.65	-0.19	0.036
94.00	-18.87	-0.96	0.00	-45.61	0.00	45.61	1822.74	911.37	2571.33	1287.57		1.74	-0.19	0.046
95.00	-18.70	-0.96	0.00	-44.65	0.00	44.65	1815.01	907.51	2542.78	1273.28		1.78	-0.20	0.045
100.00	-17.88	-0.96	0.00	-39.86	0.00	39.86	1775.38	887.69	2400.98	1202.27		1.99	-0.21	0.043
105.00	-14.25	-0.95	0.00	-35.06	0.00	35.06	1734.12	867.06	2260.90	1132.13		2.22	-0.23	0.039
110.00	-13.47	-0.95	0.00	-30.30	0.00	30.30	1691.22	845.61	2122.79	1062.97		2.47	-0.24	0.036
115.00	-12.72	-0.95	0.00	-25.55	0.00	25.55	1646.70	823.35	1986.87	994.91		2.73	-0.26	0.033
120.00	-11.98	-0.95	0.00	-20.80	0.00	20.80	1600.54	800.27	1853.40	928.08		3.00	-0.27	0.030
125.00	-11.28	-0.93	0.00	-16.07	0.00	16.07	1552.75	776.38	1722.60	862.58		3.29	-0.28	0.026
129.00	-7.63	-0.78	0.00	-12.34	0.00	12.34	1513.35	756.67	1620.05	811.23		3.53	-0.29	0.020
130.00	-7.50	-0.78	0.00	-11.55	0.00	11.55	1503.33	751.67	1594.72	798.54		3.59	-0.29	0.019
135.00	-6.88	-0.75	0.00	-7.65	0.00	7.65	1452.28	726.14	1469.99	736.09		3.90	-0.30	0.015
138.00	-3.58	-0.48	0.00	-5.39	0.00	5.39	1413.92	706.96	1389.94	696.00		4.09	-0.30	0.010
139.00	-3.48	-0.48	0.00	-4.91	0.00	4.91	1400.09	700.04	1362.73	682.38		4.15	-0.30	0.010
139.00	-3.48	-0.48	0.00	-4.91	0.00	4.91	871.21	435.61	845.74	423.50		4.15	-0.30	0.016
140.00	-3.37	-0.47	0.00	-4.43	0.00	4.43	871.21	435.61	845.74	423.50		4.22	-0.30	0.014
145.00	-2.81	-0.42	0.00	-2.08	0.00	2.08	871.21	435.61	845.74	423.50		4.54	-0.31	0.008
150.00	0.00	-0.40	0.00	0.00	0.00	0.00	871.21	435.61	845.74	423.50		4.86	-0.31	0.000

Seismic Segment Forces (Factored)

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10				**Sds**	0.14		**Ss**	0.18
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.07		**S1**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1104.4	0.00	0.03	0.02	14.72	
10.00		1080.6	0.01	0.05	0.03	20.98	
15.00		1056.8	0.02	0.06	0.04	23.71	
20.00		1033.1	0.03	0.07	0.04	24.79	
25.00		1009.3	0.05	0.07	0.04	25.14	
30.00		985.58	0.08	0.07	0.04	25.21	
35.00		961.81	0.10	0.07	0.04	25.21	
40.00		938.05	0.13	0.07	0.03	25.15	
44.00	Bot - Section 2	733.33	0.16	0.07	0.03	19.93	
45.00		334.07	0.17	0.07	0.03	9.10	
50.00	Top - Section 1	1644.2	0.21	0.06	0.02	44.76	
55.00		733.90	0.25	0.05	0.02	19.33	
60.00		714.09	0.30	0.04	0.01	17.20	
65.00		694.29	0.35	0.03	0.01	13.83	
70.00		674.49	0.41	0.01	0.01	9.11	
75.00		654.68	0.47	-0.01	0.01	3.27	
80.00		634.88	0.54	-0.03	0.01	-2.99	
85.00		615.07	0.61	-0.06	0.02	-8.63	
89.00	Bot - Section 3	477.80	0.67	-0.08	0.02	-9.61	
90.00		212.96	0.68	-0.08	0.03	-4.55	
92.00	Appurtenance(s)	476.65	0.71	-0.09	0.03	-11.18	
94.00	Top - Section 2	415.95	0.74	-0.10	0.04	-10.40	
95.00		92.33	0.76	-0.10	0.04	-2.36	
100.00		452.12	0.84	-0.12	0.07	-11.78	
105.00	Appurtenance(s)	2795.3	0.93	-0.12	0.10	-63.50	
110.00		420.44	1.02	-0.11	0.14	-6.54	
115.00		404.59	1.11	-0.06	0.19	-1.88	
120.00		388.75	1.21	0.01	0.26	3.90	
125.00		372.91	1.31	0.14	0.35	10.61	
129.00	Appurtenance(s)	2872.1	1.40	0.28	0.43	131.96	
130.00		70.15	1.42	0.32	0.45	3.56	
135.00		341.22	1.53	0.58	0.58	26.21	
138.00	Appurtenance(s)	2648.4	1.60	0.78	0.67	250.00	
139.00	Top - Section 3	64.44	1.62	0.85	0.70	6.48	
140.00		72.05	1.65	0.93	0.73	7.70	
145.00		360.23	1.77	1.39	0.92	50.81	
150.00	Appurtenance(s)	2238.3	1.89	1.98	1.14	401.33	
	Totals:	**30,779.7**				**1,080.6**	**Total Wind:** **24,665.8**

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

Calculated Forces

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.14			**Ss**	0.18
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.07			**S1**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37	**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	-33.44	-1.22	0.00	-143.40	0.00	143.40	4273.14	2136.57	9689.25	4851.82		0.00	0.00	0.037
5.00	-32.36	-1.21	0.00	-137.32	0.00	137.32	4219.68	2109.84	9362.95	4688.43		0.00	-0.01	0.037
10.00	-31.18	-1.19	0.00	-131.29	0.00	131.29	4164.59	2082.29	9038.31	4525.87		0.02	-0.02	0.036
15.00	-30.02	-1.17	0.00	-125.35	0.00	125.35	4107.86	2053.93	8715.56	4364.26		0.04	-0.02	0.036
20.00	-28.88	-1.15	0.00	-119.51	0.00	119.51	4049.50	2024.75	8394.94	4203.71		0.07	-0.03	0.036
25.00	-27.76	-1.13	0.00	-113.77	0.00	113.77	3989.51	1994.75	8076.69	4044.35		0.11	-0.04	0.035
30.00	-26.67	-1.10	0.00	-108.14	0.00	108.14	3927.89	1963.94	7761.05	3886.29		0.15	-0.05	0.035
35.00	-25.59	-1.08	0.00	-102.62	0.00	102.62	3864.63	1932.32	7448.26	3729.66		0.21	-0.06	0.034
40.00	-24.54	-1.06	0.00	-97.22	0.00	97.22	3799.75	1899.87	7138.54	3574.58		0.28	-0.07	0.034
44.00	-23.71	-1.04	0.00	-92.98	0.00	92.98	3746.66	1873.33	6893.15	3451.70		0.34	-0.08	0.033
45.00	-23.36	-1.03	0.00	-91.94	0.00	91.94	3733.23	1866.62	6832.15	3421.15		0.36	-0.08	0.033
50.00	-21.67	-0.99	0.00	-86.78	0.00	86.78	2895.85	1447.93	5248.77	2628.28		0.44	-0.09	0.041
55.00	-20.80	-0.97	0.00	-81.83	0.00	81.83	2848.58	1424.29	5024.64	2516.06		0.54	-0.10	0.040
60.00	-19.95	-0.96	0.00	-76.97	0.00	76.97	2799.67	1399.83	4802.32	2404.73		0.65	-0.11	0.039
65.00	-19.12	-0.95	0.00	-72.18	0.00	72.18	2749.13	1374.56	4582.02	2294.42		0.77	-0.12	0.038
70.00	-18.30	-0.94	0.00	-67.45	0.00	67.45	2696.96	1348.48	4364.00	2185.24		0.90	-0.13	0.038
75.00	-17.50	-0.94	0.00	-62.76	0.00	62.76	2643.16	1321.58	4148.49	2077.33		1.04	-0.14	0.037
80.00	-16.72	-0.94	0.00	-58.07	0.00	58.07	2587.72	1293.86	3935.73	1970.79		1.20	-0.16	0.036
85.00	-15.95	-0.94	0.00	-53.37	0.00	53.37	2530.65	1265.33	3725.95	1865.74		1.37	-0.17	0.035
89.00	-15.36	-0.94	0.00	-49.61	0.00	49.61	2483.83	1241.91	3560.44	1782.87		1.52	-0.18	0.034
90.00	-15.12	-0.94	0.00	-48.67	0.00	48.67	2471.96	1235.98	3519.40	1762.31		1.55	-0.18	0.034
92.00	-14.61	-0.94	0.00	-46.79	0.00	46.79	2448.02	1224.01	3437.73	1721.42		1.63	-0.19	0.033
94.00	-14.15	-0.94	0.00	-44.91	0.00	44.91	1822.74	911.37	2571.33	1287.57		1.71	-0.19	0.043
95.00	-14.03	-0.94	0.00	-43.97	0.00	43.97	1815.01	907.51	2542.78	1273.28		1.75	-0.19	0.042
100.00	-13.41	-0.94	0.00	-39.27	0.00	39.27	1775.38	887.69	2400.98	1202.27		1.96	-0.21	0.040
105.00	-10.69	-0.94	0.00	-34.55	0.00	34.55	1734.12	867.06	2260.90	1132.13		2.19	-0.22	0.037
110.00	-10.10	-0.94	0.00	-29.88	0.00	29.88	1691.22	845.61	2122.79	1062.97		2.43	-0.24	0.034
115.00	-9.54	-0.94	0.00	-25.20	0.00	25.20	1646.70	823.35	1986.87	994.91		2.69	-0.25	0.031
120.00	-8.98	-0.93	0.00	-20.53	0.00	20.53	1600.54	800.27	1853.40	928.08		2.96	-0.26	0.028
125.00	-8.46	-0.92	0.00	-15.87	0.00	15.87	1552.75	776.38	1722.60	862.58		3.25	-0.28	0.024
129.00	-5.72	-0.77	0.00	-12.20	0.00	12.20	1513.35	756.67	1620.05	811.23		3.48	-0.28	0.019
130.00	-5.63	-0.77	0.00	-11.42	0.00	11.42	1503.33	751.67	1594.72	798.54		3.54	-0.29	0.018
135.00	-5.16	-0.74	0.00	-7.57	0.00	7.57	1452.28	726.14	1469.99	736.09		3.84	-0.29	0.014
138.00	-2.69	-0.48	0.00	-5.34	0.00	5.34	1413.92	706.96	1389.94	696.00		4.03	-0.30	0.010
139.00	-2.61	-0.47	0.00	-4.86	0.00	4.86	1400.09	700.04	1362.73	682.38		4.09	-0.30	0.009
139.00	-2.61	-0.47	0.00	-4.86	0.00	4.86	871.21	435.61	845.74	423.50		4.09	-0.30	0.014
140.00	-2.52	-0.47	0.00	-4.39	0.00	4.39	871.21	435.61	845.74	423.50		4.16	-0.30	0.013
145.00	-2.11	-0.41	0.00	-2.06	0.00	2.06	871.21	435.61	845.74	423.50		4.47	-0.30	0.007
150.00	0.00	-0.40	0.00	0.00	0.00	0.00	871.21	435.61	845.74	423.50		4.79	-0.30	0.000

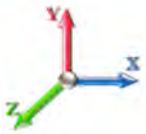
Wind Loading - Shaft

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.129	6.74	235.75	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	230.77	0.650	0.000	5.00	23.233	15.10	101.8	0.0	1104.4
10.00		1.00	0.70	6.129	6.74	225.78	0.650	0.000	5.00	22.737	14.78	99.6	0.0	1080.6
15.00		1.00	0.70	6.129	6.74	220.80	0.650	0.000	5.00	22.240	14.46	97.5	0.0	1056.9
20.00		1.00	0.70	6.129	6.74	215.81	0.650	0.000	5.00	21.744	14.13	95.3	0.0	1033.1
25.00		1.00	0.70	6.129	6.74	210.83	0.650	0.000	5.00	21.247	13.81	93.1	0.0	1009.3
30.00		1.00	0.70	6.134	6.75	205.93	0.650	0.000	5.00	20.751	13.49	91.0	0.0	985.6
35.00		1.00	0.73	6.410	7.05	205.42	0.650	0.000	5.00	20.254	13.17	92.8	0.0	961.8
40.00		1.00	0.76	6.659	7.33	204.18	0.650	0.000	5.00	19.758	12.84	94.1	0.0	938.0
44.00	Bot - Section 2	1.00	0.78	6.843	7.53	202.76	0.650	0.000	4.00	15.449	10.04	75.6	0.0	733.3
45.00		1.00	0.79	6.887	7.58	202.36	0.650	0.000	1.00	3.865	2.51	19.0	0.0	334.1
50.00	Top - Section 1	1.00	0.81	7.098	7.81	200.06	0.650	0.000	5.00	19.029	12.37	96.6	0.0	1644.2
55.00		1.00	0.83	7.294	8.02	200.26	0.650	0.000	5.00	18.533	12.05	96.6	0.0	733.9
60.00		1.00	0.85	7.477	8.22	197.26	0.650	0.000	5.00	18.036	11.72	96.4	0.0	714.1
65.00		1.00	0.87	7.650	8.42	193.96	0.650	0.000	5.00	17.540	11.40	95.9	0.0	694.3
70.00		1.00	0.89	7.814	8.60	190.40	0.650	0.000	5.00	17.043	11.08	95.2	0.0	674.5
75.00		1.00	0.91	7.969	8.77	186.60	0.650	0.000	5.00	16.547	10.76	94.3	0.0	654.7
80.00		1.00	0.93	8.118	8.93	182.59	0.650	0.000	5.00	16.050	10.43	93.2	0.0	634.9
85.00		1.00	0.94	8.260	9.09	178.39	0.650	0.000	5.00	15.553	10.11	91.9	0.0	615.1
89.00	Bot - Section 3	1.00	0.96	8.369	9.21	174.90	0.650	0.000	4.00	12.085	7.86	72.3	0.0	477.8
90.00		1.00	0.96	8.396	9.24	174.02	0.650	0.000	1.00	3.014	1.96	18.1	0.0	213.0
92.00	Appurtenance(s)	1.00	0.96	8.448	9.29	172.22	0.650	0.000	2.00	5.968	3.88	36.1	0.0	421.7
94.00	Top - Section 2	1.00	0.97	8.501	9.35	170.40	0.650	0.000	2.00	5.889	3.83	35.8	0.0	415.9
95.00		1.00	0.97	8.526	9.38	171.99	0.650	0.000	1.00	2.915	1.89	17.8	0.0	92.3
100.00		1.00	0.99	8.652	9.52	167.33	0.650	0.000	5.00	14.275	9.28	88.3	0.0	452.1
105.00	Appurtenance(s)	1.00	1.00	8.774	9.65	162.54	0.650	0.000	5.00	13.779	8.96	86.4	0.0	436.3
110.00		1.00	1.02	8.891	9.78	157.62	0.650	0.000	5.00	13.282	8.63	84.4	0.0	420.4
115.00		1.00	1.03	9.005	9.91	152.58	0.650	0.000	5.00	12.786	8.31	82.3	0.0	404.6
120.00		1.00	1.04	9.115	10.03	147.43	0.650	0.000	5.00	12.289	7.99	80.1	0.0	388.8
125.00		1.00	1.05	9.222	10.14	142.18	0.650	0.000	5.00	11.793	7.67	77.8	0.0	372.9
129.00	Appurtenance(s)	1.00	1.06	9.305	10.24	137.90	0.650	0.000	4.00	9.077	5.90	60.4	0.0	286.9
130.00		1.00	1.07	9.326	10.26	136.83	0.650	0.000	1.00	2.220	1.44	14.8	0.0	70.1
135.00		1.00	1.08	9.427	10.37	131.38	0.650	0.000	5.00	10.800	7.02	72.8	0.0	341.2
138.00	Appurtenance(s)	1.00	1.08	9.486	10.43	128.08	0.650	0.000	3.00	6.242	4.06	42.3	0.0	197.1
139.00	Top - Section 3	1.00	1.09	9.506	10.46	126.97	0.650	0.000	1.00	2.041	1.33	13.9	0.0	64.4
140.00		1.00	1.09	9.525	10.48	127.10	0.650	0.000	1.00	2.031	1.32	13.8	0.0	72.0
145.00		1.00	1.10	9.621	10.58	127.74	0.650	0.000	5.00	10.154	6.60	69.9	0.0	360.2
150.00	Appurtenance(s)	1.00	1.11	9.715	10.69	128.36	0.650	0.000	5.00	10.154	6.60	70.5	0.0	360.2
								Totals:	**150.00**			**2,657.7**		**21,451.0**

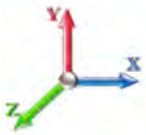
Discrete Appurtenance Forces

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

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	Antel BXA-171085-12BF	2	9.715	10.686	0.88	1.00	8.32	30.00	0.000	0.000	88.96	0.00	0.00
2	150.00	Cellwave PD220 20' Omni	2	9.913	10.905	1.00	1.00	12.00	110.00	0.000	11.000	130.86	0.00	1439.41
3	150.00	Cellwave TD1142 14'	1	9.878	10.866	1.00	1.00	4.20	40.00	0.000	9.000	45.64	0.00	410.73
4	150.00	Antel BXA-70063/6CF	3	9.715	10.686	0.78	1.00	17.71	44.70	0.000	0.000	189.30	0.00	0.00
5	150.00	T-Arms w/ Working	3	9.715	10.686	0.56	0.75	30.71	1500.00	0.000	0.000	328.20	0.00	0.00
6	150.00	Antel LPA-80063/6CF	2	9.715	10.686	0.95	1.00	18.22	54.00	0.000	0.000	194.72	0.00	0.00
7	150.00	Antel BXA-171063/12BF-2	1	9.715	10.686	0.88	1.00	4.16	5.00	0.000	0.000	44.48	0.00	0.00
8	150.00	Antel LPA-80080/6CF	4	9.715	10.686	0.75	1.00	25.86	84.00	0.000	0.000	276.35	0.00	0.00
9	150.00	ADC DD1900	1	9.715	10.686	0.60	1.00	0.66	10.40	0.000	0.000	7.05	0.00	0.00
10	138.00	Low Profile Platform	1	9.486	10.435	1.00	1.00	22.00	1500.00	0.000	0.000	229.56	0.00	0.00
11	138.00	Raycap DC6-48-60-18-8F	1	9.486	10.435	0.54	0.80	1.18	16.00	0.000	0.000	12.30	0.00	0.00
12	138.00	Commscope	1	9.486	10.435	0.48	0.80	0.02	1.10	0.000	0.000	0.20	0.00	0.00
13	138.00	Powerwave 21903	6	9.486	10.435	0.48	0.80	0.58	33.00	0.000	0.000	6.01	0.00	0.00
14	138.00	Powerwave LGP 21401	6	9.486	10.435	0.48	0.80	3.02	105.00	0.000	0.000	31.55	0.00	0.00
15	138.00	Ericsson RRUS-11	6	9.486	10.435	0.54	0.80	8.10	304.20	0.000	0.000	84.57	0.00	0.00
16	138.00	Decibel 978QNB120E-M	3	9.486	10.435	0.55	0.80	12.57	105.00	0.000	0.000	131.16	0.00	0.00
17	138.00	Powerwave 7770.00	6	9.486	10.435	0.62	0.80	20.36	210.00	0.000	0.000	212.50	0.00	0.00
18	138.00	Powerwave	3	9.486	10.435	0.64	0.80	21.96	177.00	0.000	0.000	229.20	0.00	0.00
19	129.00	Ericsson Air 21 B4A/B2P	3	9.305	10.236	0.68	0.80	12.32	270.90	0.000	0.000	126.12	0.00	0.00
20	129.00	RFS	3	9.305	10.236	0.58	0.80	34.97	384.00	0.000	0.000	357.99	0.00	0.00
21	129.00	T-Arms	3	9.305	10.236	0.56	0.75	13.50	1050.00	0.000	0.000	138.18	0.00	0.00
22	129.00	Ericsson Air 32	3	9.305	10.236	0.69	0.80	13.44	396.60	0.000	0.000	137.53	0.00	0.00
23	129.00	Ericsson Radio 4449	3	9.305	10.236	0.54	0.80	2.62	222.00	0.000	0.000	26.83	0.00	0.00
24	129.00	Support Rail Pipe	1	9.305	10.236	0.75	0.75	5.06	261.72	0.000	0.000	51.82	0.00	0.00
25	105.00	MC-PK8-DSH	1	8.774	9.651	1.00	1.00	37.59	1727.00	0.000	0.000	362.78	0.00	0.00
26	105.00	RDIDC-9181-OF-48	1	8.774	9.651	0.50	0.75	1.01	21.90	0.000	0.000	9.75	0.00	0.00
27	105.00	TA08025-B605	3	8.774	9.651	0.50	0.75	2.95	225.00	0.000	0.000	28.52	0.00	0.00
28	105.00	TA08025-B604	3	8.774	9.651	0.50	0.75	2.95	191.70	0.000	0.000	28.52	0.00	0.00
29	105.00	MX08FRO665-21	3	8.774	9.651	0.55	0.75	20.80	193.50	0.000	0.000	200.70	0.00	0.00
30	92.00	Standoff	1	8.448	9.293	1.00	1.00	2.63	40.00	0.000	0.000	24.44	0.00	0.00
31	92.00	MYA 4505 4' Yagi	1	8.448	9.293	1.00	1.00	2.50	15.00	0.000	0.000	23.23	0.00	0.00
							Totals:		**9,328.72**			**3,759.01**		

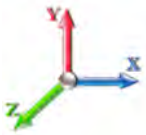
Total Applied Force Summary

Structure:	CT01500-S-SBA		**Code:**	EIA/TIA-222-G	9/1/2021
Site Name:	Canton 2 CT		**Exposure:**	B	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	C - Very Dense Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 27

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		101.81	1197.70	0.00	0.00
10.00		99.63	1313.89	0.00	0.00
15.00		97.46	1290.12	0.00	0.00
20.00		95.28	1266.36	0.00	0.00
25.00		93.11	1242.59	0.00	0.00
30.00		91.01	1218.83	0.00	0.00
35.00		92.83	1195.06	0.00	0.00
40.00		94.07	1171.30	0.00	0.00
44.00		75.59	919.93	0.00	0.00
45.00		19.03	380.72	0.00	0.00
50.00		96.57	1877.47	0.00	0.00
55.00		96.65	967.15	0.00	0.00
60.00		96.42	947.34	0.00	0.00
65.00		95.94	927.54	0.00	0.00
70.00		95.22	907.74	0.00	0.00
75.00		94.28	887.93	0.00	0.00
80.00		93.16	868.13	0.00	0.00
85.00		91.85	848.32	0.00	0.00
89.00		72.31	664.40	0.00	0.00
90.00		18.09	259.61	0.00	0.00
92.00	(2) attachments	83.73	569.95	0.00	0.00
94.00		35.79	508.61	0.00	0.00
95.00		17.77	138.66	0.00	0.00
100.00		88.31	683.77	0.00	0.00
105.00	(11) attachments	716.70	3027.03	0.00	0.00
110.00		84.44	647.09	0.00	0.00
115.00		82.32	631.24	0.00	0.00
120.00		80.09	612.40	0.00	0.00
125.00		77.76	584.56	0.00	0.00
129.00	(16) attachments	898.86	3041.46	0.00	0.00
130.00		14.80	105.20	0.00	0.00
135.00		72.79	516.47	0.00	0.00
138.00	(33) attachments	979.39	2753.58	0.00	0.00
139.00		13.87	85.40	0.00	0.00
140.00		13.83	93.01	0.00	0.00
145.00		69.85	465.03	0.00	0.00
150.00	(19) attachments	1376.08	2343.13	0.00	1850.13
	Totals:	**6,416.70**	**37,158.72**	**0.00**	**1,850.13**

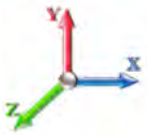
Calculated Forces

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-37.16	-6.43	0.00	-726.00	0.00	726.00	4273.14	2136.57	9689.25	4851.82	0.00	0.000	0.000	0.158
5.00	-35.95	-6.35	0.00	-693.86	0.00	693.86	4219.68	2109.84	9362.95	4688.43	0.02	-0.040	0.000	0.157
10.00	-34.64	-6.28	0.00	-662.09	0.00	662.09	4164.59	2082.29	9038.31	4525.87	0.09	-0.081	0.000	0.155
15.00	-33.34	-6.20	0.00	-630.71	0.00	630.71	4107.86	2053.93	8715.56	4364.26	0.19	-0.123	0.000	0.153
20.00	-32.07	-6.13	0.00	-599.70	0.00	599.70	4049.50	2024.75	8394.94	4203.71	0.34	-0.165	0.000	0.151
25.00	-30.82	-6.05	0.00	-569.07	0.00	569.07	3989.51	1994.75	8076.69	4044.35	0.54	-0.208	0.000	0.148
30.00	-29.60	-5.98	0.00	-538.81	0.00	538.81	3927.89	1963.94	7761.05	3886.29	0.78	-0.252	0.000	0.146
35.00	-28.40	-5.90	0.00	-508.91	0.00	508.91	3864.63	1932.32	7448.26	3729.66	1.07	-0.296	0.000	0.144
40.00	-27.23	-5.82	0.00	-479.39	0.00	479.39	3799.75	1899.87	7138.54	3574.58	1.40	-0.342	0.000	0.141
44.00	-26.30	-5.75	0.00	-456.10	0.00	456.10	3746.66	1873.33	6893.15	3451.70	1.71	-0.379	0.000	0.139
45.00	-25.92	-5.74	0.00	-450.35	0.00	450.35	3733.23	1866.62	6832.15	3421.15	1.79	-0.388	0.000	0.139
50.00	-24.04	-5.65	0.00	-421.63	0.00	421.63	2895.85	1447.93	5248.77	2628.28	2.22	-0.435	0.000	0.169
55.00	-23.07	-5.57	0.00	-393.37	0.00	393.37	2848.58	1424.29	5024.64	2516.06	2.70	-0.482	0.000	0.164
60.00	-22.12	-5.49	0.00	-365.53	0.00	365.53	2799.67	1399.83	4802.32	2404.73	3.23	-0.537	0.000	0.160
65.00	-21.19	-5.40	0.00	-338.10	0.00	338.10	2749.13	1374.56	4582.02	2294.42	3.82	-0.592	0.000	0.155
70.00	-20.27	-5.32	0.00	-311.10	0.00	311.10	2696.96	1348.48	4364.00	2185.24	4.47	-0.647	0.000	0.150
75.00	-19.38	-5.23	0.00	-284.53	0.00	284.53	2643.16	1321.58	4148.49	2077.33	5.18	-0.702	0.000	0.144
80.00	-18.51	-5.14	0.00	-258.38	0.00	258.38	2587.72	1293.86	3935.73	1970.79	5.95	-0.757	0.000	0.138
85.00	-17.66	-5.05	0.00	-232.67	0.00	232.67	2530.65	1265.33	3725.95	1865.74	6.77	-0.812	0.000	0.132
89.00	-16.99	-4.98	0.00	-212.45	0.00	212.45	2483.83	1241.91	3560.44	1782.87	7.47	-0.856	0.000	0.126
90.00	-16.73	-4.96	0.00	-207.47	0.00	207.47	2471.96	1235.98	3519.40	1762.31	7.65	-0.867	0.000	0.125
92.00	-16.16	-4.88	0.00	-197.55	0.00	197.55	2448.02	1224.01	3437.73	1721.42	8.02	-0.889	0.000	0.121
94.00	-15.65	-4.84	0.00	-187.79	0.00	187.79	1822.74	911.37	2571.33	1287.57	8.39	-0.911	0.000	0.154
95.00	-15.51	-4.83	0.00	-182.95	0.00	182.95	1815.01	907.51	2542.78	1273.28	8.59	-0.922	0.000	0.152
100.00	-14.82	-4.74	0.00	-158.82	0.00	158.82	1775.38	887.69	2400.98	1202.27	9.59	-0.983	0.000	0.140
105.00	-11.81	-3.99	0.00	-135.10	0.00	135.10	1734.12	867.06	2260.90	1132.13	10.65	-1.042	0.000	0.126
110.00	-11.16	-3.90	0.00	-115.17	0.00	115.17	1691.22	845.61	2122.79	1062.97	11.77	-1.097	0.000	0.115
115.00	-10.52	-3.81	0.00	-95.68	0.00	95.68	1646.70	823.35	1986.87	994.91	12.95	-1.150	0.000	0.103
120.00	-9.91	-3.73	0.00	-76.61	0.00	76.61	1600.54	800.27	1853.40	928.08	14.18	-1.198	0.000	0.089
125.00	-9.33	-3.64	0.00	-57.96	0.00	57.96	1552.75	776.38	1722.60	862.58	15.46	-1.241	0.000	0.073
129.00	-6.30	-2.68	0.00	-43.39	0.00	43.39	1513.35	756.67	1620.05	811.23	16.51	-1.270	0.000	0.058
130.00	-6.20	-2.67	0.00	-40.71	0.00	40.71	1503.33	751.67	1594.72	798.54	16.78	-1.276	0.000	0.055
135.00	-5.68	-2.58	0.00	-27.38	0.00	27.38	1452.28	726.14	1469.99	736.09	18.13	-1.304	0.000	0.041
138.00	-2.95	-1.54	0.00	-19.62	0.00	19.62	1413.92	706.96	1389.94	696.00	18.95	-1.318	0.000	0.030
139.00	-2.87	-1.53	0.00	-18.08	0.00	18.08	1400.09	700.04	1362.73	682.38	19.23	-1.321	0.000	0.029
139.00	-2.87	-1.53	0.00	-18.08	0.00	18.08	871.21	435.61	845.74	423.50	19.23	-1.321	0.000	0.046
140.00	-2.77	-1.51	0.00	-16.56	0.00	16.56	871.21	435.61	845.74	423.50	19.51	-1.325	0.000	0.042
145.00	-2.31	-1.43	0.00	-9.00	0.00	9.00	871.21	435.61	845.74	423.50	20.90	-1.337	0.000	0.024
150.00	0.00	-1.38	0.00	-1.85	0.00	1.85	871.21	435.61	845.74	423.50	22.30	-1.342	0.000	0.004

Final Analysis Summary

Structure:	CT01500-S-SBA	**Code:**	EIA/TIA-222-G	9/1/2021	
Site Name:	Canton 2 CT	**Exposure:**	B		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	C - Very Dense Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

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 93 mph Wind	24.7	0.00	44.56	0.00	0.00	2808.65
0.9D + 1.6W 93 mph Wind	24.7	0.00	33.41	0.00	0.00	2777.61
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.3	0.00	78.63	0.00	0.00	968.83
1.2D + 1.0E	1.2	0.00	44.59	0.00	0.00	145.10
0.9D + 1.0E	1.2	0.00	33.44	0.00	0.00	143.40
1.0D + 1.0W 60 mph Wind	6.4	0.00	37.16	0.00	0.00	726.00

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 93 mph Wind	-28.24	-21.88	0.00	-1634.3	0.00	-1634.3	2895.85	1447.9	5248.77	2628.28	50.00	0.632
0.9D + 1.6W 93 mph Wind	-21.02	-21.64	0.00	-1609.8	0.00	-1609.8	2895.85	1447.9	5248.77	2628.28	50.00	0.620
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-56.71	-7.55	0.00	-569.55	0.00	-569.55	2895.85	1447.9	5248.77	2628.28	50.00	0.236
1.2D + 1.0E	-18.87	-0.96	0.00	-45.61	0.00	-45.61	1822.74	911.37	2571.33	1287.57	94.00	0.046
0.9D + 1.0E	-14.15	-0.94	0.00	-44.91	0.00	-44.91	1822.74	911.37	2571.33	1287.57	94.00	0.043
1.0D + 1.0W 60 mph Wind	-24.04	-5.65	0.00	-421.63	0.00	-421.63	2895.85	1447.9	5248.77	2628.28	50.00	0.169

Monopole Mat Foundation Design

			Date: 9/1/2021
Customer Name:	Dish Wireless	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	150
Site Number:	CT01500-S-SBA	**Engineer Name:**	J. Chen
Engr. Number:	114606	**Engineer Login ID:**	

Foundation Info Obtained from: Mapping Operation

Structure Type: Monopole

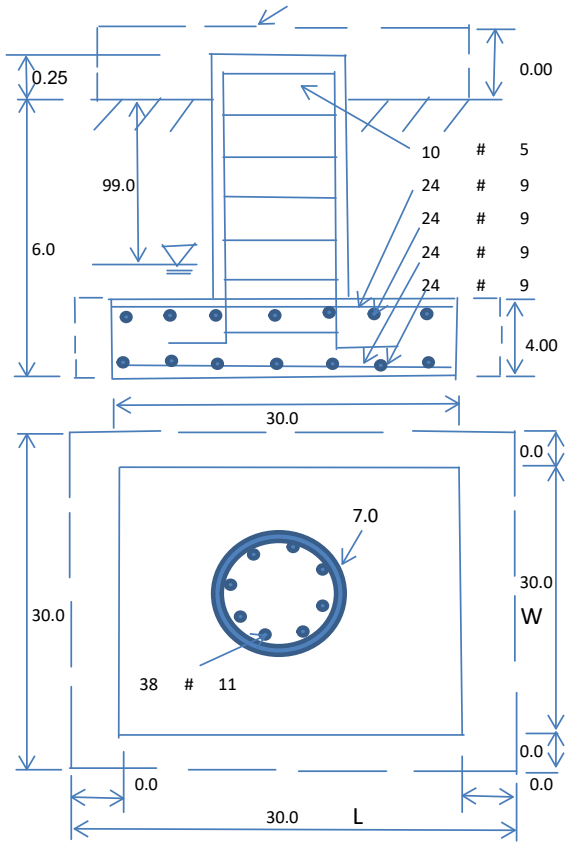
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	44.6	Shear Force (Kips):	24.7
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2808.7
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.25	Thickness of Pad (ft):	4.00
Length of Pad (ft.):	30	Width of Pad (ft.):	30
Final Length of pad (ft)	30.0	Final width of pad (ft):	30.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	38	Tie Spacing (in):	8.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
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):	24	Qty. of Rebar in Pad (W):	24	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	24	Qty. of Rebar in Pad (W):	24	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	140.0	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:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	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.):	1723.03	Total Dry Soil Weight (Kips):	241.22
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	241.22	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3686.59	Total Dry Concrete Weight (Kips):	552.99
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	552.99	Total Vertical Load on Base (Kips):	838.81

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1249	<	Allowable Factored Soil Bearing (psf): 22500	0.06	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	11390.9	>	Design Factored Momont (kips-ft): 2709	0.24	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	4.21	OK!			

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75			
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00			
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.56		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	9305.3	>	Design Factored Moment (Mu, Kips-F	2864.3	0.31	OK!
Calculated Shear Capacity (Kips):	767.8	>	Design Factored Shear (Kips):	24.7	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	3201.1	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7269.8	>	Design Factored Axial Load (Pu Kips):	44.6	0.01	OK!
Moment & Axial Strength Combination:	0.31	OK!	Check Tie Spacing (Design/Required):		0.6667	OK!
Pier Reinforcement Ratio:	0.011		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	1314.3	>	One-Way Factored Shear (L-D. Kips):	174.8	0.13	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1314.3	>	One-Way Factored Shear (W-D., Kips)	174.8	0.13	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1227.6	>	One-Way Factored Shear (C-C, Kips):	154.8	0.13	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0015	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0015		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	4714.5	>	Moment at Bottom (L-Dir. K-Ft):	1259.2	0.27	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	4714.5	>	Moment at Bottom (W-Dir. K-Ft):	1259.2	0.27	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	6643.7	>	Moment at Bottom (C-C Dir. K-Ft):	1780.7	0.27	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0015	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0015		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	4714.5	>	Moment at the top (L-Dir K-Ft):	498.1	0.11	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	4714.5	>	Moment at the top (W-Dir K-Ft):	498.1	0.11	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	6643.7	>	Moment at the top (C-C Dir. K-Ft):	465.2	0.07	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1123.5	k-ft.	Max. factored shear stress v_{u_CD}:		2.2	Psi
Max. factored shear stress v_{u_AB}:	5.9	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	5.9	Psi	Check Usage of Punching Shear Capacity:		0.04	OK!

EXHIBIT 9

Antenna Mount Analysis

August 30, 2021

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

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

Subject:	**Appurtenance Mount Analysis Report**	
Carrier Designation:	***Dish Wireless* Co-Locate**	
	Site Number:	BOBDL00116A
	Site Name:	N/A
***SBA Network Services Designation*:**	**Site Number:**	CT01500-S
	Site Name:	Canton 2 CT
	Application Number:	167815, v1
Engineering Firm Designation:	**B+T Group Project Number:**	149432.003.01
Site Data:	**540 Cherry Brook Rd., (Rt. 179), Canton, CT, 06019, Hartford County** **Latitude *41.89405*°, Longitude *-72.89384*°** **Monopole** **8' Platform Mount**	

Dear Ms. Knapik,

B+T Group is pleased to submit this **"Appurtenance Mount Analysis Report"** to determine the structural integrity of the antenna mount on the above-mentioned structure.

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

Proposed Equipment Note: See Table 1 for the final loading configuration	**Sufficient Capacity** **(Passing at 66.9%)**

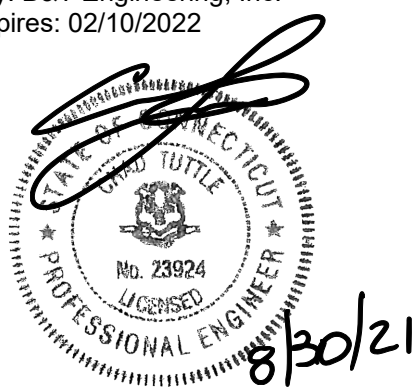
This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 120 mph converted to a nominal 3-second gust wind speed of 93 mph per Section 1609.3 and Appendix N as required for use in the ANSI/TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category B and Risk Category II were used in this analysis.

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

Mount structural analysis prepared by: Rose Denny

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2022

Chad E. Tuttle, P.E.



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1) INTRODUCTION

The appurtenance mount consists of Commscope Platform mounts (Part #MC-PK8-DSH) at 105 ft., attached to monopole at 540 Cherry Brook Rd., (Rt. 179), Canton, CT, 06019, Hartford County. The proposed antenna loading information was obtained from SBA Network Services, LLC. All information provided to B+T Group was assumed accurate and complete.

2) ANALYSIS CRITERIA

The structural analysis was performed for this mount in accordance with the ANSI/TIA-222-G-2-2005 Structural Standard for Antenna Supporting Structures and Antennas – Addendum 2 using a 3-second gust wind speed of 93 mph with no ice and 50 mph with 1 inch escalated ice thickness. Exposure Category B, Topographic Category 1 and Risk Category II were used in this analysis. In addition, the platform mount has been analyzed for various live loading conditions consisting of a 250-lb man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 500-pound man live load applied individually at mount pipe locations using a 3-second gust of 30 mph. The mount was analyzed under 30º increments in the wind direction. The analyzed loading is detailed in Table 1.

Table 1 – Proposed Equipment Information

Loading	RAD Center Elev. (ft.)	Position	Qty.	Description	Note
Proposed	105	1	3	JMA Wireless MX08FRO665-21	1
			3	Fujitsu TA08025-B605	2
			3	Fujitsu TA08025-B604	
		--	1	Raycap RDIDC-9181-PF-48	3

Note:
(1) Proposed Antenna to be installed on the proposed Mount Pipe.
(2) Proposed Equipment to be installed directly behind the Antenna.
(3) Proposed Equipment to be installed on the Mount.

Table 2 - Documents Provided

Documents	Remarks	Reference	Source
Collo App	Proposed Loading	Date: 08/01/2021	SBA Network Services, LLC.
RFDS		Date: 07/22/2021	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses and deflections for various loading cases. Selected output from the analysis is included in Appendix A.

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The mount was built in accordance with the manufacturer's specifications.
2. The mount has been maintained in accordance with the manufacturer's specifications and is free of damage.
3. The configuration of antennas and other appurtenances are as specified in Table 1.
4. All mount components have been assumed to be in sufficient condition to carry their full design capacity for the analysis.

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

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity

Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
-	Main Horizontals	105	8.4	Pass
-	Support Rails	105	14.3	Pass
-	Support Tubes	105	66.9	Pass
-	Support Channels	105	51.4	Pass
-	Support Angles	105	36.2	Pass
-	Mount Pipes	105	15.8	Pass
-	Connection Plates	105	28.6	Pass
-	Connection Angles	105	24.2	Pass
-	Connection Bolts	105	35.5	Pass

5) RECOMMENDATIONS

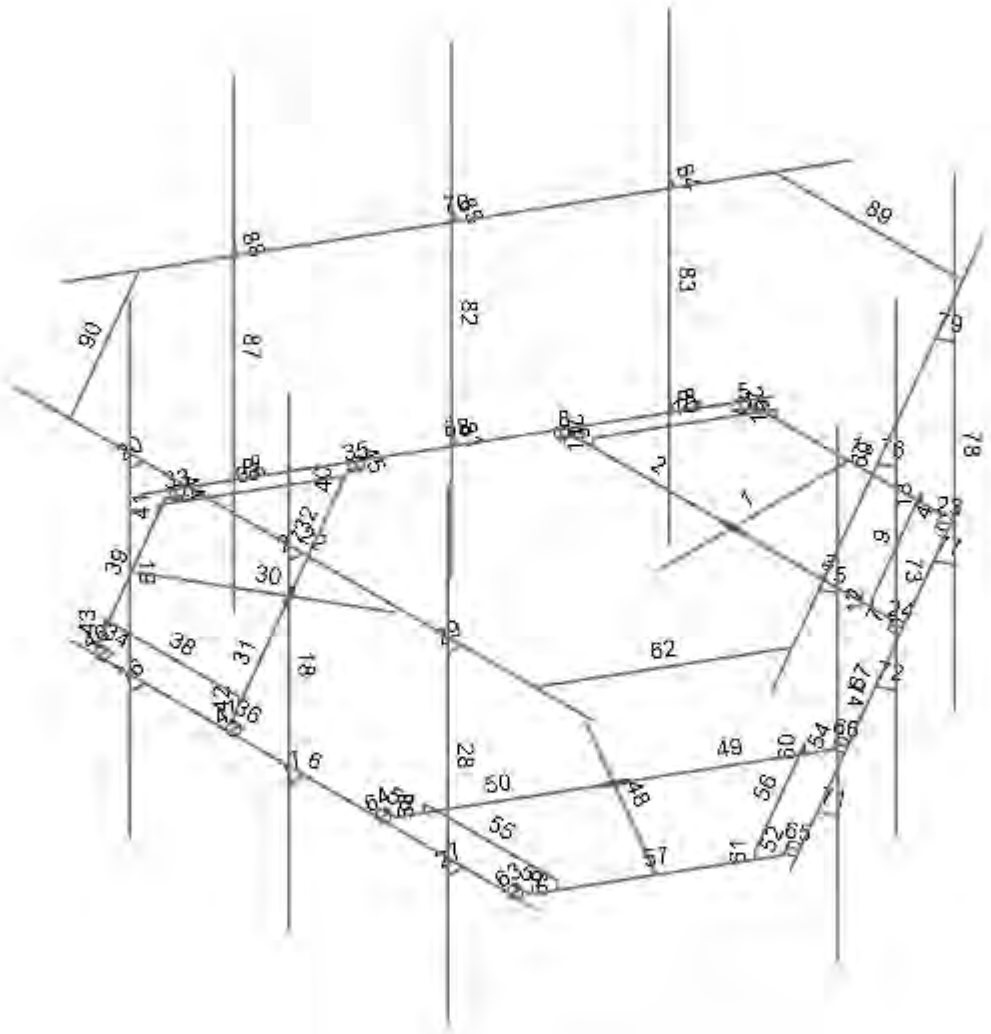
The Commscope platform mounts (Part #MC-PK8-DSH) has sufficient capacity to carry the proposed loads and is in compliance with the ANSI/TIA-222-G standard for the proposed loading. (Refer to the RISA output for the specific members).

APPENDIX A

(RISA-3D Output)

Envelope Only Solution

B+T Group	CT01500-S - Canton 2 CT	SK-2
VP		Aug 28, 2021
149432.003.01		149432_003_01_Canton 2 CT_CT…



Envelope Only Solution

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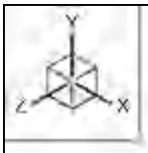

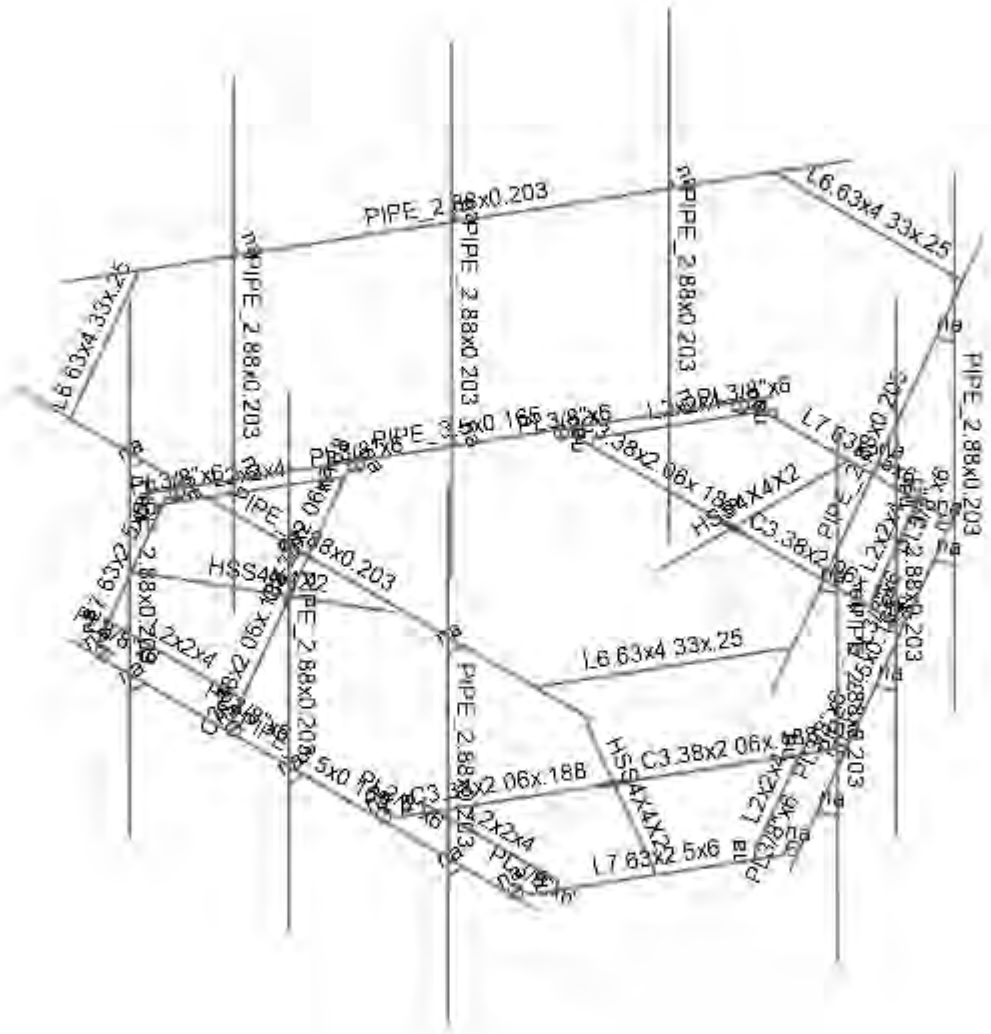

Envelope Only Solution

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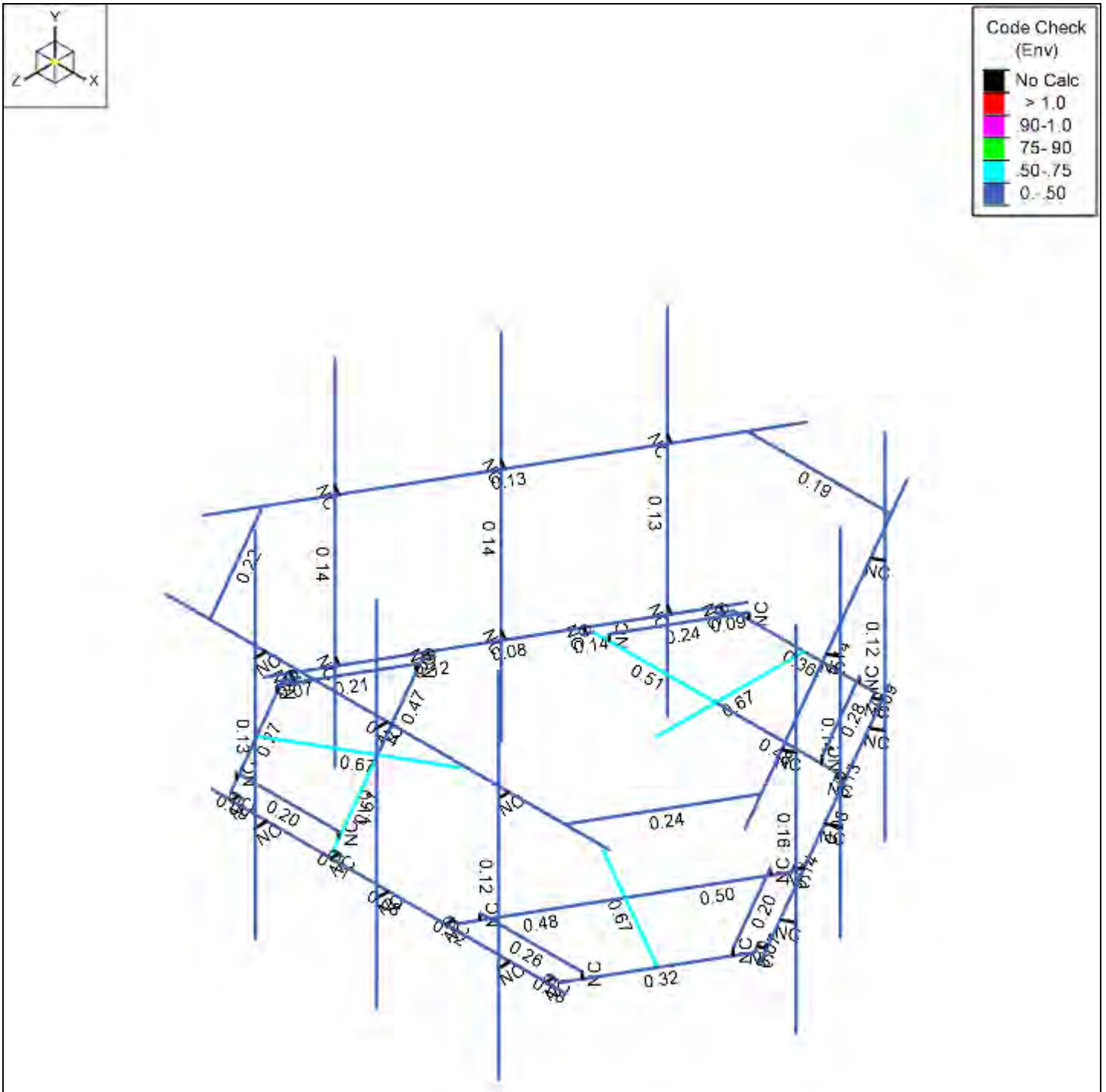

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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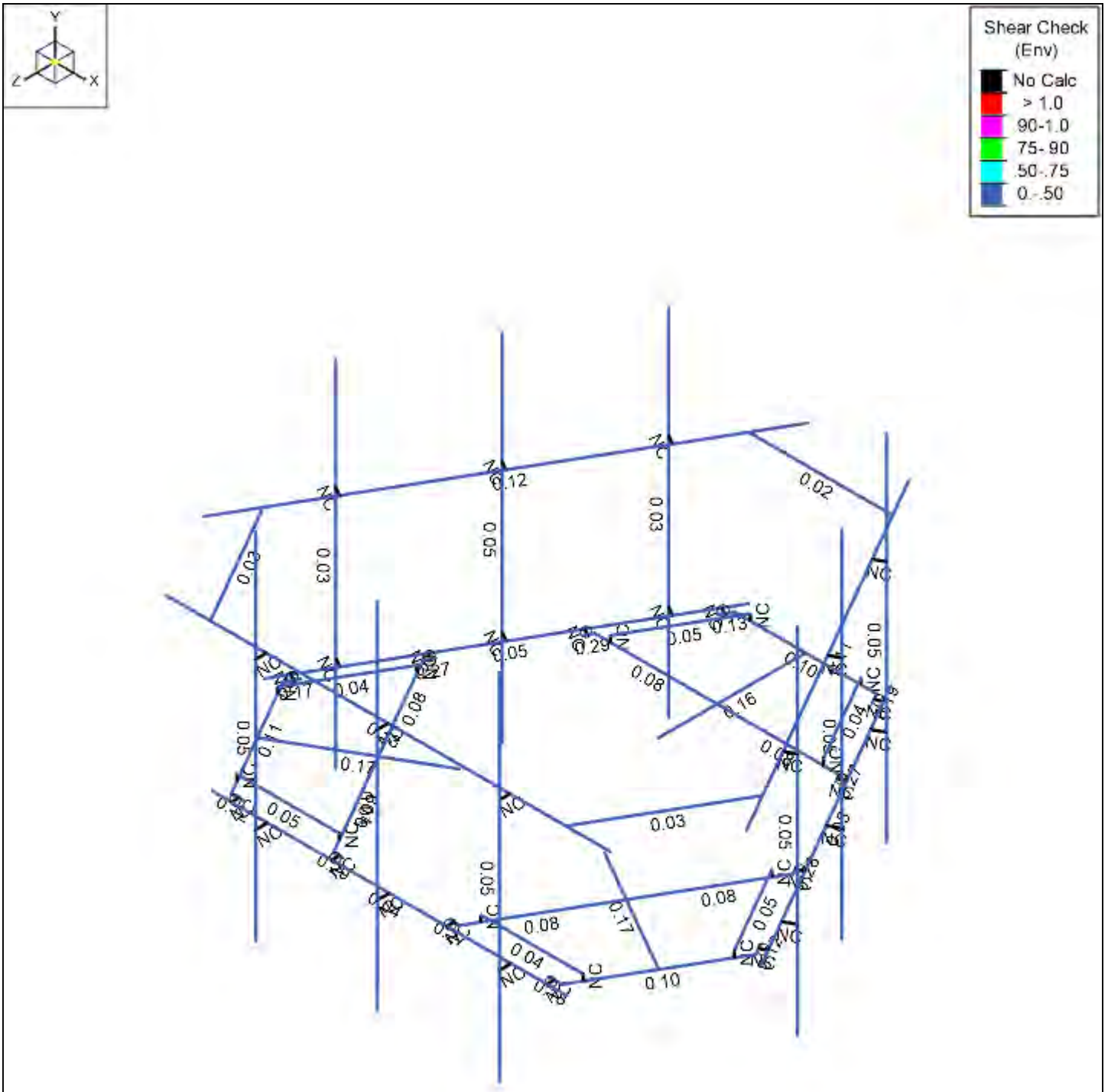


Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	CT01500-S - Canton 2 CT	SK-6
VP		Aug 28, 2021
149432.003.01		149432_003_01_Canton 2 CT_CT…

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0	0	-1.900005	
2	2	0	0	-5.233338	
3	3	0	0	-3.233338	
4	4	2.758333	0	-3.233338	
5	5	-2.758333	0	-3.233338	
6	6	-1.603633	0	-5.233338	
7	7	1.603633	0	-5.233338	
8	8	1.749466	0	-4.980747	
9	9	-1.749466	0	-4.980747	
10	10	1.686966	0	-5.089	
11	11	1.826808	0	-5.169738	
12	12	-1.686966	0	-5.089	
13	13	-1.826808	0	-5.169738	
14	14	-3.999998	0	4.166932	
15	15	3.999998	0	4.166932	
16	16	2.8625	0	-3.052916	
17	17	2.820833	0	-3.125086	
18	18	2.960675	0	-3.205824	
19	19	-2.8625	0	-3.052916	
20	20	-2.820833	0	-3.125086	
21	21	-2.960675	0	-3.205824	
22	22	-1.25	0.140833	-5.233338	
23	23	-2.404701	0.140833	-3.233338	
24	24	2.404701	0.140833	-3.233338	
25	25	1.25	0.140833	-5.233338	
26	26	-1.25	0	-5.233338	
27	27	-2.404701	0	-3.233338	
28	28	2.404701	0	-3.233338	
29	29	1.25	0	-5.233338	
30	30	-2.749998	0	4.166932	
31	31	0.000002	0	4.166932	
32	32	-2.749998	0	4.432557	
33	33	0.000002	0	4.432557	
34	34	-2.749998	-2.166667	4.432557	
35	35	0.000002	-2.166667	4.432557	
36	36	-2.749998	5.833335	4.432557	
37	37	0.000002	5.833335	4.432557	
38	38	-2.749998	3.333337	4.432557	
39	39	0.000002	3.333337	4.432557	
40	40	-2.749998	3.333337	4.192973	
41	41	0.000002	3.333337	4.192973	
42	42	-5	3.333337	4.192973	
43	43	5	3.333337	4.192973	
44	44	2.749998	0	4.166932	
45	45	2.749998	0	4.432557	
46	46	2.749998	-2.166667	4.432557	
47	47	2.749998	5.833335	4.432557	
48	48	2.749998	3.333337	4.432557	
49	49	2.749998	3.333337	4.192973	
50	50	0	0	0	
51	51	-1.645452	0	0.950002	
52	52	-4.532204	0	2.616669	
53	53	-2.800153	0	1.616669	
54	54	-4.179319	0	-0.772118	
55	55	-1.420986	0	4.005456	
56	56	-3.730387	0	4.005456	
57	57	-5.33402	0	1.227882	
58	58	-5.188187	0	0.975291	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
59	59	-3.438721	0	4.005456	
60	60	-5.250687	0	1.083545	
61	61	-5.390529	0	1.002807	
62	62	-3.563721	0	4.005456	
63	63	-3.563721	0	4.166932	
64	64	-4.075153	0	-0.95254	
65	65	-4.11682	0	-0.88037	
66	66	-4.256662	0	-0.961108	
67	67	-1.212653	0	4.005456	
68	68	-1.295987	0	4.005456	
69	69	-1.295987	0	4.166932	
70	70	-3.907204	0.140833	3.699201	
71	71	-1.597802	0.140833	3.699201	
72	72	-4.002503	0.140833	-0.465863	
73	73	-5.157204	0.140833	1.534137	
74	74	-3.907204	0	3.699201	
75	75	-1.597802	0	3.699201	
76	76	-4.002503	0	-0.465863	
77	77	-5.157204	0	1.534137	
78	78	1.645452	0	0.950002	
79	79	4.532204	0	2.616669	
80	80	2.800153	0	1.616669	
81	81	1.420986	0	4.005456	
82	82	4.179319	0	-0.772118	
83	83	5.33402	0	1.227882	
84	84	3.730387	0	4.005456	
85	85	3.438721	0	4.005456	
86	86	5.188187	0	0.975291	
87	87	3.563721	0	4.005456	
88	88	3.563721	0	4.166932	
89	89	5.250687	0	1.083545	
90	90	5.390529	0	1.002807	
91	91	1.212653	0	4.005456	
92	92	1.295987	0	4.005456	
93	93	1.295987	0	4.166932	
94	94	4.075153	0	-0.95254	
95	95	4.11682	0	-0.88037	
96	96	4.256662	0	-0.961108	
97	97	5.157204	0.140833	1.534137	
98	98	4.002503	0.140833	-0.465863	
99	99	1.597802	0.140833	3.699201	
100	100	3.907204	0.140833	3.699201	
101	101	5.157204	0	1.534137	
102	102	4.002503	0	-0.465863	
103	103	1.597802	0	3.699201	
104	104	3.907204	0	3.699201	
105	105	4.0124	3.333337	4.192973	
106	106	5.608668	0	1.380634	
107	107	1.60867	0	-5.547566	
108	108	-1.60867	0	-5.547566	
109	109	-5.608668	0	1.380634	
110	110	6.131221	3.333337	2.23364	
111	111	1.131221	3.333337	-6.426614	
112	112	-1.131221	3.333337	-6.426614	
113	113	-6.131221	3.333337	2.23364	
114	114	6.635952	3.333337	1.375809	
115	115	5.637421	3.333337	1.378354	
116	116	4.983668	0	0.298102	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
117	117	3.608668	0	-2.083468	
118	118	5.213706	0	0.16529	
119	119	3.838706	0	-2.21628	
120	120	5.213706	-2.166667	0.16529	
121	121	3.838706	-2.166667	-2.21628	
122	122	5.213706	5.833335	0.16529	
123	123	3.838706	5.833335	-2.21628	
124	124	5.213706	3.333337	0.16529	
125	125	3.838706	3.333337	-2.21628	
126	126	5.006221	3.333337	0.285081	
127	127	3.631221	3.333337	-2.096488	
128	128	2.23367	0	-4.465034	
129	129	2.463708	0	-4.597847	
130	130	2.463708	-2.166667	-4.597847	
131	131	2.463708	5.833335	-4.597847	
132	132	2.463708	3.333337	-4.597847	
133	133	2.256222	3.333337	-4.478055	
134	134	-2.23367	0	-4.465034	
135	135	-3.60867	0	-2.083464	
136	136	-2.463708	0	-4.597847	
137	137	-3.838708	0	-2.216277	
138	138	-2.463708	-2.166667	-4.597847	
139	139	-3.838708	-2.166667	-2.216277	
140	140	-2.463708	5.833335	-4.597847	
141	141	-3.838708	5.833335	-2.216277	
142	142	-2.463708	3.333337	-4.597847	
143	143	-3.838708	3.333337	-2.216277	
144	144	-2.256222	3.333337	-4.478055	
145	145	-3.631222	3.333337	-2.096485	
146	146	-4.983668	0	0.298102	
147	147	-5.213706	0	0.16529	
148	148	-5.213706	-2.166667	0.16529	
149	149	-5.213706	5.833335	0.16529	
150	150	-5.213706	3.333337	0.16529	
151	151	-5.006221	3.333337	0.285081	
152	152	1.625021	3.333337	-5.571327	
153	153	-1.625021	3.333337	-5.571327	
154	154	-5.637422	3.333337	1.378354	
155	155	-4.0124	3.333337	4.192973	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	2						
3	3						
4	4						
5	5						
6	16						
7	17						
8	19						
9	20						
10	22						
11	25						
12	26						
13	29						
14	51	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
15	52						
16	53						

Node Boundary Conditions (Continued)

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
17	54						
18	55						
19	64						
20	65						
21	67						
22	68						
23	70						
24	73						
25	74						
26	77						
27	78	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
28	79						
29	80						
30	81						
31	82						
32	91						
33	92						
34	94						
35	95						
36	97						
37	100						
38	101						
39	104						

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in^2]	Iyy [in^4]	Izz [in^4]	J [in^4]
1	MF-H1	PIPE_3.5x0.165	Beam	Pipe	A500 Gr.C	Typical	1.729	2.409	2.409	4.819
2	MF-H2	PIPE_2.88x0.203	Beam	Pipe	A500 Gr.C	Typical	1.707	1.538	1.538	3.076
3	SF-H1	HSS4X4X2	Beam	Tube	A500 Gr.B Rect	Typical	1.77	4.4	4.4	6.91
4	SF-H2	C3.38x2.06x.188	Beam	Channel	A36 Gr.36	Typical	1.339	0.562	2.4	0.015
5	SF-H3	L2x2x4	Beam	Single Angle	A36 Gr.36	Typical	0.944	0.346	0.346	0.021
6	SF-H4	L7.63x2.5x6	Beam	Single Angle	A36 Gr.36	Typical	3.658	1.307	22.092	0.163
7	MF-P1	PIPE_2.88x0.203	Column	Pipe	A500 Gr.C	Typical	1.707	1.538	1.538	3.076
8	MF-CP1	PL3/8"x6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
9	MF-H3	L6.63x4.33x.25	Beam	Single Angle	A36 Gr.36	Typical	2.678	4.383	12.502	0.054

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	1	2		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
2	2	5	3	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
3	3	3	4	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
4	4	7	8		MF-CP1	Beam	RECT	A36 Gr.36	Typical
5	5	6	9		MF-CP1	Beam	RECT	A36 Gr.36	Typical
6	6	14	15		MF-H1	Beam	Pipe	A500 Gr.C	Typical
7	7	16	4		MF-CP1	Beam	RECT	A36 Gr.36	Typical
8	8	5	19		MF-CP1	Beam	RECT	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
9	9	25	24		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
10	10	23	22		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
11	11	6	7		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
12	12	28	24		RIGID	None	None	RIGID	Typical
13	13	29	25		RIGID	None	None	RIGID	Typical
14	14	27	23		RIGID	None	None	RIGID	Typical
15	15	26	22		RIGID	None	None	RIGID	Typical
16	16	32	30		RIGID	None	None	RIGID	Typical
17	17	33	31		RIGID	None	None	RIGID	Typical
18	18	37	35		MF-P1	Column	Pipe	A500 Gr.C	Typical
19	19	36	34		MF-P1	Column	Pipe	A500 Gr.C	Typical
20	20	38	40		RIGID	None	None	RIGID	Typical
21	21	39	41		RIGID	None	None	RIGID	Typical
22	22	42	43		MF-H2	Beam	Pipe	A500 Gr.C	Typical
23	23	11	10		RIGID	None	None	RIGID	Typical
24	24	18	17		RIGID	None	None	RIGID	Typical
25	25	13	12		RIGID	None	None	RIGID	Typical
26	26	21	20		RIGID	None	None	RIGID	Typical
27	27	45	44		RIGID	None	None	RIGID	Typical
28	28	47	46		MF-P1	Column	Pipe	A500 Gr.C	Typical
29	29	48	49		RIGID	None	None	RIGID	Typical
30	30	51	52		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
31	31	55	53	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
32	32	53	54	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
33	33	57	58		MF-CP1	Beam	RECT	A36 Gr.36	Typical
34	34	56	59		MF-CP1	Beam	RECT	A36 Gr.36	Typical
35	35	64	54		MF-CP1	Beam	RECT	A36 Gr.36	Typical
36	36	55	67		MF-CP1	Beam	RECT	A36 Gr.36	Typical
37	37	73	72		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
38	38	71	70		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
39	39	56	57		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
40	40	76	72		RIGID	None	None	RIGID	Typical
41	41	77	73		RIGID	None	None	RIGID	Typical
42	42	75	71		RIGID	None	None	RIGID	Typical
43	43	74	70		RIGID	None	None	RIGID	Typical
44	44	61	60		RIGID	None	None	RIGID	Typical
45	45	66	65		RIGID	None	None	RIGID	Typical
46	46	63	62		RIGID	None	None	RIGID	Typical
47	47	69	68		RIGID	None	None	RIGID	Typical
48	48	78	79		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
49	49	82	80	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
50	50	80	81	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
51	51	84	85		MF-CP1	Beam	RECT	A36 Gr.36	Typical
52	52	83	86		MF-CP1	Beam	RECT	A36 Gr.36	Typical
53	53	91	81		MF-CP1	Beam	RECT	A36 Gr.36	Typical
54	54	82	94		MF-CP1	Beam	RECT	A36 Gr.36	Typical
55	55	100	99		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
56	56	98	97		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
57	57	83	84		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
58	58	103	99		RIGID	None	None	RIGID	Typical
59	59	104	100		RIGID	None	None	RIGID	Typical
60	60	102	98		RIGID	None	None	RIGID	Typical
61	61	101	97		RIGID	None	None	RIGID	Typical
62	62	105	115	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
63	63	88	87		RIGID	None	None	RIGID	Typical
64	64	93	92		RIGID	None	None	RIGID	Typical
65	65	90	89		RIGID	None	None	RIGID	Typical
66	66	96	95		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
67	67	106	107		MF-H1	Beam	Pipe	A500 Gr.C	Typical
68	68	108	109		MF-H1	Beam	Pipe	A500 Gr.C	Typical
69	69	110	111		MF-H2	Beam	Pipe	A500 Gr.C	Typical
70	70	112	113		MF-H2	Beam	Pipe	A500 Gr.C	Typical
71	71	118	116		RIGID	None	None	RIGID	Typical
72	72	119	117		RIGID	None	None	RIGID	Typical
73	73	123	121		MF-P1	Column	Pipe	A500 Gr.C	Typical
74	74	122	120		MF-P1	Column	Pipe	A500 Gr.C	Typical
75	75	124	126		RIGID	None	None	RIGID	Typical
76	76	125	127		RIGID	None	None	RIGID	Typical
77	77	129	128		RIGID	None	None	RIGID	Typical
78	78	131	130		MF-P1	Column	Pipe	A500 Gr.C	Typical
79	79	132	133		RIGID	None	None	RIGID	Typical
80	80	136	134		RIGID	None	None	RIGID	Typical
81	81	137	135		RIGID	None	None	RIGID	Typical
82	82	141	139		MF-P1	Column	Pipe	A500 Gr.C	Typical
83	83	140	138		MF-P1	Column	Pipe	A500 Gr.C	Typical
84	84	142	144		RIGID	None	None	RIGID	Typical
85	85	143	145		RIGID	None	None	RIGID	Typical
86	86	147	146		RIGID	None	None	RIGID	Typical
87	87	149	148		MF-P1	Column	Pipe	A500 Gr.C	Typical
88	88	150	151		RIGID	None	None	RIGID	Typical
89	89	152	153	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
90	90	154	155	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
1	1				Yes		None
2	2			2	Yes		None
3	3		2		Yes		None
4	4				Yes		None
5	5				Yes		None
6	6				Yes		None
7	7				Yes		None
8	8				Yes		None
9	9				Yes		None
10	10				Yes		None
11	11				Yes		None
12	12				Yes	** NA **	None
13	13				Yes	** NA **	None
14	14				Yes	** NA **	None
15	15				Yes	** NA **	None
16	16				Yes	** NA **	None
17	17				Yes	** NA **	None
18	18				Yes	** NA **	None
19	19				Yes	** NA **	None
20	20				Yes	** NA **	None
21	21				Yes	** NA **	None
22	22				Yes		None
23	23	OOOOOX			Yes	** NA **	None
24	24	OOOOOX			Yes	** NA **	None
25	25	OOOOOX			Yes	** NA **	None
26	26	OOOOOX			Yes	** NA **	None
27	27				Yes	** NA **	None
28	28				Yes	** NA **	None
29	29				Yes	** NA **	None
30	30				Yes		None
31	31			2	Yes		None

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
32	32		2		Yes		None
33	33				Yes		None
34	34				Yes		None
35	35				Yes		None
36	36				Yes		None
37	37				Yes		None
38	38				Yes		None
39	39				Yes		None
40	40				Yes	** NA **	None
41	41				Yes	** NA **	None
42	42				Yes	** NA **	None
43	43				Yes	** NA **	None
44	44	OOOOOX			Yes	** NA **	None
45	45	OOOOOX			Yes	** NA **	None
46	46	OOOOOX			Yes	** NA **	None
47	47	OOOOOX			Yes	** NA **	None
48	48				Yes		None
49	49			2	Yes		None
50	50		2		Yes		None
51	51				Yes		None
52	52				Yes		None
53	53				Yes		None
54	54				Yes		None
55	55				Yes		None
56	56				Yes		None
57	57				Yes		None
58	58				Yes	** NA **	None
59	59				Yes	** NA **	None
60	60				Yes	** NA **	None
61	61				Yes	** NA **	None
62	62				Yes		None
63	63	OOOOOX			Yes	** NA **	None
64	64	OOOOOX			Yes	** NA **	None
65	65	OOOOOX			Yes	** NA **	None
66	66	OOOOOX			Yes	** NA **	None
67	67				Yes		None
68	68				Yes		None
69	69				Yes		None
70	70				Yes		None
71	71				Yes	** NA **	None
72	72				Yes	** NA **	None
73	73				Yes	** NA **	None
74	74				Yes	** NA **	None
75	75				Yes	** NA **	None
76	76				Yes	** NA **	None
77	77				Yes	** NA **	None
78	78				Yes	** NA **	None
79	79				Yes	** NA **	None
80	80				Yes	** NA **	None
81	81				Yes	** NA **	None
82	82				Yes	** NA **	None
83	83				Yes	** NA **	None
84	84				Yes	** NA **	None
85	85				Yes	** NA **	None
86	86				Yes	** NA **	None
87	87				Yes	** NA **	None
88	88				Yes	** NA **	None
89	89				Yes		None

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
90	90				Yes		None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	1	SF-H1	3.333	Lbyy	Lateral
2	2	SF-H2	2.758	Lbyy	Lateral
3	3	SF-H2	2.758	Lbyy	Lateral
4	4	MF-CP1	0.292	Lbyy	Lateral
5	5	MF-CP1	0.292	Lbyy	Lateral
6	6	MF-H1	8	Lbyy	Lateral
7	7	MF-CP1	0.208	Lbyy	Lateral
8	8	MF-CP1	0.208	Lbyy	Lateral
9	9	SF-H3	2.309	Lbyy	Lateral
10	10	SF-H3	2.309	Lbyy	Lateral
11	11	SF-H4	3.207	Lbyy	Lateral
12	18	MF-P1	8	Lbyy	Lateral
13	19	MF-P1	8	Lbyy	Lateral
14	22	MF-H2	10	Lbyy	Lateral
15	28	MF-P1	8	Lbyy	Lateral
16	30	SF-H1	3.333	Lbyy	Lateral
17	31	SF-H2	2.758	Lbyy	Lateral
18	32	SF-H2	2.758	Lbyy	Lateral
19	33	MF-CP1	0.292	Lbyy	Lateral
20	34	MF-CP1	0.292	Lbyy	Lateral
21	35	MF-CP1	0.208	Lbyy	Lateral
22	36	MF-CP1	0.208	Lbyy	Lateral
23	37	SF-H3	2.309	Lbyy	Lateral
24	38	SF-H3	2.309	Lbyy	Lateral
25	39	SF-H4	3.207	Lbyy	Lateral
26	48	SF-H1	3.333	Lbyy	Lateral
27	49	SF-H2	2.758	Lbyy	Lateral
28	50	SF-H2	2.758	Lbyy	Lateral
29	51	MF-CP1	0.292	Lbyy	Lateral
30	52	MF-CP1	0.292	Lbyy	Lateral
31	53	MF-CP1	0.208	Lbyy	Lateral
32	54	MF-CP1	0.208	Lbyy	Lateral
33	55	SF-H3	2.309	Lbyy	Lateral
34	56	SF-H3	2.309	Lbyy	Lateral
35	57	SF-H4	3.207	Lbyy	Lateral
36	62	MF-H3	3.25	Lbyy	Lateral
37	67	MF-H1	8	Lbyy	Lateral
38	68	MF-H1	8	Lbyy	Lateral
39	69	MF-H2	10	Lbyy	Lateral
40	70	MF-H2	10	Lbyy	Lateral
41	73	MF-P1	8	Lbyy	Lateral
42	74	MF-P1	8	Lbyy	Lateral
43	78	MF-P1	8	Lbyy	Lateral
44	82	MF-P1	8	Lbyy	Lateral
45	83	MF-P1	8	Lbyy	Lateral
46	87	MF-P1	8	Lbyy	Lateral
47	89	MF-H3	3.25	Lbyy	Lateral
48	90	MF-H3	3.25	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Y	-0.032	%15
2	28	Y	-0.032	%85

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
3	28	Y	-0.075	%20
4	28	Y	-0.064	%50
5	28	Y	0	0
6	87	Y	-0.032	%15
7	87	Y	-0.032	%85
8	87	Y	-0.075	%20
9	87	Y	-0.064	%50
10	87	Y	0	0
11	78	Y	-0.032	%15
12	78	Y	-0.032	%85
13	78	Y	-0.075	%20
14	78	Y	-0.064	%50
15	78	Y	0	0
16	30	Y	-0.022	%20
17	30	Y	0	0
18	30	Y	0	0
19	30	Y	0	0
20	30	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.132	%15
2	28	Z	-0.132	%85
3	28	Z	-0.041	%20
4	28	Z	-0.041	%50
5	28	Z	0	0
6	87	Z	-0.132	%15
7	87	Z	-0.132	%85
8	87	Z	-0.041	%20
9	87	Z	-0.041	%50
10	87	Z	0	0
11	78	Z	-0.132	%15
12	78	Z	-0.132	%85
13	78	Z	-0.041	%20
14	78	Z	-0.041	%50
15	78	Z	0	0
16	30	Z	-0.042	%20
17	30	Z	0	0
18	30	Z	0	0
19	30	Z	0	0
20	30	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.053	%15
2	28	X	-0.053	%85
3	28	X	-0.025	%20
4	28	X	-0.022	%50
5	28	X	0	0
6	87	X	-0.053	%15
7	87	X	-0.053	%85
8	87	X	-0.025	%20
9	87	X	-0.022	%50
10	87	X	0	0
11	78	X	-0.053	%15
12	78	X	-0.053	%85
13	78	X	-0.025	%20

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
14	78	X	-0.022	%50
15	78	X	0	0
16	30	X	-0.024	%20
17	30	X	0	0
18	30	X	0	0
19	30	X	0	0
20	30	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.049	%15
2	28	Z	-0.049	%85
3	28	Z	-0.02	%20
4	28	Z	-0.02	%50
5	28	Z	0	0
6	87	Z	-0.049	%15
7	87	Z	-0.049	%85
8	87	Z	-0.02	%20
9	87	Z	-0.02	%50
10	87	Z	0	0
11	78	Z	-0.049	%15
12	78	Z	-0.049	%85
13	78	Z	-0.02	%20
14	78	Z	-0.02	%50
15	78	Z	0	0
16	30	Z	-0.02	%20
17	30	Z	0	0
18	30	Z	0	0
19	30	Z	0	0
20	30	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.025	%15
2	28	X	-0.025	%85
3	28	X	-0.014	%20
4	28	X	-0.013	%50
5	28	X	0	0
6	87	X	-0.025	%15
7	87	X	-0.025	%85
8	87	X	-0.014	%20
9	87	X	-0.013	%50
10	87	X	0	0
11	78	X	-0.025	%15
12	78	X	-0.025	%85
13	78	X	-0.014	%20
14	78	X	-0.013	%50
15	78	X	0	0
16	30	X	-0.014	%20
17	30	X	0	0
18	30	X	0	0
19	30	X	0	0
20	30	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Z	-0.014	%15
2	28	Z	-0.014	%85
3	28	Z	-0.004	%20
4	28	Z	-0.004	%50
5	28	Z	0	0
6	87	Z	-0.014	%15
7	87	Z	-0.014	%85
8	87	Z	-0.004	%20
9	87	Z	-0.004	%50
10	87	Z	0	0
11	78	Z	-0.014	%15
12	78	Z	-0.014	%85
13	78	Z	-0.004	%20
14	78	Z	-0.004	%50
15	78	Z	0	0
16	30	Z	-0.004	%20
17	30	Z	0	0
18	30	Z	0	0
19	30	Z	0	0
20	30	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	X	-0.005	%15
2	28	X	-0.005	%85
3	28	X	-0.003	%20
4	28	X	-0.002	%50
5	28	X	0	0
6	87	X	-0.005	%15
7	87	X	-0.005	%85
8	87	X	-0.003	%20
9	87	X	-0.002	%50
10	87	X	0	0
11	78	X	-0.005	%15
12	78	X	-0.005	%85
13	78	X	-0.003	%20
14	78	X	-0.002	%50
15	78	X	0	0
16	30	X	-0.003	%20
17	30	X	0	0
18	30	X	0	0
19	30	X	0	0
20	30	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	28	Y	-0.196	%15
2	28	Y	-0.196	%85
3	28	Y	-0.071	%20
4	28	Y	-0.069	%50
5	28	Y	0	0
6	87	Y	-0.196	%15
7	87	Y	-0.196	%85
8	87	Y	-0.071	%20
9	87	Y	-0.069	%50
10	87	Y	0	0
11	78	Y	-0.196	%15

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
12	78	Y	-0.196	%85
13	78	Y	-0.071	%20
14	78	Y	-0.069	%50
15	78	Y	0	0
16	30	Y	-0.072	%20
17	30	Y	0	0
18	30	Y	0	0
19	30	Y	0	0
20	30	Y	0	0

Member Point Loads (BLC 13 : Maint LL 1)

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

Member Point Loads (BLC 14 : Maint LL 2)

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

Member Point Loads (BLC 15 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	70	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	68	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 5)

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

Member Point Loads (BLC 18 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	67	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 7)

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

Member Point Loads (BLC 20 : Maint LL 8)

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

Member Point Loads (BLC 21 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	70	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	68	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 11)

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

Member Point Loads (BLC 24 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	67	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	30	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 14)

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

Member Point Loads (BLC 27 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	48	Y	-0.25	%95

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.01	-0.01	0	%100
2	2	Z	-0.009	-0.009	0	%100
3	3	Z	-0.009	-0.009	0	%100
4	4	Z	-0.013	-0.013	0	%100
5	5	Z	-0.013	-0.013	0	%100
6	6	Z	-0.007	-0.007	0	%100
7	7	Z	-0.013	-0.013	0	%100
8	8	Z	-0.013	-0.013	0	%100
9	9	Z	-0.006	-0.006	0	%100
10	10	Z	-0.006	-0.006	0	%100
11	11	Z	-0.017	-0.017	0	%100
12	18	Z	-0.006	-0.006	0	%100
13	19	Z	-0.006	-0.006	0	%100
14	22	Z	-0.006	-0.006	0	%100
15	28	Z	-0.006	-0.006	0	%100
16	30	Z	-0.01	-0.01	0	%100
17	31	Z	-0.009	-0.009	0	%100
18	32	Z	-0.009	-0.009	0	%100
19	33	Z	-0.013	-0.013	0	%100
20	34	Z	-0.013	-0.013	0	%100
21	35	Z	-0.013	-0.013	0	%100
22	36	Z	-0.013	-0.013	0	%100
23	37	Z	-0.006	-0.006	0	%100
24	38	Z	-0.006	-0.006	0	%100
25	39	Z	-0.017	-0.017	0	%100
26	48	Z	-0.01	-0.01	0	%100
27	49	Z	-0.009	-0.009	0	%100
28	50	Z	-0.009	-0.009	0	%100
29	51	Z	-0.013	-0.013	0	%100
30	52	Z	-0.013	-0.013	0	%100
31	53	Z	-0.013	-0.013	0	%100
32	54	Z	-0.013	-0.013	0	%100
33	55	Z	-0.006	-0.006	0	%100
34	56	Z	-0.006	-0.006	0	%100
35	57	Z	-0.017	-0.017	0	%100
36	62	Z	-0.015	-0.015	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
37	67	Z	-0.007	-0.007	0	%100
38	68	Z	-0.007	-0.007	0	%100
39	69	Z	-0.006	-0.006	0	%100
40	70	Z	-0.006	-0.006	0	%100
41	73	Z	-0.006	-0.006	0	%100
42	74	Z	-0.006	-0.006	0	%100
43	78	Z	-0.006	-0.006	0	%100
44	82	Z	-0.006	-0.006	0	%100
45	83	Z	-0.006	-0.006	0	%100
46	87	Z	-0.006	-0.006	0	%100
47	89	Z	-0.015	-0.015	0	%100
48	90	Z	-0.015	-0.015	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.01	-0.01	0	%100
2	2	X	-0.009	-0.009	0	%100
3	3	X	-0.009	-0.009	0	%100
4	4	X	-0.013	-0.013	0	%100
5	5	X	-0.013	-0.013	0	%100
6	6	X	-0.007	-0.007	0	%100
7	7	X	-0.013	-0.013	0	%100
8	8	X	-0.013	-0.013	0	%100
9	9	X	-0.006	-0.006	0	%100
10	10	X	-0.006	-0.006	0	%100
11	11	X	-0.017	-0.017	0	%100
12	18	X	-0.006	-0.006	0	%100
13	19	X	-0.006	-0.006	0	%100
14	22	X	-0.006	-0.006	0	%100
15	28	X	-0.006	-0.006	0	%100
16	30	X	-0.01	-0.01	0	%100
17	31	X	-0.009	-0.009	0	%100
18	32	X	-0.009	-0.009	0	%100
19	33	X	-0.013	-0.013	0	%100
20	34	X	-0.013	-0.013	0	%100
21	35	X	-0.013	-0.013	0	%100
22	36	X	-0.013	-0.013	0	%100
23	37	X	-0.006	-0.006	0	%100
24	38	X	-0.006	-0.006	0	%100
25	39	X	-0.017	-0.017	0	%100
26	48	X	-0.01	-0.01	0	%100
27	49	X	-0.009	-0.009	0	%100
28	50	X	-0.009	-0.009	0	%100
29	51	X	-0.013	-0.013	0	%100
30	52	X	-0.013	-0.013	0	%100
31	53	X	-0.013	-0.013	0	%100
32	54	X	-0.013	-0.013	0	%100
33	55	X	-0.006	-0.006	0	%100
34	56	X	-0.006	-0.006	0	%100
35	57	X	-0.017	-0.017	0	%100
36	62	X	-0.015	-0.015	0	%100
37	67	X	-0.007	-0.007	0	%100
38	68	X	-0.007	-0.007	0	%100
39	69	X	-0.006	-0.006	0	%100
40	70	X	-0.006	-0.006	0	%100
41	73	X	-0.006	-0.006	0	%100
42	74	X	-0.006	-0.006	0	%100
43	78	X	-0.006	-0.006	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
44	82	X	-0.006	-0.006	0	%100
45	83	X	-0.006	-0.006	0	%100
46	87	X	-0.006	-0.006	0	%100
47	89	X	-0.015	-0.015	0	%100
48	90	X	-0.015	-0.015	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.007	-0.007	0	%100
2	2	Z	-0.007	-0.007	0	%100
3	3	Z	-0.007	-0.007	0	%100
4	4	Z	-0.015	-0.015	0	%100
5	5	Z	-0.015	-0.015	0	%100
6	6	Z	-0.003	-0.003	0	%100
7	7	Z	-0.018	-0.018	0	%100
8	8	Z	-0.018	-0.018	0	%100
9	9	Z	-0.006	-0.006	0	%100
10	10	Z	-0.006	-0.006	0	%100
11	11	Z	-0.009	-0.009	0	%100
12	18	Z	-0.002	-0.002	0	%100
13	19	Z	-0.002	-0.002	0	%100
14	22	Z	-0.002	-0.002	0	%100
15	28	Z	-0.002	-0.002	0	%100
16	30	Z	-0.007	-0.007	0	%100
17	31	Z	-0.007	-0.007	0	%100
18	32	Z	-0.007	-0.007	0	%100
19	33	Z	-0.015	-0.015	0	%100
20	34	Z	-0.015	-0.015	0	%100
21	35	Z	-0.018	-0.018	0	%100
22	36	Z	-0.018	-0.018	0	%100
23	37	Z	-0.006	-0.006	0	%100
24	38	Z	-0.006	-0.006	0	%100
25	39	Z	-0.009	-0.009	0	%100
26	48	Z	-0.007	-0.007	0	%100
27	49	Z	-0.007	-0.007	0	%100
28	50	Z	-0.007	-0.007	0	%100
29	51	Z	-0.015	-0.015	0	%100
30	52	Z	-0.015	-0.015	0	%100
31	53	Z	-0.018	-0.018	0	%100
32	54	Z	-0.018	-0.018	0	%100
33	55	Z	-0.006	-0.006	0	%100
34	56	Z	-0.006	-0.006	0	%100
35	57	Z	-0.009	-0.009	0	%100
36	62	Z	-0.008	-0.008	0	%100
37	67	Z	-0.003	-0.003	0	%100
38	68	Z	-0.003	-0.003	0	%100
39	69	Z	-0.002	-0.002	0	%100
40	70	Z	-0.002	-0.002	0	%100
41	73	Z	-0.002	-0.002	0	%100
42	74	Z	-0.002	-0.002	0	%100
43	78	Z	-0.002	-0.002	0	%100
44	82	Z	-0.002	-0.002	0	%100
45	83	Z	-0.002	-0.002	0	%100
46	87	Z	-0.002	-0.002	0	%100
47	89	Z	-0.008	-0.008	0	%100
48	90	Z	-0.008	-0.008	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.007	-0.007	0	%100
2	2	X	-0.007	-0.007	0	%100
3	3	X	-0.007	-0.007	0	%100
4	4	X	-0.015	-0.015	0	%100
5	5	X	-0.015	-0.015	0	%100
6	6	X	-0.003	-0.003	0	%100
7	7	X	-0.018	-0.018	0	%100
8	8	X	-0.018	-0.018	0	%100
9	9	X	-0.006	-0.006	0	%100
10	10	X	-0.006	-0.006	0	%100
11	11	X	-0.009	-0.009	0	%100
12	18	X	-0.002	-0.002	0	%100
13	19	X	-0.002	-0.002	0	%100
14	22	X	-0.002	-0.002	0	%100
15	28	X	-0.002	-0.002	0	%100
16	30	X	-0.007	-0.007	0	%100
17	31	X	-0.007	-0.007	0	%100
18	32	X	-0.007	-0.007	0	%100
19	33	X	-0.015	-0.015	0	%100
20	34	X	-0.015	-0.015	0	%100
21	35	X	-0.018	-0.018	0	%100
22	36	X	-0.018	-0.018	0	%100
23	37	X	-0.006	-0.006	0	%100
24	38	X	-0.006	-0.006	0	%100
25	39	X	-0.009	-0.009	0	%100
26	48	X	-0.007	-0.007	0	%100
27	49	X	-0.007	-0.007	0	%100
28	50	X	-0.007	-0.007	0	%100
29	51	X	-0.015	-0.015	0	%100
30	52	X	-0.015	-0.015	0	%100
31	53	X	-0.018	-0.018	0	%100
32	54	X	-0.018	-0.018	0	%100
33	55	X	-0.006	-0.006	0	%100
34	56	X	-0.006	-0.006	0	%100
35	57	X	-0.009	-0.009	0	%100
36	62	X	-0.008	-0.008	0	%100
37	67	X	-0.003	-0.003	0	%100
38	68	X	-0.003	-0.003	0	%100
39	69	X	-0.002	-0.002	0	%100
40	70	X	-0.002	-0.002	0	%100
41	73	X	-0.002	-0.002	0	%100
42	74	X	-0.002	-0.002	0	%100
43	78	X	-0.002	-0.002	0	%100
44	82	X	-0.002	-0.002	0	%100
45	83	X	-0.002	-0.002	0	%100
46	87	X	-0.002	-0.002	0	%100
47	89	X	-0.008	-0.008	0	%100
48	90	X	-0.008	-0.008	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.001	-0.001	0	%100
2	2	Z	-0.0009	-0.0009	0	%100
3	3	Z	-0.0009	-0.0009	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.001	-0.001	0	%100
6	6	Z	-0.0004	-0.0004	0	%100
7	7	Z	-0.001	-0.001	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
8	8	Z	-0.001	-0.001	0	%100
9	9	Z	-0.0006	-0.0006	0	%100
10	10	Z	-0.0006	-0.0006	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	18	Z	-0.0003	-0.0003	0	%100
13	19	Z	-0.0003	-0.0003	0	%100
14	22	Z	-0.0003	-0.0003	0	%100
15	28	Z	-0.0003	-0.0003	0	%100
16	30	Z	-0.001	-0.001	0	%100
17	31	Z	-0.0009	-0.0009	0	%100
18	32	Z	-0.0009	-0.0009	0	%100
19	33	Z	-0.001	-0.001	0	%100
20	34	Z	-0.001	-0.001	0	%100
21	35	Z	-0.001	-0.001	0	%100
22	36	Z	-0.001	-0.001	0	%100
23	37	Z	-0.0006	-0.0006	0	%100
24	38	Z	-0.0006	-0.0006	0	%100
25	39	Z	-0.002	-0.002	0	%100
26	48	Z	-0.001	-0.001	0	%100
27	49	Z	-0.0009	-0.0009	0	%100
28	50	Z	-0.0009	-0.0009	0	%100
29	51	Z	-0.001	-0.001	0	%100
30	52	Z	-0.001	-0.001	0	%100
31	53	Z	-0.001	-0.001	0	%100
32	54	Z	-0.001	-0.001	0	%100
33	55	Z	-0.0006	-0.0006	0	%100
34	56	Z	-0.0006	-0.0006	0	%100
35	57	Z	-0.002	-0.002	0	%100
36	62	Z	-0.002	-0.002	0	%100
37	67	Z	-0.0004	-0.0004	0	%100
38	68	Z	-0.0004	-0.0004	0	%100
39	69	Z	-0.0003	-0.0003	0	%100
40	70	Z	-0.0003	-0.0003	0	%100
41	73	Z	-0.0003	-0.0003	0	%100
42	74	Z	-0.0003	-0.0003	0	%100
43	78	Z	-0.0003	-0.0003	0	%100
44	82	Z	-0.0003	-0.0003	0	%100
45	83	Z	-0.0003	-0.0003	0	%100
46	87	Z	-0.0003	-0.0003	0	%100
47	89	Z	-0.002	-0.002	0	%100
48	90	Z	-0.002	-0.002	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.001	-0.001	0	%100
2	2	X	-0.0009	-0.0009	0	%100
3	3	X	-0.0009	-0.0009	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.001	-0.001	0	%100
6	6	X	-0.0004	-0.0004	0	%100
7	7	X	-0.001	-0.001	0	%100
8	8	X	-0.001	-0.001	0	%100
9	9	X	-0.0006	-0.0006	0	%100
10	10	X	-0.0006	-0.0006	0	%100
11	11	X	-0.002	-0.002	0	%100
12	18	X	-0.0003	-0.0003	0	%100
13	19	X	-0.0003	-0.0003	0	%100
14	22	X	-0.0003	-0.0003	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
15	28	X	-0.0003	-0.0003	0	%100
16	30	X	-0.001	-0.001	0	%100
17	31	X	-0.0009	-0.0009	0	%100
18	32	X	-0.0009	-0.0009	0	%100
19	33	X	-0.001	-0.001	0	%100
20	34	X	-0.001	-0.001	0	%100
21	35	X	-0.001	-0.001	0	%100
22	36	X	-0.001	-0.001	0	%100
23	37	X	-0.0006	-0.0006	0	%100
24	38	X	-0.0006	-0.0006	0	%100
25	39	X	-0.002	-0.002	0	%100
26	48	X	-0.001	-0.001	0	%100
27	49	X	-0.0009	-0.0009	0	%100
28	50	X	-0.0009	-0.0009	0	%100
29	51	X	-0.001	-0.001	0	%100
30	52	X	-0.001	-0.001	0	%100
31	53	X	-0.001	-0.001	0	%100
32	54	X	-0.001	-0.001	0	%100
33	55	X	-0.0006	-0.0006	0	%100
34	56	X	-0.0006	-0.0006	0	%100
35	57	X	-0.002	-0.002	0	%100
36	62	X	-0.002	-0.002	0	%100
37	67	X	-0.0004	-0.0004	0	%100
38	68	X	-0.0004	-0.0004	0	%100
39	69	X	-0.0003	-0.0003	0	%100
40	70	X	-0.0003	-0.0003	0	%100
41	73	X	-0.0003	-0.0003	0	%100
42	74	X	-0.0003	-0.0003	0	%100
43	78	X	-0.0003	-0.0003	0	%100
44	82	X	-0.0003	-0.0003	0	%100
45	83	X	-0.0003	-0.0003	0	%100
46	87	X	-0.0003	-0.0003	0	%100
47	89	X	-0.002	-0.002	0	%100
48	90	X	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.022	-0.022	0	%100
2	2	Y	-0.017	-0.017	0	%100
3	3	Y	-0.017	-0.017	0	%100
4	4	Y	-0.023	-0.023	0	%100
5	5	Y	-0.023	-0.023	0	%100
6	6	Y	-0.016	-0.016	0	%100
7	7	Y	-0.023	-0.023	0	%100
8	8	Y	-0.023	-0.023	0	%100
9	9	Y	-0.014	-0.014	0	%100
10	10	Y	-0.014	-0.014	0	%100
11	11	Y	-0.028	-0.028	0	%100
12	18	Y	-0.014	-0.014	0	%100
13	19	Y	-0.014	-0.014	0	%100
14	22	Y	-0.014	-0.014	0	%100
15	28	Y	-0.014	-0.014	0	%100
16	30	Y	-0.022	-0.022	0	%100
17	31	Y	-0.017	-0.017	0	%100
18	32	Y	-0.017	-0.017	0	%100
19	33	Y	-0.023	-0.023	0	%100
20	34	Y	-0.023	-0.023	0	%100
21	35	Y	-0.023	-0.023	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
22	36	Y	-0.023	-0.023	0	%100
23	37	Y	-0.014	-0.014	0	%100
24	38	Y	-0.014	-0.014	0	%100
25	39	Y	-0.028	-0.028	0	%100
26	48	Y	-0.022	-0.022	0	%100
27	49	Y	-0.017	-0.017	0	%100
28	50	Y	-0.017	-0.017	0	%100
29	51	Y	-0.023	-0.023	0	%100
30	52	Y	-0.023	-0.023	0	%100
31	53	Y	-0.023	-0.023	0	%100
32	54	Y	-0.023	-0.023	0	%100
33	55	Y	-0.014	-0.014	0	%100
34	56	Y	-0.014	-0.014	0	%100
35	57	Y	-0.028	-0.028	0	%100
36	62	Y	-0.028	-0.028	0	%100
37	67	Y	-0.016	-0.016	0	%100
38	68	Y	-0.016	-0.016	0	%100
39	69	Y	-0.014	-0.014	0	%100
40	70	Y	-0.014	-0.014	0	%100
41	73	Y	-0.014	-0.014	0	%100
42	74	Y	-0.014	-0.014	0	%100
43	78	Y	-0.014	-0.014	0	%100
44	82	Y	-0.014	-0.014	0	%100
45	83	Y	-0.014	-0.014	0	%100
46	87	Y	-0.014	-0.014	0	%100
47	89	Y	-0.028	-0.028	0	%100
48	90	Y	-0.028	-0.028	0	%100

Member Distributed Loads (BLC 28 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	9	Y	-0.015	-0.015	0	2.078
2	10	Y	-0.014	-0.02	0.231	1.27
3	10	Y	-0.02	-0.026	1.27	2.309
4	37	Y	-0.035	-0.016	0	1.155
5	37	Y	-0.016	0.0006163	1.155	2.309
6	38	Y	-0.018	-0.016	0.231	2.309
7	55	Y	-0.018	-0.016	0	2.078
8	56	Y	0.0006164	-0.016	0	1.155
9	56	Y	-0.016	-0.035	1.155	2.309

Member Distributed Loads (BLC 29 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	9	Y	-0.016	-0.016	0	2.078
2	10	Y	-0.015	-0.022	0.231	1.27
3	10	Y	-0.022	-0.028	1.27	2.309
4	37	Y	-0.037	-0.017	0	1.155
5	37	Y	-0.017	0.000661	1.155	2.309
6	38	Y	-0.019	-0.017	0.231	2.309
7	55	Y	-0.019	-0.017	0	2.078
8	56	Y	0.0006611	-0.017	0	1.155
9	56	Y	-0.017	-0.037	1.155	2.309

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	23	22	25	24	Y	Two Way	-0.01
2	71	70	73	72	Y	Two Way	-0.01
3	98	97	100	99	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	23	22	25	24	Y	Two Way	-0.011
2	71	70	73	72	Y	Two Way	-0.011
3	98	97	100	99	Y	Two Way	-0.011

Node Loads and Enforced Displacements (BLC 9 : Live Load a)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	30	L	Y	-0.5
2	134	L	Y	-0.5
3	116	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 10 : Live Load b)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	31	L	Y	-0.5
2	135	L	Y	-0.5
3	117	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	146	L	Y	-0.5
2	44	L	Y	-0.5
3	128	L	Y	-0.5

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		20		3
2	0 Wind - No Ice	WLZ			20	48	
3	90 Wind - No Ice	WLX			20	48	
4	0 Wind - Ice	WLZ			20	48	
5	90 Wind - Ice	WLX			20	48	
6	0 Wind - Service	WLZ			20	48	
7	90 Wind - Service	WLX			20	48	
8	Ice	OL1			20	48	3
9	Live Load a	LL		3			
10	Live Load b	LL		3			
11	Live Load c	LL		3			
12	Live Load d	LL					
13	Maint LL 1	LL			1		
14	Maint LL 2	LL			1		
15	Maint LL 3	LL			1		
16	Maint LL 4	LL			1		
17	Maint LL 5	LL			1		
18	Maint LL 6	LL			1		
19	Maint LL 7	LL			1		
20	Maint LL 8	LL			1		
21	Maint LL 9	LL			1		
22	Maint LL 10	LL			1		
23	Maint LL 11	LL			1		
24	Maint LL 12	LL			1		
25	Maint LL 13	LL			1		
26	Maint LL 14	LL			1		
27	Maint LL 15	LL			1		
28	BLC 1 Transient Area Loads	None				9	
29	BLC 8 Transient Area Loads	None				9	

Load Combinations

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	0.9 D + 1.6 - 0 W	Yes	Y	1	0.9	2	1.6				
3	0.9 D + 1.6 - 30 W	Yes	Y	1	0.9	2	1.386	3	0.8		
4	0.9 D + 1.6 - 60 W	Yes	Y	1	0.9	3	1.386	2	0.8		
5	0.9 D + 1.6 - 90 W	Yes	Y	1	0.9	3	1.6				
6	0.9 D + 1.6 - 120 W	Yes	Y	1	0.9	3	1.386	2	-0.8		
7	0.9 D + 1.6 - 150 W	Yes	Y	1	0.9	2	-1.386	3	0.8		
8	0.9 D + 1.6 - 180 W	Yes	Y	1	0.9	2	-1.6				
9	0.9 D + 1.6 - 210 W	Yes	Y	1	0.9	2	-1.386	3	-0.8		
10	0.9 D + 1.6 - 240 W	Yes	Y	1	0.9	3	-1.386	2	-0.8		
11	0.9 D + 1.6 - 270 W	Yes	Y	1	0.9	3	-1.6				
12	0.9 D + 1.6 - 300 W	Yes	Y	1	0.9	3	-1.386	2	0.8		
13	0.9 D + 1.6 - 330 W	Yes	Y	1	0.9	2	1.386	3	-0.8		
14	1.2 D + 1.6 - 0 W	Yes	Y	1	1.2	2	1.6				
15	1.2 D + 1.6 - 30 W	Yes	Y	1	1.2	2	1.386	3	0.8		
16	1.2 D + 1.6 - 60 W	Yes	Y	1	1.2	3	1.386	2	0.8		
17	1.2 D + 1.6 - 90 W	Yes	Y	1	1.2	3	1.6				
18	1.2 D + 1.6 - 120 W	Yes	Y	1	1.2	3	1.386	2	-0.8		
19	1.2 D + 1.6 - 150 W	Yes	Y	1	1.2	2	-1.386	3	0.8		
20	1.2 D + 1.6 - 180 W	Yes	Y	1	1.2	2	-1.6				
21	1.2 D + 1.6 - 210 W	Yes	Y	1	1.2	2	-1.386	3	-0.8		
22	1.2 D + 1.6 - 240 W	Yes	Y	1	1.2	3	-1.386	2	-0.8		
23	1.2 D + 1.6 - 270 W	Yes	Y	1	1.2	3	-1.6				
24	1.2 D + 1.6 - 300 W	Yes	Y	1	1.2	3	-1.386	2	0.8		
25	1.2 D + 1.6 - 330 W	Yes	Y	1	1.2	2	1.386	3	-0.8		
26	0.9 D + 1.6 - 0 W/Ice	Yes	Y	1	0.9	4	1.6			8	1
27	0.9 D + 1.6 - 30 W/Ice	Yes	Y	1	0.9	4	1.386	5	0.8	8	1
28	0.9 D + 1.6 - 60 W/Ice	Yes	Y	1	0.9	5	1.386	4	0.8	8	1
29	0.9 D + 1.6 - 90 W/Ice	Yes	Y	1	0.9	5	1.6			8	1
30	0.9 D + 1.6 - 120 W/Ice	Yes	Y	1	0.9	5	1.386	4	-0.8	8	1
31	0.9 D + 1.6 - 150 W/Ice	Yes	Y	1	0.9	4	-1.386	5	0.8	8	1
32	0.9 D + 1.6 - 180 W/Ice	Yes	Y	1	0.9	4	-1.6			8	1
33	0.9 D + 1.6 - 210 W/Ice	Yes	Y	1	0.9	4	-1.386	5	-0.8	8	1
34	0.9 D + 1.6 - 240 W/Ice	Yes	Y	1	0.9	5	-1.386	4	-0.8	8	1
35	0.9 D + 1.6 - 270 W/Ice	Yes	Y	1	0.9	5	-1.6			8	1
36	0.9 D + 1.6 - 300 W/Ice	Yes	Y	1	0.9	5	-1.386	4	0.8	8	1
37	0.9 D + 1.6 - 330 W/Ice	Yes	Y	1	0.9	4	1.386	5	-0.8	8	1
38	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
39	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
40	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
41	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
42	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
43	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
44	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
45	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
46	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
47	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
48	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
49	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
50	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			9	1.5
51	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	9	1.5
52	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	9	1.5
53	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			9	1.5
54	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	9	1.5
55	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	9	1.5
56	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			9	1.5
57	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	9	1.5
58	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	9	1.5

Load Combinations (Continued)

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
59	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			9	1.5
60	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	9	1.5
61	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	9	1.5
62	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			10	1.5
63	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	10	1.5
64	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	10	1.5
65	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			10	1.5
66	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	10	1.5
67	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	10	1.5
68	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			10	1.5
69	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	10	1.5
70	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	10	1.5
71	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			10	1.5
72	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	10	1.5
73	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	10	1.5
74	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
75	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
76	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
77	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
78	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
79	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
80	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
81	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
82	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
83	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
84	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
85	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
86	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
87	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
88	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
89	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
90	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
91	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
92	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
93	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
94	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
95	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
96	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
97	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
98	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					13	1.5
99	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					14	1.5
100	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					15	1.5
101	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					16	1.5
102	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					17	1.5
103	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					18	1.5
104	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					19	1.5
105	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					20	1.5
106	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					21	1.5
107	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					22	1.5
108	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					23	1.5
109	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					24	1.5
110	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					25	1.5
111	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					26	1.5
112	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					27	1.5

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	1	max	1.019	5	2.672	38	1.296	2	5.338	38	1.033	11	0.345	109
2		min	-1.021	23	-0.33	8	-1.405	20	-1.196	8	-1.033	17	-0.206	101
3	51	max	1.073	5	2.736	42	1.33	14	0.441	13	1.288	3	0.544	12
4		min	-1.167	23	-0.108	12	-1.274	8	-2.448	43	-1.288	21	-4.731	42
5	78	max	1.041	17	2.633	46	1.471	14	0.451	3	1.301	7	4.413	46
6		min	-0.946	11	-0.133	4	-1.417	8	-2.87	45	-1.303	25	-0.599	4
7	Totals:	max	3.12	17	7.399	43	4.081	14						
8		min	-3.12	11	1.797	13	-4.081	8						

Envelope AISC 13TH (360-05): LRFD Member Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	1	HSS4X4X2	0.669	0	37	0.163	0	y	49	70.173	73.278	8.24	8.24	2.159	H1-1b
2	2	C3.38x2.06x.188	0.514	2.592	39	0.084	0.351	y	40	38.433	43.394	1.694	4.483	1.633	H1-1b
3	3	C3.38x2.06x.188	0.48	0	37	0.08	2.241	y	44	38.433	43.394	1.694	4.483	1.629	H1-1b
4	4	PL3/8"x6	0.086	0	14	0.186	0	y	26	68.802	72.9	0.57	9.113	2.328	H1-1b
5	5	PL3/8"x6	0.089	0	15	0.126	0	y	14	68.802	72.9	0.57	9.113	1.906	H1-1b
6	6	PIPE_3.5x0.165	0.084	6.75	31	0.037	4		17	45.872	71.57	6.336	6.336	2.438	H1-1b
7	7	PL3/8"x6	0.132	0.208	20	0.272	0.208	y	38	70.705	72.9	0.57	9.113	1.446	H1-1b
8	8	PL3/8"x6	0.136	0	25	0.285	0	y	39	70.705	72.9	0.57	9.113	2.924	H1-1b
9	9	L2x2x4	0.276	0	20	0.035	2.309	y	48	23.349	30.586	0.691	1.577	1.5	H2-1
10	10	L2x2x4	0.24	2.309	20	0.05	0	y	40	23.349	30.586	0.691	1.577	1.5	H2-1
11	11	L7.63x2.5x6	0.362	1.604	8	0.103	0.334	y	38	73.845	118.523	1.798	13.673	1.232	H2-1
12	18	PIPE_2.88x0.203	0.111	5.833	17	0.041	5.833		18	35.519	70.68	5.029	5.029	3	H1-1b
13	19	PIPE_2.88x0.203	0.132	2.5	21	0.046	5.833		21	35.519	70.68	5.029	5.029	3	H1-1b
14	22	PIPE_2.88x0.203	0.143	7.813	25	0.135	8.958		14	24.131	70.68	5.029	5.029	2.483	H1-1b
15	28	PIPE_2.88x0.203	0.121	2.5	19	0.046	2.5		20	35.519	70.68	5.029	5.029	3	H1-1b
16	30	HSS4X4X2	0.668	0	31	0.168	0	y	41	70.173	73.278	8.24	8.24	2.182	H1-1b
17	31	C3.38x2.06x.188	0.514	2.592	43	0.085	0.351	y	45	38.433	43.394	1.694	4.483	1.633	H1-1b
18	32	C3.38x2.06x.188	0.473	0	45	0.08	2.241	y	48	38.433	43.394	1.703	4.483	1.641	H1-1b
19	33	PL3/8"x6	0.073	0	18	0.174	0	y	30	68.802	72.9	0.57	9.113	2.317	H1-1b
20	34	PL3/8"x6	0.088	0	19	0.123	0	y	54	68.802	72.9	0.57	9.113	1.833	H1-1b
21	35	PL3/8"x6	0.116	0.208	25	0.27	0.208	y	42	70.705	72.9	0.57	9.113	1.984	H1-1b
22	36	PL3/8"x6	0.109	0	17	0.286	0	y	43	70.705	72.9	0.57	9.113	3	H1-1b
23	37	L2x2x4	0.21	0	23	0.035	0	y	40	23.349	30.586	0.691	1.577	1.5	H2-1
24	38	L2x2x4	0.202	2.309	25	0.05	0	y	44	23.349	30.586	0.691	1.577	1.5	H2-1
25	39	L7.63x2.5x6	0.274	1.604	12	0.105	0.334	y	43	73.845	118.523	1.798	13.745	1.247	H2-1
26	48	HSS4X4X2	0.667	0	33	0.166	0	y	45	70.173	73.278	8.24	8.24	2.161	H1-1b
27	49	C3.38x2.06x.188	0.504	2.592	47	0.085	0.351	y	49	38.433	43.394	1.694	4.483	1.631	H1-1b
28	50	C3.38x2.06x.188	0.479	0	33	0.08	2.241	y	39	38.433	43.394	1.694	4.483	1.63	H1-1b
29	51	PL3/8"x6	0.084	0.164	15	0.177	0	y	34	68.802	72.9	0.57	9.113	2.093	H1-1b
30	52	PL3/8"x6	0.071	0	23	0.122	0	y	57	68.802	72.9	0.57	9.113	1.819	H1-1b
31	53	PL3/8"x6	0.119	0.085	14	0.27	0.208	y	45	70.705	72.9	0.57	9.113	1.68	H1-1b
32	54	PL3/8"x6	0.138	0	21	0.284	0	y	47	70.705	72.9	0.57	9.113	2.938	H1-1b
33	55	L2x2x4	0.265	0	15	0.036	2.309	y	43	23.349	30.586	0.691	1.577	1.5	H2-1
34	56	L2x2x4	0.199	2.309	16	0.049	2.309	y	48	23.349	30.586	0.691	1.577	1.5	H2-1
35	57	L7.63x2.5x6	0.32	1.604	3	0.102	0.334	y	46	73.845	118.523	1.798	13.991	1.303	H2-1
36	62	L6.63x4.33x.25	0.242	3.25	2	0.031	3.25	z	20	49.975	86.751	2.311	6.976	1.5	H2-1
37	67	PIPE_3.5x0.165	0.08	6.75	35	0.049	4		21	45.872	71.57	6.336	6.336	2.449	H1-1b
38	68	PIPE_3.5x0.165	0.083	6.75	26	0.047	2.75		25	45.872	71.57	6.336	6.336	2.206	H1-1b
39	69	PIPE_2.88x0.203	0.138	2.188	25	0.109	2.188		25	24.131	70.68	5.029	5.029	2.251	H1-1b
40	70	PIPE_2.88x0.203	0.132	7.813	21	0.121	8.958		21	24.131	70.68	5.029	5.029	2.524	H1-1b
41	73	PIPE_2.88x0.203	0.139	5.833	21	0.047	5.833		21	35.519	70.68	5.029	5.029	3	H1-1b
42	74	PIPE_2.88x0.203	0.158	2.5	14	0.046	5.833		25	35.519	70.68	5.029	5.029	3	H1-1b
43	78	PIPE_2.88x0.203	0.12	5.833	21	0.048	2.5		25	35.519	70.68	5.029	5.029	3	H1-1b
44	82	PIPE_2.88x0.203	0.139	5.833	25	0.053	5.833		14	35.519	70.68	5.029	5.029	3	H1-1b
45	83	PIPE_2.88x0.203	0.125	2.5	18	0.034	5.833		17	35.519	70.68	5.029	5.029	3	H1-1b
46	87	PIPE_2.88x0.203	0.138	5.833	14	0.033	2.5		17	35.519	70.68	5.029	5.029	3	H1-1b
47	89	L6.63x4.33x.25	0.193	3.25	6	0.024	3.25	z	24	49.975	86.751	2.311	6.976	1.5	H2-1

Envelope AISC 13TH (360-05): LRFD Member Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
48	90	L6.63x4.33x.25	0.219	0	2	0.027	3.25	y	21	49.975	86.751	2.311	6.976	1.5	H2-1

APPENDIX B

(Additional Calculations)

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	627.39 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.894052
Soil Class:	D - Stiff Soil	**Longitude:**	-72.89385

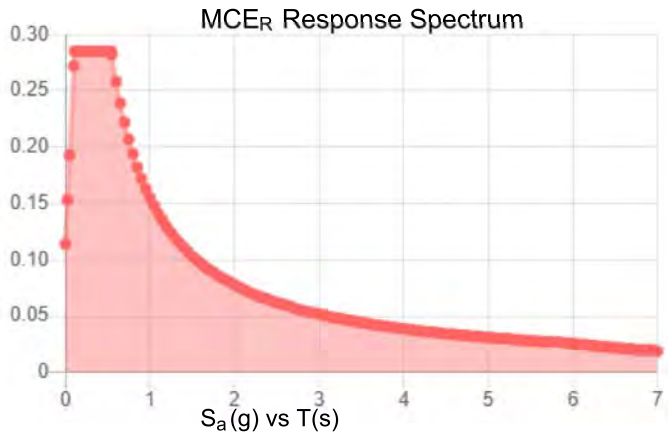
Seismic

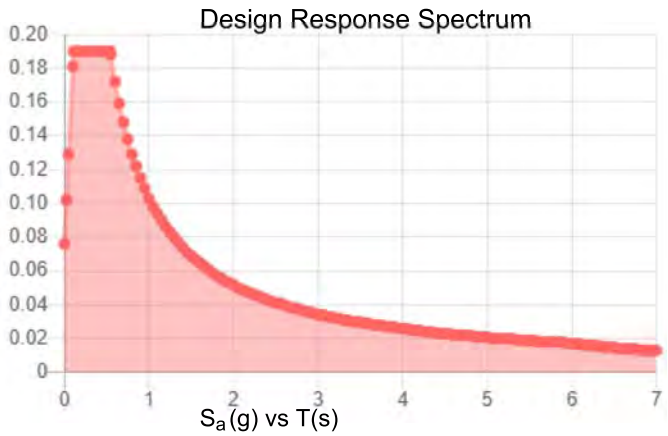
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.178	S_{DS} :	0.19
S_1 :	0.065	S_{D1} :	0.103
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.088
S_{MS} :	0.285	PGA_M :	0.142
S_{M1} :	0.155	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Thu Aug 26 2021

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Aug 26 2021

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

PROJECT	**149432.003.01 - Canton 2 CT, CT**				**KSC**
SUBJECT	**Platform- Mount Analysis**				
DATE	**08/30/21**	PAGE	1	OF	5

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

INPUT

[REF: ANSI/TIA-222-G2005]

Tower Type	:	Monopole		
Tower Height	:	150	ft	
Mount Elevation	:	105	ft	
Antenna Elevation	:	105	ft	
Crest Height	:	0	ft	
Structure Class	:	II		[Table 2-1]
Exposure Category	:	B		[Sec. 2.6.5]
Topography Category	:	1		[Sec. 2.6.6.2]
Wind Velocity V	:	93	mph	[Annex B]
Ice wind Velocity V_i	:	50	mph	[Annex B]
Service Velocity V_s	:	30	mph	[Annex B]
Base Ice thickness t_i	:	1	in	[Annex B]

ANTENNAS

	Manufacturer	Model	Height (in)	Front Width (in)	Side Width (in)	Weight (lbs)	Shape	Quantity	Location (%)
Mount Pipe **28**									
	JMA	MX08FRO665-21	72.00	20.00	8.00	64.50	Flat	0.5	15
	JMA	MX08FRO665-21	72.00	20.00	8.00	64.50	Flat	0.5	85
	Fujitsu	TA08025-B605	15.75	14.96	9.05	74.95	Flat	1	20
	Fujitsu	TA08025-B604	15.75	14.96	7.87	63.93	Flat	1	50
Mount Pipe **87**									
	JMA	MX08FRO665-21	72.00	20.00	8.00	64.50	Flat	0.5	15
	JMA	MX08FRO665-21	72.00	20.00	8.00	64.50	Flat	0.5	85
	Fujitsu	TA08025-B605	15.75	14.96	9.05	74.95	Flat	1	20
	Fujitsu	TA08025-B604	15.75	14.96	7.87	63.93	Flat	1	50
Mount Pipe **78**									
	JMA	MX08FRO665-21	72.00	20.00	8.00	64.50	Flat	0.5	15
	JMA	MX08FRO665-21	72.00	20.00	8.00	64.50	Flat	0.5	85
	Fujitsu	TA08025-B605	15.75	14.96	9.05	74.95	Flat	1	20
	Fujitsu	TA08025-B604	15.75	14.96	7.87	63.93	Flat	1	50
Mount Pipe **30**									
	Raycap	RDIDC-9181-PF-48	16.57	14.57	8.15	21.85	Flat	1	20
Mount Pipe									
Mount Pipe									

PROJECT	149432.003.01 - Canton 2 CT				KSC
SUBJECT	Platform Mount Analysis				
DATE	08/30/21	PAGE	1	OF	1

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

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	1.362	k
Vertical Shear	:	2.776	k
Horizontal Shear	:	1.057	k
Torsion	:	0.355	k.ft
Moment from Horizontal Forces	:	1.053	k.ft
Moment from Vertical Forces	:	5.42	k.ft

Bolt Parameters

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

Summary of Forces

Shear Resultant Force	:	2.97	k
Force from Horz. Moment	:	1.91	k
Force from Vert. Moment	:	9.82	k
Shear Load / Bolt	:	0.74	k
Tension Load / Bolt	:	0.34	k
Resultant from Moments / Bolt	:	5.00	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	**25.77%**		**OKAY**
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	**9.80%**		**OKAY**
Unity Check, Combined	:	**35.57%**		**OKAY**
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	**2.14%**		**OKAY**

EXHIBIT 10

Construction Drawings

DISH Wireless L.L.C. SITE ID:

BOBDL00116A

DISH Wireless L.L.C. SITE ADDRESS:

540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

SBA APPROVED

By Stephen Roth at 10:27:38 AM, 9/24/2021

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 PLATFORM MOUNT
- INSTALL PROPOSED JUMPERS
- INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
- INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
- INSTALL (1) PROPOSED HYBRID CABLE

GROUND SCOPE OF WORK:
- INSTALL (1) PROPOSED METAL PLATFORM
- INSTALL (1) PROPOSED ICE BRIDGE
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)

SITE INFORMATION

PROPERTY OWNER:	CANTON TOWN OF
ADDRESS:	540 CHERRY BROOK RD HARTFORD,CT 6019
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	CT01500-S
TOWER APP NUMBER:	167815
COUNTY:	HARTFORD
LATITUDE (NAD 83):	41° 53' 39.12" N 41.894200 N
LONGITUDE (NAD 83):	72° 53' 35.88" W 72.893300 W
ZONING JURISDICTION:	CITY OF HARTFORD
ZONING DISTRICT:	COMMERCIAL
PARCEL NUMBER:	7/185/0540
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	CT LIGHT & POWER CO.
TELEPHONE COMPANY:	XFINITY

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:	RYAN LYNCH RYAN.LYNCH@DISH.COM
CONST. MANAGER:	JAVIER SOTO JAVIER.SOTO@DISH.COM
RF ENGINEER:	BOSSENER CHARLES BOSSENER.CHARLES@DISH.COM

CONNECTICUT CODE OF COMPLIANCE

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

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

SITE PHOTO

DIRECTIONS

DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT:

HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT SLIGHT LEFT TAKE CT-20 W AND CASE ST TO SHAG BARK LN IN CANTON CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON TAKE THE CT-20 W EXIT TOWARD E GRANBY/GRANBY CONTINUE ONTO CT-20 W SLIGHT LEFT ONTO CT-20 W/W GRANBY RD CONTINUE TO FOLLOW CT-20 W TURN LEFT ONTO CT-219 S TURN LEFT ONTO CASE ST SLIGHT LEFT ONTO CT-179 S TURN RIGHT ONTO SHAG BARK LN ARRIVE AT BOBDL00116A

SHEET INDEX

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

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

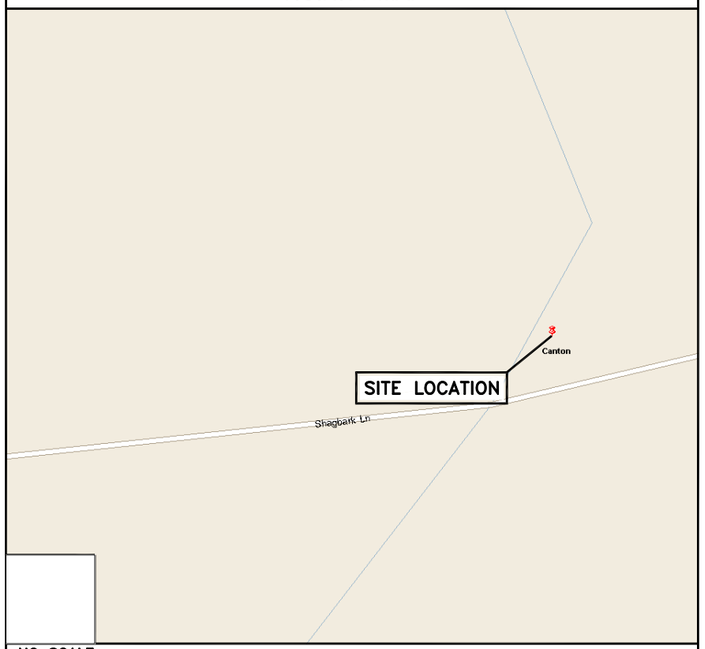
GENERAL NOTES

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.

VICINITY MAP



NO SCALE

dish wireless.

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LITTLETON, CO 80120

SBA

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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 — No. 27024 — LICENSED PROFESSIONAL ENGINEER
9/21/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLB	BLB

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	8/26/21	ISSUED FOR REVIEW
0	9/21/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149432.001.01

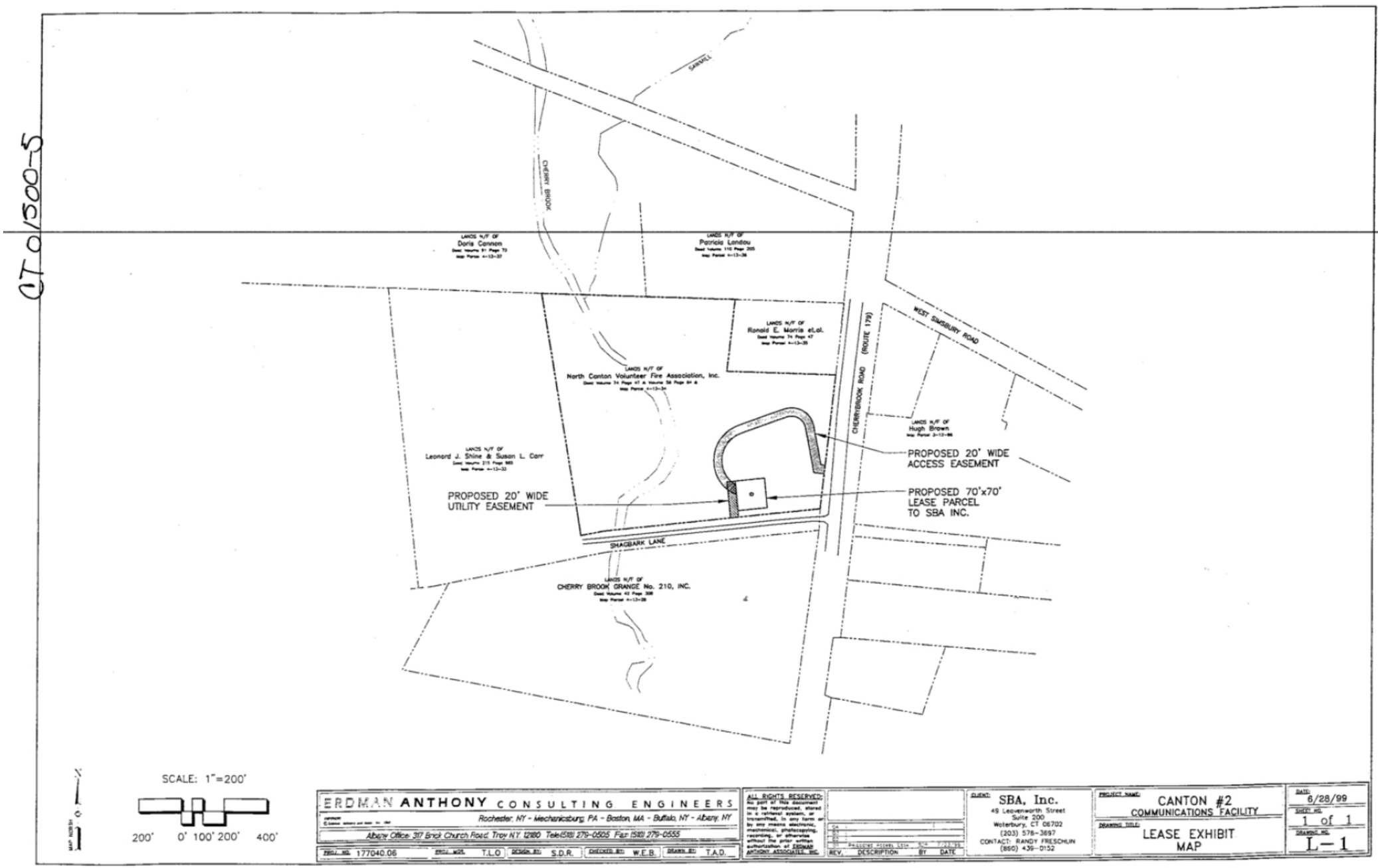
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1



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LITTLETON, CO 80120

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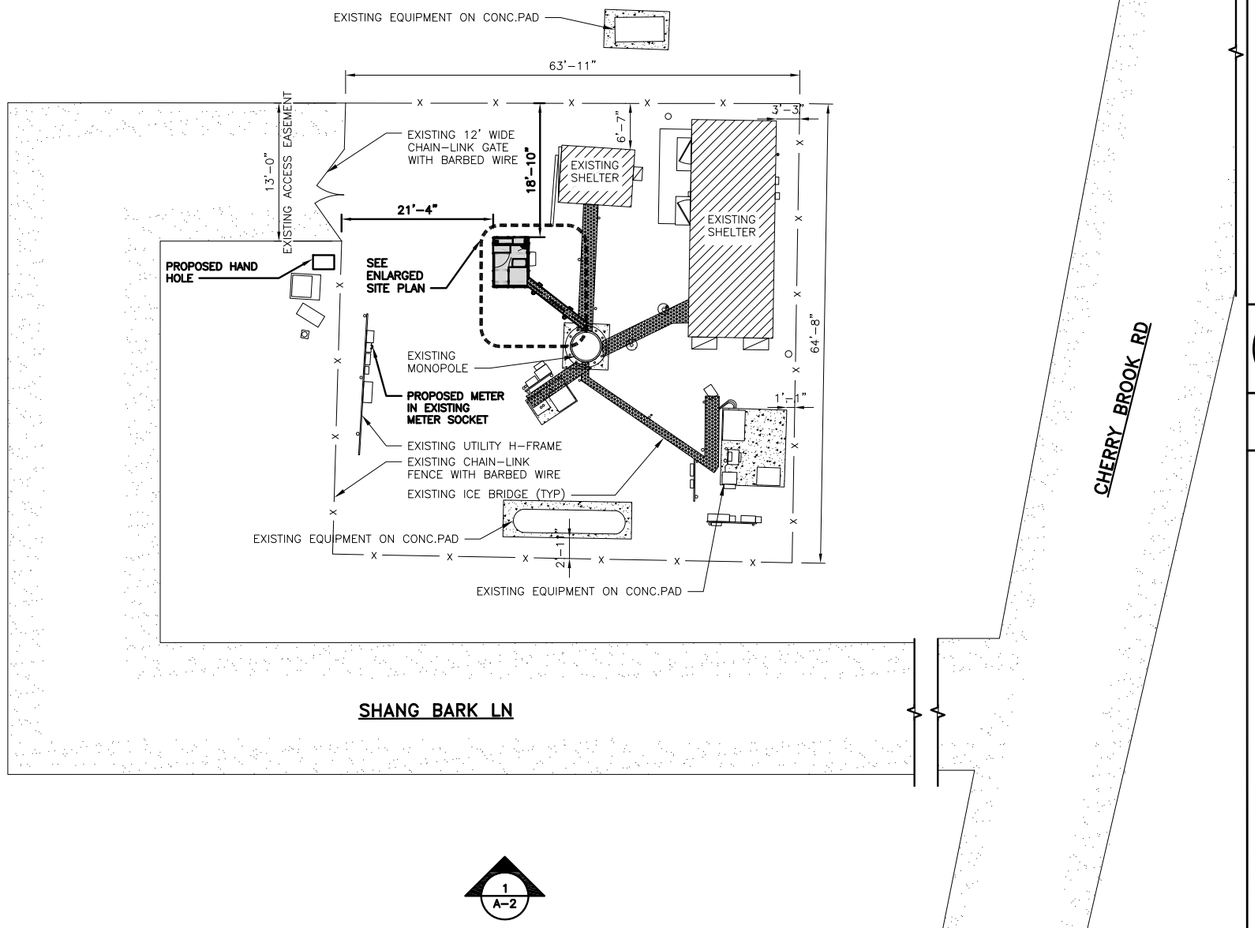
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

SHEET TITLE
SITE SURVEY

SHEET NUMBER
LS1

NOTES

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



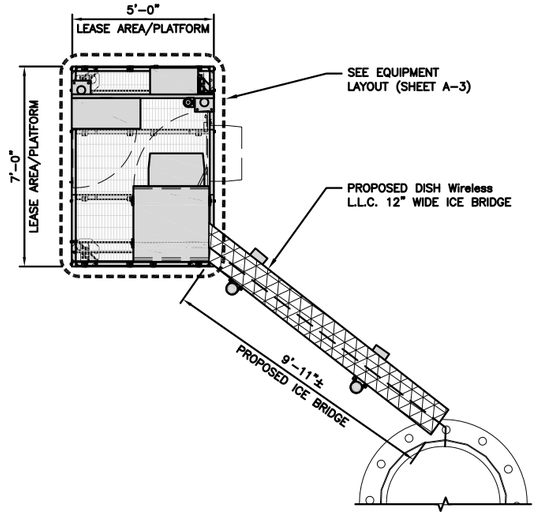
OVERALL SITE PLAN

12' 8' 4' 0 10' 20'
3/32"=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

NOT USED

3

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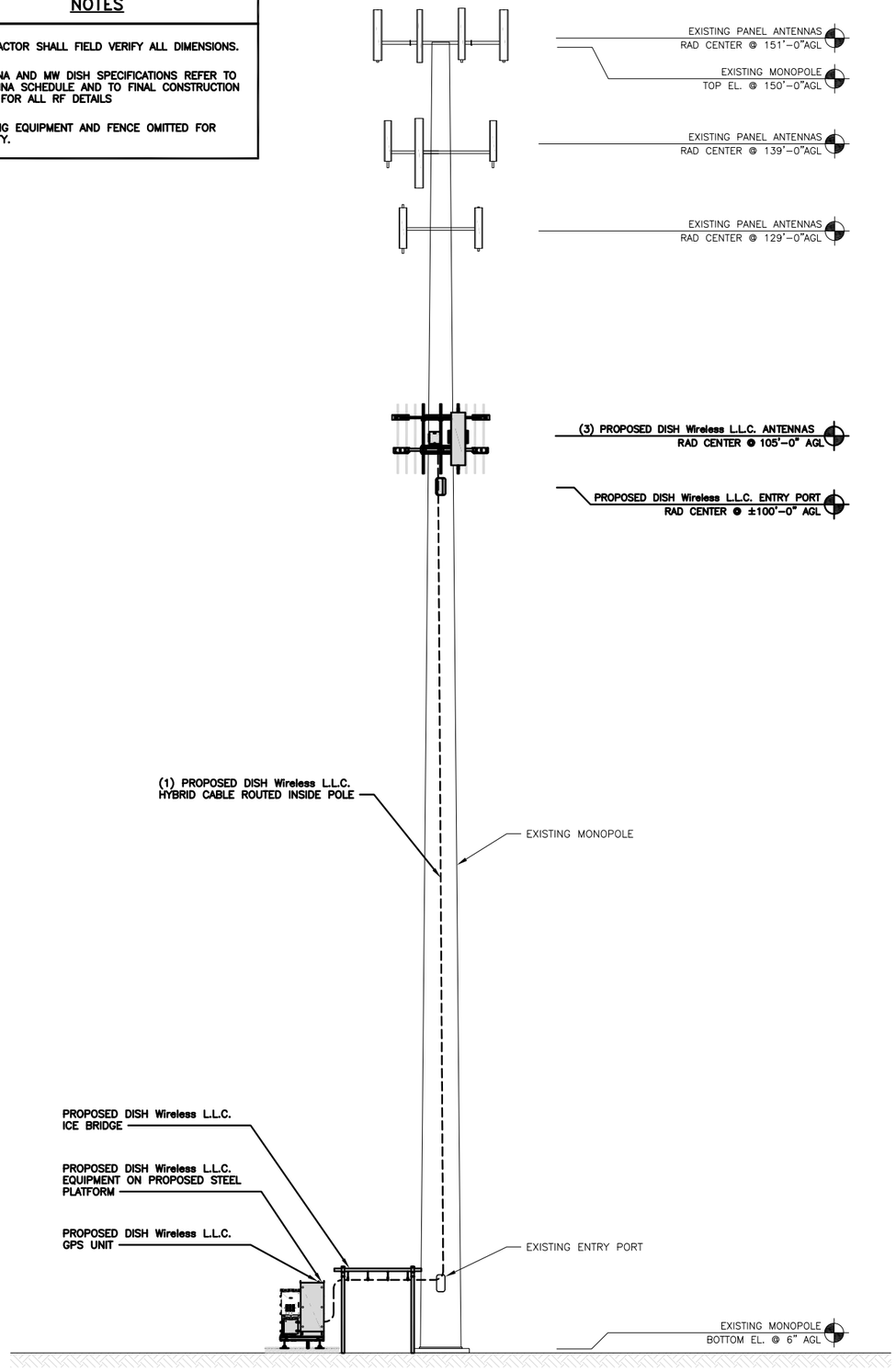
BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

SHEET TITLE
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER
A-1

NOTES

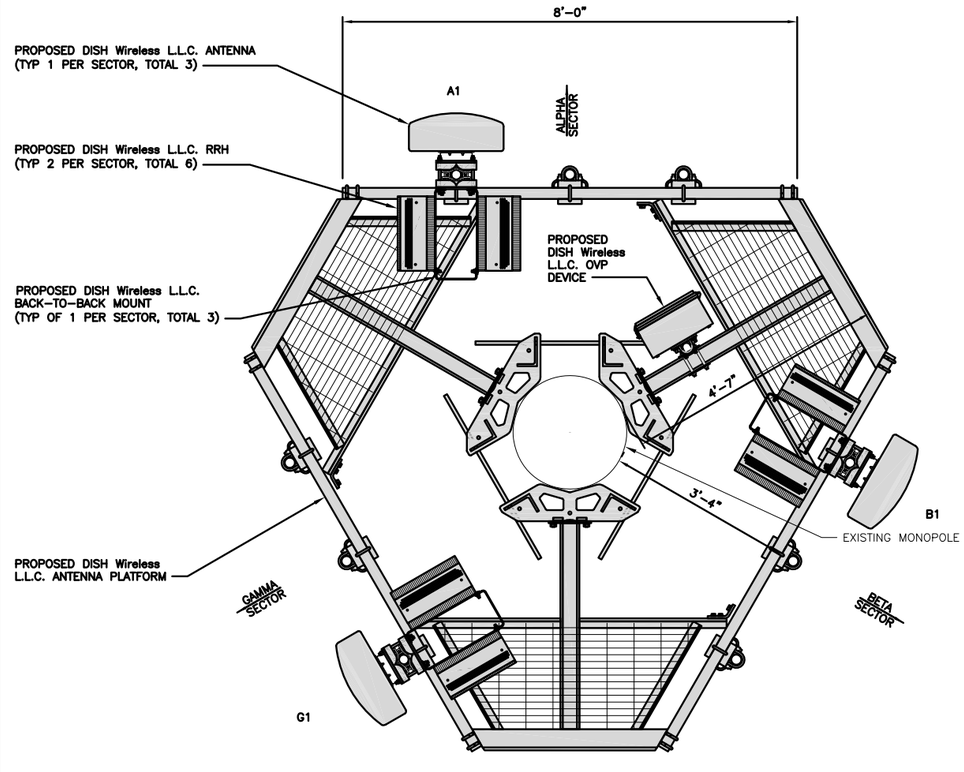
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



PROPOSED SOUTH ELEVATION

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

1



ANTENNA LAYOUT

12" 6" 0 1' 2' 3'
3/4"=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	JMA WIRELESS–MX08FRO665–21	5G	72" x 20"	0°	105'–0"	(1) HIGH–CAPACITY HYBRID CABLE (137' LONG)
BETA	B1	PROPOSED	JMA WIRELESS–MX08FRO665–21	5G	72" x 20"	120°	105'–0"	
GAMMA	C1	PROPOSED	JMA WIRELESS–MX08FRO665–21	5G	72" x 20"	240°	105'–0"	

SECTOR	POSITION	RRH	
		MANUFACTURER – MODEL NUMBER	TECHNOLOGY
ALPHA	A1	FUJITSU – TA08025–B604	5G
	A1	FUJITSU – TA08025–B605	5G
BETA	B1	FUJITSU – TA08025–B604	5G
	B1	FUJITSU – TA08025–B605	5G
GAMMA	C1	FUJITSU – TA08025–B604	5G
	C1	FUJITSU – TA08025–B605	5G

NOTES

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

ANTENNA SCHEDULE

NO SCALE

3

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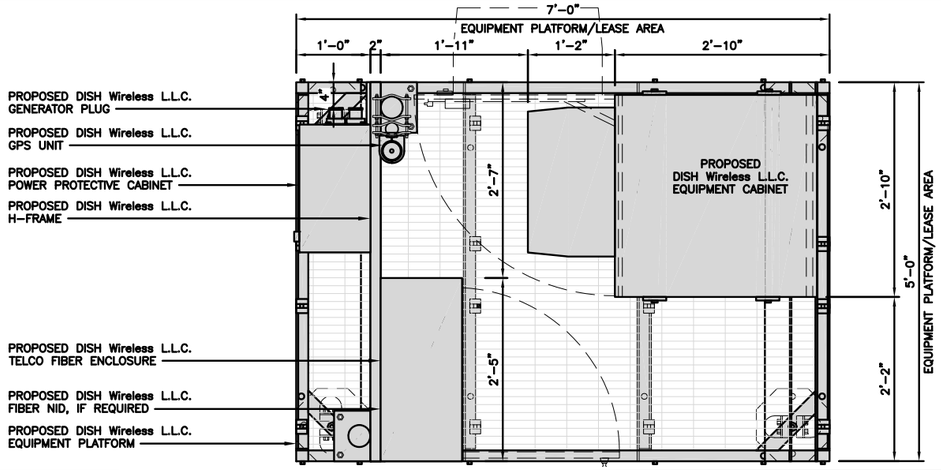
BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-2



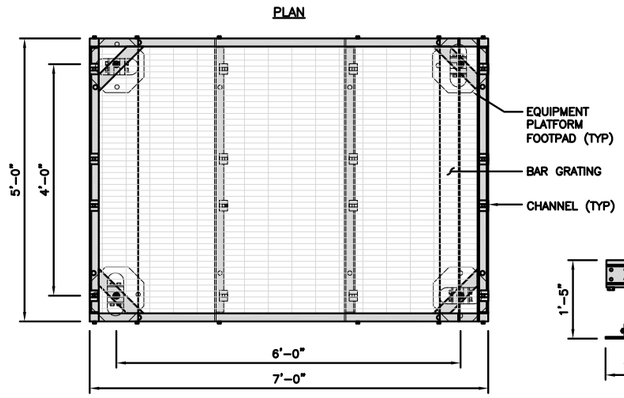
PLATFORM EQUIPMENT PLAN

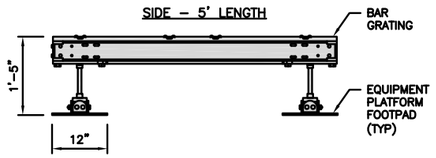
12" 9" 6" 3" 0 1' 2'
1"=1'-0"

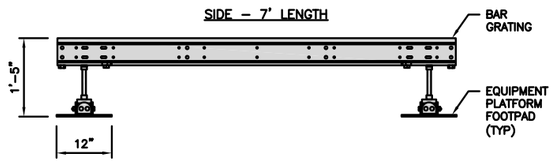
1

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

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

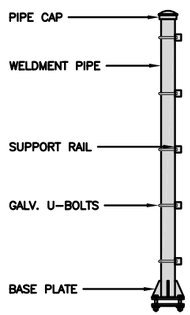






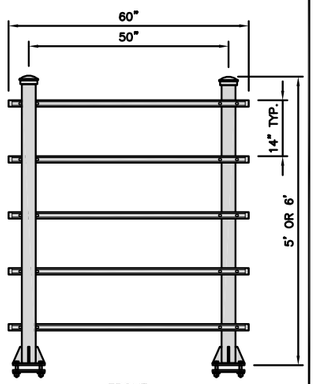
PLATFORM DETAIL | NO SCALE | 2

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



SIDE

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



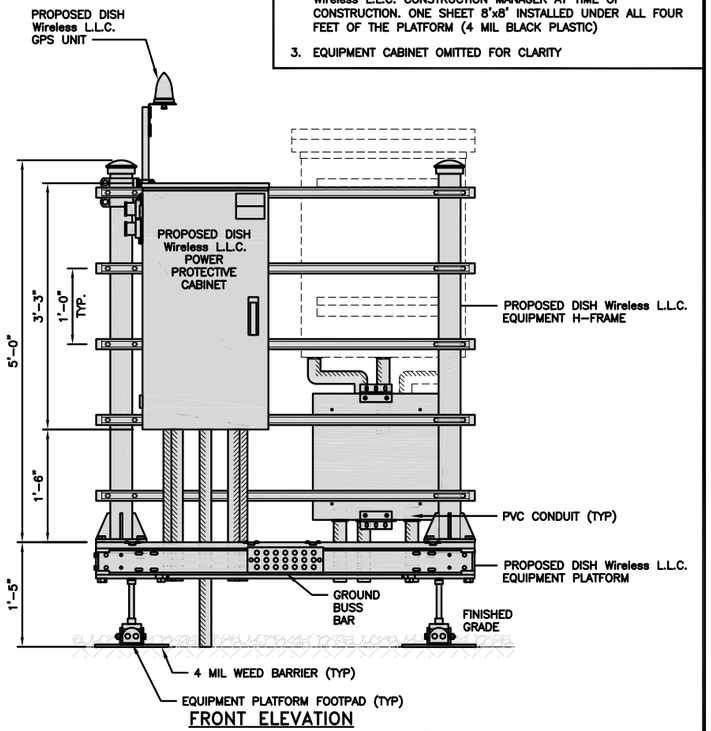
FRONT

H-FRAME DETAIL | NO SCALE | 3

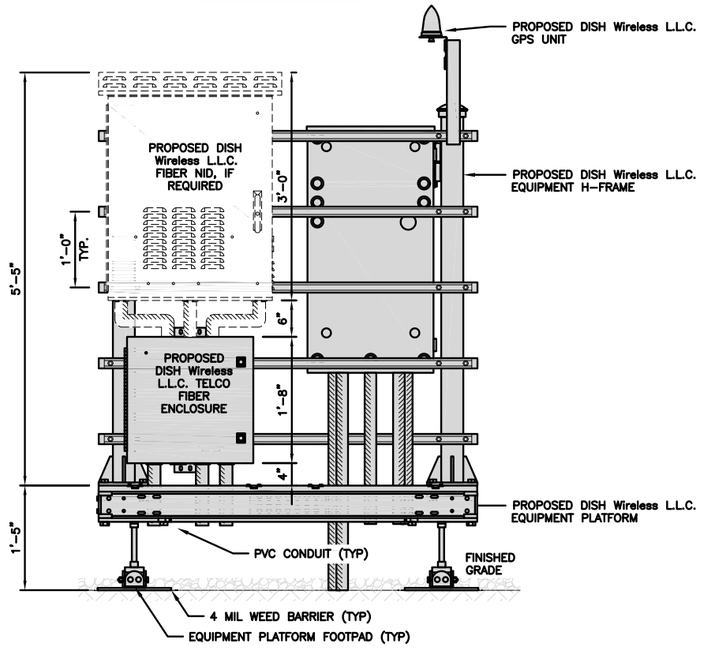
NOT USED | NO SCALE | 4

NOTES

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



FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION | 12" 9" 6" 3" 0 1' 2' 1"=1'-0" | 5

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STATE OF CONNECTICUT
No. 27824
PROFESSIONAL ENGINEER
9/21/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLB	BLB

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

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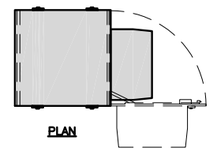
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

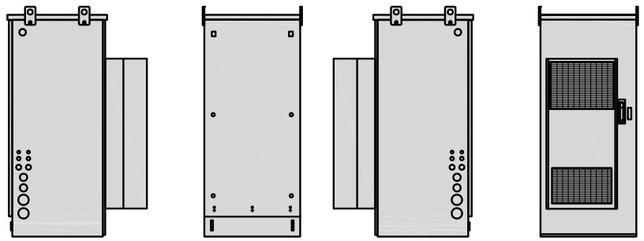
SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER
A-3

CHARLES INDUSTRY HEX CUBE–PM639155N4	
DIMENSIONS (HxWxD):	74"x32"x32"
POWER PLANT:	–48VDC ABB/600W
TOTAL WEIGHT (EMPTY)	408 LBS



PLAN

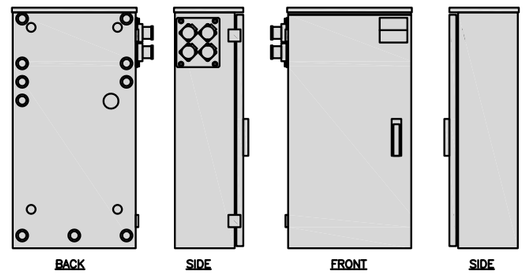


SIDE BACK SIDE FRONT

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



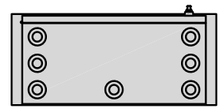
BACK SIDE FRONT SIDE

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

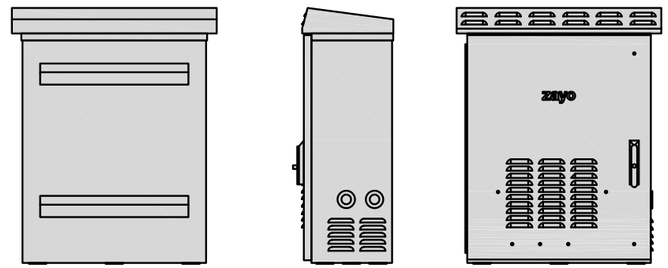
NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4

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



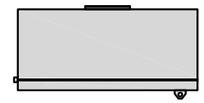
BOTTOM



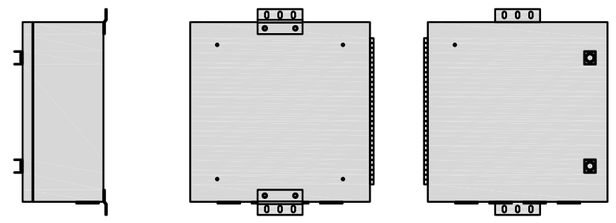
BACK SIDE FRONT

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



FRONT

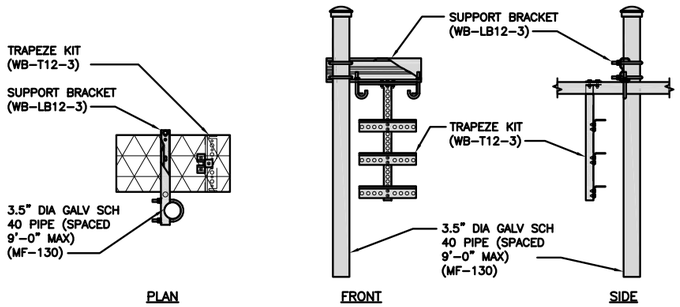


SIDE BACK FRONT

FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

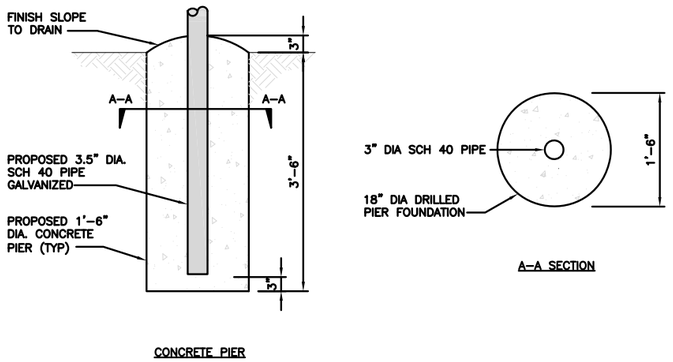
COMMSCOPE WB–K110–B WAVEGUIDE BRIDGE KIT	
DIMENSIONS (HxL)	160"x10'
WEIGHT/ VOLUME	325.0 LBS
CABLE RUN (QTY)	12

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



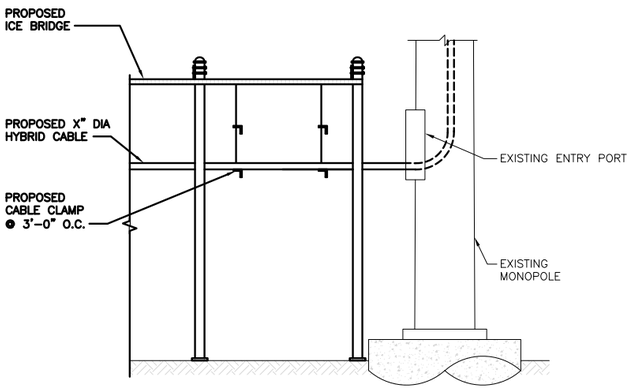
PLAN FRONT SIDE

ICE BRIDGE DETAIL | NO SCALE | 7



CONCRETE PIER A–A SECTION

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL | NO SCALE | 8



HYBRID CABLE RUN | NO SCALE | 9

DISH Wireless L.L.C. TEMPLATE VERSION 40 – 08/13/2021

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9/21/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLB	BLB

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	8/26/21	ISSUED FOR REVIEW
0	9/21/21	ISSUED FOR CONSTRUCTION

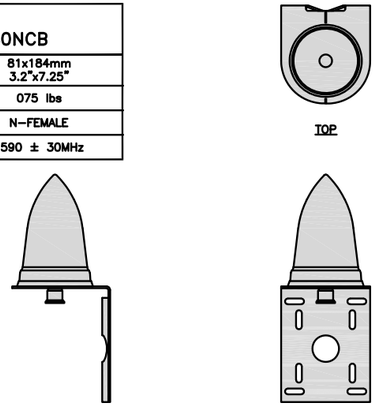
A&E PROJECT NUMBER
149432.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

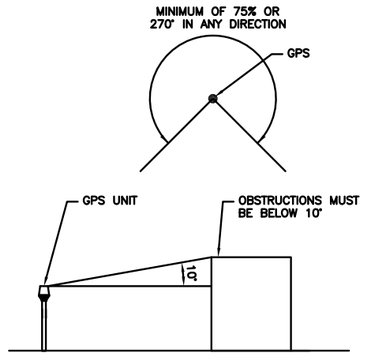
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

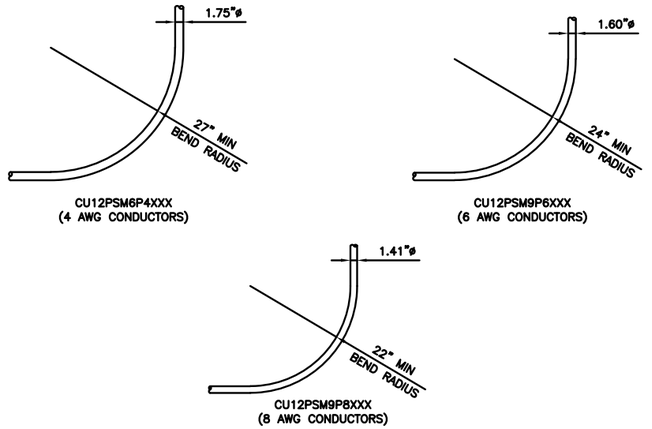
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



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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SHEET TITLE

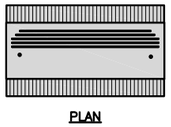
EQUIPMENT DETAILS

SHEET NUMBER

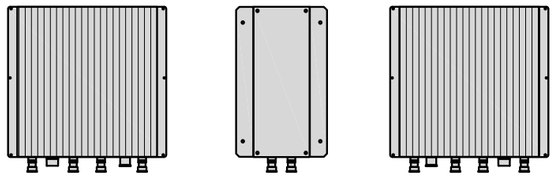
A-5

FUJITSU TRIPLE BAND TA08025-B605

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



PLAN

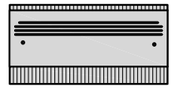


BACK SIDE FRONT

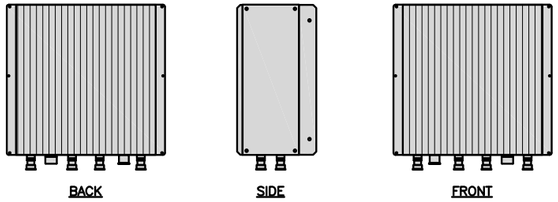
RRH DETAIL | NO SCALE | 1

FUJITSU DUAL BAND TA08025-B604

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



PLAN



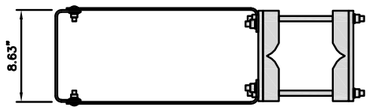
BACK SIDE FRONT

RRH DETAIL | NO SCALE | 2

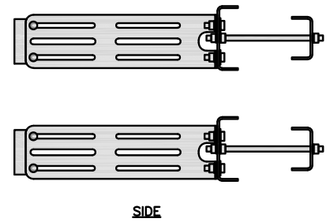
COMMSCOPE RR-FA2 LARGE STABILIZER

DIMENSIONS (HxWxD)	16.4"x8.5"x18"
WEIGHT	39.2 lbs

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



PLAN



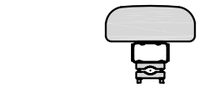
SIDE

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

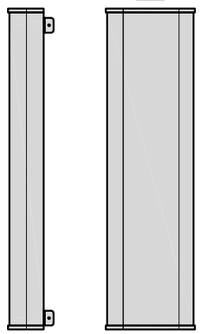
RRH MOUNT DETAIL | NO SCALE | 3

JMA MX08FRO665-21

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



PLAN



SIDE FRONT

ANTENNA DETAIL | NO SCALE | 4

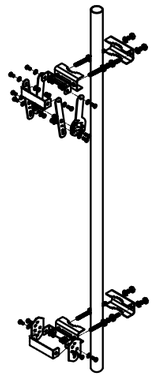
NOT USED | NO SCALE | 5

JMA ANTENNA MOUNT BRACKET #91900318

TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5" TO 4.5"

NOTE:
KIT #91900318: TOP AND BOTTOM BRACKETS FOR 4-,6-, AND 8-FOOT ANTENNAS

ANTENNA BRACKET NOT PART OF KIT



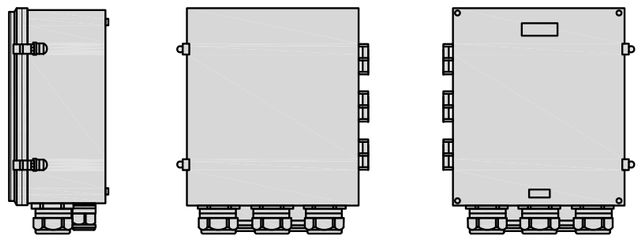
NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

ANTENNA BRACKET DETAIL | NO SCALE | 6

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

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

PLAN



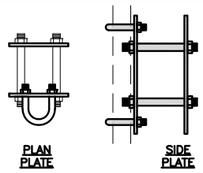
SIDE BACK FRONT

SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

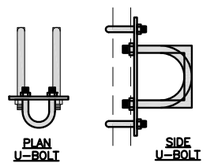
COMMSCOPE XP-2040 CROSSOVER PLATE

DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

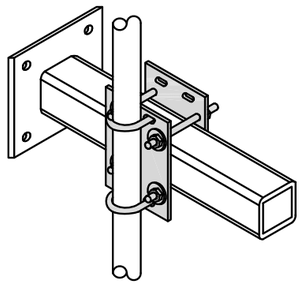
NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT



PLAN PLATE SIDE PLATE



PLAN U-BOLT SIDE U-BOLT

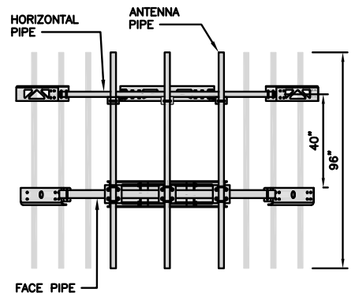


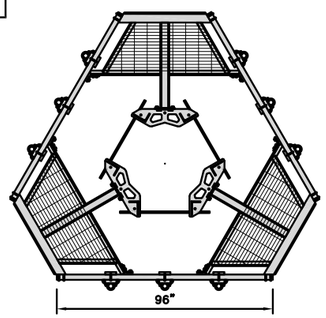
RRH/OVP MOUNT DETAIL | NO SCALE | 8

COMMSCOPE MC-PK8-DSH

FACE WIDTH	96"
WEIGHT	1373.08 lbs
NOTE: 15" TO 38" O.D.	

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





ANTENNA PLATFORM DETAIL | NO SCALE | 9

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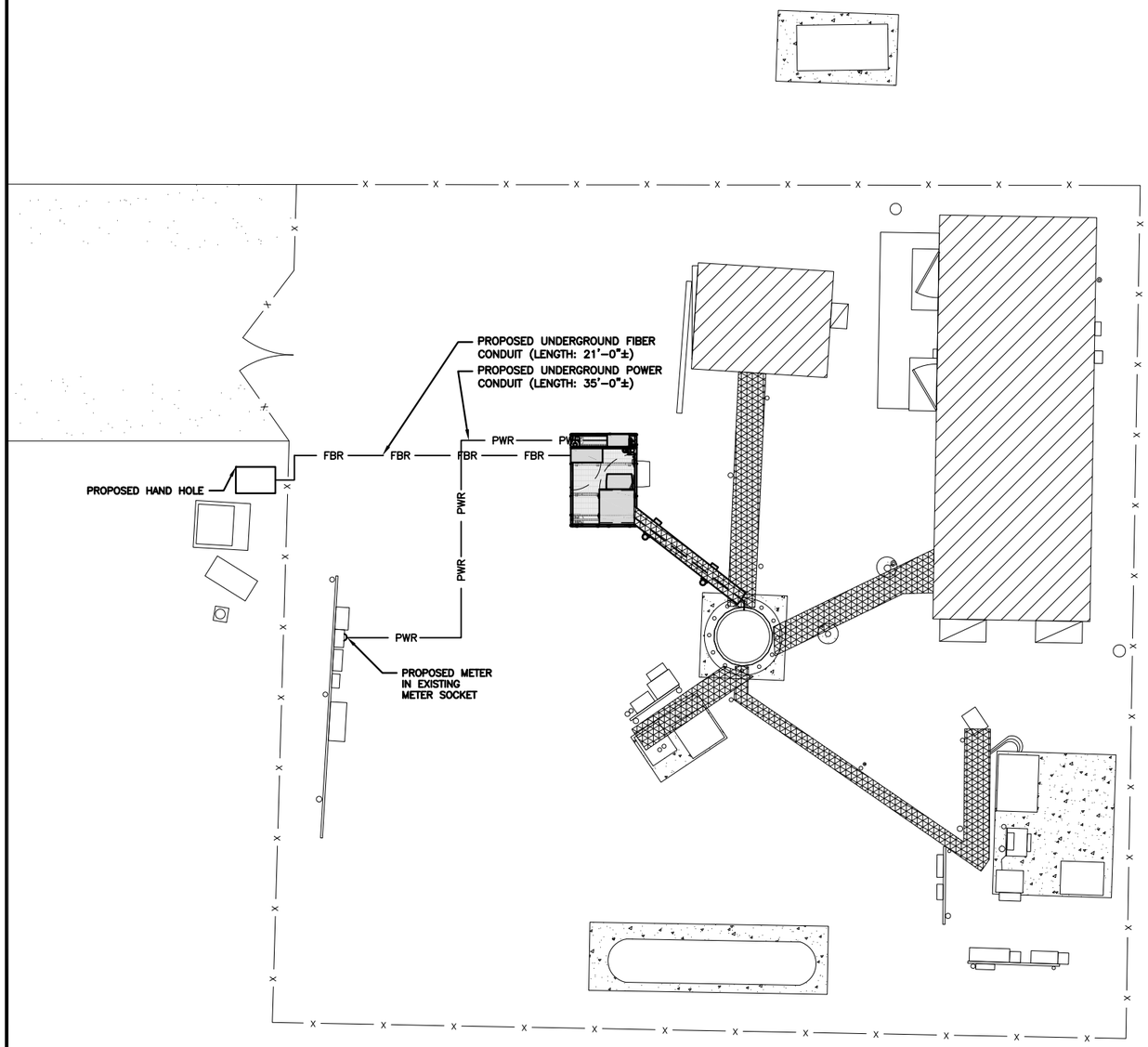
CANTON, CT 06019

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.



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.

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SHEET TITLE
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER
E-1

UTILITY ROUTE PLAN

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

1

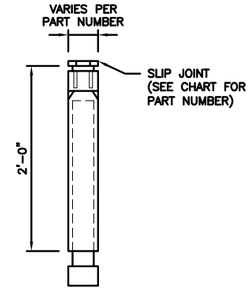
ELECTRICAL NOTES

NO SCALE

2

CARLON EXPANSION FITTINGS

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

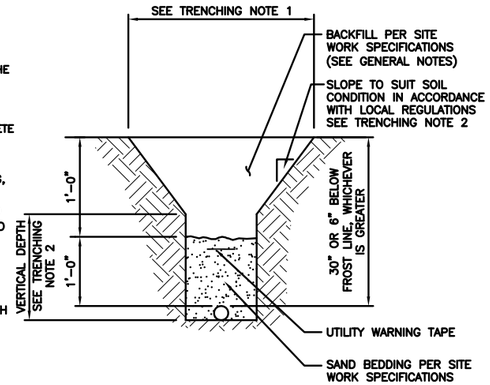


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

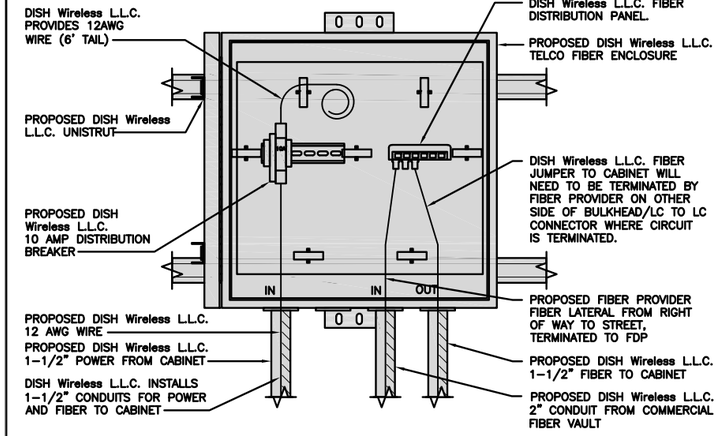
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

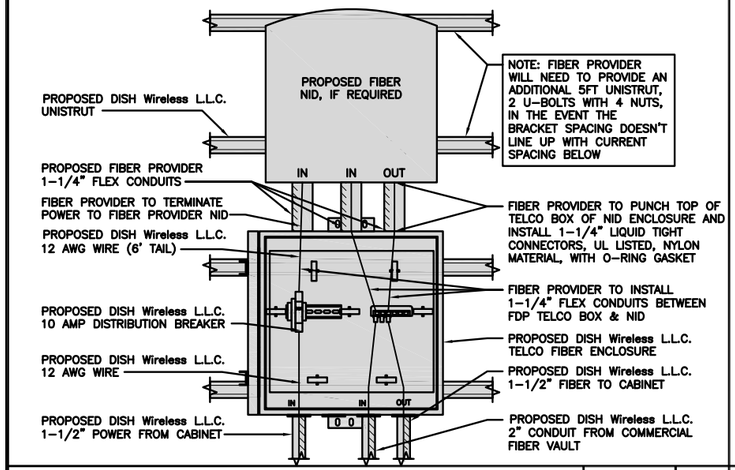
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT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



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



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



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

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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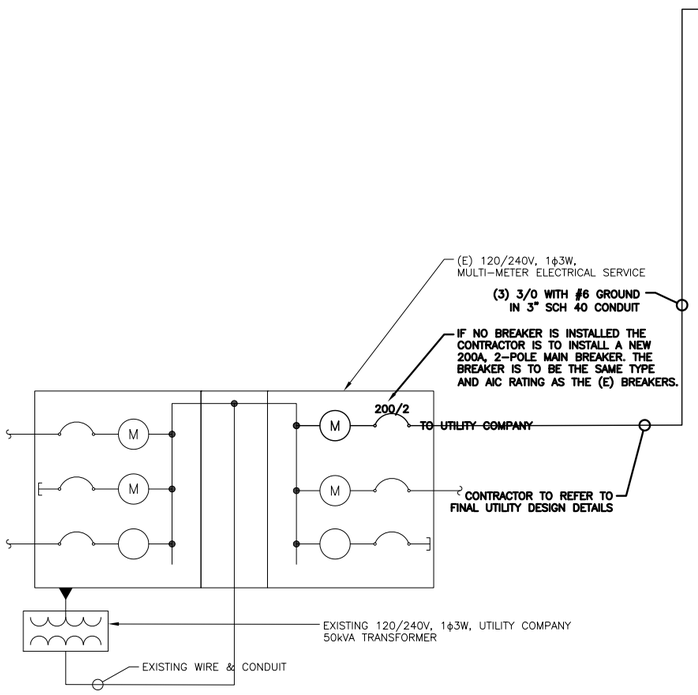
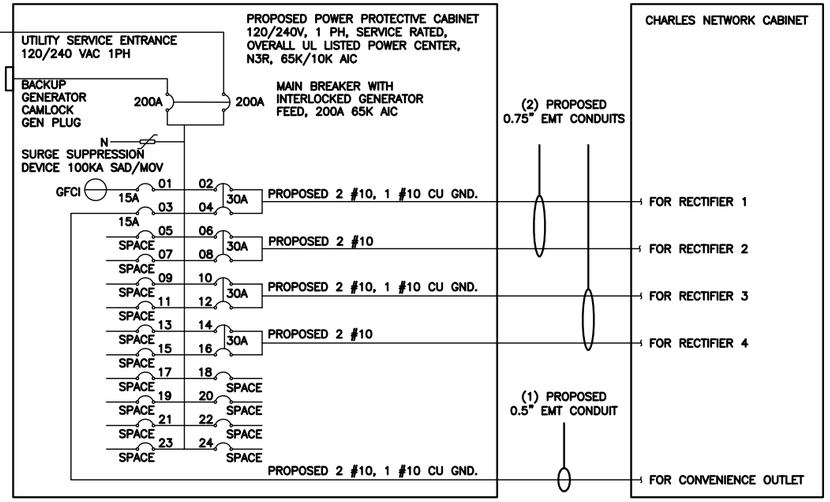
SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-2





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

BREAKERS REQUIRED:
(4) 30A, 2P BREAKER - SQUARE D P/N:QO230
(1) 15A, 1P BREAKER - SQUARE D P/N:QO115

PPC ONE-LINE DIAGRAM

NO SCALE | 1

NOTES

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

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

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

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

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

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

RECTIFIER CONDUCTORS (2 CONDUITS): USING UL1015, CU.

#10 - 0.0266 SQ. IN X 4 = 0.1064 SQ. IN
#10 - 0.0082 SQ. IN X 1 = 0.0082 SQ. IN <BARE GROUND
TOTAL = 0.1146 SQ. IN

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

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

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

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

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

PANEL SCHEDULE

NO SCALE | 2

NOT USED

NO SCALE | 3

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SBA
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BOCA RATON, FL 33487

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

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RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

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A	8/26/21	ISSUED FOR REVIEW
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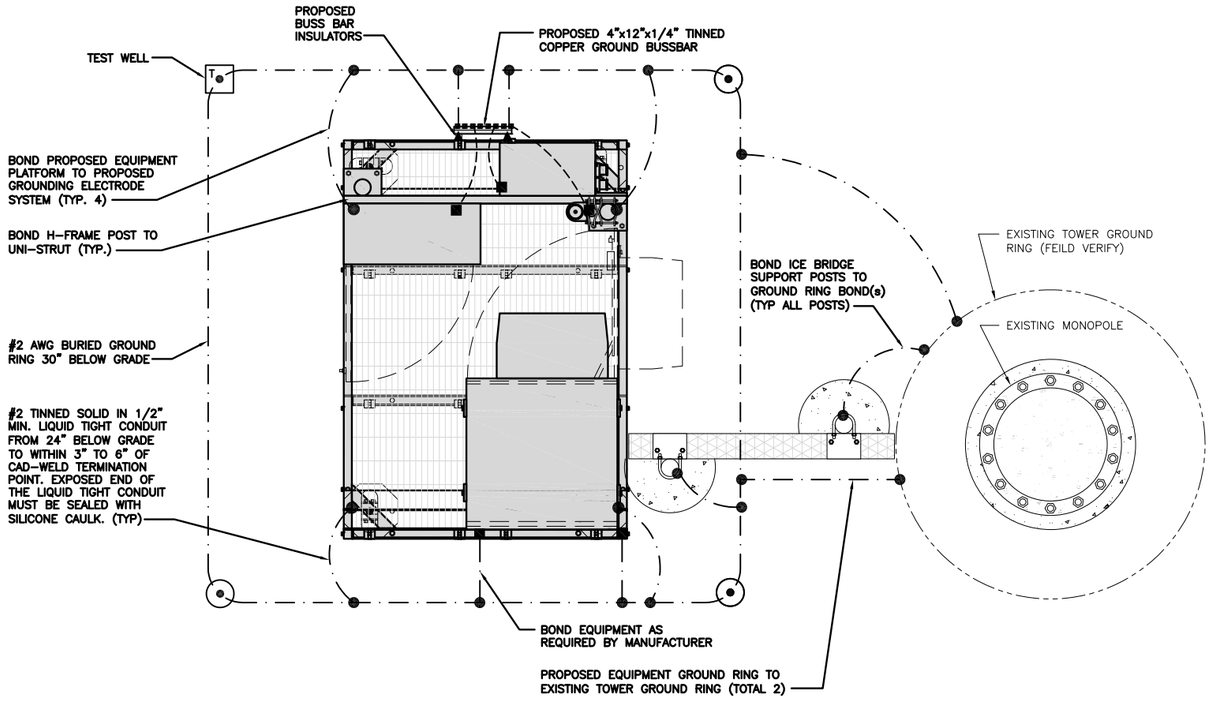
A&E PROJECT NUMBER
149432.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

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

SHEET NUMBER
E-3

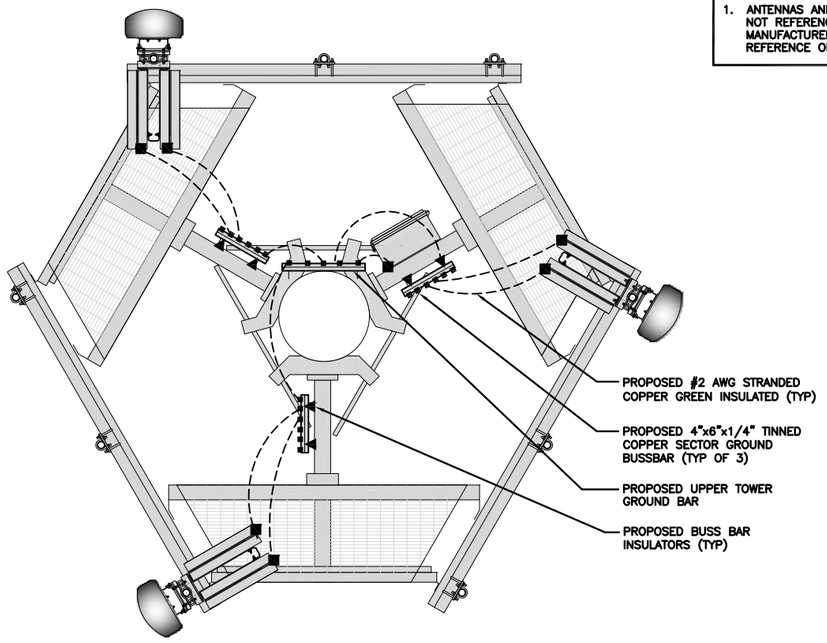


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE | 1

NOTES

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



TYPICAL ANTENNA GROUNDING PLAN

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 OR EXTERIOR GROUND RING.

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

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

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

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

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

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

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

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

GROUNDING KEY NOTES

NO SCALE | 3

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LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

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1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
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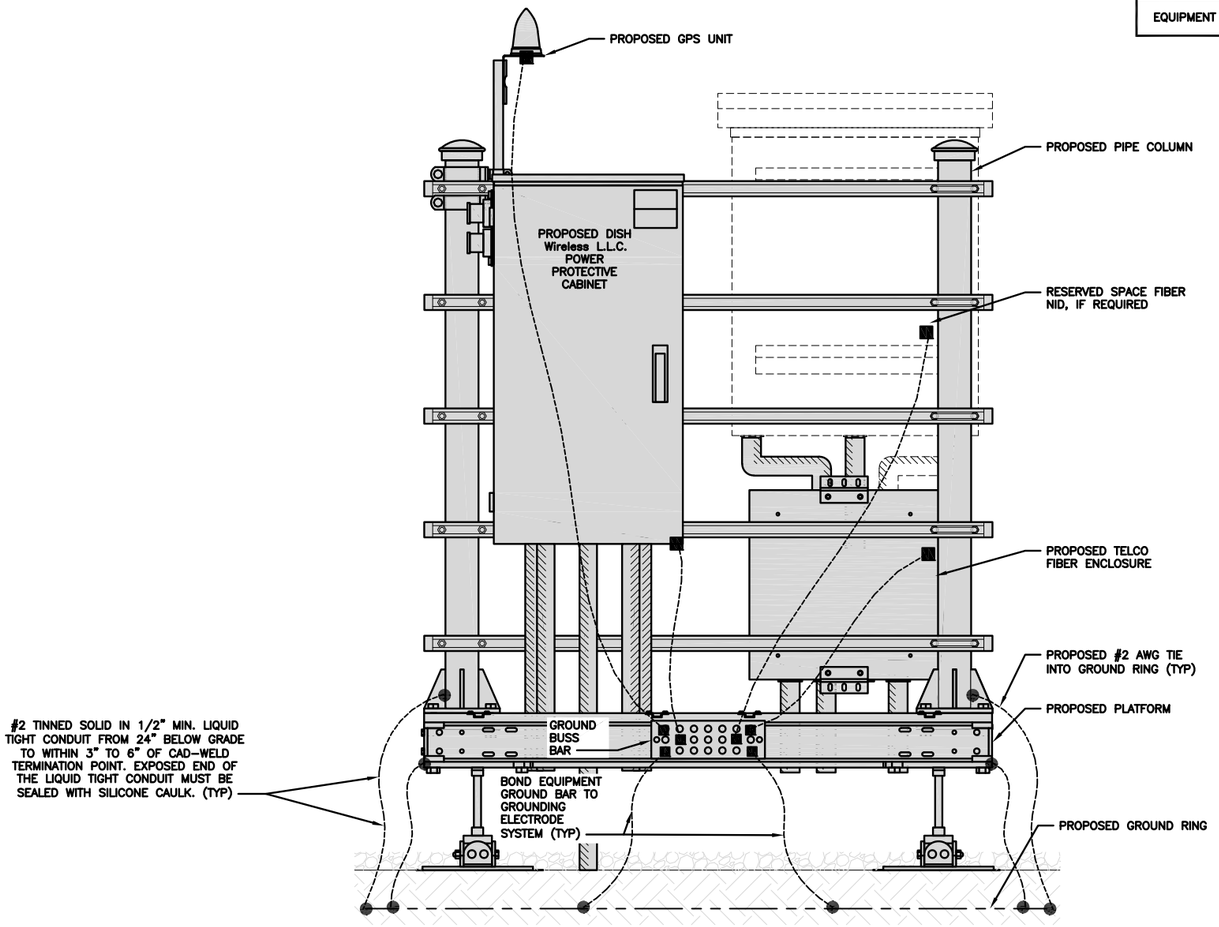
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

SHEET TITLE
GROUNDING PLANS AND NOTES

SHEET NUMBER
G-1

NOTES

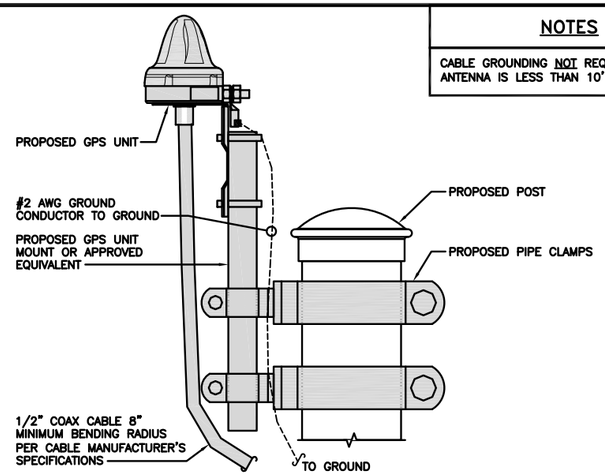
EQUIPMENT CABINET OMITTED FOR CLARITY



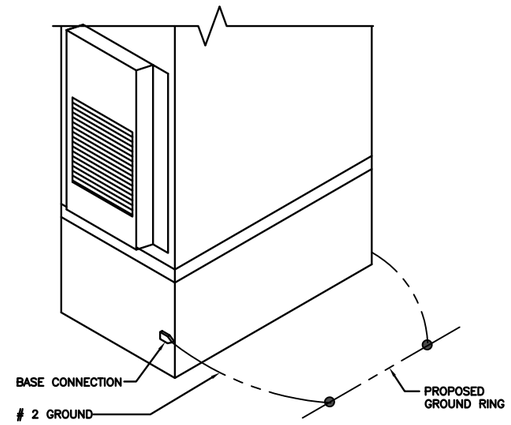
H-FRAME GROUNDING DETAIL | NO SCALE | 1

NOTES

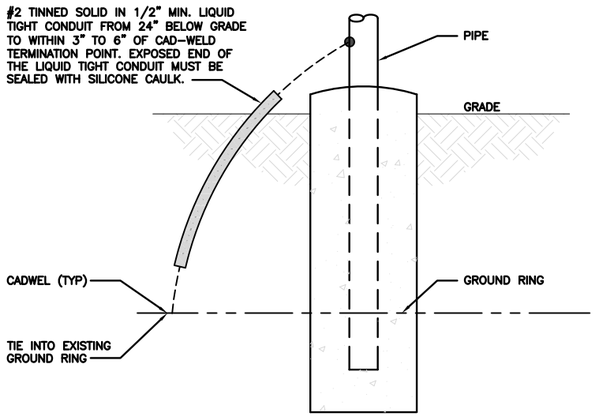
CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



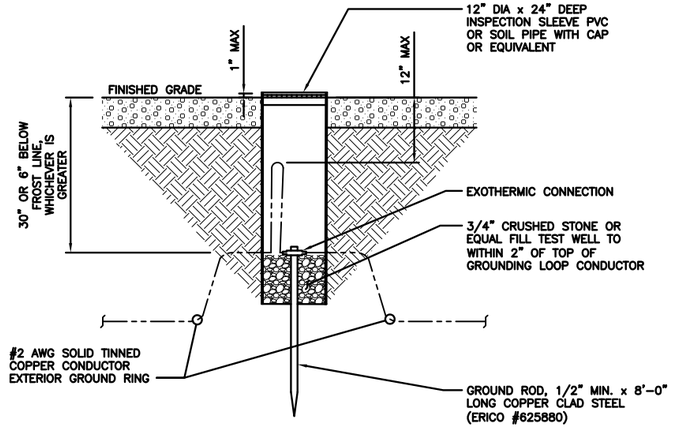
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



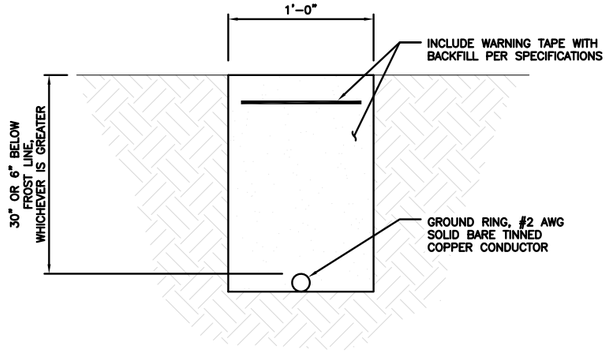
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



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



TYPICAL GROUND RING TRENCH | NO SCALE | 6

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SUITE 300
TULSA, OK 74119
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CANTON, CT 06019

SHEET TITLE

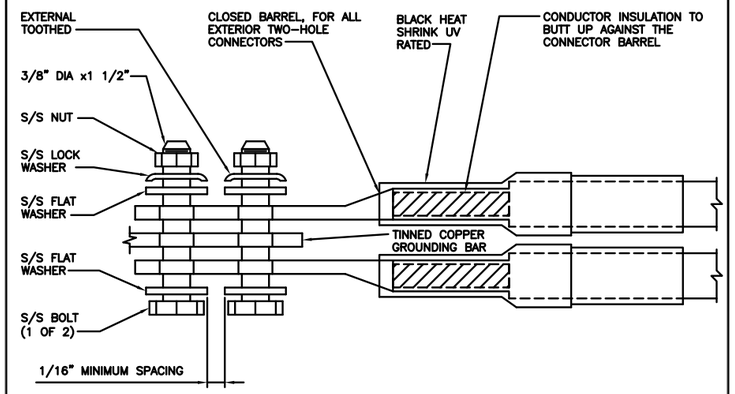
GROUNDING DETAILS

SHEET NUMBER

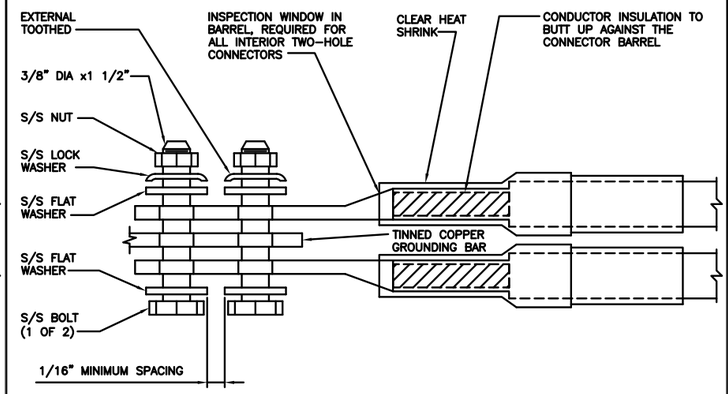
G-2

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

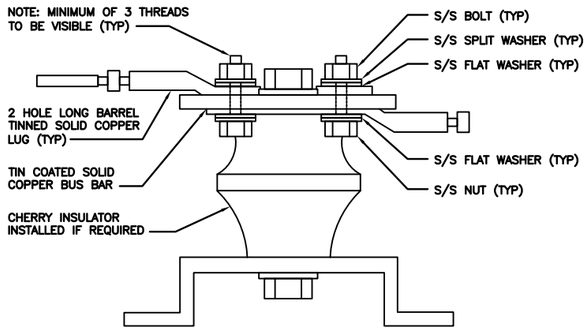
TYPICAL GROUNDING NOTES | NO SCALE | 1



TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 2



TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 3



LUG DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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SHEET TITLE
GROUNDING DETAILS

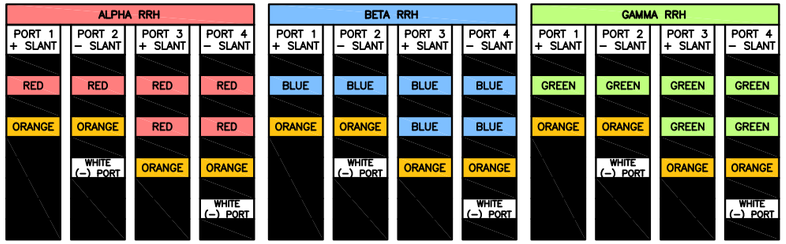
SHEET NUMBER
G-3

RF JUMPER COLOR CODING

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

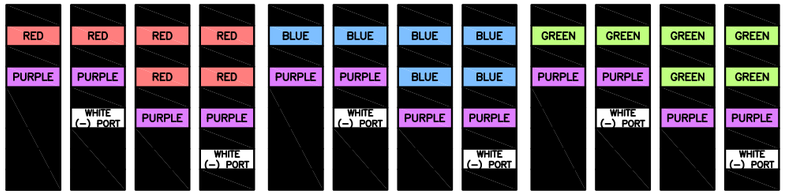
LOW-BAND RRH –
(600MHz N71 BASEBAND) +
(850MHz N26 BAND) +
(700MHz N29 BAND) – OPTIONAL PER MARKET

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



MID-BAND RRH –
(AWS BANDS N66+N70)

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

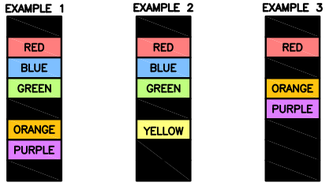


HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED
ALONG WITH FREQUENCY BANDS

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

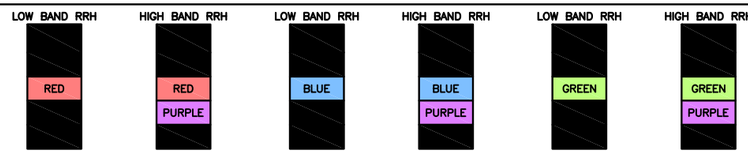
EXAMPLE 2 – HYBRID, OR DISCREET, SUPPORTS
CBRS ONLY, ALL SECTORS



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

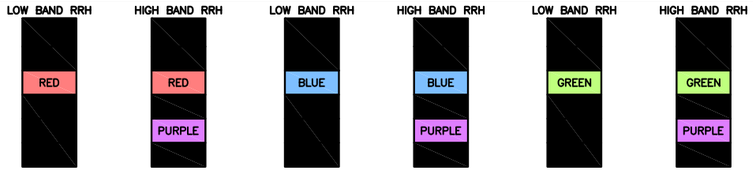
FIBER JUMPERS TO RRHs

LOW-BAND RRH FIBER CABLES HAVE SECTOR STRIPE ONLY

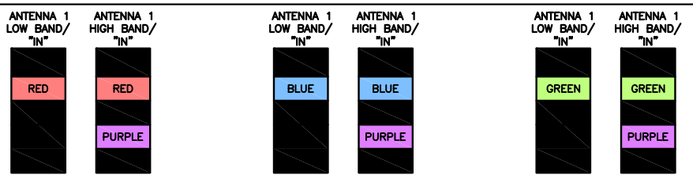


POWER CABLES TO RRHs

LOW-BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY



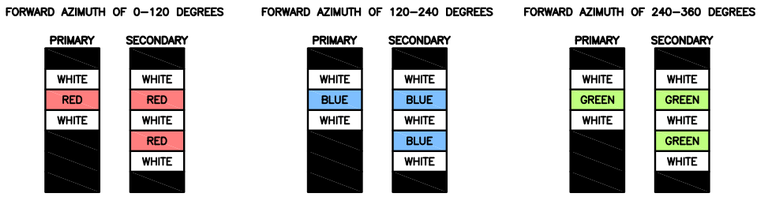
RET MOTORS AT ANTENNAS



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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CANTON, CT 06019

SHEET TITLE
RF
CABLE COLOR CODES

SHEET NUMBER
RF-1

LEGEND

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM — T

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE — T

SINGLE POLE SWITCH — $

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE — GFCI

FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48–T8 — F

SMOKE DETECTION (DC) — SD

EMERGENCY LIGHTING (DC)

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

CHAIN LINK FENCE — X — X — X — X

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE — W — W — W — W — W

UNDERGROUND POWER — UGP — UGP — UGP — UGP — UGP

UNDERGROUND TELCO — UGT — UGT — UGT — UGT — UGT

OVERHEAD POWER — OHP — OHP — OHP — OHP

OVERHEAD TELCO — OHT — OHT — OHT — OHT

UNDERGROUND TELCO/POWER — UGT/P — UGT/P — UGT/P — UGT/P

ABOVE GROUND POWER — AGP — AGP — AGP — AGP — AGP

ABOVE GROUND TELCO — AGT — AGT — AGT — AGT — AGT

ABOVE GROUND TELCO/POWER — AGT/P — AGT/P — AGT/P — AGT/P

WORKPOINT — W.P.

SECTION REFERENCE — XX / X–X

DETAIL REFERENCE — XX / X–X

ABBREVIATIONS

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

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

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLB	BLB

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	8/26/21	ISSUED FOR REVIEW
0	9/21/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149432.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

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.

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

9/21/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
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RFDS REV #: 1

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0	9/21/21	ISSUED FOR CONSTRUCTION

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149432.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

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.

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

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLB	BLB

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	8/26/21	ISSUED FOR REVIEW
0	9/21/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149432.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00116A
540 CHERRY BROOK RD
(RT. 179)
CANTON, CT 06019

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.

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GN-4