



Filed by:

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

October 25, 2021

Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

RE: Tower Share Application  
1294 Pleasant Valley Road, Groton, CT  
Latitude: 41.399972  
Longitude: -72.079222  
Dish Site# BOBOS00058A

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 1294 Pleasant Valley Road., Groton, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900/2100 MHz antennas and six (6) RRUs, at the 117-foot level of the existing 149-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 September 1, 2021 Exhibit 10. Also included is a structural analysis prepared by TES, dated July 29, 2021, confirming that the existing tower is structurally capable of supporting the proposed equipment, attached as Exhibit 8. This facility was approved by the Town of Groton's Planning and Development Services on June 7, 2007 and by the Connecticut Siting Council under Docket No. 330 on, June 12, 2007. 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 Patrice Granatosky, Mayor for the Town of Groton, Deborah G. Jones, AICP, Assistant Director, property owner JFM Enterprises, LLC. 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 149-feet; Dish Wireless LLC proposed antennas will be located at a center line height of 117-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 28.20% 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 Groton. 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 Intent 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 117-foot level of the existing 149-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@sbsite.com](mailto:GShepherd@sbsite.com)

Attachments:

cc: Patrice Granatosky, Mayor / with attachments  
Town of Groton, 45 Fort Hill Rd. Groton, CT 06340  
Deborah G. Jones, AICP, Assistant Director / with attachments  
134 Groton Long Point Rd., Groton, CT 06340-4873  
JFM Enterprises, LLC / with attachments  
31 A Atlanta Ct., Groton, CT 06340 (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	Town of Groton (6/7/07), CSC Docket No. 330 (6/12/07)
Exhibit 7	EME Report	EBI Consulting 10/15/21
Exhibit 8	Structural Analysis	TES 7/29/21
Exhibit 9	Mount Analysis	B + T Group 8/16/21
Exhibit 10	Construction Drawings	B + T Group 9/1/21



# EXHIBIT 1

Copy of check

**EXHIBIT 2**

**Letter of Intent**

October 25, 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:** **1294 Pleasant Valley Road, Groton, CT**  
Dish Wireless Site No: BOBOS00058A  
Site No: CT13075-A

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 **1294 Pleasant Valley Road., Groton, CT.**

SBA Infrastructure, 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 117' 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@sbsite.com](mailto:rwoods@sbsite.com)

# EXHIBIT 3

## Fedex Labels

ORIGIN ID:BBFA (508) 614-0389  
RICK WOODS  
SBA COMMUNICATIONS CORPORATION  
134 FLANDERS RD  
SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 25OCT21  
ACT/WGT: 5.00 LB  
CAD: 105843304/NET4400

BILL SENDER

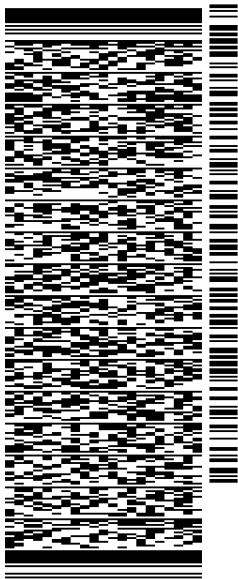
TO **MELANIE A. BACHMAN EXEC. DIR**  
**CONNECTICUT SITING COUNCIL**  
**TEN FRANKLIN SQUARE**

**NEW BRITAIN CT 06051**

REF: 1056-92009-6089

(508) 251-0720 X.3807  
INV#  
PO:

DEPT:

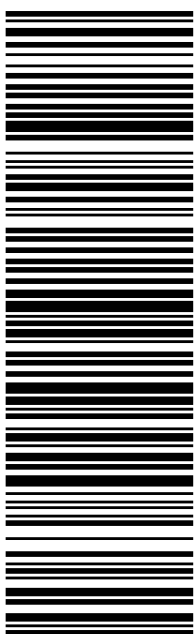


J212221101801uv

TRK# 7750 1688 6574  
0201  
TUE - 26 OCT 10:30A  
PRIORITY OVERNIGHT

**EBBDLA**

06051  
BDL  
CT-US



56DJ3/14BA/FE4A

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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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.



TRACK ANOTHER SHIPMENT

775016886574



ADD NICKNAME

ON TIME

Scheduled delivery:  
Tuesday, 10/26/2021



IN TRANSIT

On FedEx vehicle for delivery  
WINDSOR LOCKS, CT

GET STATUS UPDATES

FROM

SBA COMMUNICATIONS CORPORATION  
Rick Woods  
134 Flanders Rd  
Suite 125  
WESTBOROUGH, MA US 01581  
508-614-0389

TO

Melanie A. Bachman Exec. Dir  
Connecticut Siting Council  
Ten Franklin Square  
NEW BRITAIN, CT US 06051  
508-251-0720

MANAGE DELIVERY

Travel History

Shipment Facts

Travel History

TIME ZONE  
Local Scan Time



Tuesday, October 26, 2021

8:28 AM	WINDSOR LOCKS, CT	On FedEx vehicle for delivery
8:08 AM	EAST GRANBY, CT	At destination sort facility
7:52 AM	WINDSOR LOCKS, CT	At local FedEx facility
4:25 AM	NEWARK, NJ	Departed FedEx hub
1:51 AM	NEWARK, NJ	In transit
1:47 AM	NEWARK, NJ	Arrived at FedEx hub

Monday, October 25, 2021

10:48 PM	EAST BOSTON, MA	Local Delay Delay beyond our control
8:31 PM	FRAMINGHAM, MA	Left FedEx origin facility
4:18 PM	FRAMINGHAM, MA	Picked up
1:03 PM		Shipment information sent to FedEx

Expand History 

## Shipment Facts

### TRACKING NUMBER

775016886574

### SERVICE

FedEx Priority Overnight

### WEIGHT

5 lbs / 2.27 kgs

### DIMENSIONS

19x13x4 in.

### TOTAL PIECES

1

### TOTAL SHIPMENT WEIGHT

5 lbs / 2.27 kgs

### TERMS

Shipper

### SHIPPER REFERENCE

10-56-92009-6089


### PACKAGING

FedEx Box

### SPECIAL HANDLING SECTION

Deliver Weekday

### SHIP DATE

10/25/21 

### STANDARD TRANSIT

10/26/21 before 10:30 am 

### SCHEDULED DELIVERY

10/26/21 before 10:30 am

All (30)

Inbound (0)

Outbound (30)

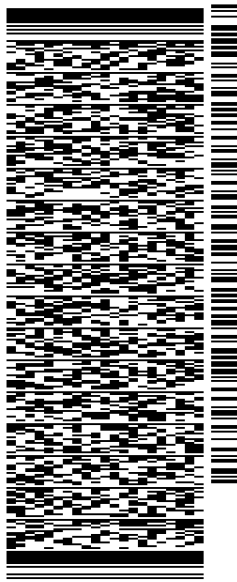
Watch list (0)

ORIGIN ID:BFBA (508) 614-0389  
 RICK WOODS  
 SBA COMMUNICATIONS CORPORATION  
 134 FLANDERS RD  
 SUITE 125  
 WESTBOROUGH, MA 01581  
 UNITED STATES US

SHIP DATE: 25OCT21  
 ACTWGT: 5.00 LB  
 CAD: 105843304/NET4400  
 BILL SENDER

TO **MELANIE A. BACHMAN EXEC. DIR**  
**CONNECTICUT SITING COUNCIL**  
**TEN FRANKLIN SQUARE**

**NEW BRITAIN CT 06051**  
 (508) 251-0720 X 3807 REF: 105692009-6089  
 INV/ DEPT:  
 PO:



TRK# 7750 1691 4898  
 0201  
 TUE - 26 OCT 10:30A  
 PRIORITY OVERNIGHT

**EBBDLA**  
 CT-US BDL 06051

56DJ3/14BA/FE4A

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TRACK ANOTHER SHIPMENT

775016914898



[ADD NICKNAME](#)

ON TIME

Scheduled delivery:  
Tuesday, 10/26/2021



**IN TRANSIT**

On FedEx vehicle for delivery  
WINDSOR LOCKS, CT

[GET STATUS UPDATES](#)

**FROM**

SBA COMMUNICATIONS CORPORATION  
Rick Woods  
134 Flanders Rd  
Suite 125  
WESTBOROUGH, MA US 01581  
508-614-0389

**TO**

Melanie A. Bachman Exec. Dir  
Connecticut Siting Council  
Ten Franklin Square  
NEW BRITAIN, CT US 06051  
508-251-0720

[MANAGE DELIVERY](#)

Travel History

Shipment Facts

Travel History

**TIME ZONE**  
Local Scan Time



Tuesday, October 26, 2021



9:05 AM	WINDSOR LOCKS, CT	On FedEx vehicle for delivery
8:08 AM	EAST GRANBY, CT	At destination sort facility
8:06 AM	WINDSOR LOCKS, CT	At local FedEx facility
4:25 AM	NEWARK, NJ	Departed FedEx hub
1:51 AM	NEWARK, NJ	In transit
1:47 AM	NEWARK, NJ	Arrived at FedEx hub

Monday, October 25, 2021

10:48 PM	EAST BOSTON, MA	Local Delay Delay beyond our control
8:31 PM	FRAMINGHAM, MA	Left FedEx origin facility
4:18 PM	FRAMINGHAM, MA	Picked up
1:05 PM		Shipment information sent to FedEx

Expand History 

## Shipment Facts

<b>TRACKING NUMBER</b> 775016914898	<b>SERVICE</b> FedEx Priority Overnight	<b>WEIGHT</b> 5 lbs / 2.27 kgs
<b>DIMENSIONS</b> 18x13x3 in.	<b>TOTAL PIECES</b> 1	<b>TOTAL SHIPMENT WEIGHT</b> 5 lbs / 2.27 kgs
<b>TERMS</b> Shipper	<b>SHIPPER REFERENCE</b> 10-56-92009-6089	<b>PACKAGING</b> FedEx Box
<b>SPECIAL HANDLING SECTION</b> Deliver Weekday	<b>SHIP DATE</b> 10/25/21 	<b>STANDARD TRANSIT</b> 10/26/21 before 10:30 am 
<b>SCHEDULED DELIVERY</b> 10/26/21 before 10:30 am		

All (30)

Inbound (0)

Outbound (30)

Watch list (0)

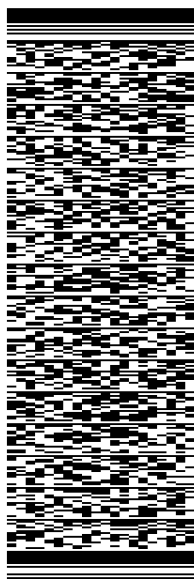
ORIGIN ID:BFBA (508) 614-0389  
RICK WOODS  
SBA COMMUNICATIONS CORPORATION  
134 FLANDERS RD  
SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 25OCT21  
ACTWGT: 1.00 LB  
CAD: 105843304/NET4400  
BILL SENDER

TO  
**PATRICE GRANATOSKY, MAYOR**  
**TOWN OF GROTON**  
**45 FORT HILL RD.**

**GROTON CT 06340**  
(508) 251-0720 X 3807  
INV#  
PO:  
REF: 1056920096089  
DEPT:

56DJ3/14BA/FE4A



TRK# 7750 1703 2260  
0201  
TUE - 26 OCT 10:30A  
PRIORITY OVERNIGHT

**EB GONA**  
06340  
CT-US BDL

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TRACK ANOTHER SHIPMENT

775017032260



[ADD NICKNAME](#)

ON TIME

Scheduled delivery:  
Pending



**IN TRANSIT**

At FedEx destination facility  
NORWICH, CT

[GET STATUS UPDATES](#)

**FROM**

SBA COMMUNICATIONS CORPORATION  
Rick Woods  
134 Flanders Rd  
Suite 125  
WESTBOROUGH, MA US 01581  
508-614-0389

**TO**

Patrice Granatosky, Mayor  
Town of Groton  
45 Fort Hill Rd.  
GROTON, CT US 06340  
508-251-0720

[MANAGE DELIVERY](#)

Travel History

Shipment Facts

### Travel History

**TIME ZONE**  
Local Scan Time



Tuesday, October 26, 2021



8:45 AM	NORWICH, CT	At local FedEx facility
6:09 AM	EAST GRANBY, CT	At destination sort facility
5:20 AM	NEWARK, NJ	Departed FedEx hub
1:51 AM	NEWARK, NJ	In transit
1:47 AM	NEWARK, NJ	Arrived at FedEx hub

Monday, October 25, 2021

10:48 PM	EAST BOSTON, MA	Local Delay Delay beyond our control
7:24 PM	FRAMINGHAM, MA	Left FedEx origin facility
4:18 PM	FRAMINGHAM, MA	Picked up
1:10 PM		Shipment information sent to FedEx

Expand History 

## Shipment Facts

<b>TRACKING NUMBER</b> 775017032260	<b>SERVICE</b> FedEx Priority Overnight	<b>WEIGHT</b> 1 lbs / 0.45 kgs
<b>TOTAL PIECES</b> 1	<b>TOTAL SHIPMENT WEIGHT</b> 1 lbs / 0.45 kgs	<b>TERMS</b> Shipper
<b>SHIPPER REFERENCE</b> 10-56-92009-6089	<b>PACKAGING</b> FedEx Envelope	<b>SPECIAL HANDLING SECTION</b> Deliver Weekday
<b>SHIP DATE</b> 10/25/21 	<b>STANDARD TRANSIT</b> 10/26/21 before 10:30 am 	<b>SCHEDULED DELIVERY</b> Pending

All (30)

Inbound (0)

Outbound (30)

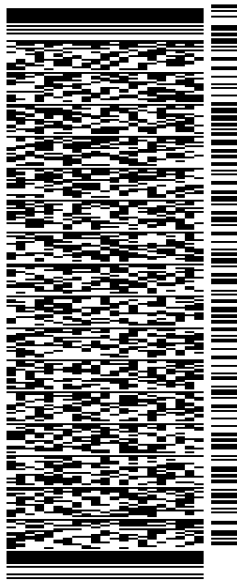
Watch list (0)

ORIGIN ID:BFBA (508) 614-0389  
RICK WOODS  
SBA COMMUNICATIONS CORPORATION  
134 FLANDERS RD  
SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 25OCT21  
ACTWGT: 1.00 LB  
CAD: 105843304/NET4400  
BILL SENDER

TO **DEBORAH G. JONES**  
**TOWN OF GROTON**  
**AICP, ASSIST. DIRECTOR**  
**134 GROTON LONG POINT RD**  
**GROTON CT 06340**  
(508) 251-0720 X.3807 REF: 105692009-6089  
INV# DEPT:

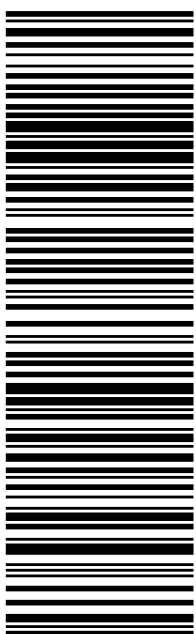
56DJ3/14BA/FE4A



TRK# 7750 1706 4596  
0201  
TUE - 26 OCT 10:30A  
PRIORITY OVERNIGHT

**EB GONA**

06340  
CT-US BDL



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TRACK ANOTHER SHIPMENT

775017064596



[ADD NICKNAME](#)

ON TIME

Scheduled delivery:  
Pending



**IN TRANSIT**

At FedEx destination facility  
NORWICH, CT

[GET STATUS UPDATES](#)

**FROM**

SBA COMMUNICATIONS CORPORATION  
Rick Woods  
134 Flanders Rd  
Suite 125  
WESTBOROUGH, MA US 01581  
508-614-0389

**TO**

Deborah G. Jones  
Town of Groton  
AICP, Assist. Director  
134 Groton Long Point Rd  
GROTON, CT US 06340  
508-251-0720

[MANAGE DELIVERY](#)

Travel History

Shipment Facts

### Travel History

**TIME ZONE**  
Local Scan Time




Tuesday, October 26, 2021



8:45 AM	NORWICH, CT	At local FedEx facility
6:09 AM	EAST GRANBY, CT	At destination sort facility
5:20 AM	NEWARK, NJ	Departed FedEx hub
1:51 AM	NEWARK, NJ	In transit
1:47 AM	NEWARK, NJ	Arrived at FedEx hub

Monday, October 25, 2021

10:48 PM	EAST BOSTON, MA	Local Delay Delay beyond our control
7:24 PM	FRAMINGHAM, MA	Left FedEx origin facility
4:18 PM	FRAMINGHAM, MA	Picked up
1:12 PM		Shipment information sent to FedEx

Expand History 

## Shipment Facts

<b>TRACKING NUMBER</b> 775017064596	<b>SERVICE</b> FedEx Priority Overnight	<b>WEIGHT</b> 1 lbs / 0.45 kgs
<b>TOTAL PIECES</b> 1	<b>TOTAL SHIPMENT WEIGHT</b> 1 lbs / 0.45 kgs	<b>TERMS</b> Shipper
<b>SHIPPER REFERENCE</b> 10-56-92009-6089	<b>PACKAGING</b> FedEx Envelope	<b>SPECIAL HANDLING SECTION</b> Deliver Weekday
<b>SHIP DATE</b> 10/25/21 	<b>STANDARD TRANSIT</b> 10/26/21 before 10:30 am 	<b>SCHEDULED DELIVERY</b> Pending

All (30)

Inbound (0)

Outbound (30)

Watch list (0)



ORIGIN ID:BFBA (508) 614-0389  
RICK WOODS  
SBA COMMUNICATIONS CORPORATION  
134 FLANDERS RD  
SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 25OCT21  
ACTWGT: 1.00 LB  
CAD: 105843304/NET4400

BILL SENDER

TO

JFM ENTERPRISES, LLC  
31A ATLANTA CT.

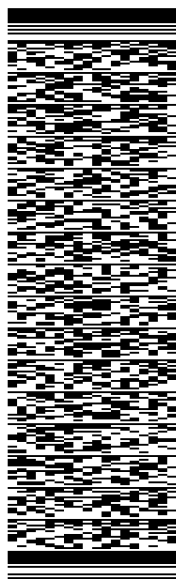
GROTON CT 06340

(508) 251-0720 X 3807

REF: 105692009-6089

PO: DEPT:

56DJ3/14BA/FE4A



J212221101801uv

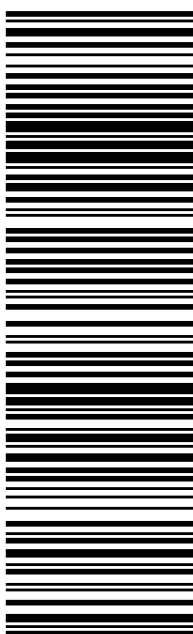
TRK# 7750 1709 7418  
0201

TUE - 26 OCT 10:30A

PRIORITY OVERNIGHT

EB GONA

06340  
CT-US BDL



**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.



TRACK ANOTHER SHIPMENT

775017097418



[ADD NICKNAME](#)

ON TIME

Scheduled delivery:  
Pending



**IN TRANSIT**

At FedEx destination facility  
NORWICH, CT

[GET STATUS UPDATES](#)

**FROM**

SBA COMMUNICATIONS CORPORATION  
Rick Woods  
134 Flanders Rd  
Suite 125  
WESTBOROUGH, MA US 01581  
508-614-0389

**TO**

JFM Enterprises, LLC  
31A Atlanta CT.  
GROTON, CT US 06340  
508-251-0720

[MANAGE DELIVERY](#)

Travel History

Shipment Facts

### Travel History

**TIME ZONE**  
Local Scan Time



Tuesday, October 26, 2021



8:46 AM	NORWICH, CT	At local FedEx facility
6:09 AM	EAST GRANBY, CT	At destination sort facility
5:20 AM	NEWARK, NJ	Departed FedEx hub
1:51 AM	NEWARK, NJ	In transit
1:47 AM	NEWARK, NJ	Arrived at FedEx hub

Monday, October 25, 2021

10:48 PM	EAST BOSTON, MA	Local Delay Delay beyond our control
7:24 PM	FRAMINGHAM, MA	Left FedEx origin facility
4:18 PM	FRAMINGHAM, MA	Picked up
1:13 PM		Shipment information sent to FedEx

Expand History 

## Shipment Facts

<b>TRACKING NUMBER</b> 775017097418	<b>SERVICE</b> FedEx Priority Overnight	<b>WEIGHT</b> 1 lbs / 0.45 kgs
<b>TOTAL PIECES</b> 1	<b>TOTAL SHIPMENT WEIGHT</b> 1 lbs / 0.45 kgs	<b>TERMS</b> Shipper
<b>SHIPPER REFERENCE</b> 10-56-92009-6089	<b>PACKAGING</b> FedEx Envelope	<b>SPECIAL HANDLING SECTION</b> Deliver Weekday
<b>SHIP DATE</b> 10/25/21 	<b>STANDARD TRANSIT</b> 10/26/21 before 12:00 pm 	<b>SCHEDULED DELIVERY</b> Pending

All (30)

Inbound (0)

Outbound (30)

Watch list (0)

# EXHIBIT 4

## Property Card

# Commercial Property Card

Print Date: 10/13/2021

## Card 1 of 1

<b>Account</b> 178010470143	<b>Location</b> 1294 PLEASANT VALLEY RD NORTH	<b>Zoning</b> RU-20	<b>Deed Book/Page</b> 774/624	<b>Acres</b> 3.66
<b>District</b> POQUONNOCK BRIDGE	<b>Use Code</b> SMALL RETAIL AND SERVICE STORES			

### Current Owner

JFM ENTERPRISES LLC  
C/O JENNIFER MACIEROWSKI  
920 PLEASANT VALLEY RD N  
GROTON CT 06340

### Property Picture



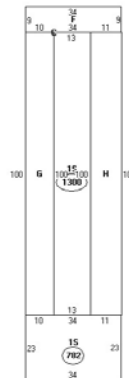
### Building Information

<b>Building No:</b>	1
<b>Year Built:</b>	1975
<b>No of Units:</b>	1
<b>Structure Type:</b>	RETAIL - SINGLE OCCUPANCY
<b>Building Total Area:</b>	2388 sqft.
<b>Grade:</b>	D+
<b>Identical Units:</b>	1

### Valuation

<b>Land:</b>	\$197,900
<b>Building:</b>	\$75,100
<b>Total:</b>	\$273,000
<b>Total Assessed Value:</b>	\$191,100

### Building Sketch



<b>Description</b>
A:003 702 sqft
B:045 1300 sqft
C:045 206 sqft
D:15 1300 sqft
E:15 702 sqft
F:15 206 sqft
G:CPG 1000 sqft
H:CPG 1100 sqft

### Recent Sales

Book/Page	Date	Price
651/124	10/1/1997	\$123,380
721/770	10/23/2000	\$140,000
774/624	6/20/2002	\$150,000

### Sketch Legend

----	Main Living Area	LSMA	Masonry	GRHS	Attached Greenhouse
1FR	Frame	OMP	Open Masonry Porch	CAT	Cathedral Ceiling
OFF	Open Frame Porch	EMP	Enclosed Msry Porch	SOP	Screen Open Frame Prch
EFP	Enclosed Frame Porch	MUB	Masonry Utility	SMP	Screen Open Msrny Prch
FUB	Frame Utility Building	MB	Masonry Bay	CPAT	Concrete Patio
FB	Frame Bay	MOH	Masonry Overhang	B	Basement
FG	Frame Garage	.SMA	1/2 Story Masonry		
FOH	Frame Overhang	MP	Masonry Patio		
.SFR	1/2 Story Frame	WD	Wood Deck		
A(U)	Attic (Unfinished)	CPY	Canopy		
A(F)	Attic (Finished)				

### Exterior/Interior Information

Levels	Use Type	Ext. Walls	Const. Type	Heating	A/C	Condition
01 - 01	MULTI-USE SALES	CONCRETE BLOCK	WOOD JOIST	HOT AIR	NONE	NORMAL
01 - 01	WAREHOUSE	CONCRETE BLOCK	WOOD JOIST	HOT AIR	NONE	NORMAL
01 - 01	WAREHOUSE	FRAME	WOOD JOIST	NONE	NONE	NORMAL

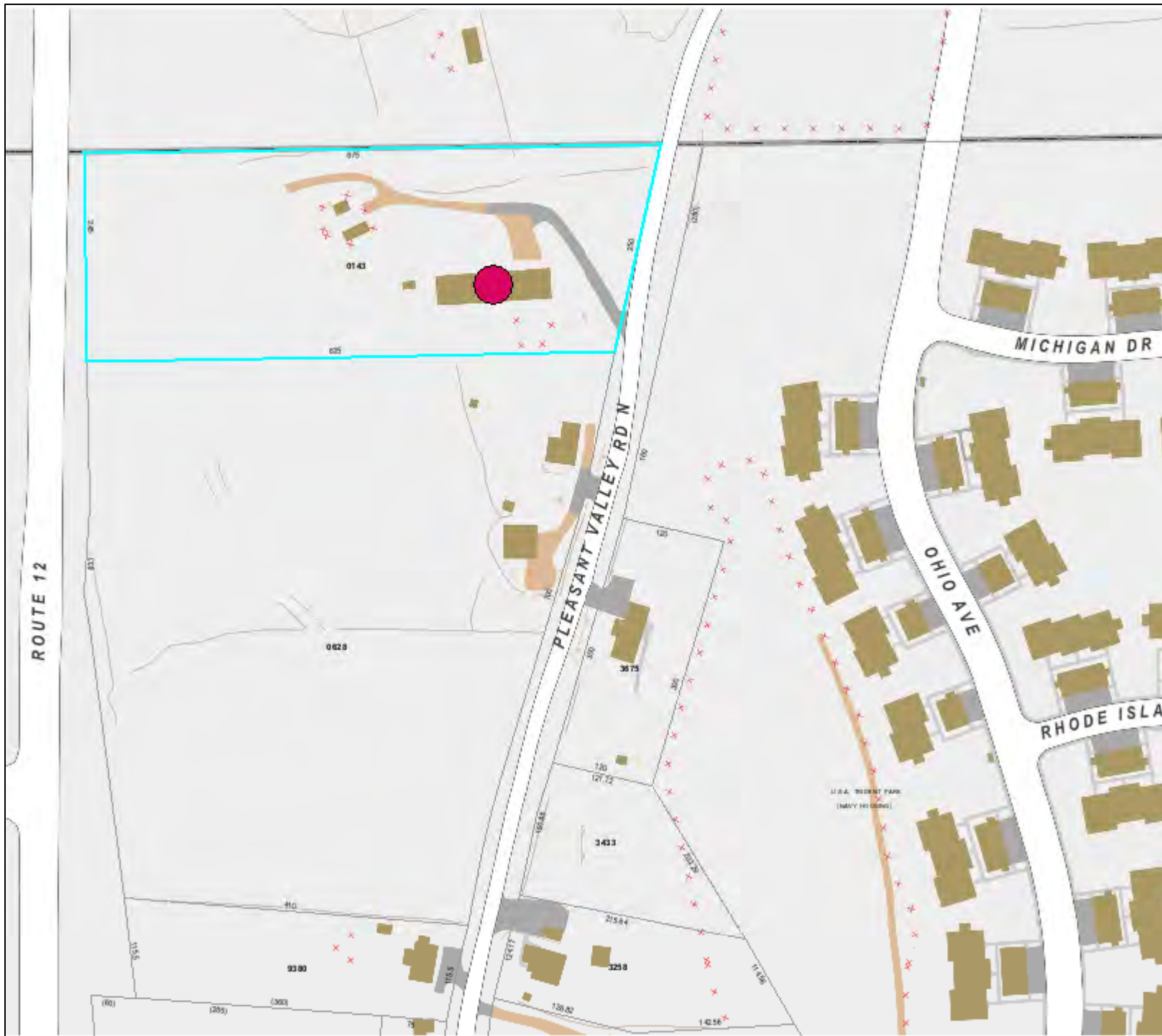
# EXHIBIT 5

## Property Map

Town of Groton



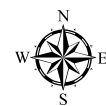
GIS Map



Disclaimer:  
 The planimetric and topographic information depicted on this map was compiled by the Seaborn Map Company based on an aerial flight performed in April 2009. The parcel and property line information depicted on this map has been compiled from recorded deeds, maps, assessor records, and other sources of information in the Town of Groton. The intent of this map is to depict a graphical representation of the information and is subject to change as a more accurate survey may disclose. The Town of Groton and the mapping companies assume no legal responsibility for the information contained in this data.  
**THIS MAP IS NOT TO BE USED FOR THE TRANSFER OF PROPERTY.**

Horizontal Datum:  
 Connecticut State Plane Coordinates, North American Datum of 1983 (NAD83 Feet)

Vertical Datum:  
 North American Vertical Datum of 1988 (NAVD88)



1 inch = 163 feet

Date: October 13, 2021



Google Maps 1294 Pleasant Valley Rd N



Imagery ©2021 Maxar Technologies, Map data ©2021 20 ft



# EXHIBIT 6

## Zoning Approval

SITE NAME: NEW LONDON SITE ID: CT13075-A

Transaction: Optasite

**ZONING/PERMITTING COMPLETION FORM**

Address: 1294 Pleasant Valley Rd., Groton, CT 6340

Jurisdiction: Conn. State Council, Town of Groton Zoning District: RU-20

Zoning Approval Type: Certificate Case #: 330

Approval Date: 6/7/2007 Approved Height: \_\_\_\_\_ Tower Build Date: \_\_\_\_\_

If tower is destroyed or drop/swap required, tower can likely be rebuilt?  YES  NO

**Conditions of Approval:**

	Yes	No	N/A
Removal Bond _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Site Plan Submittal _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fall Zone _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Periodic Inspections _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Periodic Reporting _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Approval Renewal _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Additional Conditions _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**JURISDICTION POC/DEPT.**

Planning/Zoning: Matthew Davis

Phone: 860-446-5975 Fax: \_\_\_\_\_

Bldg./Code Enforcement: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Submitted by: Zoning Compliance Date: \_\_\_\_\_

**TO BE COMPLETED BY CORPORATE**

	Yes	No	N/A	
Zoning Approval Attached (required)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ordinance Attached (required)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Building Permit Attached (required)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Date Recd <u>8/20/2007</u>
Certificate of Occupancy or Compliance (CO) attached (required)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>4/10/2008</u>
Zoning Manager Approval: <u>Diane E. Borchardt</u> Diane E. Borchardt, AICP				Date <u>7/25/2008</u>



Daniel F. Curran  
Chairman

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051


Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting@connecticut.gov](mailto:siting@connecticut.gov)

Internet: [ct.gov/sic](http://ct.gov/sic)

June 12, 2007

TO: Parties and Intervenor

FROM: S. Derek Phelps, Executive Director 

RE: **DOCKET NO. 330** – Optasite Towers, LLC and Omnipoint Communications, Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility at 1294 Pleasant Valley Road North, Groton, Connecticut.

---

By its Decision and Order dated June 11, 2007, the Connecticut Siting Council granted a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility at 1294 Pleasant Valley Road North, Groton, Connecticut.

Enclosed are the Council's Findings of Fact, Opinion, and Decision and Order.

SDP/CDM/laf

Enclosures (3)

c: State Documents Librarian



CONNECTICUT SITING COUNCIL

State of Connecticut | Department of Transportation



Daniel F. Curran  
Chairman

STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

June 12, 2007

Julie Kohler, Esq.  
Carrie I. Larson, Esq.  
Deborah S. Erickson, Esq.  
Cohen and Wolf, P.C.  
1115 Broad Street  
Bridgeport, CT 06604

RE: DOCKET NO. 330 -- Optasite Towers, LLC and Omnipoint Communications, Inc.  
application for a Certificate of Environmental Compatibility and Public Need for the  
construction, maintenance and operation of a telecommunications facility at 1294  
Pleasant Valley Road North, Groton, Connecticut.

Dear Attorney Kohler, Attorney Larson, and Attorney Erickson:

By its Decision and Order dated June 7, 2007, the Connecticut Siting Council (Council) granted  
a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction,  
maintenance and operation of a telecommunications facility at 1294 Pleasant Valley Road North,  
Groton, Connecticut.

Enclosed are the Council's Certificate, Findings of Fact, Opinion, and Decision and Order.

Very truly yours,

S. Derek Phelps  
Executive Director

SDP/CDM/laf

Enclosures (4)



Daniel F. Caruso  
Chairman

STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting\\_council@ct.gov](mailto:siting_council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

CERTIFICATE  
OF  
ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED  
DOCKET NO. 330

Pursuant to General Statutes § 16-50k, as amended, the Connecticut Siting Council hereby issues a Certificate of Environmental Compatibility and Public Need to Optasite Towers, LLC for the construction, maintenance and operation of a telecommunications facility at 1294 Pleasant Valley Road North, Groton, Connecticut. This Certificate is issued in accordance with and subject to the terms and conditions set forth in the Decision and Order of the Council, on June 7, 2007

By order of the Council,

Daniel F. Caruso, Chairman

June 7, 2007



# TOWN OF GROTON

PLANNING AND DEVELOPMENT SERVICES

Planning Department

134 Groton Long Point Road  
Groton, Connecticut 06340-4873  
Telephone (860) 446-5970  
Fax (860) 446-5978

April 18, 2007

S. Derek Phelps, Executive Director  
State of Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

**SUBJECT:** Optasite Towers and Omnipoint Communications  
1294 Pleasant Valley Road North, Groton, CT  
Docket No. 330

Dear Mr. Phelps:

Please consider this a response of the Planning Department of the Town of Groton in the matter of the New Optasite Towers and Omnipoint Communications proposed communications facility at 1294 Pleasant Valley Road North in Groton. The Office of Planning and Development received your letter on March 21, 2007. This office reserves all other rights with regard to regulatory review of the project in accordance with the law. Please enter this information into the hearing record for April 18, 2007.

The Town of Groton currently has development standards in effect for review of Telecommunications Towers, Antennae and Facilities. These standards require that a comprehensive package of components be addressed by an applicant to assure that a proposal's siting, construction, and maintenance are accomplished in the public interest. In this regard, the Town's planning staff has identified the following items that still should be addressed in the proposal to the Connecticut Siting Council. These items include:

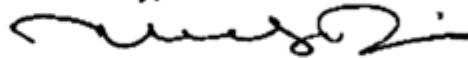
1. The plans and report should state "There shall be no advertising or signs, other than warning signs, permitted on any tower."
2. The plans and report should state that "The tower shall be removed from the site within 12 months of cessation of the use. In the event an unused tower is not removed within this time period, the tower and associated facilities may be removed by the Town and the cost of removal assessed against the property."
3. The plans should show that adequate fire access to any proposed tower. This usually includes a paved road that meets the Fire Department's width, clearance, and turn-around requirements and is able to hold a 60,000-lb. fire apparatus. Planning Staff suggests that the applicant work closely with the local Fire Marshal to obtain the appropriate access design.

4. The report needs to confirm that the tower design meets the updated State Building Code requirements for withstanding current pressure requirements. Please address.

These comments should provide you with a comprehensive record of the physical planning and design concerns associated with the project.

The Planning Department appreciates the efforts that have been made to allow for co-location of additional carriers as referred to in Exhibit A, page 15. The Town will continue to monitor the project to assure that the Town's concerns are adequately addressed. Also, feel free to call Susan C. Cullen, Planner I at this office if you have any questions.

Sincerely,



Matthew J. Davis  
Manager, Planning & Development  
Services

SCC

cc: Julie Kohler, Esq.

HOLLIS M. KEDDING  
203 464-3623



**PAID**  
\$130

# Town of Groton BUILDING/ZONING PERMIT APPLICATION

Please Print

Permit No. <u>BP07-369</u>	(office use only)
Fees: Bldg. <u>1,420.</u> - Zon. _____ C.O. _____ State <u>22.56</u> Total _____	

- Estimated Cost: \$141,000
- Address of Building: 1294 Pleasant Valley Rd North, Groton, CT 06340
- Zone: RU-20 PIN: 1780104700143
- Owner: JFM Enterprises LLC Ph. #: 860-536-4243
- Address: 1276 Pleasant Valley Rd North, Groton, CT 06340
- Contractor: Anthony's Building Co, Inc Ph. #: 401-567-0600
- Address: 953 Putnam Pike, Chepachet, RI 02814
- Nature of Proposed Work and Use: Construction + operation of telecommunication tower facility and installation of omnipoint communications, Inc antennas + equipment.
- Plans: attached Type of Construction: \_\_\_\_\_ Size: \_\_\_\_\_ **USB: 2**
- No. of Stories: NA No. of Rooms: NA No. of Baths: NA
- Fireplace(s): NA Garage: NA Bay(s): NA No. of Units: NA

## ZONING PERMIT

(To be filled out in conjunction with a building permit involving any new structure, addition to an existing structure, or change of use.)

Flood Hazard District: \_\_\_\_\_ HDC #: \_\_\_\_\_ ZBA #: \_\_\_\_\_  
 Site Plan Approval #: \_\_\_\_\_ Special Zoning Permit #: \_\_\_\_\_  
 Wetlands: \_\_\_\_\_ Coastal Area Management: \_\_\_\_\_  
 Site Suitability #: \_\_\_\_\_ Sewer #: \_\_\_\_\_ A2 Survey: \_\_\_\_\_  
 \_\_\_\_\_ **Zoning Official** B-15-07 **Date**

**CERTIFICATION:** I hereby certify that:  I am the owner of record of the named property or  that the proposed work is authorized by the owner of record and/or I have been authorized to make this application as an authorized agent, and we agree to conform to all applicable laws, codes, regulations and ordinances. All information contained within is true and accurate to the best of my knowledge and belief.

Jeff Gold 401 567-0600 900617  
 Print Name in Ink Phone # Lic. #  
Jeff Gold 8/13/07  
 Signature (in INK) of Owner/Authorized Agent Date

[Signature] 8/2/07  
 Building Official Completed Application Received Date

This permit shall become invalid unless the work authorized by such permit is commenced within 180 days after its issuance. Refunds will be subject to the refund policy.



New London

BUILDING INSPECTION DEPARTMENT  
Groton, Connecticut

Nº 7009

CERTIFICATE OF USE OR OCCUPANCY   
CERTIFICATE OF ZONING COMPLIANCE

Zone RU-20

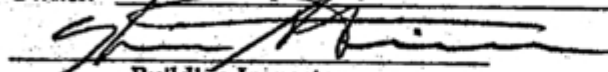
Dated April 10, 2008

This is to certify that building at 1294 Pleasant Valley Road North

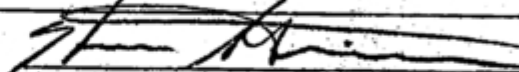
as commercial under Permit No. 07-369 conforms substantially to the requirements of the State of Connecticut Building Code and the Zoning Regulations of the Town of Groton and is hereby approved for use or occupancy as indicated below.

Approved for use or occupancy telecommunications tower facility

Owner: JFM Enterprises, LLC



Building Inspector  
Kevin A. Quinn



Building/Zoning Official  
Kevin A. Quinn

Any change or extension of the use herein approved requires a new certificate for use or occupancy and a new certificate of zoning compliance.

If this certificate is lost or destroyed, a duplicate should be obtained immediately from the Building Inspection Department.

# EXHIBIT 7

## EME Report

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

**Dish Wireless Existing Facility**

**Site ID: BOBOS00058A**

**BOBOS00058A  
1294 Pleasant Valley Road North  
Groton, Connecticut 06340**

**October 15, 2021**

**EBI Project Number: 6221005697**

<b>Site Compliance Summary</b>	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general population allowable limit:	<b>28.20%</b>

October 15, 2021

Dish Wireless

Emissions Analysis for Site: BOBOS00058A - BOBOS00058A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **1294 Pleasant Valley Road North** in **Groton, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The number of  $\mu\text{W}/\text{cm}^2$  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 ( $\mu\text{W}/\text{cm}^2$ ). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately  $400 \mu\text{W}/\text{cm}^2$  and  $467 \mu\text{W}/\text{cm}^2$ , respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is  $1000 \mu\text{W}/\text{cm}^2$ . 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 antenna facility located at 1294 Pleasant Valley Road North in Groton, 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 117 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):	117 feet	Height (AGL):	117 feet	Height (AGL):	117 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 AI MPE %:	<b>1.92%</b>	Antenna BI MPE %:	<b>1.92%</b>	Antenna CI MPE %:	<b>1.92%</b>

Site Composite MPE %	
Carrier	MPE %
Dish Wireless (Max at Sector A):	1.92%
T-Mobile	13.54%
Verizon	3.15%
AT&T	9.59%
<b>Site Total MPE % :</b>	<b>28.20%</b>

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	1.92%
Dish Wireless Sector B Total:	1.92%
Dish Wireless Sector C Total:	1.92%
<b>Site Total MPE % :</b>	<b>28.20%</b>

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 ( $\mu\text{W}/\text{cm}^2$ )	Frequency (MHz)	Allowable MPE ( $\mu\text{W}/\text{cm}^2$ )	Calculated % MPE
Dish Wireless 600 MHz n71	4	223.68	103.0	3.42	600 MHz n71	400	0.85%
Dish Wireless 1900 MHz n70	4	542.70	103.0	8.29	1900 MHz n70	1000	0.83%
Dish Wireless 2190 MHz n66	4	542.70	103.0	8.29	2190 MHz n66	1000	0.83%
						<b>Total:</b>	<b>1.92%</b>

• 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:	1.92%
Sector B:	1.92%
Sector C:	1.92%
Dish Wireless Maximum MPE % (Sector A):	1.92%
<b>Site Total:</b>	<b>28.20%</b>
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite MPE value for this site assuming all carriers present is **28.20%** 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

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## **Structural Analysis Report**

**Existing 149 ft SABRE Monopole**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT13075-A**

**Customer Site Name: New London**

**Carrier Name: Dish Wireless (App#: 163270, V#1)**

**Carrier Site ID / Name: BOBOS00058A / 0**

**Site Location: 1294 Pleasant Valley Road North**

**Groton, Connecticut**

**New London County**

**Latitude: 41.399972**

**Longitude: -72.079222**

Exp.10/31/2021



### **Analysis Result:**

**Max Structural Usage: 89.2% [Pass]**

**Max Foundation Usage: 99.9% [Pass]**

**Additional Usage Caused by New Mount: + 5.0%**

07/29/2021

**Report Prepared By: Saroj Dangol**

## Introduction

The purpose of this report is to summarize the analysis results on the 149 ft SABRE 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

<b>Tower Drawings</b>	Tower Design prepared by Sabre, job # 08-07173, dated 08/09/2007
<b>Foundation Drawing</b>	Foundation Design prepared by Sabre, job # 08-07173-E, dated 08/09/2007
<b>Geotechnical Report</b>	Geotechnical Report prepared by Gemini Geotechnical Associates, job # 07079CT, dated 07/20/2007
<b>Modification Drawings</b>	N/A
<b>Mount Analysis</b>	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.

<b>Wind Speed Used in the Analysis:</b>	Ultimate Design Wind Speed $V_{ult} = 135.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 105.0$ mph (3-Sec. Gust)
<b>Wind Speed with Ice:</b>	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
<b>Operational Wind Speed:</b>	60 mph + 0" Radial ice
<b>Standard/Codes:</b>	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
<b>Exposure Category:</b>	C
<b>Structure Class:</b>	II
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Seismic Parameters:</b>	$S_5 = 0.158$ , $S_1 = 0.057$

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	150.5	3	Antel - BXA-80063/4CF ___ 5° - Panel	Low Profile Platform + Modification [VZSMART-PLK 1+PLK-5+ PLK7]	(6) 1 5/8" (2) 1 5/8" Hybrid Fiber	Verizon
2	149.5	2	RFS DB-T1-6Z-8AB-0Z			
3		3	JMA Wireless MX06FRO660-02 - Panel			
4		3	JMA Wireless MX10FRO660 - Panel			
5		3	Samsung MT6407-77A - Panel			
6		3	Samsung B2/B66A RRH-BR049 (RFV01U-D1A)			
7		3	Samsung B5/B13 RRH-BR04C (RFV01U-D2A)			
8		3	Samsung CBRS RRH-RT4401-48A			
9	137.0	3	RFS APXVAARR24_43-U-NA20	(1) Low Profile Platform (1) Support Rail Kit w/ TARM (MS-P-TARM_6) (1) Heavy collar mount (MS-H1436) + (3) 2" PST Antenna mount pipe	(10) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
10		3	Ericsson AIR32 KRD901146-1_B66A_B2A (Octo)			
11		3	Ericsson AIR6449 B41			
12		3	Ericsson KRY 112 144/1			
13		3	Ericsson 4449 B71+B85			
14		3	Ericsson 4415 B25			
15	127.0	6	Cci HPA65R-BU8A - Panel	MTC3607 Platform + HR & Kicker	(4) 1/2" Fiber (8) 3/4" DC (3) 3/8" RET	AT&T
16		3	Kaelus DBCT108F1V92-1 Diplexer			
17		3	Ericsson RRUS 4426 B66 RRU			
18		3	Ericsson RRUS 4415 B25 RRU			
19		3	Ericsson RRUS 4478 B5 RRU			
20		3	Ericsson RRUS 4478 B14 RRU			
21		6	Cci HPA-65R-BUU-H8 - Panel			
22		6	Ericsson RRUS-11 RRU			
23		3	Ericsson RRUS 32 RRU			
24		4	Raycap DC6-48-60-18-8F -SP			

## 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
25	117.0	3	JMA Wireless MX08FRO665-21 - Panel	CommScope MC-PK8-DSH	(1) 1.6" Hybrid	Dish Wireless
26		3	Fujitsu TA08025-B605			
27		3	Fujitsu TA08025-B604			
28		1	Raycap RDIDC-9181-PF-48			

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

## **Analysis Results**

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	<b>89.2%</b>	<b>84.3%</b>	<b>77.8%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## **Foundations**

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	5678.9	49.5	85.6

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

### **Operational Condition (Rigidity):**

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.4781 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 89.23% at 100.8ft

**Structure:** CT13075-A-SBA  
**Site Name:** New London  
**Height:** 149.00 (ft)  
**Base Elev:** 0.000 (ft)

**Code:** EIA/TIA-222-G  
**Exposure:** C  
**Gh:** 1.1

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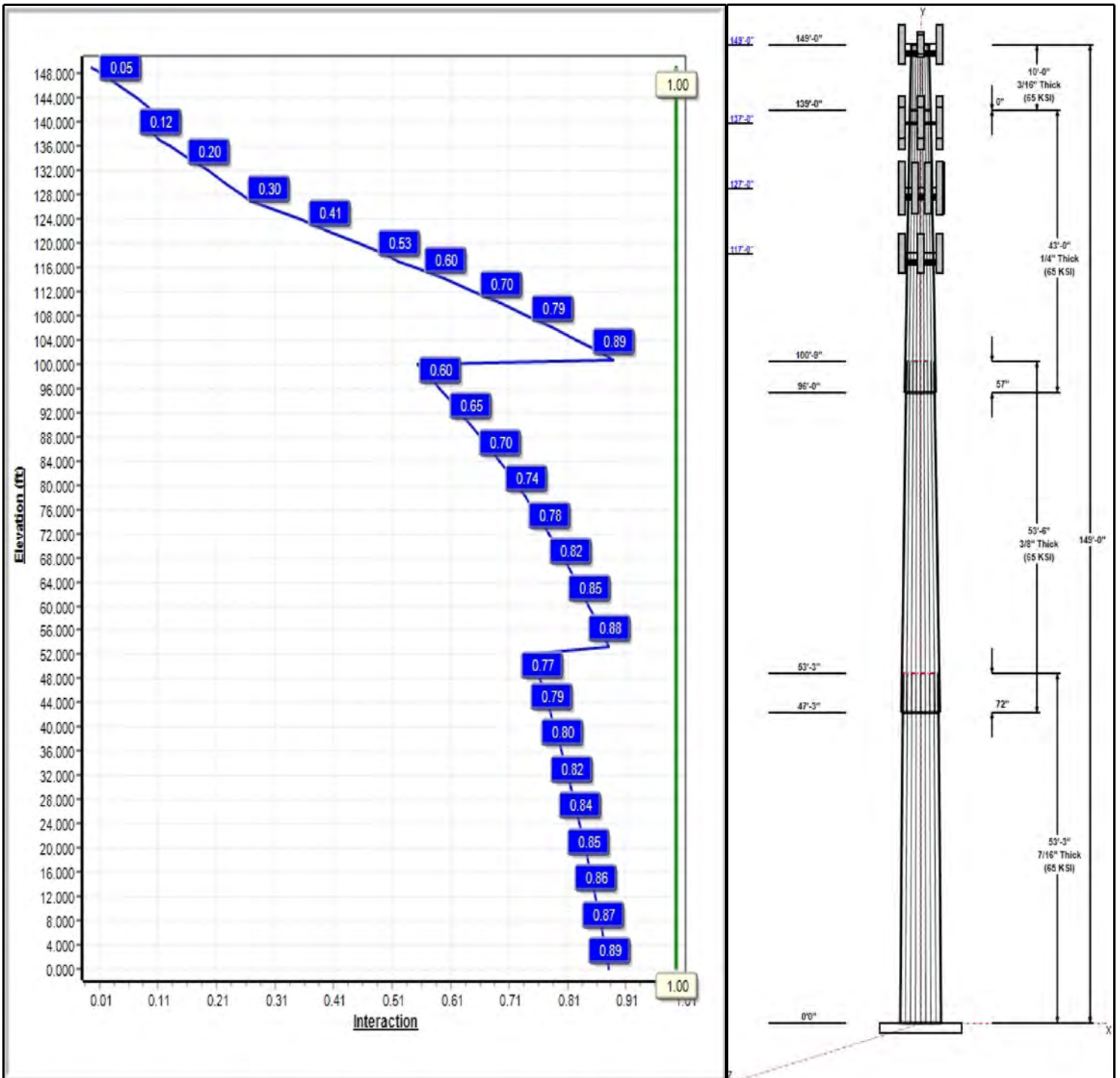
Dead Load Factor: 1.20  
 Wind Load Factor: 1.60

**Load Case : 1.2D + 1.6W 105 mph Wind**



**Iterations:** 27

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## Structure: CT13075-A-SBA

**Type:** Tapered  
**Site Name:** New London  
**Height:** 149.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.23597

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### Shaft Properties

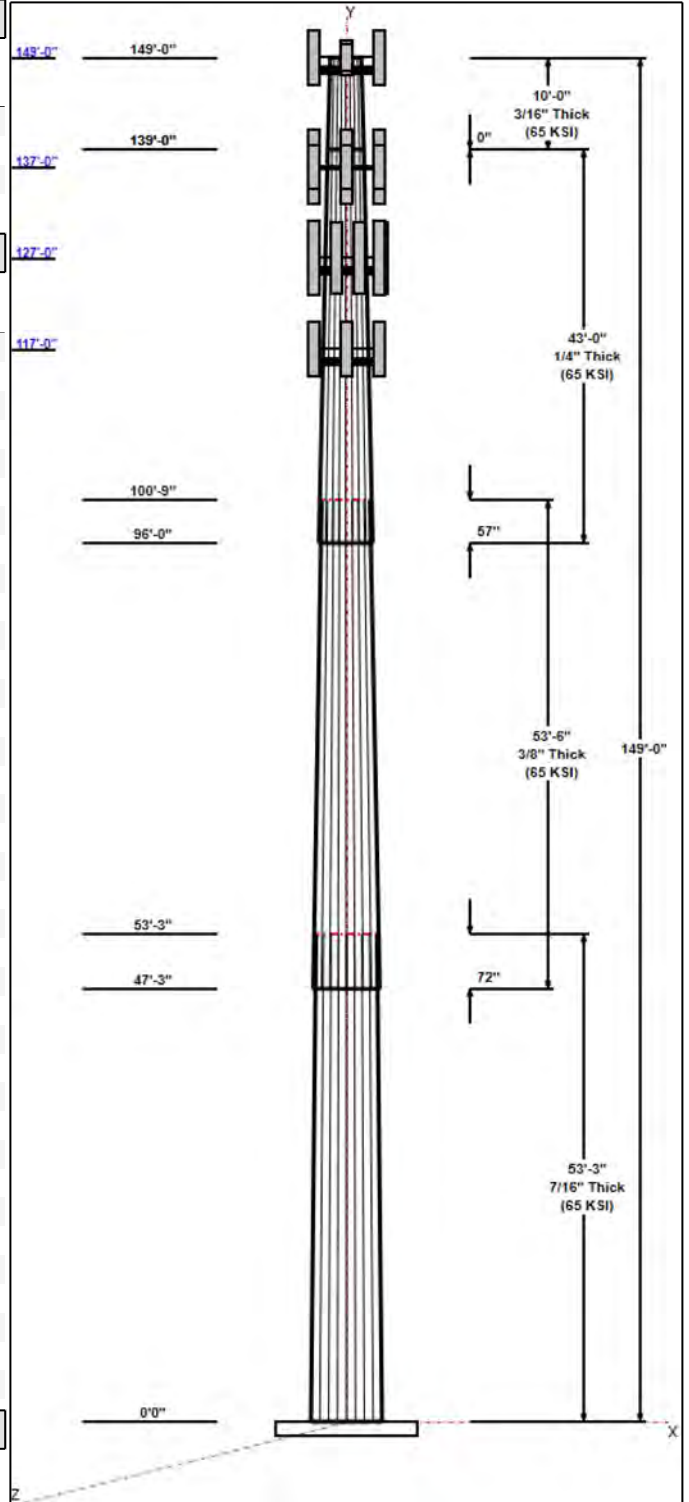
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	45.69	58.26	0.438		0.23597	65
2	53.50	35.24	47.86	0.375	Slip	0.23597	65
3	43.00	26.71	36.86	0.250	Slip	0.23597	65
4	10.00	24.35	26.71	0.188	Butt	0.23597	65

### Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
149.00	149.00	3	Antel BXA-80063/4CF	Verizon
149.00	149.00	1	RFS DB-T1-6Z-8AB-OZ	Verizon
149.00	149.00	1	RFS DB-T1-6Z-8AB-OZ	Verizon
149.00	149.00	1	Low Profile	Verizon
149.00	149.00	3	MX06FRO660-02	Verizon
149.00	149.00	3	MX06FRO660-02	Verizon
149.00	149.00	3	MT6407-77A	Verizon
149.00	149.00	3	B2/B66A RRH-BR049	Verizon
149.00	149.00	3	B5/B13 RRH-BR04C	Verizon
149.00	149.00	3	RT4401-48A (RRH only)	Verizon
149.00	149.00	1	HRK12 (Handrail Kit)	Verizon
149.00	149.00	1	PRK-1245 (kicker kit)	Verizon
137.00	137.00	1	Low Profile Platform	T-Mobile
137.00	137.00	3	AIR6449 B41	T-Mobile
137.00	137.00	3	KRD 9011461-B66A-B2A	T-Mobile
137.00	137.00	3	APXVAARR24_43-U-NA20	T-Mobile
137.00	137.00	3	KRY 112 144/1	T-Mobile
137.00	137.00	3	4449 B71 + B12	T-Mobile
137.00	137.00	3	RRUS 4415 B25	T-Mobile
137.00	137.00	1	(3) T-Arm Kit	T-Mobile
137.00	137.00	1	mount pipe	T-Mobile
127.00	127.00	6	Cci HPA65R-BU8A	AT&T
127.00	127.00	3	Kaelus DBCT108F1V92-1	AT&T
127.00	127.00	3	Ericsson RRUS 4426 B66	AT&T
127.00	127.00	3	Ericsson RRUS 32 RRU	AT&T
127.00	127.00	4	Raycap DC6-48-60-18-8F	AT&T
127.00	127.00	1	MTC3607 Platform + HR &	AT&T
127.00	127.00	3	Ericsson RRUS 4415 B25	AT&T
127.00	127.00	3	Ericsson RRUS 4478 B5	AT&T
127.00	127.00	3	Ericsson RRUS 4478 B14	AT&T
127.00	127.00	12	Cci HPA-65R-BUU-H8	AT&T
127.00	127.00	6	Ericsson RRUS-11 RRU	AT&T
117.00	117.00	3	MX08FRO665-21	Dish Wireless
117.00	117.00	3	TA08025-B605	Dish Wireless
117.00	117.00	3	TA08025-B604	Dish Wireless
117.00	117.00	1	RDIDC-9181-OF-48	Dish Wireless
117.00	117.00	1	MC-PK8-DSH	Dish Wireless

### Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	149.00	Inside	1 5/8" Coax	Verizon
0.00	149.00	Inside	1 5/8" Hybriflex Fiber	Verizon
0.00	149.00	Outside	Safety Cable	
0.00	149.00	Outside	Step bolts (ladder)	
0.00	137.00	Inside	1 5/8" Coax	T-Mobile



## Structure: CT13075-A-SBA

<b>Type:</b> Tapered	<b>Base Shape:</b> 18 Sided	7/29/2021
<b>Site Name:</b> New London	<b>Taper:</b> 0.23597	
<b>Height:</b> 149.00 (ft)		
<b>Base Elev:</b> 0.00 (ft)		Page: 3



0.00	137.00	Inside	1 5/8" Fiber	T-Mobile
0.00	127.00	Inside	1/2" Fiber	AT&T
0.00	127.00	Inside	3/4" DC	AT&T
0.00	127.00	Inside	3/8" RET	AT&T
0.00	117.00	Inside	1.6" Hybrid	Dish Wireless

### Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Cluster

### Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	65.4	60.0	Clipped

### Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	5678.9	49.5	52.4
0.9D + 1.6W 105 mph Wind	5621.0	49.5	39.3
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1319.7	11.5	85.6
1.2D + 1.0E	252.0	2.1	52.5
0.9D + 1.0E	249.3	2.1	39.4
1.0D + 1.0W 60 mph Wind	1153.5	10.1	43.7

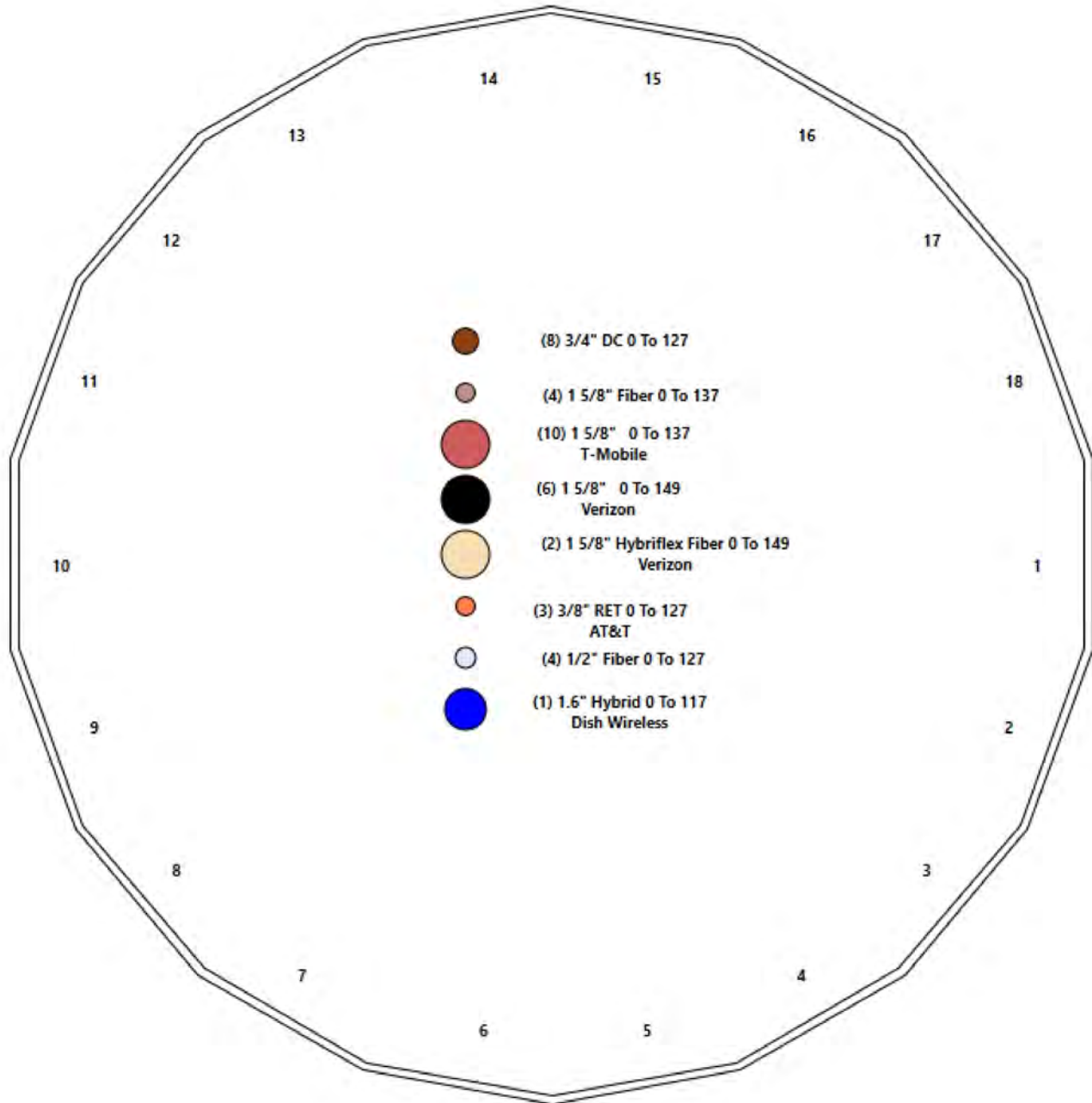
# Structure: CT13075-A-SBA - Coax Line Placement

Type: Monopole  
Site Name: New London  
Height: 149.00 (ft)

7/29/2021



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## Shaft Properties

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.4375	65		0.00	12,968
2	18	53.500	0.3750	65	Slip	72.00	8,921
3	18	43.000	0.2500	65	Slip	57.00	3,661
4	18	10.000	0.1875	65	Flange	0.00	513
<b>Total Shaft Weight:</b>							<b>26,063</b>

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	58.26	0.00	80.29	33916.66	22.07	133.17	45.69	53.25	62.84	16262.1	17.01	104.4	0.235973
2	47.86	47.25	56.52	16100.98	21.09	127.63	35.24	100.75	41.49	6370.66	15.16	93.96	0.235973
3	36.86	96.00	29.05	4917.70	24.58	147.43	26.71	139.00	21.00	1857.12	17.43	106.8	0.235973
4	26.71	139.0	15.78	1402.74	23.71	142.45	24.35	149.00	14.38	1060.65	21.49	129.8	0.235973

## Load Summary

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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### Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	149.00	Antel BXA-80063/4CF	3	9.90	4.72	0.72	110.33	6.567	0.72	0.00	0.00
2	149.00	RFS DB-T1-6Z-8AB-OZ	1	18.90	4.80	0.67	162.51	5.673	0.67	0.00	0.00
3	149.00	RFS DB-T1-6Z-8AB-OZ	1	18.90	4.80	0.67	162.51	5.673	0.67	0.00	0.00
4	149.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2808.04	39.650	1.00	0.00	0.00
5	149.00	MX06FRO660-02	3	46.00	9.87	0.87	314.77	11.245	0.90	0.00	0.00
6	149.00	MX06FRO660-02	3	46.00	9.87	0.87	314.77	11.245	0.90	0.00	0.00
7	149.00	MT6407-77A	3	79.40	4.69	0.70	198.84	5.636	0.75	0.00	0.00
8	149.00	B2/B66A RRH-BR049	3	84.40	1.87	0.67	160.89	2.443	0.75	0.00	0.00
9	149.00	B5/B13 RRH-BR04C (RFV01U-D2A)	3	70.30	1.87	0.67	139.60	2.443	0.75	0.00	0.00
10	149.00	RT4401-48A (RRH only)	3	18.60	0.99	0.67	46.28	1.411	0.75	0.00	0.00
11	149.00	HRK12 (Handrail Kit)	1	504.00	8.20	1.00	1101.72	16.209	1.00	0.00	0.00
12	149.00	PRK-1245 (kicker kit)	1	440.00	11.40	1.00	746.95	23.329	1.00	0.00	0.00
13	137.00	Low Profile Platform	1	1500.00	22.00	1.00	2797.10	39.502	1.00	0.00	0.00
14	137.00	AIR6449 B41	3	103.00	5.65	0.71	238.88	6.592	0.71	0.00	0.00
15	137.00	KRD 9011461-B66A-B2A	3	132.20	6.51	0.87	313.48	7.621	0.87	0.00	0.00
16	137.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.75	541.69	22.122	0.80	0.00	0.00
17	137.00	KRY 112 144/1	3	15.40	0.71	0.75	35.05	1.328	0.80	0.00	0.00
18	137.00	4449 B71 + B12	3	73.20	1.97	0.67	130.42	2.534	0.67	0.00	0.00
19	137.00	RRUS 4415 B25	3	46.00	1.64	0.67	86.73	2.151	0.67	0.00	0.00
20	137.00	(3) T-Arm Kit	1	500.00	16.50	1.00	1088.02	32.480	1.00	0.00	0.00
21	137.00	mount pipe	1	87.00	4.31	1.00	219.41	9.647	1.00	0.00	0.00
22	127.00	Cci HPA65R-BU8A	6	69.00	11.22	0.89	339.99	12.850	0.89	0.00	0.00
23	127.00	Kaelus DBCT108F1V92-1 Diplexer	3	19.80	0.70	1.00	44.04	0.953	1.00	0.00	0.00
24	127.00	Ericsson RRUS 4426 B66 RRU	3	48.50	1.15	0.67	86.77	1.616	0.67	0.00	0.00
25	127.00	Ericsson RRUS 32 RRU	3	77.00	3.31	0.67	124.43	2.219	0.67	0.00	0.00
26	127.00	Raycap DC6-48-60-18-8F -SP	4	31.80	2.20	1.00	92.60	3.230	1.00	0.00	0.00
27	127.00	MTC3607 Platform + HR & Kicker	1	2246.00	51.70	1.00	5330.04	89.325	1.00	0.00	0.00
28	127.00	Ericsson RRUS 4415 B25 RRU	3	44.10	1.86	0.67	90.76	2.423	0.67	0.00	0.00
29	127.00	Ericsson RRUS 4478 B5 RRU	3	59.90	1.84	0.67	107.98	2.379	0.67	0.00	0.00
30	127.00	Ericsson RRUS 4478 B14 RRU	3	59.40	1.65	0.67	100.18	2.160	0.67	0.00	0.00
31	127.00	Cci HPA-65R-BUU-H8	12	68.00	12.98	0.79	353.46	14.567	0.79	0.00	0.00
32	127.00	Ericsson RRUS-11 RRU	6	50.70	2.52	0.67	138.10	3.160	0.67	0.00	0.00
33	117.00	MX08FRO665-21	3	64.50	12.49	0.74	348.23	13.919	0.75	0.00	0.00
34	117.00	TA08025-B605	3	75.00	1.96	0.67	126.02	2.507	0.67	0.00	0.00
35	117.00	TA08025-B604	3	63.90	1.96	0.67	113.29	2.507	0.67	0.00	0.00
36	117.00	RDIDC-9181-OF-48	1	21.90	2.01	1.00	73.84	2.564	1.00	0.00	0.00
37	117.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3373.41	83.665	1.00	0.00	0.00
<b>Totals:</b>			<b>105</b>	<b>14,318.60</b>			<b>36,664.29</b>				

### Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	149.00	(6) 1 5/8" Coax	0.00	Inside
0.00	149.00	(2) 1 5/8" Hybriflex Fiber	0.00	Inside
0.00	149.00	(1) Safety Cable	0.38	Outside
0.00	149.00	(0) Step bolts (ladder)	0.63	Outside

## Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
0.00	137.00	(10) 1 5/8" Coax		0.00		Inside					
0.00	137.00	(4) 1 5/8" Fiber		0.00		Inside					
0.00	127.00	(4) 1/2" Fiber		0.00		Inside					
0.00	127.00	(8) 3/4" DC		0.00		Inside					
0.00	127.00	(3) 3/8" RET		0.00		Inside					
0.00	117.00	(1) 1.6" Hybrid		0.00		Inside					



## Shaft Section Properties

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Increment Length:** 2 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in <sup>3</sup> )	Weight (lb)
0.00		0.4375	58.260	80.291	33916.7	22.07	133.17	75.4	1146.	0.0
2.00		0.4375	57.788	79.636	33092.9	21.88	132.09	75.7	1127.	544.2
4.00		0.4375	57.316	78.980	32282.7	21.69	131.01	75.9	1109.	539.7
6.00		0.4375	56.844	78.325	31485.7	21.50	129.93	76.1	1091.	535.3
8.00		0.4375	56.372	77.670	30702.0	21.31	128.85	76.3	1072.	530.8
10.00		0.4375	55.900	77.014	29931.4	21.12	127.77	76.6	1054.	526.4
12.00		0.4375	55.428	76.359	29173.8	20.93	126.69	76.8	1036.	521.9
14.00		0.4375	54.956	75.704	28429.1	20.74	125.61	77.0	1018.	517.4
16.00		0.4375	54.484	75.048	27697.2	20.55	124.54	77.2	1001.	513.0
18.00		0.4375	54.012	74.393	26977.9	20.36	123.46	77.5	983.8	508.5
20.00		0.4375	53.541	73.738	26271.2	20.17	122.38	77.7	966.4	504.1
22.00		0.4375	53.069	73.082	25577.0	19.98	121.30	77.9	949.3	499.6
24.00		0.4375	52.597	72.427	24895.1	19.79	120.22	78.1	932.3	495.1
26.00		0.4375	52.125	71.772	24225.4	19.60	119.14	78.4	915.4	490.7
28.00		0.4375	51.653	71.116	23567.9	19.41	118.06	78.6	898.7	486.2
30.00		0.4375	51.181	70.461	22922.3	19.22	116.98	78.8	882.1	481.8
32.00		0.4375	50.709	69.806	22288.7	19.03	115.91	79.0	865.7	477.3
34.00		0.4375	50.237	69.150	21666.8	18.84	114.83	79.2	849.5	472.8
36.00		0.4375	49.765	68.495	21056.6	18.65	113.75	79.5	833.4	468.4
38.00		0.4375	49.293	67.840	20458.0	18.46	112.67	79.7	817.4	463.9
40.00		0.4375	48.821	67.184	19870.8	18.27	111.59	79.9	801.7	459.5
42.00		0.4375	48.349	66.529	19295.0	18.08	110.51	80.1	786.0	455.0
44.00		0.4375	47.877	65.874	18730.4	17.89	109.43	80.4	770.5	450.5
46.00		0.4375	47.405	65.218	18177.0	17.70	108.35	80.6	755.2	446.1
47.25	Bot - Section 2	0.4375	47.110	64.809	17836.6	17.58	107.68	80.7	745.7	276.5
48.00		0.4375	46.933	64.563	17634.5	17.51	107.28	80.8	740.1	309.1
50.00		0.4375	46.461	63.908	17103.0	17.31	106.20	81.0	725.0	818.4
52.00		0.4375	45.989	63.252	16582.2	17.12	105.12	81.3	710.2	810.2
53.25	Top - Section 1	0.3750	46.444	54.832	14703.3	20.43	123.85	0.0	0.0	502.1
54.00		0.3750	46.267	54.622	14534.5	20.34	123.38	77.5	618.7	139.7
56.00		0.3750	45.796	54.060	14090.7	20.12	122.12	77.7	606.0	369.8
58.00		0.3750	45.324	53.498	13656.0	19.90	120.86	78.0	593.4	366.0
60.00		0.3750	44.852	52.936	13230.3	19.68	119.60	78.3	581.0	362.2
62.00		0.3750	44.380	52.375	12813.6	19.46	118.35	78.5	568.7	358.4
64.00		0.3750	43.908	51.813	12405.7	19.24	117.09	78.8	556.5	354.5
66.00		0.3750	43.436	51.251	12006.6	19.01	115.83	79.0	544.4	350.7
68.00		0.3750	42.964	50.690	11616.2	18.79	114.57	79.3	532.5	346.9
70.00		0.3750	42.492	50.128	11234.3	18.57	113.31	79.6	520.7	343.1
72.00		0.3750	42.020	49.566	10860.8	18.35	112.05	79.8	509.1	339.2
74.00		0.3750	41.548	49.004	10495.7	18.13	110.79	80.1	497.6	335.4
76.00		0.3750	41.076	48.443	10138.9	17.90	109.54	80.3	486.2	331.6
78.00		0.3750	40.604	47.881	9790.3	17.68	108.28	80.6	474.9	327.8
80.00		0.3750	40.132	47.319	9449.8	17.46	107.02	80.9	463.8	323.9
82.00		0.3750	39.660	46.758	9117.2	17.24	105.76	81.1	452.8	320.1
84.00		0.3750	39.188	46.196	8792.6	17.02	104.50	81.4	441.9	316.3
86.00		0.3750	38.716	45.634	8475.7	16.79	103.24	81.6	431.2	312.5
88.00		0.3750	38.244	45.072	8166.6	16.57	101.98	81.9	420.6	308.7
90.00		0.3750	37.772	44.511	7865.0	16.35	100.73	82.2	410.1	304.8
92.00		0.3750	37.300	43.949	7571.0	16.13	99.47	82.4	399.8	301.0
94.00		0.3750	36.829	43.387	7284.4	15.91	98.21	82.5	389.6	297.2



Increment Length: 2 (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)
96.00	Bot - Section 3	0.3750	36.357	42.826	7005.1	15.68	96.95	82.5	379.5	293.4
98.00		0.3750	35.885	42.264	6733.1	15.46	95.69	82.5	369.6	485.9
100.00		0.3750	35.413	41.702	6468.2	15.24	94.43	82.5	359.8	479.6
100.75	Top - Section 2	0.2500	35.736	28.157	4479.7	23.79	142.94	0.0	0.0	178.2
102.00		0.2500	35.441	27.923	4368.9	23.59	141.76	73.7	242.8	119.3
104.00		0.2500	34.969	27.548	4195.4	23.25	139.88	74.1	236.3	188.8
106.00		0.2500	34.497	27.174	4026.7	22.92	137.99	74.4	229.9	186.2
108.00		0.2500	34.025	26.799	3862.5	22.59	136.10	74.8	223.6	183.7
110.00		0.2500	33.553	26.425	3702.8	22.25	134.21	75.2	217.4	181.1
112.00		0.2500	33.081	26.050	3547.6	21.92	132.32	75.6	211.2	178.6
114.00		0.2500	32.609	25.676	3396.8	21.59	130.44	76.0	205.2	176.0
116.00		0.2500	32.137	25.302	3250.3	21.26	128.55	76.4	199.2	173.5
117.00		0.2500	31.901	25.114	3178.7	21.09	127.60	76.6	196.3	85.8
118.00		0.2500	31.665	24.927	3108.2	20.92	126.66	76.8	193.3	85.1
120.00		0.2500	31.193	24.553	2970.2	20.59	124.77	77.2	187.5	168.4
122.00		0.2500	30.721	24.178	2836.3	20.26	122.89	77.6	181.8	165.8
124.00		0.2500	30.249	23.804	2706.6	19.92	121.00	78.0	176.2	163.3
126.00		0.2500	29.777	23.429	2580.8	19.59	119.11	78.4	170.7	160.7
127.00		0.2500	29.541	23.242	2519.4	19.43	118.17	78.6	168.0	79.4
128.00		0.2500	29.305	23.055	2459.0	19.26	117.22	78.7	165.3	78.8
130.00		0.2500	28.833	22.680	2341.2	18.93	115.33	79.1	159.9	155.6
132.00		0.2500	28.362	22.306	2227.1	18.59	113.45	79.5	154.7	153.1
134.00		0.2500	27.890	21.931	2116.8	18.26	111.56	79.9	149.5	150.5
136.00		0.2500	27.418	21.557	2010.2	17.93	109.67	80.3	144.4	148.0
137.00		0.2500	27.182	21.370	1958.3	17.76	108.73	80.5	141.9	73.0
138.00		0.2500	26.946	21.182	1907.3	17.59	107.78	80.7	139.4	72.4
139.00	Top - Section 3	0.2500	26.710	20.995	1857.1	17.43	106.84	80.9	136.9	71.8
139.00	Bot - Section 4	0.1875	26.710	15.783	1402.7	23.24	142.45	73.5	103.4	
140.00		0.1875	26.474	15.643	1365.6	23.49	141.19	73.8	101.6	53.5
142.00		0.1875	26.002	15.362	1293.4	23.04	138.68	74.3	98.0	105.5
144.00		0.1875	25.530	15.081	1223.7	22.60	136.16	74.8	94.4	103.6
146.00		0.1875	25.058	14.800	1156.6	22.15	133.64	75.3	90.9	101.7
148.00		0.1875	24.586	14.520	1092.0	21.71	131.13	75.9	87.5	99.8
149.00		0.1875	24.350	14.379	1060.6	21.49	129.87	76.1	85.8	49.2

**26063.1**

## Wind Loading - Shaft

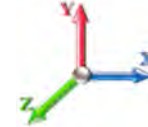
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 1.2D + 1.6W 105 mph Wind

**Iterations** 27

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	22.791	25.07	477.24	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	22.791	25.07	473.37	0.650	0.000	2.00	9.820	6.38	256.0	0.0	653.0
4.00		1.00	0.85	22.791	25.07	469.51	0.650	0.000	2.00	9.740	6.33	253.9	0.0	647.7
6.00		1.00	0.85	22.791	25.07	465.64	0.650	0.000	2.00	9.660	6.28	251.9	0.0	642.3
8.00		1.00	0.85	22.791	25.07	461.78	0.650	0.000	2.00	9.580	6.23	249.8	0.0	637.0
10.00		1.00	0.85	22.791	25.07	457.91	0.650	0.000	2.00	9.500	6.18	247.7	0.0	631.6
12.00		1.00	0.85	22.791	25.07	454.04	0.650	0.000	2.00	9.421	6.12	245.6	0.0	626.3
14.00		1.00	0.85	22.791	25.07	450.18	0.650	0.000	2.00	9.341	6.07	243.5	0.0	620.9
16.00		1.00	0.86	23.072	25.38	449.06	0.650	0.000	2.00	9.261	6.02	244.4	0.0	615.6
18.00		1.00	0.88	23.652	26.02	450.72	0.650	0.000	2.00	9.181	5.97	248.4	0.0	610.2
20.00		1.00	0.90	24.182	26.60	451.77	0.650	0.000	2.00	9.101	5.92	251.8	0.0	604.9
22.00		1.00	0.92	24.672	27.14	452.30	0.650	0.000	2.00	9.021	5.86	254.6	0.0	599.5
24.00		1.00	0.94	25.128	27.64	452.40	0.650	0.000	2.00	8.941	5.81	257.0	0.0	594.2
26.00		1.00	0.95	25.555	28.11	452.14	0.650	0.000	2.00	8.861	5.76	259.1	0.0	588.8
28.00		1.00	0.97	25.957	28.55	451.55	0.650	0.000	2.00	8.782	5.71	260.8	0.0	583.5
30.00		1.00	0.98	26.337	28.97	450.69	0.650	0.000	2.00	8.702	5.66	262.2	0.0	578.1
32.00		1.00	1.00	26.697	29.37	449.58	0.650	0.000	2.00	8.622	5.60	263.3	0.0	572.8
34.00		1.00	1.01	27.040	29.74	448.24	0.650	0.000	2.00	8.542	5.55	264.2	0.0	567.4
36.00		1.00	1.02	27.367	30.10	446.71	0.650	0.000	2.00	8.462	5.50	264.9	0.0	562.1
38.00		1.00	1.03	27.681	30.45	445.00	0.650	0.000	2.00	8.382	5.45	265.4	0.0	556.7
40.00		1.00	1.04	27.981	30.78	443.13	0.650	0.000	2.00	8.302	5.40	265.8	0.0	551.3
42.00		1.00	1.05	28.270	31.10	441.10	0.650	0.000	2.00	8.222	5.34	265.9	0.0	546.0
44.00		1.00	1.06	28.548	31.40	438.94	0.650	0.000	2.00	8.143	5.29	265.9	0.0	540.6
46.00		1.00	1.07	28.817	31.70	436.65	0.650	0.000	2.00	8.063	5.24	265.8	0.0	535.3
47.25	Bot - Section 2	1.00	1.08	28.980	31.88	435.16	0.650	0.000	1.25	4.999	3.25	165.7	0.0	331.8
48.00		1.00	1.08	29.076	31.98	434.25	0.650	0.000	0.75	3.032	1.97	100.8	0.0	370.9
50.00		1.00	1.09	29.327	32.26	431.73	0.650	0.000	2.00	8.030	5.22	269.4	0.0	982.1
52.00		1.00	1.10	29.570	32.53	429.11	0.650	0.000	2.00	7.950	5.17	268.9	0.0	972.2
53.25	Top - Section 1	1.00	1.11	29.719	32.69	427.43	0.650	0.000	1.25	4.928	3.20	167.5	0.0	602.6
54.00		1.00	1.11	29.806	32.79	433.43	0.650	0.000	0.75	2.942	1.91	100.3	0.0	167.6
56.00		1.00	1.12	30.035	33.04	430.65	0.650	0.000	2.00	7.790	5.06	267.7	0.0	443.8
58.00		1.00	1.13	30.258	33.28	427.79	0.650	0.000	2.00	7.710	5.01	266.9	0.0	439.2
60.00		1.00	1.14	30.475	33.52	424.85	0.650	0.000	2.00	7.631	4.96	266.0	0.0	434.6
62.00		1.00	1.14	30.686	33.75	421.83	0.650	0.000	2.00	7.551	4.91	265.1	0.0	430.0
64.00		1.00	1.15	30.892	33.98	418.74	0.650	0.000	2.00	7.471	4.86	264.0	0.0	425.4
66.00		1.00	1.16	31.092	34.20	415.59	0.650	0.000	2.00	7.391	4.80	262.9	0.0	420.8
68.00		1.00	1.17	31.288	34.42	412.36	0.650	0.000	2.00	7.311	4.75	261.7	0.0	416.3
70.00		1.00	1.17	31.480	34.63	409.08	0.650	0.000	2.00	7.231	4.70	260.4	0.0	411.7
72.00		1.00	1.18	31.667	34.83	405.74	0.650	0.000	2.00	7.151	4.65	259.1	0.0	407.1
74.00		1.00	1.19	31.850	35.04	402.34	0.650	0.000	2.00	7.071	4.60	257.7	0.0	402.5
76.00		1.00	1.19	32.030	35.23	398.89	0.650	0.000	2.00	6.992	4.54	256.2	0.0	397.9
78.00		1.00	1.20	32.205	35.43	395.38	0.650	0.000	2.00	6.912	4.49	254.6	0.0	393.3
80.00		1.00	1.21	32.377	35.62	391.83	0.650	0.000	2.00	6.832	4.44	253.0	0.0	388.7
82.00		1.00	1.21	32.546	35.80	388.23	0.650	0.000	2.00	6.752	4.39	251.4	0.0	384.1
84.00		1.00	1.22	32.712	35.98	384.59	0.650	0.000	2.00	6.672	4.34	249.7	0.0	379.6
86.00		1.00	1.23	32.874	36.16	380.90	0.650	0.000	2.00	6.592	4.28	247.9	0.0	375.0
88.00		1.00	1.23	33.034	36.34	377.17	0.650	0.000	2.00	6.512	4.23	246.1	0.0	370.4

## Wind Loading - Shaft

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	1.00	1.24	33.190	36.51	373.39	0.650	0.000	2.00	6.432	4.18	244.2	0.0	365.8			
92.00	1.00	1.24	33.344	36.68	369.58	0.650	0.000	2.00	6.353	4.13	242.3	0.0	361.2			
94.00	1.00	1.25	33.496	36.85	365.73	0.650	0.000	2.00	6.273	4.08	240.4	0.0	356.6			
96.00 Bot - Section 3	1.00	1.25	33.644	37.01	361.85	0.650	0.000	2.00	6.193	4.03	238.4	0.0	352.0			
98.00	1.00	1.26	33.791	37.17	357.93	0.650	0.000	2.00	6.198	4.03	239.6	0.0	583.1			
100.00	1.00	1.27	33.935	37.33	353.97	0.650	0.000	2.00	6.118	3.98	237.5	0.0	575.5			
100.75 Top - Section 2	1.00	1.27	33.988	37.39	352.48	0.650	0.000	0.75	2.274	1.48	88.4	0.0	213.8			
102.00	1.00	1.27	34.077	37.48	354.99	0.650	0.000	1.25	3.764	2.45	146.7	0.0	143.1			
104.00	1.00	1.28	34.216	37.64	350.98	0.650	0.000	2.00	5.958	3.87	233.2	0.0	226.5			
106.00	1.00	1.28	34.354	37.79	346.94	0.650	0.000	2.00	5.878	3.82	231.0	0.0	223.4			
108.00	1.00	1.29	34.489	37.94	342.87	0.650	0.000	2.00	5.798	3.77	228.8	0.0	220.4			
110.00	1.00	1.29	34.623	38.08	338.76	0.650	0.000	2.00	5.718	3.72	226.5	0.0	217.3			
112.00	1.00	1.30	34.754	38.23	334.63	0.650	0.000	2.00	5.638	3.67	224.2	0.0	214.3			
114.00	1.00	1.30	34.884	38.37	330.47	0.650	0.000	2.00	5.559	3.61	221.8	0.0	211.2			
116.00	1.00	1.31	35.012	38.51	326.29	0.650	0.000	2.00	5.479	3.56	219.4	0.0	208.2			
117.00 Appurtenance(s)	1.00	1.31	35.075	38.58	324.18	0.650	0.000	1.00	2.709	1.76	108.7	0.0	102.9			
118.00	1.00	1.31	35.138	38.65	322.07	0.650	0.000	1.00	2.689	1.75	108.1	0.0	102.2			
120.00	1.00	1.32	35.263	38.79	317.84	0.650	0.000	2.00	5.319	3.46	214.6	0.0	202.0			
122.00	1.00	1.32	35.386	38.92	313.57	0.650	0.000	2.00	5.239	3.41	212.1	0.0	199.0			
124.00	1.00	1.32	35.507	39.06	309.28	0.650	0.000	2.00	5.159	3.35	209.6	0.0	195.9			
126.00	1.00	1.33	35.627	39.19	304.97	0.650	0.000	2.00	5.079	3.30	207.0	0.0	192.9			
127.00 Appurtenance(s)	1.00	1.33	35.686	39.25	302.81	0.650	0.000	1.00	2.510	1.63	102.5	0.0	95.3			
128.00	1.00	1.33	35.745	39.32	300.64	0.650	0.000	1.00	2.490	1.62	101.8	0.0	94.5			
130.00	1.00	1.34	35.862	39.45	296.28	0.650	0.000	2.00	4.920	3.20	201.8	0.0	186.8			
132.00	1.00	1.34	35.977	39.58	291.90	0.650	0.000	2.00	4.840	3.15	199.2	0.0	183.7			
134.00	1.00	1.35	36.091	39.70	287.49	0.650	0.000	2.00	4.760	3.09	196.5	0.0	180.6			
136.00	1.00	1.35	36.204	39.82	283.07	0.650	0.000	2.00	4.680	3.04	193.8	0.0	177.6			
137.00 Appurtenance(s)	1.00	1.35	36.260	39.89	280.85	0.650	0.000	1.00	2.310	1.50	95.8	0.0	87.6			
138.00	1.00	1.35	36.316	39.95	278.63	0.650	0.000	1.00	2.290	1.49	95.1	0.0	86.9			
139.00 Top - Section 3	1.00	1.36	36.371	40.01	276.40	0.650	0.000	1.00	2.270	1.48	94.5	0.0	86.1			
140.00	1.00	1.36	36.426	40.07	274.16	0.650	0.000	1.00	2.250	1.46	93.8	0.0	84.2			
142.00	1.00	1.36	36.535	40.19	269.68	0.650	0.000	2.00	4.440	2.89	185.6	0.0	126.6			
144.00	1.00	1.37	36.642	40.31	265.17	0.650	0.000	2.00	4.361	2.83	182.8	0.0	124.3			
146.00	1.00	1.37	36.749	40.42	260.65	0.650	0.000	2.00	4.281	2.78	180.0	0.0	122.0			
148.00	1.00	1.37	36.854	40.54	256.10	0.650	0.000	2.00	4.201	2.73	177.1	0.0	119.7			
149.00 Appurtenance(s)	1.00	1.38	36.907	40.60	253.83	0.650	0.000	1.00	2.070	1.35	87.4	0.0	59.0			
<b>Totals:</b>								<b>149.00</b>				<b>17,881.5</b>				<b>31,275.7</b>

## Discrete Appurtenance Forces

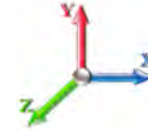
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.6W 105 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



**Iterations** 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	MX06FRO660-02	3	36.907	40.597	0.65	0.75	19.32	165.60	0.000	0.000	1254.98	0.00	0.00
2	149.00	Antel BXA-80063/4CF	3	36.907	40.597	0.54	0.75	7.65	35.64	0.000	0.000	496.68	0.00	0.00
3	149.00	RFS DB-T1-6Z-8AB-OZ	1	36.907	40.597	0.50	0.75	2.41	22.68	0.000	0.000	156.67	0.00	0.00
4	149.00	RFS DB-T1-6Z-8AB-OZ	1	36.907	40.597	0.50	0.75	2.41	22.68	0.000	0.000	156.67	0.00	0.00
5	149.00	Low Profile	1	36.907	40.597	1.00	1.00	22.00	1800.00	0.000	0.000	1429.03	0.00	0.00
6	149.00	MX06FRO660-02	3	36.907	40.597	0.65	0.75	19.32	165.60	0.000	0.000	1254.98	0.00	0.00
7	149.00	PRK-1245 (kicker kit)	1	36.907	40.597	1.00	1.00	11.40	528.00	0.000	0.000	740.50	0.00	0.00
8	149.00	B2/B66A RRH-BR049	3	36.907	40.597	0.50	0.75	2.82	303.84	0.000	0.000	183.11	0.00	0.00
9	149.00	B5/B13 RRH-BR04C	3	36.907	40.597	0.50	0.75	2.82	253.08	0.000	0.000	183.11	0.00	0.00
10	149.00	RT4401-48A (RRH only)	3	36.907	40.597	0.50	0.75	1.49	66.96	0.000	0.000	96.94	0.00	0.00
11	149.00	HRK12 (Handrail Kit)	1	36.907	40.597	1.00	1.00	8.20	604.80	0.000	0.000	532.64	0.00	0.00
12	149.00	MT6407-77A	3	36.907	40.597	0.52	0.75	7.39	285.84	0.000	0.000	479.81	0.00	0.00
13	137.00	APXVAARR24_43-U-NA2	3	36.260	39.886	0.56	0.75	34.16	460.80	0.000	0.000	2179.69	0.00	0.00
14	137.00	AIR6449 B41	3	36.260	39.886	0.53	0.75	9.03	370.80	0.000	0.000	576.01	0.00	0.00
15	137.00	KRD 9011461-B66A-B2A	3	36.260	39.886	0.65	0.75	12.74	475.92	0.000	0.000	813.25	0.00	0.00
16	137.00	RRUS 4415 B25	3	36.260	39.886	0.50	0.75	2.47	165.60	0.000	0.000	157.78	0.00	0.00
17	137.00	KRY 112 144/1	3	36.260	39.886	0.56	0.75	1.20	55.44	0.000	0.000	76.46	0.00	0.00
18	137.00	4449 B71 + B12	3	36.260	39.886	0.50	0.75	2.97	263.52	0.000	0.000	189.52	0.00	0.00
19	137.00	Low Profile Platform	1	36.260	39.886	1.00	1.00	22.00	1800.00	0.000	0.000	1403.99	0.00	0.00
20	137.00	(3) T-Arm Kit	1	36.260	39.886	1.00	1.00	16.50	600.00	0.000	0.000	1052.99	0.00	0.00
21	137.00	mount pipe	1	36.260	39.886	1.00	1.00	4.31	104.40	0.000	0.000	275.05	0.00	0.00
22	127.00	Ericsson RRUS 4478 B14	3	35.686	39.255	0.50	0.75	2.49	213.84	0.000	0.000	156.23	0.00	0.00
23	127.00	Cci HPA65R-BU8A	6	35.686	39.255	0.67	0.75	44.94	496.80	0.000	0.000	2822.32	0.00	0.00
24	127.00	Kaelus DBCT108F1V92-1	3	35.686	39.255	0.75	0.75	1.57	71.28	0.000	0.000	98.92	0.00	0.00
25	127.00	Ericsson RRUS 4426 B66	3	35.686	39.255	0.50	0.75	1.73	174.60	0.000	0.000	108.88	0.00	0.00
26	127.00	Ericsson RRUS 4415 B25	3	35.686	39.255	0.50	0.75	2.80	158.76	0.000	0.000	176.11	0.00	0.00
27	127.00	Ericsson RRUS 4478 B5	3	35.686	39.255	0.50	0.75	2.77	215.64	0.000	0.000	174.22	0.00	0.00
28	127.00	Ericsson RRUS 32 RRU	3	35.686	39.255	0.50	0.75	4.99	277.20	0.000	0.000	313.40	0.00	0.00
29	127.00	Raycap DC6-48-60-18-8F	4	35.686	39.255	0.75	0.75	6.60	152.64	0.000	0.000	414.53	0.00	0.00
30	127.00	MTC3607 Platform + HR &	1	35.686	39.255	1.00	1.00	51.70	2695.20	0.000	0.000	3247.15	0.00	0.00
31	127.00	Cci HPA-65R-BUU-H8	12	35.686	39.255	0.59	0.75	92.29	979.20	0.000	0.000	5796.36	0.00	0.00
32	127.00	Ericsson RRUS-11 RRU	6	35.686	39.255	0.50	0.75	7.60	365.04	0.000	0.000	477.20	0.00	0.00
33	117.00	MC-PK8-DSH	1	35.075	38.583	1.00	1.00	37.59	2072.40	0.000	0.000	2320.52	0.00	0.00
34	117.00	RDIDC-9181-OF-48	1	35.075	38.583	1.00	1.00	2.01	26.28	0.000	0.000	124.08	0.00	0.00
35	117.00	TA08025-B604	3	35.075	38.583	0.50	0.75	2.95	230.04	0.000	0.000	182.40	0.00	0.00
36	117.00	TA08025-B605	3	35.075	38.583	0.50	0.75	2.95	270.00	0.000	0.000	182.40	0.00	0.00
37	117.00	MX08FRO665-21	3	35.075	38.583	0.55	0.75	20.80	232.20	0.000	0.000	1283.78	0.00	0.00

**Totals:** 17,182.32

**31,568.36**

## Total Applied Force Summary

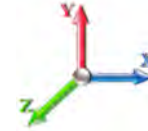
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.6W 105 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



**Iterations** 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		256.03	710.95	0.00	0.00
4.00		253.95	705.60	0.00	0.00
6.00		251.87	700.25	0.00	0.00
8.00		249.78	694.90	0.00	0.00
10.00		247.70	689.54	0.00	0.00
12.00		245.62	684.19	0.00	0.00
14.00		243.54	678.84	0.00	0.00
16.00		244.44	673.49	0.00	0.00
18.00		248.41	668.14	0.00	0.00
20.00		251.77	662.79	0.00	0.00
22.00		254.62	657.43	0.00	0.00
24.00		257.03	652.08	0.00	0.00
26.00		259.07	646.73	0.00	0.00
28.00		260.77	641.38	0.00	0.00
30.00		262.18	636.03	0.00	0.00
32.00		263.32	630.67	0.00	0.00
34.00		264.24	625.32	0.00	0.00
36.00		264.93	619.97	0.00	0.00
38.00		265.44	614.62	0.00	0.00
40.00		265.76	609.27	0.00	0.00
42.00		265.92	603.91	0.00	0.00
44.00		265.93	598.56	0.00	0.00
46.00		265.80	593.21	0.00	0.00
47.25		165.72	368.04	0.00	0.00
48.00		100.85	392.58	0.00	0.00
50.00		269.40	1040.05	0.00	0.00
52.00		268.94	1030.11	0.00	0.00
53.25		167.55	638.77	0.00	0.00
54.00		100.32	189.32	0.00	0.00
56.00		267.68	501.70	0.00	0.00
58.00		266.90	497.11	0.00	0.00
60.00		266.02	492.53	0.00	0.00
62.00		265.06	487.94	0.00	0.00
64.00		264.02	483.35	0.00	0.00
66.00		262.89	478.76	0.00	0.00
68.00		261.69	474.18	0.00	0.00
70.00		260.42	469.59	0.00	0.00
72.00		259.07	465.00	0.00	0.00
74.00		257.66	460.42	0.00	0.00
76.00		256.18	455.83	0.00	0.00
78.00		254.65	451.24	0.00	0.00
80.00		253.05	446.65	0.00	0.00
82.00		251.39	442.07	0.00	0.00
84.00		249.68	437.48	0.00	0.00
86.00		247.92	432.89	0.00	0.00
88.00		246.10	428.30	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00		244.24	423.72	0.00	0.00
92.00		242.32	419.13	0.00	0.00
94.00		240.36	414.54	0.00	0.00
96.00		238.36	409.95	0.00	0.00
98.00		239.58	641.05	0.00	0.00
100.00		237.50	633.40	0.00	0.00
100.75		88.40	235.56	0.00	0.00
102.00		146.75	179.32	0.00	0.00
104.00		233.21	284.43	0.00	0.00
106.00		231.01	281.37	0.00	0.00
108.00		228.77	278.31	0.00	0.00
110.00		226.49	275.25	0.00	0.00
112.00		224.18	272.19	0.00	0.00
114.00		221.83	269.14	0.00	0.00
116.00		219.44	266.08	0.00	0.00
117.00	(11) attachments	4201.90	2962.81	0.00	0.00
118.00		108.11	129.93	0.00	0.00
120.00		214.57	257.56	0.00	0.00
122.00		212.09	254.50	0.00	0.00
124.00		209.57	251.44	0.00	0.00
126.00		207.02	248.39	0.00	0.00
127.00	(47) attachments	13887.77	5923.25	0.00	0.00
128.00		101.81	117.75	0.00	0.00
130.00		201.83	233.20	0.00	0.00
132.00		199.20	230.14	0.00	0.00
134.00		196.53	227.08	0.00	0.00
136.00		193.84	224.02	0.00	0.00
137.00	(21) attachments	6820.57	4407.34	0.00	0.00
138.00		95.14	97.33	0.00	0.00
139.00		94.46	96.57	0.00	0.00
140.00		93.77	74.62	0.00	0.00
142.00		185.59	147.52	0.00	0.00
144.00		182.79	145.22	0.00	0.00
146.00		179.96	142.93	0.00	0.00
148.00		177.11	140.63	0.00	0.00
149.00	(26) attachments	7052.54	4324.18	0.00	0.00
<b>Totals:</b>		<b>49,449.90</b>	<b>52,481.64</b>	<b>0.00</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

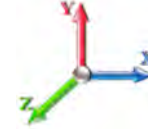
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 1.2D + 1.6W 105 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60

**Iterations** 27



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.017	0.000	22.791	0.00	0.66
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.017	0.000	22.791	0.00	0.00
4.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.017	0.000	22.791	0.00	0.66
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.017	0.000	22.791	0.00	0.00
6.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.017	0.000	22.791	0.00	0.66
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.017	0.000	22.791	0.00	0.00
8.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	22.791	0.00	0.66
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	22.791	0.00	0.00
10.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	22.791	0.00	0.66
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	22.791	0.00	0.00
12.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	22.791	0.00	0.66
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	22.791	0.00	0.00
14.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	22.791	0.00	0.66
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	22.791	0.00	0.00
16.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	23.072	0.00	0.66
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	23.072	0.00	0.00
18.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	23.652	0.00	0.66
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	23.652	0.00	0.00
20.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	24.182	0.00	0.66
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	24.182	0.00	0.00
22.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	24.672	0.00	0.66
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	24.672	0.00	0.00
24.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	25.128	0.00	0.66
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	25.128	0.00	0.00
26.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	25.555	0.00	0.66
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	25.555	0.00	0.00
28.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	25.957	0.00	0.66
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	25.957	0.00	0.00
30.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	26.337	0.00	0.66
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	26.337	0.00	0.00
32.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	26.697	0.00	0.66
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	26.697	0.00	0.00
34.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	27.040	0.00	0.66
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	27.040	0.00	0.00
36.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	27.367	0.00	0.66
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	27.367	0.00	0.00
38.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	27.681	0.00	0.66
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	27.681	0.00	0.00
40.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	27.981	0.00	0.66
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	27.981	0.00	0.00
42.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	28.270	0.00	0.66
42.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	28.270	0.00	0.00
44.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.021	0.000	28.548	0.00	0.66
44.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.021	0.000	28.548	0.00	0.00
46.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.021	0.000	28.817	0.00	0.66
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.021	0.000	28.817	0.00	0.00
47.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.021	0.000	28.980	0.00	0.41



## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.6W 105 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
47.25	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.07	0.00	0.021	0.000	28.980	0.00	0.00
48.00	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.021	0.000	29.076	0.00	0.25
48.00	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.021	0.000	29.076	0.00	0.00
50.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.021	0.000	29.327	0.00	0.66
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.021	0.000	29.327	0.00	0.00
52.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	29.570	0.00	0.66
52.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	29.570	0.00	0.00
53.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.022	0.000	29.719	0.00	0.41
53.25	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.07	0.00	0.022	0.000	29.719	0.00	0.00
54.00	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.021	0.000	29.806	0.00	0.25
54.00	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.021	0.000	29.806	0.00	0.00
56.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	30.035	0.00	0.66
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	30.035	0.00	0.00
58.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	30.258	0.00	0.66
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	30.258	0.00	0.00
60.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	30.475	0.00	0.66
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	30.475	0.00	0.00
62.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	30.686	0.00	0.66
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	30.686	0.00	0.00
64.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	30.892	0.00	0.66
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	30.892	0.00	0.00
66.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	31.092	0.00	0.66
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	31.092	0.00	0.00
68.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	31.288	0.00	0.66
68.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	31.288	0.00	0.00
70.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	31.480	0.00	0.66
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	31.480	0.00	0.00
72.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	31.667	0.00	0.66
72.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	31.667	0.00	0.00
74.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	31.850	0.00	0.66
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	31.850	0.00	0.00
76.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	32.030	0.00	0.66
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	32.030	0.00	0.00
78.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	32.205	0.00	0.66
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	32.205	0.00	0.00
80.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.025	0.000	32.377	0.00	0.66
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.025	0.000	32.377	0.00	0.00
82.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.025	0.000	32.546	0.00	0.66
82.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.025	0.000	32.546	0.00	0.00
84.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.025	0.000	32.712	0.00	0.66
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.025	0.000	32.712	0.00	0.00
86.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	32.874	0.00	0.66
86.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	32.874	0.00	0.00
88.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	33.034	0.00	0.66
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	33.034	0.00	0.00
90.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	33.190	0.00	0.66
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	33.190	0.00	0.00



## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



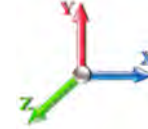
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**Load Case:** 1.2D + 1.6W 105 mph Wind

**Iterations** 27

**Dead Load Factor** 1.20

**Wind Load Factor** 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
92.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	33.344	0.00	0.66
92.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	33.344	0.00	0.00
94.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.027	0.000	33.496	0.00	0.66
94.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.027	0.000	33.496	0.00	0.00
96.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.027	0.000	33.644	0.00	0.66
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.027	0.000	33.644	0.00	0.00
98.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.028	0.000	33.791	0.00	0.66
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.028	0.000	33.791	0.00	0.00
100.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.028	0.000	33.935	0.00	0.66
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.028	0.000	33.935	0.00	0.00
100.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.028	0.000	33.988	0.00	0.25
100.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.028	0.000	33.988	0.00	0.00
102.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.028	0.000	34.077	0.00	0.41
102.00	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.07	0.00	0.028	0.000	34.077	0.00	0.00
104.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.028	0.000	34.216	0.00	0.66
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.028	0.000	34.216	0.00	0.00
106.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	34.354	0.00	0.66
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	34.354	0.00	0.00
108.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	34.489	0.00	0.66
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	34.489	0.00	0.00
110.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	34.623	0.00	0.66
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	34.623	0.00	0.00
112.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.030	0.000	34.754	0.00	0.66
112.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.030	0.000	34.754	0.00	0.00
114.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.030	0.000	34.884	0.00	0.66
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.030	0.000	34.884	0.00	0.00
116.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.031	0.000	35.012	0.00	0.66
116.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.031	0.000	35.012	0.00	0.00
117.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.031	0.000	35.075	0.00	0.33
117.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.031	0.000	35.075	0.00	0.00
118.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.031	0.000	35.138	0.00	0.33
118.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.031	0.000	35.138	0.00	0.00
120.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.032	0.000	35.263	0.00	0.66
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.032	0.000	35.263	0.00	0.00
122.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.032	0.000	35.386	0.00	0.66
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.032	0.000	35.386	0.00	0.00
124.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	35.507	0.00	0.66
124.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	35.507	0.00	0.00
126.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	35.627	0.00	0.66
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	35.627	0.00	0.00
127.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.034	0.000	35.686	0.00	0.33
127.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.034	0.000	35.686	0.00	0.00
128.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.034	0.000	35.745	0.00	0.33
128.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.034	0.000	35.745	0.00	0.00
130.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.034	0.000	35.862	0.00	0.66
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.034	0.000	35.862	0.00	0.00
132.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.035	0.000	35.977	0.00	0.66

## Linear Appurtenance Segment Forces (Factored)

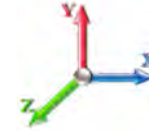
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.6W 105 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.035	0.000	35.977	0.00	0.00
134.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.035	0.000	36.091	0.00	0.66
134.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.035	0.000	36.091	0.00	0.00
136.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	36.204	0.00	0.66
136.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	36.204	0.00	0.00
137.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.036	0.000	36.260	0.00	0.33
137.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.036	0.000	36.260	0.00	0.00
138.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	36.316	0.00	0.33
138.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	36.316	0.00	0.00
139.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	36.371	0.00	0.33
139.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	36.371	0.00	0.00
140.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	36.426	0.00	0.33
140.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	36.426	0.00	0.00
142.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.038	0.000	36.535	0.00	0.66
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.038	0.000	36.535	0.00	0.00
144.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	36.642	0.00	0.66
144.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	36.642	0.00	0.00
146.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	36.749	0.00	0.66
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	36.749	0.00	0.00
148.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.040	0.000	36.854	0.00	0.66
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.040	0.000	36.854	0.00	0.00
149.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.041	0.000	36.907	0.00	0.33
149.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.041	0.000	36.907	0.00	0.00
<b>Totals:</b>											<b>0.0</b>	<b>48.8</b>

## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



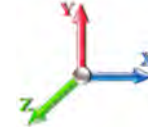
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**Load Case:** 1.2D + 1.6W 105 mph Wind

**Iterations** 27

**Dead Load Factor** 1.20

**Wind Load Factor** 1.60



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	-52.44	-49.50	0.00	-5678.9	0.00	5678.94	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.885
2.00	-51.65	-49.32	0.00	-5579.9	0.00	5579.95	5423.14	2711.57	12782.7	6400.90	0.02	-0.094	0.000	0.882
4.00	-50.86	-49.15	0.00	-5481.3	0.00	5481.31	5394.41	2697.20	12609.6	6314.20	0.08	-0.190	0.000	0.878
6.00	-50.08	-48.98	0.00	-5383.0	0.00	5383.00	5365.42	2682.71	12437.0	6227.76	0.18	-0.285	0.000	0.874
8.00	-49.30	-48.81	0.00	-5285.0	0.00	5285.04	5336.17	2668.08	12264.9	6141.58	0.32	-0.382	0.000	0.870
10.00	-48.53	-48.64	0.00	-5187.4	0.00	5187.42	5306.65	2653.32	12093.3	6055.68	0.50	-0.479	0.000	0.866
12.00	-47.77	-48.47	0.00	-5090.1	0.00	5090.14	5276.87	2638.43	11922.3	5970.05	0.73	-0.576	0.000	0.862
14.00	-47.01	-48.30	0.00	-4993.2	0.00	4993.20	5246.82	2623.41	11751.9	5884.71	0.99	-0.675	0.000	0.858
16.00	-46.25	-48.13	0.00	-4896.6	0.00	4896.60	5216.51	2608.26	11582.1	5799.67	1.29	-0.774	0.000	0.853
18.00	-45.51	-47.95	0.00	-4800.3	0.00	4800.34	5185.94	2592.97	11412.8	5714.93	1.64	-0.873	0.000	0.849
20.00	-44.76	-47.77	0.00	-4704.4	0.00	4704.44	5155.10	2577.55	11244.2	5630.50	2.03	-0.974	0.000	0.845
22.00	-44.03	-47.58	0.00	-4608.9	0.00	4608.91	5124.00	2562.00	11076.3	5546.38	2.46	-1.074	0.000	0.840
24.00	-43.30	-47.38	0.00	-4513.7	0.00	4513.76	5092.64	2546.32	10908.9	5462.60	2.93	-1.176	0.000	0.835
26.00	-42.57	-47.19	0.00	-4418.9	0.00	4418.99	5061.01	2530.51	10742.3	5379.14	3.45	-1.278	0.000	0.830
28.00	-41.85	-46.99	0.00	-4324.6	0.00	4324.62	5029.12	2514.56	10576.3	5296.03	4.00	-1.381	0.000	0.825
30.00	-41.14	-46.78	0.00	-4230.6	0.00	4230.64	4996.96	2498.48	10411.0	5213.26	4.60	-1.484	0.000	0.820
32.00	-40.43	-46.58	0.00	-4137.0	0.00	4137.08	4964.54	2482.27	10246.4	5130.86	5.25	-1.588	0.000	0.815
34.00	-39.73	-46.37	0.00	-4043.9	0.00	4043.92	4931.86	2465.93	10082.6	5048.81	5.94	-1.692	0.000	0.809
36.00	-39.03	-46.16	0.00	-3951.1	0.00	3951.19	4898.91	2449.45	9919.54	4967.14	6.67	-1.797	0.000	0.804
38.00	-38.34	-45.94	0.00	-3858.8	0.00	3858.88	4865.70	2432.85	9757.20	4885.85	7.44	-1.903	0.000	0.798
40.00	-37.66	-45.73	0.00	-3767.0	0.00	3767.00	4832.22	2416.11	9595.63	4804.95	8.26	-2.009	0.000	0.792
42.00	-36.98	-45.51	0.00	-3675.5	0.00	3675.55	4798.48	2399.24	9434.86	4724.44	9.13	-2.115	0.000	0.786
44.00	-36.30	-45.29	0.00	-3584.5	0.00	3584.53	4764.48	2382.24	9274.89	4644.34	10.04	-2.222	0.000	0.780
46.00	-35.65	-45.05	0.00	-3493.9	0.00	3493.96	4730.21	2365.11	9115.74	4564.64	10.99	-2.330	0.000	0.773
47.25	-35.25	-44.90	0.00	-3437.6	0.00	3437.65	4708.66	2354.33	9016.69	4515.05	11.61	-2.398	0.000	0.769
48.00	-34.80	-44.83	0.00	-3403.9	0.00	3403.97	4695.68	2347.84	8957.42	4485.37	11.99	-2.439	0.000	0.767
50.00	-33.69	-44.58	0.00	-3314.3	0.00	3314.31	4660.89	2330.44	8799.96	4406.52	13.04	-2.547	0.000	0.760
52.00	-32.61	-44.32	0.00	-3225.1	0.00	3225.14	4625.83	2312.91	8643.36	4328.11	14.13	-2.656	0.000	0.753
53.25	-31.93	-44.15	0.00	-3169.7	0.00	3169.75	3818.32	1909.16	7226.08	3618.41	14.83	-2.724	0.000	0.885
54.00	-31.69	-44.09	0.00	-3136.6	0.00	3136.63	3808.46	1904.23	7179.51	3595.09	15.26	-2.766	0.000	0.881
56.00	-31.11	-43.86	0.00	-3048.4	0.00	3048.46	3782.00	1891.00	7055.71	3533.10	16.45	-2.887	0.000	0.872
58.00	-30.53	-43.63	0.00	-2960.7	0.00	2960.74	3755.27	1877.63	6932.45	3471.38	17.69	-3.008	0.000	0.862
60.00	-29.96	-43.40	0.00	-2873.4	0.00	2873.48	3728.27	1864.14	6809.75	3409.94	18.97	-3.130	0.000	0.851
62.00	-29.40	-43.18	0.00	-2786.6	0.00	2786.67	3701.01	1850.51	6687.63	3348.79	20.31	-3.251	0.000	0.841
64.00	-28.84	-42.95	0.00	-2700.3	0.00	2700.32	3673.49	1836.75	6566.11	3287.93	21.70	-3.373	0.000	0.830
66.00	-28.29	-42.71	0.00	-2614.4	0.00	2614.43	3645.71	1822.85	6445.19	3227.39	23.14	-3.495	0.000	0.818
68.00	-27.74	-42.48	0.00	-2529.0	0.00	2529.00	3617.66	1808.83	6324.90	3167.15	24.63	-3.617	0.000	0.807
70.00	-27.20	-42.25	0.00	-2444.0	0.00	2444.04	3589.34	1794.67	6205.25	3107.24	26.17	-3.739	0.000	0.795
72.00	-26.66	-42.02	0.00	-2359.5	0.00	2359.54	3560.76	1780.38	6086.26	3047.65	27.76	-3.860	0.000	0.782
74.00	-26.13	-41.79	0.00	-2275.5	0.00	2275.50	3531.92	1765.96	5967.94	2988.40	29.40	-3.982	0.000	0.769
76.00	-25.61	-41.55	0.00	-2191.9	0.00	2191.93	3502.82	1751.41	5850.30	2929.50	31.10	-4.103	0.000	0.756
78.00	-25.09	-41.32	0.00	-2108.8	0.00	2108.83	3473.45	1736.72	5733.37	2870.94	32.84	-4.224	0.000	0.742
80.00	-24.58	-41.08	0.00	-2026.2	0.00	2026.20	3443.81	1721.91	5617.15	2812.75	34.63	-4.344	0.000	0.728
82.00	-24.07	-40.85	0.00	-1944.0	0.00	1944.03	3413.92	1706.96	5501.67	2754.92	36.48	-4.463	0.000	0.713
84.00	-23.57	-40.61	0.00	-1862.3	0.00	1862.33	3383.76	1691.88	5386.93	2697.47	38.37	-4.582	0.000	0.698
86.00	-23.08	-40.38	0.00	-1781.1	0.00	1781.11	3353.33	1676.67	5272.96	2640.40	40.32	-4.700	0.000	0.682
88.00	-22.59	-40.14	0.00	-1700.3	0.00	1700.35	3322.64	1661.32	5159.77	2583.72	42.31	-4.817	0.000	0.665
90.00	-22.11	-39.91	0.00	-1620.0	0.00	1620.06	3291.69	1645.84	5047.37	2527.44	44.35	-4.933	0.000	0.648

## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Page:</b> 20
	<b>Struct Class:</b> II	



92.00	-21.63	-39.67	0.00	-1540.2	0.00	1540.24	3260.47	1630.24	4935.79	2471.56	46.44	-5.047	0.000	0.630
94.00	-21.16	-39.44	0.00	-1460.8	0.00	1460.89	3223.46	1611.73	4816.76	2411.96	48.57	-5.160	0.000	0.613
96.00	-20.70	-39.21	0.00	-1382.0	0.00	1382.02	3181.72	1590.86	4692.22	2349.60	50.76	-5.271	0.000	0.595
98.00	-20.01	-38.94	0.00	-1303.6	0.00	1303.61	3139.99	1570.00	4569.31	2288.05	52.99	-5.380	0.000	0.577
100.00	-19.35	-38.67	0.00	-1225.7	0.00	1225.72	3098.26	1549.13	4448.03	2227.32	55.26	-5.487	0.000	0.557
100.75	-19.09	-38.58	0.00	-1196.7	0.00	1196.71	1860.42	930.21	2714.89	1359.46	56.13	-5.527	0.000	0.892
102.00	-18.86	-38.45	0.00	-1148.4	0.00	1148.49	1851.10	925.55	2678.69	1341.34	57.58	-5.592	0.000	0.868
104.00	-18.50	-38.24	0.00	-1071.5	0.00	1071.59	1835.98	917.99	2620.93	1312.41	59.95	-5.737	0.000	0.828
106.00	-18.15	-38.02	0.00	-995.11	0.00	995.11	1820.60	910.30	2563.39	1283.60	62.38	-5.877	0.000	0.787
108.00	-17.81	-37.81	0.00	-919.07	0.00	919.07	1804.95	902.48	2506.08	1254.90	64.87	-6.012	0.000	0.744
110.00	-17.48	-37.59	0.00	-843.45	0.00	843.45	1789.04	894.52	2449.03	1226.33	67.41	-6.142	0.000	0.699
112.00	-17.15	-37.38	0.00	-768.27	0.00	768.27	1772.87	886.43	2392.24	1197.90	70.01	-6.266	0.000	0.653
114.00	-16.84	-37.16	0.00	-693.52	0.00	693.52	1756.43	878.22	2335.73	1169.60	72.66	-6.383	0.000	0.604
116.00	-16.55	-36.94	0.00	-619.20	0.00	619.20	1739.73	869.86	2279.52	1141.45	75.35	-6.493	0.000	0.554
117.00	-14.05	-32.44	0.00	-582.26	0.00	582.26	1731.28	865.64	2251.53	1127.44	76.71	-6.545	0.000	0.526
118.00	-13.89	-32.33	0.00	-549.83	0.00	549.83	1722.76	861.38	2223.62	1113.46	78.09	-6.596	0.000	0.503
120.00	-13.61	-32.11	0.00	-485.16	0.00	485.16	1705.53	852.77	2168.05	1085.64	80.87	-6.691	0.000	0.456
122.00	-13.34	-31.89	0.00	-420.94	0.00	420.94	1688.04	844.02	2112.82	1057.98	83.68	-6.778	0.000	0.407
124.00	-13.07	-31.67	0.00	-357.16	0.00	357.16	1670.28	835.14	2057.95	1030.51	86.53	-6.856	0.000	0.356
126.00	-12.82	-31.44	0.00	-293.83	0.00	293.83	1652.26	826.13	2003.46	1003.22	89.42	-6.924	0.000	0.302
127.00	-8.62	-16.95	0.00	-262.39	0.00	262.39	1643.15	821.58	1976.36	989.65	90.87	-6.955	0.000	0.271
128.00	-8.50	-16.84	0.00	-245.44	0.00	245.44	1633.98	816.99	1949.35	976.13	92.32	-6.983	0.000	0.257
130.00	-8.28	-16.62	0.00	-211.77	0.00	211.77	1615.43	807.71	1895.65	949.24	95.25	-7.036	0.000	0.229
132.00	-8.06	-16.40	0.00	-178.54	0.00	178.54	1596.61	798.31	1842.37	922.56	98.21	-7.084	0.000	0.199
134.00	-7.85	-16.18	0.00	-145.74	0.00	145.74	1577.54	788.77	1789.53	896.09	101.18	-7.125	0.000	0.168
136.00	-7.64	-15.96	0.00	-113.39	0.00	113.39	1558.20	779.10	1737.14	869.86	104.16	-7.160	0.000	0.136
137.00	-4.12	-8.64	0.00	-97.43	0.00	97.43	1548.43	774.21	1711.12	856.83	105.66	-7.175	0.000	0.116
138.00	-4.03	-8.54	0.00	-88.78	0.00	88.78	1538.59	769.30	1685.21	843.86	107.16	-7.188	0.000	0.108
139.00	-3.95	-8.43	0.00	-80.25	0.00	80.25	1528.69	764.34	1659.43	830.95	108.66	-7.201	0.000	0.099
139.00	-3.95	-8.43	0.00	-80.25	0.00	80.25	1044.31	522.16	1138.99	570.34	108.66	-7.201	0.000	0.145
140.00	-3.88	-8.33	0.00	-71.81	0.00	71.81	1038.69	519.35	1122.71	562.19	110.17	-7.213	0.000	0.132
142.00	-3.76	-8.13	0.00	-55.15	0.00	55.15	1027.26	513.63	1090.28	545.95	113.19	-7.239	0.000	0.105
144.00	-3.63	-7.93	0.00	-38.88	0.00	38.88	1015.57	507.78	1058.02	529.79	116.22	-7.260	0.000	0.077
146.00	-3.51	-7.74	0.00	-23.02	0.00	23.02	1003.61	501.80	1025.94	513.73	119.25	-7.274	0.000	0.049
148.00	-3.40	-7.54	0.00	-7.54	0.00	7.54	991.38	495.69	994.07	497.78	122.30	-7.282	0.000	0.019
149.00	0.00	-7.05	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	123.82	-7.283	0.000	0.000

## Wind Loading - Shaft

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 105 mph Wind

**Iterations** 26

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	22.791	25.07	477.24	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	22.791	25.07	473.37	0.650	0.000	2.00	9.820	6.38	256.0	0.0	489.8
4.00		1.00	0.85	22.791	25.07	469.51	0.650	0.000	2.00	9.740	6.33	253.9	0.0	485.8
6.00		1.00	0.85	22.791	25.07	465.64	0.650	0.000	2.00	9.660	6.28	251.9	0.0	481.7
8.00		1.00	0.85	22.791	25.07	461.78	0.650	0.000	2.00	9.580	6.23	249.8	0.0	477.7
10.00		1.00	0.85	22.791	25.07	457.91	0.650	0.000	2.00	9.500	6.18	247.7	0.0	473.7
12.00		1.00	0.85	22.791	25.07	454.04	0.650	0.000	2.00	9.421	6.12	245.6	0.0	469.7
14.00		1.00	0.85	22.791	25.07	450.18	0.650	0.000	2.00	9.341	6.07	243.5	0.0	465.7
16.00		1.00	0.86	23.072	25.38	449.06	0.650	0.000	2.00	9.261	6.02	244.4	0.0	461.7
18.00		1.00	0.88	23.652	26.02	450.72	0.650	0.000	2.00	9.181	5.97	248.4	0.0	457.7
20.00		1.00	0.90	24.182	26.60	451.77	0.650	0.000	2.00	9.101	5.92	251.8	0.0	453.6
22.00		1.00	0.92	24.672	27.14	452.30	0.650	0.000	2.00	9.021	5.86	254.6	0.0	449.6
24.00		1.00	0.94	25.128	27.64	452.40	0.650	0.000	2.00	8.941	5.81	257.0	0.0	445.6
26.00		1.00	0.95	25.555	28.11	452.14	0.650	0.000	2.00	8.861	5.76	259.1	0.0	441.6
28.00		1.00	0.97	25.957	28.55	451.55	0.650	0.000	2.00	8.782	5.71	260.8	0.0	437.6
30.00		1.00	0.98	26.337	28.97	450.69	0.650	0.000	2.00	8.702	5.66	262.2	0.0	433.6
32.00		1.00	1.00	26.697	29.37	449.58	0.650	0.000	2.00	8.622	5.60	263.3	0.0	429.6
34.00		1.00	1.01	27.040	29.74	448.24	0.650	0.000	2.00	8.542	5.55	264.2	0.0	425.6
36.00		1.00	1.02	27.367	30.10	446.71	0.650	0.000	2.00	8.462	5.50	264.9	0.0	421.5
38.00		1.00	1.03	27.681	30.45	445.00	0.650	0.000	2.00	8.382	5.45	265.4	0.0	417.5
40.00		1.00	1.04	27.981	30.78	443.13	0.650	0.000	2.00	8.302	5.40	265.8	0.0	413.5
42.00		1.00	1.05	28.270	31.10	441.10	0.650	0.000	2.00	8.222	5.34	265.9	0.0	409.5
44.00		1.00	1.06	28.548	31.40	438.94	0.650	0.000	2.00	8.143	5.29	265.9	0.0	405.5
46.00		1.00	1.07	28.817	31.70	436.65	0.650	0.000	2.00	8.063	5.24	265.8	0.0	401.5
47.25	Bot - Section 2	1.00	1.08	28.980	31.88	435.16	0.650	0.000	1.25	4.999	3.25	165.7	0.0	248.9
48.00		1.00	1.08	29.076	31.98	434.25	0.650	0.000	0.75	3.032	1.97	100.8	0.0	278.1
50.00		1.00	1.09	29.327	32.26	431.73	0.650	0.000	2.00	8.030	5.22	269.4	0.0	736.6
52.00		1.00	1.10	29.570	32.53	429.11	0.650	0.000	2.00	7.950	5.17	268.9	0.0	729.1
53.25	Top - Section 1	1.00	1.11	29.719	32.69	427.43	0.650	0.000	1.25	4.928	3.20	167.5	0.0	451.9
54.00		1.00	1.11	29.806	32.79	433.43	0.650	0.000	0.75	2.942	1.91	100.3	0.0	125.7
56.00		1.00	1.12	30.035	33.04	430.65	0.650	0.000	2.00	7.790	5.06	267.7	0.0	332.8
58.00		1.00	1.13	30.258	33.28	427.79	0.650	0.000	2.00	7.710	5.01	266.9	0.0	329.4
60.00		1.00	1.14	30.475	33.52	424.85	0.650	0.000	2.00	7.631	4.96	266.0	0.0	326.0
62.00		1.00	1.14	30.686	33.75	421.83	0.650	0.000	2.00	7.551	4.91	265.1	0.0	322.5
64.00		1.00	1.15	30.892	33.98	418.74	0.650	0.000	2.00	7.471	4.86	264.0	0.0	319.1
66.00		1.00	1.16	31.092	34.20	415.59	0.650	0.000	2.00	7.391	4.80	262.9	0.0	315.6
68.00		1.00	1.17	31.288	34.42	412.36	0.650	0.000	2.00	7.311	4.75	261.7	0.0	312.2
70.00		1.00	1.17	31.480	34.63	409.08	0.650	0.000	2.00	7.231	4.70	260.4	0.0	308.8
72.00		1.00	1.18	31.667	34.83	405.74	0.650	0.000	2.00	7.151	4.65	259.1	0.0	305.3
74.00		1.00	1.19	31.850	35.04	402.34	0.650	0.000	2.00	7.071	4.60	257.7	0.0	301.9
76.00		1.00	1.19	32.030	35.23	398.89	0.650	0.000	2.00	6.992	4.54	256.2	0.0	298.4
78.00		1.00	1.20	32.205	35.43	395.38	0.650	0.000	2.00	6.912	4.49	254.6	0.0	295.0
80.00		1.00	1.21	32.377	35.62	391.83	0.650	0.000	2.00	6.832	4.44	253.0	0.0	291.6
82.00		1.00	1.21	32.546	35.80	388.23	0.650	0.000	2.00	6.752	4.39	251.4	0.0	288.1
84.00		1.00	1.22	32.712	35.98	384.59	0.650	0.000	2.00	6.672	4.34	249.7	0.0	284.7
86.00		1.00	1.23	32.874	36.16	380.90	0.650	0.000	2.00	6.592	4.28	247.9	0.0	281.2
88.00		1.00	1.23	33.034	36.34	377.17	0.650	0.000	2.00	6.512	4.23	246.1	0.0	277.8

## Wind Loading - Shaft

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	1.00	1.24	33.190	36.51	373.39	0.650	0.000	2.00	6.432	4.18	244.2	0.0	274.3			
92.00	1.00	1.24	33.344	36.68	369.58	0.650	0.000	2.00	6.353	4.13	242.3	0.0	270.9			
94.00	1.00	1.25	33.496	36.85	365.73	0.650	0.000	2.00	6.273	4.08	240.4	0.0	267.5			
96.00 Bot - Section 3	1.00	1.25	33.644	37.01	361.85	0.650	0.000	2.00	6.193	4.03	238.4	0.0	264.0			
98.00	1.00	1.26	33.791	37.17	357.93	0.650	0.000	2.00	6.198	4.03	239.6	0.0	437.3			
100.00	1.00	1.27	33.935	37.33	353.97	0.650	0.000	2.00	6.118	3.98	237.5	0.0	431.6			
100.75 Top - Section 2	1.00	1.27	33.988	37.39	352.48	0.650	0.000	0.75	2.274	1.48	88.4	0.0	160.4			
102.00	1.00	1.27	34.077	37.48	354.99	0.650	0.000	1.25	3.764	2.45	146.7	0.0	107.3			
104.00	1.00	1.28	34.216	37.64	350.98	0.650	0.000	2.00	5.958	3.87	233.2	0.0	169.9			
106.00	1.00	1.28	34.354	37.79	346.94	0.650	0.000	2.00	5.878	3.82	231.0	0.0	167.6			
108.00	1.00	1.29	34.489	37.94	342.87	0.650	0.000	2.00	5.798	3.77	228.8	0.0	165.3			
110.00	1.00	1.29	34.623	38.08	338.76	0.650	0.000	2.00	5.718	3.72	226.5	0.0	163.0			
112.00	1.00	1.30	34.754	38.23	334.63	0.650	0.000	2.00	5.638	3.67	224.2	0.0	160.7			
114.00	1.00	1.30	34.884	38.37	330.47	0.650	0.000	2.00	5.559	3.61	221.8	0.0	158.4			
116.00	1.00	1.31	35.012	38.51	326.29	0.650	0.000	2.00	5.479	3.56	219.4	0.0	156.1			
117.00 Appurtenance(s)	1.00	1.31	35.075	38.58	324.18	0.650	0.000	1.00	2.709	1.76	108.7	0.0	77.2			
118.00	1.00	1.31	35.138	38.65	322.07	0.650	0.000	1.00	2.689	1.75	108.1	0.0	76.6			
120.00	1.00	1.32	35.263	38.79	317.84	0.650	0.000	2.00	5.319	3.46	214.6	0.0	151.5			
122.00	1.00	1.32	35.386	38.92	313.57	0.650	0.000	2.00	5.239	3.41	212.1	0.0	149.2			
124.00	1.00	1.32	35.507	39.06	309.28	0.650	0.000	2.00	5.159	3.35	209.6	0.0	146.9			
126.00	1.00	1.33	35.627	39.19	304.97	0.650	0.000	2.00	5.079	3.30	207.0	0.0	144.7			
127.00 Appurtenance(s)	1.00	1.33	35.686	39.25	302.81	0.650	0.000	1.00	2.510	1.63	102.5	0.0	71.5			
128.00	1.00	1.33	35.745	39.32	300.64	0.650	0.000	1.00	2.490	1.62	101.8	0.0	70.9			
130.00	1.00	1.34	35.862	39.45	296.28	0.650	0.000	2.00	4.920	3.20	201.8	0.0	140.1			
132.00	1.00	1.34	35.977	39.58	291.90	0.650	0.000	2.00	4.840	3.15	199.2	0.0	137.8			
134.00	1.00	1.35	36.091	39.70	287.49	0.650	0.000	2.00	4.760	3.09	196.5	0.0	135.5			
136.00	1.00	1.35	36.204	39.82	283.07	0.650	0.000	2.00	4.680	3.04	193.8	0.0	133.2			
137.00 Appurtenance(s)	1.00	1.35	36.260	39.89	280.85	0.650	0.000	1.00	2.310	1.50	95.8	0.0	65.7			
138.00	1.00	1.35	36.316	39.95	278.63	0.650	0.000	1.00	2.290	1.49	95.1	0.0	65.2			
139.00 Top - Section 3	1.00	1.36	36.371	40.01	276.40	0.650	0.000	1.00	2.270	1.48	94.5	0.0	64.6			
140.00	1.00	1.36	36.426	40.07	274.16	0.650	0.000	1.00	2.250	1.46	93.8	0.0	48.1			
142.00	1.00	1.36	36.535	40.19	269.68	0.650	0.000	2.00	4.440	2.89	185.6	0.0	95.0			
144.00	1.00	1.37	36.642	40.31	265.17	0.650	0.000	2.00	4.361	2.83	182.8	0.0	93.2			
146.00	1.00	1.37	36.749	40.42	260.65	0.650	0.000	2.00	4.281	2.78	180.0	0.0	91.5			
148.00	1.00	1.37	36.854	40.54	256.10	0.650	0.000	2.00	4.201	2.73	177.1	0.0	89.8			
149.00 Appurtenance(s)	1.00	1.38	36.907	40.60	253.83	0.650	0.000	1.00	2.070	1.35	87.4	0.0	44.3			
<b>Totals:</b>								<b>149.00</b>				<b>17,881.5</b>				<b>23,456.8</b>



## Discrete Appurtenance Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 105 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60



**Iterations** 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	MX06FRO660-02	3	36.907	40.597	0.65	0.75	19.32	124.20	0.000	0.000	1254.98	0.00	0.00
2	149.00	Antel BXA-80063/4CF	3	36.907	40.597	0.54	0.75	7.65	26.73	0.000	0.000	496.68	0.00	0.00
3	149.00	RFS DB-T1-6Z-8AB-OZ	1	36.907	40.597	0.50	0.75	2.41	17.01	0.000	0.000	156.67	0.00	0.00
4	149.00	RFS DB-T1-6Z-8AB-OZ	1	36.907	40.597	0.50	0.75	2.41	17.01	0.000	0.000	156.67	0.00	0.00
5	149.00	Low Profile	1	36.907	40.597	1.00	1.00	22.00	1350.00	0.000	0.000	1429.03	0.00	0.00
6	149.00	MX06FRO660-02	3	36.907	40.597	0.65	0.75	19.32	124.20	0.000	0.000	1254.98	0.00	0.00
7	149.00	PRK-1245 (kicker kit)	1	36.907	40.597	1.00	1.00	11.40	396.00	0.000	0.000	740.50	0.00	0.00
8	149.00	B2/B66A RRH-BR049	3	36.907	40.597	0.50	0.75	2.82	227.88	0.000	0.000	183.11	0.00	0.00
9	149.00	B5/B13 RRH-BR04C	3	36.907	40.597	0.50	0.75	2.82	189.81	0.000	0.000	183.11	0.00	0.00
10	149.00	RT4401-48A (RRH only)	3	36.907	40.597	0.50	0.75	1.49	50.22	0.000	0.000	96.94	0.00	0.00
11	149.00	HRK12 (Handrail Kit)	1	36.907	40.597	1.00	1.00	8.20	453.60	0.000	0.000	532.64	0.00	0.00
12	149.00	MT6407-77A	3	36.907	40.597	0.52	0.75	7.39	214.38	0.000	0.000	479.81	0.00	0.00
13	137.00	APXVAARR24_43-U-NA2	3	36.260	39.886	0.56	0.75	34.16	345.60	0.000	0.000	2179.69	0.00	0.00
14	137.00	AIR6449 B41	3	36.260	39.886	0.53	0.75	9.03	278.10	0.000	0.000	576.01	0.00	0.00
15	137.00	KRD 9011461-B66A-B2A	3	36.260	39.886	0.65	0.75	12.74	356.94	0.000	0.000	813.25	0.00	0.00
16	137.00	RRUS 4415 B25	3	36.260	39.886	0.50	0.75	2.47	124.20	0.000	0.000	157.78	0.00	0.00
17	137.00	KRY 112 144/1	3	36.260	39.886	0.56	0.75	1.20	41.58	0.000	0.000	76.46	0.00	0.00
18	137.00	4449 B71 + B12	3	36.260	39.886	0.50	0.75	2.97	197.64	0.000	0.000	189.52	0.00	0.00
19	137.00	Low Profile Platform	1	36.260	39.886	1.00	1.00	22.00	1350.00	0.000	0.000	1403.99	0.00	0.00
20	137.00	(3) T-Arm Kit	1	36.260	39.886	1.00	1.00	16.50	450.00	0.000	0.000	1052.99	0.00	0.00
21	137.00	mount pipe	1	36.260	39.886	1.00	1.00	4.31	78.30	0.000	0.000	275.05	0.00	0.00
22	127.00	Ericsson RRUS 4478 B14	3	35.686	39.255	0.50	0.75	2.49	160.38	0.000	0.000	156.23	0.00	0.00
23	127.00	Cci HPA65R-BU8A	6	35.686	39.255	0.67	0.75	44.94	372.60	0.000	0.000	2822.32	0.00	0.00
24	127.00	Kaelus DBCT108F1V92-1	3	35.686	39.255	0.75	0.75	1.57	53.46	0.000	0.000	98.92	0.00	0.00
25	127.00	Ericsson RRUS 4426 B66	3	35.686	39.255	0.50	0.75	1.73	130.95	0.000	0.000	108.88	0.00	0.00
26	127.00	Ericsson RRUS 4415 B25	3	35.686	39.255	0.50	0.75	2.80	119.07	0.000	0.000	176.11	0.00	0.00
27	127.00	Ericsson RRUS 4478 B5	3	35.686	39.255	0.50	0.75	2.77	161.73	0.000	0.000	174.22	0.00	0.00
28	127.00	Ericsson RRUS 32 RRU	3	35.686	39.255	0.50	0.75	4.99	207.90	0.000	0.000	313.40	0.00	0.00
29	127.00	Raycap DC6-48-60-18-8F	4	35.686	39.255	0.75	0.75	6.60	114.48	0.000	0.000	414.53	0.00	0.00
30	127.00	MTC3607 Platform + HR &	1	35.686	39.255	1.00	1.00	51.70	2021.40	0.000	0.000	3247.15	0.00	0.00
31	127.00	Cci HPA-65R-BUU-H8	12	35.686	39.255	0.59	0.75	92.29	734.40	0.000	0.000	5796.36	0.00	0.00
32	127.00	Ericsson RRUS-11 RRU	6	35.686	39.255	0.50	0.75	7.60	273.78	0.000	0.000	477.20	0.00	0.00
33	117.00	MC-PK8-DSH	1	35.075	38.583	1.00	1.00	37.59	1554.30	0.000	0.000	2320.52	0.00	0.00
34	117.00	RDIDC-9181-OF-48	1	35.075	38.583	1.00	1.00	2.01	19.71	0.000	0.000	124.08	0.00	0.00
35	117.00	TA08025-B604	3	35.075	38.583	0.50	0.75	2.95	172.53	0.000	0.000	182.40	0.00	0.00
36	117.00	TA08025-B605	3	35.075	38.583	0.50	0.75	2.95	202.50	0.000	0.000	182.40	0.00	0.00
37	117.00	MX08FRO665-21	3	35.075	38.583	0.55	0.75	20.80	174.15	0.000	0.000	1283.78	0.00	0.00

**Totals:** **12,886.74** **31,568.36**

## Total Applied Force Summary

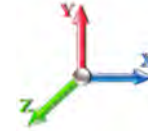
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 105 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60



**Iterations** 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		256.03	533.21	0.00	0.00
4.00		253.95	529.20	0.00	0.00
6.00		251.87	525.19	0.00	0.00
8.00		249.78	521.17	0.00	0.00
10.00		247.70	517.16	0.00	0.00
12.00		245.62	513.14	0.00	0.00
14.00		243.54	509.13	0.00	0.00
16.00		244.44	505.12	0.00	0.00
18.00		248.41	501.10	0.00	0.00
20.00		251.77	497.09	0.00	0.00
22.00		254.62	493.07	0.00	0.00
24.00		257.03	489.06	0.00	0.00
26.00		259.07	485.05	0.00	0.00
28.00		260.77	481.03	0.00	0.00
30.00		262.18	477.02	0.00	0.00
32.00		263.32	473.01	0.00	0.00
34.00		264.24	468.99	0.00	0.00
36.00		264.93	464.98	0.00	0.00
38.00		265.44	460.96	0.00	0.00
40.00		265.76	456.95	0.00	0.00
42.00		265.92	452.94	0.00	0.00
44.00		265.93	448.92	0.00	0.00
46.00		265.80	444.91	0.00	0.00
47.25		165.72	276.03	0.00	0.00
48.00		100.85	294.44	0.00	0.00
50.00		269.40	780.04	0.00	0.00
52.00		268.94	772.58	0.00	0.00
53.25		167.55	479.08	0.00	0.00
54.00		100.32	141.99	0.00	0.00
56.00		267.68	376.28	0.00	0.00
58.00		266.90	372.84	0.00	0.00
60.00		266.02	369.39	0.00	0.00
62.00		265.06	365.95	0.00	0.00
64.00		264.02	362.51	0.00	0.00
66.00		262.89	359.07	0.00	0.00
68.00		261.69	355.63	0.00	0.00
70.00		260.42	352.19	0.00	0.00
72.00		259.07	348.75	0.00	0.00
74.00		257.66	345.31	0.00	0.00
76.00		256.18	341.87	0.00	0.00
78.00		254.65	338.43	0.00	0.00
80.00		253.05	334.99	0.00	0.00
82.00		251.39	331.55	0.00	0.00
84.00		249.68	328.11	0.00	0.00
86.00		247.92	324.67	0.00	0.00
88.00		246.10	321.23	0.00	0.00



## Total Applied Force Summary

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00		244.24	317.79	0.00	0.00
92.00		242.32	314.35	0.00	0.00
94.00		240.36	310.91	0.00	0.00
96.00		238.36	307.47	0.00	0.00
98.00		239.58	480.79	0.00	0.00
100.00		237.50	475.05	0.00	0.00
100.75		88.40	176.67	0.00	0.00
102.00		146.75	134.49	0.00	0.00
104.00		233.21	213.32	0.00	0.00
106.00		231.01	211.03	0.00	0.00
108.00		228.77	208.73	0.00	0.00
110.00		226.49	206.44	0.00	0.00
112.00		224.18	204.15	0.00	0.00
114.00		221.83	201.85	0.00	0.00
116.00		219.44	199.56	0.00	0.00
117.00	(11) attachments	4201.90	2222.11	0.00	0.00
118.00		108.11	97.45	0.00	0.00
120.00		214.57	193.17	0.00	0.00
122.00		212.09	190.88	0.00	0.00
124.00		209.57	188.58	0.00	0.00
126.00		207.02	186.29	0.00	0.00
127.00	(47) attachments	13887.77	4442.43	0.00	0.00
128.00		101.81	88.31	0.00	0.00
130.00		201.83	174.90	0.00	0.00
132.00		199.20	172.60	0.00	0.00
134.00		196.53	170.31	0.00	0.00
136.00		193.84	168.02	0.00	0.00
137.00	(21) attachments	6820.57	3305.51	0.00	0.00
138.00		95.14	73.00	0.00	0.00
139.00		94.46	72.43	0.00	0.00
140.00		93.77	55.96	0.00	0.00
142.00		185.59	110.64	0.00	0.00
144.00		182.79	108.92	0.00	0.00
146.00		179.96	107.20	0.00	0.00
148.00		177.11	105.48	0.00	0.00
149.00	(26) attachments	7052.54	3243.13	0.00	0.00
<b>Totals:</b>		<b>49,449.90</b>	<b>39,361.23</b>	<b>0.00</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 105 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60

**Iterations** 26



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.017	0.000	22.791	0.00	0.49
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.017	0.000	22.791	0.00	0.00
4.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.017	0.000	22.791	0.00	0.49
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.017	0.000	22.791	0.00	0.00
6.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.017	0.000	22.791	0.00	0.49
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.017	0.000	22.791	0.00	0.00
8.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	22.791	0.00	0.49
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	22.791	0.00	0.00
10.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	22.791	0.00	0.49
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	22.791	0.00	0.00
12.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	22.791	0.00	0.49
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	22.791	0.00	0.00
14.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	22.791	0.00	0.49
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	22.791	0.00	0.00
16.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	23.072	0.00	0.49
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	23.072	0.00	0.00
18.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	23.652	0.00	0.49
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	23.652	0.00	0.00
20.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	24.182	0.00	0.49
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	24.182	0.00	0.00
22.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	24.672	0.00	0.49
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	24.672	0.00	0.00
24.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	25.128	0.00	0.49
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	25.128	0.00	0.00
26.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	25.555	0.00	0.49
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	25.555	0.00	0.00
28.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	25.957	0.00	0.49
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	25.957	0.00	0.00
30.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	26.337	0.00	0.49
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	26.337	0.00	0.00
32.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	26.697	0.00	0.49
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	26.697	0.00	0.00
34.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	27.040	0.00	0.49
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	27.040	0.00	0.00
36.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	27.367	0.00	0.49
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	27.367	0.00	0.00
38.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	27.681	0.00	0.49
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	27.681	0.00	0.00
40.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	27.981	0.00	0.49
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	27.981	0.00	0.00
42.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	28.270	0.00	0.49
42.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	28.270	0.00	0.00
44.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.021	0.000	28.548	0.00	0.49
44.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.021	0.000	28.548	0.00	0.00
46.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.021	0.000	28.817	0.00	0.49
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.021	0.000	28.817	0.00	0.00
47.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.021	0.000	28.980	0.00	0.31

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 105 mph Wind

**Iterations** 26

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
47.25	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.07	0.00	0.021	0.000	28.980	0.00	0.00
48.00	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.021	0.000	29.076	0.00	0.18
48.00	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.021	0.000	29.076	0.00	0.00
50.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.021	0.000	29.327	0.00	0.49
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.021	0.000	29.327	0.00	0.00
52.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	29.570	0.00	0.49
52.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	29.570	0.00	0.00
53.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.022	0.000	29.719	0.00	0.31
53.25	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.07	0.00	0.022	0.000	29.719	0.00	0.00
54.00	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.021	0.000	29.806	0.00	0.18
54.00	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.021	0.000	29.806	0.00	0.00
56.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	30.035	0.00	0.49
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	30.035	0.00	0.00
58.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	30.258	0.00	0.49
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	30.258	0.00	0.00
60.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	30.475	0.00	0.49
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	30.475	0.00	0.00
62.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	30.686	0.00	0.49
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	30.686	0.00	0.00
64.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	30.892	0.00	0.49
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	30.892	0.00	0.00
66.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	31.092	0.00	0.49
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	31.092	0.00	0.00
68.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	31.288	0.00	0.49
68.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	31.288	0.00	0.00
70.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	31.480	0.00	0.49
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	31.480	0.00	0.00
72.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	31.667	0.00	0.49
72.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	31.667	0.00	0.00
74.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	31.850	0.00	0.49
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	31.850	0.00	0.00
76.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	32.030	0.00	0.49
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	32.030	0.00	0.00
78.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	32.205	0.00	0.49
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	32.205	0.00	0.00
80.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.025	0.000	32.377	0.00	0.49
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.025	0.000	32.377	0.00	0.00
82.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.025	0.000	32.546	0.00	0.49
82.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.025	0.000	32.546	0.00	0.00
84.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.025	0.000	32.712	0.00	0.49
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.025	0.000	32.712	0.00	0.00
86.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	32.874	0.00	0.49
86.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	32.874	0.00	0.00
88.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	33.034	0.00	0.49
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	33.034	0.00	0.00
90.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	33.190	0.00	0.49
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	33.190	0.00	0.00

## Linear Appurtenance Segment Forces (Factored)

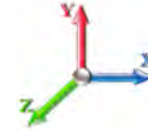
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 105 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
92.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	33.344	0.00	0.49
92.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	33.344	0.00	0.00
94.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.027	0.000	33.496	0.00	0.49
94.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.027	0.000	33.496	0.00	0.00
96.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.027	0.000	33.644	0.00	0.49
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.027	0.000	33.644	0.00	0.00
98.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.028	0.000	33.791	0.00	0.49
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.028	0.000	33.791	0.00	0.00
100.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.028	0.000	33.935	0.00	0.49
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.028	0.000	33.935	0.00	0.00
100.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.028	0.000	33.988	0.00	0.18
100.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.028	0.000	33.988	0.00	0.00
102.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.028	0.000	34.077	0.00	0.31
102.00	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.07	0.00	0.028	0.000	34.077	0.00	0.00
104.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.028	0.000	34.216	0.00	0.49
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.028	0.000	34.216	0.00	0.00
106.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	34.354	0.00	0.49
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	34.354	0.00	0.00
108.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	34.489	0.00	0.49
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	34.489	0.00	0.00
110.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	34.623	0.00	0.49
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	34.623	0.00	0.00
112.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.030	0.000	34.754	0.00	0.49
112.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.030	0.000	34.754	0.00	0.00
114.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.030	0.000	34.884	0.00	0.49
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.030	0.000	34.884	0.00	0.00
116.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.031	0.000	35.012	0.00	0.49
116.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.031	0.000	35.012	0.00	0.00
117.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.031	0.000	35.075	0.00	0.25
117.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.031	0.000	35.075	0.00	0.00
118.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.031	0.000	35.138	0.00	0.25
118.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.031	0.000	35.138	0.00	0.00
120.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.032	0.000	35.263	0.00	0.49
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.032	0.000	35.263	0.00	0.00
122.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.032	0.000	35.386	0.00	0.49
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.032	0.000	35.386	0.00	0.00
124.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	35.507	0.00	0.49
124.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	35.507	0.00	0.00
126.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	35.627	0.00	0.49
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	35.627	0.00	0.00
127.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.034	0.000	35.686	0.00	0.25
127.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.034	0.000	35.686	0.00	0.00
128.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.034	0.000	35.745	0.00	0.25
128.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.034	0.000	35.745	0.00	0.00
130.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.034	0.000	35.862	0.00	0.49
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.034	0.000	35.862	0.00	0.00
132.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.035	0.000	35.977	0.00	0.49

## Linear Appurtenance Segment Forces (Factored)

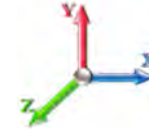
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 105 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.035	0.000	35.977	0.00	0.00
134.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.035	0.000	36.091	0.00	0.49
134.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.035	0.000	36.091	0.00	0.00
136.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	36.204	0.00	0.49
136.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	36.204	0.00	0.00
137.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.036	0.000	36.260	0.00	0.25
137.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.036	0.000	36.260	0.00	0.00
138.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	36.316	0.00	0.25
138.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	36.316	0.00	0.00
139.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	36.371	0.00	0.25
139.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	36.371	0.00	0.00
140.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	36.426	0.00	0.25
140.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	36.426	0.00	0.00
142.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.038	0.000	36.535	0.00	0.49
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.038	0.000	36.535	0.00	0.00
144.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	36.642	0.00	0.49
144.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	36.642	0.00	0.00
146.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	36.749	0.00	0.49
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	36.749	0.00	0.00
148.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.040	0.000	36.854	0.00	0.49
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.040	0.000	36.854	0.00	0.00
149.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.041	0.000	36.907	0.00	0.25
149.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.041	0.000	36.907	0.00	0.00
<b>Totals:</b>											<b>0.0</b>	<b>36.6</b>

## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



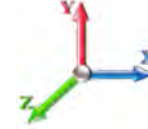
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**Load Case:** 0.9D + 1.6W 105 mph Wind

**Iterations** 26

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



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	-39.32	-49.48	0.00	-5620.9	0.00	5620.98	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.874
2.00	-38.70	-49.29	0.00	-5522.0	0.00	5522.02	5423.14	2711.57	12782.7	6400.90	0.02	-0.093	0.000	0.870
4.00	-38.10	-49.10	0.00	-5423.4	0.00	5423.44	5394.41	2697.20	12609.6	6314.20	0.08	-0.188	0.000	0.866
6.00	-37.49	-48.91	0.00	-5325.2	0.00	5325.25	5365.42	2682.71	12437.0	6227.76	0.18	-0.282	0.000	0.862
8.00	-36.89	-48.71	0.00	-5227.4	0.00	5227.44	5336.17	2668.08	12264.9	6141.58	0.32	-0.378	0.000	0.858
10.00	-36.29	-48.52	0.00	-5130.0	0.00	5130.01	5306.65	2653.32	12093.3	6055.68	0.50	-0.474	0.000	0.854
12.00	-35.70	-48.33	0.00	-5032.9	0.00	5032.97	5276.87	2638.43	11922.3	5970.05	0.72	-0.570	0.000	0.850
14.00	-35.11	-48.14	0.00	-4936.3	0.00	4936.30	5246.82	2623.41	11751.9	5884.71	0.98	-0.667	0.000	0.846
16.00	-34.53	-47.95	0.00	-4840.0	0.00	4840.01	5216.51	2608.26	11582.1	5799.67	1.28	-0.765	0.000	0.841
18.00	-33.95	-47.76	0.00	-4744.1	0.00	4744.11	5185.94	2592.97	11412.8	5714.93	1.62	-0.864	0.000	0.837
20.00	-33.37	-47.55	0.00	-4648.6	0.00	4648.60	5155.10	2577.55	11244.2	5630.50	2.01	-0.963	0.000	0.832
22.00	-32.80	-47.35	0.00	-4553.4	0.00	4553.49	5124.00	2562.00	11076.3	5546.38	2.43	-1.062	0.000	0.828
24.00	-32.23	-47.14	0.00	-4458.8	0.00	4458.80	5092.64	2546.32	10908.9	5462.60	2.90	-1.163	0.000	0.823
26.00	-31.67	-46.93	0.00	-4364.5	0.00	4364.52	5061.01	2530.51	10742.3	5379.14	3.41	-1.264	0.000	0.818
28.00	-31.11	-46.71	0.00	-4270.6	0.00	4270.67	5029.12	2514.56	10576.3	5296.03	3.96	-1.365	0.000	0.813
30.00	-30.56	-46.49	0.00	-4177.2	0.00	4177.25	4996.96	2498.48	10411.0	5213.26	4.55	-1.467	0.000	0.808
32.00	-30.01	-46.27	0.00	-4084.2	0.00	4084.28	4964.54	2482.27	10246.4	5130.86	5.19	-1.569	0.000	0.802
34.00	-29.47	-46.04	0.00	-3991.7	0.00	3991.74	4931.86	2465.93	10082.6	5048.81	5.87	-1.673	0.000	0.797
36.00	-28.93	-45.82	0.00	-3899.6	0.00	3899.66	4898.91	2449.45	9919.54	4967.14	6.59	-1.776	0.000	0.791
38.00	-28.39	-45.59	0.00	-3808.0	0.00	3808.02	4865.70	2432.85	9757.20	4885.85	7.36	-1.880	0.000	0.786
40.00	-27.86	-45.36	0.00	-3716.8	0.00	3716.85	4832.22	2416.11	9595.63	4804.95	8.17	-1.985	0.000	0.780
42.00	-27.34	-45.13	0.00	-3626.1	0.00	3626.13	4798.48	2399.24	9434.86	4724.44	9.03	-2.090	0.000	0.774
44.00	-26.81	-44.89	0.00	-3535.8	0.00	3535.88	4764.48	2382.24	9274.89	4644.34	9.92	-2.196	0.000	0.767
46.00	-26.31	-44.65	0.00	-3446.0	0.00	3446.09	4730.21	2365.11	9115.74	4564.64	10.87	-2.302	0.000	0.761
47.25	-26.00	-44.50	0.00	-3390.2	0.00	3390.28	4708.66	2354.33	9016.69	4515.05	11.48	-2.369	0.000	0.757
48.00	-25.66	-44.42	0.00	-3356.9	0.00	3356.90	4695.68	2347.84	8957.42	4485.37	11.85	-2.409	0.000	0.754
50.00	-24.81	-44.16	0.00	-3268.0	0.00	3268.07	4660.89	2330.44	8799.96	4406.52	12.89	-2.516	0.000	0.747
52.00	-23.98	-43.90	0.00	-3179.7	0.00	3179.74	4625.83	2312.91	8643.36	4328.11	13.96	-2.623	0.000	0.740
53.25	-23.47	-43.73	0.00	-3124.8	0.00	3124.87	4618.32	2309.16	8526.08	4281.41	14.66	-2.691	0.000	0.736
54.00	-23.27	-43.65	0.00	-3092.0	0.00	3092.08	4608.46	2304.23	8419.51	4241.09	15.09	-2.732	0.000	0.732
56.00	-22.81	-43.42	0.00	-3004.7	0.00	3004.77	4582.00	2291.00	8314.71	4201.10	16.26	-2.851	0.000	0.726
58.00	-22.37	-43.18	0.00	-2917.9	0.00	2917.94	4555.27	2277.63	8212.45	4161.38	17.48	-2.970	0.000	0.720
60.00	-21.92	-42.94	0.00	-2831.5	0.00	2831.58	4528.27	2264.14	8112.75	4121.94	18.75	-3.090	0.000	0.714
62.00	-21.48	-42.70	0.00	-2745.7	0.00	2745.71	4501.01	2250.51	8015.63	4082.79	20.07	-3.210	0.000	0.708
64.00	-21.05	-42.46	0.00	-2660.3	0.00	2660.31	4473.49	2236.75	7921.11	4043.93	21.44	-3.330	0.000	0.702
66.00	-20.61	-42.22	0.00	-2575.4	0.00	2575.40	4445.71	2222.85	7829.19	4005.37	22.86	-3.450	0.000	0.696
68.00	-20.19	-41.98	0.00	-2490.9	0.00	2490.96	4417.66	2208.83	7739.40	3967.15	24.33	-3.570	0.000	0.690
70.00	-19.76	-41.74	0.00	-2407.0	0.00	2407.01	4389.34	2194.67	7652.75	3929.24	25.85	-3.690	0.000	0.684
72.00	-19.35	-41.50	0.00	-2323.5	0.00	2323.54	4360.76	2180.38	7569.26	3891.65	27.42	-3.810	0.000	0.678
74.00	-18.93	-41.26	0.00	-2240.5	0.00	2240.55	4331.92	2165.96	7488.94	3854.40	29.04	-3.930	0.000	0.672
76.00	-18.53	-41.01	0.00	-2158.0	0.00	2158.04	4302.82	2151.41	7411.30	3817.50	30.71	-4.049	0.000	0.666
78.00	-18.12	-40.77	0.00	-2076.0	0.00	2076.01	4273.45	2136.72	7337.37	3780.94	32.44	-4.168	0.000	0.660
80.00	-17.72	-40.53	0.00	-1994.4	0.00	1994.46	4243.81	2121.91	7267.15	3744.75	34.21	-4.286	0.000	0.654
82.00	-17.33	-40.29	0.00	-1913.4	0.00	1913.40	4213.92	2106.96	7200.67	3708.92	36.03	-4.404	0.000	0.648
84.00	-16.94	-40.05	0.00	-1832.8	0.00	1832.81	4183.76	2091.88	7138.93	3673.47	37.89	-4.520	0.000	0.642
86.00	-16.56	-39.81	0.00	-1752.7	0.00	1752.71	4153.33	2076.67	7072.96	3638.40	39.81	-4.637	0.000	0.636
88.00	-16.18	-39.57	0.00	-1673.0	0.00	1673.08	4122.64	2061.32	7011.77	3603.72	41.78	-4.752	0.000	0.630
90.00	-15.80	-39.34	0.00	-1593.9	0.00	1593.93	4091.69	2045.84	6954.37	3569.44	43.79	-4.865	0.000	0.624



## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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92.00	-15.43	-39.10	0.00	-1515.2	0.00	1515.26	3260.47	1630.24	4935.79	2471.56	45.85	-4.978	0.000	0.618
94.00	-15.07	-38.86	0.00	-1437.0	0.00	1437.07	3223.46	1611.73	4816.76	2411.96	47.96	-5.089	0.000	0.601
96.00	-14.71	-38.62	0.00	-1359.3	0.00	1359.35	3181.72	1590.86	4692.22	2349.60	50.11	-5.198	0.000	0.584
98.00	-14.19	-38.37	0.00	-1282.1	0.00	1282.11	3139.99	1570.00	4569.31	2288.05	52.31	-5.305	0.000	0.565
100.00	-13.69	-38.10	0.00	-1205.3	0.00	1205.37	3098.26	1549.13	4448.03	2227.32	54.55	-5.410	0.000	0.546
100.75	-13.49	-38.01	0.00	-1176.8	0.00	1176.80	1860.42	930.21	2714.89	1359.46	55.40	-5.450	0.000	0.875
102.00	-13.30	-37.88	0.00	-1129.2	0.00	1129.29	1851.10	925.55	2678.69	1341.34	56.84	-5.514	0.000	0.851
104.00	-13.01	-37.65	0.00	-1053.5	0.00	1053.54	1835.98	917.99	2620.93	1312.41	59.18	-5.656	0.000	0.812
106.00	-12.74	-37.43	0.00	-978.23	0.00	978.23	1820.60	910.30	2563.39	1283.60	61.57	-5.794	0.000	0.771
108.00	-12.47	-37.21	0.00	-903.36	0.00	903.36	1804.95	902.48	2506.08	1254.90	64.03	-5.927	0.000	0.728
110.00	-12.21	-36.99	0.00	-828.93	0.00	828.93	1789.04	894.52	2449.03	1226.33	66.53	-6.054	0.000	0.684
112.00	-11.95	-36.77	0.00	-754.95	0.00	754.95	1772.87	886.43	2392.24	1197.90	69.09	-6.176	0.000	0.639
114.00	-11.70	-36.55	0.00	-681.40	0.00	681.40	1756.43	878.22	2335.73	1169.60	71.70	-6.291	0.000	0.591
116.00	-11.48	-36.33	0.00	-608.29	0.00	608.29	1739.73	869.86	2279.52	1141.45	74.36	-6.399	0.000	0.541
117.00	-9.72	-31.91	0.00	-571.96	0.00	571.96	1731.28	865.64	2251.53	1127.44	75.70	-6.451	0.000	0.514
118.00	-9.59	-31.81	0.00	-540.05	0.00	540.05	1722.76	861.38	2223.62	1113.46	77.06	-6.501	0.000	0.492
120.00	-9.37	-31.59	0.00	-476.44	0.00	476.44	1705.53	852.77	2168.05	1085.64	79.80	-6.594	0.000	0.446
122.00	-9.16	-31.37	0.00	-413.26	0.00	413.26	1688.04	844.02	2112.82	1057.98	82.57	-6.679	0.000	0.397
124.00	-8.96	-31.15	0.00	-350.53	0.00	350.53	1670.28	835.14	2057.95	1030.51	85.38	-6.756	0.000	0.347
126.00	-8.78	-30.93	0.00	-288.23	0.00	288.23	1652.26	826.13	2003.46	1003.22	88.22	-6.823	0.000	0.294
127.00	-6.01	-16.61	0.00	-257.30	0.00	257.30	1643.15	821.58	1976.36	989.65	89.65	-6.853	0.000	0.264
128.00	-5.93	-16.51	0.00	-240.69	0.00	240.69	1633.98	816.99	1949.35	976.13	91.09	-6.881	0.000	0.251
130.00	-5.76	-16.29	0.00	-207.68	0.00	207.68	1615.43	807.71	1895.65	949.24	93.97	-6.933	0.000	0.223
132.00	-5.60	-16.07	0.00	-175.10	0.00	175.10	1596.61	798.31	1842.37	922.56	96.88	-6.979	0.000	0.194
134.00	-5.45	-15.86	0.00	-142.95	0.00	142.95	1577.54	788.77	1789.53	896.09	99.81	-7.020	0.000	0.163
136.00	-5.30	-15.65	0.00	-111.23	0.00	111.23	1558.20	779.10	1737.14	869.86	102.75	-7.054	0.000	0.132
137.00	-2.85	-8.48	0.00	-95.57	0.00	95.57	1548.43	774.21	1711.12	856.83	104.23	-7.069	0.000	0.114
138.00	-2.79	-8.37	0.00	-87.10	0.00	87.10	1538.59	769.30	1685.21	843.86	105.70	-7.082	0.000	0.105
139.00	-2.73	-8.27	0.00	-78.72	0.00	78.72	1528.69	764.34	1659.43	830.95	107.19	-7.094	0.000	0.097
139.00	-2.73	-8.27	0.00	-78.72	0.00	78.72	1044.31	522.16	1138.99	570.34	107.19	-7.094	0.000	0.141
140.00	-2.68	-8.17	0.00	-70.45	0.00	70.45	1038.69	519.35	1122.71	562.19	108.67	-7.106	0.000	0.128
142.00	-2.59	-7.98	0.00	-54.10	0.00	54.10	1027.26	513.63	1090.28	545.95	111.64	-7.132	0.000	0.102
144.00	-2.51	-7.78	0.00	-38.15	0.00	38.15	1015.57	507.78	1058.02	529.79	114.63	-7.152	0.000	0.075
146.00	-2.42	-7.59	0.00	-22.58	0.00	22.58	1003.61	501.80	1025.94	513.73	117.62	-7.166	0.000	0.047
148.00	-2.34	-7.40	0.00	-7.40	0.00	7.40	991.38	495.69	994.07	497.78	120.62	-7.174	0.000	0.017
149.00	0.00	-7.05	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	122.12	-7.175	0.000	0.000

## Wind Loading - Shaft

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



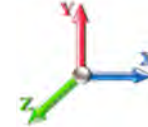
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 25

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	5.168	5.68	0.00	1.200	1.133	2.00	10.198	12.24	69.6	167.3	820.4
4.00		1.00	0.85	5.168	5.68	0.00	1.200	1.215	2.00	10.145	12.17	69.2	178.2	825.8
6.00		1.00	0.85	5.168	5.68	0.00	1.200	1.265	2.00	10.082	12.10	68.8	184.2	826.5
8.00		1.00	0.85	5.168	5.68	0.00	1.200	1.302	2.00	10.014	12.02	68.3	188.1	825.1
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	2.00	9.944	11.93	67.8	190.9	822.5
12.00		1.00	0.85	5.168	5.68	0.00	1.200	1.356	2.00	9.872	11.85	67.3	192.9	819.2
14.00		1.00	0.85	5.168	5.68	0.00	1.200	1.377	2.00	9.800	11.76	66.9	194.3	815.3
16.00		1.00	0.86	5.232	5.76	0.00	1.200	1.395	2.00	9.726	11.67	67.2	195.4	810.9
18.00		1.00	0.88	5.363	5.90	0.00	1.200	1.412	2.00	9.651	11.58	68.3	196.1	806.3
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	2.00	9.577	11.49	69.3	196.5	801.4
22.00		1.00	0.92	5.595	6.15	0.00	1.200	1.440	2.00	9.501	11.40	70.2	196.7	796.2
24.00		1.00	0.94	5.698	6.27	0.00	1.200	1.453	2.00	9.426	11.31	70.9	196.8	790.9
26.00		1.00	0.95	5.795	6.37	0.00	1.200	1.465	2.00	9.350	11.22	71.5	196.7	785.5
28.00		1.00	0.97	5.886	6.47	0.00	1.200	1.476	2.00	9.273	11.13	72.0	196.4	779.9
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	2.00	9.197	11.04	72.5	196.1	774.2
32.00		1.00	1.00	6.054	6.66	0.00	1.200	1.495	2.00	9.120	10.94	72.9	195.6	768.4
34.00		1.00	1.01	6.132	6.74	0.00	1.200	1.504	2.00	9.043	10.85	73.2	195.0	762.4
36.00		1.00	1.02	6.206	6.83	0.00	1.200	1.513	2.00	8.966	10.76	73.4	194.4	756.5
38.00		1.00	1.03	6.277	6.90	0.00	1.200	1.521	2.00	8.889	10.67	73.7	193.7	750.4
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	2.00	8.812	10.57	73.8	192.9	744.3
42.00		1.00	1.05	6.410	7.05	0.00	1.200	1.537	2.00	8.735	10.48	73.9	192.1	738.1
44.00		1.00	1.06	6.474	7.12	0.00	1.200	1.544	2.00	8.657	10.39	74.0	191.2	731.8
46.00		1.00	1.07	6.534	7.19	0.00	1.200	1.551	2.00	8.580	10.30	74.0	190.2	725.5
47.25	Bot - Section 2	1.00	1.08	6.571	7.23	0.00	1.200	1.555	1.25	5.323	6.39	46.2	118.5	450.3
48.00		1.00	1.08	6.593	7.25	0.00	1.200	1.557	0.75	3.226	3.87	28.1	72.0	442.9
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	2.00	8.551	10.26	75.1	191.1	1173.2
52.00		1.00	1.10	6.705	7.38	0.00	1.200	1.570	2.00	8.473	10.17	75.0	190.0	1162.2
53.25	Top - Section 1	1.00	1.11	6.739	7.41	0.00	1.200	1.574	1.25	5.256	6.31	46.8	118.3	720.9
54.00		1.00	1.11	6.759	7.43	0.00	1.200	1.576	0.75	3.139	3.77	28.0	70.8	238.4
56.00		1.00	1.12	6.811	7.49	0.00	1.200	1.581	2.00	8.317	9.98	74.8	187.7	631.5
58.00		1.00	1.13	6.861	7.55	0.00	1.200	1.587	2.00	8.239	9.89	74.6	186.5	625.7
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	2.00	8.161	9.79	74.4	185.3	619.9
62.00		1.00	1.14	6.958	7.65	0.00	1.200	1.598	2.00	8.083	9.70	74.2	184.0	614.1
64.00		1.00	1.15	7.005	7.71	0.00	1.200	1.603	2.00	8.005	9.61	74.0	182.7	608.2
66.00		1.00	1.16	7.050	7.76	0.00	1.200	1.608	2.00	7.927	9.51	73.8	181.4	602.3
68.00		1.00	1.17	7.095	7.80	0.00	1.200	1.612	2.00	7.849	9.42	73.5	180.1	596.3
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	2.00	7.770	9.32	73.2	178.7	590.4
72.00		1.00	1.18	7.181	7.90	0.00	1.200	1.622	2.00	7.692	9.23	72.9	177.3	584.4
74.00		1.00	1.19	7.222	7.94	0.00	1.200	1.626	2.00	7.613	9.14	72.6	175.9	578.4
76.00		1.00	1.19	7.263	7.99	0.00	1.200	1.631	2.00	7.535	9.04	72.2	174.4	572.4
78.00		1.00	1.20	7.303	8.03	0.00	1.200	1.635	2.00	7.457	8.95	71.9	173.0	566.3
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	2.00	7.378	8.85	71.5	171.5	560.2
82.00		1.00	1.21	7.380	8.12	0.00	1.200	1.643	2.00	7.300	8.76	71.1	170.0	554.1
84.00		1.00	1.22	7.418	8.16	0.00	1.200	1.647	2.00	7.221	8.67	70.7	168.5	548.0
86.00		1.00	1.23	7.454	8.20	0.00	1.200	1.651	2.00	7.142	8.57	70.3	166.9	541.9
88.00		1.00	1.23	7.491	8.24	0.00	1.200	1.655	2.00	7.064	8.48	69.8	165.4	535.8



## Wind Loading - Shaft

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	1.00	1.24	7.526	8.28	0.00	1.200	1.658	2.00	6.985	8.38	69.4	163.8	529.6				
92.00	1.00	1.24	7.561	8.32	0.00	1.200	1.662	2.00	6.907	8.29	68.9	162.2	523.4				
94.00	1.00	1.25	7.595	8.35	0.00	1.200	1.666	2.00	6.828	8.19	68.5	160.6	517.2				
96.00 Bot - Section 3	1.00	1.25	7.629	8.39	0.00	1.200	1.669	2.00	6.749	8.10	68.0	159.0	511.0				
98.00	1.00	1.26	7.662	8.43	0.00	1.200	1.672	2.00	6.755	8.11	68.3	159.4	742.6				
100.00	1.00	1.27	7.695	8.46	0.00	1.200	1.676	2.00	6.676	8.01	67.8	157.8	733.3				
100.75 Top - Section 2	1.00	1.27	7.707	8.48	0.00	1.200	1.677	0.75	2.483	2.98	25.3	58.9	272.8				
102.00	1.00	1.27	7.727	8.50	0.00	1.200	1.679	1.25	4.114	4.94	42.0	97.6	240.7				
104.00	1.00	1.28	7.759	8.53	0.00	1.200	1.682	2.00	6.519	7.82	66.8	154.5	381.0				
106.00	1.00	1.28	7.790	8.57	0.00	1.200	1.686	2.00	6.440	7.73	66.2	152.8	376.2				
108.00	1.00	1.29	7.821	8.60	0.00	1.200	1.689	2.00	6.361	7.63	65.7	151.1	371.5				
110.00	1.00	1.29	7.851	8.64	0.00	1.200	1.692	2.00	6.282	7.54	65.1	149.4	366.7				
112.00	1.00	1.30	7.881	8.67	0.00	1.200	1.695	2.00	6.203	7.44	64.5	147.6	361.9				
114.00	1.00	1.30	7.910	8.70	0.00	1.200	1.698	2.00	6.125	7.35	63.9	145.9	357.1				
116.00	1.00	1.31	7.939	8.73	0.00	1.200	1.701	2.00	6.046	7.25	63.4	144.2	352.3				
117.00 Appurtenance(s)	1.00	1.31	7.954	8.75	0.00	1.200	1.702	1.00	2.993	3.59	31.4	71.6	174.6				
118.00	1.00	1.31	7.968	8.76	0.00	1.200	1.704	1.00	2.973	3.57	31.3	71.2	173.4				
120.00	1.00	1.32	7.996	8.80	0.00	1.200	1.707	2.00	5.888	7.07	62.1	140.6	342.7				
122.00	1.00	1.32	8.024	8.83	0.00	1.200	1.710	2.00	5.809	6.97	61.5	138.9	337.8				
124.00	1.00	1.32	8.051	8.86	0.00	1.200	1.712	2.00	5.730	6.88	60.9	137.1	333.0				
126.00	1.00	1.33	8.079	8.89	0.00	1.200	1.715	2.00	5.651	6.78	60.3	135.3	328.1				
127.00 Appurtenance(s)	1.00	1.33	8.092	8.90	0.00	1.200	1.716	1.00	2.796	3.35	29.9	67.2	162.5				
128.00	1.00	1.33	8.105	8.92	0.00	1.200	1.718	1.00	2.776	3.33	29.7	66.7	161.3				
130.00	1.00	1.34	8.132	8.95	0.00	1.200	1.720	2.00	5.493	6.59	59.0	131.7	318.4				
132.00	1.00	1.34	8.158	8.97	0.00	1.200	1.723	2.00	5.414	6.50	58.3	129.8	313.5				
134.00	1.00	1.35	8.184	9.00	0.00	1.200	1.726	2.00	5.335	6.40	57.6	128.0	308.6				
136.00	1.00	1.35	8.210	9.03	0.00	1.200	1.728	2.00	5.256	6.31	57.0	126.1	303.7				
137.00 Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	1.729	1.00	2.598	3.12	28.2	62.6	150.3				
138.00	1.00	1.35	8.235	9.06	0.00	1.200	1.731	1.00	2.579	3.09	28.0	62.1	149.0				
139.00 Top - Section 3	1.00	1.36	8.247	9.07	0.00	1.200	1.732	1.00	2.559	3.07	27.9	61.7	147.8				
140.00	1.00	1.36	8.260	9.09	0.00	1.200	1.733	1.00	2.539	3.05	27.7	61.2	125.4				
142.00	1.00	1.36	8.285	9.11	0.00	1.200	1.736	2.00	5.019	6.02	54.9	120.6	247.2				
144.00	1.00	1.37	8.309	9.14	0.00	1.200	1.738	2.00	4.940	5.93	54.2	118.7	243.0				
146.00	1.00	1.37	8.333	9.17	0.00	1.200	1.741	2.00	4.861	5.83	53.5	116.8	238.8				
148.00	1.00	1.37	8.357	9.19	0.00	1.200	1.743	2.00	4.782	5.74	52.7	114.9	234.6				
149.00 Appurtenance(s)	1.00	1.38	8.369	9.21	0.00	1.200	1.744	1.00	2.361	2.83	26.1	57.0	116.0				
<b>Totals:</b>								<b>149.00</b>					<b>5,049.2</b>	<b>43,742.1</b>			

## Discrete Appurtenance Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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

**Iterations** 25

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



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	149.00	MX06FRO660-02	3	8.369	9.206	0.68	0.75	22.77	971.90	0.000	0.000	209.62	0.00	0.00
2	149.00	Antel BXA-80063/4CF	3	8.369	9.206	0.54	0.75	10.64	250.84	0.000	0.000	97.94	0.00	0.00
3	149.00	RFS DB-T1-6Z-8AB-OZ	1	8.369	9.206	0.50	0.75	2.85	166.29	0.000	0.000	26.24	0.00	0.00
4	149.00	RFS DB-T1-6Z-8AB-OZ	1	8.369	9.206	0.50	0.75	2.85	166.29	0.000	0.000	26.24	0.00	0.00
5	149.00	Low Profile	1	8.369	9.206	1.00	1.00	39.65	2808.04	0.000	0.000	365.01	0.00	0.00
6	149.00	MX06FRO660-02	3	8.369	9.206	0.68	0.75	22.77	971.90	0.000	0.000	209.62	0.00	0.00
7	149.00	PRK-1245 (kicker kit)	1	8.369	9.206	1.00	1.00	23.33	714.95	0.000	0.000	214.76	0.00	0.00
8	149.00	B2/B66A RRH-BR049	3	8.369	9.206	0.56	0.75	4.12	533.32	0.000	0.000	37.95	0.00	0.00
9	149.00	B5/B13 RRH-BR04C	3	8.369	9.206	0.56	0.75	4.12	460.98	0.000	0.000	37.95	0.00	0.00
10	149.00	RT4401-48A (RRH only)	3	8.369	9.206	0.56	0.75	2.38	131.39	0.000	0.000	21.92	0.00	0.00
11	149.00	HRK12 (Handrail Kit)	1	8.369	9.206	1.00	1.00	16.21	1706.52	0.000	0.000	149.21	0.00	0.00
12	149.00	MT6407-77A	3	8.369	9.206	0.56	0.75	9.51	644.17	0.000	0.000	87.56	0.00	0.00
13	137.00	APXVAARR24_43-U-NA2	3	8.222	9.044	0.60	0.75	39.82	1701.86	0.000	0.000	360.15	0.00	0.00
14	137.00	AIR6449 B41	3	8.222	9.044	0.53	0.75	10.53	683.34	0.000	0.000	95.24	0.00	0.00
15	137.00	KRD 9011461-B66A-B2A	3	8.222	9.044	0.65	0.75	14.92	1019.77	0.000	0.000	134.92	0.00	0.00
16	137.00	RRUS 4415 B25	3	8.222	9.044	0.50	0.75	3.24	259.60	0.000	0.000	29.32	0.00	0.00
17	137.00	KRY 112 144/1	3	8.222	9.044	0.60	0.75	2.39	97.28	0.000	0.000	21.63	0.00	0.00
18	137.00	4449 B71 + B12	3	8.222	9.044	0.50	0.75	3.82	259.99	0.000	0.000	34.55	0.00	0.00
19	137.00	Low Profile Platform	1	8.222	9.044	1.00	1.00	39.50	2797.10	0.000	0.000	357.28	0.00	0.00
20	137.00	(3) T-Arm Kit	1	8.222	9.044	1.00	1.00	32.48	1038.02	0.000	0.000	293.77	0.00	0.00
21	137.00	mount pipe	1	8.222	9.044	1.00	1.00	9.65	205.81	0.000	0.000	87.25	0.00	0.00
22	127.00	Ericsson RRUS 4478 B14	3	8.092	8.901	0.50	0.75	3.26	307.99	0.000	0.000	28.98	0.00	0.00
23	127.00	Cci HPA65R-BU8A	6	8.092	8.901	0.67	0.75	51.46	2122.72	0.000	0.000	458.08	0.00	0.00
24	127.00	Kaelus DBCT108F1V92-1	3	8.092	8.901	0.75	0.75	2.14	144.01	0.000	0.000	19.09	0.00	0.00
25	127.00	Ericsson RRUS 4426 B66	3	8.092	8.901	0.50	0.75	2.44	289.40	0.000	0.000	21.68	0.00	0.00
26	127.00	Ericsson RRUS 4415 B25	3	8.092	8.901	0.50	0.75	3.65	268.13	0.000	0.000	32.52	0.00	0.00
27	127.00	Ericsson RRUS 4478 B5	3	8.092	8.901	0.50	0.75	3.59	324.77	0.000	0.000	31.93	0.00	0.00
28	127.00	Ericsson RRUS 32 RRU	3	8.092	8.901	0.50	0.75	3.35	419.49	0.000	0.000	29.78	0.00	0.00
29	127.00	Raycap DC6-48-60-18-8F	4	8.092	8.901	0.75	0.75	9.69	325.06	0.000	0.000	86.26	0.00	0.00
30	127.00	MTC3607 Platform + HR &	1	8.092	8.901	1.00	1.00	89.33	4775.24	0.000	0.000	795.11	0.00	0.00
31	127.00	Cci HPA-65R-BUU-H8	12	8.092	8.901	0.59	0.75	103.57	4404.75	0.000	0.000	921.92	0.00	0.00
32	127.00	Ericsson RRUS-11 RRU	6	8.092	8.901	0.50	0.75	9.53	889.41	0.000	0.000	84.80	0.00	0.00
33	117.00	MC-PK8-DSH	1	7.954	8.749	1.00	1.00	83.66	3345.81	0.000	0.000	731.98	0.00	0.00
34	117.00	RDIDC-9181-OF-48	1	7.954	8.749	1.00	1.00	2.56	65.52	0.000	0.000	22.44	0.00	0.00
35	117.00	TA08025-B604	3	7.954	8.749	0.50	0.75	3.78	341.90	0.000	0.000	33.07	0.00	0.00
36	117.00	TA08025-B605	3	7.954	8.749	0.50	0.75	3.78	385.26	0.000	0.000	33.07	0.00	0.00
37	117.00	MX08FRO665-21	3	7.954	8.749	0.56	0.75	23.49	881.80	0.000	0.000	205.50	0.00	0.00

**Totals:** 36,880.60

6,434.33

## Total Applied Force Summary

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		69.57	885.25	0.00	0.00
4.00		69.21	891.69	0.00	0.00
6.00		68.78	893.01	0.00	0.00
8.00		68.31	892.10	0.00	0.00
10.00		67.84	889.91	0.00	0.00
12.00		67.35	886.88	0.00	0.00
14.00		66.85	883.26	0.00	0.00
16.00		67.17	879.20	0.00	0.00
18.00		68.33	874.79	0.00	0.00
20.00		69.32	870.09	0.00	0.00
22.00		70.17	865.17	0.00	0.00
24.00		70.89	860.05	0.00	0.00
26.00		71.52	854.76	0.00	0.00
28.00		72.05	849.33	0.00	0.00
30.00		72.50	843.77	0.00	0.00
32.00		72.88	838.10	0.00	0.00
34.00		73.19	832.33	0.00	0.00
36.00		73.45	826.47	0.00	0.00
38.00		73.65	820.53	0.00	0.00
40.00		73.80	814.51	0.00	0.00
42.00		73.91	808.43	0.00	0.00
44.00		73.98	802.29	0.00	0.00
46.00		74.00	796.09	0.00	0.00
47.25		46.17	494.49	0.00	0.00
48.00		28.08	469.42	0.00	0.00
50.00		75.06	1244.02	0.00	0.00
52.00		75.00	1233.09	0.00	0.00
53.25		46.75	765.24	0.00	0.00
54.00		28.00	265.05	0.00	0.00
56.00		74.77	702.59	0.00	0.00
58.00		74.62	696.89	0.00	0.00
60.00		74.45	691.16	0.00	0.00
62.00		74.24	685.40	0.00	0.00
64.00		74.02	679.60	0.00	0.00
66.00		73.77	673.78	0.00	0.00
68.00		73.50	667.92	0.00	0.00
70.00		73.22	662.04	0.00	0.00
72.00		72.91	656.13	0.00	0.00
74.00		72.58	650.20	0.00	0.00
76.00		72.24	644.24	0.00	0.00
78.00		71.88	638.26	0.00	0.00
80.00		71.50	632.26	0.00	0.00
82.00		71.11	626.23	0.00	0.00
84.00		70.70	620.19	0.00	0.00
86.00		70.28	614.13	0.00	0.00
88.00		69.84	608.05	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	69.39	601.95	0.00	0.00	
92.00	68.93	595.83	0.00	0.00	
94.00	68.46	589.70	0.00	0.00	
96.00	67.97	583.55	0.00	0.00	
98.00	68.32	815.16	0.00	0.00	
100.00	67.81	805.93	0.00	0.00	
100.75	25.26	300.03	0.00	0.00	
102.00	41.96	286.14	0.00	0.00	
104.00	66.76	453.73	0.00	0.00	
106.00	66.22	449.04	0.00	0.00	
108.00	65.67	444.33	0.00	0.00	
110.00	65.11	439.62	0.00	0.00	
112.00	64.53	434.89	0.00	0.00	
114.00	63.95	430.15	0.00	0.00	
116.00	63.36	425.39	0.00	0.00	
117.00	(11) attachments	1057.47	5231.42	0.00	0.00
118.00		31.27	208.73	0.00	0.00
120.00		62.15	413.45	0.00	0.00
122.00		61.53	408.67	0.00	0.00
124.00		60.90	403.87	0.00	0.00
126.00		60.26	399.06	0.00	0.00
127.00	(47) attachments	2540.00	14468.89	0.00	0.00
128.00		29.70	192.20	0.00	0.00
130.00		58.96	380.34	0.00	0.00
132.00		58.30	375.50	0.00	0.00
134.00		57.63	370.65	0.00	0.00
136.00		56.96	365.80	0.00	0.00
137.00	(21) attachments	1442.31	8244.06	0.00	0.00
138.00		28.03	167.31	0.00	0.00
139.00		27.86	166.10	0.00	0.00
140.00		27.68	143.69	0.00	0.00
142.00		54.89	283.84	0.00	0.00
144.00		54.18	279.71	0.00	0.00
146.00		53.47	275.57	0.00	0.00
148.00		52.75	271.43	0.00	0.00
149.00	(26) attachments	1510.12	9660.99	0.00	0.00
<b>Totals:</b>		<b>11,483.54</b>	<b>85,645.08</b>	<b>0.00</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



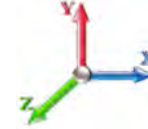
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 25

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.38	0.44	0.00	0.017	0.000	5.168	0.00	4.48
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.48	0.00	0.017	0.000	5.168	0.00	3.14
4.00	Safety Cable	Yes	2.00	0.000	0.38	0.47	0.00	0.017	0.000	5.168	0.00	4.99
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.51	0.00	0.017	0.000	5.168	0.00	3.60
6.00	Safety Cable	Yes	2.00	0.000	0.38	0.48	0.00	0.017	0.000	5.168	0.00	5.33
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.53	0.00	0.017	0.000	5.168	0.00	3.91
8.00	Safety Cable	Yes	2.00	0.000	0.38	0.50	0.00	0.018	0.000	5.168	0.00	5.58
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.54	0.00	0.018	0.000	5.168	0.00	4.14
10.00	Safety Cable	Yes	2.00	0.000	0.38	0.51	0.00	0.018	0.000	5.168	0.00	5.79
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.55	0.00	0.018	0.000	5.168	0.00	4.33
12.00	Safety Cable	Yes	2.00	0.000	0.38	0.52	0.00	0.018	0.000	5.168	0.00	5.96
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.56	0.00	0.018	0.000	5.168	0.00	4.49
14.00	Safety Cable	Yes	2.00	0.000	0.38	0.52	0.00	0.018	0.000	5.168	0.00	6.11
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.56	0.00	0.018	0.000	5.168	0.00	4.63
16.00	Safety Cable	Yes	2.00	0.000	0.38	0.53	0.00	0.018	0.000	5.232	0.00	6.25
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.57	0.00	0.018	0.000	5.232	0.00	4.76
18.00	Safety Cable	Yes	2.00	0.000	0.38	0.53	0.00	0.018	0.000	5.363	0.00	6.37
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.58	0.00	0.018	0.000	5.363	0.00	4.87
20.00	Safety Cable	Yes	2.00	0.000	0.38	0.54	0.00	0.018	0.000	5.483	0.00	6.48
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.58	0.00	0.018	0.000	5.483	0.00	4.97
22.00	Safety Cable	Yes	2.00	0.000	0.38	0.54	0.00	0.019	0.000	5.595	0.00	6.59
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.59	0.00	0.019	0.000	5.595	0.00	5.07
24.00	Safety Cable	Yes	2.00	0.000	0.38	0.55	0.00	0.019	0.000	5.698	0.00	6.68
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.59	0.00	0.019	0.000	5.698	0.00	5.16
26.00	Safety Cable	Yes	2.00	0.000	0.38	0.55	0.00	0.019	0.000	5.795	0.00	6.77
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.59	0.00	0.019	0.000	5.795	0.00	5.24
28.00	Safety Cable	Yes	2.00	0.000	0.38	0.56	0.00	0.019	0.000	5.886	0.00	6.86
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.60	0.00	0.019	0.000	5.886	0.00	5.32
30.00	Safety Cable	Yes	2.00	0.000	0.38	0.56	0.00	0.019	0.000	5.972	0.00	6.94
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.60	0.00	0.019	0.000	5.972	0.00	5.39
32.00	Safety Cable	Yes	2.00	0.000	0.38	0.56	0.00	0.020	0.000	6.054	0.00	7.02
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.60	0.00	0.020	0.000	6.054	0.00	5.46
34.00	Safety Cable	Yes	2.00	0.000	0.38	0.56	0.00	0.020	0.000	6.132	0.00	7.09
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.61	0.00	0.020	0.000	6.132	0.00	5.53
36.00	Safety Cable	Yes	2.00	0.000	0.38	0.57	0.00	0.020	0.000	6.206	0.00	7.16
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.61	0.00	0.020	0.000	6.206	0.00	5.59
38.00	Safety Cable	Yes	2.00	0.000	0.38	0.57	0.00	0.020	0.000	6.277	0.00	7.22
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.61	0.00	0.020	0.000	6.277	0.00	5.66
40.00	Safety Cable	Yes	2.00	0.000	0.38	0.57	0.00	0.020	0.000	6.345	0.00	7.28
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.61	0.00	0.020	0.000	6.345	0.00	5.71
42.00	Safety Cable	Yes	2.00	0.000	0.38	0.58	0.00	0.020	0.000	6.410	0.00	7.34
42.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.62	0.00	0.020	0.000	6.410	0.00	5.77
44.00	Safety Cable	Yes	2.00	0.000	0.38	0.58	0.00	0.021	0.000	6.474	0.00	7.40
44.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.62	0.00	0.021	0.000	6.474	0.00	5.82
46.00	Safety Cable	Yes	2.00	0.000	0.38	0.58	0.00	0.021	0.000	6.534	0.00	7.46
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.62	0.00	0.021	0.000	6.534	0.00	5.88
47.25	Safety Cable	Yes	1.25	0.000	0.38	0.36	0.00	0.021	0.000	6.571	0.00	4.68

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



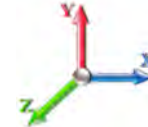
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 25

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
47.25	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.39	0.00	0.021	0.000	6.571	0.00	3.69
48.00	Safety Cable	Yes	0.75	0.000	0.38	0.22	0.00	0.021	0.000	6.593	0.00	2.82
48.00	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.23	0.00	0.021	0.000	6.593	0.00	2.22
50.00	Safety Cable	Yes	2.00	0.000	0.38	0.58	0.00	0.021	0.000	6.650	0.00	7.56
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.63	0.00	0.021	0.000	6.650	0.00	5.97
52.00	Safety Cable	Yes	2.00	0.000	0.38	0.59	0.00	0.022	0.000	6.705	0.00	7.62
52.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.63	0.00	0.022	0.000	6.705	0.00	6.02
53.25	Safety Cable	Yes	1.25	0.000	0.38	0.37	0.00	0.022	0.000	6.739	0.00	4.78
53.25	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.39	0.00	0.022	0.000	6.739	0.00	3.78
54.00	Safety Cable	Yes	0.75	0.000	0.38	0.22	0.00	0.021	0.000	6.759	0.00	2.87
54.00	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.24	0.00	0.021	0.000	6.759	0.00	2.28
56.00	Safety Cable	Yes	2.00	0.000	0.38	0.59	0.00	0.022	0.000	6.811	0.00	7.71
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.63	0.00	0.022	0.000	6.811	0.00	6.11
58.00	Safety Cable	Yes	2.00	0.000	0.38	0.59	0.00	0.022	0.000	6.861	0.00	7.76
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.63	0.00	0.022	0.000	6.861	0.00	6.15
60.00	Safety Cable	Yes	2.00	0.000	0.38	0.59	0.00	0.022	0.000	6.910	0.00	7.80
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.64	0.00	0.022	0.000	6.910	0.00	6.20
62.00	Safety Cable	Yes	2.00	0.000	0.38	0.60	0.00	0.022	0.000	6.958	0.00	7.85
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.64	0.00	0.022	0.000	6.958	0.00	6.24
64.00	Safety Cable	Yes	2.00	0.000	0.38	0.60	0.00	0.023	0.000	7.005	0.00	7.89
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.64	0.00	0.023	0.000	7.005	0.00	6.28
66.00	Safety Cable	Yes	2.00	0.000	0.38	0.60	0.00	0.023	0.000	7.050	0.00	7.93
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.64	0.00	0.023	0.000	7.050	0.00	6.32
68.00	Safety Cable	Yes	2.00	0.000	0.38	0.60	0.00	0.023	0.000	7.095	0.00	7.97
68.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.64	0.00	0.023	0.000	7.095	0.00	6.35
70.00	Safety Cable	Yes	2.00	0.000	0.38	0.60	0.00	0.023	0.000	7.138	0.00	8.01
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.64	0.00	0.023	0.000	7.138	0.00	6.39
72.00	Safety Cable	Yes	2.00	0.000	0.38	0.60	0.00	0.024	0.000	7.181	0.00	8.05
72.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.65	0.00	0.024	0.000	7.181	0.00	6.43
74.00	Safety Cable	Yes	2.00	0.000	0.38	0.61	0.00	0.024	0.000	7.222	0.00	8.09
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.65	0.00	0.024	0.000	7.222	0.00	6.46
76.00	Safety Cable	Yes	2.00	0.000	0.38	0.61	0.00	0.024	0.000	7.263	0.00	8.13
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.65	0.00	0.024	0.000	7.263	0.00	6.50
78.00	Safety Cable	Yes	2.00	0.000	0.38	0.61	0.00	0.024	0.000	7.303	0.00	8.16
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.65	0.00	0.024	0.000	7.303	0.00	6.53
80.00	Safety Cable	Yes	2.00	0.000	0.38	0.61	0.00	0.025	0.000	7.342	0.00	8.20
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.65	0.00	0.025	0.000	7.342	0.00	6.56
82.00	Safety Cable	Yes	2.00	0.000	0.38	0.61	0.00	0.025	0.000	7.380	0.00	8.23
82.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.65	0.00	0.025	0.000	7.380	0.00	6.60
84.00	Safety Cable	Yes	2.00	0.000	0.38	0.61	0.00	0.025	0.000	7.418	0.00	8.27
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.65	0.00	0.025	0.000	7.418	0.00	6.63
86.00	Safety Cable	Yes	2.00	0.000	0.38	0.61	0.00	0.026	0.000	7.454	0.00	8.30
86.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.66	0.00	0.026	0.000	7.454	0.00	6.66
88.00	Safety Cable	Yes	2.00	0.000	0.38	0.61	0.00	0.026	0.000	7.491	0.00	8.33
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.66	0.00	0.026	0.000	7.491	0.00	6.69
90.00	Safety Cable	Yes	2.00	0.000	0.38	0.62	0.00	0.026	0.000	7.526	0.00	8.37
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.66	0.00	0.026	0.000	7.526	0.00	6.72



## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



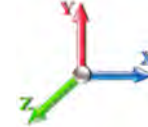
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 25

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
92.00	Safety Cable	Yes	2.00	0.000	0.38	0.62	0.00	0.026	0.000	7.561	0.00	8.40
92.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.66	0.00	0.026	0.000	7.561	0.00	6.75
94.00	Safety Cable	Yes	2.00	0.000	0.38	0.62	0.00	0.027	0.000	7.595	0.00	8.43
94.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.66	0.00	0.027	0.000	7.595	0.00	6.78
96.00	Safety Cable	Yes	2.00	0.000	0.38	0.62	0.00	0.027	0.000	7.629	0.00	8.46
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.66	0.00	0.027	0.000	7.629	0.00	6.81
98.00	Safety Cable	Yes	2.00	0.000	0.38	0.62	0.00	0.028	0.000	7.662	0.00	8.49
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.66	0.00	0.028	0.000	7.662	0.00	6.83
100.00	Safety Cable	Yes	2.00	0.000	0.38	0.62	0.00	0.028	0.000	7.695	0.00	8.52
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.66	0.00	0.028	0.000	7.695	0.00	6.86
100.75	Safety Cable	Yes	0.75	0.000	0.38	0.23	0.00	0.028	0.000	7.707	0.00	3.20
100.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.25	0.00	0.028	0.000	7.707	0.00	2.58
102.00	Safety Cable	Yes	1.25	0.000	0.38	0.39	0.00	0.028	0.000	7.727	0.00	5.34
102.00	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.42	0.00	0.028	0.000	7.727	0.00	4.31
104.00	Safety Cable	Yes	2.00	0.000	0.38	0.62	0.00	0.028	0.000	7.759	0.00	8.58
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.028	0.000	7.759	0.00	6.92
106.00	Safety Cable	Yes	2.00	0.000	0.38	0.63	0.00	0.029	0.000	7.790	0.00	8.60
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.029	0.000	7.790	0.00	6.94
108.00	Safety Cable	Yes	2.00	0.000	0.38	0.63	0.00	0.029	0.000	7.821	0.00	8.63
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.029	0.000	7.821	0.00	6.97
110.00	Safety Cable	Yes	2.00	0.000	0.38	0.63	0.00	0.029	0.000	7.851	0.00	8.66
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.029	0.000	7.851	0.00	6.99
112.00	Safety Cable	Yes	2.00	0.000	0.38	0.63	0.00	0.030	0.000	7.881	0.00	8.69
112.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.030	0.000	7.881	0.00	7.02
114.00	Safety Cable	Yes	2.00	0.000	0.38	0.63	0.00	0.030	0.000	7.910	0.00	8.71
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.030	0.000	7.910	0.00	7.04
116.00	Safety Cable	Yes	2.00	0.000	0.38	0.63	0.00	0.031	0.000	7.939	0.00	8.74
116.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.031	0.000	7.939	0.00	7.07
117.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.031	0.000	7.954	0.00	4.38
117.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.031	0.000	7.954	0.00	3.54
118.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.031	0.000	7.968	0.00	4.38
118.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.031	0.000	7.968	0.00	3.55
120.00	Safety Cable	Yes	2.00	0.000	0.38	0.63	0.00	0.032	0.000	7.996	0.00	8.79
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.032	0.000	7.996	0.00	7.12
122.00	Safety Cable	Yes	2.00	0.000	0.38	0.63	0.00	0.032	0.000	8.024	0.00	8.82
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.032	0.000	8.024	0.00	7.14
124.00	Safety Cable	Yes	2.00	0.000	0.38	0.63	0.00	0.033	0.000	8.051	0.00	8.84
124.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.033	0.000	8.051	0.00	7.16
126.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.033	0.000	8.079	0.00	8.87
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.033	0.000	8.079	0.00	7.19
127.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.034	0.000	8.092	0.00	4.44
127.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.034	0.000	8.092	0.00	3.60
128.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.034	0.000	8.105	0.00	4.45
128.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.034	0.000	8.105	0.00	3.60
130.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.034	0.000	8.132	0.00	8.91
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.034	0.000	8.132	0.00	7.23
132.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.035	0.000	8.158	0.00	8.94

## Linear Appurtenance Segment Forces (Factored)

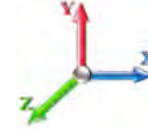
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.035	0.000	8.158	0.00	7.25
134.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.035	0.000	8.184	0.00	8.96
134.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.035	0.000	8.184	0.00	7.28
136.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.036	0.000	8.210	0.00	8.98
136.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.036	0.000	8.210	0.00	7.30
137.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.036	0.000	8.222	0.00	4.50
137.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.036	0.000	8.222	0.00	3.65
138.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.037	0.000	8.235	0.00	4.50
138.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.037	0.000	8.235	0.00	3.66
139.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.037	0.000	8.247	0.00	4.51
139.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.037	0.000	8.247	0.00	3.66
140.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.037	0.000	8.260	0.00	4.51
140.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.037	0.000	8.260	0.00	3.67
142.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.038	0.000	8.285	0.00	9.05
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.038	0.000	8.285	0.00	7.36
144.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.039	0.000	8.309	0.00	9.07
144.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.039	0.000	8.309	0.00	7.38
146.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.039	0.000	8.333	0.00	9.10
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.69	0.00	0.039	0.000	8.333	0.00	7.40
148.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.040	0.000	8.357	0.00	9.12
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.69	0.00	0.040	0.000	8.357	0.00	7.42
149.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.041	0.000	8.369	0.00	4.56
149.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.041	0.000	8.369	0.00	3.72
<b>Totals:</b>											<b>0.0</b>	<b>1,047.7</b>



## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

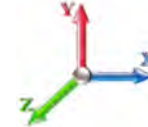


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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 25

**Dead Load Factor** 1.20  
**Wind Load 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	-85.64	-11.50	0.00	-1319.6	0.00	1319.65	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.219
2.00	-84.75	-11.46	0.00	-1296.6	0.00	1296.66	5423.14	2711.57	12782.7	6400.90	0.00	-0.022	0.000	0.218
4.00	-83.86	-11.43	0.00	-1273.7	0.00	1273.73	5394.41	2697.20	12609.6	6314.20	0.02	-0.044	0.000	0.217
6.00	-82.96	-11.39	0.00	-1250.8	0.00	1250.88	5365.42	2682.71	12437.0	6227.76	0.04	-0.066	0.000	0.216
8.00	-82.06	-11.35	0.00	-1228.1	0.00	1228.11	5336.17	2668.08	12264.9	6141.58	0.07	-0.089	0.000	0.215
10.00	-81.17	-11.31	0.00	-1205.4	0.00	1205.41	5306.65	2653.32	12093.3	6055.68	0.12	-0.111	0.000	0.214
12.00	-80.28	-11.28	0.00	-1182.7	0.00	1182.78	5276.87	2638.43	11922.3	5970.05	0.17	-0.134	0.000	0.213
14.00	-79.39	-11.24	0.00	-1160.2	0.00	1160.23	5246.82	2623.41	11751.9	5884.71	0.23	-0.157	0.000	0.212
16.00	-78.51	-11.20	0.00	-1137.7	0.00	1137.76	5216.51	2608.26	11582.1	5799.67	0.30	-0.180	0.000	0.211
18.00	-77.63	-11.16	0.00	-1115.3	0.00	1115.36	5185.94	2592.97	11412.8	5714.93	0.38	-0.203	0.000	0.210
20.00	-76.75	-11.12	0.00	-1093.0	0.00	1093.04	5155.10	2577.55	11244.2	5630.50	0.47	-0.226	0.000	0.209
22.00	-75.88	-11.08	0.00	-1070.8	0.00	1070.80	5124.00	2562.00	11076.3	5546.38	0.57	-0.250	0.000	0.208
24.00	-75.02	-11.03	0.00	-1048.6	0.00	1048.65	5092.64	2546.32	10908.9	5462.60	0.68	-0.273	0.000	0.207
26.00	-74.16	-10.99	0.00	-1026.5	0.00	1026.58	5061.01	2530.51	10742.3	5379.14	0.80	-0.297	0.000	0.206
28.00	-73.31	-10.94	0.00	-1004.6	0.00	1004.61	5029.12	2514.56	10576.3	5296.03	0.93	-0.321	0.000	0.204
30.00	-72.46	-10.89	0.00	-982.72	0.00	982.72	4996.96	2498.48	10411.0	5213.26	1.07	-0.345	0.000	0.203
32.00	-71.62	-10.85	0.00	-960.94	0.00	960.94	4964.54	2482.27	10246.4	5130.86	1.22	-0.369	0.000	0.202
34.00	-70.78	-10.80	0.00	-939.24	0.00	939.24	4931.86	2465.93	10082.6	5048.81	1.38	-0.393	0.000	0.200
36.00	-69.95	-10.75	0.00	-917.65	0.00	917.65	4898.91	2449.45	9919.54	4967.14	1.55	-0.418	0.000	0.199
38.00	-69.13	-10.70	0.00	-896.15	0.00	896.15	4865.70	2432.85	9757.20	4885.85	1.73	-0.442	0.000	0.198
40.00	-68.31	-10.65	0.00	-874.75	0.00	874.75	4832.22	2416.11	9595.63	4804.95	1.92	-0.467	0.000	0.196
42.00	-67.49	-10.60	0.00	-853.46	0.00	853.46	4798.48	2399.24	9434.86	4724.44	2.12	-0.491	0.000	0.195
44.00	-66.69	-10.54	0.00	-832.27	0.00	832.27	4764.48	2382.24	9274.89	4644.34	2.33	-0.516	0.000	0.193
46.00	-65.89	-10.49	0.00	-811.18	0.00	811.18	4730.21	2365.11	9115.74	4564.64	2.55	-0.541	0.000	0.192
47.25	-65.39	-10.45	0.00	-798.07	0.00	798.07	4708.66	2354.33	9016.69	4515.05	2.70	-0.557	0.000	0.191
48.00	-64.92	-10.44	0.00	-790.24	0.00	790.24	4695.68	2347.84	8957.42	4485.37	2.79	-0.566	0.000	0.190
50.00	-63.67	-10.38	0.00	-769.36	0.00	769.36	4660.89	2330.44	8799.96	4406.52	3.03	-0.592	0.000	0.188
52.00	-62.44	-10.31	0.00	-748.61	0.00	748.61	4625.83	2312.91	8643.36	4328.11	3.28	-0.617	0.000	0.186
53.25	-61.67	-10.27	0.00	-735.72	0.00	735.72	4618.32	2309.16	8526.08	4281.41	3.45	-0.633	0.000	0.220
54.00	-61.40	-10.26	0.00	-728.02	0.00	728.02	4608.46	2304.23	8417.91	4241.09	3.55	-0.642	0.000	0.219
56.00	-60.70	-10.21	0.00	-707.50	0.00	707.50	4582.00	2291.00	8315.71	4201.10	3.82	-0.671	0.000	0.216
58.00	-59.99	-10.15	0.00	-687.09	0.00	687.09	4555.27	2277.63	8219.45	4161.38	4.11	-0.699	0.000	0.214
60.00	-59.30	-10.10	0.00	-666.78	0.00	666.78	4528.27	2264.14	8129.75	4121.94	4.41	-0.727	0.000	0.211
62.00	-58.61	-10.05	0.00	-646.58	0.00	646.58	4501.01	2250.51	8046.63	4082.79	4.72	-0.755	0.000	0.209
64.00	-57.93	-9.99	0.00	-626.49	0.00	626.49	4473.49	2236.75	7969.61	4044.93	5.04	-0.783	0.000	0.206
66.00	-57.25	-9.94	0.00	-606.51	0.00	606.51	4445.71	2222.85	7898.19	4008.39	5.38	-0.812	0.000	0.204
68.00	-56.58	-9.88	0.00	-586.64	0.00	586.64	4417.66	2208.83	7832.40	3972.15	5.72	-0.840	0.000	0.201
70.00	-55.91	-9.83	0.00	-566.88	0.00	566.88	4389.34	2194.67	7771.25	3936.24	6.08	-0.868	0.000	0.198
72.00	-55.25	-9.77	0.00	-547.23	0.00	547.23	4360.76	2180.38	7714.26	3900.65	6.45	-0.896	0.000	0.195
74.00	-54.60	-9.71	0.00	-527.70	0.00	527.70	4331.92	2165.96	7661.94	3865.40	6.83	-0.925	0.000	0.192
76.00	-53.95	-9.66	0.00	-508.27	0.00	508.27	4302.82	2151.41	7613.30	3830.50	7.23	-0.953	0.000	0.189
78.00	-53.31	-9.60	0.00	-488.96	0.00	488.96	4273.45	2136.72	7568.37	3795.94	7.63	-0.981	0.000	0.186
80.00	-52.67	-9.54	0.00	-469.76	0.00	469.76	4243.81	2121.91	7527.15	3761.75	8.05	-1.008	0.000	0.182
82.00	-52.04	-9.49	0.00	-450.67	0.00	450.67	4213.92	2106.96	7489.67	3727.92	8.48	-1.036	0.000	0.179
84.00	-51.42	-9.43	0.00	-431.70	0.00	431.70	4183.76	2091.88	7455.93	3694.47	8.92	-1.064	0.000	0.175
86.00	-50.80	-9.37	0.00	-412.85	0.00	412.85	4153.33	2076.67	7425.96	3661.40	9.37	-1.091	0.000	0.172
88.00	-50.19	-9.31	0.00	-394.11	0.00	394.11	4122.64	2061.32	7399.77	3628.72	9.83	-1.118	0.000	0.168
90.00	-49.59	-9.25	0.00	-375.48	0.00	375.48	4091.69	2045.84	7377.37	3596.44	10.31	-1.145	0.000	0.164

## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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92.00	-48.99	-9.20	0.00	-356.97	0.00	356.97	3260.47	1630.24	4935.79	2471.56	10.79	-1.171	0.000	0.159
94.00	-48.40	-9.14	0.00	-338.58	0.00	338.58	3223.46	1611.73	4816.76	2411.96	11.29	-1.198	0.000	0.155
96.00	-47.81	-9.08	0.00	-320.31	0.00	320.31	3181.72	1590.86	4692.22	2349.60	11.79	-1.223	0.000	0.151
98.00	-46.99	-9.01	0.00	-302.15	0.00	302.15	3139.99	1570.00	4569.31	2288.05	12.31	-1.249	0.000	0.147
100.00	-46.19	-8.94	0.00	-284.12	0.00	284.12	3098.26	1549.13	4448.03	2227.32	12.84	-1.273	0.000	0.143
100.75	-45.89	-8.92	0.00	-277.42	0.00	277.42	1860.42	930.21	2714.89	1359.46	13.04	-1.283	0.000	0.229
102.00	-45.60	-8.89	0.00	-266.27	0.00	266.27	1851.10	925.55	2678.69	1341.34	13.38	-1.298	0.000	0.223
104.00	-45.14	-8.84	0.00	-248.49	0.00	248.49	1835.98	917.99	2620.93	1312.41	13.93	-1.331	0.000	0.214
106.00	-44.69	-8.79	0.00	-230.81	0.00	230.81	1820.60	910.30	2563.39	1283.60	14.50	-1.364	0.000	0.204
108.00	-44.24	-8.74	0.00	-213.24	0.00	213.24	1804.95	902.48	2506.08	1254.90	15.07	-1.395	0.000	0.195
110.00	-43.80	-8.68	0.00	-195.77	0.00	195.77	1789.04	894.52	2449.03	1226.33	15.67	-1.425	0.000	0.184
112.00	-43.36	-8.63	0.00	-178.41	0.00	178.41	1772.87	886.43	2392.24	1197.90	16.27	-1.454	0.000	0.173
114.00	-42.93	-8.57	0.00	-161.15	0.00	161.15	1756.43	878.22	2335.73	1169.60	16.89	-1.481	0.000	0.162
116.00	-42.50	-8.51	0.00	-144.01	0.00	144.01	1739.73	869.86	2279.52	1141.45	17.51	-1.507	0.000	0.151
117.00	-37.30	-7.32	0.00	-135.50	0.00	135.50	1731.28	865.64	2251.53	1127.44	17.83	-1.519	0.000	0.142
118.00	-37.09	-7.30	0.00	-128.17	0.00	128.17	1722.76	861.38	2223.62	1113.46	18.15	-1.531	0.000	0.137
120.00	-36.67	-7.24	0.00	-113.58	0.00	113.58	1705.53	852.77	2168.05	1085.64	18.79	-1.553	0.000	0.126
122.00	-36.26	-7.18	0.00	-99.10	0.00	99.10	1688.04	844.02	2112.82	1057.98	19.45	-1.573	0.000	0.115
124.00	-35.86	-7.12	0.00	-84.74	0.00	84.74	1670.28	835.14	2057.95	1030.51	20.11	-1.592	0.000	0.104
126.00	-35.46	-7.05	0.00	-70.51	0.00	70.51	1652.26	826.13	2003.46	1003.22	20.78	-1.608	0.000	0.092
127.00	-21.07	-4.11	0.00	-63.46	0.00	63.46	1643.15	821.58	1976.36	989.65	21.12	-1.616	0.000	0.077
128.00	-20.88	-4.08	0.00	-59.35	0.00	59.35	1633.98	816.99	1949.35	976.13	21.46	-1.622	0.000	0.074
130.00	-20.50	-4.01	0.00	-51.19	0.00	51.19	1615.43	807.71	1895.65	949.24	22.14	-1.635	0.000	0.067
132.00	-20.12	-3.95	0.00	-43.17	0.00	43.17	1596.61	798.31	1842.37	922.56	22.83	-1.647	0.000	0.059
134.00	-19.75	-3.88	0.00	-35.27	0.00	35.27	1577.54	788.77	1789.53	896.09	23.52	-1.657	0.000	0.052
136.00	-19.39	-3.82	0.00	-27.51	0.00	27.51	1558.20	779.10	1737.14	869.86	24.22	-1.665	0.000	0.044
137.00	-11.19	-2.14	0.00	-23.69	0.00	23.69	1548.43	774.21	1711.12	856.83	24.57	-1.669	0.000	0.035
138.00	-11.02	-2.10	0.00	-21.55	0.00	21.55	1538.59	769.30	1685.21	843.86	24.92	-1.672	0.000	0.033
139.00	-10.86	-2.07	0.00	-19.45	0.00	19.45	1528.69	764.34	1659.43	830.95	25.27	-1.675	0.000	0.031
139.00	-10.86	-2.07	0.00	-19.45	0.00	19.45	1044.31	522.16	1138.99	570.34	25.27	-1.675	0.000	0.045
140.00	-10.72	-2.04	0.00	-17.38	0.00	17.38	1038.69	519.35	1122.71	562.19	25.62	-1.678	0.000	0.041
142.00	-10.43	-1.98	0.00	-13.30	0.00	13.30	1027.26	513.63	1090.28	545.95	26.32	-1.684	0.000	0.035
144.00	-10.16	-1.92	0.00	-9.34	0.00	9.34	1015.57	507.78	1058.02	529.79	27.03	-1.689	0.000	0.028
146.00	-9.88	-1.86	0.00	-5.51	0.00	5.51	1003.61	501.80	1025.94	513.73	27.74	-1.693	0.000	0.021
148.00	-9.61	-1.80	0.00	-1.80	0.00	1.80	991.38	495.69	994.07	497.78	28.45	-1.695	0.000	0.013
149.00	0.00	-1.51	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	28.80	-1.695	0.000	0.000

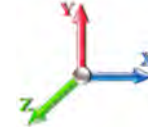
## Seismic Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.0E		<b>Iterations</b> 23
<b>Gust Response Factor</b> 1.10	<b>Sds</b> 0.17	<b>Ss</b> 0.16
<b>Dead Load Factor</b> 1.20	<b>Seismic Load Factor</b> 1.00	<b>S1</b> 0.06
<b>Wind Load Factor</b> 0.00	<b>Structure Frequency (f1)</b> 0.36	<b>SA</b> 0.03
		<b>Seismic Importance Factor</b> 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	
2.00		544.19	0.00	0.01	0.01	4.32	
4.00		539.73	0.00	0.03	0.01	7.30	
6.00		535.27	0.00	0.04	0.02	9.41	
8.00		530.81	0.01	0.05	0.03	10.94	
10.00		526.35	0.01	0.05	0.03	12.05	
12.00		521.89	0.01	0.06	0.03	12.84	
14.00		517.43	0.02	0.06	0.04	13.41	
16.00		512.97	0.02	0.07	0.04	13.81	
18.00		508.51	0.03	0.07	0.04	14.08	
20.00		504.05	0.03	0.07	0.04	14.26	
22.00		499.60	0.04	0.07	0.04	14.37	
24.00		495.14	0.05	0.07	0.04	14.44	
26.00		490.68	0.06	0.07	0.04	14.49	
28.00		486.22	0.07	0.07	0.04	14.51	
30.00		481.76	0.08	0.07	0.04	14.53	
32.00		477.30	0.09	0.07	0.04	14.54	
34.00		472.84	0.10	0.07	0.04	14.54	
36.00		468.38	0.11	0.07	0.04	14.54	
38.00		463.92	0.12	0.07	0.03	14.54	
40.00		459.46	0.14	0.07	0.03	14.52	
42.00		455.00	0.15	0.07	0.03	14.49	
44.00		450.54	0.16	0.07	0.03	14.43	
46.00		446.08	0.18	0.07	0.03	14.34	
47.25	Bot - Section 2	276.53	0.19	0.06	0.02	8.89	
48.00		309.05	0.20	0.06	0.02	9.94	
50.00		818.44	0.21	0.06	0.02	26.21	
52.00		810.16	0.23	0.06	0.02	25.71	
53.25	Top - Section 1	502.14	0.24	0.06	0.02	15.79	
54.00		139.67	0.25	0.06	0.02	4.36	
56.00		369.82	0.27	0.05	0.02	11.27	
58.00		366.00	0.29	0.05	0.01	10.78	
60.00		362.17	0.31	0.04	0.01	10.17	
62.00		358.35	0.33	0.04	0.01	9.44	
64.00		354.53	0.35	0.03	0.01	8.58	
66.00		350.70	0.37	0.03	0.01	7.58	
68.00		346.88	0.39	0.02	0.01	6.46	
70.00		343.06	0.42	0.01	0.01	5.21	
72.00		339.24	0.44	0.00	0.01	3.85	
74.00		335.41	0.47	0.00	0.01	2.40	
76.00		331.59	0.49	-0.01	0.01	0.90	
78.00		327.77	0.52	-0.02	0.01	-0.61	
80.00		323.95	0.54	-0.03	0.01	-2.10	
82.00		320.12	0.57	-0.04	0.01	-3.52	
84.00		316.30	0.60	-0.05	0.01	-4.84	
86.00		312.48	0.63	-0.06	0.02	-6.01	

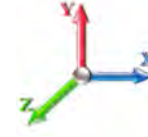


## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



<b>Load Case:</b> 1.2D + 1.0E		<b>Iterations</b> 23
<b>Gust Response Factor</b> 1.10	<b>Sds</b> 0.17	<b>Ss</b> 0.16
<b>Dead Load Factor</b> 1.20	<b>Seismic Load Factor</b> 1.00	<b>S1</b> 0.06
<b>Wind Load Factor</b> 0.00	<b>Structure Frequency (f1)</b> 0.36	<b>SA</b> 0.03
		<b>Seismic Importance Factor</b> 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	-52.48	-2.06	0.00	-252.03	0.00	252.03	5451.60	2725.80	12956.4	6487.84	0.00	0.00	0.00	0.048
2.00	-51.77	-2.06	0.00	-247.92	0.00	247.92	5423.14	2711.57	12782.7	6400.90	0.00	0.00	0.00	0.048
4.00	-51.06	-2.05	0.00	-243.81	0.00	243.81	5394.41	2697.20	12609.6	6314.20	0.00	-0.01	-0.01	0.048
6.00	-50.36	-2.05	0.00	-239.70	0.00	239.70	5365.42	2682.71	12437.0	6227.76	0.01	-0.01	-0.01	0.048
8.00	-49.67	-2.04	0.00	-235.61	0.00	235.61	5336.17	2668.08	12264.9	6141.58	0.01	-0.02	-0.02	0.048
10.00	-48.98	-2.03	0.00	-231.53	0.00	231.53	5306.65	2653.32	12093.3	6055.68	0.02	-0.02	-0.02	0.047
12.00	-48.30	-2.02	0.00	-227.47	0.00	227.47	5276.87	2638.43	11922.3	5970.05	0.03	-0.03	-0.03	0.047
14.00	-47.62	-2.01	0.00	-223.43	0.00	223.43	5246.82	2623.41	11751.9	5884.71	0.04	-0.03	-0.03	0.047
16.00	-46.94	-2.00	0.00	-219.41	0.00	219.41	5216.51	2608.26	11582.1	5799.67	0.06	-0.03	-0.03	0.047
18.00	-46.27	-1.99	0.00	-215.41	0.00	215.41	5185.94	2592.97	11412.8	5714.93	0.07	-0.04	-0.04	0.047
20.00	-45.61	-1.98	0.00	-211.43	0.00	211.43	5155.10	2577.55	11244.2	5630.50	0.09	-0.04	-0.04	0.046
22.00	-44.95	-1.97	0.00	-207.47	0.00	207.47	5124.00	2562.00	11076.3	5546.38	0.11	-0.05	-0.05	0.046
24.00	-44.30	-1.96	0.00	-203.53	0.00	203.53	5092.64	2546.32	10908.9	5462.60	0.13	-0.05	-0.05	0.046
26.00	-43.65	-1.94	0.00	-199.62	0.00	199.62	5061.01	2530.51	10742.3	5379.14	0.15	-0.06	-0.06	0.046
28.00	-43.01	-1.93	0.00	-195.73	0.00	195.73	5029.12	2514.56	10576.3	5296.03	0.18	-0.06	-0.06	0.046
30.00	-42.38	-1.92	0.00	-191.87	0.00	191.87	4996.96	2498.48	10411.0	5213.26	0.21	-0.07	-0.07	0.045
32.00	-41.75	-1.91	0.00	-188.03	0.00	188.03	4964.54	2482.27	10246.4	5130.86	0.23	-0.07	-0.07	0.045
34.00	-41.12	-1.90	0.00	-184.21	0.00	184.21	4931.86	2465.93	10082.6	5048.81	0.27	-0.08	-0.08	0.045
36.00	-40.50	-1.89	0.00	-180.42	0.00	180.42	4898.91	2449.45	9919.54	4967.14	0.30	-0.08	-0.08	0.045
38.00	-39.89	-1.87	0.00	-176.65	0.00	176.65	4865.70	2432.85	9757.20	4885.85	0.33	-0.09	-0.09	0.044
40.00	-39.28	-1.86	0.00	-172.90	0.00	172.90	4832.22	2416.11	9595.63	4804.95	0.37	-0.09	-0.09	0.044
42.00	-38.67	-1.85	0.00	-169.18	0.00	169.18	4798.48	2399.24	9434.86	4724.44	0.41	-0.10	-0.10	0.044
44.00	-38.07	-1.84	0.00	-165.48	0.00	165.48	4764.48	2382.24	9274.89	4644.34	0.45	-0.10	-0.10	0.044
46.00	-37.48	-1.82	0.00	-161.81	0.00	161.81	4730.21	2365.11	9115.74	4564.64	0.49	-0.11	-0.11	0.043
47.25	-37.11	-1.82	0.00	-159.53	0.00	159.53	4708.66	2354.33	9016.69	4515.05	0.52	-0.11	-0.11	0.043
48.00	-36.72	-1.81	0.00	-158.17	0.00	158.17	4695.68	2347.84	8957.42	4485.37	0.54	-0.11	-0.11	0.043
50.00	-35.68	-1.78	0.00	-154.55	0.00	154.55	4660.89	2330.44	8799.96	4406.52	0.59	-0.12	-0.12	0.043
52.00	-34.65	-1.76	0.00	-150.99	0.00	150.99	4625.83	2312.91	8643.36	4328.11	0.63	-0.12	-0.12	0.042
53.25	-34.01	-1.74	0.00	-148.79	0.00	148.79	3818.32	1909.16	7226.08	3618.41	0.67	-0.12	-0.12	0.050
54.00	-33.82	-1.74	0.00	-147.49	0.00	147.49	3808.46	1904.23	7179.51	3595.09	0.69	-0.13	-0.13	0.050
56.00	-33.32	-1.73	0.00	-144.01	0.00	144.01	3782.00	1891.00	7055.71	3533.10	0.74	-0.13	-0.13	0.050
58.00	-32.82	-1.72	0.00	-140.55	0.00	140.55	3755.27	1877.63	6932.45	3471.38	0.80	-0.14	-0.14	0.049
60.00	-32.33	-1.71	0.00	-137.11	0.00	137.11	3728.27	1864.14	6809.75	3409.94	0.86	-0.14	-0.14	0.049
62.00	-31.84	-1.71	0.00	-133.68	0.00	133.68	3701.01	1850.51	6687.63	3348.79	0.92	-0.15	-0.15	0.049
64.00	-31.36	-1.70	0.00	-130.27	0.00	130.27	3673.49	1836.75	6566.11	3287.93	0.98	-0.15	-0.15	0.048
66.00	-30.88	-1.69	0.00	-126.87	0.00	126.87	3645.71	1822.85	6445.19	3227.39	1.05	-0.16	-0.16	0.048
68.00	-30.40	-1.69	0.00	-123.48	0.00	123.48	3617.66	1808.83	6324.90	3167.15	1.11	-0.17	-0.17	0.047
70.00	-29.93	-1.69	0.00	-120.11	0.00	120.11	3589.34	1794.67	6205.25	3107.24	1.19	-0.17	-0.17	0.047
72.00	-29.47	-1.68	0.00	-116.74	0.00	116.74	3560.76	1780.38	6086.26	3047.65	1.26	-0.18	-0.18	0.047
74.00	-29.01	-1.68	0.00	-113.37	0.00	113.37	3531.92	1765.96	5967.94	2988.40	1.33	-0.18	-0.18	0.046
76.00	-28.55	-1.68	0.00	-110.01	0.00	110.01	3502.82	1751.41	5850.30	2929.50	1.41	-0.19	-0.19	0.046
78.00	-28.10	-1.68	0.00	-106.64	0.00	106.64	3473.45	1736.72	5733.37	2870.94	1.49	-0.20	-0.20	0.045
80.00	-27.65	-1.69	0.00	-103.27	0.00	103.27	3443.81	1721.91	5617.15	2812.75	1.58	-0.20	-0.20	0.045
82.00	-27.21	-1.69	0.00	-99.90	0.00	99.90	3413.92	1706.96	5501.67	2754.92	1.66	-0.21	-0.21	0.044
84.00	-26.77	-1.69	0.00	-96.53	0.00	96.53	3383.76	1691.88	5386.93	2697.47	1.75	-0.21	-0.21	0.044
86.00	-26.34	-1.69	0.00	-93.15	0.00	93.15	3353.33	1676.67	5272.96	2640.40	1.84	-0.22	-0.22	0.043
88.00	-25.91	-1.69	0.00	-89.77	0.00	89.77	3322.64	1661.32	5159.77	2583.72	1.94	-0.23	-0.23	0.043

## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	-25.49	-1.69	0.00	-86.39	0.00	86.39	3291.69	1645.84	5047.37	2527.44	2.03	-0.23	0.042
92.00	-25.07	-1.69	0.00	-83.01	0.00	83.01	3260.47	1630.24	4935.79	2471.56	2.13	-0.24	0.041
94.00	-24.66	-1.69	0.00	-79.62	0.00	79.62	3223.46	1611.73	4816.76	2411.96	2.24	-0.25	0.041
96.00	-24.25	-1.69	0.00	-76.23	0.00	76.23	3181.72	1590.86	4692.22	2349.60	2.34	-0.25	0.040
98.00	-23.60	-1.69	0.00	-72.84	0.00	72.84	3139.99	1570.00	4569.31	2288.05	2.45	-0.26	0.039
100.00	-22.97	-1.69	0.00	-69.46	0.00	69.46	3098.26	1549.13	4448.03	2227.32	2.56	-0.26	0.039
100.75	-22.73	-1.69	0.00	-68.19	0.00	68.19	1860.42	930.21	2714.89	1359.46	2.60	-0.27	0.062
102.00	-22.56	-1.69	0.00	-66.07	0.00	66.07	1851.10	925.55	2678.69	1341.34	2.67	-0.27	0.061
104.00	-22.27	-1.70	0.00	-62.68	0.00	62.68	1835.98	917.99	2620.93	1312.41	2.78	-0.28	0.060
106.00	-21.99	-1.70	0.00	-59.29	0.00	59.29	1820.60	910.30	2563.39	1283.60	2.90	-0.29	0.058
108.00	-21.71	-1.70	0.00	-55.89	0.00	55.89	1804.95	902.48	2506.08	1254.90	3.02	-0.29	0.057
110.00	-21.44	-1.70	0.00	-52.49	0.00	52.49	1789.04	894.52	2449.03	1226.33	3.15	-0.30	0.055
112.00	-21.16	-1.70	0.00	-49.09	0.00	49.09	1772.87	886.43	2392.24	1197.90	3.28	-0.31	0.053
114.00	-20.89	-1.70	0.00	-45.68	0.00	45.68	1756.43	878.22	2335.73	1169.60	3.41	-0.32	0.051
116.00	-20.63	-1.70	0.00	-42.27	0.00	42.27	1739.73	869.86	2279.52	1141.45	3.54	-0.33	0.049
117.00	-17.66	-1.68	0.00	-40.57	0.00	40.57	1731.28	865.64	2251.53	1127.44	3.61	-0.33	0.046
118.00	-17.53	-1.68	0.00	-38.89	0.00	38.89	1722.76	861.38	2223.62	1113.46	3.68	-0.33	0.045
120.00	-17.28	-1.68	0.00	-35.53	0.00	35.53	1705.53	852.77	2168.05	1085.64	3.82	-0.34	0.043
122.00	-17.02	-1.67	0.00	-32.17	0.00	32.17	1688.04	844.02	2112.82	1057.98	3.96	-0.35	0.040
124.00	-16.77	-1.67	0.00	-28.82	0.00	28.82	1670.28	835.14	2057.95	1030.51	4.11	-0.35	0.038
126.00	-16.52	-1.66	0.00	-25.49	0.00	25.49	1652.26	826.13	2003.46	1003.22	4.26	-0.36	0.035
127.00	-10.60	-1.39	0.00	-23.82	0.00	23.82	1643.15	821.58	1976.36	989.65	4.33	-0.36	0.031
128.00	-10.48	-1.38	0.00	-22.44	0.00	22.44	1633.98	816.99	1949.35	976.13	4.41	-0.36	0.029
130.00	-10.25	-1.37	0.00	-19.67	0.00	19.67	1615.43	807.71	1895.65	949.24	4.56	-0.37	0.027
132.00	-10.02	-1.36	0.00	-16.92	0.00	16.92	1596.61	798.31	1842.37	922.56	4.72	-0.37	0.025
134.00	-9.79	-1.35	0.00	-14.20	0.00	14.20	1577.54	788.77	1789.53	896.09	4.88	-0.38	0.022
136.00	-9.57	-1.33	0.00	-11.51	0.00	11.51	1558.20	779.10	1737.14	869.86	5.03	-0.38	0.019
137.00	-5.16	-0.89	0.00	-10.18	0.00	10.18	1548.43	774.21	1711.12	856.83	5.11	-0.38	0.015
138.00	-5.07	-0.88	0.00	-9.29	0.00	9.29	1538.59	769.30	1685.21	843.86	5.19	-0.38	0.014
139.00	-4.97	-0.88	0.00	-8.40	0.00	8.40	1528.69	764.34	1659.43	830.95	5.27	-0.38	0.013
139.00	-4.97	-0.88	0.00	-8.40	0.00	8.40	1044.31	522.16	1138.99	570.34	5.27	-0.38	0.019
140.00	-4.89	-0.87	0.00	-7.53	0.00	7.53	1038.69	519.35	1122.71	562.19	5.35	-0.39	0.018
142.00	-4.75	-0.85	0.00	-5.79	0.00	5.79	1027.26	513.63	1090.28	545.95	5.52	-0.39	0.015
144.00	-4.60	-0.83	0.00	-4.09	0.00	4.09	1015.57	507.78	1058.02	529.79	5.68	-0.39	0.012
146.00	-4.46	-0.81	0.00	-2.42	0.00	2.42	1003.61	501.80	1025.94	513.73	5.84	-0.39	0.009
148.00	-4.32	-0.79	0.00	-0.79	0.00	0.79	991.38	495.69	994.07	497.78	6.01	-0.39	0.006
149.00	0.00	-0.76	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	6.09	-0.39	0.000

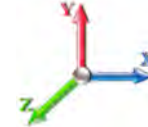
## Seismic Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 0.9D + 1.0E						<b>Iterations</b> 23
<b>Gust Response Factor</b>	1.10			<b>Sds</b>	0.17	<b>Ss</b> 0.16
<b>Dead Load Factor</b>	0.90	<b>Seismic Load Factor</b>	1.00	<b>Sd1</b>	0.09	<b>S1</b> 0.06
<b>Wind Load Factor</b>	0.00	<b>Structure Frequency (f1)</b>	0.36	<b>SA</b>	0.03	<b>Seismic Importance Factor</b> 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	
2.00		544.19	0.00	0.01	0.01	4.32	
4.00		539.73	0.00	0.03	0.01	7.30	
6.00		535.27	0.00	0.04	0.02	9.41	
8.00		530.81	0.01	0.05	0.03	10.94	
10.00		526.35	0.01	0.05	0.03	12.05	
12.00		521.89	0.01	0.06	0.03	12.84	
14.00		517.43	0.02	0.06	0.04	13.41	
16.00		512.97	0.02	0.07	0.04	13.81	
18.00		508.51	0.03	0.07	0.04	14.08	
20.00		504.05	0.03	0.07	0.04	14.26	
22.00		499.60	0.04	0.07	0.04	14.37	
24.00		495.14	0.05	0.07	0.04	14.44	
26.00		490.68	0.06	0.07	0.04	14.49	
28.00		486.22	0.07	0.07	0.04	14.51	
30.00		481.76	0.08	0.07	0.04	14.53	
32.00		477.30	0.09	0.07	0.04	14.54	
34.00		472.84	0.10	0.07	0.04	14.54	
36.00		468.38	0.11	0.07	0.04	14.54	
38.00		463.92	0.12	0.07	0.03	14.54	
40.00		459.46	0.14	0.07	0.03	14.52	
42.00		455.00	0.15	0.07	0.03	14.49	
44.00		450.54	0.16	0.07	0.03	14.43	
46.00		446.08	0.18	0.07	0.03	14.34	
47.25	Bot - Section 2	276.53	0.19	0.06	0.02	8.89	
48.00		309.05	0.20	0.06	0.02	9.94	
50.00		818.44	0.21	0.06	0.02	26.21	
52.00		810.16	0.23	0.06	0.02	25.71	
53.25	Top - Section 1	502.14	0.24	0.06	0.02	15.79	
54.00		139.67	0.25	0.06	0.02	4.36	
56.00		369.82	0.27	0.05	0.02	11.27	
58.00		366.00	0.29	0.05	0.01	10.78	
60.00		362.17	0.31	0.04	0.01	10.17	
62.00		358.35	0.33	0.04	0.01	9.44	
64.00		354.53	0.35	0.03	0.01	8.58	
66.00		350.70	0.37	0.03	0.01	7.58	
68.00		346.88	0.39	0.02	0.01	6.46	
70.00		343.06	0.42	0.01	0.01	5.21	
72.00		339.24	0.44	0.00	0.01	3.85	
74.00		335.41	0.47	0.00	0.01	2.40	
76.00		331.59	0.49	-0.01	0.01	0.90	
78.00		327.77	0.52	-0.02	0.01	-0.61	
80.00		323.95	0.54	-0.03	0.01	-2.10	
82.00		320.12	0.57	-0.04	0.01	-3.52	
84.00		316.30	0.60	-0.05	0.01	-4.84	
86.00		312.48	0.63	-0.06	0.02	-6.01	







## Calculated Forces

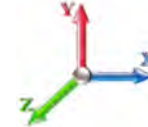
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 0.9D + 1.0E

**Iterations** 23

<b>Gust Response Factor</b> 1.10	<b>Sds</b> 0.17	<b>Ss</b> 0.16
<b>Dead Load Factor</b> 0.90	<b>Seismic Load Factor</b> 1.00	<b>Sd1</b> 0.09
<b>Wind Load Factor</b> 0.00	<b>Structure Frequency (f1)</b> 0.36	<b>SA</b> 0.03
	<b>Seismic Importance Factor</b> 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	-39.36	-2.06	0.00	-249.27	0.00	249.27	5451.60	2725.80	12956.4	6487.84	0.00	0.00	0.00	0.046
2.00	-38.83	-2.05	0.00	-245.16	0.00	245.16	5423.14	2711.57	12782.7	6400.90	0.00	0.00	0.00	0.045
4.00	-38.30	-2.05	0.00	-241.05	0.00	241.05	5394.41	2697.20	12609.6	6314.20	0.00	-0.01	0.00	0.045
6.00	-37.77	-2.04	0.00	-236.95	0.00	236.95	5365.42	2682.71	12437.0	6227.76	0.01	-0.01	0.00	0.045
8.00	-37.25	-2.04	0.00	-232.86	0.00	232.86	5336.17	2668.08	12264.9	6141.58	0.01	-0.02	0.00	0.045
10.00	-36.73	-2.03	0.00	-228.79	0.00	228.79	5306.65	2653.32	12093.3	6055.68	0.02	-0.02	0.00	0.045
12.00	-36.22	-2.02	0.00	-224.74	0.00	224.74	5276.87	2638.43	11922.3	5970.05	0.03	-0.03	0.00	0.045
14.00	-35.71	-2.00	0.00	-220.71	0.00	220.71	5246.82	2623.41	11751.9	5884.71	0.04	-0.03	0.00	0.044
16.00	-35.21	-1.99	0.00	-216.70	0.00	216.70	5216.51	2608.26	11582.1	5799.67	0.06	-0.03	0.00	0.044
18.00	-34.71	-1.98	0.00	-212.72	0.00	212.72	5185.94	2592.97	11412.8	5714.93	0.07	-0.04	0.00	0.044
20.00	-34.21	-1.97	0.00	-208.75	0.00	208.75	5155.10	2577.55	11244.2	5630.50	0.09	-0.04	0.00	0.044
22.00	-33.71	-1.96	0.00	-204.82	0.00	204.82	5124.00	2562.00	11076.3	5546.38	0.11	-0.05	0.00	0.044
24.00	-33.23	-1.94	0.00	-200.90	0.00	200.90	5092.64	2546.32	10908.9	5462.60	0.13	-0.05	0.00	0.043
26.00	-32.74	-1.93	0.00	-197.01	0.00	197.01	5061.01	2530.51	10742.3	5379.14	0.15	-0.06	0.00	0.043
28.00	-32.26	-1.92	0.00	-193.15	0.00	193.15	5029.12	2514.56	10576.3	5296.03	0.18	-0.06	0.00	0.043
30.00	-31.78	-1.91	0.00	-189.31	0.00	189.31	4996.96	2498.48	10411.0	5213.26	0.20	-0.07	0.00	0.043
32.00	-31.31	-1.90	0.00	-185.49	0.00	185.49	4964.54	2482.27	10246.4	5130.86	0.23	-0.07	0.00	0.042
34.00	-30.84	-1.88	0.00	-181.70	0.00	181.70	4931.86	2465.93	10082.6	5048.81	0.26	-0.08	0.00	0.042
36.00	-30.37	-1.87	0.00	-177.94	0.00	177.94	4898.91	2449.45	9919.54	4967.14	0.29	-0.08	0.00	0.042
38.00	-29.91	-1.86	0.00	-174.20	0.00	174.20	4865.70	2432.85	9757.20	4885.85	0.33	-0.08	0.00	0.042
40.00	-29.46	-1.84	0.00	-170.48	0.00	170.48	4832.22	2416.11	9595.63	4804.95	0.37	-0.09	0.00	0.042
42.00	-29.00	-1.83	0.00	-166.79	0.00	166.79	4798.48	2399.24	9434.86	4724.44	0.40	-0.09	0.00	0.041
44.00	-28.55	-1.82	0.00	-163.13	0.00	163.13	4764.48	2382.24	9274.89	4644.34	0.44	-0.10	0.00	0.041
46.00	-28.11	-1.81	0.00	-159.49	0.00	159.49	4730.21	2365.11	9115.74	4564.64	0.49	-0.10	0.00	0.041
47.25	-27.83	-1.80	0.00	-157.24	0.00	157.24	4708.66	2354.33	9016.69	4515.05	0.51	-0.11	0.00	0.041
48.00	-27.54	-1.79	0.00	-155.89	0.00	155.89	4695.68	2347.84	8957.42	4485.37	0.53	-0.11	0.00	0.041
50.00	-26.76	-1.76	0.00	-152.31	0.00	152.31	4660.89	2330.44	8799.96	4406.52	0.58	-0.11	0.00	0.040
52.00	-25.99	-1.74	0.00	-148.78	0.00	148.78	4625.83	2312.91	8643.36	4328.11	0.63	-0.12	0.00	0.040
53.25	-25.51	-1.72	0.00	-146.61	0.00	146.61	3818.32	1909.16	7226.08	3618.41	0.66	-0.12	0.00	0.047
54.00	-25.36	-1.72	0.00	-145.32	0.00	145.32	3808.46	1904.23	7179.51	3595.09	0.68	-0.12	0.00	0.047
56.00	-24.99	-1.71	0.00	-141.88	0.00	141.88	3782.00	1891.00	7055.71	3533.10	0.73	-0.13	0.00	0.047
58.00	-24.62	-1.70	0.00	-138.46	0.00	138.46	3755.27	1877.63	6932.45	3471.38	0.79	-0.14	0.00	0.046
60.00	-24.25	-1.69	0.00	-135.06	0.00	135.06	3728.27	1864.14	6809.75	3409.94	0.84	-0.14	0.00	0.046
62.00	-23.88	-1.68	0.00	-131.68	0.00	131.68	3701.01	1850.51	6687.63	3348.79	0.90	-0.15	0.00	0.046
64.00	-23.52	-1.68	0.00	-128.31	0.00	128.31	3673.49	1836.75	6566.11	3287.93	0.97	-0.15	0.00	0.045
66.00	-23.16	-1.67	0.00	-124.96	0.00	124.96	3645.71	1822.85	6445.19	3227.39	1.03	-0.16	0.00	0.045
68.00	-22.80	-1.67	0.00	-121.61	0.00	121.61	3617.66	1808.83	6324.90	3167.15	1.10	-0.16	0.00	0.045
70.00	-22.45	-1.66	0.00	-118.28	0.00	118.28	3589.34	1794.67	6205.25	3107.24	1.17	-0.17	0.00	0.044
72.00	-22.10	-1.66	0.00	-114.96	0.00	114.96	3560.76	1780.38	6086.26	3047.65	1.24	-0.18	0.00	0.044
74.00	-21.76	-1.66	0.00	-111.64	0.00	111.64	3531.92	1765.96	5967.94	2988.40	1.32	-0.18	0.00	0.044
76.00	-21.41	-1.66	0.00	-108.33	0.00	108.33	3502.82	1751.41	5850.30	2929.50	1.40	-0.19	0.00	0.043
78.00	-21.07	-1.66	0.00	-105.01	0.00	105.01	3473.45	1736.72	5733.37	2870.94	1.48	-0.19	0.00	0.043
80.00	-20.74	-1.66	0.00	-101.69	0.00	101.69	3443.81	1721.91	5617.15	2812.75	1.56	-0.20	0.00	0.042
82.00	-20.41	-1.66	0.00	-98.37	0.00	98.37	3413.92	1706.96	5501.67	2754.92	1.64	-0.21	0.00	0.042
84.00	-20.08	-1.66	0.00	-95.05	0.00	95.05	3383.76	1691.88	5386.93	2697.47	1.73	-0.21	0.00	0.041
86.00	-19.75	-1.66	0.00	-91.73	0.00	91.73	3353.33	1676.67	5272.96	2640.40	1.82	-0.22	0.00	0.041
88.00	-19.43	-1.66	0.00	-88.40	0.00	88.40	3322.64	1661.32	5159.77	2583.72	1.91	-0.22	0.00	0.040

## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	-19.12	-1.66	0.00	-85.08	0.00	85.08	3291.69	1645.84	5047.37	2527.44	2.01	-0.23	0.039
92.00	-18.80	-1.67	0.00	-81.75	0.00	81.75	3260.47	1630.24	4935.79	2471.56	2.11	-0.24	0.039
94.00	-18.49	-1.67	0.00	-78.42	0.00	78.42	3223.46	1611.73	4816.76	2411.96	2.21	-0.24	0.038
96.00	-18.18	-1.67	0.00	-75.08	0.00	75.08	3181.72	1590.86	4692.22	2349.60	2.31	-0.25	0.038
98.00	-17.70	-1.67	0.00	-71.75	0.00	71.75	3139.99	1570.00	4569.31	2288.05	2.41	-0.25	0.037
100.00	-17.23	-1.67	0.00	-68.42	0.00	68.42	3098.26	1549.13	4448.03	2227.32	2.52	-0.26	0.036
100.75	-17.05	-1.67	0.00	-67.17	0.00	67.17	1860.42	930.21	2714.89	1359.46	2.56	-0.26	0.059
102.00	-16.91	-1.67	0.00	-65.09	0.00	65.09	1851.10	925.55	2678.69	1341.34	2.63	-0.27	0.058
104.00	-16.70	-1.67	0.00	-61.75	0.00	61.75	1835.98	917.99	2620.93	1312.41	2.74	-0.27	0.056
106.00	-16.49	-1.67	0.00	-58.42	0.00	58.42	1820.60	910.30	2563.39	1283.60	2.86	-0.28	0.055
108.00	-16.28	-1.67	0.00	-55.08	0.00	55.08	1804.95	902.48	2506.08	1254.90	2.98	-0.29	0.053
110.00	-16.07	-1.67	0.00	-51.74	0.00	51.74	1789.04	894.52	2449.03	1226.33	3.10	-0.30	0.051
112.00	-15.87	-1.67	0.00	-48.40	0.00	48.40	1772.87	886.43	2392.24	1197.90	3.23	-0.31	0.049
114.00	-15.67	-1.67	0.00	-45.05	0.00	45.05	1756.43	878.22	2335.73	1169.60	3.36	-0.31	0.047
116.00	-15.47	-1.67	0.00	-41.70	0.00	41.70	1739.73	869.86	2279.52	1141.45	3.49	-0.32	0.045
117.00	-13.25	-1.65	0.00	-40.03	0.00	40.03	1731.28	865.64	2251.53	1127.44	3.56	-0.32	0.043
118.00	-13.15	-1.65	0.00	-38.37	0.00	38.37	1722.76	861.38	2223.62	1113.46	3.63	-0.33	0.042
120.00	-12.96	-1.65	0.00	-35.07	0.00	35.07	1705.53	852.77	2168.05	1085.64	3.77	-0.33	0.040
122.00	-12.76	-1.65	0.00	-31.77	0.00	31.77	1688.04	844.02	2112.82	1057.98	3.91	-0.34	0.038
124.00	-12.58	-1.64	0.00	-28.47	0.00	28.47	1670.28	835.14	2057.95	1030.51	4.05	-0.35	0.035
126.00	-12.39	-1.63	0.00	-25.19	0.00	25.19	1652.26	826.13	2003.46	1003.22	4.20	-0.35	0.033
127.00	-7.95	-1.37	0.00	-23.55	0.00	23.55	1643.15	821.58	1976.36	989.65	4.27	-0.36	0.029
128.00	-7.86	-1.37	0.00	-22.18	0.00	22.18	1633.98	816.99	1949.35	976.13	4.35	-0.36	0.028
130.00	-7.68	-1.36	0.00	-19.45	0.00	19.45	1615.43	807.71	1895.65	949.24	4.50	-0.36	0.025
132.00	-7.51	-1.34	0.00	-16.74	0.00	16.74	1596.61	798.31	1842.37	922.56	4.65	-0.37	0.023
134.00	-7.34	-1.33	0.00	-14.05	0.00	14.05	1577.54	788.77	1789.53	896.09	4.81	-0.37	0.020
136.00	-7.17	-1.31	0.00	-11.39	0.00	11.39	1558.20	779.10	1737.14	869.86	4.96	-0.37	0.018
137.00	-3.87	-0.89	0.00	-10.08	0.00	10.08	1548.43	774.21	1711.12	856.83	5.04	-0.38	0.014
138.00	-3.80	-0.88	0.00	-9.20	0.00	9.20	1538.59	769.30	1685.21	843.86	5.12	-0.38	0.013
139.00	-3.73	-0.87	0.00	-8.32	0.00	8.32	1528.69	764.34	1659.43	830.95	5.20	-0.38	0.012
139.00	-3.73	-0.87	0.00	-8.32	0.00	8.32	1044.31	522.16	1138.99	570.34	5.20	-0.38	0.018
140.00	-3.67	-0.86	0.00	-7.45	0.00	7.45	1038.69	519.35	1122.71	562.19	5.28	-0.38	0.017
142.00	-3.56	-0.84	0.00	-5.73	0.00	5.73	1027.26	513.63	1090.28	545.95	5.44	-0.38	0.014
144.00	-3.45	-0.83	0.00	-4.05	0.00	4.05	1015.57	507.78	1058.02	529.79	5.60	-0.38	0.011
146.00	-3.34	-0.81	0.00	-2.40	0.00	2.40	1003.61	501.80	1025.94	513.73	5.76	-0.39	0.008
148.00	-3.24	-0.79	0.00	-0.79	0.00	0.79	991.38	495.69	994.07	497.78	5.92	-0.39	0.005
149.00	0.00	-0.76	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	6.01	-0.39	0.000

## Wind Loading - Shaft

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



<b>Load Case:</b> 1.0D + 1.0W 60 mph Wind	<b>Iterations</b> 24
<b>Dead Load Factor</b> 1.00	
<b>Wind Load Factor</b> 1.00	

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	272.71	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	7.442	8.19	270.50	0.650	0.000	2.00	9.820	6.38	52.3	0.0	544.2
4.00		1.00	0.85	7.442	8.19	268.29	0.650	0.000	2.00	9.740	6.33	51.8	0.0	539.7
6.00		1.00	0.85	7.442	8.19	266.08	0.650	0.000	2.00	9.660	6.28	51.4	0.0	535.3
8.00		1.00	0.85	7.442	8.19	263.87	0.650	0.000	2.00	9.580	6.23	51.0	0.0	530.8
10.00		1.00	0.85	7.442	8.19	261.66	0.650	0.000	2.00	9.500	6.18	50.6	0.0	526.4
12.00		1.00	0.85	7.442	8.19	259.45	0.650	0.000	2.00	9.421	6.12	50.1	0.0	521.9
14.00		1.00	0.85	7.442	8.19	257.24	0.650	0.000	2.00	9.341	6.07	49.7	0.0	517.4
16.00		1.00	0.86	7.534	8.29	256.61	0.650	0.000	2.00	9.261	6.02	49.9	0.0	513.0
18.00		1.00	0.88	7.723	8.50	257.56	0.650	0.000	2.00	9.181	5.97	50.7	0.0	508.5
20.00		1.00	0.90	7.896	8.69	258.15	0.650	0.000	2.00	9.101	5.92	51.4	0.0	504.1
22.00		1.00	0.92	8.056	8.86	258.46	0.650	0.000	2.00	9.021	5.86	52.0	0.0	499.6
24.00		1.00	0.94	8.205	9.03	258.52	0.650	0.000	2.00	8.941	5.81	52.5	0.0	495.1
26.00		1.00	0.95	8.345	9.18	258.36	0.650	0.000	2.00	8.861	5.76	52.9	0.0	490.7
28.00		1.00	0.97	8.476	9.32	258.03	0.650	0.000	2.00	8.782	5.71	53.2	0.0	486.2
30.00		1.00	0.98	8.600	9.46	257.54	0.650	0.000	2.00	8.702	5.66	53.5	0.0	481.8
32.00		1.00	1.00	8.717	9.59	256.90	0.650	0.000	2.00	8.622	5.60	53.7	0.0	477.3
34.00		1.00	1.01	8.829	9.71	256.14	0.650	0.000	2.00	8.542	5.55	53.9	0.0	472.8
36.00		1.00	1.02	8.936	9.83	255.26	0.650	0.000	2.00	8.462	5.50	54.1	0.0	468.4
38.00		1.00	1.03	9.039	9.94	254.29	0.650	0.000	2.00	8.382	5.45	54.2	0.0	463.9
40.00		1.00	1.04	9.137	10.05	253.21	0.650	0.000	2.00	8.302	5.40	54.2	0.0	459.5
42.00		1.00	1.05	9.231	10.15	252.06	0.650	0.000	2.00	8.222	5.34	54.3	0.0	455.0
44.00		1.00	1.06	9.322	10.25	250.82	0.650	0.000	2.00	8.143	5.29	54.3	0.0	450.5
46.00		1.00	1.07	9.410	10.35	249.52	0.650	0.000	2.00	8.063	5.24	54.2	0.0	446.1
47.25	Bot - Section 2	1.00	1.08	9.463	10.41	248.66	0.650	0.000	1.25	4.999	3.25	33.8	0.0	276.5
48.00		1.00	1.08	9.494	10.44	248.14	0.650	0.000	0.75	3.032	1.97	20.6	0.0	309.1
50.00		1.00	1.09	9.576	10.53	246.70	0.650	0.000	2.00	8.030	5.22	55.0	0.0	818.4
52.00		1.00	1.10	9.656	10.62	245.21	0.650	0.000	2.00	7.950	5.17	54.9	0.0	810.2
53.25	Top - Section 1	1.00	1.11	9.704	10.67	244.24	0.650	0.000	1.25	4.928	3.20	34.2	0.0	502.1
54.00		1.00	1.11	9.733	10.71	247.67	0.650	0.000	0.75	2.942	1.91	20.5	0.0	139.7
56.00		1.00	1.12	9.807	10.79	246.09	0.650	0.000	2.00	7.790	5.06	54.6	0.0	369.8
58.00		1.00	1.13	9.880	10.87	244.45	0.650	0.000	2.00	7.710	5.01	54.5	0.0	366.0
60.00		1.00	1.14	9.951	10.95	242.77	0.650	0.000	2.00	7.631	4.96	54.3	0.0	362.2
62.00		1.00	1.14	10.020	11.02	241.05	0.650	0.000	2.00	7.551	4.91	54.1	0.0	358.4
64.00		1.00	1.15	10.087	11.10	239.28	0.650	0.000	2.00	7.471	4.86	53.9	0.0	354.5
66.00		1.00	1.16	10.153	11.17	237.48	0.650	0.000	2.00	7.391	4.80	53.7	0.0	350.7
68.00		1.00	1.17	10.217	11.24	235.64	0.650	0.000	2.00	7.311	4.75	53.4	0.0	346.9
70.00		1.00	1.17	10.279	11.31	233.76	0.650	0.000	2.00	7.231	4.70	53.1	0.0	343.1
72.00		1.00	1.18	10.340	11.37	231.85	0.650	0.000	2.00	7.151	4.65	52.9	0.0	339.2
74.00		1.00	1.19	10.400	11.44	229.91	0.650	0.000	2.00	7.071	4.60	52.6	0.0	335.4
76.00		1.00	1.19	10.459	11.50	227.94	0.650	0.000	2.00	6.992	4.54	52.3	0.0	331.6
78.00		1.00	1.20	10.516	11.57	225.93	0.650	0.000	2.00	6.912	4.49	52.0	0.0	327.8
80.00		1.00	1.21	10.572	11.63	223.90	0.650	0.000	2.00	6.832	4.44	51.6	0.0	323.9
82.00		1.00	1.21	10.627	11.69	221.85	0.650	0.000	2.00	6.752	4.39	51.3	0.0	320.1
84.00		1.00	1.22	10.681	11.75	219.76	0.650	0.000	2.00	6.672	4.34	51.0	0.0	316.3
86.00		1.00	1.23	10.734	11.81	217.66	0.650	0.000	2.00	6.592	4.28	50.6	0.0	312.5
88.00		1.00	1.23	10.787	11.87	215.52	0.650	0.000	2.00	6.512	4.23	50.2	0.0	308.7

## Wind Loading - Shaft

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	1.00	1.24	10.838	11.92	213.37	0.650	0.000	2.00	6.432	4.18	49.8	0.0	304.8			
92.00	1.00	1.24	10.888	11.98	211.19	0.650	0.000	2.00	6.353	4.13	49.5	0.0	301.0			
94.00	1.00	1.25	10.937	12.03	208.99	0.650	0.000	2.00	6.273	4.08	49.1	0.0	297.2			
96.00 Bot - Section 3	1.00	1.25	10.986	12.08	206.77	0.650	0.000	2.00	6.193	4.03	48.6	0.0	293.4			
98.00	1.00	1.26	11.034	12.14	204.53	0.650	0.000	2.00	6.198	4.03	48.9	0.0	485.9			
100.00	1.00	1.27	11.081	12.19	202.27	0.650	0.000	2.00	6.118	3.98	48.5	0.0	479.6			
100.75 Top - Section 2	1.00	1.27	11.098	12.21	201.42	0.650	0.000	0.75	2.274	1.48	18.0	0.0	178.2			
102.00	1.00	1.27	11.127	12.24	202.85	0.650	0.000	1.25	3.764	2.45	29.9	0.0	119.3			
104.00	1.00	1.28	11.173	12.29	200.56	0.650	0.000	2.00	5.958	3.87	47.6	0.0	188.8			
106.00	1.00	1.28	11.218	12.34	198.25	0.650	0.000	2.00	5.878	3.82	47.1	0.0	186.2			
108.00	1.00	1.29	11.262	12.39	195.92	0.650	0.000	2.00	5.798	3.77	46.7	0.0	183.7			
110.00	1.00	1.29	11.305	12.44	193.58	0.650	0.000	2.00	5.718	3.72	46.2	0.0	181.1			
112.00	1.00	1.30	11.348	12.48	191.22	0.650	0.000	2.00	5.638	3.67	45.8	0.0	178.6			
114.00	1.00	1.30	11.391	12.53	188.84	0.650	0.000	2.00	5.559	3.61	45.3	0.0	176.0			
116.00	1.00	1.31	11.432	12.58	186.45	0.650	0.000	2.00	5.479	3.56	44.8	0.0	173.5			
117.00 Appurtenance(s)	1.00	1.31	11.453	12.60	185.25	0.650	0.000	1.00	2.709	1.76	22.2	0.0	85.8			
118.00	1.00	1.31	11.474	12.62	184.04	0.650	0.000	1.00	2.689	1.75	22.1	0.0	85.1			
120.00	1.00	1.32	11.514	12.67	181.62	0.650	0.000	2.00	5.319	3.46	43.8	0.0	168.4			
122.00	1.00	1.32	11.554	12.71	179.18	0.650	0.000	2.00	5.239	3.41	43.3	0.0	165.8			
124.00	1.00	1.32	11.594	12.75	176.73	0.650	0.000	2.00	5.159	3.35	42.8	0.0	163.3			
126.00	1.00	1.33	11.633	12.80	174.27	0.650	0.000	2.00	5.079	3.30	42.2	0.0	160.7			
127.00 Appurtenance(s)	1.00	1.33	11.653	12.82	173.03	0.650	0.000	1.00	2.510	1.63	20.9	0.0	79.4			
128.00	1.00	1.33	11.672	12.84	171.79	0.650	0.000	1.00	2.490	1.62	20.8	0.0	78.8			
130.00	1.00	1.34	11.710	12.88	169.30	0.650	0.000	2.00	4.920	3.20	41.2	0.0	155.6			
132.00	1.00	1.34	11.748	12.92	166.80	0.650	0.000	2.00	4.840	3.15	40.7	0.0	153.1			
134.00	1.00	1.35	11.785	12.96	164.28	0.650	0.000	2.00	4.760	3.09	40.1	0.0	150.5			
136.00	1.00	1.35	11.822	13.00	161.75	0.650	0.000	2.00	4.680	3.04	39.6	0.0	148.0			
137.00 Appurtenance(s)	1.00	1.35	11.840	13.02	160.49	0.650	0.000	1.00	2.310	1.50	19.6	0.0	73.0			
138.00	1.00	1.35	11.858	13.04	159.21	0.650	0.000	1.00	2.290	1.49	19.4	0.0	72.4			
139.00 Top - Section 3	1.00	1.36	11.876	13.06	157.94	0.650	0.000	1.00	2.270	1.48	19.3	0.0	71.8			
140.00	1.00	1.36	11.894	13.08	156.66	0.650	0.000	1.00	2.250	1.46	19.1	0.0	53.5			
142.00	1.00	1.36	11.930	13.12	154.10	0.650	0.000	2.00	4.440	2.89	37.9	0.0	105.5			
144.00	1.00	1.37	11.965	13.16	151.53	0.650	0.000	2.00	4.361	2.83	37.3	0.0	103.6			
146.00	1.00	1.37	12.000	13.20	148.94	0.650	0.000	2.00	4.281	2.78	36.7	0.0	101.7			
148.00	1.00	1.37	12.034	13.24	146.35	0.650	0.000	2.00	4.201	2.73	36.1	0.0	99.8			
149.00 Appurtenance(s)	1.00	1.38	12.051	13.26	145.04	0.650	0.000	1.00	2.070	1.35	17.8	0.0	49.2			
<b>Totals:</b>								<b>149.00</b>				<b>3,649.3</b>				<b>26,063.1</b>

## Discrete Appurtenance Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 24

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	149.00	MX06FRO660-02	3	12.051	13.256	0.65	0.75	19.32	138.00	0.000	0.000	256.12	0.00	0.00
2	149.00	Antel BXA-80063/4CF	3	12.051	13.256	0.54	0.75	7.65	29.70	0.000	0.000	101.36	0.00	0.00
3	149.00	RFS DB-T1-6Z-8AB-OZ	1	12.051	13.256	0.50	0.75	2.41	18.90	0.000	0.000	31.97	0.00	0.00
4	149.00	RFS DB-T1-6Z-8AB-OZ	1	12.051	13.256	0.50	0.75	2.41	18.90	0.000	0.000	31.97	0.00	0.00
5	149.00	Low Profile	1	12.051	13.256	1.00	1.00	22.00	1500.00	0.000	0.000	291.64	0.00	0.00
6	149.00	MX06FRO660-02	3	12.051	13.256	0.65	0.75	19.32	138.00	0.000	0.000	256.12	0.00	0.00
7	149.00	PRK-1245 (kicker kit)	1	12.051	13.256	1.00	1.00	11.40	440.00	0.000	0.000	151.12	0.00	0.00
8	149.00	B2/B66A RRH-BR049	3	12.051	13.256	0.50	0.75	2.82	253.20	0.000	0.000	37.37	0.00	0.00
9	149.00	B5/B13 RRH-BR04C	3	12.051	13.256	0.50	0.75	2.82	210.90	0.000	0.000	37.37	0.00	0.00
10	149.00	RT4401-48A (RRH only)	3	12.051	13.256	0.50	0.75	1.49	55.80	0.000	0.000	19.78	0.00	0.00
11	149.00	HRK12 (Handrail Kit)	1	12.051	13.256	1.00	1.00	8.20	504.00	0.000	0.000	108.70	0.00	0.00
12	149.00	MT6407-77A	3	12.051	13.256	0.52	0.75	7.39	238.20	0.000	0.000	97.92	0.00	0.00
13	137.00	APXVAARR24_43-U-NA2	3	11.840	13.024	0.56	0.75	34.16	384.00	0.000	0.000	444.84	0.00	0.00
14	137.00	AIR6449 B41	3	11.840	13.024	0.53	0.75	9.03	309.00	0.000	0.000	117.55	0.00	0.00
15	137.00	KRD 9011461-B66A-B2A	3	11.840	13.024	0.65	0.75	12.74	396.60	0.000	0.000	165.97	0.00	0.00
16	137.00	RRUS 4415 B25	3	11.840	13.024	0.50	0.75	2.47	138.00	0.000	0.000	32.20	0.00	0.00
17	137.00	KRY 112 144/1	3	11.840	13.024	0.56	0.75	1.20	46.20	0.000	0.000	15.60	0.00	0.00
18	137.00	4449 B71 + B12	3	11.840	13.024	0.50	0.75	2.97	219.60	0.000	0.000	38.68	0.00	0.00
19	137.00	Low Profile Platform	1	11.840	13.024	1.00	1.00	22.00	1500.00	0.000	0.000	286.53	0.00	0.00
20	137.00	(3) T-Arm Kit	1	11.840	13.024	1.00	1.00	16.50	500.00	0.000	0.000	214.90	0.00	0.00
21	137.00	mount pipe	1	11.840	13.024	1.00	1.00	4.31	87.00	0.000	0.000	56.13	0.00	0.00
22	127.00	Ericsson RRUS 4478 B14	3	11.653	12.818	0.50	0.75	2.49	178.20	0.000	0.000	31.88	0.00	0.00
23	127.00	Cci HPA65R-BU8A	6	11.653	12.818	0.67	0.75	44.94	414.00	0.000	0.000	575.98	0.00	0.00
24	127.00	Kaelus DBCT108F1V92-1	3	11.653	12.818	0.75	0.75	1.57	59.40	0.000	0.000	20.19	0.00	0.00
25	127.00	Ericsson RRUS 4426 B66	3	11.653	12.818	0.50	0.75	1.73	145.50	0.000	0.000	22.22	0.00	0.00
26	127.00	Ericsson RRUS 4415 B25	3	11.653	12.818	0.50	0.75	2.80	132.30	0.000	0.000	35.94	0.00	0.00
27	127.00	Ericsson RRUS 4478 B5	3	11.653	12.818	0.50	0.75	2.77	179.70	0.000	0.000	35.55	0.00	0.00
28	127.00	Ericsson RRUS 32 RRU	3	11.653	12.818	0.50	0.75	4.99	231.00	0.000	0.000	63.96	0.00	0.00
29	127.00	Raycap DC6-48-60-18-8F	4	11.653	12.818	0.75	0.75	6.60	127.20	0.000	0.000	84.60	0.00	0.00
30	127.00	MTC3607 Platform + HR &	1	11.653	12.818	1.00	1.00	51.70	2246.00	0.000	0.000	662.68	0.00	0.00
31	127.00	Cci HPA-65R-BUU-H8	12	11.653	12.818	0.59	0.75	92.29	816.00	0.000	0.000	1182.93	0.00	0.00
32	127.00	Ericsson RRUS-11 RRU	6	11.653	12.818	0.50	0.75	7.60	304.20	0.000	0.000	97.39	0.00	0.00
33	117.00	MC-PK8-DSH	1	11.453	12.598	1.00	1.00	37.59	1727.00	0.000	0.000	473.58	0.00	0.00
34	117.00	RDIDC-9181-OF-48	1	11.453	12.598	1.00	1.00	2.01	21.90	0.000	0.000	25.32	0.00	0.00
35	117.00	TA08025-B604	3	11.453	12.598	0.50	0.75	2.95	191.70	0.000	0.000	37.22	0.00	0.00
36	117.00	TA08025-B605	3	11.453	12.598	0.50	0.75	2.95	225.00	0.000	0.000	37.22	0.00	0.00
37	117.00	MX08FRO665-21	3	11.453	12.598	0.55	0.75	20.80	193.50	0.000	0.000	262.00	0.00	0.00

**Totals:** 14,318.60

6,442.52

## Total Applied Force Summary

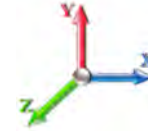
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		52.25	592.46	0.00	0.00
4.00		51.83	588.00	0.00	0.00
6.00		51.40	583.54	0.00	0.00
8.00		50.98	579.08	0.00	0.00
10.00		50.55	574.62	0.00	0.00
12.00		50.13	570.16	0.00	0.00
14.00		49.70	565.70	0.00	0.00
16.00		49.88	561.24	0.00	0.00
18.00		50.70	556.78	0.00	0.00
20.00		51.38	552.32	0.00	0.00
22.00		51.96	547.86	0.00	0.00
24.00		52.46	543.40	0.00	0.00
26.00		52.87	538.94	0.00	0.00
28.00		53.22	534.48	0.00	0.00
30.00		53.51	530.02	0.00	0.00
32.00		53.74	525.56	0.00	0.00
34.00		53.93	521.10	0.00	0.00
36.00		54.07	516.64	0.00	0.00
38.00		54.17	512.18	0.00	0.00
40.00		54.24	507.72	0.00	0.00
42.00		54.27	503.26	0.00	0.00
44.00		54.27	498.80	0.00	0.00
46.00		54.24	494.34	0.00	0.00
47.25		33.82	306.70	0.00	0.00
48.00		20.58	327.15	0.00	0.00
50.00		54.98	866.71	0.00	0.00
52.00		54.89	858.43	0.00	0.00
53.25		34.19	532.31	0.00	0.00
54.00		20.47	157.77	0.00	0.00
56.00		54.63	418.08	0.00	0.00
58.00		54.47	414.26	0.00	0.00
60.00		54.29	410.44	0.00	0.00
62.00		54.09	406.62	0.00	0.00
64.00		53.88	402.79	0.00	0.00
66.00		53.65	398.97	0.00	0.00
68.00		53.41	395.15	0.00	0.00
70.00		53.15	391.32	0.00	0.00
72.00		52.87	387.50	0.00	0.00
74.00		52.58	383.68	0.00	0.00
76.00		52.28	379.86	0.00	0.00
78.00		51.97	376.03	0.00	0.00
80.00		51.64	372.21	0.00	0.00
82.00		51.30	368.39	0.00	0.00
84.00		50.96	364.57	0.00	0.00
86.00		50.60	360.74	0.00	0.00
88.00		50.23	356.92	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00		49.84	353.10	0.00	0.00
92.00		49.45	349.27	0.00	0.00
94.00		49.05	345.45	0.00	0.00
96.00		48.64	341.63	0.00	0.00
98.00		48.89	534.21	0.00	0.00
100.00		48.47	527.84	0.00	0.00
100.75		18.04	196.30	0.00	0.00
102.00		29.95	149.43	0.00	0.00
104.00		47.59	237.02	0.00	0.00
106.00		47.15	234.47	0.00	0.00
108.00		46.69	231.93	0.00	0.00
110.00		46.22	229.38	0.00	0.00
112.00		45.75	226.83	0.00	0.00
114.00		45.27	224.28	0.00	0.00
116.00		44.78	221.73	0.00	0.00
117.00	(11) attachments	857.53	2469.01	0.00	0.00
118.00		22.06	108.27	0.00	0.00
120.00		43.79	214.63	0.00	0.00
122.00		43.28	212.09	0.00	0.00
124.00		42.77	209.54	0.00	0.00
126.00		42.25	206.99	0.00	0.00
127.00	(47) attachments	2834.24	4936.04	0.00	0.00
128.00		20.78	98.12	0.00	0.00
130.00		41.19	194.33	0.00	0.00
132.00		40.65	191.78	0.00	0.00
134.00		40.11	189.23	0.00	0.00
136.00		39.56	186.69	0.00	0.00
137.00	(21) attachments	1391.95	3672.79	0.00	0.00
138.00		19.42	81.11	0.00	0.00
139.00		19.28	80.47	0.00	0.00
140.00		19.14	62.18	0.00	0.00
142.00		37.88	122.93	0.00	0.00
144.00		37.30	121.02	0.00	0.00
146.00		36.73	119.11	0.00	0.00
148.00		36.15	117.20	0.00	0.00
149.00	(26) attachments	1439.29	3603.48	0.00	0.00
<b>Totals:</b>		<b>10,091.82</b>	<b>43,734.70</b>	<b>0.00</b>	<b>0.00</b>



## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



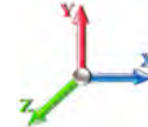
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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Iterations** 24

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.017	0.000	7.442	0.00	0.55
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.017	0.000	7.442	0.00	0.00
4.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.017	0.000	7.442	0.00	0.55
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.017	0.000	7.442	0.00	0.00
6.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.017	0.000	7.442	0.00	0.55
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.017	0.000	7.442	0.00	0.00
8.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	7.442	0.00	0.55
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	7.442	0.00	0.00
10.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	7.442	0.00	0.55
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	7.442	0.00	0.00
12.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	7.442	0.00	0.55
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	7.442	0.00	0.00
14.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	7.442	0.00	0.55
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	7.442	0.00	0.00
16.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	7.534	0.00	0.55
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	7.534	0.00	0.00
18.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	7.723	0.00	0.55
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	7.723	0.00	0.00
20.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.018	0.000	7.896	0.00	0.55
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.018	0.000	7.896	0.00	0.00
22.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	8.056	0.00	0.55
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	8.056	0.00	0.00
24.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	8.205	0.00	0.55
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	8.205	0.00	0.00
26.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	8.345	0.00	0.55
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	8.345	0.00	0.00
28.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	8.476	0.00	0.55
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	8.476	0.00	0.00
30.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.019	0.000	8.600	0.00	0.55
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.019	0.000	8.600	0.00	0.00
32.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	8.717	0.00	0.55
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	8.717	0.00	0.00
34.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	8.829	0.00	0.55
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	8.829	0.00	0.00
36.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	8.936	0.00	0.55
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	8.936	0.00	0.00
38.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	9.039	0.00	0.55
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	9.039	0.00	0.00
40.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	9.137	0.00	0.55
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	9.137	0.00	0.00
42.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	9.231	0.00	0.55
42.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	9.231	0.00	0.00
44.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.021	0.000	9.322	0.00	0.55
44.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.021	0.000	9.322	0.00	0.00
46.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.021	0.000	9.410	0.00	0.55
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.021	0.000	9.410	0.00	0.00
47.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.021	0.000	9.463	0.00	0.34



## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

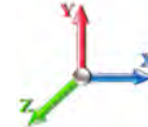


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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Iterations** 24

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
47.25	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.07	0.00	0.021	0.000	9.463	0.00	0.00
48.00	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.021	0.000	9.494	0.00	0.20
48.00	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.021	0.000	9.494	0.00	0.00
50.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.021	0.000	9.576	0.00	0.55
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.021	0.000	9.576	0.00	0.00
52.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	9.656	0.00	0.55
52.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	9.656	0.00	0.00
53.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.022	0.000	9.704	0.00	0.34
53.25	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.07	0.00	0.022	0.000	9.704	0.00	0.00
54.00	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.021	0.000	9.733	0.00	0.20
54.00	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.021	0.000	9.733	0.00	0.00
56.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	9.807	0.00	0.55
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	9.807	0.00	0.00
58.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	9.880	0.00	0.55
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	9.880	0.00	0.00
60.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	9.951	0.00	0.55
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	9.951	0.00	0.00
62.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.022	0.000	10.020	0.00	0.55
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.022	0.000	10.020	0.00	0.00
64.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	10.087	0.00	0.55
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	10.087	0.00	0.00
66.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	10.153	0.00	0.55
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	10.153	0.00	0.00
68.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	10.217	0.00	0.55
68.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	10.217	0.00	0.00
70.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.023	0.000	10.279	0.00	0.55
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.023	0.000	10.279	0.00	0.00
72.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	10.340	0.00	0.55
72.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	10.340	0.00	0.00
74.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	10.400	0.00	0.55
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	10.400	0.00	0.00
76.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	10.459	0.00	0.55
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	10.459	0.00	0.00
78.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.024	0.000	10.516	0.00	0.55
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.024	0.000	10.516	0.00	0.00
80.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.025	0.000	10.572	0.00	0.55
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.025	0.000	10.572	0.00	0.00
82.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.025	0.000	10.627	0.00	0.55
82.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.025	0.000	10.627	0.00	0.00
84.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.025	0.000	10.681	0.00	0.55
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.025	0.000	10.681	0.00	0.00
86.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	10.734	0.00	0.55
86.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	10.734	0.00	0.00
88.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	10.787	0.00	0.55
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	10.787	0.00	0.00
90.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	10.838	0.00	0.55
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	10.838	0.00	0.00

## Linear Appurtenance Segment Forces (Factored)

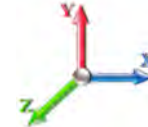
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
92.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.026	0.000	10.888	0.00	0.55
92.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.026	0.000	10.888	0.00	0.00
94.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.027	0.000	10.937	0.00	0.55
94.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.027	0.000	10.937	0.00	0.00
96.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.027	0.000	10.986	0.00	0.55
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.027	0.000	10.986	0.00	0.00
98.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.028	0.000	11.034	0.00	0.55
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.028	0.000	11.034	0.00	0.00
100.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.028	0.000	11.081	0.00	0.55
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.028	0.000	11.081	0.00	0.00
100.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.028	0.000	11.098	0.00	0.20
100.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.028	0.000	11.098	0.00	0.00
102.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.028	0.000	11.127	0.00	0.34
102.00	Step bolts (ladder)	Yes	1.25	0.000	0.63	0.07	0.00	0.028	0.000	11.127	0.00	0.00
104.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.028	0.000	11.173	0.00	0.55
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.028	0.000	11.173	0.00	0.00
106.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	11.218	0.00	0.55
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	11.218	0.00	0.00
108.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	11.262	0.00	0.55
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	11.262	0.00	0.00
110.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	11.305	0.00	0.55
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	11.305	0.00	0.00
112.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.030	0.000	11.348	0.00	0.55
112.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.030	0.000	11.348	0.00	0.00
114.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.030	0.000	11.391	0.00	0.55
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.030	0.000	11.391	0.00	0.00
116.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.031	0.000	11.432	0.00	0.55
116.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.031	0.000	11.432	0.00	0.00
117.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.031	0.000	11.453	0.00	0.27
117.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.031	0.000	11.453	0.00	0.00
118.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.031	0.000	11.474	0.00	0.27
118.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.031	0.000	11.474	0.00	0.00
120.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.032	0.000	11.514	0.00	0.55
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.032	0.000	11.514	0.00	0.00
122.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.032	0.000	11.554	0.00	0.55
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.032	0.000	11.554	0.00	0.00
124.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	11.594	0.00	0.55
124.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	11.594	0.00	0.00
126.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	11.633	0.00	0.55
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	11.633	0.00	0.00
127.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.034	0.000	11.653	0.00	0.27
127.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.034	0.000	11.653	0.00	0.00
128.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.034	0.000	11.672	0.00	0.27
128.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.034	0.000	11.672	0.00	0.00
130.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.034	0.000	11.710	0.00	0.55
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.034	0.000	11.710	0.00	0.00
132.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.035	0.000	11.748	0.00	0.55

## Linear Appurtenance Segment Forces (Factored)

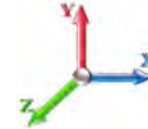
<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.035	0.000	11.748	0.00	0.00
134.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.035	0.000	11.785	0.00	0.55
134.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.035	0.000	11.785	0.00	0.00
136.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	11.822	0.00	0.55
136.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	11.822	0.00	0.00
137.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.036	0.000	11.840	0.00	0.27
137.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.036	0.000	11.840	0.00	0.00
138.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	11.858	0.00	0.27
138.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	11.858	0.00	0.00
139.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	11.876	0.00	0.27
139.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	11.876	0.00	0.00
140.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	11.894	0.00	0.27
140.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	11.894	0.00	0.00
142.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.038	0.000	11.930	0.00	0.55
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.038	0.000	11.930	0.00	0.00
144.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	11.965	0.00	0.55
144.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	11.965	0.00	0.00
146.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.039	0.000	12.000	0.00	0.55
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.039	0.000	12.000	0.00	0.00
148.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.040	0.000	12.034	0.00	0.55
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.040	0.000	12.034	0.00	0.00
149.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.041	0.000	12.051	0.00	0.27
149.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.041	0.000	12.051	0.00	0.00
<b>Totals:</b>											<b>0.0</b>	<b>40.7</b>

## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



<b>Load Case:</b> 1.0D + 1.0W 60 mph Wind	<b>Iterations</b>	24
<b>Dead Load Factor</b> 1.00		
<b>Wind Load Factor</b> 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	-43.73	-10.10	0.00	-1153.4	0.00	1153.47	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.186
2.00	-43.14	-10.06	0.00	-1133.2	0.00	1133.28	5423.14	2711.57	12782.7	6400.90	0.00	-0.019	0.000	0.185
4.00	-42.55	-10.02	0.00	-1113.1	0.00	1113.16	5394.41	2697.20	12609.6	6314.20	0.02	-0.038	0.000	0.184
6.00	-41.96	-9.98	0.00	-1093.1	0.00	1093.12	5365.42	2682.71	12437.0	6227.76	0.04	-0.058	0.000	0.183
8.00	-41.38	-9.95	0.00	-1073.1	0.00	1073.15	5336.17	2668.08	12264.9	6141.58	0.07	-0.078	0.000	0.183
10.00	-40.80	-9.91	0.00	-1053.2	0.00	1053.26	5306.65	2653.32	12093.3	6055.68	0.10	-0.097	0.000	0.182
12.00	-40.22	-9.87	0.00	-1033.4	0.00	1033.44	5276.87	2638.43	11922.3	5970.05	0.15	-0.117	0.000	0.181
14.00	-39.66	-9.83	0.00	-1013.7	0.00	1013.70	5246.82	2623.41	11751.9	5884.71	0.20	-0.137	0.000	0.180
16.00	-39.09	-9.80	0.00	-994.03	0.00	994.03	5216.51	2608.26	11582.1	5799.67	0.26	-0.157	0.000	0.179
18.00	-38.53	-9.76	0.00	-974.43	0.00	974.43	5185.94	2592.97	11412.8	5714.93	0.33	-0.177	0.000	0.178
20.00	-37.98	-9.72	0.00	-954.92	0.00	954.92	5155.10	2577.55	11244.2	5630.50	0.41	-0.198	0.000	0.177
22.00	-37.42	-9.68	0.00	-935.48	0.00	935.48	5124.00	2562.00	11076.3	5546.38	0.50	-0.218	0.000	0.176
24.00	-36.88	-9.64	0.00	-916.12	0.00	916.12	5092.64	2546.32	10908.9	5462.60	0.60	-0.239	0.000	0.175
26.00	-36.34	-9.59	0.00	-896.85	0.00	896.85	5061.01	2530.51	10742.3	5379.14	0.70	-0.259	0.000	0.174
28.00	-35.80	-9.55	0.00	-877.66	0.00	877.66	5029.12	2514.56	10576.3	5296.03	0.81	-0.280	0.000	0.173
30.00	-35.26	-9.51	0.00	-858.56	0.00	858.56	4996.96	2498.48	10411.0	5213.26	0.93	-0.301	0.000	0.172
32.00	-34.74	-9.47	0.00	-839.54	0.00	839.54	4964.54	2482.27	10246.4	5130.86	1.07	-0.322	0.000	0.171
34.00	-34.21	-9.42	0.00	-820.61	0.00	820.61	4931.86	2465.93	10082.6	5048.81	1.21	-0.344	0.000	0.169
36.00	-33.69	-9.38	0.00	-801.77	0.00	801.77	4898.91	2449.45	9919.54	4967.14	1.35	-0.365	0.000	0.168
38.00	-33.18	-9.33	0.00	-783.02	0.00	783.02	4865.70	2432.85	9757.20	4885.85	1.51	-0.386	0.000	0.167
40.00	-32.67	-9.29	0.00	-764.36	0.00	764.36	4832.22	2416.11	9595.63	4804.95	1.68	-0.408	0.000	0.166
42.00	-32.16	-9.24	0.00	-745.79	0.00	745.79	4798.48	2399.24	9434.86	4724.44	1.85	-0.429	0.000	0.165
44.00	-31.66	-9.19	0.00	-727.31	0.00	727.31	4764.48	2382.24	9274.89	4644.34	2.04	-0.451	0.000	0.163
46.00	-31.16	-9.15	0.00	-708.92	0.00	708.92	4730.21	2365.11	9115.74	4564.64	2.23	-0.473	0.000	0.162
47.25	-30.85	-9.11	0.00	-697.49	0.00	697.49	4708.66	2354.33	9016.69	4515.05	2.36	-0.487	0.000	0.161
48.00	-30.52	-9.10	0.00	-690.65	0.00	690.65	4695.68	2347.84	8957.42	4485.37	2.44	-0.495	0.000	0.160
50.00	-29.65	-9.05	0.00	-672.45	0.00	672.45	4660.89	2330.44	8799.96	4406.52	2.65	-0.517	0.000	0.159
52.00	-28.79	-8.99	0.00	-654.36	0.00	654.36	4625.83	2312.91	8643.36	4328.11	2.87	-0.539	0.000	0.157
53.25	-28.26	-8.96	0.00	-643.11	0.00	643.11	4618.32	2309.16	8526.08	4281.41	3.01	-0.553	0.000	0.185
54.00	-28.10	-8.95	0.00	-636.39	0.00	636.39	4608.46	2304.23	8419.51	4241.09	3.10	-0.561	0.000	0.184
56.00	-27.68	-8.90	0.00	-618.50	0.00	618.50	4578.00	2289.00	8265.71	4198.10	3.34	-0.586	0.000	0.182
58.00	-27.26	-8.85	0.00	-600.70	0.00	600.70	4547.27	2273.63	8115.45	4153.38	3.59	-0.611	0.000	0.180
60.00	-26.85	-8.81	0.00	-583.00	0.00	583.00	4516.27	2258.14	7963.75	4107.94	3.85	-0.635	0.000	0.178
62.00	-26.44	-8.76	0.00	-565.38	0.00	565.38	4485.01	2242.51	7813.63	4061.79	4.12	-0.660	0.000	0.176
64.00	-26.03	-8.71	0.00	-547.87	0.00	547.87	4453.49	2226.75	7664.11	4014.93	4.41	-0.685	0.000	0.174
66.00	-25.63	-8.66	0.00	-530.45	0.00	530.45	4421.71	2210.85	7515.19	3967.39	4.70	-0.709	0.000	0.171
68.00	-25.23	-8.62	0.00	-513.12	0.00	513.12	4390.66	2194.83	7366.90	3919.15	5.00	-0.734	0.000	0.169
70.00	-24.84	-8.57	0.00	-495.89	0.00	495.89	4359.34	2178.67	7219.24	3870.24	5.31	-0.759	0.000	0.167
72.00	-24.45	-8.52	0.00	-478.75	0.00	478.75	4327.76	2162.38	7072.26	3820.65	5.64	-0.783	0.000	0.164
74.00	-24.06	-8.47	0.00	-461.71	0.00	461.71	4295.92	2145.96	6925.94	3771.40	5.97	-0.808	0.000	0.161
76.00	-23.68	-8.43	0.00	-444.76	0.00	444.76	4263.82	2129.41	6780.30	3721.50	6.31	-0.833	0.000	0.159
78.00	-23.30	-8.38	0.00	-427.91	0.00	427.91	4231.45	2112.72	6635.37	3671.38	6.67	-0.857	0.000	0.156
80.00	-22.92	-8.33	0.00	-411.15	0.00	411.15	4198.81	2095.91	6491.15	3621.75	7.03	-0.882	0.000	0.153
82.00	-22.55	-8.28	0.00	-394.49	0.00	394.49	4165.92	2078.96	6347.67	3572.92	7.41	-0.906	0.000	0.150
84.00	-22.19	-8.24	0.00	-377.93	0.00	377.93	4132.76	2061.88	6204.93	3524.47	7.79	-0.930	0.000	0.147
86.00	-21.82	-8.19	0.00	-361.45	0.00	361.45	4099.33	2044.67	6062.96	3476.40	8.19	-0.954	0.000	0.143
88.00	-21.46	-8.14	0.00	-345.08	0.00	345.08	4065.64	2027.32	5921.77	3428.72	8.59	-0.978	0.000	0.140
90.00	-21.11	-8.09	0.00	-328.80	0.00	328.80	4031.69	2009.84	5781.37	3381.44	9.01	-1.001	0.000	0.137

## Calculated Forces

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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92.00	-20.76	-8.05	0.00	-312.61	0.00	312.61	3260.47	1630.24	4935.79	2471.56	9.43	-1.024	0.000	0.133
94.00	-20.41	-8.00	0.00	-296.52	0.00	296.52	3223.46	1611.73	4816.76	2411.96	9.87	-1.047	0.000	0.129
96.00	-20.06	-7.95	0.00	-280.52	0.00	280.52	3181.72	1590.86	4692.22	2349.60	10.31	-1.070	0.000	0.126
98.00	-19.53	-7.90	0.00	-264.61	0.00	264.61	3139.99	1570.00	4569.31	2288.05	10.76	-1.092	0.000	0.122
100.00	-19.00	-7.85	0.00	-248.81	0.00	248.81	3098.26	1549.13	4448.03	2227.32	11.22	-1.113	0.000	0.118
100.75	-18.80	-7.83	0.00	-242.93	0.00	242.93	1860.42	930.21	2714.89	1359.46	11.40	-1.122	0.000	0.189
102.00	-18.65	-7.80	0.00	-233.14	0.00	233.14	1851.10	925.55	2678.69	1341.34	11.70	-1.135	0.000	0.184
104.00	-18.41	-7.76	0.00	-217.53	0.00	217.53	1835.98	917.99	2620.93	1312.41	12.18	-1.164	0.000	0.176
106.00	-18.17	-7.72	0.00	-202.01	0.00	202.01	1820.60	910.30	2563.39	1283.60	12.67	-1.193	0.000	0.167
108.00	-17.94	-7.67	0.00	-186.58	0.00	186.58	1804.95	902.48	2506.08	1254.90	13.18	-1.220	0.000	0.159
110.00	-17.71	-7.63	0.00	-171.23	0.00	171.23	1789.04	894.52	2449.03	1226.33	13.69	-1.246	0.000	0.150
112.00	-17.48	-7.59	0.00	-155.97	0.00	155.97	1772.87	886.43	2392.24	1197.90	14.22	-1.272	0.000	0.140
114.00	-17.25	-7.54	0.00	-140.80	0.00	140.80	1756.43	878.22	2335.73	1169.60	14.76	-1.295	0.000	0.130
116.00	-17.03	-7.50	0.00	-125.71	0.00	125.71	1739.73	869.86	2279.52	1141.45	15.31	-1.318	0.000	0.120
117.00	-14.58	-6.59	0.00	-118.21	0.00	118.21	1731.28	865.64	2251.53	1127.44	15.59	-1.328	0.000	0.113
118.00	-14.47	-6.57	0.00	-111.62	0.00	111.62	1722.76	861.38	2223.62	1113.46	15.86	-1.339	0.000	0.109
120.00	-14.25	-6.52	0.00	-98.49	0.00	98.49	1705.53	852.77	2168.05	1085.64	16.43	-1.358	0.000	0.099
122.00	-14.04	-6.48	0.00	-85.44	0.00	85.44	1688.04	844.02	2112.82	1057.98	17.00	-1.376	0.000	0.089
124.00	-13.83	-6.43	0.00	-72.49	0.00	72.49	1670.28	835.14	2057.95	1030.51	17.58	-1.391	0.000	0.079
126.00	-13.62	-6.39	0.00	-59.62	0.00	59.62	1652.26	826.13	2003.46	1003.22	18.17	-1.405	0.000	0.068
127.00	-8.76	-3.44	0.00	-53.23	0.00	53.23	1643.15	821.58	1976.36	989.65	18.46	-1.411	0.000	0.059
128.00	-8.66	-3.41	0.00	-49.79	0.00	49.79	1633.98	816.99	1949.35	976.13	18.76	-1.417	0.000	0.056
130.00	-8.47	-3.37	0.00	-42.96	0.00	42.96	1615.43	807.71	1895.65	949.24	19.36	-1.428	0.000	0.051
132.00	-8.28	-3.33	0.00	-36.23	0.00	36.23	1596.61	798.31	1842.37	922.56	19.96	-1.438	0.000	0.044
134.00	-8.09	-3.28	0.00	-29.57	0.00	29.57	1577.54	788.77	1789.53	896.09	20.56	-1.446	0.000	0.038
136.00	-7.90	-3.24	0.00	-23.01	0.00	23.01	1558.20	779.10	1737.14	869.86	21.17	-1.453	0.000	0.032
137.00	-4.26	-1.75	0.00	-19.77	0.00	19.77	1548.43	774.21	1711.12	856.83	21.47	-1.456	0.000	0.026
138.00	-4.18	-1.73	0.00	-18.02	0.00	18.02	1538.59	769.30	1685.21	843.86	21.78	-1.459	0.000	0.024
139.00	-4.10	-1.71	0.00	-16.29	0.00	16.29	1528.69	764.34	1659.43	830.95	22.08	-1.461	0.000	0.022
139.00	-4.10	-1.71	0.00	-16.29	0.00	16.29	1044.31	522.16	1138.99	570.34	22.08	-1.461	0.000	0.032
140.00	-4.04	-1.69	0.00	-14.58	0.00	14.58	1038.69	519.35	1122.71	562.19	22.39	-1.464	0.000	0.030
142.00	-3.92	-1.65	0.00	-11.19	0.00	11.19	1027.26	513.63	1090.28	545.95	23.01	-1.469	0.000	0.024
144.00	-3.80	-1.61	0.00	-7.89	0.00	7.89	1015.57	507.78	1058.02	529.79	23.62	-1.473	0.000	0.019
146.00	-3.68	-1.57	0.00	-4.67	0.00	4.67	1003.61	501.80	1025.94	513.73	24.24	-1.476	0.000	0.013
148.00	-3.57	-1.53	0.00	-1.53	0.00	1.53	991.38	495.69	994.07	497.78	24.86	-1.478	0.000	0.007
149.00	0.00	-1.44	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	25.17	-1.478	0.000	0.000

## Final Analysis Summary

<b>Structure:</b> CT13075-A-SBA	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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### Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 105 mph Wind	49.5	0.00	52.44	0.00	0.00	5678.94
0.9D + 1.6W 105 mph Wind	49.5	0.00	39.32	0.00	0.00	5620.98
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.5	0.00	85.64	0.00	0.00	1319.65
1.2D + 1.0E	2.1	0.00	52.48	0.00	0.00	252.03
0.9D + 1.0E	2.1	0.00	39.36	0.00	0.00	249.27
1.0D + 1.0W 60 mph Wind	10.1	0.00	43.73	0.00	0.00	1153.47

### 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 105 mph Wind	-19.09	-38.58	0.00	-1196.7	0.00	-1196.7	1860.42	930.21	2714.89	1359.46	100.75	0.892
0.9D + 1.6W 105 mph Wind	-13.49	-38.01	0.00	-1176.8	0.00	-1176.8	1860.42	930.21	2714.89	1359.46	100.75	0.875
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-45.89	-8.92	0.00	-277.42	0.00	-277.42	1860.42	930.21	2714.89	1359.46	100.75	0.229
1.2D + 1.0E	-22.73	-1.69	0.00	-68.19	0.00	-68.19	1860.42	930.21	2714.89	1359.46	100.75	0.062
0.9D + 1.0E	-17.05	-1.67	0.00	-67.17	0.00	-67.17	1860.42	930.21	2714.89	1359.46	100.75	0.059
1.0D + 1.0W 60 mph Wind	-18.80	-7.83	0.00	-242.93	0.00	-242.93	1860.42	930.21	2714.89	1359.46	100.75	0.189

## Base Plate Summary

<b>Structure:</b> CT13075-A-SB	<b>Code:</b> EIA/TIA-222-G	7/29/2021
<b>Site Name:</b> New London	<b>Exposure:</b> C	
<b>Height:</b> 149.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II
		Page: 63



Reactions	Base Plate	Anchor Bolts
Original Design	<b>Yield (ksi):</b> 60.00	<b>Bolt Circle:</b> 64.88
<b>Moment (kip-ft):</b> 5442.50	<b>Width (in):</b> 65.38	<b>Number Bolts:</b> 20.00
<b>Axial (kip):</b> 53.57	<b>Style:</b> Clipped	<b>Bolt Type:</b> 2.25" 18J
<b>Shear (kip):</b> 49.90	<b>Polygon Sides:</b> 8.00	<b>Bolt Diameter (in):</b> 2.25
Analysis (1.2D + 1.6W)	<b>Clip Length (in):</b> 14.00	<b>Yield (ksi):</b> 75.00
<b>Moment (kip-ft):</b> 5678.94	<b>Effective Len (in):</b> 8.93	<b>Ultimate (ksi):</b> 100.00
<b>Axial (kip):</b> 52.44	<b>Moment (kip-in):</b> 709.51	<b>Arrangement:</b> Clustered
<b>Shear (kip):</b> 49.50	<b>Allow Stress (ksi):</b> 81.00	<b>Cluster Dist (in):</b> 6.00
	<b>Applied Stress (ksi):</b> 63.18	<b>Start Angle (deg):</b> 45.00
	<b>Stress Ratio:</b> 0.78	Compression
		<b>Force (kip):</b> 214.35
		<b>Allowable (kip):</b> 260.00
		<b>Ratio:</b> 0.84
		Tension
		<b>Force (kip):</b> 205.79
		<b>Allowable (kip):</b> 260.00
		<b>Ratio:</b> 0.81





# Monopole Mat Foundation Design

Date  
7/29/2021

<b>Customer Name:</b>	Dish Wireless	<b>EIA/TIA Standard:</b>	EIA-222-G
<b>Site Name:</b>	New London	<b>Structure Height (Ft.):</b>	149
<b>Site Number:</b>	CT13075-A-SBA	<b>Engineer Name:</b>	S. Dangol
<b>Engr. Number:</b>	111943	<b>Engineer Login ID:</b>	

**Foundation Info Obtained from:**

Mapping Operation
Monopole
Analysis

**Structure Type:**

**Analysis or Design?**

**Base Reactions (Factored):**

Axial Load (Kips):	52.4	Shear Force (Kips):	49.5
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5678.9

Allowable overstress %: 5.0%

**Foundation Geometries:**

Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	8.0
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft.):	2.00
Length of Pad (ft.):	23.5	Width of Pad (ft.):	23.5

Final Length of pad (ft)	23.5	Final width of pad (ft):	23.5
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**Material Properties and Rebar Info:**

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28
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Apply 1.35 factor for e/w Per G: 1.35

**Soil Design Parameters:**

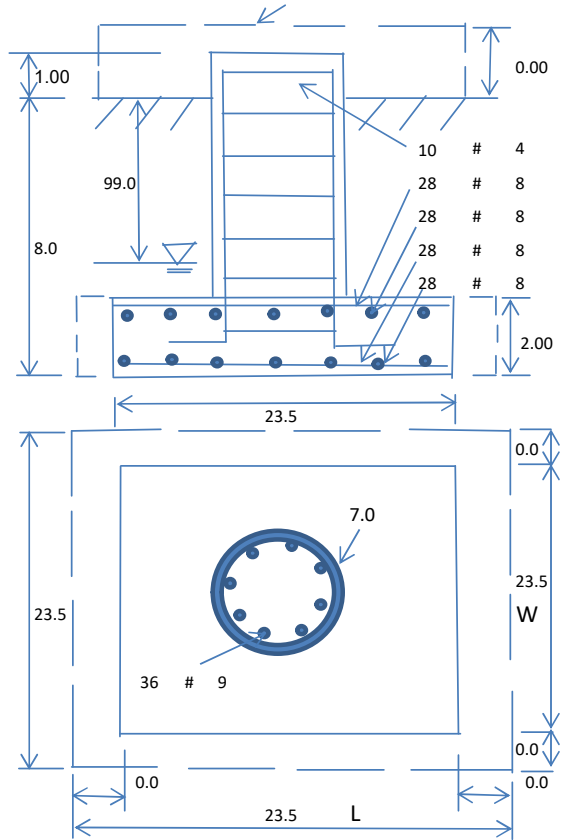
Soil Unit Weight (pcf):	105.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	20000	Ultimate Skin Friction:	425	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes	
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm of Pad:	25	

**Foundation Analysis and Design:**

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	3082.59	Total Dry Soil Weight (Kips):	323.67
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	323.67	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1373.89	Total Dry Concrete Weight (Kips):	206.08
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	206.08	Total Vertical Load on Base (Kips):	582.20

**Check Soil Capacities:**

Calculated Maxium Net Soil Pressure under the base (psf):	5479	< Allowable Factored Soil Bearing (psf):	15000	0.37	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6218.3	> Design Factored Momont (kips-ft):	5933	0.95	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.05				OK!





**Check the capacities of Reinforcing Concrete:**

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

Load/  
Capacity  
Ratio**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	6026.1	>	Design Factored Moment (Mu, Kips-Ft)	6025.4	0.99 OK!
Calculated Shear Capacity (Kips):	660.1	>	Design Factored Shear (Kips):	49.5	0.07 OK!
Calculated Tension Capacity (Tn, Kips):	1944.0	>	Design Factored Tension (Tu Kips):	0.0	0.00 OK!
Calculated Compression Capacity (Pn, Kips):	9734.2	>	Design Factored Axial Load (Pu Kips):	52.4	0.01 OK!
Moment & Axial Strength Combination:	1.00	OK!	Check Tie Spacing (Design/Required):	1	OK!
Pier Reinforcement Ratio:	0.006		Reinforcement Ratio is satisfied per ACI		

**(2).Concrete Pad:**

One-Way Design Shear Capacity (L-Direction, Kips):	548.4	>	One-Way Factored Shear (L-D. Kips):	399.9	0.73 OK!
One-Way Design Shear Capacity (W-Direction, Kips):	548.4	>	One-Way Factored Shear (W-D., Kips)	399.9	0.73 OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	532.5	>	One-Way Factored Shear (C-C, Kips):	427.0	0.80 OK!
Lower Steel Pad Reinforcement Ratio (L-Direct. ):	0.0038	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0038	
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	1971.7	>	Moment at Bottom ( L-Dir. K-Ft):	1777.6	0.90 OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	1971.7	>	Moment at Bottom ( W-Dir. K-Ft):	1777.6	0.90 OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	2762.4	>	Moment at Bottom ( C-C Dir. K-Ft):	2513.9	0.91 OK!
Upper Steel Pad Reinforcement Ratio (L-Direct. ):	0.0038	OK!	Upper Steel Reinf. Ratio (W-Dir. ):	0.0038	
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	1971.7	>	Moment at the top (L-Dir K-Ft):	851.5	0.43 OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	1971.7	>	Moment at the top (W-Dir K-Ft):	851.5	0.43 OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	2762.4	>	Moment at the top (C-C Dir. K-Ft):	801.0	0.29 OK!

**(3).Check Punching Shear Capacity due to Moment in the Pier:**

Moment transferred by punching shear:	2271.6	k-ft.	Max. factored shear stress $v_{u\_CD}$ :	9.0	Psi
Max. factored shear stress $v_{u\_AB}$ :	22.0	Psi	Factored shear Strength $\phi v_n$ :	189.7	Psi
Max. factored shear stress $v_u$ :	22.0	Psi	Check Usage of Punching Shear Capacity:	0.12	OK!

# EXHIBIT 9

## Antenna Mount Analysis



August 16, 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:** BOBOS00058A

**SBA Network Services Designation:** **Site Number:** CT13075-A  
**Site Name:** New London  
**Application Number:** 163270, v1

**Engineering Firm Designation:** **B+T Group Project Number:** 149466.003.01

**Site Data:** **1294 Pleasant Valley Road North, Groton, CT, 06340, New London County**  
**Latitude 41.39997°, Longitude -72.07922°**  
**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:

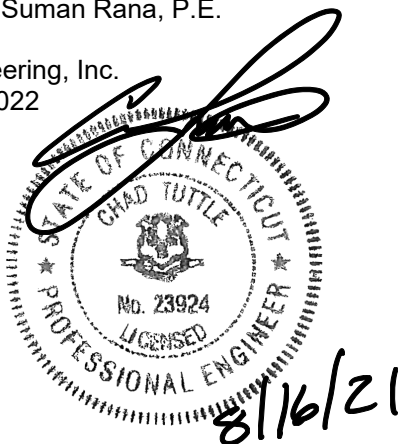
Proposed Equipment	<b>Sufficient Capacity</b>
Note: See Table 1 for the final loading configuration	<b>(Passing at 73.1%)</b>

This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 135 mph converted to a nominal 3-second gust wind speed of 105 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 C 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: Suman Rana, P.E.

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 117 ft., attached to monopole at 1294 Pleasant Valley Road North, Groton, CT, 06340, New London 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 105 mph with no ice and 50 mph with 0.75 inch escalated ice thickness. Exposure Category C, 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 30° 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	117	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: 06/24/2021	SBA Network Services, LLC.
RFDS		Date: 06/09/2021	

## 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	117	12.6	Pass
-	Support Rails	117	23.5	Pass
-	Support Tubes	117	73.1	Pass
-	Support Channels	117	49.1	Pass
-	Support Angles	117	60.1	Pass
-	Mount Pipes	117	25.1	Pass
-	Connection Plates	117	24.5	Pass
-	Connection Angles	117	40.2	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

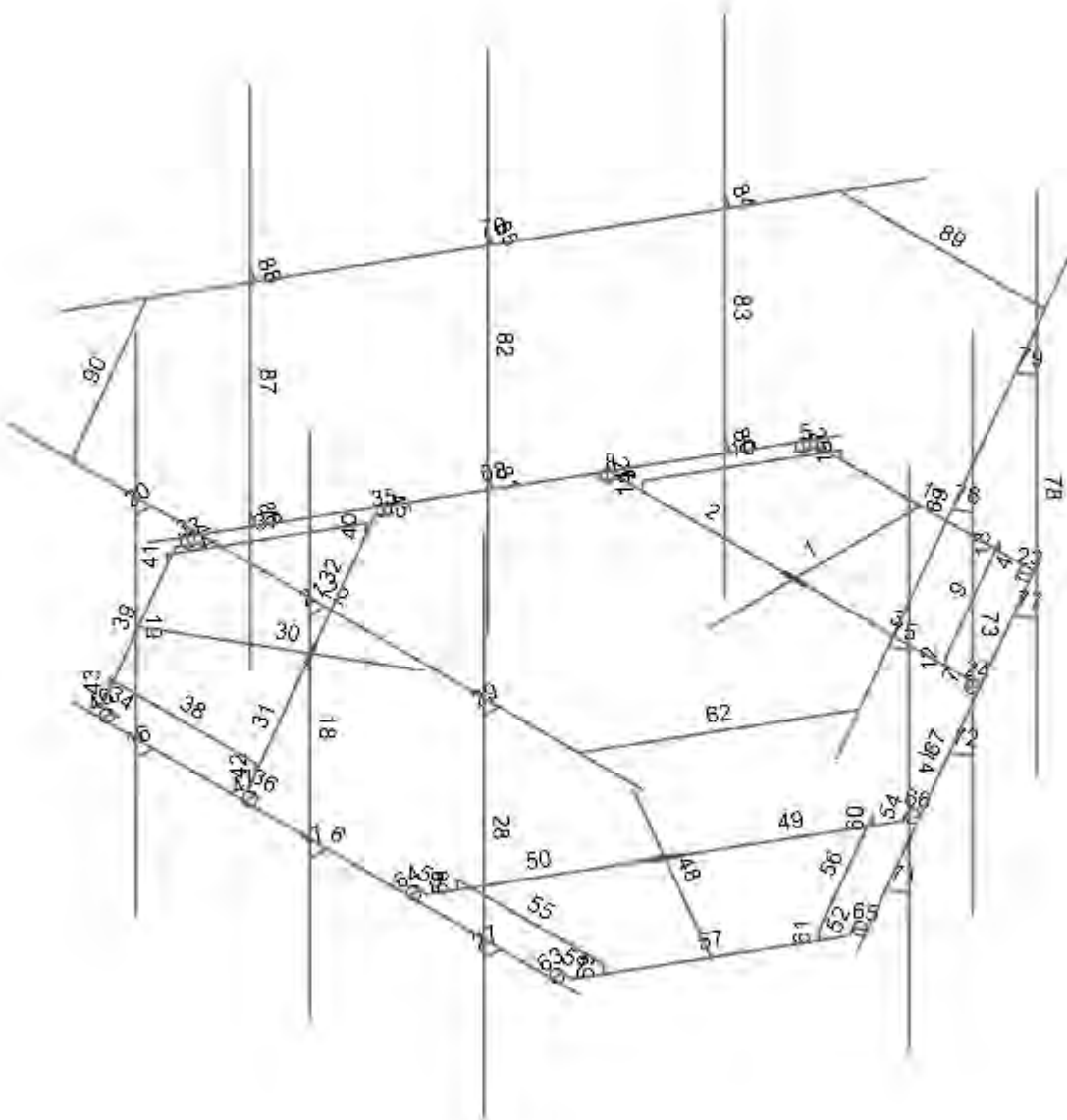
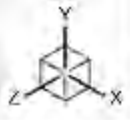
(RISA-3D Output)



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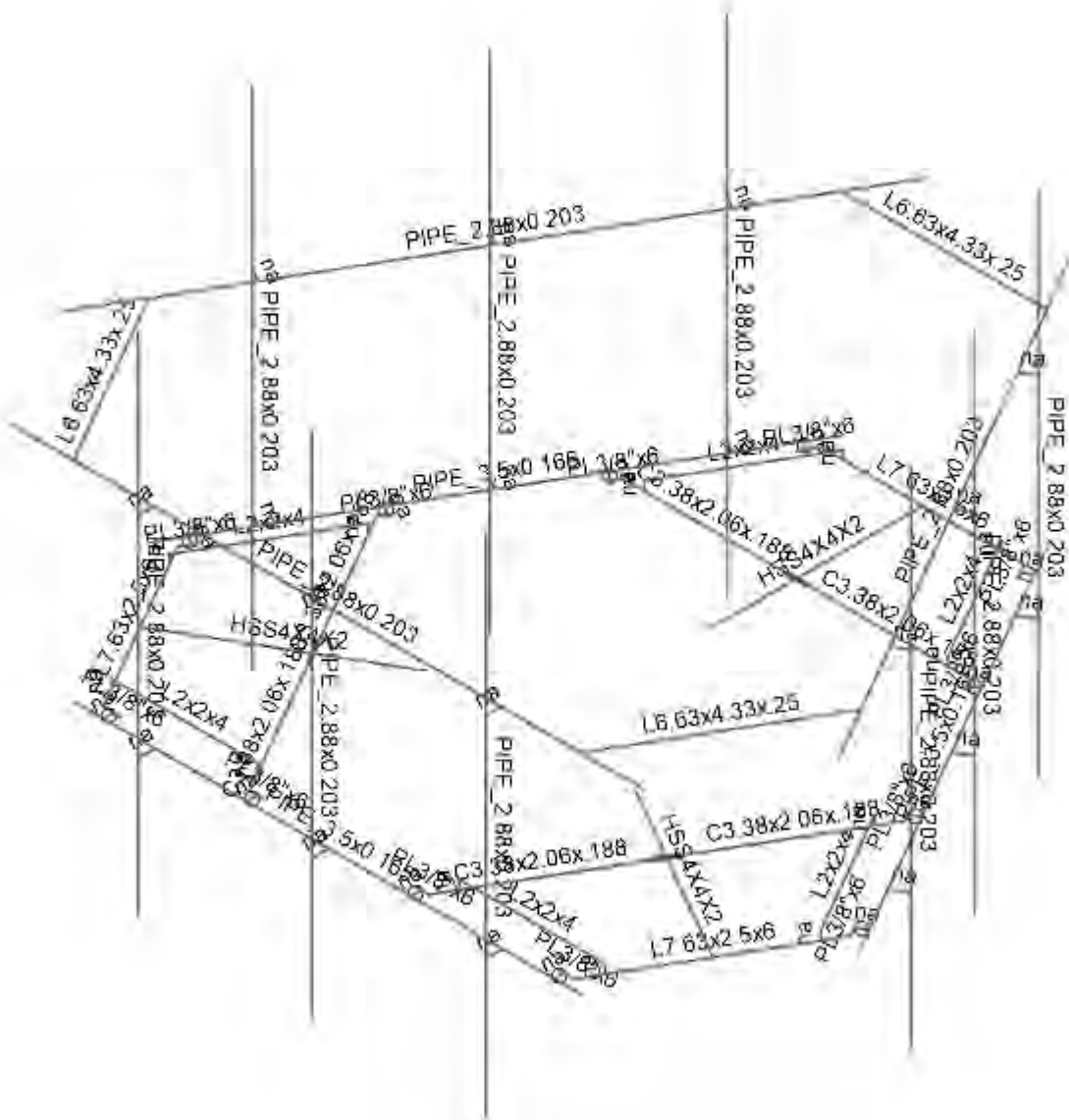
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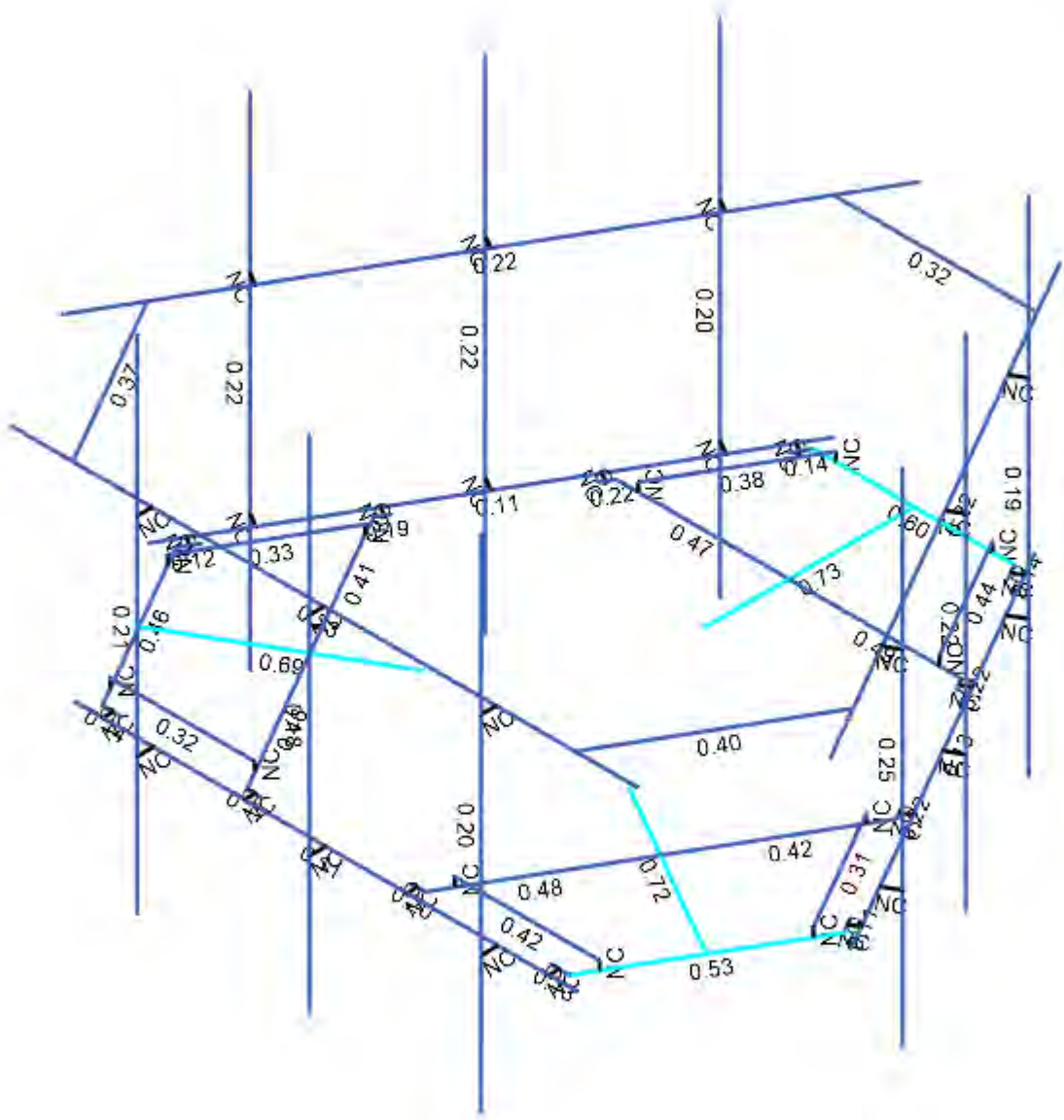
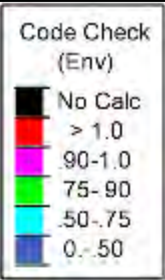
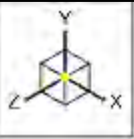


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CT13075-A - New London

SK-3  
 Aug 14, 2021  
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Member Code Checks Displayed (Enveloped)  
Envelope Only Solution

B+T Group	CT13075-A - New London	SK-4
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**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
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 <sup>5</sup> F <sup>-1</sup> ]	Density [k/ft <sup>3</sup> ]	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 <sup>2</sup> ]	Iyy [in <sup>4</sup> ]	Izz [in <sup>4</sup> ]	J [in <sup>4</sup> ]	
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	SF-H2	Beam	Channel	A36 Gr.36	Typical
3	3	3	4	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	O O O O O X			Yes	** NA **	None
24	24	O O O O O X			Yes	** NA **	None
25	25	O O O O O X			Yes	** NA **	None
26	26	O O O O O X			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	O O O O O X			Yes	** NA **	None
45	45	O O O O O X			Yes	** NA **	None
46	46	O O O O O X			Yes	** NA **	None
47	47	O O O O O X			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	O O O O O X			Yes	** NA **	None
64	64	O O O O O X			Yes	** NA **	None
65	65	O O O O O X			Yes	** NA **	None
66	66	O O O O O X			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	-0.219	%15
2	28	Z	-0.219	%85
3	28	Z	-0.069	%20
4	28	Z	-0.069	%50
5	28	Z	0	0
6	87	Z	-0.219	%15
7	87	Z	-0.219	%85
8	87	Z	-0.069	%20
9	87	Z	-0.069	%50
10	87	Z	0	0
11	78	Z	-0.219	%15
12	78	Z	-0.219	%85
13	78	Z	-0.069	%20
14	78	Z	-0.069	%50
15	78	Z	0	0
16	30	Z	-0.071	%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	-0.088	%15
2	28	X	-0.088	%85
3	28	X	-0.042	%20
4	28	X	-0.036	%50
5	28	X	0	0
6	87	X	-0.088	%15
7	87	X	-0.088	%85
8	87	X	-0.042	%20
9	87	X	-0.036	%50
10	87	X	0	0
11	78	X	-0.088	%15
12	78	X	-0.088	%85
13	78	X	-0.042	%20

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
14	78	X	-0.036	%50
15	78	X	0	0
16	30	X	-0.04	%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	-0.06	%15
2	28	Z	-0.06	%85
3	28	Z	-0.023	%20
4	28	Z	-0.023	%50
5	28	Z	0	0
6	87	Z	-0.06	%15
7	87	Z	-0.06	%85
8	87	Z	-0.023	%20
9	87	Z	-0.023	%50
10	87	Z	0	0
11	78	Z	-0.06	%15
12	78	Z	-0.06	%85
13	78	Z	-0.023	%20
14	78	Z	-0.023	%50
15	78	Z	0	0
16	30	Z	-0.024	%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	-0.029	%15
2	28	X	-0.029	%85
3	28	X	-0.016	%20
4	28	X	-0.014	%50
5	28	X	0	0
6	87	X	-0.029	%15
7	87	X	-0.029	%85
8	87	X	-0.016	%20
9	87	X	-0.014	%50
10	87	X	0	0
11	78	X	-0.029	%15
12	78	X	-0.029	%85
13	78	X	-0.016	%20
14	78	X	-0.014	%50
15	78	X	0	0
16	30	X	-0.015	%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	-0.018	%15
2	28	Z	-0.018	%85
3	28	Z	-0.006	%20
4	28	Z	-0.006	%50
5	28	Z	0	0
6	87	Z	-0.018	%15
7	87	Z	-0.018	%85
8	87	Z	-0.006	%20
9	87	Z	-0.006	%50
10	87	Z	0	0
11	78	Z	-0.018	%15
12	78	Z	-0.018	%85
13	78	Z	-0.006	%20
14	78	Z	-0.006	%50
15	78	Z	0	0
16	30	Z	-0.006	%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	-0.007	%15
2	28	X	-0.007	%85
3	28	X	-0.003	%20
4	28	X	-0.003	%50
5	28	X	0	0
6	87	X	-0.007	%15
7	87	X	-0.007	%85
8	87	X	-0.003	%20
9	87	X	-0.003	%50
10	87	X	0	0
11	78	X	-0.007	%15
12	78	X	-0.007	%85
13	78	X	-0.003	%20
14	78	X	-0.003	%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	-0.145	%15
2	28	Y	-0.145	%85
3	28	Y	-0.052	%20
4	28	Y	-0.051	%50
5	28	Y	0	0
6	87	Y	-0.145	%15
7	87	Y	-0.145	%85
8	87	Y	-0.052	%20
9	87	Y	-0.051	%50
10	87	Y	0	0
11	78	Y	-0.145	%15

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
12	78	Y	-0.145	%85
13	78	Y	-0.052	%20
14	78	Y	-0.051	%50
15	78	Y	0	0
16	30	Y	-0.053	%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	-0.017	-0.017	0	%100
2	2	Z	-0.014	-0.014	0	%100
3	3	Z	-0.014	-0.014	0	%100
4	4	Z	-0.021	-0.021	0	%100
5	5	Z	-0.021	-0.021	0	%100
6	6	Z	-0.011	-0.011	0	%100
7	7	Z	-0.021	-0.021	0	%100
8	8	Z	-0.021	-0.021	0	%100
9	9	Z	-0.009	-0.009	0	%100
10	10	Z	-0.009	-0.009	0	%100
11	11	Z	-0.029	-0.029	0	%100
12	18	Z	-0.01	-0.01	0	%100
13	19	Z	-0.01	-0.01	0	%100
14	22	Z	-0.01	-0.01	0	%100
15	28	Z	-0.01	-0.01	0	%100
16	30	Z	-0.017	-0.017	0	%100
17	31	Z	-0.014	-0.014	0	%100
18	32	Z	-0.014	-0.014	0	%100
19	33	Z	-0.021	-0.021	0	%100
20	34	Z	-0.021	-0.021	0	%100
21	35	Z	-0.021	-0.021	0	%100
22	36	Z	-0.021	-0.021	0	%100
23	37	Z	-0.009	-0.009	0	%100
24	38	Z	-0.009	-0.009	0	%100
25	39	Z	-0.029	-0.029	0	%100
26	48	Z	-0.017	-0.017	0	%100
27	49	Z	-0.014	-0.014	0	%100
28	50	Z	-0.014	-0.014	0	%100
29	51	Z	-0.021	-0.021	0	%100
30	52	Z	-0.021	-0.021	0	%100
31	53	Z	-0.021	-0.021	0	%100
32	54	Z	-0.021	-0.021	0	%100
33	55	Z	-0.009	-0.009	0	%100
34	56	Z	-0.009	-0.009	0	%100
35	57	Z	-0.029	-0.029	0	%100
36	62	Z	-0.026	-0.026	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	-0.011	-0.011	0	%100
38	68	Z	-0.011	-0.011	0	%100
39	69	Z	-0.01	-0.01	0	%100
40	70	Z	-0.01	-0.01	0	%100
41	73	Z	-0.01	-0.01	0	%100
42	74	Z	-0.01	-0.01	0	%100
43	78	Z	-0.01	-0.01	0	%100
44	82	Z	-0.01	-0.01	0	%100
45	83	Z	-0.01	-0.01	0	%100
46	87	Z	-0.01	-0.01	0	%100
47	89	Z	-0.026	-0.026	0	%100
48	90	Z	-0.026	-0.026	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	-0.017	-0.017	0	%100
2	2	X	-0.014	-0.014	0	%100
3	3	X	-0.014	-0.014	0	%100
4	4	X	-0.021	-0.021	0	%100
5	5	X	-0.021	-0.021	0	%100
6	6	X	-0.011	-0.011	0	%100
7	7	X	-0.021	-0.021	0	%100
8	8	X	-0.021	-0.021	0	%100
9	9	X	-0.009	-0.009	0	%100
10	10	X	-0.009	-0.009	0	%100
11	11	X	-0.029	-0.029	0	%100
12	18	X	-0.01	-0.01	0	%100
13	19	X	-0.01	-0.01	0	%100
14	22	X	-0.01	-0.01	0	%100
15	28	X	-0.01	-0.01	0	%100
16	30	X	-0.017	-0.017	0	%100
17	31	X	-0.014	-0.014	0	%100
18	32	X	-0.014	-0.014	0	%100
19	33	X	-0.021	-0.021	0	%100
20	34	X	-0.021	-0.021	0	%100
21	35	X	-0.021	-0.021	0	%100
22	36	X	-0.021	-0.021	0	%100
23	37	X	-0.009	-0.009	0	%100
24	38	X	-0.009	-0.009	0	%100
25	39	X	-0.029	-0.029	0	%100
26	48	X	-0.017	-0.017	0	%100
27	49	X	-0.014	-0.014	0	%100
28	50	X	-0.014	-0.014	0	%100
29	51	X	-0.021	-0.021	0	%100
30	52	X	-0.021	-0.021	0	%100
31	53	X	-0.021	-0.021	0	%100
32	54	X	-0.021	-0.021	0	%100
33	55	X	-0.009	-0.009	0	%100
34	56	X	-0.009	-0.009	0	%100
35	57	X	-0.029	-0.029	0	%100
36	62	X	-0.026	-0.026	0	%100
37	67	X	-0.011	-0.011	0	%100
38	68	X	-0.011	-0.011	0	%100
39	69	X	-0.01	-0.01	0	%100
40	70	X	-0.01	-0.01	0	%100
41	73	X	-0.01	-0.01	0	%100
42	74	X	-0.01	-0.01	0	%100
43	78	X	-0.01	-0.01	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	-0.01	-0.01	0	%100
45	83	X	-0.01	-0.01	0	%100
46	87	X	-0.01	-0.01	0	%100
47	89	X	-0.026	-0.026	0	%100
48	90	X	-0.026	-0.026	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	-0.008	-0.008	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	-0.007	-0.007	0	%100
10	10	Z	-0.007	-0.007	0	%100
11	11	Z	-0.01	-0.01	0	%100
12	18	Z	-0.003	-0.003	0	%100
13	19	Z	-0.003	-0.003	0	%100
14	22	Z	-0.003	-0.003	0	%100
15	28	Z	-0.003	-0.003	0	%100
16	30	Z	-0.008	-0.008	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	-0.007	-0.007	0	%100
24	38	Z	-0.007	-0.007	0	%100
25	39	Z	-0.01	-0.01	0	%100
26	48	Z	-0.008	-0.008	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	-0.007	-0.007	0	%100
34	56	Z	-0.007	-0.007	0	%100
35	57	Z	-0.01	-0.01	0	%100
36	62	Z	-0.01	-0.01	0	%100
37	67	Z	-0.003	-0.003	0	%100
38	68	Z	-0.003	-0.003	0	%100
39	69	Z	-0.003	-0.003	0	%100
40	70	Z	-0.003	-0.003	0	%100
41	73	Z	-0.003	-0.003	0	%100
42	74	Z	-0.003	-0.003	0	%100
43	78	Z	-0.003	-0.003	0	%100
44	82	Z	-0.003	-0.003	0	%100
45	83	Z	-0.003	-0.003	0	%100
46	87	Z	-0.003	-0.003	0	%100
47	89	Z	-0.01	-0.01	0	%100
48	90	Z	-0.01	-0.01	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	-0.008	-0.008	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	-0.007	-0.007	0	%100
10	10	X	-0.007	-0.007	0	%100
11	11	X	-0.01	-0.01	0	%100
12	18	X	-0.003	-0.003	0	%100
13	19	X	-0.003	-0.003	0	%100
14	22	X	-0.003	-0.003	0	%100
15	28	X	-0.003	-0.003	0	%100
16	30	X	-0.008	-0.008	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	-0.007	-0.007	0	%100
24	38	X	-0.007	-0.007	0	%100
25	39	X	-0.01	-0.01	0	%100
26	48	X	-0.008	-0.008	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	-0.007	-0.007	0	%100
34	56	X	-0.007	-0.007	0	%100
35	57	X	-0.01	-0.01	0	%100
36	62	X	-0.01	-0.01	0	%100
37	67	X	-0.003	-0.003	0	%100
38	68	X	-0.003	-0.003	0	%100
39	69	X	-0.003	-0.003	0	%100
40	70	X	-0.003	-0.003	0	%100
41	73	X	-0.003	-0.003	0	%100
42	74	X	-0.003	-0.003	0	%100
43	78	X	-0.003	-0.003	0	%100
44	82	X	-0.003	-0.003	0	%100
45	83	X	-0.003	-0.003	0	%100
46	87	X	-0.003	-0.003	0	%100
47	89	X	-0.01	-0.01	0	%100
48	90	X	-0.01	-0.01	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	-0.001	-0.001	0	%100
3	3	Z	-0.001	-0.001	0	%100
4	4	Z	-0.002	-0.002	0	%100
5	5	Z	-0.002	-0.002	0	%100
6	6	Z	-0.0005	-0.0005	0	%100
7	7	Z	-0.002	-0.002	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	-0.002	-0.002	0	%100
9	9	Z	-0.0008	-0.0008	0	%100
10	10	Z	-0.0008	-0.0008	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	18	Z	-0.0004	-0.0004	0	%100
13	19	Z	-0.0004	-0.0004	0	%100
14	22	Z	-0.0004	-0.0004	0	%100
15	28	Z	-0.0004	-0.0004	0	%100
16	30	Z	-0.001	-0.001	0	%100
17	31	Z	-0.001	-0.001	0	%100
18	32	Z	-0.001	-0.001	0	%100
19	33	Z	-0.002	-0.002	0	%100
20	34	Z	-0.002	-0.002	0	%100
21	35	Z	-0.002	-0.002	0	%100
22	36	Z	-0.002	-0.002	0	%100
23	37	Z	-0.0008	-0.0008	0	%100
24	38	Z	-0.0008	-0.0008	0	%100
25	39	Z	-0.002	-0.002	0	%100
26	48	Z	-0.001	-0.001	0	%100
27	49	Z	-0.001	-0.001	0	%100
28	50	Z	-0.001	-0.001	0	%100
29	51	Z	-0.002	-0.002	0	%100
30	52	Z	-0.002	-0.002	0	%100
31	53	Z	-0.002	-0.002	0	%100
32	54	Z	-0.002	-0.002	0	%100
33	55	Z	-0.0008	-0.0008	0	%100
34	56	Z	-0.0008	-0.0008	0	%100
35	57	Z	-0.002	-0.002	0	%100
36	62	Z	-0.002	-0.002	0	%100
37	67	Z	-0.0005	-0.0005	0	%100
38	68	Z	-0.0005	-0.0005	0	%100
39	69	Z	-0.0004	-0.0004	0	%100
40	70	Z	-0.0004	-0.0004	0	%100
41	73	Z	-0.0004	-0.0004	0	%100
42	74	Z	-0.0004	-0.0004	0	%100
43	78	Z	-0.0004	-0.0004	0	%100
44	82	Z	-0.0004	-0.0004	0	%100
45	83	Z	-0.0004	-0.0004	0	%100
46	87	Z	-0.0004	-0.0004	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	-0.001	-0.001	0	%100
3	3	X	-0.001	-0.001	0	%100
4	4	X	-0.002	-0.002	0	%100
5	5	X	-0.002	-0.002	0	%100
6	6	X	-0.0005	-0.0005	0	%100
7	7	X	-0.002	-0.002	0	%100
8	8	X	-0.002	-0.002	0	%100
9	9	X	-0.0008	-0.0008	0	%100
10	10	X	-0.0008	-0.0008	0	%100
11	11	X	-0.002	-0.002	0	%100
12	18	X	-0.0004	-0.0004	0	%100
13	19	X	-0.0004	-0.0004	0	%100
14	22	X	-0.0004	-0.0004	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	-0.0004	-0.0004	0	%100
16	30	X	-0.001	-0.001	0	%100
17	31	X	-0.001	-0.001	0	%100
18	32	X	-0.001	-0.001	0	%100
19	33	X	-0.002	-0.002	0	%100
20	34	X	-0.002	-0.002	0	%100
21	35	X	-0.002	-0.002	0	%100
22	36	X	-0.002	-0.002	0	%100
23	37	X	-0.0008	-0.0008	0	%100
24	38	X	-0.0008	-0.0008	0	%100
25	39	X	-0.002	-0.002	0	%100
26	48	X	-0.001	-0.001	0	%100
27	49	X	-0.001	-0.001	0	%100
28	50	X	-0.001	-0.001	0	%100
29	51	X	-0.002	-0.002	0	%100
30	52	X	-0.002	-0.002	0	%100
31	53	X	-0.002	-0.002	0	%100
32	54	X	-0.002	-0.002	0	%100
33	55	X	-0.0008	-0.0008	0	%100
34	56	X	-0.0008	-0.0008	0	%100
35	57	X	-0.002	-0.002	0	%100
36	62	X	-0.002	-0.002	0	%100
37	67	X	-0.0005	-0.0005	0	%100
38	68	X	-0.0005	-0.0005	0	%100
39	69	X	-0.0004	-0.0004	0	%100
40	70	X	-0.0004	-0.0004	0	%100
41	73	X	-0.0004	-0.0004	0	%100
42	74	X	-0.0004	-0.0004	0	%100
43	78	X	-0.0004	-0.0004	0	%100
44	82	X	-0.0004	-0.0004	0	%100
45	83	X	-0.0004	-0.0004	0	%100
46	87	X	-0.0004	-0.0004	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	-0.015	-0.015	0	%100
2	2	Y	-0.012	-0.012	0	%100
3	3	Y	-0.012	-0.012	0	%100
4	4	Y	-0.016	-0.016	0	%100
5	5	Y	-0.016	-0.016	0	%100
6	6	Y	-0.011	-0.011	0	%100
7	7	Y	-0.016	-0.016	0	%100
8	8	Y	-0.016	-0.016	0	%100
9	9	Y	-0.009	-0.009	0	%100
10	10	Y	-0.009	-0.009	0	%100
11	11	Y	-0.02	-0.02	0	%100
12	18	Y	-0.01	-0.01	0	%100
13	19	Y	-0.01	-0.01	0	%100
14	22	Y	-0.01	-0.01	0	%100
15	28	Y	-0.01	-0.01	0	%100
16	30	Y	-0.015	-0.015	0	%100
17	31	Y	-0.012	-0.012	0	%100
18	32	Y	-0.012	-0.012	0	%100
19	33	Y	-0.016	-0.016	0	%100
20	34	Y	-0.016	-0.016	0	%100
21	35	Y	-0.016	-0.016	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	-0.016	-0.016	0	%100
23	37	Y	-0.009	-0.009	0	%100
24	38	Y	-0.009	-0.009	0	%100
25	39	Y	-0.02	-0.02	0	%100
26	48	Y	-0.015	-0.015	0	%100
27	49	Y	-0.012	-0.012	0	%100
28	50	Y	-0.012	-0.012	0	%100
29	51	Y	-0.016	-0.016	0	%100
30	52	Y	-0.016	-0.016	0	%100
31	53	Y	-0.016	-0.016	0	%100
32	54	Y	-0.016	-0.016	0	%100
33	55	Y	-0.009	-0.009	0	%100
34	56	Y	-0.009	-0.009	0	%100
35	57	Y	-0.02	-0.02	0	%100
36	62	Y	-0.02	-0.02	0	%100
37	67	Y	-0.011	-0.011	0	%100
38	68	Y	-0.011	-0.011	0	%100
39	69	Y	-0.01	-0.01	0	%100
40	70	Y	-0.01	-0.01	0	%100
41	73	Y	-0.01	-0.01	0	%100
42	74	Y	-0.01	-0.01	0	%100
43	78	Y	-0.01	-0.01	0	%100
44	82	Y	-0.01	-0.01	0	%100
45	83	Y	-0.01	-0.01	0	%100
46	87	Y	-0.01	-0.01	0	%100
47	89	Y	-0.02	-0.02	0	%100
48	90	Y	-0.02	-0.02	0	%100

**Member Distributed Loads (BLC 31 : 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 32 : 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	-0.012	-0.012	0	2.078
2	10	Y	-0.012	-0.016	0.231	1.27
3	10	Y	-0.016	-0.021	1.27	2.309
4	37	Y	-0.028	-0.013	0	1.155
5	37	Y	-0.013	0.0004994	1.155	2.309
6	38	Y	-0.015	-0.013	0.231	2.309
7	55	Y	-0.015	-0.013	0	2.078
8	56	Y	0.0004995	-0.013	0	1.155
9	56	Y	-0.013	-0.028	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	-0.008
2	71	70	73	72	Y	Two Way	-0.008
3	98	97	100	99	Y	Two Way	-0.008

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s <sup>2</sup> /ft, k*s <sup>2</sup> *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*s <sup>2</sup> /ft, k*s <sup>2</sup> *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*s <sup>2</sup> /ft, k*s <sup>2</sup> *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		
31	BLC 1 Transient Area Loads	None				9	
32	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
113	1.2 D + 1.5 LL Maint (16)	Yes	Y	1	1.2					28	1.5
114	1.2 D + 1.5 LL Maint (17)	Yes	Y	1	1.2					29	1.5
115	1.2 D + 1.5 LL Maint (18)	Yes	Y	1	1.2					30	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	1.677	5	2.321	14	2.169	2	5.423	14	1.7	11	0.421	24
2		min	-1.679	23	-0.939	8	-2.285	20	-2.759	8	-1.7	17	-0.3	6
3	51	max	1.795	5	2.282	42	2.176	14	1.09	13	2.126	3	1.602	12
4		min	-1.891	23	-0.585	12	-2.115	8	-2.331	19	-2.123	21	-4.028	18
5	78	max	1.682	17	2.199	46	2.409	14	1.169	3	2.147	7	3.902	22
6		min	-1.583	11	-0.612	4	-2.355	8	-2.631	21	-2.148	25	-1.643	4
7	Totals:	max	5.14	17	5.987	43	6.739	14						
8		min	-5.14	11	1.797	13	-6.739	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	0.731	0	25	0.147	0	y	25	70.173	73.278	8.24	8.24	1.965H1-1b
2	2	C3.38x2.06x.188	0.468	2.592	15	0.076	0.351	z	20	38.433	43.394	1.694	4.483	1.591H1-1b
3	3	C3.38x2.06x.188	0.491	0	25	0.106	2.241	z	20	38.433	43.394	1.694	4.483	1.587H1-1b
4	4	PL3/8"x6	0.138	0	14	0.245	0	y	14	68.802	72.9	0.57	9.113	2.437H1-1b
5	5	PL3/8"x6	0.145	0	15	0.199	0	y	14	68.802	72.9	0.57	9.113	2.031H1-1b
6	6	PIPE 3.5x0.165	0.112	6.75	19	0.059	4		17	45.872	71.57	6.336	6.336	1.892H1-1b
7	7	PL3/8"x6	0.217	0.208	14	0.227	0.208	y	38	70.705	72.9	0.57	9.113	2.328H1-1b
8	8	PL3/8"x6	0.217	0	25	0.238	0	y	39	70.705	72.9	0.57	9.113	2.759H1-1b
9	9	L2x2x4	0.437	0	20	0.036	2.309	z	25	23.349	30.586	0.691	1.577	1.5 H2-1
10	10	L2x2x4	0.381	2.309	20	0.041	2.309	y	40	23.349	30.586	0.691	1.577	1.5 H2-1
11	11	L7.63x2.5x6	0.601	1.604	8	0.106	1.604	z	14	73.845	118.523	1.798	13.625	1.222 H2-1
12	18	PIPE 2.88x0.203	0.175	5.833	17	0.066	5.833		18	35.519	70.68	5.029	5.029	3 H1-1b
13	19	PIPE 2.88x0.203	0.208	2.5	21	0.074	5.833		21	35.519	70.68	5.029	5.029	3 H1-1b
14	22	PIPE 2.88x0.203	0.235	7.813	25	0.214	8.958		14	24.131	70.68	5.029	5.029	2.514 H1-1b
15	28	PIPE 2.88x0.203	0.196	2.5	19	0.074	2.5		20	35.519	70.68	5.029	5.029	3 H1-1b
16	30	HSS4X4X2	0.69	0	19	0.173	0	z	15	70.173	73.278	8.24	8.24	1.991H1-1b
17	31	C3.38x2.06x.188	0.462	2.592	19	0.07	0.351	y	44	38.433	43.394	1.694	4.483	1.594H1-1b
18	32	C3.38x2.06x.188	0.406	0	17	0.078	2.241	z	24	38.433	43.394	1.694	4.483	1.591H1-1b
19	33	PL3/8"x6	0.115	0	18	0.199	0	y	18	68.802	72.9	0.57	9.113	2.439H1-1b
20	34	PL3/8"x6	0.142	0	19	0.161	0	y	18	68.802	72.9	0.57	9.113	1.939H1-1b
21	35	PL3/8"x6	0.19	0.208	19	0.225	0.208	y	42	70.705	72.9	0.57	9.113	2.609H1-1b
22	36	PL3/8"x6	0.172	0	17	0.238	0	y	43	70.705	72.9	0.57	9.113	2.834H1-1b
23	37	L2x2x4	0.328	0	23	0.03	2.309	z	17	23.349	30.586	0.691	1.577	1.5 H2-1
24	38	L2x2x4	0.319	2.309	25	0.041	0	y	44	23.349	30.586	0.691	1.577	1.5 H2-1
25	39	L7.63x2.5x6	0.456	1.604	12	0.099	1.604	z	19	73.845	118.523	1.798	13.662	1.229 H2-1
26	48	HSS4X4X2	0.721	0	21	0.18	0	z	19	70.173	73.278	8.24	8.24	1.967H1-1b
27	49	C3.38x2.06x.188	0.423	2.592	47	0.069	0.351	y	49	38.433	43.394	1.694	4.483	1.629H1-1b
28	50	C3.38x2.06x.188	0.482	0	21	0.093	2.241	z	15	38.433	43.394	1.694	4.483	1.587H1-1b
29	51	PL3/8"x6	0.135	0.164	15	0.202	0	y	22	68.802	72.9	0.57	9.113	2.929H1-1b
30	52	PL3/8"x6	0.113	0	23	0.166	0	y	21	68.802	72.9	0.57	9.113	1.936H1-1b
31	53	PL3/8"x6	0.196	0.085	14	0.225	0.208	y	45	70.705	72.9	0.57	9.113	1.398H1-1b
32	54	PL3/8"x6	0.219	0	21	0.236	0	y	47	70.705	72.9	0.57	9.113	2.755H1-1b
33	55	L2x2x4	0.419	0	15	0.036	2.309	z	21	23.349	30.586	0.691	1.577	1.5 H2-1
34	56	L2x2x4	0.314	2.309	16	0.041	2.309	y	48	23.349	30.586	0.691	1.577	1.5 H2-1
35	57	L7.63x2.5x6	0.532	1.604	3	0.088	1.604	z	22	73.845	118.523	1.798	13.874	1.276 H2-1
36	62	L6.63x4.33x.25	0.402	3.25	2	0.05	3.25	z	20	49.975	86.751	2.311	6.976	1.5 H2-1
37	67	PIPE 3.5x0.165	0.126	1.25	14	0.079	4		21	45.872	71.57	6.336	6.336	1.676H1-1b
38	68	PIPE 3.5x0.165	0.109	4	14	0.075	2.75		25	45.872	71.57	6.336	6.336	1.42 H1-1b
39	69	PIPE 2.88x0.203	0.217	2.188	25	0.174	2.188		25	24.131	70.68	5.029	5.029	2.174H1-1b
40	70	PIPE 2.88x0.203	0.217	7.813	21	0.191	8.958		21	24.131	70.68	5.029	5.029	2.42 H1-1b
41	73	PIPE 2.88x0.203	0.223	5.833	21	0.076	5.833		21	35.519	70.68	5.029	5.029	3 H1-1b
42	74	PIPE 2.88x0.203	0.251	2.5	14	0.074	5.833		25	35.519	70.68	5.029	5.029	3 H1-1b
43	78	PIPE 2.88x0.203	0.194	5.833	21	0.077	2.5		25	35.519	70.68	5.029	5.029	3 H1-1b
44	82	PIPE 2.88x0.203	0.222	5.833	25	0.086	5.833		14	35.519	70.68	5.029	5.029	3 H1-1b
45	83	PIPE 2.88x0.203	0.197	2.5	18	0.056	5.833		17	35.519	70.68	5.029	5.029	3 H1-1b
46	87	PIPE 2.88x0.203	0.222	5.833	14	0.053	5.833		18	35.519	70.68	5.029	5.029	3 H1-1b
47	89	L6.63x4.33x.25	0.321	3.25	6	0.039	3.25	z	24	49.975	86.751	2.311	6.976	1.5 H2-1



Company : B+T Group  
 Designer : VP  
 Job Number : 149466.003.01  
 Model Name : CT13075-A - New London

8/14/2021  
 5:02:28 PM  
 Checked By : \_\_\_\_\_

**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	0.374	0	2	0.044	3.25	y	21	49.975	86.751	2.311	6.976	1.5	H2-1

## APPENDIX B

(Additional Calculations)

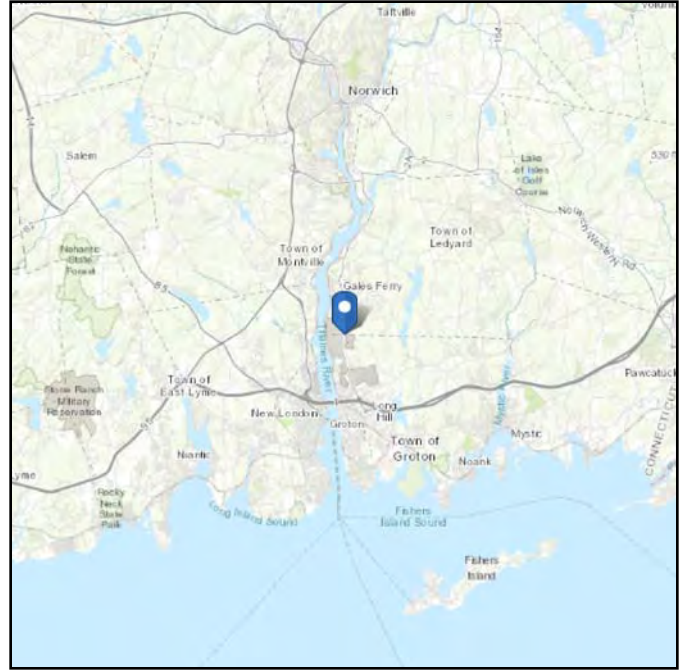
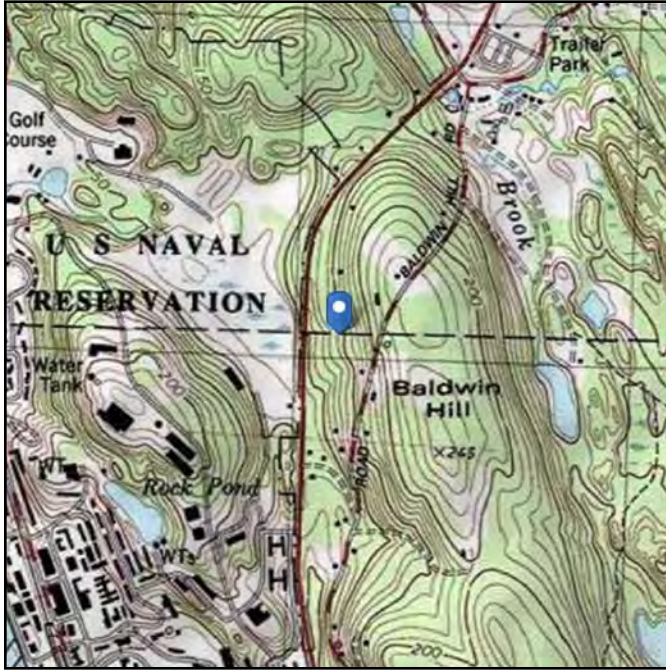


# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

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

**Elevation:** 142.94 ft (NAVD 88)  
**Latitude:** 41.4  
**Longitude:** -72.0792



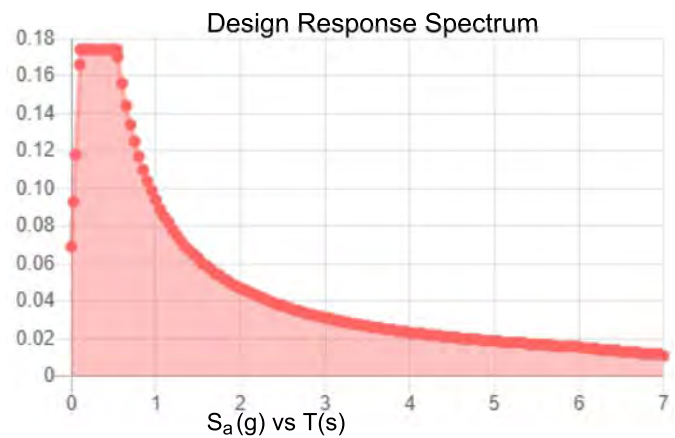
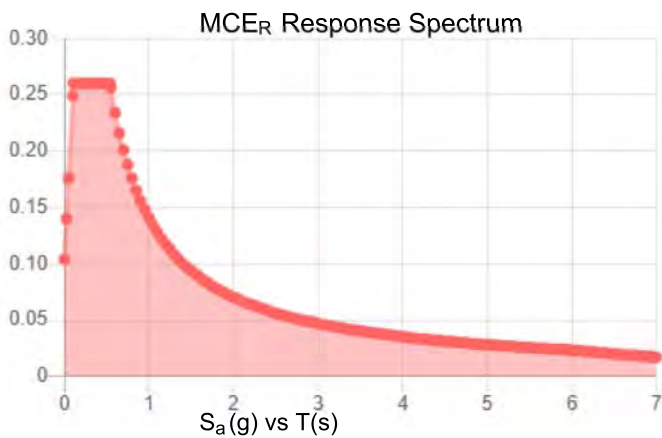
# Seismic

**Site Soil Class:** D - Stiff Soil

**Results:**

$S_s$ :	0.163	$S_{DS}$ :	0.174
$S_1$ :	0.059	$S_{D1}$ :	0.094
$F_a$ :	1.6	$T_L$ :	6
$F_v$ :	2.4	PGA :	0.081
$S_{MS}$ :	0.26	PGA <sub>M</sub> :	0.13
$S_{M1}$ :	0.141	F <sub>PGA</sub> :	1.6
		$I_e$ :	1

**Seismic Design Category** B



**Data Accessed:**

Thu Jul 22 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: 0.75 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

**Data Source:** Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

**Date Accessed:** Thu Jul 22 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.

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The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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# EXHIBIT 10

## Construction Drawings



DISH Wireless L.L.C. SITE ID:

**BOBOS00058A**

DISH Wireless L.L.C. SITE ADDRESS:

**1294 PLEASANT VALLEY ROAD  
NORTH  
GROTON, CT 06340**



*By Stephen Roth at 2:25:49 PM, 9/10/2021*

**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 TOWER 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 SAFETY SWITCH (IF REQUIRED)
  - INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
  - INSTALL (1) PROPOSED METER SOCKET

**SITE INFORMATION**

PROPERTY OWNER: JFM ENTERPRISES LLC  
 ADDRESS: 920 PLEASANT VALLEY RD N GROTON, CT 06340

TOWER TYPE: MONOPOLE

TOWER CO SITE ID: CT13075-A

TOWER APP NUMBER: 163270

COUNTY: NEW LONDON

LATITUDE (NAD 83): 41° 23' 59.9" N 41.39997189 N

LONGITUDE (NAD 83): 72° 4' 45.2" W 72.0792215599 W

ZONING JURISDICTION: NEW LONDON COUNTY

ZONING DISTRICT: RU-20

PARCEL NUMBER: 178010470143

OCCUPANCY GROUP: U

CONSTRUCTION TYPE: II-B

POWER COMPANY: CONNECTICUT 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 COMMUNICATIIONS 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.lynych@dish.com

CONSTRUCTION MANAGER: JAVIER SOTO  
 javier.soto@dish.com

RF ENGINEER: ARVIN SEBASTIAN  
 arvin.sebastian@dish.com



5701 SOUTH SANTA FE DRIVE  
 LITTLETON, CO 80120



8051 CONGRESS AVENUE  
 BOCA RATON, FL 33487



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

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DRAWN BY: BLJ  
 CHECKED BY: BLJ  
 APPROVED BY: JW

RFDS REV #: 0

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
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A&E PROJECT NUMBER  
 149466.001.01

DISH Wireless L.L.C.  
 PROJECT INFORMATION  
**BOBOS00058A**  
 1294 PLEASANT VALLEY ROAD NORTH  
 GROTON, CT 06340

SHEET TITLE  
**TITLE SHEET**

SHEET NUMBER  
**T-1**

**CONNECTICUT CODE COMPLIANCE**

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

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

**SHEET INDEX**

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
LS-1	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

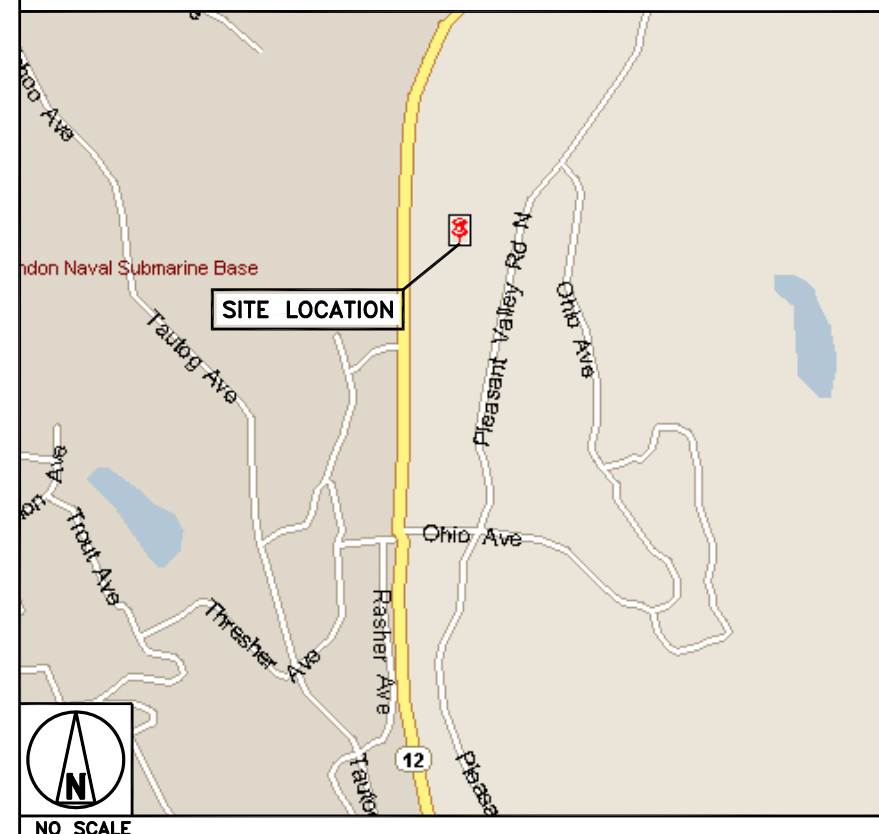
**SITE PHOTO**



**DIRECTIONS**

**DIRECTIONS FROM GROTON – NEW LONDON AIRPORT:**  
 DEPART GROTON-NEW LONDON AIRPORT ON TOWER AVE. TURN RIGHT ONTO HIGH ROCK RD. TURN RIGHT ONTO POQUONNOCK RD. TURN LEFT ONTO US-1 [LONG HILL RD]. ROAD NAME CHANGES TO CT-12 [ROUTE 12]. TURN RIGHT ONTO OHIO AVE, THEN IMMEDIATELY BEAR LEFT ONTO PLEASANT VALLEY RD N. TURN LEFT ONTO ACCESS ROAD. ARRIVE AT BOBOS00058A.

**VICINITY MAP**



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

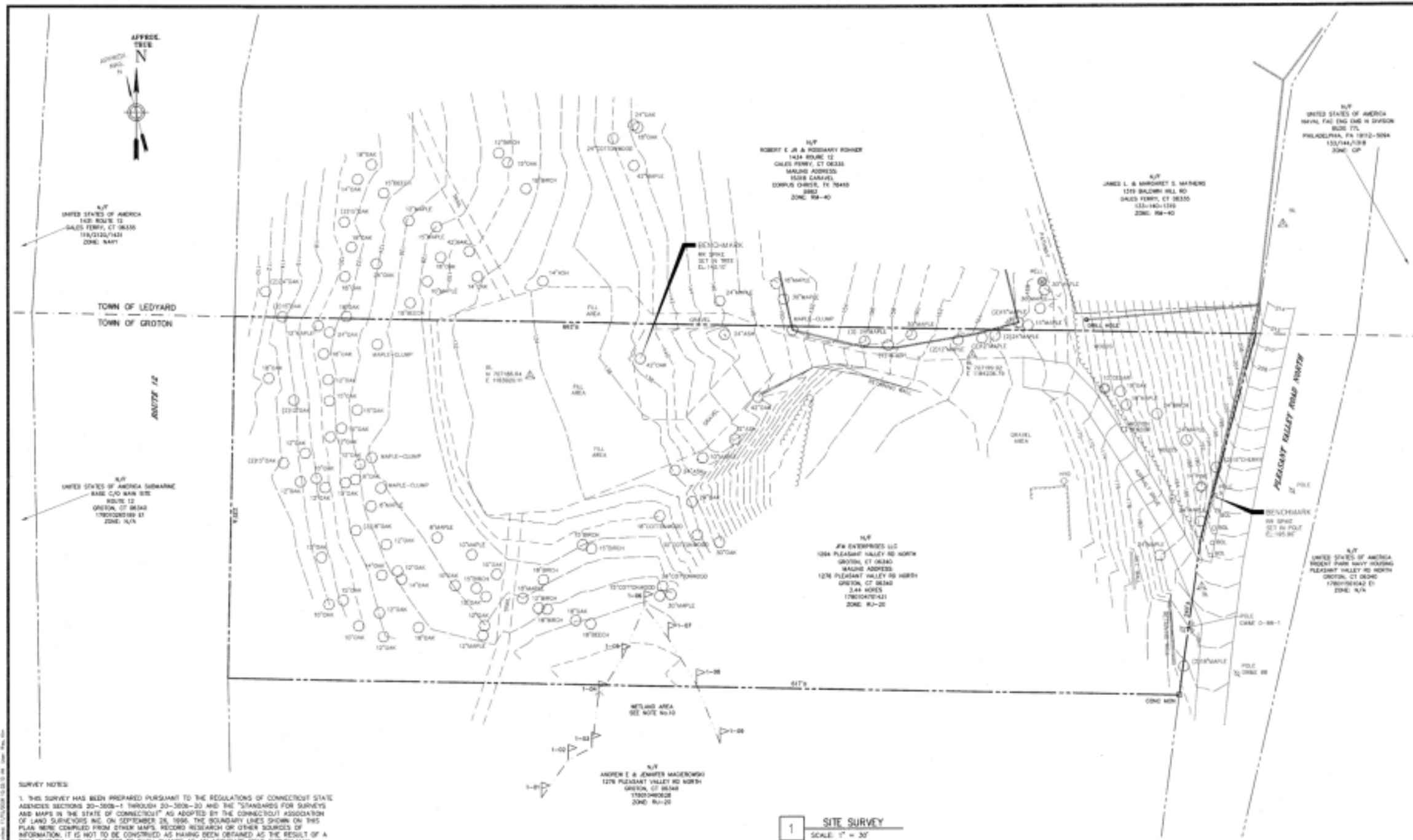


**GENERAL NOTES**

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.



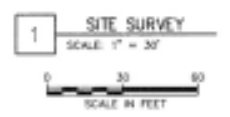
**SURVEY NOTES**

1. THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-30 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. ON SEPTEMBER 28, 1996. THE BOUNDARY LINES SHOWN ON THIS PLAN WERE COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.
2. PROPERTY LINES SHOWN HEREON ARE FROM RECORD DEEDS PLOTS AND TAX MAPS AS OVERLAIN ON ANY INSTRUMENTATION OR OTHER EVIDENCE THAT MAY HAVE BEEN LOCATED DURING THE TOPOGRAPHIC SURVEY. A PROPERTY SURVEY WAS NOT PERFORMED BY CLOUGH HARBOUR & ASSOCIATES LLP AND AS A RESULT THE PROPERTY LINES SHOWN ARE APPROXIMATE AND DO NOT PRESENT A PROPERTY/BOUNDARY OPINION.
3. BASE MAPS WERE PREPARED BY CLOUGH HARBOUR & ASSOCIATES LLP FROM AN OCTOBER 2008 FIELD SURVEY.
4. NORTH ORIENTATION IS TRUE NORTH BASED ON GPS OBSERVATIONS TAKEN AT THE TIME OF THE FIELD SURVEY.
5. UNDERGROUND UTILITIES, STRUCTURES AND FACILITIES HAVE BEEN SHOWN FROM SURFACE LOCATIONS AND MEASUREMENTS OBTAINED FROM A FIELD SURVEY. THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UTILITIES WHICH THE EXISTENCE OF ARE NOT KNOWN. SIZE, TYPE AND LOCATION OF ALL UTILITIES AND STRUCTURES MUST BE VERIFIED BY PROPER AUTHORITIES PRIOR TO ANY AND ALL CONSTRUCTION. CALL 811 SAFE PRIOR TO SUBSURFACE ACTIVITY.

6. SUBJECT TO ANY STATEMENT OF FACTS THAT AN UP-TO-DATE ABSTRACT OF TITLE WOULD DISCLOSE.
7. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS OR RESTRICTIONS OF RECORD.
8. LATITUDE/LONGITUDE/ELEVATIONS WERE OBTAINED UTILIZING NGS CORS BASE STATION NAMED "GTON". LATITUDE/LONGITUDE ARE REFERENCED TO NAD83 CONNECTICUT ZONE. COORDINATES SHOWN, IF ANY, ARE EXPRESSED IN U.S. SURVEY FEET. ELEVATIONS ARE REFERENCED TO NA83MSL. TOP OF STRUCTURE HEIGHT AS SHOWN, IF ANY, DETERMINED BY VERTICAL ANGLE OR BY ACTUAL LOCATION. INFORMATION SHOWN BASED ON FAA 2C CERTIFICATION ACCURACY LEVEL DEFINED AS:  
HORIZONTAL: ±50 FEET / 15 METERS  
VERTICAL: ±20 FEET / 6 METERS
9. SITE FALLS WITHIN ZONE "C" DEFINED AS AREAS OF MINIMAL FLOODING AS SHOWN ON FLOOD INSURANCE RATE MAP, TOWN OF GROTON, CONNECTICUT, NEW LONDON COUNTY, PANEL 2 OF 11, COMMUNITY PANEL NUMBER 08007 0002 C, REVISED AUGUST 15, 1984.
10. WELAND SHOWN BASE ON FIELD DELINEATED POINTS ESTABLISHED BY VHASSE HAWKER BRUSTLIN, INC. DATED 10-30-06.

**MAP REFERENCES:**

1. ASSESSOR'S TAX MAP TOWN OF LEDYARD CONNECTICUT, SHEET 153 OF 164, PREPARED BY CHARLES A. MASURE & ASSOCIATES, INC.



NO. SUBMITTAL  
 11/17/20 10/17/20  
 0 0/0/00 0/0/00 0/0/00

NO. SUBMITTAL  
 11/17/20 10/17/20  
 0 0/0/00 0/0/00 0/0/00

NO.	DATE	DESCRIPTION
1	11/17/20	ISSUED FOR REVIEW
0	9/1/21	ISSUED FOR CONSTRUCTION

WILLIAM S. LICARELLI CT LS 18028

SITE ID:  
 CT-999-0108

SITE NAME:  
 NEW LONDON

SITE ADDRESS:  
 1294 PLEASANT VALLEY  
 ROAD NORTH  
 GROTON, CT 06340  
 NEW LONDON COUNTY

SHEET TITLE  
 SITE SURVEY

SHEET NUMBER  
 C-1



5701 SOUTH SANTA FE DRIVE  
 LITTLETON, CO 80120



8051 CONGRESS AVENUE  
 BOCA RATON, FL 33487



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



**B&T ENGINEERING, INC.**  
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 BLJ BLJ JW

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SHEET TITLE  
 TITLE SHEET

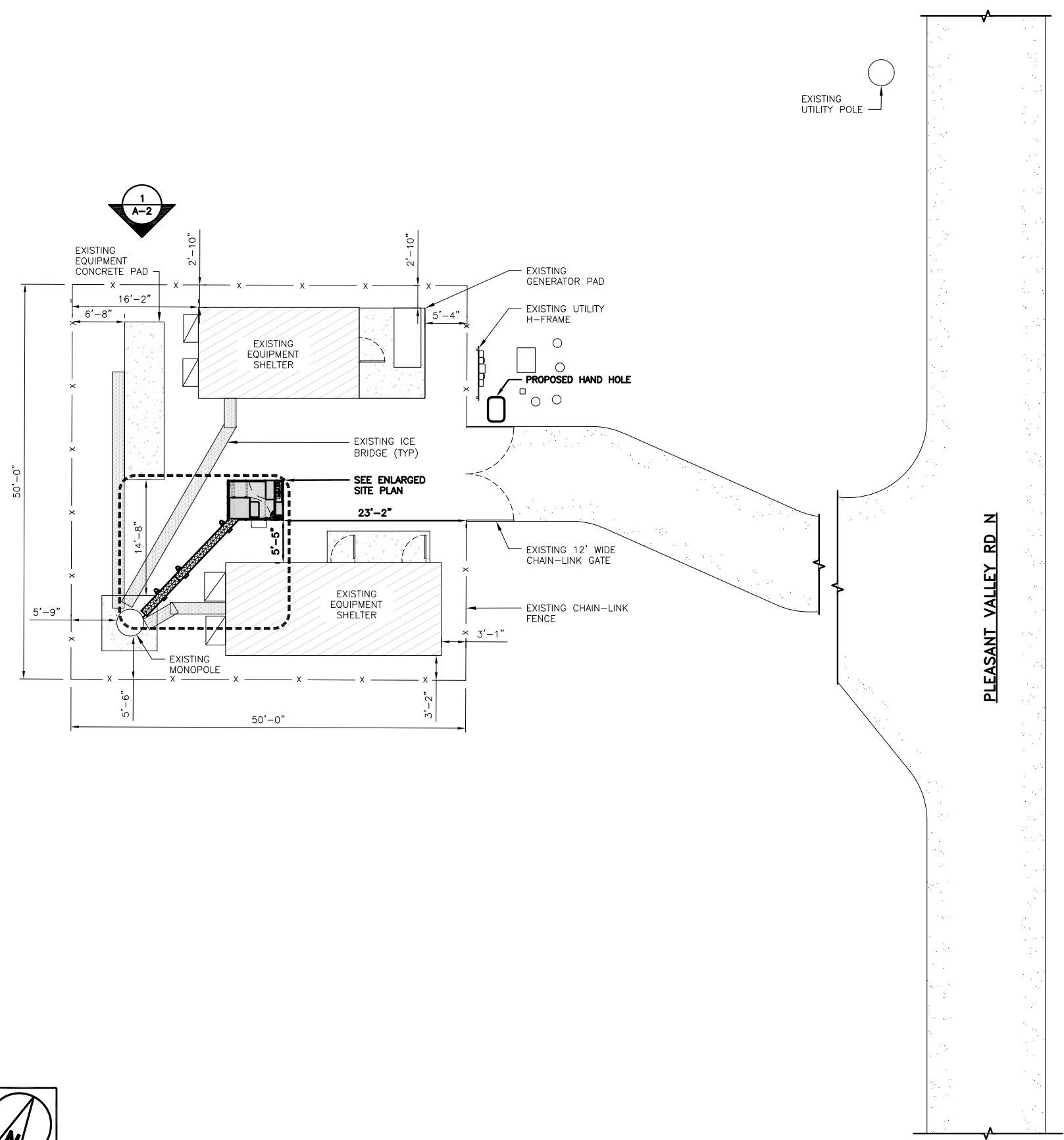
SHEET NUMBER

**T-1**

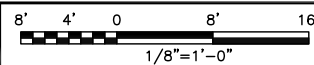


**NOTES**

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



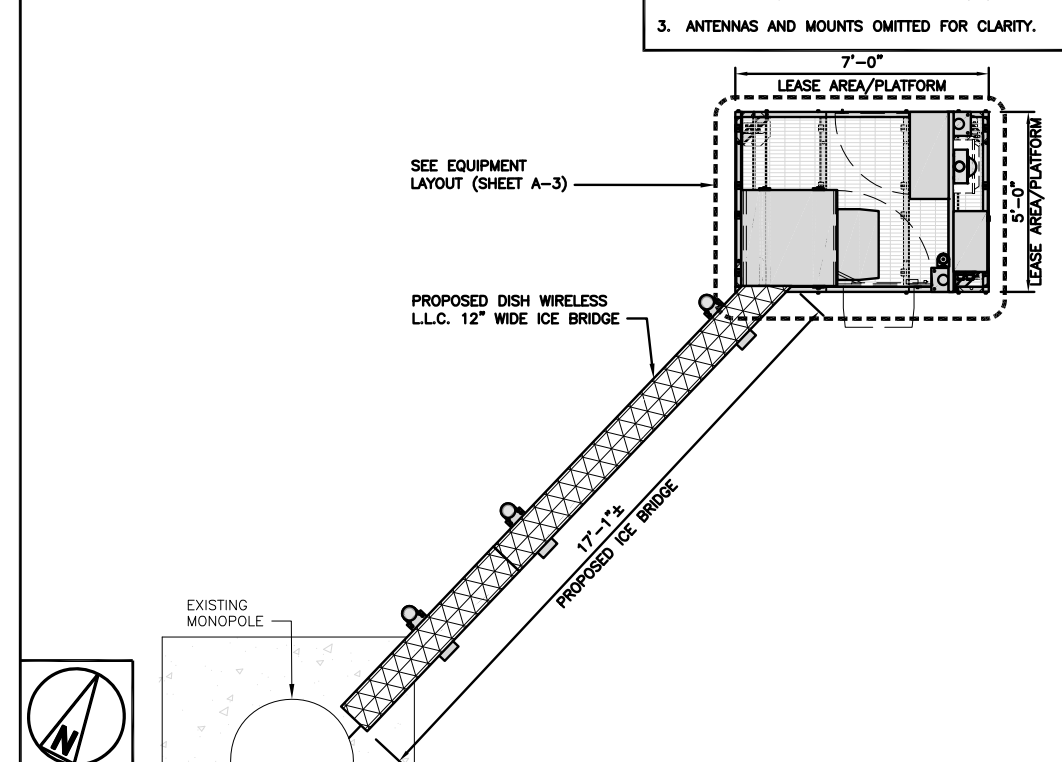
**OVERALL SITE PLAN**



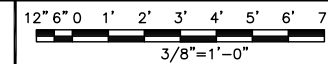
1

**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**



2

NOT USED

3



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



8051 CONGRESS AVENUE  
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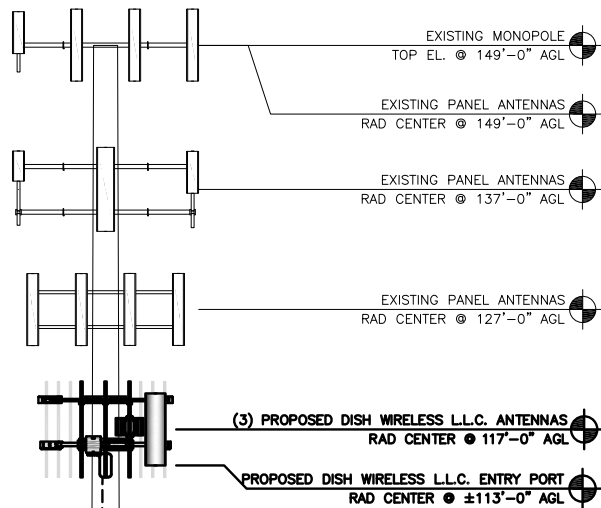
DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00058A  
1294 PLEASANT VALLEY  
ROAD NORTH  
GROTON, CT 06340

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.



(1) PROPOSED DISH WIRELESS L.L.C. HYBRID CABLE ROUTED INSIDE POLE

EXISTING MONOPOLE

PROPOSED DISH WIRELESS L.L.C. ICE BRIDGE

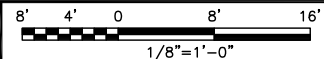
PROPOSED DISH WIRELESS L.L.C. EQUIPMENT ON PROPOSED STEEL PLATFORM

PROPOSED DISH WIRELESS L.L.C. GPS UNIT

EXISTING ENTRY PORT

EXISTING MONOPOLE  
BOTTOM EL. @ 6" AGL

**PROPOSED NORTH ELEVATION**



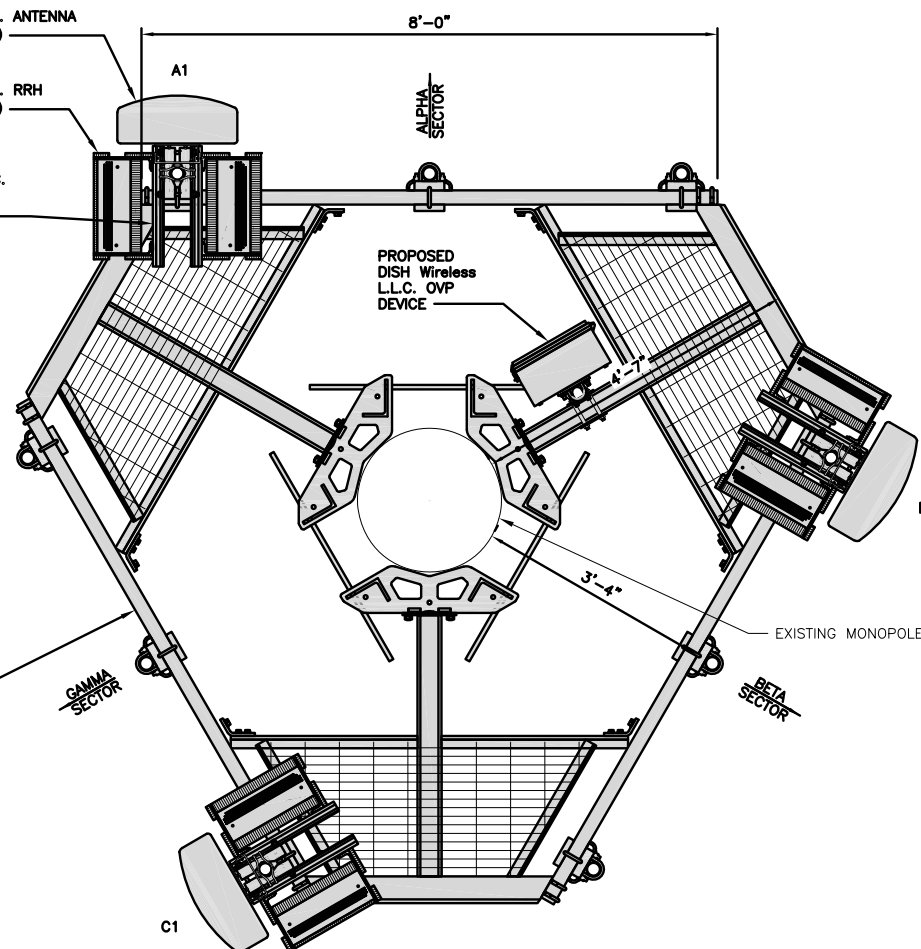
PROPOSED DISH Wireless L.L.C. ANTENNA  
(TYP 1 PER SECTOR, TOTAL 3)

PROPOSED DISH Wireless L.L.C. RRH  
(TYP 2 PER SECTOR, TOTAL 6)

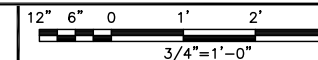
PROPOSED DISH Wireless L.L.C. BACK-TO-BACK MOUNT  
(TYP OF 1 PER SECTOR, TOTAL 3)

PROPOSED DISH Wireless L.L.C. OVP DEVICE

PROPOSED DISH Wireless L.L.C. ANTENNA PLATFORM



**ANTENNA LAYOUT**



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-MX08FR0665-21	5G	72.0" x 20.0"	0°	117'-0"	(1) HIGH-CAPACITY HYBRID CABLE (160' LONG)
BETA	B1	PROPOSED	JMA WIRELESS-MX08FR0665-21	5G	72.0" x 20.0"	120°	117'-0"	
GAMMA	C1	PROPOSED	JMA WIRELESS-MX08FR0665-21	5G	72.0" x 20.0"	240°	117'-0"	

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

**ANTENNA SCHEDULE**

NO SCALE

3



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



8051 CONGRESS AVENUE  
BOCA RATON, FL 33487



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1294 PLEASANT VALLEY  
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GROTON, CT 06340

SHEET TITLE  
ELEVATION, ANTENNA  
LAYOUT AND SCHEDULE

SHEET NUMBER

**A-2**



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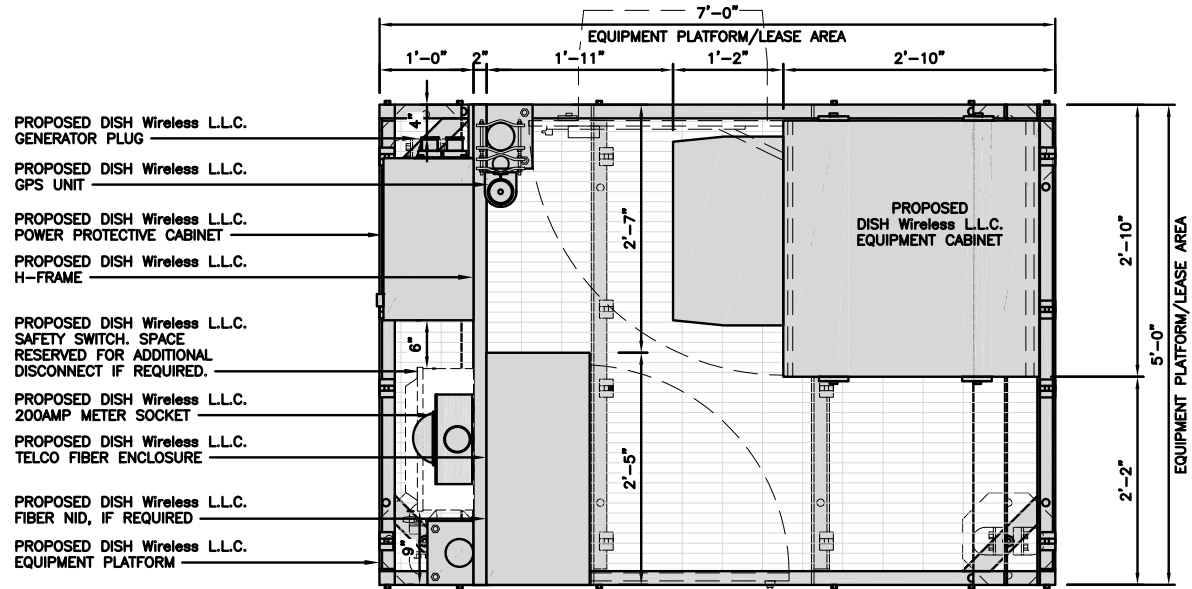
SHEET TITLE  
EQUIPMENT PLATFORM AND  
H-FRAME DETAILS

SHEET NUMBER

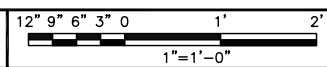
**A-3**

**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



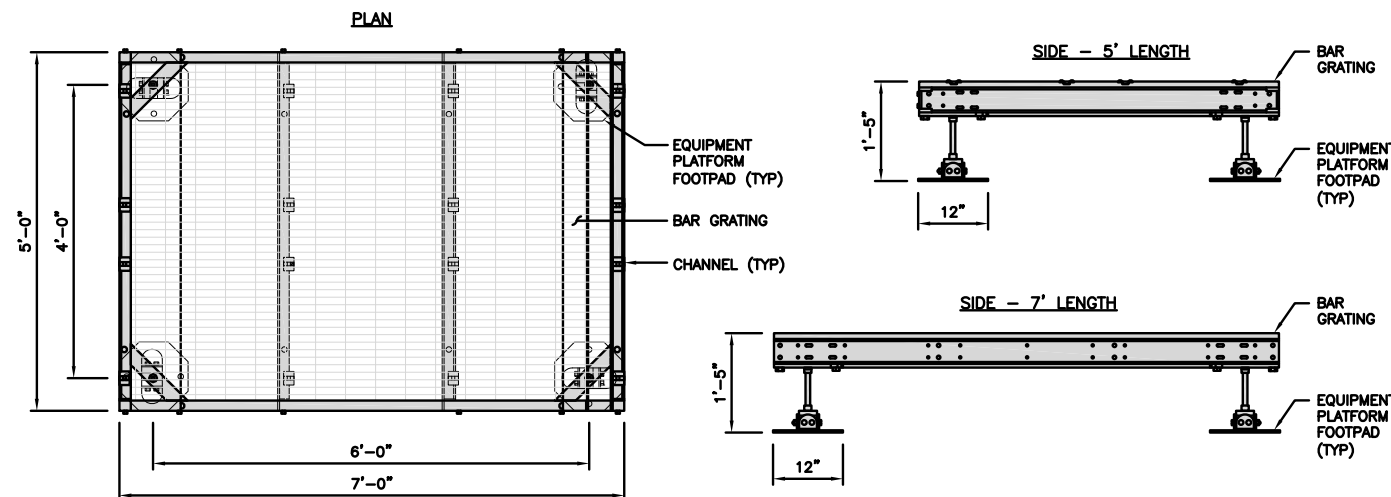
PLATFORM EQUIPMENT PLAN



1

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

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

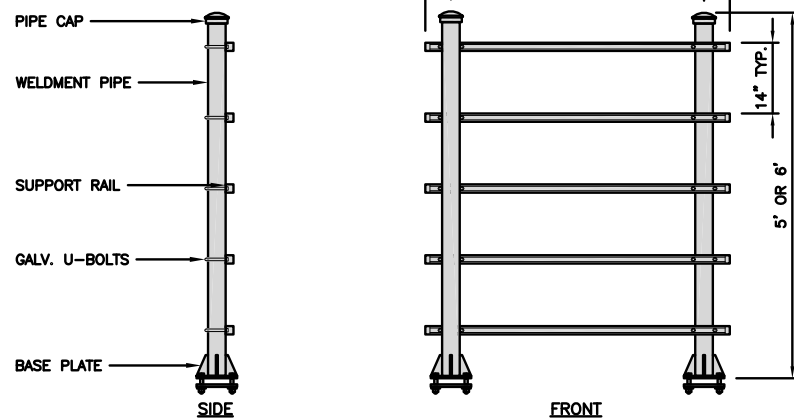


PLATFORM DETAIL

NO SCALE 2

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

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

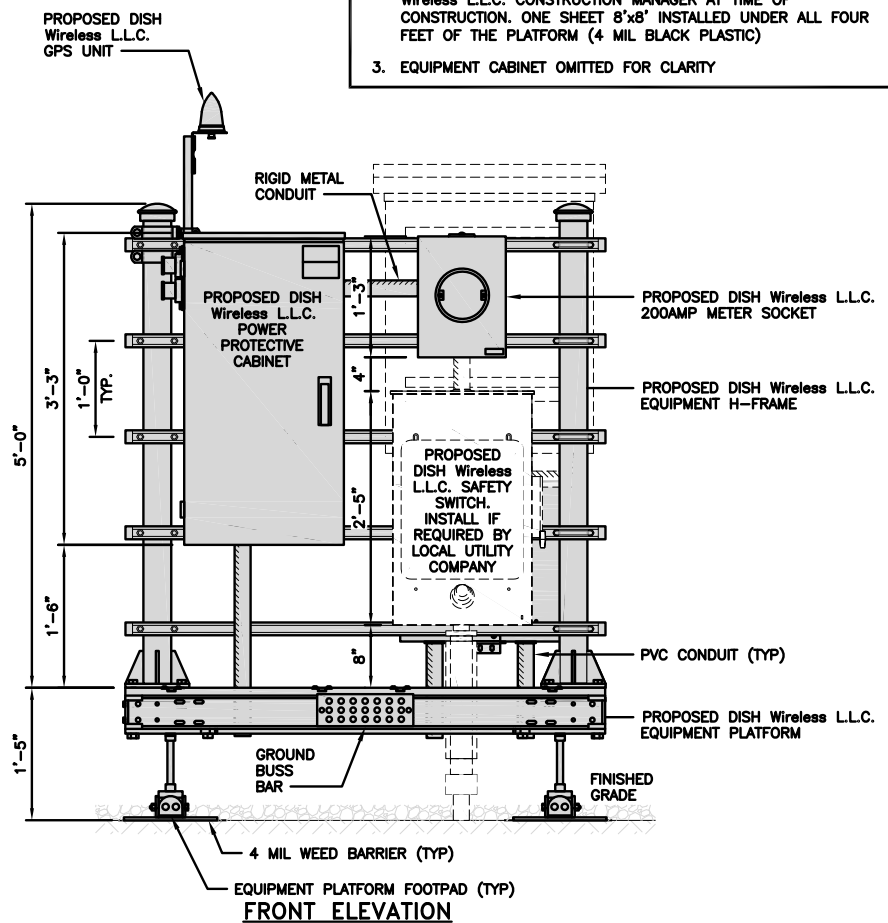


H-FRAME DETAIL

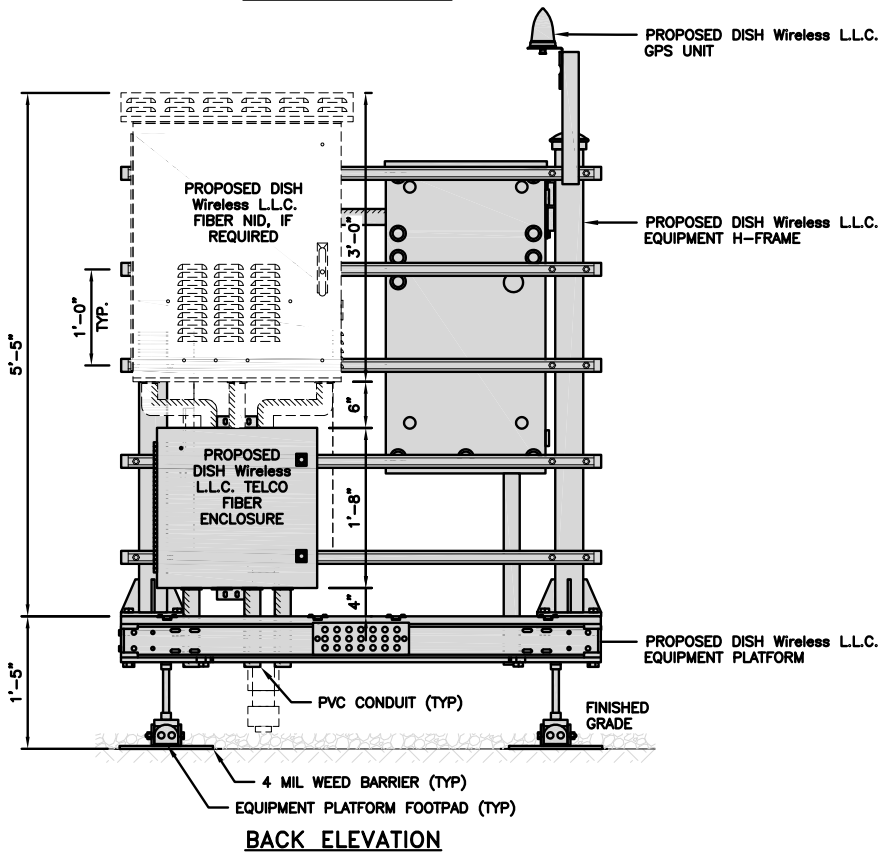
NO SCALE 3

NOT USED

NO SCALE 4

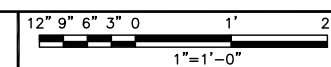


FRONT ELEVATION



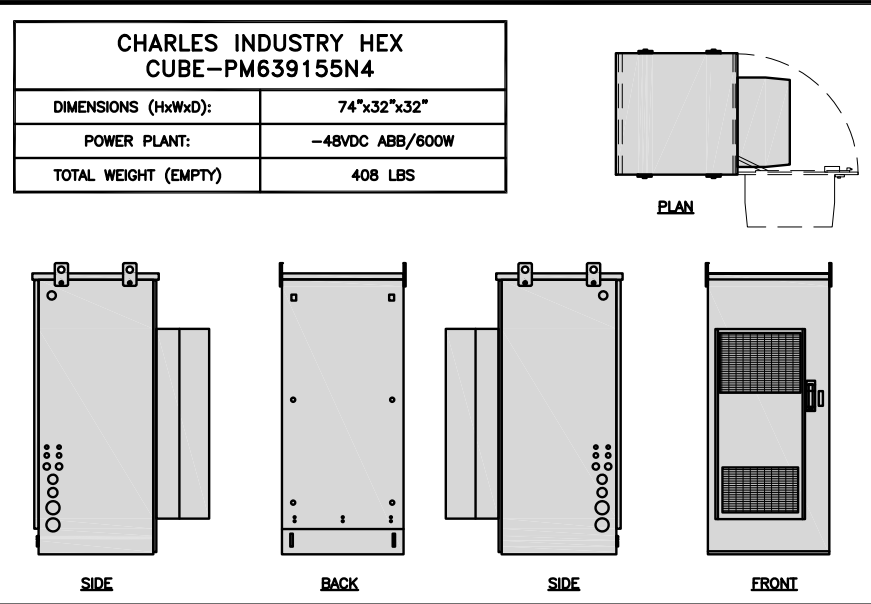
BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION



5

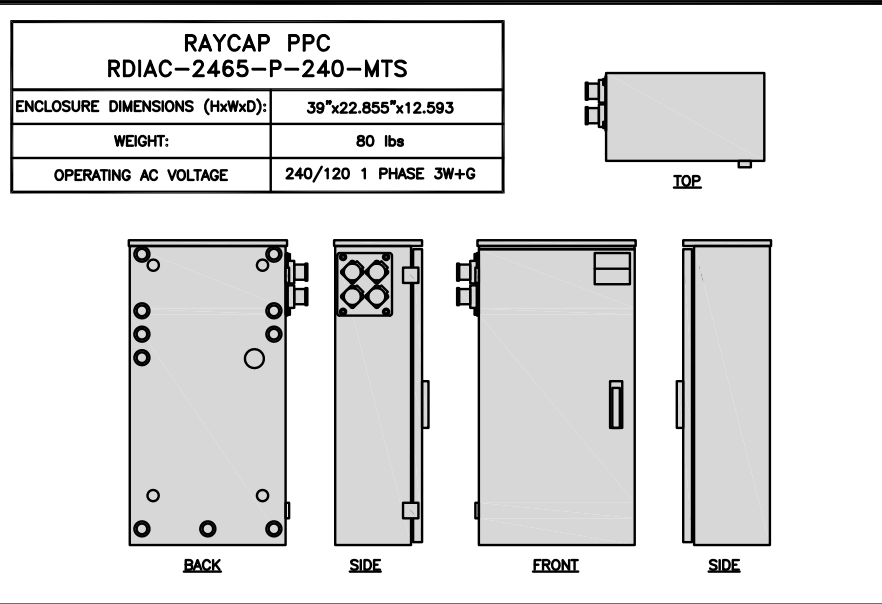




CABINET DETAIL

NO SCALE

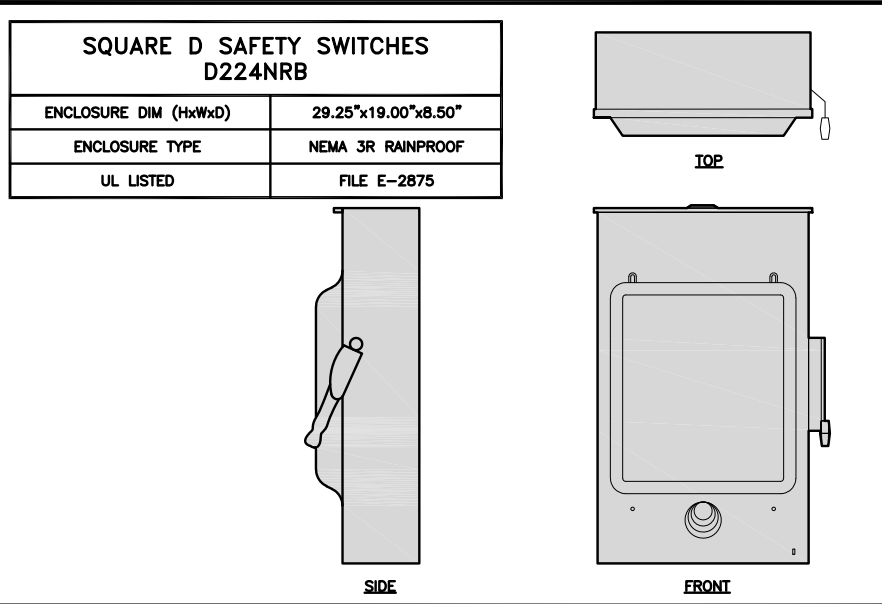
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POWER PROTECTION CABINET (PPC) DETAIL

NO SCALE

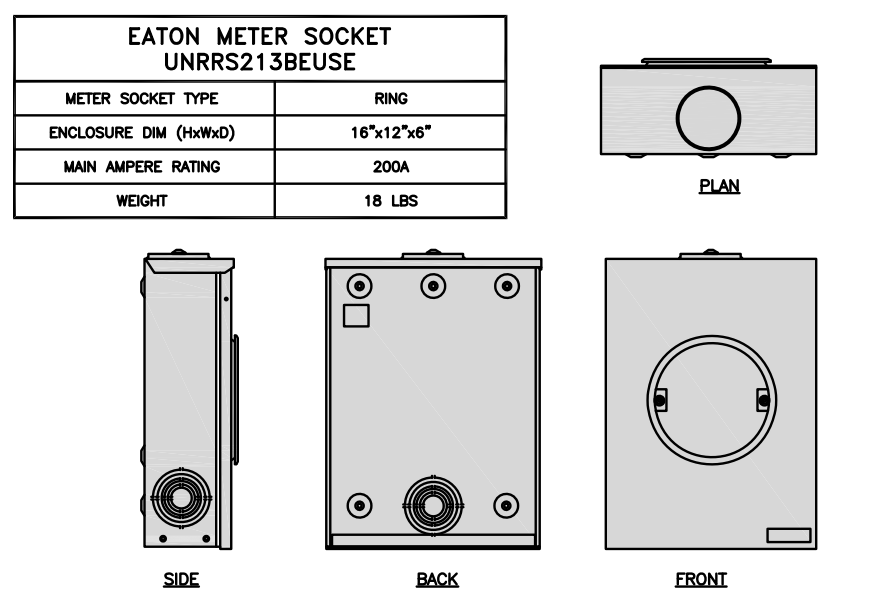
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SAFETY SWITCH DETAIL

NO SCALE

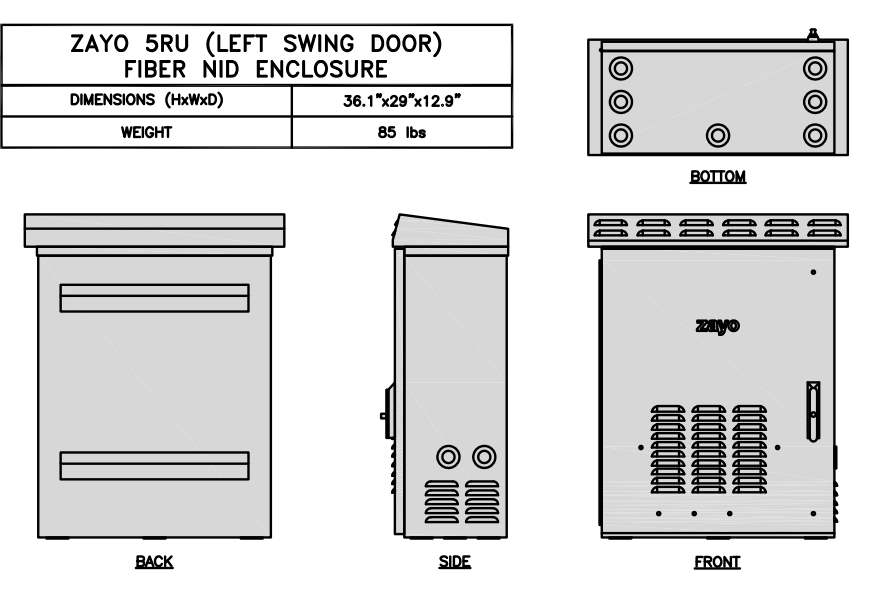
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METER SOCKET DETAIL

NO SCALE

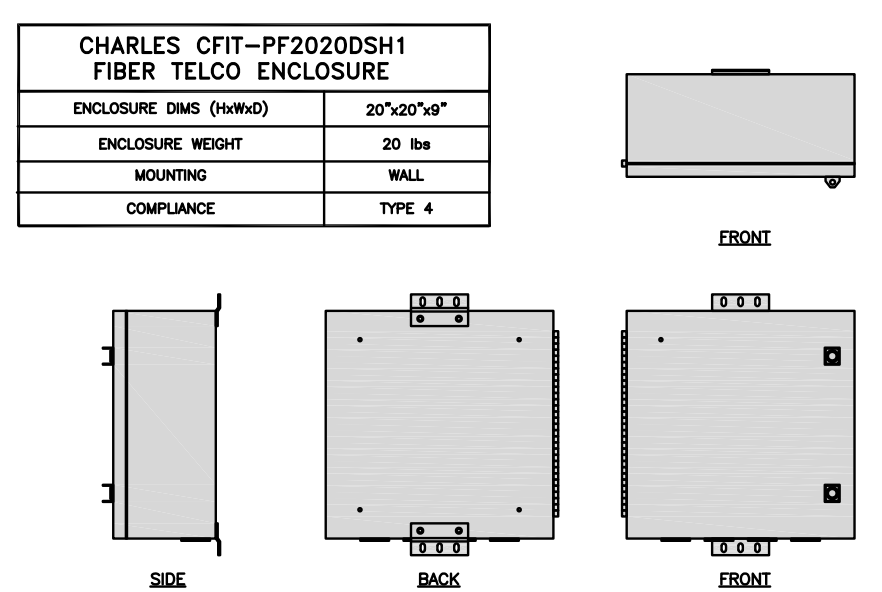
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FIBER NID ENCLOSURE DETAIL

NO SCALE

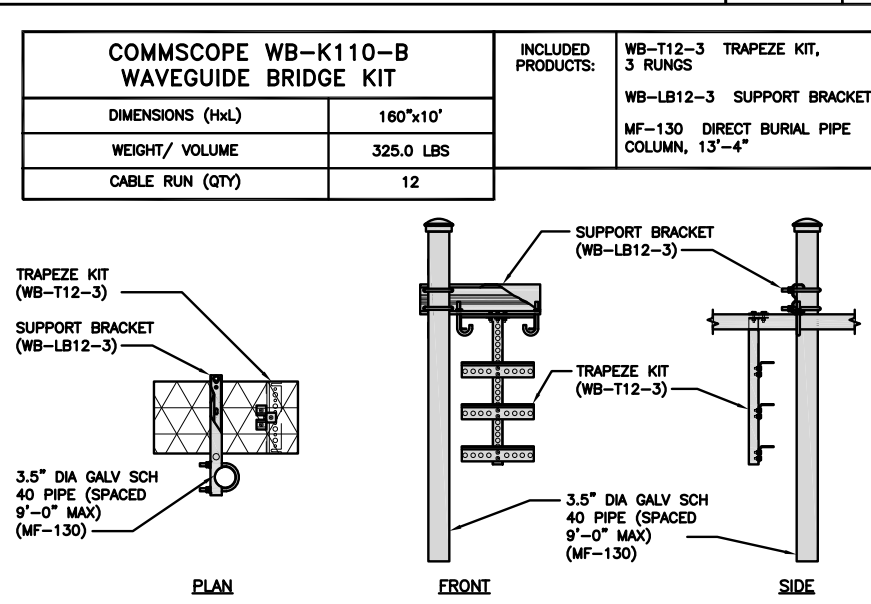
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FIBER TELCO ENCLOSURE DETAIL

NO SCALE

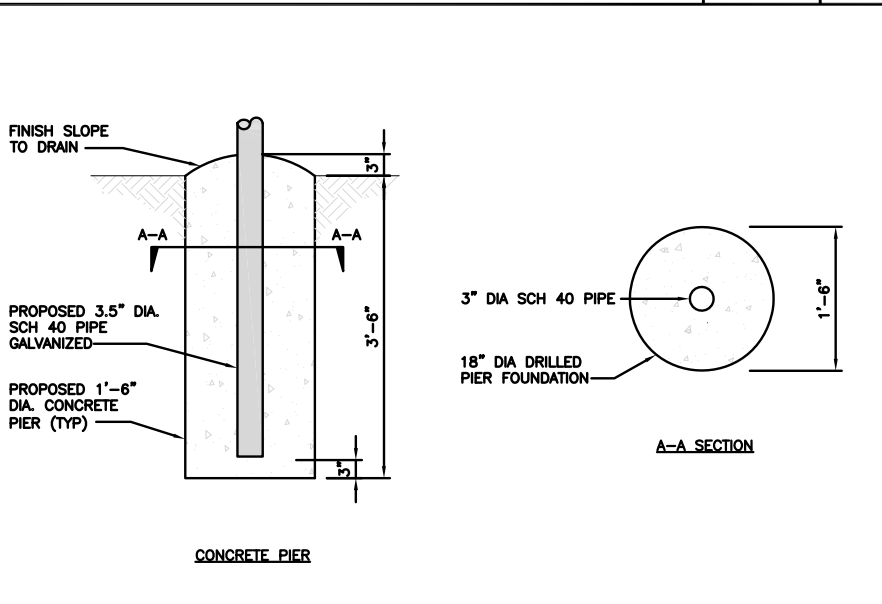
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ICE BRIDGE DETAIL

NO SCALE

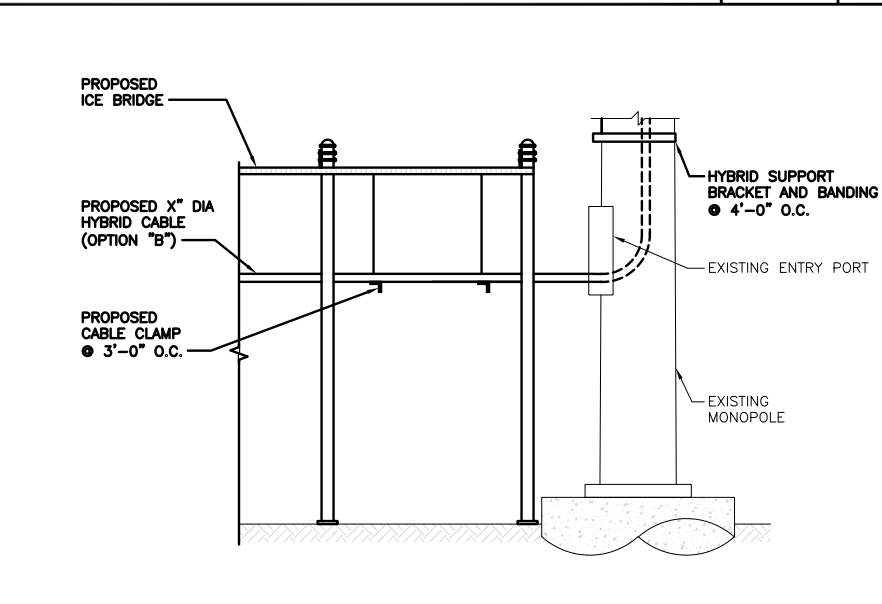
7



TYPICAL ICE BRIDGE CONCRETE PIER DETAIL

NO SCALE

8



HYBRID CABLE RUN

NO SCALE

9

5701 SOUTH SANTA FE DRIVE  
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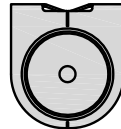
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1294 PLEASANT VALLEY ROAD NORTH  
GROTON, CT 06340

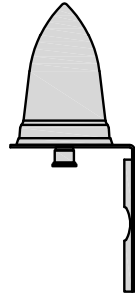
SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER  
**A-4**

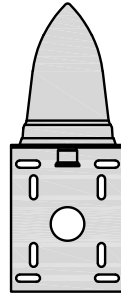
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



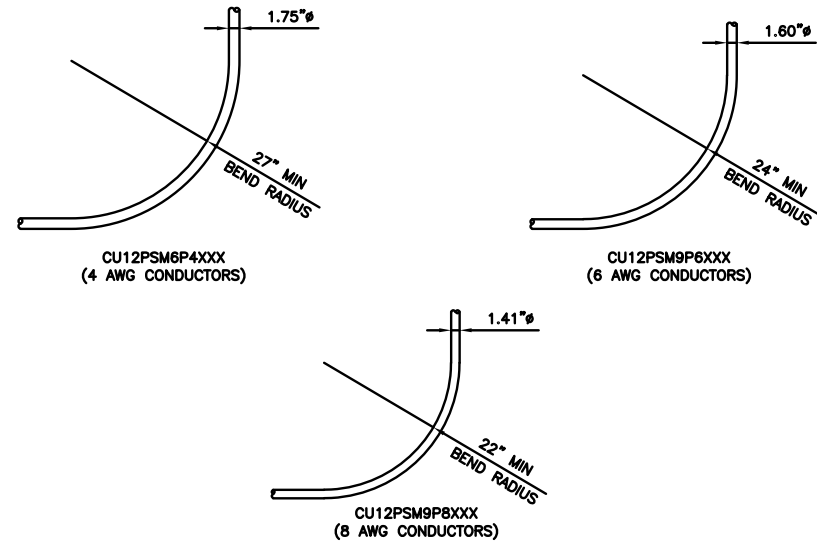
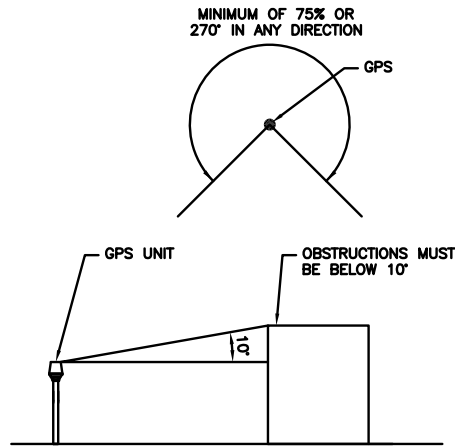
TOP



BACK



SIDE



GPS DETAIL

NO SCALE

1

GPS MINIMUM SKY VIEW REQUIREMENTS

NO SCALE

2

CABLES UNLIMITED HYBRID CABLE  
MINIMUM BEND RADIUS

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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RFDS REV #: 0

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DISH Wireless L.L.C.  
PROJECT INFORMATION  
  
BOBOS00058A  
1294 PLEASANT VALLEY  
ROAD NORTH  
GROTON, CT 06340

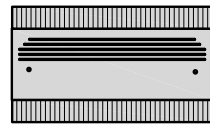
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EQUIPMENT DETAILS

SHEET NUMBER

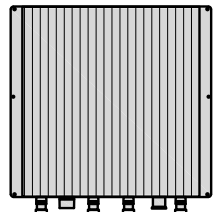
**A-5**



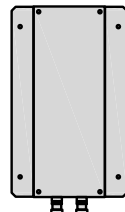
FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



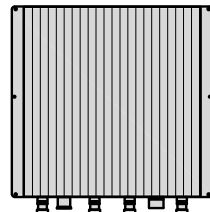
PLAN



BACK



SIDE



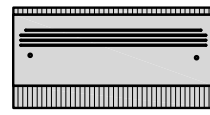
FRONT

RRH DETAIL

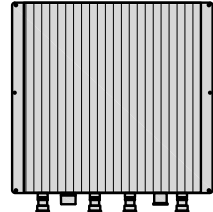
NO SCALE

1

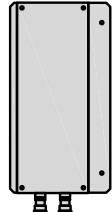
FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



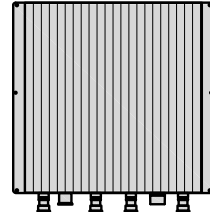
PLAN



BACK



SIDE



FRONT

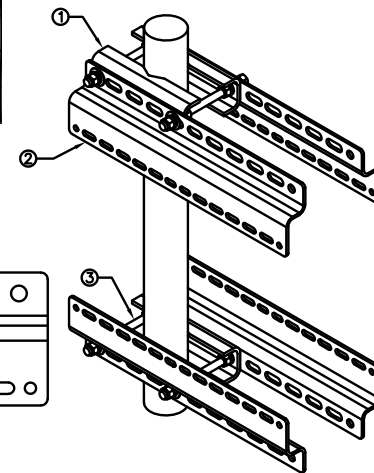
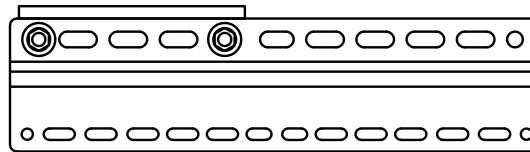
RRH DETAIL

NO SCALE

2

SABRE DOUBLE Z-BRACKET C10123155	
DIMENSIONS (HxWxD) (1 BRACKET)	5"x20"x1-13/16"
WEIGHT (FULL ASSEMBLY)	35.79 lbs
PACKAGE QUANTITY	4

#	DESCRIPTION
1	PLATE, CHANNEL BRACKET
2	RRH Z BRACKET, 3/16"
3	THREADED ROD ASSEMBLY 1/2"x12"



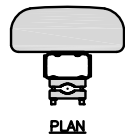
NOTE:  
OR DISH Wireless L.L.C.  
APPROVED EQUIVALENT

RRH MOUNT DETAIL

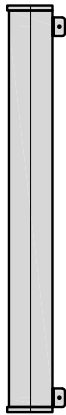
NO SCALE

3

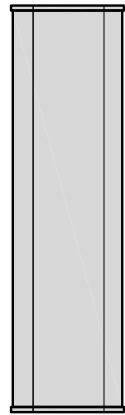
JMA MX08FRO665-21	
DIMENSIONS (HxWxD)	72"x20.0"x8.0"
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE
WEIGHT	64.5 lbs
WEIGHT WITH BRACKETS	82.5 lbs



PLAN



SIDE



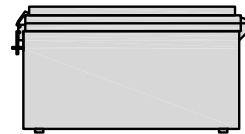
FRONT

ANTENNA DETAIL

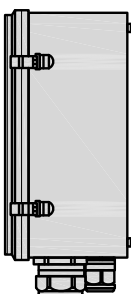
NO SCALE

4

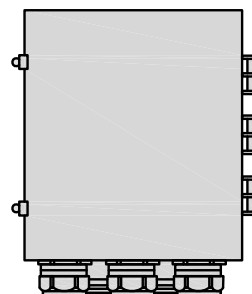
RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



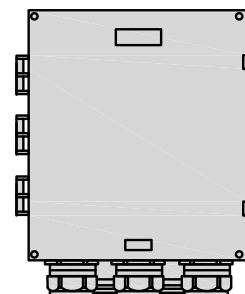
PLAN



SIDE



BACK



FRONT

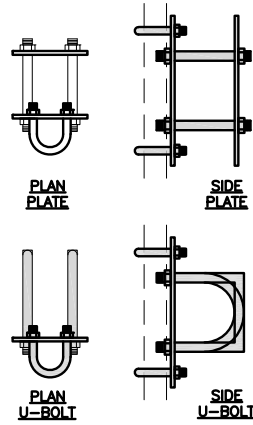
SURGE SUPPRESSION DETAIL (OVP)

NO SCALE

7

COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

NOTE:  
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APPROVED EQUIVALENT

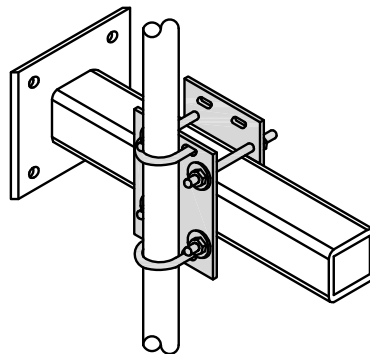


PLAN PLATE

SIDE PLATE

PLAN U-BOLT

SIDE U-BOLT



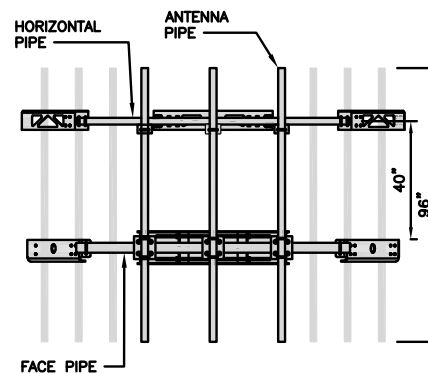
RRH/OVP MOUNT DETAIL

NO SCALE

8

COMMSCOPE MC-PK8-DSH	
FACE WIDTH	96"
WEIGHT	1373.08 lbs
NOTE: 15" TO 38" O.D.	

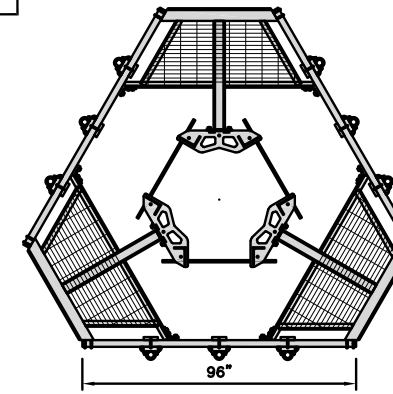
NOTE:  
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HORIZONTAL PIPE

ANTENNA PIPE

FACE PIPE



ANTENNA PLATFORM DETAIL

NO SCALE

9



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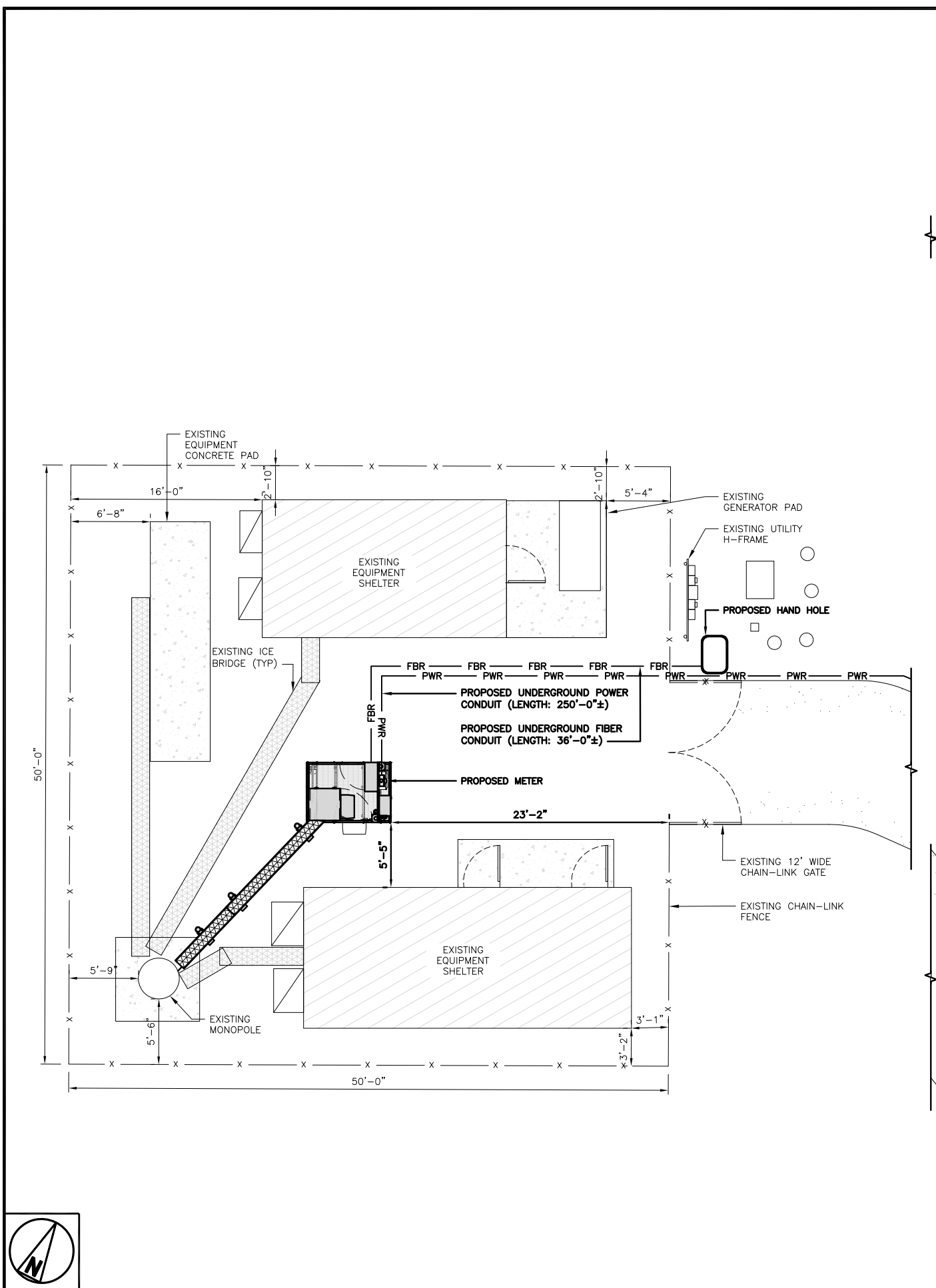
A&E PROJECT NUMBER  
149466.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION

BOBOS00058A  
1294 PLEASANT VALLEY  
ROAD NORTH  
GROTON, CT 06340

SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER  
**A-6**



**NOTES**

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

EXISTING UTILITY POLE  
PWR PWR

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

- 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.
- 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.
  - 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.
  - LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
  - CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
  - CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
  - CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
  - CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
  - 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.
  - 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.
  - ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
  - PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.
  - ALL TRENCHES IN COMPOUND TO BE HAND DUG

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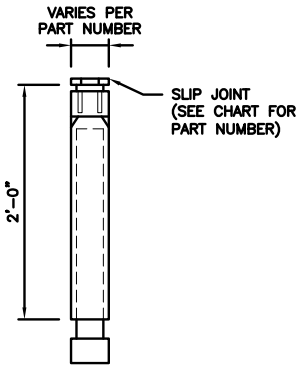
DISH Wireless L.L.C.  
PROJECT INFORMATION

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1294 PLEASANT VALLEY  
ROAD NORTH  
GROTON, CT 06340

SHEET TITLE  
ELECTRICAL/FIBER ROUTE  
PLAN AND NOTES

SHEET NUMBER  
**E-1**

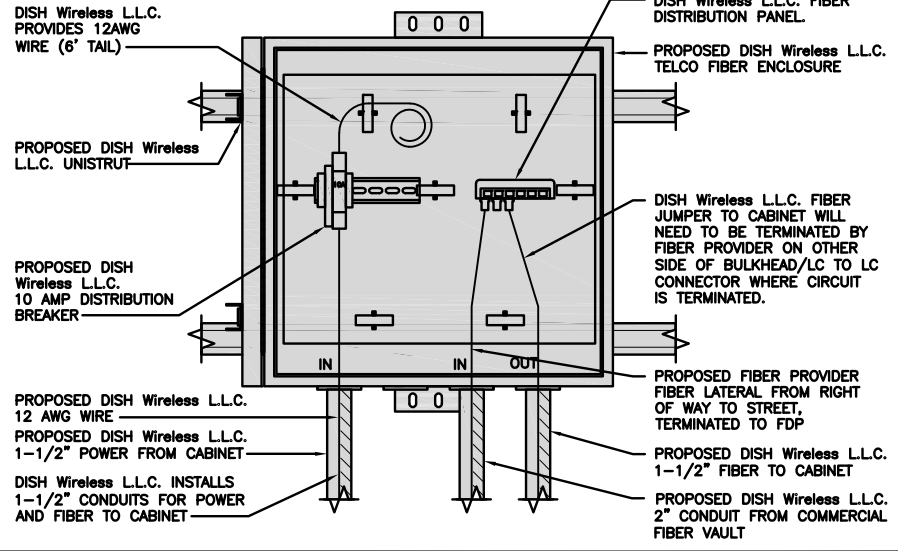
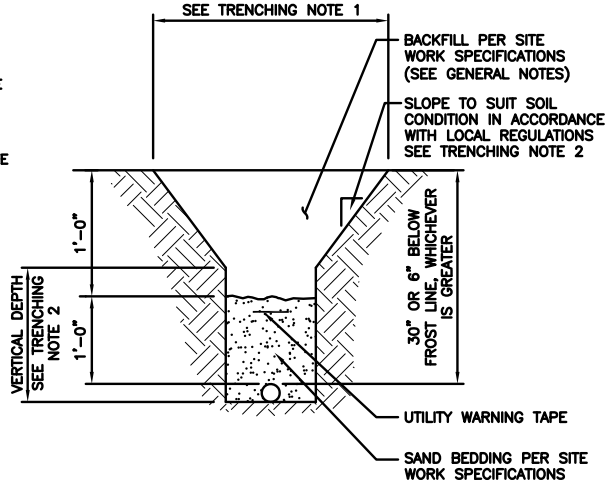
CARLON EXPANSION FITTINGS				
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"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



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

**TRENCHING NOTES**

- 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.
- TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
- 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.



EXPANSION JOINT DETAIL

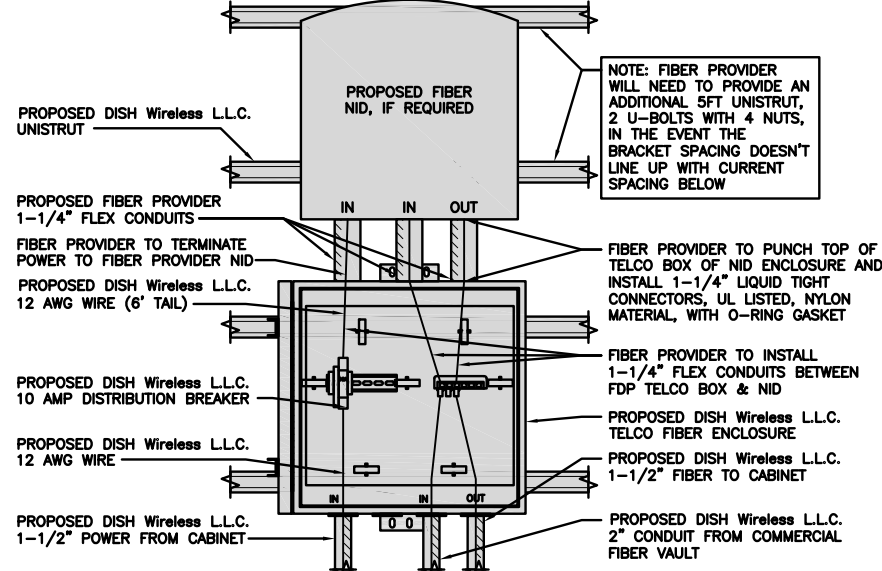
NO SCALE 1

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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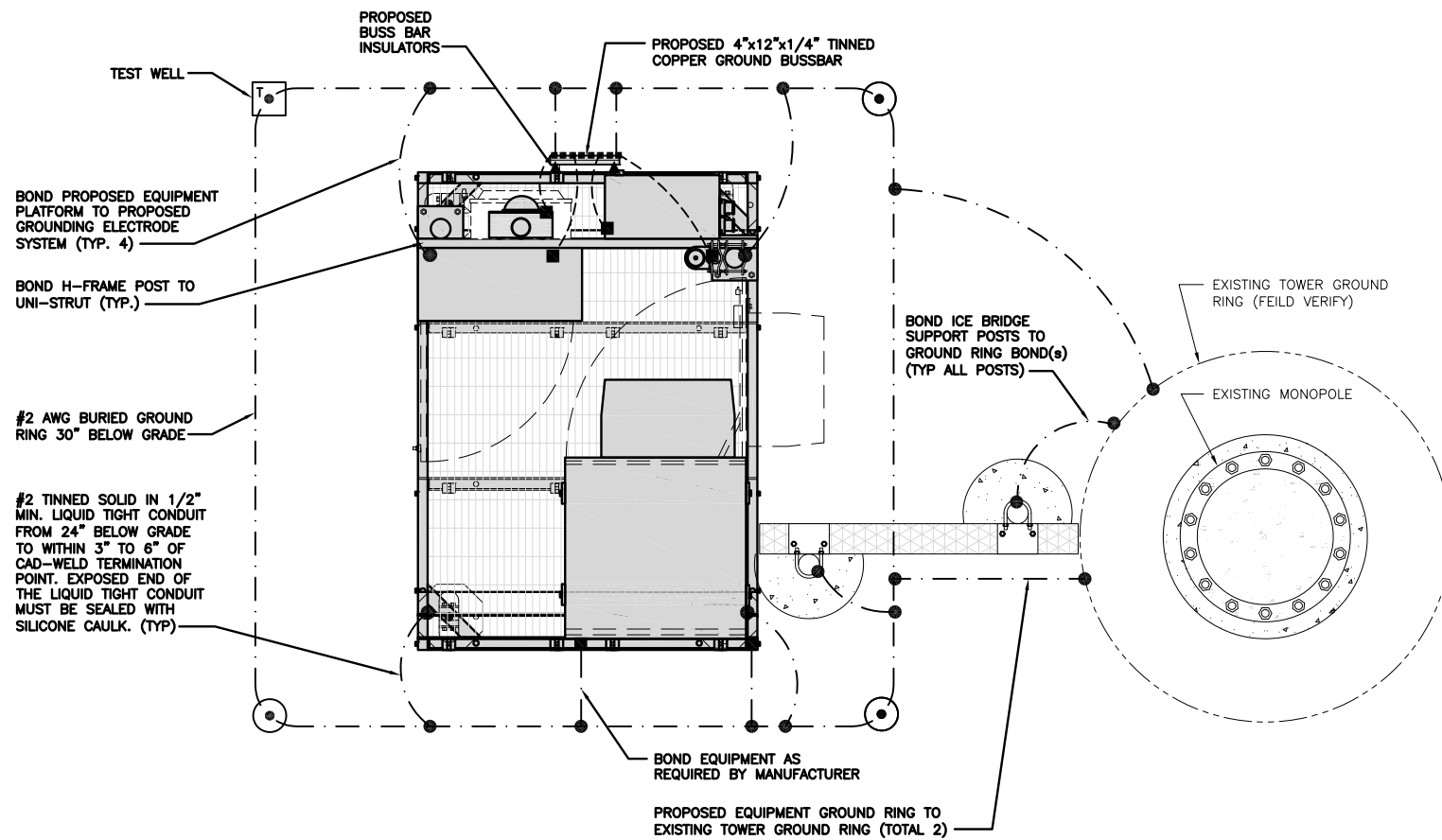
SHEET TITLE  
ELECTRICAL  
DETAILS

SHEET NUMBER

**E-2**





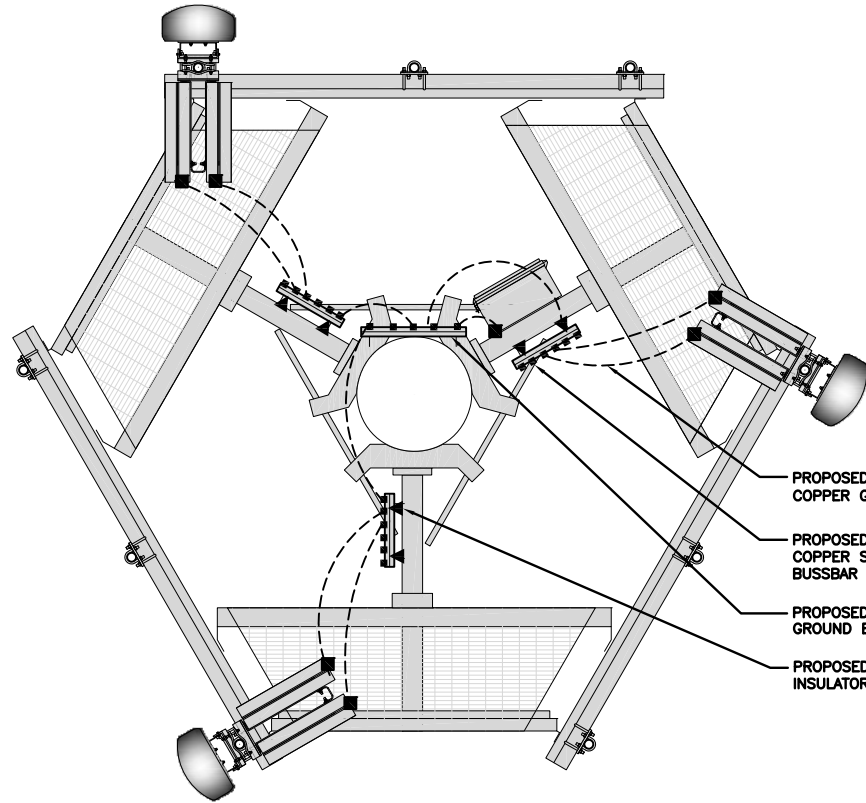


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1

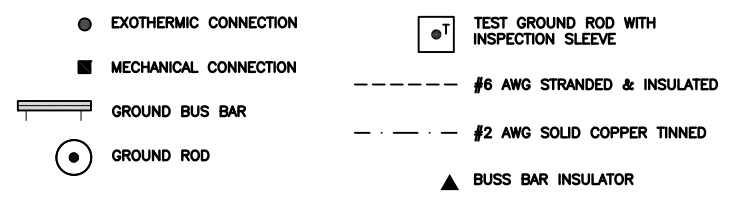
NOTES

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



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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CONSTRUCTION DOCUMENTS

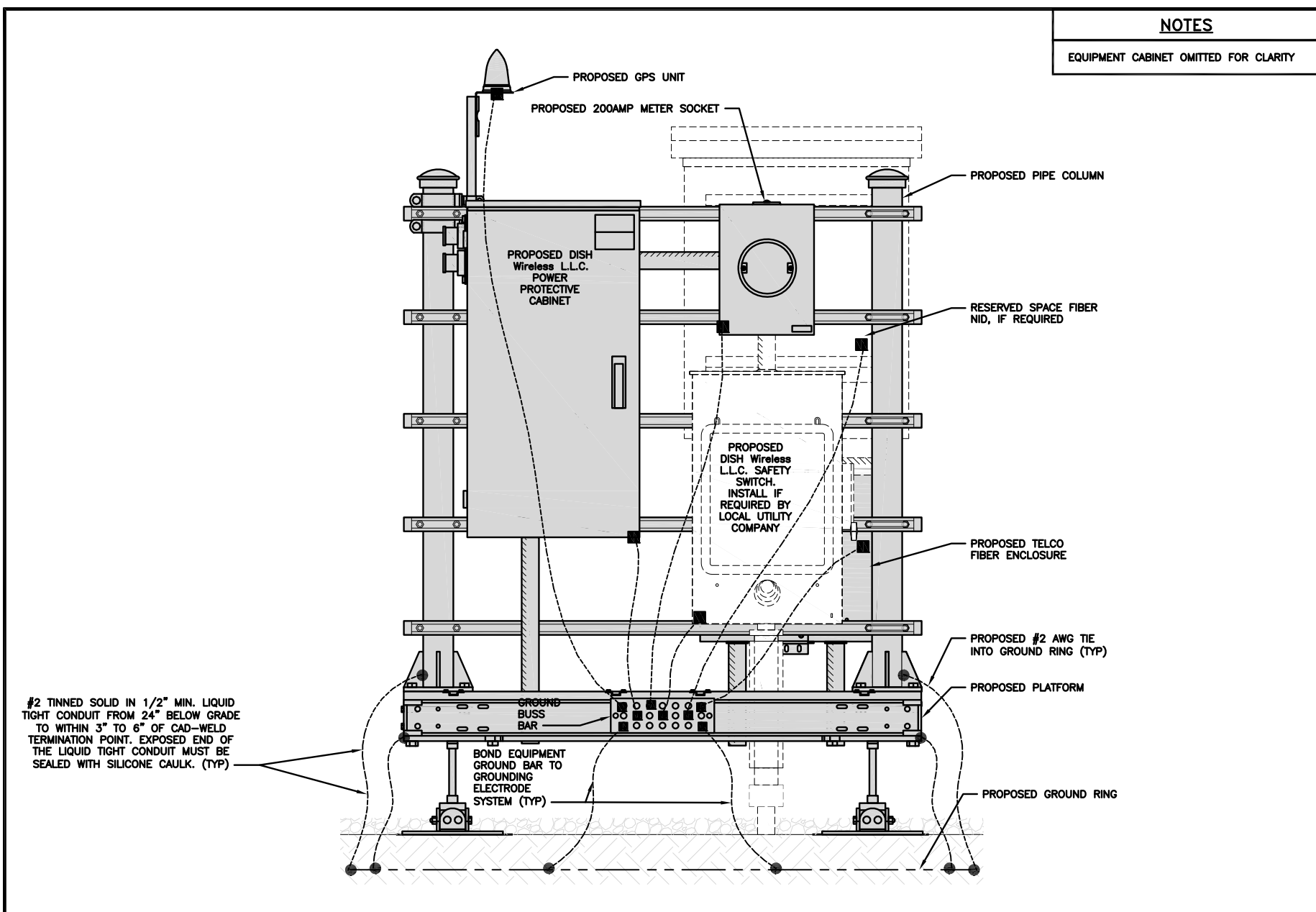
SUBMITTALS		
REV	DATE	DESCRIPTION
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0	9/1/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
149466.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00058A  
1294 PLEASANT VALLEY  
ROAD NORTH  
GROTON, CT 06340

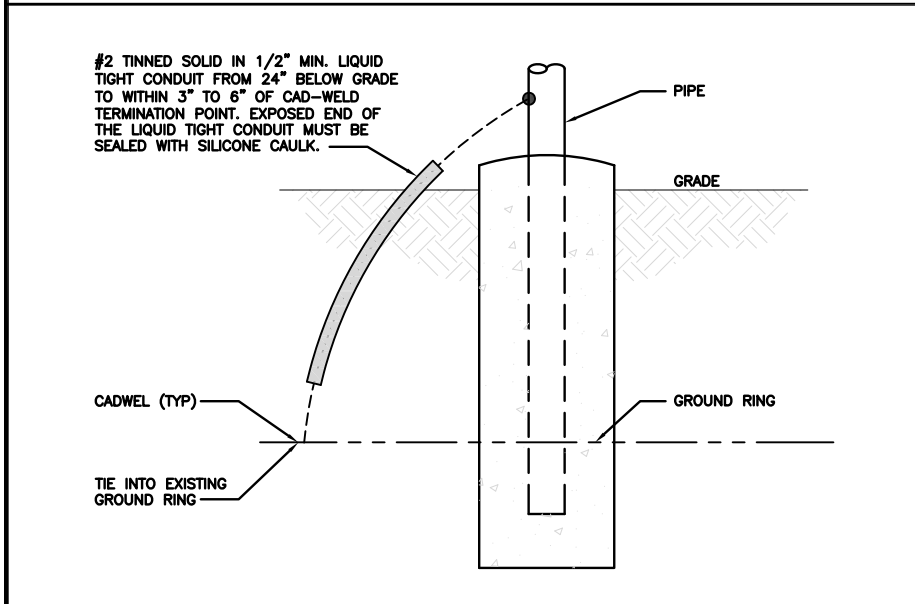
SHEET TITLE  
GROUNDING PLANS  
AND NOTES

SHEET NUMBER  
G-1



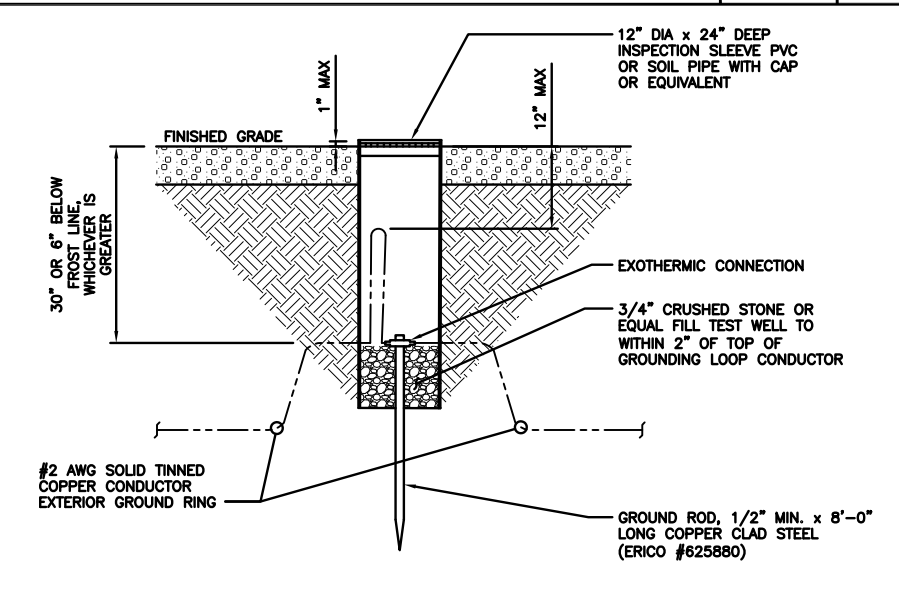
**H-FRAME GROUNDING DETAIL**

NO SCALE 1



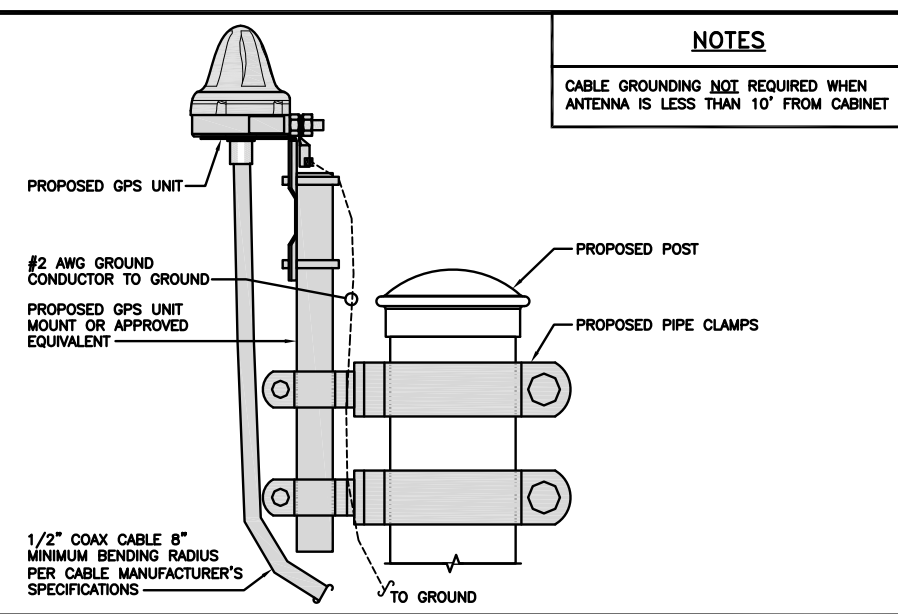
**TRANSITIONING GROUND DETAIL**

NO SCALE 4



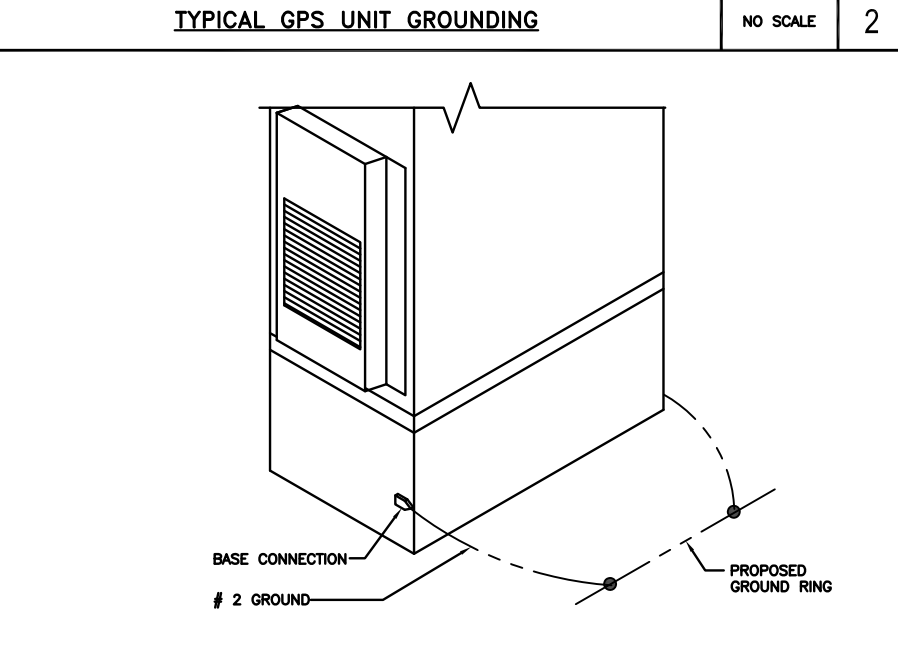
**TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE**

NO SCALE 5



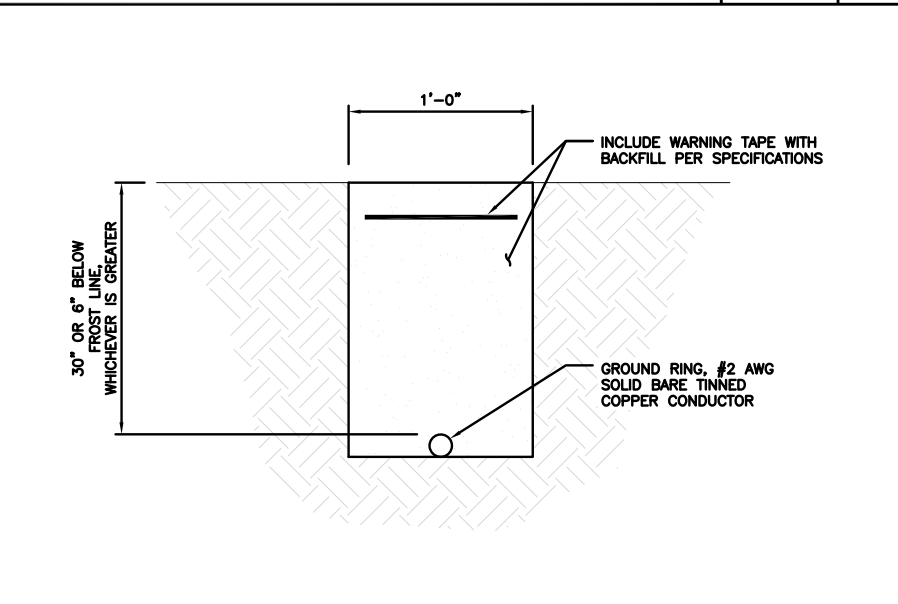
**TYPICAL GPS UNIT GROUNDING**

NO SCALE 2



**OUTDOOR CABINET GROUNDING**

NO SCALE 3



**TYPICAL GROUND RING TRENCH**

NO SCALE 6



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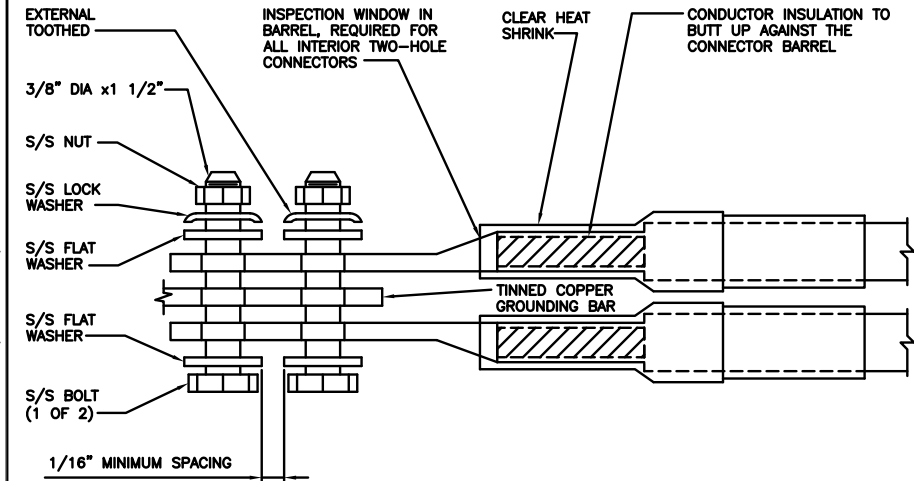
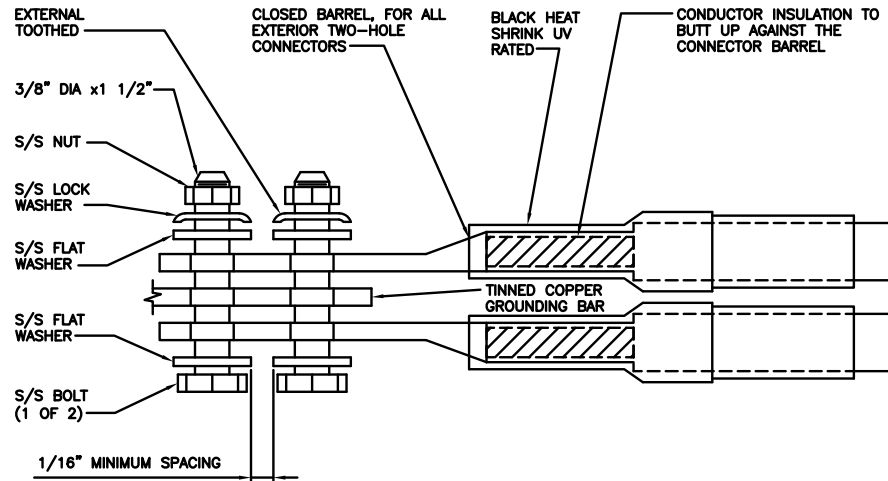
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PROJECT INFORMATION  
BOBOS00058A  
1294 PLEASANT VALLEY ROAD NORTH  
GROTON, CT 06340

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

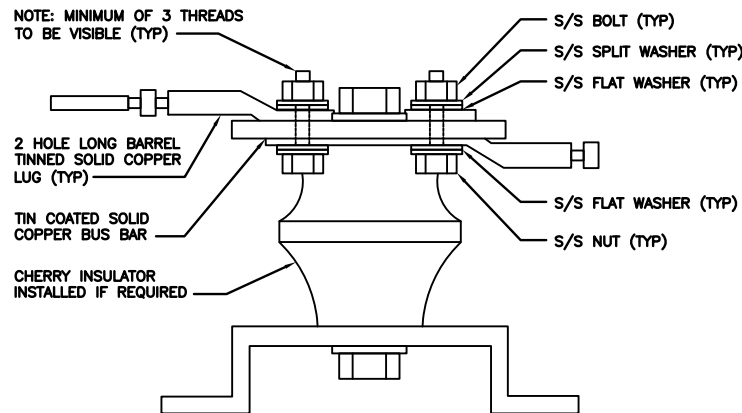
NO SCALE 1

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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GROTON, CT 06340

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)

ALPHA RRH				BETA RRH				GAMMA RRH			
PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT
RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
ORANGE	ORANGE	RED	RED	ORANGE	ORANGE	BLUE	BLUE	ORANGE	ORANGE	GREEN	GREEN
	WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE
			WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT

MID-BAND RRH -  
(AWS BANDS N66+N70)

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

RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
PURPLE	PURPLE	RED	RED	PURPLE	PURPLE	BLUE	BLUE	PURPLE	PURPLE	GREEN	GREEN
	WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE
			WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT

**HYBRID/DISCREET CABLES**

INCLUDE SECTOR BANDS BEING SUPPORTED  
ALONG WITH FREQUENCY BANDS

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

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

EXAMPLE 1	EXAMPLE 2	EXAMPLE 3
RED	RED	RED
BLUE	BLUE	
GREEN	GREEN	ORANGE
ORANGE	YELLOW	PURPLE
PURPLE		

**FIBER JUMPERS TO RRHs**

LOW-BAND RRH FIBER CABLES HAVE SECTOR  
STRIPE ONLY

LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**POWER CABLES TO RRHs**

LOW-BAND RRH POWER CABLES HAVE SECTOR  
STRIPE ONLY

LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**RET MOTORS AT ANTENNAS**

ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"	ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"	ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**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

FORWARD AZIMUTH OF 0-120 DEGREES		FORWARD AZIMUTH OF 120-240 DEGREES		FORWARD AZIMUTH OF 240-360 DEGREES	
PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY
WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
RED	RED	BLUE	BLUE	GREEN	GREEN
WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
	RED		BLUE		GREEN
	WHITE		WHITE		WHITE

**RF CABLE COLOR CODES**

NO SCALE

1

**NOT USED**

NO SCALE

4

LOW BANDS (N71+N26)  
OPTIONAL - (N29)



AWS  
(N66+N70+H-BLOCK)



CBRS TECH  
(3 GHz)



NEGATIVE SLANT PORT  
ON ANT/RRH



ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR



**COLOR IDENTIFIER**

NO SCALE

2

**NOTES**

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

**NOT USED**

NO SCALE

3



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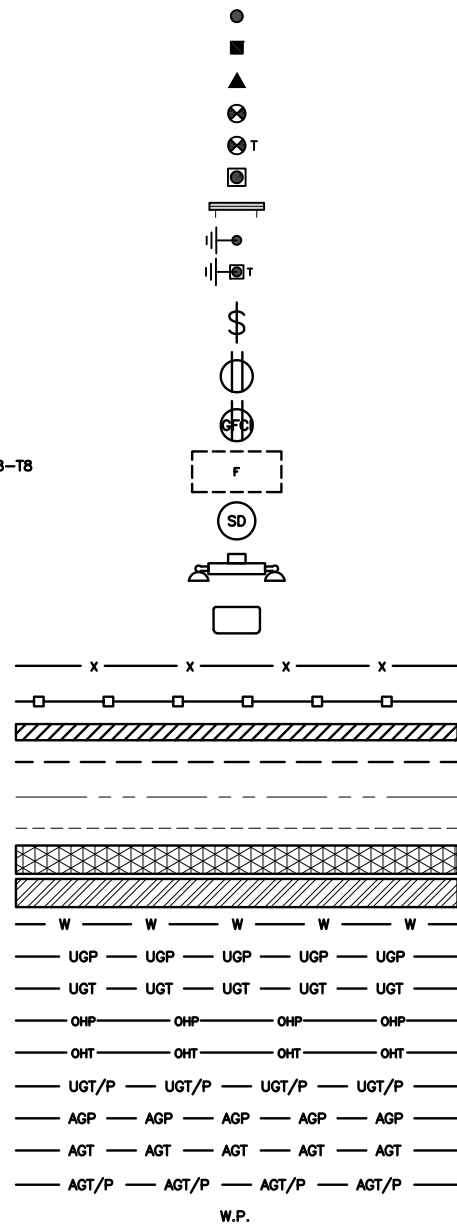
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1294 PLEASANT VALLEY  
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GROTON, CT 06340

SHEET TITLE  
RF  
CABLE COLOR CODES

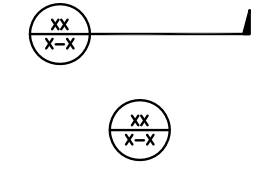
SHEET NUMBER  
**RF-1**



EXOTHERMIC CONNECTION  
 MECHANICAL CONNECTION  
 BUSS BAR INSULATOR  
 CHEMICAL ELECTROLYTIC GROUNDING SYSTEM  
 TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM  
 EXOTHERMIC WITH INSPECTION SLEEVE  
 GROUNDING BAR  
 GROUND ROD  
 TEST GROUND ROD WITH INSPECTION SLEEVE  
 SINGLE POLE SWITCH  
 DUPLEX RECEPTACLE  
 DUPLEX GFCI RECEPTACLE  
 FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48-T8  
 SMOKE DETECTION (DC)  
 EMERGENCY LIGHTING (DC)  
 SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW  
 LED-1-25A400/51K-SR4-120-PE-DOBXTD  
 CHAIN LINK FENCE  
 WOOD/WROUGHT IRON FENCE  
 WALL STRUCTURE  
 LEASE AREA  
 PROPERTY LINE (PL)  
 SETBACKS  
 ICE BRIDGE  
 CABLE TRAY  
 WATER LINE  
 UNDERGROUND POWER  
 UNDERGROUND TELCO  
 OVERHEAD POWER  
 OVERHEAD TELCO  
 UNDERGROUND TELCO/POWER  
 ABOVE GROUND POWER  
 ABOVE GROUND TELCO  
 ABOVE GROUND TELCO/POWER  
 WORKPOINT



SECTION REFERENCE  
 DETAIL REFERENCE



**LEGEND**

AB ANCHOR BOLT  
 ABV ABOVE  
 AC ALTERNATING CURRENT  
 ADDL ADDITIONAL  
 AFF ABOVE FINISHED FLOOR  
 AFG ABOVE FINISHED GRADE  
 AGL ABOVE GROUND LEVEL  
 AIC AMPERAGE INTERRUPTION CAPACITY  
 ALUM ALUMINUM  
 ALT ALTERNATE  
 ANT ANTENNA  
 APPROX APPROXIMATE  
 ARCH ARCHITECTURAL  
 ATS AUTOMATIC TRANSFER SWITCH  
 AWG AMERICAN WIRE GAUGE  
 BATT BATTERY  
 BLDG BUILDING  
 BLK BLOCK  
 BLKG BLOCKING  
 BM BEAM  
 BTC BARE TINNED COPPER CONDUCTOR  
 BOF BOTTOM OF FOOTING  
 CAB CABINET  
 CANT CANTILEVERED  
 CHG CHARGING  
 CLG CEILING  
 CLR CLEAR  
 COL COLUMN  
 COMM COMMON  
 CONC CONCRETE  
 CONSTR CONSTRUCTION  
 DBL DOUBLE  
 DC DIRECT CURRENT  
 DEPT DEPARTMENT  
 DF DOUGLAS FIR  
 DIA DIAMETER  
 DIAG DIAGONAL  
 DIM DIMENSION  
 DWG DRAWING  
 DWL DOWEL  
 EA EACH  
 EC ELECTRICAL CONDUCTOR  
 EL ELEVATION  
 ELEC ELECTRICAL  
 EMT ELECTRICAL METALLIC TUBING  
 ENG ENGINEER  
 EQ EQUAL  
 EXP EXPANSION  
 EXT EXTERIOR  
 EW EACH WAY  
 FAB FABRICATION  
 FF FINISH FLOOR  
 FG FINISH GRADE  
 FIF FACILITY INTERFACE FRAME  
 FIN FINISH(ED)  
 FLR FLOOR  
 FDN FOUNDATION  
 FOC FACE OF CONCRETE  
 FOM FACE OF MASONRY  
 FOS FACE OF STUD  
 FOW FACE OF WALL  
 FS FINISH SURFACE  
 FT FOOT  
 FTG FOOTING  
 GA GAUGE  
 GEN GENERATOR  
 GFCI GROUND FAULT CIRCUIT INTERRUPTER  
 GLB GLUE LAMINATED BEAM  
 GLV GALVANIZED  
 GPS GLOBAL POSITIONING SYSTEM  
 GND GROUND  
 GSM GLOBAL SYSTEM FOR MOBILE  
 HDG HOT DIPPED GALVANIZED  
 HDR HEADER  
 HGR HANGER  
 HVAC HEAT/VENTILATION/AIR CONDITIONING  
 HT HEIGHT  
 IGR INTERIOR GROUND RING

IN INCH  
 INT INTERIOR  
 LB(S) POUND(S)  
 LF LINEAR FEET  
 LTE LONG TERM EVOLUTION  
 MAS MASONRY  
 MAX MAXIMUM  
 MB MACHINE BOLT  
 MECH MECHANICAL  
 MFR MANUFACTURER  
 MGB MASTER GROUND BAR  
 MIN MINIMUM  
 MISC MISCELLANEOUS  
 MTL METAL  
 MTS MANUAL TRANSFER SWITCH  
 MW MICROWAVE  
 NEC NATIONAL ELECTRIC CODE  
 NM NEWTON METERS  
 NO. NUMBER  
 # NUMBER  
 NTS NOT TO SCALE  
 OC ON-CENTER  
 OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
 OPNG OPENING  
 P/C PRECAST CONCRETE  
 PCS PERSONAL COMMUNICATION SERVICES  
 PCU PRIMARY CONTROL UNIT  
 PRC PRIMARY RADIO CABINET  
 PP POLARIZING PRESERVING  
 PSF POUNDS PER SQUARE FOOT  
 PSI POUNDS PER SQUARE INCH  
 PT PRESSURE TREATED  
 PWR POWER CABINET  
 QTY QUANTITY  
 RAD RADIUS  
 RECT RECTIFIER  
 REF REFERENCE  
 REINF REINFORCEMENT  
 REQ'D REQUIRED  
 RET REMOTE ELECTRIC TILT  
 RF RADIO FREQUENCY  
 RMC RIGID METALLIC CONDUIT  
 RRH REMOTE RADIO HEAD  
 RRU REMOTE RADIO UNIT  
 RWY RACEWAY  
 SCH SCHEDULE  
 SHT SHEET  
 SIAD SMART INTEGRATED ACCESS DEVICE  
 SIM SIMILAR  
 SPEC SPECIFICATION  
 SQ SQUARE  
 SS STAINLESS STEEL  
 STD STANDARD  
 STL STEEL  
 TEMP TEMPORARY  
 THK THICKNESS  
 TMA TOWER MOUNTED AMPLIFIER  
 TN TOE NAIL  
 TOA TOP OF ANTENNA  
 TOC TOP OF CURB  
 TOF TOP OF FOUNDATION  
 TOP TOP OF PLATE (PARAPET)  
 TOS TOP OF STEEL  
 TOW TOP OF WALL  
 TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION  
 TYP TYPICAL  
 UG UNDERGROUND  
 UL UNDERWRITERS LABORATORY  
 UNO UNLESS NOTED OTHERWISE  
 UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM  
 UPS UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)  
 VIF VERIFIED IN FIELD  
 W WIDE  
 W/ WITH  
 WD WOOD  
 WP WEATHERPROOF  
 WT WEIGHT

**ABBREVIATIONS**



5701 SOUTH SANTA FE DRIVE  
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 1294 PLEASANT VALLEY  
 ROAD NORTH  
 GROTON, CT 06340

SHEET TITLE  
 LEGEND AND  
 ABBREVIATIONS

SHEET NUMBER  
**GN-1**

**SITE ACTIVITY REQUIREMENTS:**

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH Wireless L.L.C. AND TOWER OWNER NOC & THE DISH Wireless L.L.C. AND TOWER OWNER CONSTRUCTION MANAGER.
2. "LOOK UP" – DISH Wireless L.L.C. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:  
THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH Wireless L.L.C. AND DISH Wireless L.L.C. AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH Wireless L.L.C. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH DISH Wireless L.L.C. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH Wireless L.L.C. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH Wireless L.L.C. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH Wireless L.L.C. AND TOWER OWNER, AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

**GENERAL NOTES:**

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:  
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION  
CARRIER: DISH Wireless L.L.C.  
TOWER OWNER: TOWER OWNER
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER
13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.



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PEC.0001564  
Expires 2/10/22

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DRAWN BY: CHECKED BY: APPROVED BY:

BLJ BLJ JW

RFDS REV #: 0

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
A	7/28/21	ISSUED FOR REVIEW
0	9/1/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
149466.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00058A  
1294 PLEASANT VALLEY  
ROAD NORTH  
GROTON, CT 06340

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
**GN-2**

**CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:**

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:  
 #4 BARS AND SMALLER 40 ksi  
 #5 BARS AND LARGER 60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
  - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
  - CONCRETE EXPOSED TO EARTH OR WEATHER:
    - #6 BARS AND LARGER 2"
    - #5 BARS AND SMALLER 1-1/2"
  - CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
    - SLAB AND WALLS 3/4"
    - BEAMS AND COLUMNS 1-1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

**ELECTRICAL INSTALLATION NOTES:**

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
- 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- 4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. TIE WRAPS ARE NOT ALLOWED.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.



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Expires 2/10/22

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DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	JW

RFDS REV #: 0

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
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A	7/28/21	ISSUED FOR REVIEW
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A&E PROJECT NUMBER  
149466.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION  
  
BOBOS00058A  
1294 PLEASANT VALLEY  
ROAD NORTH  
GROTON, CT 06340

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

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	JW

RFDS REV #: 0

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
A	7/28/21	ISSUED FOR REVIEW
0	9/1/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
149466.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION  
  
BOBOS00058A  
1294 PLEASANT VALLEY  
ROAD NORTH  
GROTON, CT 06340

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
**GN-4**