



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

November 15, 2021

Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: **Tower Share Application**
56 Floydville Rd., East Granby, CT
Latitude: 41.928649
Longitude: -72.776099
Dish Site# BOBDL00119A

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 56 Floydville Rd., East Granby, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900/2100 MHz antennas and six (6) RRUs, at the 97-foot level of the existing 120-foot monopole tower, one (1) Fiber cables 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 October 11, 2021 Exhibit 10. Also included is a Structural Analysis prepared by TES, dated September 1, 2021, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit 8. This facility was approved by the Town of East Granby's Planning & Zoning Commission under Application# 01-03 on June 5, 2001. 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 James Hayden, First Selectman for the Town of East Granby, Gary Haynes, Zoning Enforcement Officer. Separate notice is not being sent to the tower owner, as it belongs to SBA Properties, LLC.

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 120-feet; Dish Wireless LLC proposed antennas will be located at a center line height of 97-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 24.63% 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 East Granby. 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 97-foot level of the existing 120-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 East Granby.

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

Attachments:



cc: James Hayden, First Selectman / with attachments
Town of East Granby, 9 Center Street, East Granby, CT 06026
Gary Haynes, Zoning Enforcement Officer / with attachments
Town of East Granby, 9 Center Street, East Granby, CT 06026
D I Paine & Sons LLC / with attachments
54 Floydville Road, East Granby, CT 06026

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 East Granby Application# 01-03 (6/5/01)
Exhibit 7	EME Report	EBI Consulting 11/4/21
Exhibit 8	Structural Analysis	TES 9/1/21
Exhibit 9	Mount Analysis	B+T Group 8/27/21
Exhibit 10	Construction Drawings	B+T Group 10/26/21

EXHIBIT 1

Copy of check

EXHIBIT 2

Letter of Intent

November 15, 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: 56 Floydville Rd., East Granby, CT
Dish Wireless Site No: BOBDL00119A
Site No: CT03801-S

Dear Ms. Bachman:

Please let the following serve as Evidence of Intent to allow Dish Wireless' shared use of the existing SBA telecommunications site at **56 Floydville Rd., East Granby, CT.**

SBA Properties, 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 97' 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

EXHIBIT 3

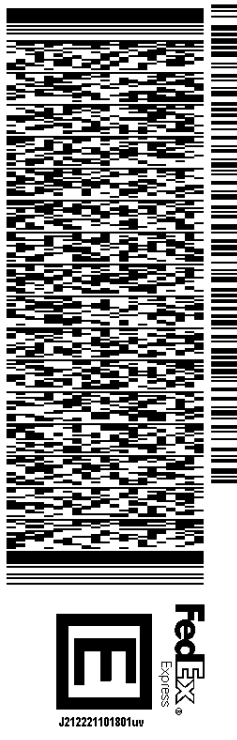
Fedex Labels

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

SHIP DATE: 15NOV21
 ACTWGT: 2.00 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:



TRK# 7752 1475 7100
 0201
 TUE - 16 NOV 11:30A
 PRIORITY OVERNIGHT

EBBDLA
 CT:US BDL
 06051

A large barcode is positioned below the EBBDLA text.

56D.J29A7E/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

775214757100


[ADD NICKNAME](#)

ON TIME

Scheduled delivery:
Tuesday, 11/16/2021 before 11:30 am



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TO
NEW BRITAIN, CT US
[MANAGE DELIVERY](#)

Travel History

Shipment Facts

Travel History

TIME ZONE
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Monday, November 15,
2021

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2:26 PM

Shipment information sent to FedEx

Shipment Facts

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775214757100

SERVICE
FedEx Priority Overnight

WEIGHT
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TOTAL PIECES
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TOTAL SHIPMENT WEIGHT
2 lbs / 0.91 kgs

TERMS
Shipper

SHIPPER REFERENCE
10-56-92009-6089

PACKAGING
FedEx Pak

SPECIAL HANDLING SECTION
Deliver Weekday

ACTUAL PICK UP

STANDARD TRANSIT

SCHEDULED DELIVERY

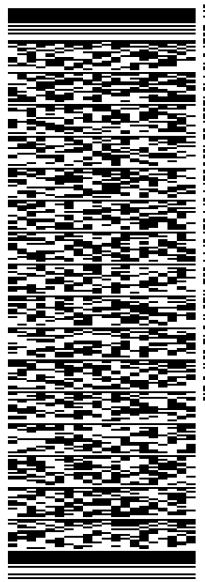
ORIGIN ID:BFBA (508) 614-0389
RICK WOODS
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 15NOV21
ACTWGT: 1.00 LB
CAD: 105843304/NET4400
BILL SENDER

TO
JAMES HAYDEN
TOWN OF EAST GRANBY
FIRST SELECTMAN
9 CENTER ST
EAST GRANBY CT 06026
REF: 105692009-6089
PO: DEPT:

REF: 105692009-6089

56D129A7EFE4A



J212221101801uv

TRK# 7752 1488 1830
0201
TUE - 16 NOV 11:30A
PRIORITY OVERNIGHT

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06026
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EAST GRANBY, CT US
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2021

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Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER
775214881830

SERVICE
FedEx Priority Overnight

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TOTAL PIECES
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TOTAL SHIPMENT WEIGHT
1 lbs / 0.45 kgs

TERMS
Shipper

SHIPPER REFERENCE
10-56-92009-6089

PACKAGING
FedEx Pak

SPECIAL HANDLING SECTION
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ACTUAL PICK UP

STANDARD TRANSIT

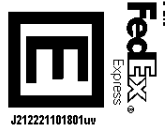
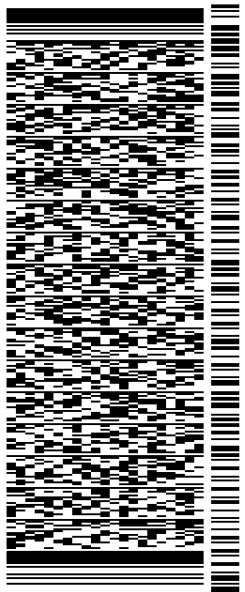
SCHEDULED DELIVERY

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

SHIP DATE: 15NOV21
ACTWGT: 1.00 LB
CAD: 105843304/NET4400
BILL SENDER

TO
GARY HAYNES
TOWN OF EAST GRANBY
ZONING ENFORCEMENT OFFICER
9 CENTER ST
EAST GRANBY CT 06026
(508) 251-0720 X 3807 REF: 1056-92009-6089
INV:
PO: DEPT:

56D,J29A7E/FE4A



TRK# 7752 1490 2831
0201
TUE - 16 NOV 11:30A
PRIORITY OVERNIGHT

EB EHTA
06026
CT:US BDL

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TRACK ANOTHER SHIPMENT

775214902831


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WESTBOROUGH, MA

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FROM
WESTBOROUGH, MA US

TO
EAST GRANBY, CT US
[MANAGE DELIVERY](#)

Travel History

Shipment Facts

Travel History

TIME ZONE
Local Scan Time



Monday, November 15,
2021

4:29 PM

WESTBOROUGH, MA

Picked up
Tendered at FedEx Office

2:33 PM

Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER
775214902831

SERVICE
FedEx Priority Overnight

WEIGHT
0.5 lbs / 0.23 kgs

TOTAL PIECES
1

TOTAL SHIPMENT WEIGHT
0.5 lbs / 0.23 kgs

TERMS
Shipper

SHIPPER REFERENCE
10-56-92009-6089

PACKAGING
FedEx Envelope

SPECIAL HANDLING SECTION
Deliver Weekday

ACTUAL PICK UP

STANDARD TRANSIT

SCHEDULED DELIVERY

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

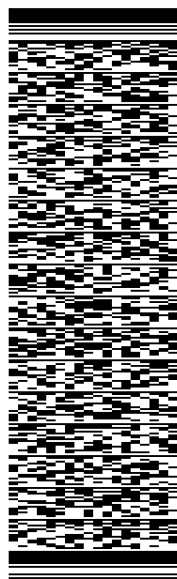
SHIP DATE: 15NOV21
ACTWGT: 1.00 LB
CAD: 105843304/NET4400
BILL SENDER

TO

D I PAINE & SONS
54 FLOYDVILLE RD.

EAST GRANBY CT 06026

(508) 251-0720 X 3807 REF: 1056-92009-6089
INV# PO: DEPT:



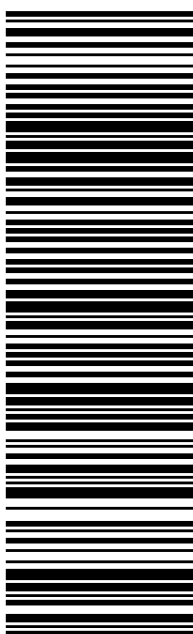
J212221101801uv

56D.J29A7E/FE4A

TRK# 7752 1492 7310 TUE - 16 NOV 11:30A
0201 PRIORITY OVERNIGHT

EB EHTA

06026
CT:US BDL



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775214927310



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WESTBOROUGH, MA US

TO
EAST GRANBY, CT US
[MANAGE DELIVERY](#)

Travel History

Shipment Facts

Travel History

TIME ZONE
Local Scan Time



Monday, November 15, 2021

4:29 PM

WESTBOROUGH, MA

Picked up
Tendered at FedEx Office

2:35 PM

Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER
775214927310

SERVICE
FedEx Priority Overnight

WEIGHT
0.5 lbs / 0.23 kgs

TOTAL PIECES
1

TOTAL SHIPMENT WEIGHT
0.5 lbs / 0.23 kgs

TERMS
Shipper

SHIPPER REFERENCE
10-56-92009-6089

PACKAGING
FedEx Envelope

SPECIAL HANDLING SECTION
Deliver Weekday

ACTUAL PICK UP

STANDARD TRANSIT

SCHEDULED DELIVERY

EXHIBIT 4

Property Card

54 FLOYDVILLE ROAD

Location 54 FLOYDVILLE ROAD

Mblu 15/ 10/ / /

Acct# 100469

Owner D I PAINE & SONS LLC

Assessment \$1,222,600

Appraisal \$1,746,400

PID 649

Building Count 2

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$1,230,400	\$516,000	\$1,746,400

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$861,400	\$361,200	\$1,222,600

Owner of Record

Owner D I PAINE & SONS LLC
Co-Owner
Address 54 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

Sale Price \$0
Certificate
Book & Page 0160/0707
Sale Date 01/03/2006
Instrument CN

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
D I PAINE & SONS LLC	\$0		0160/0707	CN	01/03/2006
D I PAINE & SONS	\$0		0129/0622		08/01/2001
TYLER RUSSELL	\$0		0129/0616		08/01/2001
D I PAINE & SONS	\$0		0108/0546		12/05/1995

Building Information

Building 1 : Section 1

Year Built: 1986
Living Area: 24,900
Replacement Cost: \$1,292,584

Building Percent Good: 73

Replacement Cost

Less Depreciation: \$943,600

Building Attributes	
Field	Description
Style:	Light Indust
Model	Industrial
Grade	Average +10
Stories:	1
Occupancy	2.00
Exterior Wall A	Concr/Cinder
Exterior Wall B	Pre-finish Metl
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall A	Unfin/Minimum
Interior Wall B	Drywall
Interior Floor A	Concr-Finished
Interior Floor B	Vinyl/Asphalt
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	Partial
Struct Class	
Bldg Use	Industrial C
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	3-1
Heat/AC	HEAT/AC SPLIT
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	-DESCRIPTION-
Rooms/Prtns	AVERAGE
Wall Height	16.00
% Comn Wall	0.00

Building Photo



(http://images.vgsi.com/photos/EastGranbyCTPhotos//00\01\17\69.jpg)

Building Layout



(ParcelSketch.ashx?pid=649&bid=649)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	19,900	19,900
AOF	Office, (Average)	5,000	5,000
		24,900	24,900

Building 2 : Section 1

Year Built: 2017
 Living Area: 10,200
 Replacement Cost: \$210,146
 Building Percent Good: 74
 Replacement Cost
 Less Depreciation: \$155,500

Building Attributes : Bldg 2 of 2
--

Field	Description
Style:	Warehouse
Model	Industrial
Grade	Minimum
Stories:	1
Occupancy	1.00
Exterior Wall A	VinylPolyester
Exterior Wall B	
Roof Structure	Irregular
Roof Cover	Rubber Mem
Interior Wall A	Unfin/Minimum
Interior Wall B	
Interior Floor A	Concr Abv Grad
Interior Floor B	
Heating Fuel	None
Heating Type	None
AC Type	None
Struct Class	
Bldg Use	Industrial C
Total Rooms	
Total Bedrms	
Total Baths	0
1st Floor Use:	
Heat/AC	NONE
Frame Type	NONE
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	LIGHT
Wall Height	0.00
% Comn Wall	

Building Photo



(<http://images.vgsi.com/photos/EastGranbyCTPhotos//00\01\17\70.jpg>)

Building Layout



(ParcelSketch.ashx?pid=649&bid=103854)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
WHS	Warehouse	10,200	10,200
		10,200	10,200

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
MEZ	Mezzanine	2000.00 S.F.	\$21,900	1
A/C	Air Condition	5000.00 S.F.	\$9,100	1

Land

Land Use

Use Code 3-1

Land Line Valuation

Size (Acres) 17.30

Description Industrial C
Zone CP
Neighborhood
Alt Land Appr No
Category

Frontage 0
Depth 0
Assessed Value \$361,200
Appraised Value \$516,000

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHED	Shed	A	Average	280.00 S.F.	\$3,500	2
FNC	Chain Link Fence	08	8 Ft. Height	420.00 L.F.	\$4,100	2
SHED	Shed	A	Average	96.00 S.F.	\$900	1
PAV	Paving	A	Asphalt	73445.00 S.F.	\$91,800	1

Valuation History

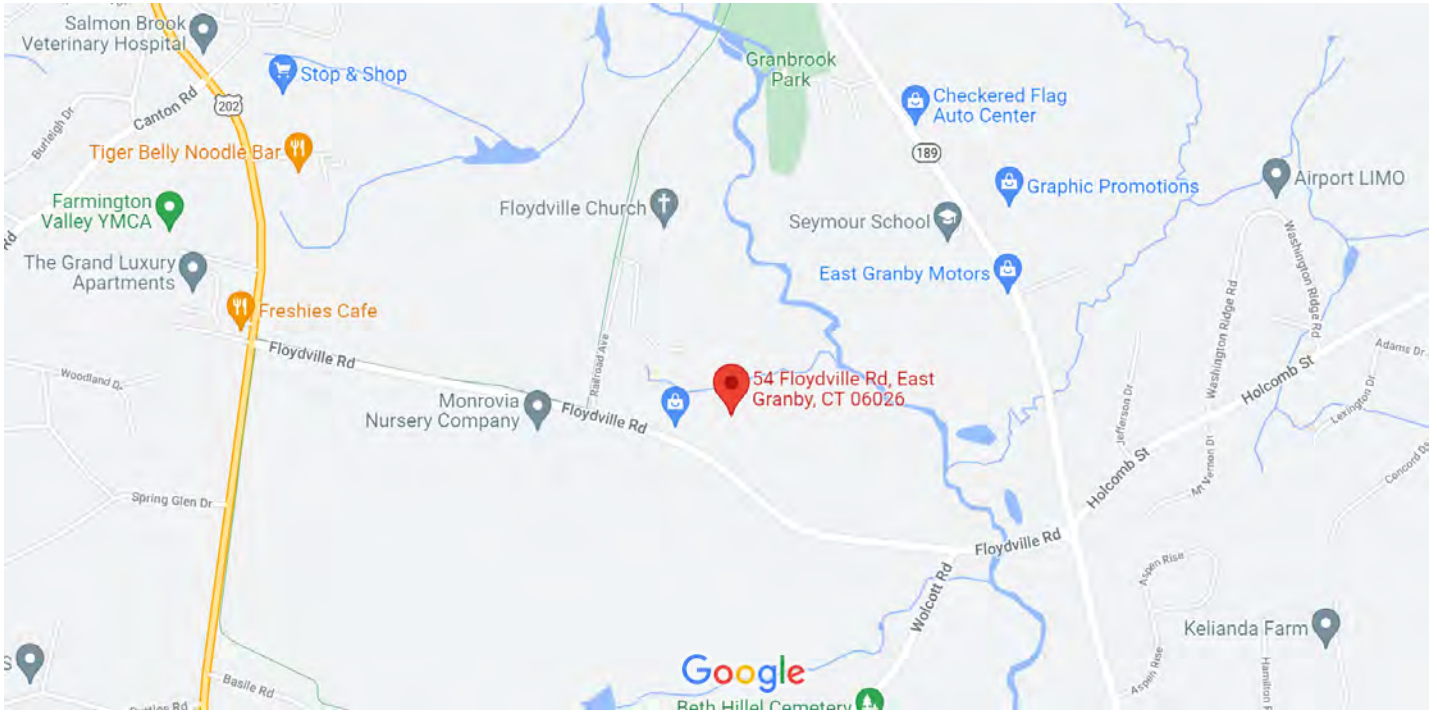
Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$939,700	\$685,800	\$1,625,500
2012	\$750,900	\$502,100	\$1,253,000
2007	\$547,900	\$506,100	\$1,054,000

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$657,800	\$480,000	\$1,137,800
2012	\$525,700	\$351,500	\$877,200
2007	\$383,500	\$354,400	\$737,900

EXHIBIT 5

Property Map

Google Maps 54 Floydville Rd



Map data ©2021 1000 ft

Google Maps 54 Floydville Rd



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

EXHIBIT 6

Zoning Approval



TOWN: 1724
PLANNING 9
EAST 0000 8633
7099 3400 0000 004E 6697

CERTIFIED MAIL RECEIPT	
(Domestic Mail Only; No Insurance Coverage Provided)	
Article Sent To: <u>SBA Inc</u>	
Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$
Name (Please Print Clearly) (to be completed by mailer)	
Street, Apt. No.; or PO Box No.	
City, State, ZIP+4	
PS Form 3800, July 1999	
See Reverse for Instructions	

June 6, 2001

SBA Properties, Inc.
C/o Thomas F. Flynn III
80 Eastern Boulevard
Glastonbury, CT 06033

CERTIFIED MAIL

Dear Sir,

At its meeting on June 5, 2001, the East Granby Planning & Zoning Commission voted to approve your Application #01-03 for a communication tower on the Paine property (ref. Sheets T-1, S-1, Z-1, Z-2, and Z-5 all dated revised 1/26/01 and Sheets 2, 3 and Z-4 all dated 11/01/00) subject to the following conditions:

1. The tower height shall be 120 feet maximum. (Data provided did not show the 130 feet tower was necessary.)
2. The two Paine properties shall be legally combined and evidence of such shall be provided to the Commission. The necessary revisions shall be made to the plans (Resolve yard requirements and confusion as noted in the Town Engineer's letter dated 3/06/01 item 2.3.)
3. A letter of approval be provided from the FAA that the proposed tower meets their requirements (ref. section IX, G3d of the Zoning Regulations).
4. A \$70,000 bond shall be posted prior to construction to be used to remove the tower if abandoned per section IX, G7 of the Zoning Regulations.
5. A written statement from the applicant/First Selectman indicating what agreement for Town use was reached (ref. section IX, G3e).

6. The entrance driveway shall remain as shown for approximately 160 feet where it reaches the 190-foot elevation. It shall turn towards the right and follow the 190-foot contour line to the site. A 10-foot side yard dimension shall also be added.
7. Add a note that all utilities must be underground and remove all references to new overhead utilities (ref. 4/04/01 minutes of the Inland/Wetlands Commission and the PZC public hearing).
8. Add a note that this approval is for one carrier, Verizon at the 120-foot height level. All additional levels and carriers need further approval.
9. A written statement by a competent professional describing the impact on public health and safety associated with the proposed activity with particular emphasis on radio emissions (signal frequency, intensity and power density) and structural integrity shall be provided to the Commission. (Note: Information provided at the public hearing was not signed by anyone.)
10. Landscaping shall be added to the west and south side of the facility per the PZC's approval.
11. As noted above, the conditions require numerous revisions to the detailed plans on almost every page. This includes the property size which is a total of 17.3 acres for the two lots that will become one.

Please submit a mylar and four copies of the revised plans for the Commission's signature.

Sincerely,



Frederick O'Brien
Chairman

Cc: Town Clerk
Building Official
Town Engineer
Assessor

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Received by (Please Print Clearly) B. Date of Delivery 6-7-06</p>
<p>1. Article Addressed to:</p> <p>SBA c/o T. Flynn 50 Eastern Boulevard Glastonbury, CT 06033</p>	<p>C. Signature X <i>T. Flynn</i> <input type="checkbox"/> Agent <input type="checkbox"/> Address</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>2. Article Number (Copy from service label)</p>	<p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p>
<p>PS Form 3811, July 1999</p>	<p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p> <p>7099 3400 00886331724</p> <p>Domestic Return Receipt 102595-09-M-1789</p>

EXHIBIT 7

EME Report

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

Dish Wireless Existing Facility

Site ID: BOBDL00119A

BOBDL00119A
56 Floydville Road
East Granby, Connecticut 06026

November 4, 2021

EBI Project Number: 6221006467

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	24.63%

November 4, 2021

Dish Wireless

Emissions Analysis for Site: BOBDL00119A - BOBDL00119A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **56 Floydville Road in East Granby, 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 56 Floydville Road in East Granby, 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 97 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 #:	I	Antenna #:	I	Antenna #:	I
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):	97 feet	Height (AGL):	97 feet	Height (AGL):	97 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 %:	2.86%	Antenna BI MPE %:	2.86%	Antenna CI MPE %:	2.86%

Site Composite MPE %	
Carrier	MPE %
Dish Wireless (Max at Sector A):	2.86%
AT&T	10.62%
T-Mobile	4.83%
Verizon	5.5%
Metro PCS	0.82%
Site Total MPE % :	24.63%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	2.86%
Dish Wireless Sector B Total:	2.86%
Dish Wireless Sector C Total:	2.86%
Site Total MPE % :	24.63%

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	97.0	3.88	600 MHz n71	400	0.97%
Dish Wireless 1900 MHz n70	4	542.70	97.0	9.42	1900 MHz n70	1000	0.94%
Dish Wireless 2190 MHz n66	4	542.70	97.0	9.42	2190 MHz n66	1000	0.94%
						Total:	2.86%

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

Summary

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

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

Dish Wireless Sector	Power Density Value (%)
Sector A:	2.86%
Sector B:	2.86%
Sector C:	2.86%
Dish Wireless Maximum MPE % (Sector A):	2.86%
Site Total:	24.63%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **24.63%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

EXHIBIT 8

Structural Analysis



Tower Engineering Solutions

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

Structural Analysis Report

Existing 120 ft PIROD Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT03801-S

Customer Site Name: East Granby

Carrier Name: Dish Wireless (App#: 167819-1)

Carrier Site ID / Name: BOBDL00119A / 0

Site Location: 56 Floydville Road

East Granby, Connecticut

Hartford County

Latitude: 41.928649

Longitude: -72.776099

Analysis Result:

Max Structural Usage: 55.1% [Pass]

Max Foundation Usage: 46.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A



Report Prepared By: Bishal Pandit

Introduction

The purpose of this report is to summarize the analysis results on the 120 ft PIROD Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	PiRod Engineering, File A-118, 413-1, on June 14, 2001.
Foundation Drawing	PiRod Engineering, File A-118, 413-1, on June 14, 2001.
Geotechnical Report	Jaworski Geotech, Inc., Project #00729G, on May 11, 2001.
Modification Drawings	N/A
Mount Analysis	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 120$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.177$, $S_1 = 0.065$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	117.0	6	Andrew HBXX-6517DS-VTM - Panel	Low Profile Platform	(12) 1 5/8" (2) 1 5/8" Fiber (1) 1/2"	Verizon
2		3	Andrew LNX-6514DS-VTM - Panel			
3		6	Antel LPA-80080/4CF - Panel			
4		1	Lucent KS24019-L112A GPS			
5		6	RFS FD9R6004/2C-3L Diplexer			
6		3	ALU RRH 2x60-AWS			
7		3	ALU RRH 2x60W-PCS			
8		2	RFS DB-T1-6Z-8AB-0Z			
9	107.0	3	RFS APXVAARR24_43-U-NA20	Low Profile Platform w/ (1) Metrosite Support Rail w/ End connection: MS-HRCEP-35 (1) Metrosite Light collar mount: MS-1436 (1) Metrosite Kicker Support: MS-K122-5	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
10		3	Ericsson KRY 112 144/1			
11		6	Ericsson KRY 112 489/2			
12		3	Ericsson Radio 4449 B71+B12			
17	87.0	3	Powerwave 7770 - Panel	Low Profile Platform + SitePro1 PRK-1245L (reinforcement Kit) + SitePro1 HRK-12 (Handrail Kit)	(12) 1 5/8" (2) 1/2" Fiber (1) 2" Conduit (1) 3" Conduit (4) 3/4" DC	AT&T*
18		3	Cci HPA-65R-BU8AA - Panel			
19		3	Kathrein 800 10966 - Panel			
20		6	Powerwave TT19-08BP111-001 TMA			
21		6	Powerwave 21903 Diplexer			
22		3	Ericsson RRUS 8843 B2 B66A			
23		3	Ericsson RRUS 4449 B5			
24		1	Raycap DC6-48-60-18-8F			
25		1	Raycap DC6-48-60-18-8C			

*(1) 3" Conduit housing (2) 3/4" DC and (1) 1/2" Fiber; (1) 2" Conduit housing (2) 3/4" DC and (1) Fiber.

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
13	97.0	3	JMA Wireless - MX08FRO665-21 - Panel	(1) Commscope MC-PK8-DSH (Platform w/ Handrails)	(1) 1.6" Hybrid	Dish Wireless
14		3	Fujitsu - TA08025-B605 - RRU			
15		3	Fujitsu - TA08025-B604 - RRU			
16		1	Raycap RDIDC-9181-PF-48			

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

Analysis Results

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

	Pole shafts
Max. Usage:	55.1%
Pass/Fail	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	3719.4	37.0
Analysis Reactions	2621.6	30.1
Factored Reactions*	5021.1	50.0
% of Design Reactions	52.2%	60.3%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

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 0.6610 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 55.09% at 0.0ft

Structure: CT03801-S-SBA
Site Name: East Granby
Height: 120.00 (ft)
Base Elev: 0.000 (ft)

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

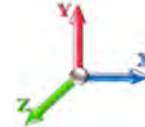
9/1/2021



Page: 1

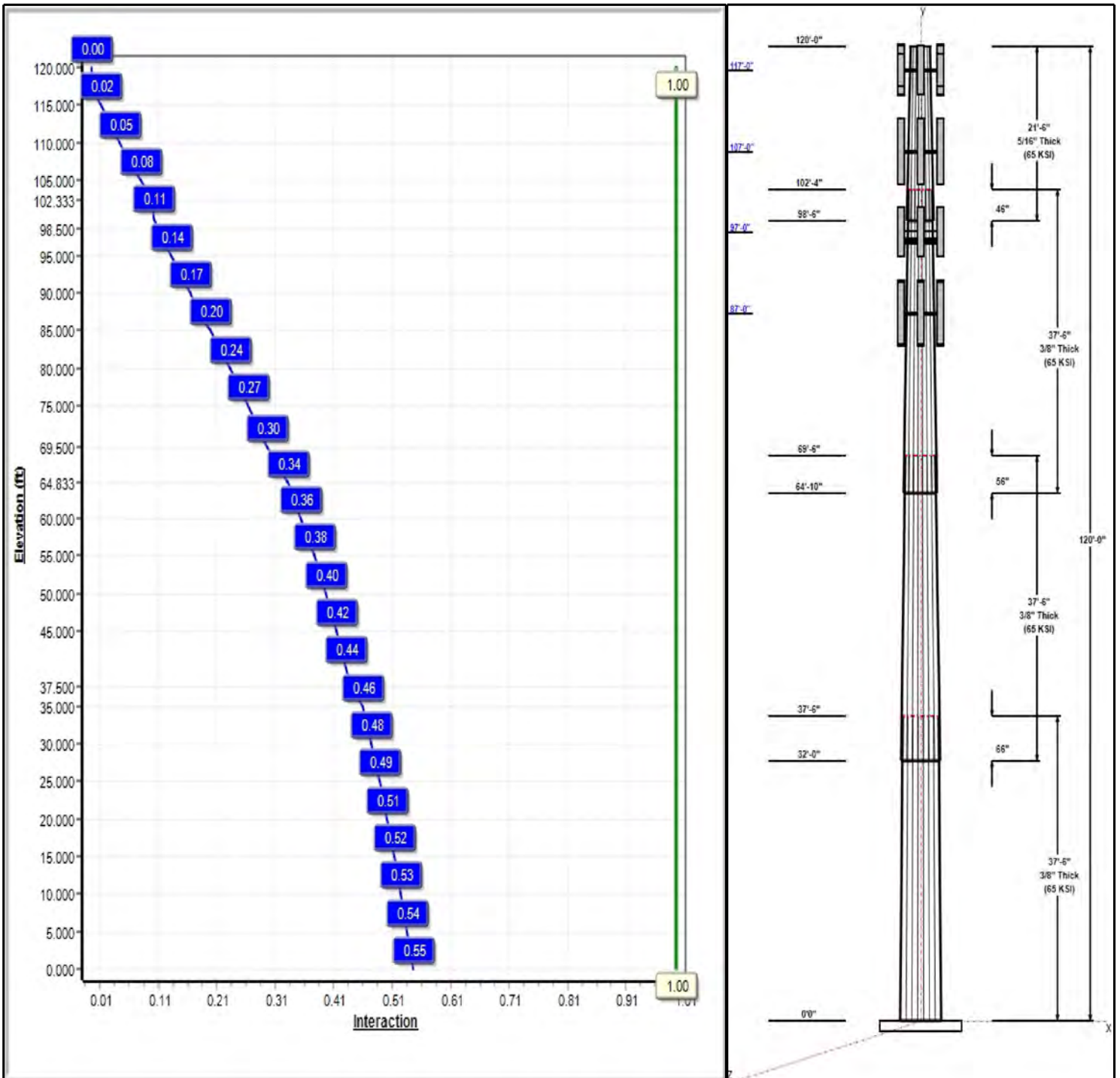
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 20

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Structure: CT03801-S-SBA

Type: Tapered
Site Name: East Granby
Height: 120.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 16 Sided
Taper: 0.28333

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Shaft Properties

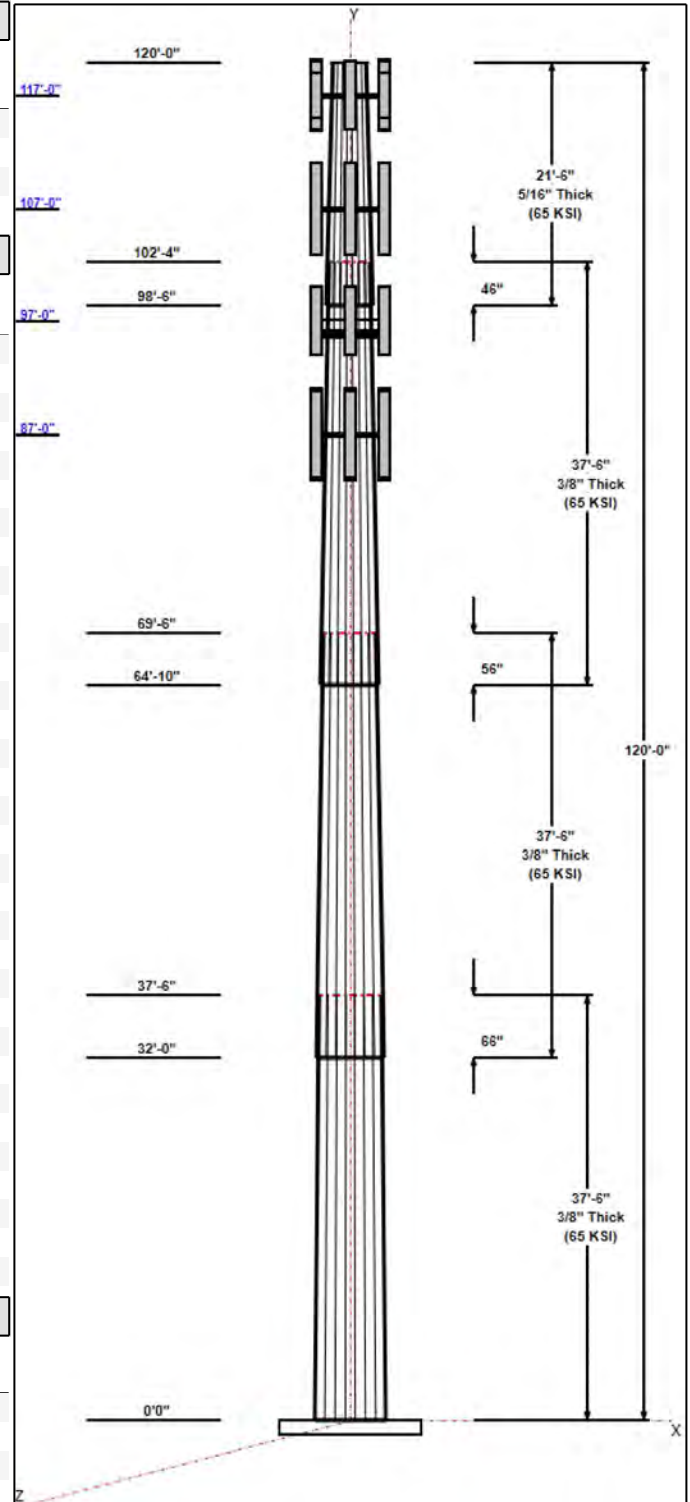
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	37.50	45.50	56.13	0.375		0.28333	65
2	37.50	37.18	47.81	0.375	Slip	0.28333	65
3	37.50	28.63	39.26	0.375	Slip	0.28333	65
4	21.50	24.25	30.34	0.313	Slip	0.28333	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
117.00	117.00	6	HBXX-6517DS-VTM	Verizon
117.00	117.00	3	LNx-6514DS-VTM (72.7"	Verizon
117.00	117.00	6	LPA-80080/4CF	Verizon
117.00	117.00	1	GPS	Verizon
117.00	117.00	6	FD9R6004/2C-3L 3.1#	Verizon
117.00	117.00	3	RRH2X60-AWS	Verizon
117.00	117.00	3	RRH2X60-PCS	Verizon
117.00	117.00	2	DB-T1-6Z-8AB-0Z	Verizon
117.00	117.00	1	Low Profile	Verizon
107.00	107.00	1	Low Profile	T-Mobile
107.00	107.00	3	APXVAARR24_43-U-NA20	T-Mobile
107.00	107.00	1	HRK12 (Handrail Kit)	T-Mobile
107.00	107.00	3	KRY 112 144/1	T-Mobile
107.00	107.00	6	KRY 112 489/2	T-Mobile
107.00	107.00	3	4449	T-Mobile
107.00	107.00	1	MS-KI22-5 (Kickers w/o	T-Mobile
97.00	97.00	3	MX08FRO665-21	Dish Wireless
97.00	97.00	1	MC-PK8-DSH	Dish Wireless
97.00	97.00	3	TA08025-B605	Dish Wireless
97.00	97.00	3	TA08025-B604	Dish Wireless
97.00	97.00	1	RDIDC-9181-PF-48	Dish Wireless
87.00	87.00	3	7770.00	AT&T
87.00	87.00	3	HPA-65R-BUU-H8	AT&T
87.00	87.00	3	800 10966	AT&T
87.00	87.00	1	Low Profile	AT&T
87.00	87.00	1	PRK-1245 (kicker kit)	AT&T
87.00	87.00	1	HRK12 (Handrail Kit)	AT&T
87.00	87.00	6	TT19-08BP111-001	AT&T
87.00	87.00	6	LGP21903	AT&T
87.00	87.00	3	B2 B66A 8843	AT&T
87.00	87.00	3	4449 B5/B12	AT&T
87.00	87.00	1	DC6-48-60-18-8F(23.5"	AT&T
87.00	87.00	1	DC6-48-60-18-8C	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	117.00	Inside	1 5/8" Coax	Verizon
0.00	117.00	Inside	1 5/8" Fiber	Verizon
0.00	117.00	Inside	1/2" Coax	Verizon
0.00	107.00	Inside	1 5/8" Coax	T-Mobile
0.00	97.00	Outside	1.6" Hybrid	Dish Wireless
0.00	87.00	Inside	1 5/8" Coax	AT&T
0.00	87.00	Inside	1/2" Fiber	AT&T
0.00	87.00	Inside	2" Conduit	AT&T
0.00	87.00	Inside	3" Conduit	AT&T



Structure: CT03801-S-SBA

Type: Tapered
Site Name: East Granby
Height: 120.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 16 Sided
Taper: 0.28333

9/1/2021

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0.00 87.00 Inside 3/4" DC AT&T

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
39	1.25" A687	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	65.0	36.0	Round

Reactions

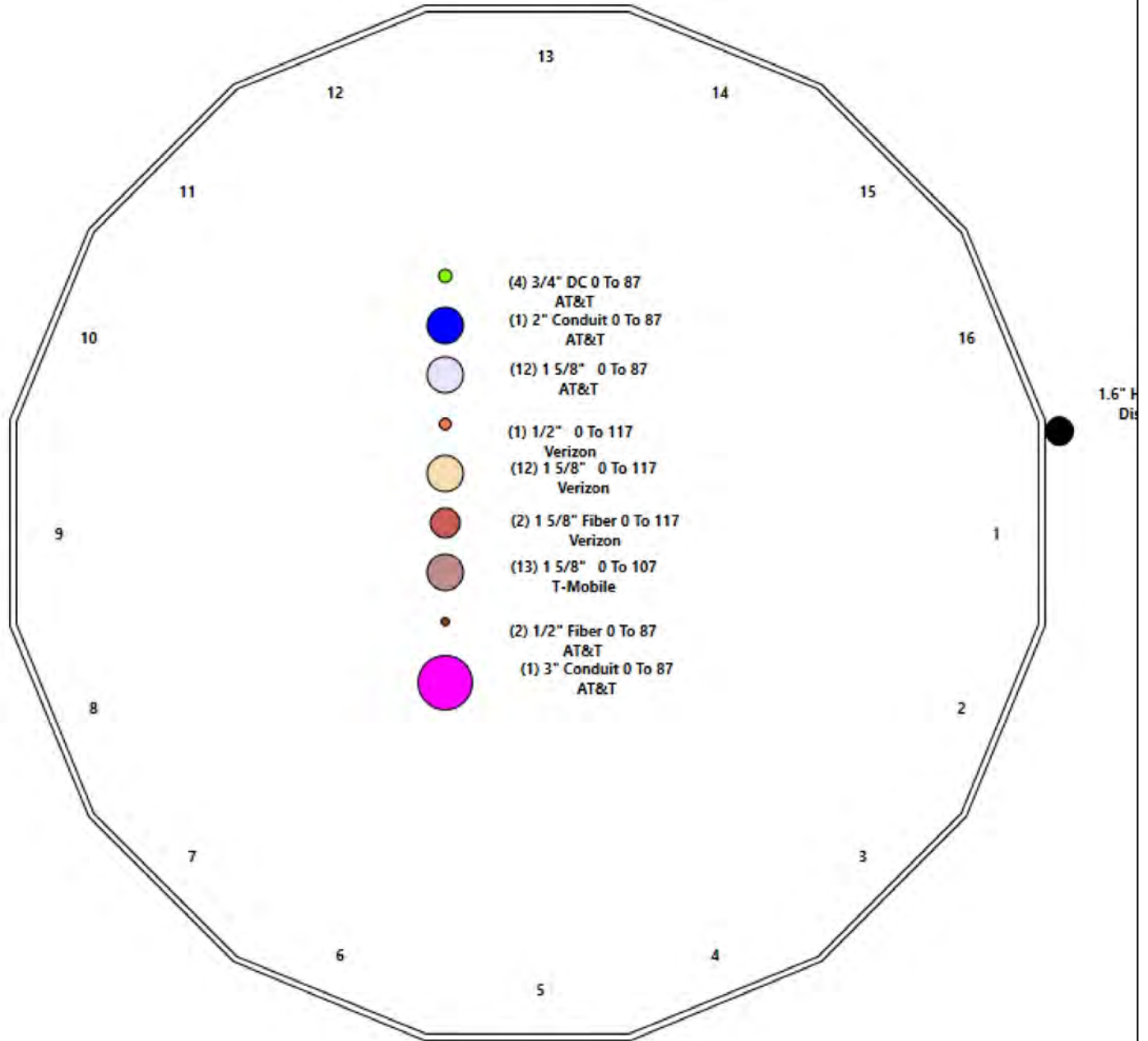
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	2621.6	30.1	44.0
0.9D + 1.6W 93 mph Wind	2605.6	30.1	33.0
1.2D + 1.0Di + 1.0Wi 50 mph Wind	822.5	9.3	76.3
1.2D + 1.0E	138.6	1.4	44.0
0.9D + 1.0E	137.7	1.4	33.0
1.0D + 1.0W 60 mph Wind	679.4	7.8	36.7

Structure: CT03801-S-SBA - Coax Line Placement

Type: Monopole
Site Name: East Granby
Height: 120.00 (ft)

9/1/2021

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Shaft Properties

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	16	37.500	0.3750	65		0.00	7,699
2	16	37.500	0.3750	65	Slip	66.00	6,430
3	16	37.500	0.3750	65	Slip	56.00	5,124
4	16	21.500	0.3125	65	Slip	46.00	1,968
Total Shaft Weight:							21,221

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	56.13	0.00	66.69	26186.11	28.18	149.67	45.50	37.50	53.98	13886.3	22.54	121.3	0.283333
2	47.81	32.00	56.74	16128.25	23.77	127.49	37.18	69.50	44.03	7536.59	18.13	99.16	0.283333
3	39.26	64.83	46.51	8882.47	19.23	104.68	28.63	102.33	33.80	3409.16	13.60	76.35	0.283333
4	30.34	98.50	29.94	3410.24	17.72	97.09	24.25	120.00	23.86	1727.39	13.84	77.60	0.283333

Load Summary

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: 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	117.00	HBXX-6517DS-VTM	6	40.70	8.55	0.77	269.92	12.346	0.79	0.00	0.00
2	117.00	LNX-6514DS-VTM (72.7" height)	3	38.80	8.17	0.83	268.10	11.842	0.85	0.00	0.00
3	117.00	LPA-80080/4CF	6	12.00	2.61	1.70	199.58	3.746	1.70	0.00	0.00
4	117.00	GPS	1	10.00	1.00	0.50	48.13	1.926	0.52	0.00	0.00
5	117.00	FD9R6004/2C-3L 3.1#	6	3.10	0.36	1.00	13.54	0.937	1.00	0.00	0.00
6	117.00	RRH2X60-AWS	3	55.00	3.50	0.76	159.07	4.526	0.76	0.00	0.00
7	117.00	RRH2X60-PCS	3	55.00	2.20	0.89	172.88	3.051	0.91	0.00	0.00
8	117.00	DB-T1-6Z-8AB-0Z	2	18.90	4.80	0.71	216.03	5.959	0.73	0.00	0.00
9	117.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	3202.39	44.971	1.00	0.00	0.00
10	107.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	3187.25	44.767	1.00	0.00	0.00
11	107.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	686.69	22.716	0.70	0.00	0.00
12	107.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	662.09	15.254	1.00	0.00	0.00
13	107.00	KRY 112 144/1	3	11.00	0.41	0.67	24.90	1.022	0.67	0.00	0.00
14	107.00	KRY 112 489/2	6	0.10	0.01	0.67	0.10	0.010	0.67	0.00	0.00
15	107.00	4449	3	70.00	1.65	0.67	164.66	2.365	0.67	0.00	0.00
16	107.00	MS-KI22-5 (Kickers w/o Collar)	1	146.00	5.33	1.00	408.76	12.524	1.00	0.00	0.00
17	97.00	MX08FRO665-21	3	64.50	12.49	0.74	435.79	14.360	0.74	0.00	0.00
18	97.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3881.45	97.882	1.00	0.00	0.00
19	97.00	TA08025-B605	3	75.00	1.96	0.67	141.76	2.676	0.67	0.00	0.00
20	97.00	TA08025-B604	3	63.90	1.96	0.67	128.53	2.676	0.67	0.00	0.00
21	97.00	RDIDC-9181-PF-48	1	21.90	2.01	1.00	89.87	2.735	1.00	0.00	0.00
22	87.00	7770.00	3	35.00	5.50	0.73	216.01	6.868	0.75	0.00	0.00
23	87.00	HPA-65R-BUU-H8	3	68.00	12.98	0.79	451.53	15.052	0.81	0.00	0.00
24	87.00	800 10966	3	125.70	17.36	0.72	594.38	19.668	0.74	0.00	0.00
25	87.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	3152.69	44.300	1.00	0.00	0.00
26	87.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	874.70	22.061	1.00	0.00	0.00
27	87.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	653.89	15.080	1.00	0.00	0.00
28	87.00	TT19-08BP111-001	6	16.00	0.64	0.90	41.55	1.389	0.92	0.00	0.00
29	87.00	LGP21903	6	5.50	0.27	0.84	16.14	0.772	0.86	0.00	0.00
30	87.00	B2 B66A 8843	3	70.00	1.64	0.85	128.06	2.292	0.87	0.00	0.00
31	87.00	4449 B5/B12	3	71.00	1.97	0.86	138.40	2.661	0.88	0.00	0.00
32	87.00	DC6-48-60-18-8F(23.5" Height)	1	20.00	1.26	1.00	86.62	2.093	1.00	0.00	0.00
33	87.00	DC6-48-60-18-8C	1	20.00	1.26	1.00	86.62	2.093	1.00	0.00	0.00
Totals:			92	10,728.15			31,143.77				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	117.00	(12) 1 5/8" Coax	0.00	Inside
0.00	117.00	(2) 1 5/8" Fiber	0.00	Inside
0.00	117.00	(1) 1/2" Coax	0.00	Inside
0.00	107.00	(13) 1 5/8" Coax	0.00	Inside
0.00	97.00	(1) 1.6" Hybrid	1.60	Outside
0.00	87.00	(12) 1 5/8" Coax	0.00	Inside
0.00	87.00	(2) 1/2" Fiber	0.00	Inside
0.00	87.00	(1) 2" Conduit	0.00	Inside

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	87.00	(1) 3" Conduit		0.00		Inside					
0.00	87.00	(4) 3/4" DC		0.00		Inside					

Shaft Section Properties

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.3750	56.125	66.691	26186.1	28.18	149.67	70.7	915.2	0.0
5.00		0.3750	54.708	64.996	24240.2	27.43	145.89	71.5	869.1	1120.3
10.00		0.3750	53.292	63.302	22393.1	26.68	142.11	72.4	824.2	1091.4
15.00		0.3750	51.875	61.607	20642.3	25.92	138.33	73.2	780.6	1062.6
20.00		0.3750	50.458	59.912	18985.2	25.17	134.56	74.1	738.1	1033.8
25.00		0.3750	49.042	58.218	17419.3	24.42	130.78	74.9	696.7	1004.9
30.00		0.3750	47.625	56.523	15942.0	23.67	127.00	75.8	656.6	976.1
32.00	Bot - Section 2	0.3750	47.058	55.845	15375.2	23.37	125.49	76.1	640.9	382.4
35.00		0.3750	46.208	54.828	14550.6	22.92	123.22	76.6	617.7	1138.9
37.50	Top - Section 1	0.3750	46.250	54.878	14590.3	22.94	123.33	0.0	0.0	933.3
40.00		0.3750	45.542	54.031	13924.8	22.57	121.44	77.0	599.8	463.2
45.00		0.3750	44.125	52.336	12655.2	21.81	117.67	77.9	562.6	904.9
50.00		0.3750	42.708	50.641	11465.3	21.06	113.89	78.7	526.6	876.0
55.00		0.3750	41.292	48.947	10352.3	20.31	110.11	79.6	491.8	847.2
60.00		0.3750	39.875	47.252	9313.8	19.56	106.33	80.4	458.2	818.4
64.83	Bot - Section 3	0.3750	38.506	45.614	8378.3	18.83	102.68	81.3	426.8	763.7
65.00		0.3750	38.458	45.557	8347.2	18.81	102.56	81.3	425.7	52.2
69.50	Top - Section 2	0.3750	37.933	44.929	8006.7	18.53	101.16	0.0	0.0	1385.6
70.00		0.3750	37.792	44.760	7916.5	18.45	100.78	81.7	410.9	76.3
75.00		0.3750	36.375	43.065	7050.9	17.70	97.00	82.5	380.2	747.1
80.00		0.3750	34.958	41.370	6250.8	16.95	93.22	82.6	350.7	718.3
85.00		0.3750	33.542	39.676	5513.7	16.20	89.44	82.6	322.4	689.5
87.00		0.3750	32.975	38.998	5235.9	15.90	87.93	82.6	311.5	267.7
90.00		0.3750	32.125	37.981	4836.9	15.45	85.67	82.6	295.3	392.9
95.00		0.3750	30.708	36.286	4217.9	14.70	81.89	82.6	269.4	631.8
97.00		0.3750	30.142	35.608	3985.9	14.40	80.38	82.6	259.4	244.6
98.50	Bot - Section 4	0.3750	29.717	35.100	3817.6	14.17	79.24	82.6	252.0	180.5
100.00		0.3750	29.292	34.592	3654.1	13.95	78.11	82.6	244.7	329.6
102.33	Top - Section 3	0.3125	29.256	28.853	3053.4	17.03	93.62	0.0	0.0	503.2
105.00		0.3125	28.500	28.099	2820.5	16.55	91.20	82.6	194.1	258.4
107.00		0.3125	27.933	27.535	2653.8	16.19	89.39	82.6	186.4	189.3
110.00		0.3125	27.083	26.687	2416.2	15.65	86.67	82.6	175.0	276.8
115.00		0.3125	25.667	25.275	2052.6	14.75	82.13	82.6	156.9	442.0
117.00		0.3125	25.100	24.710	1918.0	14.39	80.32	82.6	149.9	170.1
120.00		0.3125	24.250	23.863	1727.4	13.84	77.60	82.6	139.7	247.9

21220.7

Wind Loading - Shaft

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 20

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	17.879	19.67	408.88	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	398.56	0.750	0.000	5.00	23.543	17.66	555.6	0.0	1344.3
10.00		1.00	0.85	17.879	19.67	388.24	0.750	0.000	5.00	22.941	17.21	541.4	0.0	1309.7
15.00		1.00	0.85	17.879	19.67	377.92	0.750	0.000	5.00	22.339	16.75	527.2	0.0	1275.1
20.00		1.00	0.90	18.971	20.87	378.65	0.750	0.000	5.00	21.737	16.30	544.3	0.0	1240.5
25.00		1.00	0.95	19.883	21.87	376.76	0.750	0.000	5.00	21.135	15.85	554.7	0.0	1205.9
30.00		1.00	0.98	20.661	22.73	372.97	0.750	0.000	5.00	20.533	15.40	560.0	0.0	1171.3
32.00	Bot - Section 2	1.00	1.00	20.944	23.04	371.04	0.750	0.000	2.00	8.045	6.03	222.4	0.0	458.8
35.00		1.00	1.01	21.343	23.48	367.80	0.750	0.000	3.00	12.078	9.06	340.3	0.0	1366.7
37.50	Top - Section 1	1.00	1.03	21.655	23.82	364.80	0.750	0.000	2.50	9.899	7.42	283.0	0.0	1119.9
40.00		1.00	1.04	21.951	24.15	367.62	0.750	0.000	2.50	9.749	7.31	282.5	0.0	555.9
45.00		1.00	1.07	22.502	24.75	360.63	0.750	0.000	5.00	19.047	14.28	565.7	0.0	1085.8
50.00		1.00	1.09	23.007	25.31	352.94	0.750	0.000	5.00	18.445	13.83	560.1	0.0	1051.2
55.00		1.00	1.12	23.473	25.82	344.68	0.750	0.000	5.00	17.843	13.38	552.9	0.0	1016.6
60.00		1.00	1.14	23.907	26.30	335.91	0.750	0.000	5.00	17.241	12.93	544.1	0.0	982.0
64.83	Bot - Section 3	1.00	1.16	24.300	26.73	327.03	0.750	0.000	4.83	16.094	12.07	516.2	0.0	916.4
65.00		1.00	1.16	24.313	26.74	326.72	0.750	0.000	0.17	0.556	0.42	17.8	0.0	62.7
69.50	Top - Section 2	1.00	1.17	24.658	27.12	318.12	0.750	0.000	4.50	14.747	11.06	480.0	0.0	1662.7
70.00		1.00	1.17	24.696	27.17	323.57	0.750	0.000	0.50	1.609	1.21	52.4	0.0	91.6
75.00		1.00	1.19	25.057	27.56	313.71	0.750	0.000	5.00	15.754	11.82	521.1	0.0	896.5
80.00		1.00	1.21	25.400	27.94	303.55	0.750	0.000	5.00	15.152	11.36	508.0	0.0	861.9
85.00		1.00	1.22	25.726	28.30	293.11	0.750	0.000	5.00	14.550	10.91	494.1	0.0	827.3
87.00	Appurtenance(s)	1.00	1.23	25.852	28.44	288.87	0.750	0.000	2.00	5.652	4.24	192.9	0.0	321.2
90.00		1.00	1.24	26.037	28.64	282.43	0.750	0.000	3.00	8.297	6.22	285.2	0.0	471.5
95.00		1.00	1.25	26.336	28.97	271.51	0.750	0.000	5.00	13.347	10.01	464.0	0.0	758.1
97.00	Appurtenance(s)	1.00	1.26	26.451	29.10	267.09	0.750	0.000	2.00	5.170	3.88	180.5	0.0	293.6
98.50	Bot - Section 4	1.00	1.26	26.537	29.19	263.75	0.750	0.000	1.50	3.814	2.86	133.6	0.0	216.5
100.00		1.00	1.27	26.621	29.28	260.39	0.750	0.000	1.50	3.840	2.88	134.9	0.0	395.5
102.33	Top - Section 3	1.00	1.27	26.751	29.43	255.13	0.750	0.000	2.33	5.866	4.40	207.1	0.0	603.9
105.00		1.00	1.28	26.896	29.59	254.66	0.750	0.000	2.67	6.543	4.91	232.3	0.0	310.1
107.00	Appurtenance(s)	1.00	1.28	27.003	29.70	250.09	0.750	0.000	2.00	4.795	3.60	170.9	0.0	227.2
110.00		1.00	1.29	27.161	29.88	243.19	0.750	0.000	3.00	7.012	5.26	251.4	0.0	332.1
115.00		1.00	1.30	27.416	30.16	231.55	0.750	0.000	5.00	11.205	8.40	405.5	0.0	530.4
117.00	Appurtenance(s)	1.00	1.31	27.516	30.27	226.85	0.750	0.000	2.00	4.313	3.24	156.7	0.0	204.1
120.00		1.00	1.32	27.663	30.43	219.75	0.750	0.000	3.00	6.290	4.72	229.7	0.0	297.5
Totals:									120.00			12,268.6		25,464.8

Discrete Appurtenance Forces

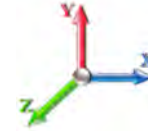
Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 20

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	117.00	GPS	1	27.516	30.268	0.50	1.00	0.50	12.00	0.000	0.000	24.21	0.00	0.00	
2	117.00	HBXX-6517DS-VTM	6	27.516	30.268	0.77	1.00	39.50	293.04	0.000	0.000	1912.97	0.00	0.00	
3	117.00	LNx-6514DS-VTM (72.7"	3	27.516	30.268	0.83	1.00	20.34	139.68	0.000	0.000	985.19	0.00	0.00	
4	117.00	LPA-80080/4CF	6	27.516	30.268	1.70	1.00	26.62	86.40	0.000	0.000	1289.26	0.00	0.00	
5	117.00	Low Profile	1	27.516	30.268	1.00	1.00	22.00	1800.00	0.000	0.000	1065.42	0.00	0.00	
6	117.00	RRH2X60-AWS	3	27.516	30.268	0.76	1.00	7.98	198.00	0.000	0.000	386.46	0.00	0.00	
7	117.00	RRH2X60-PCS	3	27.516	30.268	0.89	1.00	5.87	198.00	0.000	0.000	284.47	0.00	0.00	
8	117.00	DB-T1-6Z-8AB-0Z	2	27.516	30.268	0.71	1.00	6.82	45.36	0.000	0.000	330.09	0.00	0.00	
9	117.00	FD9R6004/2C-3L 3.1#	6	27.516	30.268	1.00	1.00	2.16	22.32	0.000	0.000	104.61	0.00	0.00	
10	107.00	HRK12 (Handrail Kit)	1	27.003	29.704	1.00	1.00	6.75	314.06	0.000	0.000	320.80	0.00	0.00	
11	107.00	Low Profile	1	27.003	29.704	1.00	1.00	22.00	1800.00	0.000	0.000	1045.57	0.00	0.00	
12	107.00	APXVAARR24_43-U-NA2	3	27.003	29.704	0.52	0.75	31.88	460.80	0.000	0.000	1515.03	0.00	0.00	
13	107.00	4449	3	27.003	29.704	0.50	0.75	2.49	252.00	0.000	0.000	118.21	0.00	0.00	
14	107.00	KRY 112 144/1	3	27.003	29.704	0.50	0.75	0.62	39.60	0.000	0.000	29.37	0.00	0.00	
15	107.00	KRY 112 489/2	6	27.003	29.704	0.50	0.75	0.03	0.72	0.000	0.000	1.43	0.00	0.00	
16	107.00	MS-KI22-5 (Kickers w/o	1	27.003	29.704	1.00	1.00	5.33	175.20	0.000	0.000	253.31	0.00	0.00	
17	97.00	RDIDC-9181-PF-48	1	26.451	29.096	0.75	0.75	1.51	26.28	0.000	0.000	70.18	0.00	0.00	
18	97.00	TA08025-B605	3	26.451	29.096	0.50	0.75	2.95	270.00	0.000	0.000	137.55	0.00	0.00	
19	97.00	MC-PK8-DSH	1	26.451	29.096	1.00	1.00	37.59	2072.40	0.000	0.000	1749.98	0.00	0.00	
20	97.00	MX08FRO665-21	3	26.451	29.096	0.55	0.75	20.80	232.20	0.000	0.000	968.14	0.00	0.00	
21	97.00	TA08025-B604	3	26.451	29.096	0.50	0.75	2.95	230.04	0.000	0.000	137.55	0.00	0.00	
22	87.00	HRK12 (Handrail Kit)	1	25.852	28.438	1.00	1.00	6.75	314.06	0.000	0.000	307.13	0.00	0.00	
23	87.00	7770.00	3	25.852	28.438	0.55	0.75	9.03	126.00	0.000	0.000	411.04	0.00	0.00	
24	87.00	HPA-65R-BUU-H8	3	25.852	28.438	0.59	0.75	23.07	244.80	0.000	0.000	1049.78	0.00	0.00	
25	87.00	800 10966	3	25.852	28.438	0.54	0.75	28.12	452.52	0.000	0.000	1279.61	0.00	0.00	
26	87.00	Low Profile	1	25.852	28.438	1.00	1.00	22.00	1800.00	0.000	0.000	1001.00	0.00	0.00	
27	87.00	PRK-1245 (kicker kit)	1	25.852	28.438	1.00	1.00	9.50	557.89	0.000	0.000	432.25	0.00	0.00	
28	87.00	B2 B66A 8843	3	25.852	28.438	0.64	0.75	3.14	252.00	0.000	0.000	142.71	0.00	0.00	
29	87.00	TT19-08BP111-001	6	25.852	28.438	0.68	0.75	2.59	115.20	0.000	0.000	117.94	0.00	0.00	
30	87.00	LGP21903	6	25.852	28.438	0.63	0.75	1.02	39.60	0.000	0.000	46.44	0.00	0.00	
31	87.00	4449 B5/B12	3	25.852	28.438	0.65	0.75	3.81	255.60	0.000	0.000	173.44	0.00	0.00	
32	87.00	DC6-48-60-18-8F(23.5"	1	25.852	28.438	1.00	1.00	1.26	24.00	0.000	0.000	57.33	0.00	0.00	
33	87.00	DC6-48-60-18-8C	1	25.852	28.438	1.00	1.00	1.26	24.00	0.000	0.000	57.33	0.00	0.00	
Totals:									12,873.78						17,805.81

Total Applied Force Summary

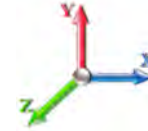
Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 20

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		555.62	1623.13	0.00	0.00
10.00		541.42	1588.53	0.00	0.00
15.00		527.21	1553.93	0.00	0.00
20.00		544.32	1519.33	0.00	0.00
25.00		554.71	1484.73	0.00	0.00
30.00		560.00	1450.13	0.00	0.00
32.00		222.41	570.36	0.00	0.00
35.00		340.26	1534.03	0.00	0.00
37.50		282.97	1259.33	0.00	0.00
40.00		282.48	695.30	0.00	0.00
45.00		565.74	1364.65	0.00	0.00
50.00		560.15	1330.05	0.00	0.00
55.00		552.85	1295.45	0.00	0.00
60.00		544.08	1260.85	0.00	0.00
64.83		516.24	1185.93	0.00	0.00
65.00		17.83	71.95	0.00	0.00
69.50		480.02	1913.62	0.00	0.00
70.00		52.43	119.44	0.00	0.00
75.00		521.07	1175.36	0.00	0.00
80.00		508.02	1140.76	0.00	0.00
85.00		494.11	1106.16	0.00	0.00
87.00	(32) attachments	5268.85	4638.45	0.00	0.00
90.00		285.16	572.87	0.00	0.00
95.00		463.97	927.10	0.00	0.00
97.00	(11) attachments	3243.92	3192.07	0.00	0.00
98.50		133.61	265.43	0.00	0.00
100.00		134.94	444.37	0.00	0.00
102.33		207.12	679.90	0.00	0.00
105.00		232.30	396.98	0.00	0.00
107.00	(18) attachments	3454.65	3334.74	0.00	0.00
110.00		251.39	381.21	0.00	0.00
115.00		405.50	612.29	0.00	0.00
117.00	(31) attachments	6539.35	3031.64	0.00	0.00
120.00		229.67	297.51	0.00	0.00
Totals:		30,074.38	44,017.58	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

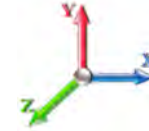
Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 20

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)
5.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.028	0.000	17.879	0.00	6.00
10.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.029	0.000	17.879	0.00	6.00
15.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.030	0.000	17.879	0.00	6.00
20.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.031	0.000	18.971	0.00	6.00
25.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.032	0.000	19.883	0.00	6.00
30.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.032	0.000	20.661	0.00	6.00
32.00	1.6" Hybrid	Yes	2.00	0.000	1.60	0.27	0.00	0.033	0.000	20.944	0.00	2.40
35.00	1.6" Hybrid	Yes	3.00	0.000	1.60	0.40	0.00	0.034	0.000	21.343	0.00	3.60
37.50	1.6" Hybrid	Yes	2.50	0.000	1.60	0.33	0.00	0.034	0.000	21.655	0.00	3.00
40.00	1.6" Hybrid	Yes	2.50	0.000	1.60	0.33	0.00	0.034	0.000	21.951	0.00	3.00
45.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.035	0.000	22.502	0.00	6.00
50.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.036	0.000	23.007	0.00	6.00
55.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.037	0.000	23.473	0.00	6.00
60.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.039	0.000	23.907	0.00	6.00
64.83	1.6" Hybrid	Yes	4.83	0.000	1.60	0.64	0.00	0.040	0.000	24.300	0.00	5.80
65.00	1.6" Hybrid	Yes	0.17	0.000	1.60	0.02	0.00	0.041	0.000	24.313	0.00	0.20
69.50	1.6" Hybrid	Yes	4.50	0.000	1.60	0.60	0.00	0.041	0.000	24.658	0.00	5.40
70.00	1.6" Hybrid	Yes	0.50	0.000	1.60	0.07	0.00	0.041	0.000	24.696	0.00	0.60
75.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.042	0.000	25.057	0.00	6.00
80.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.044	0.000	25.400	0.00	6.00
85.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.046	0.000	25.726	0.00	6.00
87.00	1.6" Hybrid	Yes	2.00	0.000	1.60	0.27	0.00	0.047	0.000	25.852	0.00	2.40
90.00	1.6" Hybrid	Yes	3.00	0.000	1.60	0.40	0.00	0.048	0.000	26.037	0.00	3.60
95.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.050	0.000	26.336	0.00	6.00
97.00	1.6" Hybrid	Yes	2.00	0.000	1.60	0.27	0.00	0.052	0.000	26.451	0.00	2.40
Totals:											0.0	116.4

Calculated Forces

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

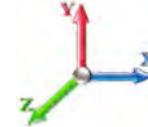


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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 20

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	-43.98	-30.13	0.00	-2621.5	0.00	2621.57	4242.75	2121.37	9773.47	4851.96	0.00	0.000	0.000	0.551
5.00	-42.29	-29.67	0.00	-2470.9	0.00	2470.93	4184.67	2092.33	9393.09	4663.13	0.08	-0.138	0.000	0.540
10.00	-40.63	-29.23	0.00	-2322.5	0.00	2322.56	4124.00	2062.00	9013.89	4474.88	0.30	-0.279	0.000	0.529
15.00	-39.00	-28.79	0.00	-2176.4	0.00	2176.43	4060.73	2030.37	8636.33	4287.44	0.67	-0.422	0.000	0.517
20.00	-37.42	-28.33	0.00	-2032.4	0.00	2032.48	3994.87	1997.44	8260.86	4101.04	1.19	-0.567	0.000	0.505
25.00	-35.87	-27.85	0.00	-1890.8	0.00	1890.85	3926.42	1963.21	7887.94	3915.90	1.86	-0.714	0.000	0.492
30.00	-34.37	-27.33	0.00	-1751.6	0.00	1751.61	3855.38	1927.69	7518.03	3732.27	2.69	-0.863	0.000	0.478
32.00	-33.77	-27.15	0.00	-1696.9	0.00	1696.95	3826.23	1913.12	7371.01	3659.28	3.06	-0.924	0.000	0.473
35.00	-32.20	-26.83	0.00	-1615.5	0.00	1615.52	3781.74	1890.87	7151.59	3550.35	3.67	-1.016	0.000	0.464
37.50	-30.91	-26.56	0.00	-1548.4	0.00	1548.45	3783.94	1891.97	7162.31	3555.67	4.23	-1.093	0.000	0.444
40.00	-30.17	-26.33	0.00	-1482.0	0.00	1482.05	3746.19	1873.09	6980.48	3465.40	4.82	-1.171	0.000	0.436
45.00	-28.76	-25.80	0.00	-1350.4	0.00	1350.43	3668.73	1834.37	6619.97	3286.43	6.13	-1.316	0.000	0.419
50.00	-27.38	-25.28	0.00	-1221.4	0.00	1221.42	3588.69	1794.34	6264.07	3109.75	7.58	-1.460	0.000	0.401
55.00	-26.03	-24.76	0.00	-1095.0	0.00	1095.02	3506.05	1753.02	5913.22	2935.57	9.19	-1.604	0.000	0.381
60.00	-24.73	-24.24	0.00	-971.24	0.00	971.24	3420.81	1710.41	5567.90	2764.14	10.95	-1.746	0.000	0.359
64.83	-23.53	-23.71	0.00	-854.10	0.00	854.10	3335.96	1667.98	5239.76	2601.24	12.79	-1.881	0.000	0.336
65.00	-23.44	-23.72	0.00	-850.15	0.00	850.15	3332.99	1666.49	5228.55	2595.67	12.85	-1.885	0.000	0.335
69.50	-21.51	-23.20	0.00	-743.42	0.00	743.42	3299.78	1649.89	5104.40	2534.04	14.69	-2.008	0.000	0.300
70.00	-21.37	-23.17	0.00	-731.83	0.00	731.83	3290.76	1645.38	5071.06	2517.49	14.90	-2.022	0.000	0.297
75.00	-20.17	-22.64	0.00	-616.00	0.00	616.00	3199.12	1599.56	4741.34	2353.80	17.09	-2.143	0.000	0.268
80.00	-19.00	-22.13	0.00	-502.78	0.00	502.78	3073.61	1536.80	4374.21	2171.54	19.39	-2.256	0.000	0.238
85.00	-17.89	-21.61	0.00	-392.14	0.00	392.14	2947.70	1473.85	4021.34	1996.36	21.81	-2.357	0.000	0.203
87.00	-13.46	-16.17	0.00	-348.92	0.00	348.92	2897.34	1448.67	3884.35	1928.35	22.81	-2.396	0.000	0.186
90.00	-12.89	-15.87	0.00	-300.42	0.00	300.42	2821.79	1410.90	3683.31	1828.55	24.33	-2.449	0.000	0.169
95.00	-11.97	-15.38	0.00	-221.07	0.00	221.07	2695.89	1347.94	3360.11	1668.10	26.94	-2.525	0.000	0.137
97.00	-8.92	-12.00	0.00	-190.31	0.00	190.31	2645.52	1322.76	3234.99	1605.99	28.00	-2.553	0.000	0.122
98.50	-8.65	-11.86	0.00	-172.31	0.00	172.31	2607.75	1303.88	3142.71	1560.17	28.81	-2.572	0.000	0.114
100.00	-8.21	-11.71	0.00	-154.53	0.00	154.53	2569.98	1284.99	3051.76	1515.02	29.62	-2.591	0.000	0.105
102.33	-7.54	-11.47	0.00	-127.22	0.00	127.22	2143.60	1071.80	2553.25	1267.54	30.89	-2.616	0.000	0.104
105.00	-7.15	-11.22	0.00	-96.63	0.00	96.63	2087.65	1043.82	2420.99	1201.88	32.36	-2.641	0.000	0.084
107.00	-3.97	-7.62	0.00	-74.18	0.00	74.18	2045.68	1022.84	2324.11	1153.79	33.47	-2.658	0.000	0.066
110.00	-3.60	-7.35	0.00	-51.32	0.00	51.32	1982.72	991.36	2182.49	1083.48	35.15	-2.679	0.000	0.049
115.00	-3.01	-6.92	0.00	-14.57	0.00	14.57	1877.80	938.90	1956.35	971.22	37.96	-2.698	0.000	0.017
117.00	-0.29	-0.24	0.00	-0.73	0.00	0.73	1835.83	917.92	1869.36	928.03	39.09	-2.700	0.000	0.001
120.00	0.00	-0.23	0.00	0.00	0.00	0.00	1772.88	886.44	1742.58	865.09	40.79	-2.700	0.000	0.000

Wind Loading - Shaft

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



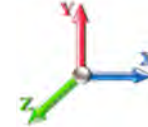
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 20

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	17.879	19.67	408.88	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	398.56	0.750	0.000	5.00	23.543	17.66	555.6	0.0	1008.2
10.00		1.00	0.85	17.879	19.67	388.24	0.750	0.000	5.00	22.941	17.21	541.4	0.0	982.3
15.00		1.00	0.85	17.879	19.67	377.92	0.750	0.000	5.00	22.339	16.75	527.2	0.0	956.3
20.00		1.00	0.90	18.971	20.87	378.65	0.750	0.000	5.00	21.737	16.30	544.3	0.0	930.4
25.00		1.00	0.95	19.883	21.87	376.76	0.750	0.000	5.00	21.135	15.85	554.7	0.0	904.4
30.00		1.00	0.98	20.661	22.73	372.97	0.750	0.000	5.00	20.533	15.40	560.0	0.0	878.5
32.00	Bot - Section 2	1.00	1.00	20.944	23.04	371.04	0.750	0.000	2.00	8.045	6.03	222.4	0.0	344.1
35.00		1.00	1.01	21.343	23.48	367.80	0.750	0.000	3.00	12.078	9.06	340.3	0.0	1025.1
37.50	Top - Section 1	1.00	1.03	21.655	23.82	364.80	0.750	0.000	2.50	9.899	7.42	283.0	0.0	839.9
40.00		1.00	1.04	21.951	24.15	367.62	0.750	0.000	2.50	9.749	7.31	282.5	0.0	416.9
45.00		1.00	1.07	22.502	24.75	360.63	0.750	0.000	5.00	19.047	14.28	565.7	0.0	814.4
50.00		1.00	1.09	23.007	25.31	352.94	0.750	0.000	5.00	18.445	13.83	560.1	0.0	788.4
55.00		1.00	1.12	23.473	25.82	344.68	0.750	0.000	5.00	17.843	13.38	552.9	0.0	762.5
60.00		1.00	1.14	23.907	26.30	335.91	0.750	0.000	5.00	17.241	12.93	544.1	0.0	736.5
64.83	Bot - Section 3	1.00	1.16	24.300	26.73	327.03	0.750	0.000	4.83	16.094	12.07	516.2	0.0	687.3
65.00		1.00	1.16	24.313	26.74	326.72	0.750	0.000	0.17	0.556	0.42	17.8	0.0	47.0
69.50	Top - Section 2	1.00	1.17	24.658	27.12	318.12	0.750	0.000	4.50	14.747	11.06	480.0	0.0	1247.0
70.00		1.00	1.17	24.696	27.17	323.57	0.750	0.000	0.50	1.609	1.21	52.4	0.0	68.7
75.00		1.00	1.19	25.057	27.56	313.71	0.750	0.000	5.00	15.754	11.82	521.1	0.0	672.4
80.00		1.00	1.21	25.400	27.94	303.55	0.750	0.000	5.00	15.152	11.36	508.0	0.0	646.5
85.00		1.00	1.22	25.726	28.30	293.11	0.750	0.000	5.00	14.550	10.91	494.1	0.0	620.5
87.00	Appurtenance(s)	1.00	1.23	25.852	28.44	288.87	0.750	0.000	2.00	5.652	4.24	192.9	0.0	240.9
90.00		1.00	1.24	26.037	28.64	282.43	0.750	0.000	3.00	8.297	6.22	285.2	0.0	353.6
95.00		1.00	1.25	26.336	28.97	271.51	0.750	0.000	5.00	13.347	10.01	464.0	0.0	568.6
97.00	Appurtenance(s)	1.00	1.26	26.451	29.10	267.09	0.750	0.000	2.00	5.170	3.88	180.5	0.0	220.2
98.50	Bot - Section 4	1.00	1.26	26.537	29.19	263.75	0.750	0.000	1.50	3.814	2.86	133.6	0.0	162.4
100.00		1.00	1.27	26.621	29.28	260.39	0.750	0.000	1.50	3.840	2.88	134.9	0.0	296.6
102.33	Top - Section 3	1.00	1.27	26.751	29.43	255.13	0.750	0.000	2.33	5.866	4.40	207.1	0.0	452.9
105.00		1.00	1.28	26.896	29.59	254.66	0.750	0.000	2.67	6.543	4.91	232.3	0.0	232.6
107.00	Appurtenance(s)	1.00	1.28	27.003	29.70	250.09	0.750	0.000	2.00	4.795	3.60	170.9	0.0	170.4
110.00		1.00	1.29	27.161	29.88	243.19	0.750	0.000	3.00	7.012	5.26	251.4	0.0	249.1
115.00		1.00	1.30	27.416	30.16	231.55	0.750	0.000	5.00	11.205	8.40	405.5	0.0	397.8
117.00	Appurtenance(s)	1.00	1.31	27.516	30.27	226.85	0.750	0.000	2.00	4.313	3.24	156.7	0.0	153.1
120.00		1.00	1.32	27.663	30.43	219.75	0.750	0.000	3.00	6.290	4.72	229.7	0.0	223.1
Totals:									120.00			12,268.6		19,098.6

Discrete Appurtenance Forces

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 20

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	117.00	GPS	1	27.516	30.268	0.50	1.00	0.50	9.00	0.000	0.000	24.21	0.00	0.00	
2	117.00	HBXX-6517DS-VTM	6	27.516	30.268	0.77	1.00	39.50	219.78	0.000	0.000	1912.97	0.00	0.00	
3	117.00	LNx-6514DS-VTM (72.7"	3	27.516	30.268	0.83	1.00	20.34	104.76	0.000	0.000	985.19	0.00	0.00	
4	117.00	LPA-80080/4CF	6	27.516	30.268	1.70	1.00	26.62	64.80	0.000	0.000	1289.26	0.00	0.00	
5	117.00	Low Profile	1	27.516	30.268	1.00	1.00	22.00	1350.00	0.000	0.000	1065.42	0.00	0.00	
6	117.00	RRH2X60-AWS	3	27.516	30.268	0.76	1.00	7.98	148.50	0.000	0.000	386.46	0.00	0.00	
7	117.00	RRH2X60-PCS	3	27.516	30.268	0.89	1.00	5.87	148.50	0.000	0.000	284.47	0.00	0.00	
8	117.00	DB-T1-6Z-8AB-0Z	2	27.516	30.268	0.71	1.00	6.82	34.02	0.000	0.000	330.09	0.00	0.00	
9	117.00	FD9R6004/2C-3L 3.1#	6	27.516	30.268	1.00	1.00	2.16	16.74	0.000	0.000	104.61	0.00	0.00	
10	107.00	HRK12 (Handrail Kit)	1	27.003	29.704	1.00	1.00	6.75	235.55	0.000	0.000	320.80	0.00	0.00	
11	107.00	Low Profile	1	27.003	29.704	1.00	1.00	22.00	1350.00	0.000	0.000	1045.57	0.00	0.00	
12	107.00	APXVAARR24_43-U-NA2	3	27.003	29.704	0.52	0.75	31.88	345.60	0.000	0.000	1515.03	0.00	0.00	
13	107.00	4449	3	27.003	29.704	0.50	0.75	2.49	189.00	0.000	0.000	118.21	0.00	0.00	
14	107.00	KRY 112 144/1	3	27.003	29.704	0.50	0.75	0.62	29.70	0.000	0.000	29.37	0.00	0.00	
15	107.00	KRY 112 489/2	6	27.003	29.704	0.50	0.75	0.03	0.54	0.000	0.000	1.43	0.00	0.00	
16	107.00	MS-KI22-5 (Kickers w/o	1	27.003	29.704	1.00	1.00	5.33	131.40	0.000	0.000	253.31	0.00	0.00	
17	97.00	RDIDC-9181-PF-48	1	26.451	29.096	0.75	0.75	1.51	19.71	0.000	0.000	70.18	0.00	0.00	
18	97.00	TA08025-B605	3	26.451	29.096	0.50	0.75	2.95	202.50	0.000	0.000	137.55	0.00	0.00	
19	97.00	MC-PK8-DSH	1	26.451	29.096	1.00	1.00	37.59	1554.30	0.000	0.000	1749.98	0.00	0.00	
20	97.00	MX08FRO665-21	3	26.451	29.096	0.55	0.75	20.80	174.15	0.000	0.000	968.14	0.00	0.00	
21	97.00	TA08025-B604	3	26.451	29.096	0.50	0.75	2.95	172.53	0.000	0.000	137.55	0.00	0.00	
22	87.00	HRK12 (Handrail Kit)	1	25.852	28.438	1.00	1.00	6.75	235.55	0.000	0.000	307.13	0.00	0.00	
23	87.00	7770.00	3	25.852	28.438	0.55	0.75	9.03	94.50	0.000	0.000	411.04	0.00	0.00	
24	87.00	HPA-65R-BUU-H8	3	25.852	28.438	0.59	0.75	23.07	183.60	0.000	0.000	1049.78	0.00	0.00	
25	87.00	800 10966	3	25.852	28.438	0.54	0.75	28.12	339.39	0.000	0.000	1279.61	0.00	0.00	
26	87.00	Low Profile	1	25.852	28.438	1.00	1.00	22.00	1350.00	0.000	0.000	1001.00	0.00	0.00	
27	87.00	PRK-1245 (kicker kit)	1	25.852	28.438	1.00	1.00	9.50	418.42	0.000	0.000	432.25	0.00	0.00	
28	87.00	B2 B66A 8843	3	25.852	28.438	0.64	0.75	3.14	189.00	0.000	0.000	142.71	0.00	0.00	
29	87.00	TT19-08BP111-001	6	25.852	28.438	0.68	0.75	2.59	86.40	0.000	0.000	117.94	0.00	0.00	
30	87.00	LGP21903	6	25.852	28.438	0.63	0.75	1.02	29.70	0.000	0.000	46.44	0.00	0.00	
31	87.00	4449 B5/B12	3	25.852	28.438	0.65	0.75	3.81	191.70	0.000	0.000	173.44	0.00	0.00	
32	87.00	DC6-48-60-18-8F(23.5"	1	25.852	28.438	1.00	1.00	1.26	18.00	0.000	0.000	57.33	0.00	0.00	
33	87.00	DC6-48-60-18-8C	1	25.852	28.438	1.00	1.00	1.26	18.00	0.000	0.000	57.33	0.00	0.00	
Totals:									9,655.33						17,805.81

Total Applied Force Summary

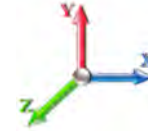
Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 20

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		555.62	1217.35	0.00	0.00
10.00		541.42	1191.40	0.00	0.00
15.00		527.21	1165.45	0.00	0.00
20.00		544.32	1139.50	0.00	0.00
25.00		554.71	1113.55	0.00	0.00
30.00		560.00	1087.60	0.00	0.00
32.00		222.41	427.77	0.00	0.00
35.00		340.26	1150.52	0.00	0.00
37.50		282.97	944.49	0.00	0.00
40.00		282.48	521.47	0.00	0.00
45.00		565.74	1023.48	0.00	0.00
50.00		560.15	997.53	0.00	0.00
55.00		552.85	971.58	0.00	0.00
60.00		544.08	945.63	0.00	0.00
64.83		516.24	889.45	0.00	0.00
65.00		17.83	53.96	0.00	0.00
69.50		480.02	1435.22	0.00	0.00
70.00		52.43	89.58	0.00	0.00
75.00		521.07	881.52	0.00	0.00
80.00		508.02	855.57	0.00	0.00
85.00		494.11	829.62	0.00	0.00
87.00	(32) attachments	5268.85	3478.84	0.00	0.00
90.00		285.16	429.65	0.00	0.00
95.00		463.97	695.33	0.00	0.00
97.00	(11) attachments	3243.92	2394.06	0.00	0.00
98.50		133.61	199.07	0.00	0.00
100.00		134.94	333.28	0.00	0.00
102.33		207.12	509.93	0.00	0.00
105.00		232.30	297.74	0.00	0.00
107.00	(18) attachments	3454.65	2501.05	0.00	0.00
110.00		251.39	285.91	0.00	0.00
115.00		405.50	459.21	0.00	0.00
117.00	(31) attachments	6539.35	2273.73	0.00	0.00
120.00		229.67	223.13	0.00	0.00
Totals:		30,074.38	33,013.18	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

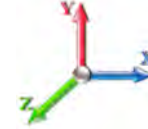
Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 20

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)
5.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.028	0.000	17.879	0.00	4.50
10.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.029	0.000	17.879	0.00	4.50
15.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.030	0.000	17.879	0.00	4.50
20.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.031	0.000	18.971	0.00	4.50
25.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.032	0.000	19.883	0.00	4.50
30.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.032	0.000	20.661	0.00	4.50
32.00	1.6" Hybrid	Yes	2.00	0.000	1.60	0.27	0.00	0.033	0.000	20.944	0.00	1.80
35.00	1.6" Hybrid	Yes	3.00	0.000	1.60	0.40	0.00	0.034	0.000	21.343	0.00	2.70
37.50	1.6" Hybrid	Yes	2.50	0.000	1.60	0.33	0.00	0.034	0.000	21.655	0.00	2.25
40.00	1.6" Hybrid	Yes	2.50	0.000	1.60	0.33	0.00	0.034	0.000	21.951	0.00	2.25
45.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.035	0.000	22.502	0.00	4.50
50.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.036	0.000	23.007	0.00	4.50
55.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.037	0.000	23.473	0.00	4.50
60.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.039	0.000	23.907	0.00	4.50
64.83	1.6" Hybrid	Yes	4.83	0.000	1.60	0.64	0.00	0.040	0.000	24.300	0.00	4.35
65.00	1.6" Hybrid	Yes	0.17	0.000	1.60	0.02	0.00	0.041	0.000	24.313	0.00	0.15
69.50	1.6" Hybrid	Yes	4.50	0.000	1.60	0.60	0.00	0.041	0.000	24.658	0.00	4.05
70.00	1.6" Hybrid	Yes	0.50	0.000	1.60	0.07	0.00	0.041	0.000	24.696	0.00	0.45
75.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.042	0.000	25.057	0.00	4.50
80.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.044	0.000	25.400	0.00	4.50
85.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.046	0.000	25.726	0.00	4.50
87.00	1.6" Hybrid	Yes	2.00	0.000	1.60	0.27	0.00	0.047	0.000	25.852	0.00	1.80
90.00	1.6" Hybrid	Yes	3.00	0.000	1.60	0.40	0.00	0.048	0.000	26.037	0.00	2.70
95.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.050	0.000	26.336	0.00	4.50
97.00	1.6" Hybrid	Yes	2.00	0.000	1.60	0.27	0.00	0.052	0.000	26.451	0.00	1.80
Totals:											0.0	87.3

Calculated Forces

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



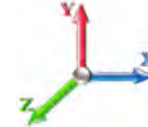
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 20

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	-32.98	-30.11	0.00	-2605.6	0.00	2605.61	4242.75	2121.37	9773.47	4851.96	0.00	0.000	0.000	0.545
5.00	-31.69	-29.63	0.00	-2455.0	0.00	2455.04	4184.67	2092.33	9393.09	4663.13	0.07	-0.137	0.000	0.534
10.00	-30.43	-29.16	0.00	-2306.8	0.00	2306.87	4124.00	2062.00	9013.89	4474.88	0.29	-0.277	0.000	0.523
15.00	-29.19	-28.70	0.00	-2161.0	0.00	2161.06	4060.73	2030.37	8636.33	4287.44	0.66	-0.419	0.000	0.511
20.00	-27.99	-28.22	0.00	-2017.5	0.00	2017.55	3994.87	1997.44	8260.86	4101.04	1.18	-0.563	0.000	0.499
25.00	-26.81	-27.72	0.00	-1876.4	0.00	1876.45	3926.42	1963.21	7887.94	3915.90	1.85	-0.709	0.000	0.486
30.00	-25.68	-27.19	0.00	-1737.8	0.00	1737.85	3855.38	1927.69	7518.03	3732.27	2.67	-0.857	0.000	0.472
32.00	-25.22	-27.00	0.00	-1683.4	0.00	1683.47	3826.23	1913.12	7371.01	3659.28	3.04	-0.918	0.000	0.467
35.00	-24.04	-26.67	0.00	-1602.4	0.00	1602.48	3781.74	1890.87	7151.59	3550.35	3.65	-1.009	0.000	0.458
37.50	-23.06	-26.40	0.00	-1535.8	0.00	1535.80	3783.94	1891.97	7162.31	3555.67	4.20	-1.085	0.000	0.438
40.00	-22.49	-26.15	0.00	-1469.7	0.00	1469.79	3746.19	1873.09	6980.48	3465.40	4.79	-1.162	0.000	0.430
45.00	-21.42	-25.62	0.00	-1339.0	0.00	1339.02	3668.73	1834.37	6619.97	3286.43	6.08	-1.306	0.000	0.413
50.00	-20.37	-25.09	0.00	-1210.9	0.00	1210.92	3588.69	1794.34	6264.07	3109.75	7.53	-1.449	0.000	0.395
55.00	-19.36	-24.56	0.00	-1085.4	0.00	1085.49	3506.05	1753.02	5913.22	2935.57	9.12	-1.592	0.000	0.375
60.00	-18.37	-24.03	0.00	-962.70	0.00	962.70	3420.81	1710.41	5567.90	2764.14	10.87	-1.732	0.000	0.354
64.83	-17.47	-23.51	0.00	-846.56	0.00	846.56	3335.96	1667.98	5239.76	2601.24	12.69	-1.866	0.000	0.331
65.00	-17.39	-23.51	0.00	-842.65	0.00	842.65	3332.99	1666.49	5228.55	2595.67	12.76	-1.871	0.000	0.330
69.50	-15.94	-23.00	0.00	-736.87	0.00	736.87	3299.78	1649.89	5104.40	2534.04	14.58	-1.992	0.000	0.296
70.00	-15.83	-22.96	0.00	-725.37	0.00	725.37	3290.76	1645.38	5071.06	2517.49	14.79	-2.006	0.000	0.293
75.00	-14.92	-22.44	0.00	-610.57	0.00	610.57	3199.12	1599.56	4741.34	2353.80	16.96	-2.126	0.000	0.264
80.00	-14.04	-21.92	0.00	-498.39	0.00	498.39	3073.61	1536.80	4374.21	2171.54	19.25	-2.238	0.000	0.234
85.00	-13.21	-21.41	0.00	-388.77	0.00	388.77	2947.70	1473.85	4021.34	1996.36	21.65	-2.339	0.000	0.199
87.00	-9.94	-16.01	0.00	-345.95	0.00	345.95	2897.34	1448.67	3884.35	1928.35	22.63	-2.376	0.000	0.183
90.00	-9.50	-15.72	0.00	-297.91	0.00	297.91	2821.79	1410.90	3683.31	1828.55	24.14	-2.429	0.000	0.166
95.00	-8.82	-15.23	0.00	-219.31	0.00	219.31	2695.89	1347.94	3360.11	1668.10	26.73	-2.505	0.000	0.135
97.00	-6.56	-11.89	0.00	-188.84	0.00	188.84	2645.52	1322.76	3234.99	1605.99	27.79	-2.533	0.000	0.120
98.50	-6.37	-11.75	0.00	-171.00	0.00	171.00	2607.75	1303.88	3142.71	1560.17	28.59	-2.552	0.000	0.112
100.00	-6.03	-11.60	0.00	-153.38	0.00	153.38	2569.98	1284.99	3051.76	1515.02	29.39	-2.570	0.000	0.104
102.33	-5.53	-11.38	0.00	-126.30	0.00	126.30	2143.60	1071.80	2553.25	1267.54	30.65	-2.595	0.000	0.102
105.00	-5.24	-11.13	0.00	-95.97	0.00	95.97	2087.65	1043.82	2420.99	1201.88	32.11	-2.620	0.000	0.082
107.00	-2.90	-7.57	0.00	-73.70	0.00	73.70	2045.68	1022.84	2324.11	1153.79	33.21	-2.637	0.000	0.065
110.00	-2.62	-7.30	0.00	-51.00	0.00	51.00	1982.72	991.36	2182.49	1083.48	34.87	-2.657	0.000	0.048
115.00	-2.18	-6.88	0.00	-14.48	0.00	14.48	1877.80	938.90	1956.35	971.22	37.67	-2.676	0.000	0.016
117.00	-0.21	-0.24	0.00	-0.72	0.00	0.72	1835.83	917.92	1869.36	928.03	38.79	-2.679	0.000	0.001
120.00	0.00	-0.23	0.00	0.00	0.00	0.00	1772.88	886.44	1742.58	865.09	40.47	-2.679	0.000	0.000

Wind Loading - Shaft

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: 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 19

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
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	5.00	24.923	29.91	170.0	590.0	1934.3
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	24.420	29.30	166.6	617.7	1927.5
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	23.879	28.66	162.9	627.6	1902.7
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	5.00	23.322	27.99	168.8	629.5	1870.0
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	22.756	27.31	172.6	626.8	1832.7
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	22.184	26.62	174.9	621.0	1792.3
32.00	Bot - Section 2	1.00	1.00	6.054	6.66	0.00	1.200	1.994	2.00	8.709	10.45	69.6	247.2	706.1
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	3.00	13.084	15.70	106.5	373.5	1740.3
37.50	Top - Section 1	1.00	1.03	6.259	6.89	0.00	1.200	2.026	2.50	10.743	12.89	88.8	309.0	1428.9
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	2.50	10.598	12.72	88.8	306.5	862.4
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	5.00	20.766	24.92	178.3	602.1	1687.9
50.00		1.00	1.09	6.650	7.32	0.00	1.200	2.085	5.00	20.182	24.22	177.2	590.1	1641.3
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	5.00	19.597	23.52	175.5	577.1	1593.8
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	19.010	22.81	173.4	563.4	1545.4
64.83	Bot - Section 3	1.00	1.16	7.024	7.73	0.00	1.200	2.140	4.83	17.818	21.38	165.2	531.2	1447.6
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	0.17	0.615	0.74	5.7	18.6	81.3
69.50	Top - Section 2	1.00	1.17	7.128	7.84	0.00	1.200	2.155	4.50	16.363	19.64	154.0	491.1	2153.8
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	0.50	1.788	2.15	16.8	54.4	146.0
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	17.563	21.08	167.9	528.7	1425.2
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	5.00	16.973	20.37	164.5	512.7	1374.7
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	5.00	16.382	19.66	160.8	496.3	1323.7
87.00	Appurtenance(s)	1.00	1.23	7.473	8.22	0.00	1.200	2.204	2.00	6.386	7.66	63.0	195.9	517.1
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	3.00	9.402	11.28	93.4	287.7	759.2
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	5.00	15.199	18.24	152.7	462.4	1220.5
97.00	Appurtenance(s)	1.00	1.26	7.646	8.41	0.00	1.200	2.228	2.00	5.913	7.10	59.7	182.2	475.7
98.50	Bot - Section 4	1.00	1.26	7.671	8.44	0.00	1.200	2.231	1.50	4.372	5.25	44.3	135.1	351.6
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	1.50	4.399	5.28	44.7	136.1	531.6
102.33	Top - Section 3	1.00	1.27	7.732	8.51	0.00	1.200	2.240	2.33	6.737	8.08	68.8	207.9	811.8
105.00		1.00	1.28	7.774	8.55	0.00	1.200	2.245	2.67	7.541	9.05	77.4	232.5	542.6
107.00	Appurtenance(s)	1.00	1.28	7.805	8.59	0.00	1.200	2.250	2.00	5.545	6.65	57.1	171.5	398.7
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	3.00	8.140	9.77	84.4	250.8	582.9
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	5.00	13.093	15.71	137.0	399.7	930.1
117.00	Appurtenance(s)	1.00	1.31	7.954	8.75	0.00	1.200	2.270	2.00	5.070	6.08	53.2	156.9	361.0
120.00		1.00	1.32	7.996	8.80	0.00	1.200	2.276	3.00	7.427	8.91	78.4	228.7	526.2
Totals:									120.00			3,922.8	38,426.8	

Discrete Appurtenance Forces

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

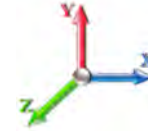


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 19

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	117.00	GPS	1	7.954	8.749	0.52	1.00	1.00	42.13	0.000	0.000	8.76	0.00	0.00	
2	117.00	HBXX-6517DS-VTM	6	7.954	8.749	0.79	1.00	58.52	1361.16	0.000	0.000	511.99	0.00	0.00	
3	117.00	LNx-6514DS-VTM (72.7"	3	7.954	8.749	0.85	1.00	30.20	676.08	0.000	0.000	264.19	0.00	0.00	
4	117.00	LPA-80080/4CF	6	7.954	8.749	1.70	1.00	38.20	1211.88	0.000	0.000	334.25	0.00	0.00	
5	117.00	Low Profile	1	7.954	8.749	1.00	1.00	44.97	3202.39	0.000	0.000	393.45	0.00	0.00	
6	117.00	RRH2X60-AWS	3	7.954	8.749	0.76	1.00	10.32	449.90	0.000	0.000	90.29	0.00	0.00	
7	117.00	RRH2X60-PCS	3	7.954	8.749	0.91	1.00	8.33	551.63	0.000	0.000	72.86	0.00	0.00	
8	117.00	DB-T1-6Z-8AB-0Z	2	7.954	8.749	0.73	1.00	8.70	439.62	0.000	0.000	76.12	0.00	0.00	
9	117.00	FD9R6004/2C-3L 3.1#	6	7.954	8.749	1.00	1.00	5.62	71.16	0.000	0.000	49.16	0.00	0.00	
10	107.00	HRK12 (Handrail Kit)	1	7.805	8.586	1.00	1.00	15.25	976.16	0.000	0.000	130.97	0.00	0.00	
11	107.00	Low Profile	1	7.805	8.586	1.00	1.00	44.77	3187.25	0.000	0.000	384.36	0.00	0.00	
12	107.00	APXVAARR24_43-U-NA2	3	7.805	8.586	0.52	0.75	35.78	2136.88	0.000	0.000	307.18	0.00	0.00	
13	107.00	4449	3	7.805	8.586	0.50	0.75	3.57	535.99	0.000	0.000	30.61	0.00	0.00	
14	107.00	KRY 112 144/1	3	7.805	8.586	0.50	0.75	1.54	71.99	0.000	0.000	13.23	0.00	0.00	
15	107.00	KRY 112 489/2	6	7.805	8.586	0.50	0.75	0.03	1.32	0.000	0.000	0.26	0.00	0.00	
16	107.00	MS-KI22-5 (Kickers w/o	1	7.805	8.586	1.00	1.00	12.52	373.96	0.000	0.000	107.53	0.00	0.00	
17	97.00	RDIDC-9181-PF-48	1	7.646	8.410	0.75	0.75	2.05	81.55	0.000	0.000	17.25	0.00	0.00	
18	97.00	TA08025-B605	3	7.646	8.410	0.50	0.75	4.03	432.49	0.000	0.000	33.93	0.00	0.00	
19	97.00	MC-PK8-DSH	1	7.646	8.410	1.00	1.00	97.88	3853.85	0.000	0.000	823.22	0.00	0.00	
20	97.00	MX08FRO665-21	3	7.646	8.410	0.55	0.75	23.91	1144.46	0.000	0.000	201.08	0.00	0.00	
21	97.00	TA08025-B604	3	7.646	8.410	0.50	0.75	4.03	387.62	0.000	0.000	33.93	0.00	0.00	
22	87.00	HRK12 (Handrail Kit)	1	7.473	8.220	1.00	1.00	15.08	967.96	0.000	0.000	123.95	0.00	0.00	
23	87.00	7770.00	3	7.473	8.220	0.56	0.75	11.59	669.02	0.000	0.000	95.27	0.00	0.00	
24	87.00	HPA-65R-BUU-H8	3	7.473	8.220	0.61	0.75	27.43	1395.38	0.000	0.000	225.49	0.00	0.00	
25	87.00	800 10966	3	7.473	8.220	0.55	0.75	32.75	1858.55	0.000	0.000	269.18	0.00	0.00	
26	87.00	Low Profile	1	7.473	8.220	1.00	1.00	44.30	3152.69	0.000	0.000	364.14	0.00	0.00	
27	87.00	PRK-1245 (kicker kit)	1	7.473	8.220	1.00	1.00	22.06	872.59	0.000	0.000	181.33	0.00	0.00	
28	87.00	B2 B66A 8843	3	7.473	8.220	0.65	0.75	4.49	392.28	0.000	0.000	36.88	0.00	0.00	
29	87.00	TT19-08BP111-001	6	7.473	8.220	0.69	0.75	5.75	233.73	0.000	0.000	47.25	0.00	0.00	
30	87.00	LGP21903	6	7.473	8.220	0.65	0.75	2.99	89.05	0.000	0.000	24.56	0.00	0.00	
31	87.00	4449 B5/B12	3	7.473	8.220	0.66	0.75	5.27	417.00	0.000	0.000	43.31	0.00	0.00	
32	87.00	DC6-48-60-18-8F(23.5"	1	7.473	8.220	1.00	1.00	2.09	75.52	0.000	0.000	17.20	0.00	0.00	
33	87.00	DC6-48-60-18-8C	1	7.473	8.220	1.00	1.00	2.09	75.52	0.000	0.000	17.20	0.00	0.00	
Totals:									31,388.75						5,330.42

Total Applied Force Summary

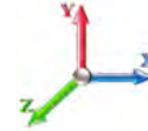
Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 19

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		170.02	2241.25	0.00	0.00
10.00		166.59	2237.63	0.00	0.00
15.00		162.90	2214.96	0.00	0.00
20.00		168.81	2183.84	0.00	0.00
25.00		172.64	2147.81	0.00	0.00
30.00		174.88	2108.51	0.00	0.00
32.00		69.60	832.69	0.00	0.00
35.00		106.54	1930.55	0.00	0.00
37.50		88.77	1587.69	0.00	0.00
40.00		88.77	1021.38	0.00	0.00
45.00		178.29	2006.65	0.00	0.00
50.00		177.16	1960.72	0.00	0.00
55.00		175.51	1913.81	0.00	0.00
60.00		173.41	1866.06	0.00	0.00
64.83		165.20	1758.02	0.00	0.00
65.00		5.71	92.00	0.00	0.00
69.50		153.95	2443.31	0.00	0.00
70.00		16.85	178.15	0.00	0.00
75.00		167.91	1747.43	0.00	0.00
80.00		164.49	1697.33	0.00	0.00
85.00		160.81	1646.77	0.00	0.00
87.00	(32) attachments	1508.78	10845.70	0.00	0.00
90.00		93.41	887.41	0.00	0.00
95.00		152.73	1434.59	0.00	0.00
97.00	(11) attachments	1169.09	6461.39	0.00	0.00
98.50		44.27	400.49	0.00	0.00
100.00		44.68	580.50	0.00	0.00
102.33		68.76	887.80	0.00	0.00
105.00		77.39	629.51	0.00	0.00
107.00	(18) attachments	1031.28	7747.43	0.00	0.00
110.00		84.35	631.99	0.00	0.00
115.00		136.96	1011.95	0.00	0.00
117.00	(31) attachments	1854.30	8399.70	0.00	0.00
120.00		78.39	526.18	0.00	0.00
	Totals:	9,253.17	76,261.18	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

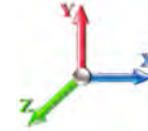


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 19

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)
5.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.05	0.00	0.028	0.000	5.168	0.00	34.13
10.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.15	0.00	0.029	0.000	5.168	0.00	37.36
15.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.21	0.00	0.030	0.000	5.168	0.00	39.44
20.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.25	0.00	0.031	0.000	5.483	0.00	41.01
25.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.29	0.00	0.032	0.000	5.747	0.00	42.29
30.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.32	0.00	0.032	0.000	5.972	0.00	43.37
32.00	1.6" Hybrid	Yes	2.00	0.000	1.60	0.93	0.00	0.033	0.000	6.054	0.00	17.50
35.00	1.6" Hybrid	Yes	3.00	0.000	1.60	1.41	0.00	0.034	0.000	6.169	0.00	26.59
37.50	1.6" Hybrid	Yes	2.50	0.000	1.60	1.18	0.00	0.034	0.000	6.259	0.00	22.37
40.00	1.6" Hybrid	Yes	2.50	0.000	1.60	1.18	0.00	0.034	0.000	6.345	0.00	22.57
45.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.39	0.00	0.035	0.000	6.504	0.00	45.90
50.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.40	0.00	0.036	0.000	6.650	0.00	46.59
55.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.42	0.00	0.037	0.000	6.785	0.00	47.23
60.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.44	0.00	0.039	0.000	6.910	0.00	47.82
64.83	1.6" Hybrid	Yes	4.83	0.000	1.60	2.37	0.00	0.040	0.000	7.024	0.00	46.74
65.00	1.6" Hybrid	Yes	0.17	0.000	1.60	0.08	0.00	0.041	0.000	7.028	0.00	1.61
69.50	1.6" Hybrid	Yes	4.50	0.000	1.60	2.22	0.00	0.041	0.000	7.128	0.00	43.95
70.00	1.6" Hybrid	Yes	0.50	0.000	1.60	0.25	0.00	0.041	0.000	7.138	0.00	4.89
75.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.48	0.00	0.042	0.000	7.243	0.00	49.37
80.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.49	0.00	0.044	0.000	7.342	0.00	49.83
85.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.50	0.00	0.046	0.000	7.436	0.00	50.27
87.00	1.6" Hybrid	Yes	2.00	0.000	1.60	1.00	0.00	0.047	0.000	7.473	0.00	20.18
90.00	1.6" Hybrid	Yes	3.00	0.000	1.60	1.51	0.00	0.048	0.000	7.526	0.00	30.41
95.00	1.6" Hybrid	Yes	5.00	0.000	1.60	2.52	0.00	0.050	0.000	7.612	0.00	51.09
97.00	1.6" Hybrid	Yes	2.00	0.000	1.60	1.01	0.00	0.052	0.000	7.646	0.00	20.50
Totals:											0.0	883.0

Calculated Forces

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

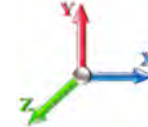


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 19

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	-76.26	-9.28	0.00	-822.54	0.00	822.54	4242.75	2121.37	9773.47	4851.96	0.00	0.000	0.000	0.188
5.00	-74.01	-9.17	0.00	-776.13	0.00	776.13	4184.67	2092.33	9393.09	4663.13	0.02	-0.043	0.000	0.184
10.00	-71.76	-9.05	0.00	-730.29	0.00	730.29	4124.00	2062.00	9013.89	4474.88	0.09	-0.088	0.000	0.181
15.00	-69.54	-8.94	0.00	-685.02	0.00	685.02	4060.73	2030.37	8636.33	4287.44	0.21	-0.133	0.000	0.177
20.00	-67.35	-8.82	0.00	-640.31	0.00	640.31	3994.87	1997.44	8260.86	4101.04	0.37	-0.178	0.000	0.173
25.00	-65.20	-8.69	0.00	-596.20	0.00	596.20	3926.42	1963.21	7887.94	3915.90	0.58	-0.225	0.000	0.169
30.00	-63.09	-8.55	0.00	-552.73	0.00	552.73	3855.38	1927.69	7518.03	3732.27	0.85	-0.271	0.000	0.164
32.00	-62.25	-8.50	0.00	-535.64	0.00	535.64	3826.23	1913.12	7371.01	3659.28	0.96	-0.291	0.000	0.163
35.00	-60.32	-8.41	0.00	-510.14	0.00	510.14	3781.74	1890.87	7151.59	3550.35	1.16	-0.320	0.000	0.160
37.50	-58.73	-8.34	0.00	-489.11	0.00	489.11	3783.94	1891.97	7162.31	3555.67	1.33	-0.344	0.000	0.153
40.00	-57.70	-8.28	0.00	-468.27	0.00	468.27	3746.19	1873.09	6980.48	3465.40	1.52	-0.369	0.000	0.151
45.00	-55.69	-8.13	0.00	-426.88	0.00	426.88	3668.73	1834.37	6619.97	3286.43	1.93	-0.415	0.000	0.145
50.00	-53.72	-7.98	0.00	-386.23	0.00	386.23	3588.69	1794.34	6264.07	3109.75	2.39	-0.460	0.000	0.139
55.00	-51.80	-7.83	0.00	-346.32	0.00	346.32	3506.05	1753.02	5913.22	2935.57	2.89	-0.506	0.000	0.133
60.00	-49.93	-7.68	0.00	-307.17	0.00	307.17	3420.81	1710.41	5567.90	2764.14	3.45	-0.551	0.000	0.126
64.83	-48.17	-7.51	0.00	-270.06	0.00	270.06	3335.96	1667.98	5239.76	2601.24	4.03	-0.593	0.000	0.118
65.00	-48.08	-7.52	0.00	-268.80	0.00	268.80	3332.99	1666.49	5228.55	2595.67	4.05	-0.595	0.000	0.118
69.50	-45.64	-7.36	0.00	-234.95	0.00	234.95	3299.78	1649.89	5104.40	2534.04	4.63	-0.633	0.000	0.107
70.00	-45.45	-7.36	0.00	-231.26	0.00	231.26	3290.76	1645.38	5071.06	2517.49	4.70	-0.638	0.000	0.106
75.00	-43.70	-7.20	0.00	-194.47	0.00	194.47	3199.12	1599.56	4741.34	2353.80	5.38	-0.676	0.000	0.096
80.00	-42.01	-7.04	0.00	-158.47	0.00	158.47	3073.61	1536.80	4374.21	2171.54	6.11	-0.712	0.000	0.087
85.00	-40.36	-6.87	0.00	-123.27	0.00	123.27	2947.70	1473.85	4021.34	1996.36	6.88	-0.744	0.000	0.075
87.00	-29.53	-5.23	0.00	-109.53	0.00	109.53	2897.34	1448.67	3884.35	1928.35	7.19	-0.756	0.000	0.067
90.00	-28.64	-5.13	0.00	-93.84	0.00	93.84	2821.79	1410.90	3683.31	1828.55	7.67	-0.772	0.000	0.061
95.00	-27.21	-4.97	0.00	-68.17	0.00	68.17	2695.89	1347.94	3360.11	1668.10	8.49	-0.796	0.000	0.051
97.00	-20.77	-3.71	0.00	-58.23	0.00	58.23	2645.52	1322.76	3234.99	1605.99	8.83	-0.805	0.000	0.044
98.50	-20.37	-3.67	0.00	-52.66	0.00	52.66	2607.75	1303.88	3142.71	1560.17	9.08	-0.811	0.000	0.042
100.00	-19.78	-3.61	0.00	-47.16	0.00	47.16	2569.98	1284.99	3051.76	1515.02	9.34	-0.816	0.000	0.039
102.33	-18.90	-3.54	0.00	-38.73	0.00	38.73	2143.60	1071.80	2553.25	1267.54	9.74	-0.824	0.000	0.039
105.00	-18.27	-3.45	0.00	-29.30	0.00	29.30	2087.65	1043.82	2420.99	1201.88	10.20	-0.832	0.000	0.033
107.00	-10.54	-2.31	0.00	-22.39	0.00	22.39	2045.68	1022.84	2324.11	1153.79	10.55	-0.837	0.000	0.025
110.00	-9.91	-2.22	0.00	-15.47	0.00	15.47	1982.72	991.36	2182.49	1083.48	11.08	-0.843	0.000	0.019
115.00	-8.90	-2.06	0.00	-4.39	0.00	4.39	1877.80	938.90	1956.35	971.22	11.97	-0.849	0.000	0.009
117.00	-0.52	-0.09	0.00	-0.26	0.00	0.26	1835.83	917.92	1869.36	928.03	12.32	-0.849	0.000	0.001
120.00	0.00	-0.08	0.00	0.00	0.00	0.00	1772.88	886.44	1742.58	865.09	12.86	-0.849	0.000	0.000

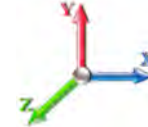
Seismic Segment Forces (Factored)

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E				Iterations 18
Gust Response Factor	1.10	Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.50	SA 0.05
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1120.2	0.00	0.04	0.02	17.48	
10.00		1091.4	0.01	0.06	0.03	24.68	
15.00		1062.5	0.03	0.07	0.04	27.50	
20.00		1033.7	0.05	0.07	0.04	28.52	
25.00		1004.9	0.08	0.07	0.04	28.94	
30.00		976.09	0.12	0.07	0.03	29.17	
32.00	Bot - Section 2	382.36	0.13	0.07	0.03	11.58	
35.00		1138.9	0.16	0.07	0.03	35.08	
37.50	Top - Section 1	933.26	0.18	0.06	0.03	29.00	
40.00		463.24	0.21	0.06	0.02	14.42	
45.00		904.85	0.27	0.05	0.02	27.33	
50.00		876.02	0.33	0.04	0.01	23.86	
55.00		847.19	0.40	0.02	0.01	18.26	
60.00		818.35	0.47	-0.01	0.01	10.68	
64.83	Bot - Section 3	763.67	0.55	-0.04	0.01	2.26	
65.00		52.21	0.55	-0.04	0.01	0.14	
69.50	Top - Section 2	1385.5	0.63	-0.07	0.02	-9.47	
70.00		76.30	0.64	-0.07	0.02	-0.59	
75.00		747.12	0.74	-0.10	0.04	-11.56	
80.00		718.29	0.84	-0.12	0.07	-12.93	
85.00		689.45	0.95	-0.12	0.11	-9.48	
87.00	Appurtenance(s)	3772.4	0.99	-0.11	0.13	-37.51	
90.00		392.91	1.06	-0.09	0.16	-0.73	
95.00		631.79	1.18	-0.01	0.24	11.39	
97.00	Appurtenance(s)	2603.7	1.23	0.04	0.28	73.60	
98.50	Bot - Section 4	180.45	1.27	0.09	0.31	6.64	
100.00		329.57	1.31	0.14	0.35	15.19	
102.33	Top - Section 3	503.21	1.37	0.24	0.41	31.20	
105.00		258.39	1.45	0.38	0.48	21.30	
107.00	Appurtenance(s)	2724.6	1.50	0.51	0.55	270.55	
110.00		276.76	1.59	0.74	0.65	35.19	
115.00		442.04	1.74	1.26	0.87	79.76	
117.00	Appurtenance(s)	2499.0	1.80	1.52	0.97	510.24	
120.00		247.92	1.89	1.98	1.14	60.10	
Totals:		31,948.8				1,361.8	Total Wind: 30,074.4

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

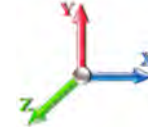
Calculated Forces

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E										Iterations 18
Gust Response Factor 1.10					Sds 0.19					Ss 0.18
Dead Load Factor 1.20			Seismic Load Factor 1.00			Sd1 0.10			S1 0.07	
Wind Load Factor 0.00		Structure Frequency (f1) 0.50		SA 0.05		Seismic Importance Factor 1.00				



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-44.02	-1.45	0.00	-138.61	0.00	138.61	4242.75	2121.37	9773.47	4851.96	0.00	0.00	0.00	0.039
5.00	-42.39	-1.43	0.00	-131.38	0.00	131.38	4184.67	2092.33	9393.09	4663.13	0.00	-0.01	0.038	
10.00	-40.81	-1.41	0.00	-124.21	0.00	124.21	4124.00	2062.00	9013.89	4474.88	0.02	-0.01	0.038	
15.00	-39.25	-1.39	0.00	-117.14	0.00	117.14	4060.73	2030.37	8636.33	4287.44	0.04	-0.02	0.037	
20.00	-37.73	-1.37	0.00	-110.18	0.00	110.18	3994.87	1997.44	8260.86	4101.04	0.06	-0.03	0.036	
25.00	-36.25	-1.34	0.00	-103.34	0.00	103.34	3926.42	1963.21	7887.94	3915.90	0.10	-0.04	0.036	
30.00	-34.80	-1.32	0.00	-96.62	0.00	96.62	3855.38	1927.69	7518.03	3732.27	0.14	-0.05	0.035	
32.00	-34.23	-1.31	0.00	-93.99	0.00	93.99	3826.23	1913.12	7371.01	3659.28	0.16	-0.05	0.035	
35.00	-32.69	-1.27	0.00	-90.07	0.00	90.07	3781.74	1890.87	7151.59	3550.35	0.20	-0.06	0.034	
37.50	-31.43	-1.25	0.00	-86.88	0.00	86.88	3783.94	1891.97	7162.31	3555.67	0.23	-0.06	0.033	
40.00	-30.74	-1.23	0.00	-83.77	0.00	83.77	3746.19	1873.09	6980.48	3465.40	0.26	-0.06	0.032	
45.00	-29.37	-1.21	0.00	-77.60	0.00	77.60	3668.73	1834.37	6619.97	3286.43	0.33	-0.07	0.032	
50.00	-28.04	-1.19	0.00	-71.56	0.00	71.56	3588.69	1794.34	6264.07	3109.75	0.41	-0.08	0.031	
55.00	-26.75	-1.17	0.00	-65.62	0.00	65.62	3506.05	1753.02	5913.22	2935.57	0.50	-0.09	0.030	
60.00	-25.49	-1.16	0.00	-59.76	0.00	59.76	3420.81	1710.41	5567.90	2764.14	0.60	-0.10	0.029	
64.83	-24.30	-1.16	0.00	-54.15	0.00	54.15	3335.96	1667.98	5239.76	2601.24	0.70	-0.11	0.028	
65.00	-24.23	-1.16	0.00	-53.95	0.00	53.95	3332.99	1666.49	5228.55	2595.67	0.70	-0.11	0.028	
69.50	-22.31	-1.16	0.00	-48.73	0.00	48.73	3299.78	1649.89	5104.40	2534.04	0.81	-0.11	0.026	
70.00	-22.19	-1.16	0.00	-48.15	0.00	48.15	3290.76	1645.38	5071.06	2517.49	0.82	-0.11	0.026	
75.00	-21.02	-1.16	0.00	-42.34	0.00	42.34	3199.12	1599.56	4741.34	2353.80	0.94	-0.12	0.025	
80.00	-19.88	-1.16	0.00	-36.54	0.00	36.54	3073.61	1536.80	4374.21	2171.54	1.08	-0.13	0.023	
85.00	-18.77	-1.16	0.00	-30.73	0.00	30.73	2947.70	1473.85	4021.34	1996.36	1.22	-0.14	0.022	
87.00	-14.13	-1.15	0.00	-28.41	0.00	28.41	2897.34	1448.67	3884.35	1928.35	1.28	-0.14	0.020	
90.00	-13.56	-1.15	0.00	-24.96	0.00	24.96	2821.79	1410.90	3683.31	1828.55	1.37	-0.15	0.018	
95.00	-12.63	-1.14	0.00	-19.20	0.00	19.20	2695.89	1347.94	3360.11	1668.10	1.53	-0.15	0.016	
97.00	-9.44	-1.06	0.00	-16.93	0.00	16.93	2645.52	1322.76	3234.99	1605.99	1.59	-0.16	0.014	
98.50	-9.18	-1.05	0.00	-15.35	0.00	15.35	2607.75	1303.88	3142.71	1560.17	1.64	-0.16	0.013	
100.00	-8.73	-1.03	0.00	-13.77	0.00	13.77	2569.98	1284.99	3051.76	1515.02	1.69	-0.16	0.012	
102.33	-8.05	-1.00	0.00	-11.36	0.00	11.36	2143.60	1071.80	2553.25	1267.54	1.77	-0.16	0.013	
105.00	-7.65	-0.98	0.00	-8.70	0.00	8.70	2087.65	1043.82	2420.99	1201.88	1.86	-0.16	0.011	
107.00	-4.32	-0.70	0.00	-6.74	0.00	6.74	2045.68	1022.84	2324.11	1153.79	1.93	-0.16	0.008	
110.00	-3.94	-0.66	0.00	-4.65	0.00	4.65	1982.72	991.36	2182.49	1083.48	2.03	-0.17	0.006	
115.00	-3.33	-0.58	0.00	-1.34	0.00	1.34	1877.80	938.90	1956.35	971.22	2.20	-0.17	0.003	
117.00	-0.30	-0.06	0.00	-0.18	0.00	0.18	1835.83	917.92	1869.36	928.03	2.28	-0.17	0.000	
120.00	0.00	-0.06	0.00	0.00	0.00	0.00	1772.88	886.44	1742.58	865.09	2.38	-0.17	0.000	

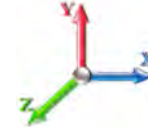
Seismic Segment Forces (Factored)

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E				Iterations 18
Gust Response Factor	1.10	Sds	0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.50	SA 0.05
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1120.2	0.00	0.04	0.02	17.48	
10.00		1091.4	0.01	0.06	0.03	24.68	
15.00		1062.5	0.03	0.07	0.04	27.50	
20.00		1033.7	0.05	0.07	0.04	28.52	
25.00		1004.9	0.08	0.07	0.04	28.94	
30.00		976.09	0.12	0.07	0.03	29.17	
32.00	Bot - Section 2	382.36	0.13	0.07	0.03	11.58	
35.00		1138.9	0.16	0.07	0.03	35.08	
37.50	Top - Section 1	933.26	0.18	0.06	0.03	29.00	
40.00		463.24	0.21	0.06	0.02	14.42	
45.00		904.85	0.27	0.05	0.02	27.33	
50.00		876.02	0.33	0.04	0.01	23.86	
55.00		847.19	0.40	0.02	0.01	18.26	
60.00		818.35	0.47	-0.01	0.01	10.68	
64.83	Bot - Section 3	763.67	0.55	-0.04	0.01	2.26	
65.00		52.21	0.55	-0.04	0.01	0.14	
69.50	Top - Section 2	1385.5	0.63	-0.07	0.02	-9.47	
70.00		76.30	0.64	-0.07	0.02	-0.59	
75.00		747.12	0.74	-0.10	0.04	-11.56	
80.00		718.29	0.84	-0.12	0.07	-12.93	
85.00		689.45	0.95	-0.12	0.11	-9.48	
87.00	Appurtenance(s)	3772.4	0.99	-0.11	0.13	-37.51	
90.00		392.91	1.06	-0.09	0.16	-0.73	
95.00		631.79	1.18	-0.01	0.24	11.39	
97.00	Appurtenance(s)	2603.7	1.23	0.04	0.28	73.60	
98.50	Bot - Section 4	180.45	1.27	0.09	0.31	6.64	
100.00		329.57	1.31	0.14	0.35	15.19	
102.33	Top - Section 3	503.21	1.37	0.24	0.41	31.20	
105.00		258.39	1.45	0.38	0.48	21.30	
107.00	Appurtenance(s)	2724.6	1.50	0.51	0.55	270.55	
110.00		276.76	1.59	0.74	0.65	35.19	
115.00		442.04	1.74	1.26	0.87	79.76	
117.00	Appurtenance(s)	2499.0	1.80	1.52	0.97	510.24	
120.00		247.92	1.89	1.98	1.14	60.10	
Totals:		31,948.8				1,361.8	Total Wind: 30,074.4

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

Calculated Forces

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E										Iterations 18
Gust Response Factor 1.10					Sds 0.19					Ss 0.18
Dead Load Factor 0.90			Seismic Load Factor 1.00			Sd1 0.10			S1 0.07	
Wind Load Factor 0.00		Structure Frequency (f1) 0.50		SA 0.05		Seismic Importance Factor 1.00				



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-33.01	-1.45	0.00	-137.71	0.00	137.71	4242.75	2121.37	9773.47	4851.96	0.00	0.00	0.00	0.036
5.00	-31.80	-1.43	0.00	-130.48	0.00	130.48	4184.67	2092.33	9393.09	4663.13	0.00	-0.01	0.036	
10.00	-30.60	-1.41	0.00	-123.32	0.00	123.32	4124.00	2062.00	9013.89	4474.88	0.02	-0.01	0.035	
15.00	-29.44	-1.39	0.00	-116.27	0.00	116.27	4060.73	2030.37	8636.33	4287.44	0.04	-0.02	0.034	
20.00	-28.30	-1.36	0.00	-109.33	0.00	109.33	3994.87	1997.44	8260.86	4101.04	0.06	-0.03	0.034	
25.00	-27.18	-1.34	0.00	-102.52	0.00	102.52	3926.42	1963.21	7887.94	3915.90	0.10	-0.04	0.033	
30.00	-26.10	-1.31	0.00	-95.84	0.00	95.84	3855.38	1927.69	7518.03	3732.27	0.14	-0.05	0.032	
32.00	-25.67	-1.30	0.00	-93.22	0.00	93.22	3826.23	1913.12	7371.01	3659.28	0.16	-0.05	0.032	
35.00	-24.52	-1.26	0.00	-89.32	0.00	89.32	3781.74	1890.87	7151.59	3550.35	0.20	-0.05	0.032	
37.50	-23.57	-1.24	0.00	-86.16	0.00	86.16	3783.94	1891.97	7162.31	3555.67	0.23	-0.06	0.030	
40.00	-23.05	-1.22	0.00	-83.07	0.00	83.07	3746.19	1873.09	6980.48	3465.40	0.26	-0.06	0.030	
45.00	-22.03	-1.20	0.00	-76.94	0.00	76.94	3668.73	1834.37	6619.97	3286.43	0.33	-0.07	0.029	
50.00	-21.03	-1.18	0.00	-70.95	0.00	70.95	3588.69	1794.34	6264.07	3109.75	0.41	-0.08	0.029	
55.00	-20.06	-1.16	0.00	-65.07	0.00	65.07	3506.05	1753.02	5913.22	2935.57	0.50	-0.09	0.028	
60.00	-19.11	-1.15	0.00	-59.26	0.00	59.26	3420.81	1710.41	5567.90	2764.14	0.59	-0.10	0.027	
64.83	-18.22	-1.15	0.00	-53.70	0.00	53.70	3335.96	1667.98	5239.76	2601.24	0.69	-0.11	0.026	
65.00	-18.17	-1.15	0.00	-53.51	0.00	53.51	3332.99	1666.49	5228.55	2595.67	0.70	-0.11	0.026	
69.50	-16.73	-1.15	0.00	-48.34	0.00	48.34	3299.78	1649.89	5104.40	2534.04	0.80	-0.11	0.024	
70.00	-16.65	-1.15	0.00	-47.76	0.00	47.76	3290.76	1645.38	5071.06	2517.49	0.81	-0.11	0.024	
75.00	-15.76	-1.15	0.00	-42.02	0.00	42.02	3199.12	1599.56	4741.34	2353.80	0.94	-0.12	0.023	
80.00	-14.91	-1.15	0.00	-36.27	0.00	36.27	3073.61	1536.80	4374.21	2171.54	1.07	-0.13	0.022	
85.00	-14.08	-1.15	0.00	-30.52	0.00	30.52	2947.70	1473.85	4021.34	1996.36	1.21	-0.14	0.020	
87.00	-10.60	-1.14	0.00	-28.23	0.00	28.23	2897.34	1448.67	3884.35	1928.35	1.27	-0.14	0.018	
90.00	-10.17	-1.14	0.00	-24.80	0.00	24.80	2821.79	1410.90	3683.31	1828.55	1.36	-0.14	0.017	
95.00	-9.47	-1.13	0.00	-19.10	0.00	19.10	2695.89	1347.94	3360.11	1668.10	1.51	-0.15	0.015	
97.00	-7.08	-1.05	0.00	-16.84	0.00	16.84	2645.52	1322.76	3234.99	1605.99	1.58	-0.15	0.013	
98.50	-6.88	-1.04	0.00	-15.27	0.00	15.27	2607.75	1303.88	3142.71	1560.17	1.63	-0.16	0.012	
100.00	-6.55	-1.03	0.00	-13.70	0.00	13.70	2569.98	1284.99	3051.76	1515.02	1.68	-0.16	0.012	
102.33	-6.04	-0.99	0.00	-11.31	0.00	11.31	2143.60	1071.80	2553.25	1267.54	1.75	-0.16	0.012	
105.00	-5.74	-0.97	0.00	-8.66	0.00	8.66	2087.65	1043.82	2420.99	1201.88	1.84	-0.16	0.010	
107.00	-3.24	-0.69	0.00	-6.71	0.00	6.71	2045.68	1022.84	2324.11	1153.79	1.91	-0.16	0.007	
110.00	-2.95	-0.66	0.00	-4.63	0.00	4.63	1982.72	991.36	2182.49	1083.48	2.01	-0.17	0.006	
115.00	-2.50	-0.58	0.00	-1.34	0.00	1.34	1877.80	938.90	1956.35	971.22	2.19	-0.17	0.003	
117.00	-0.22	-0.06	0.00	-0.18	0.00	0.18	1835.83	917.92	1869.36	928.03	2.26	-0.17	0.000	
120.00	0.00	-0.06	0.00	0.00	0.00	0.00	1772.88	886.44	1742.58	865.09	2.36	-0.17	0.000	

Wind Loading - Shaft

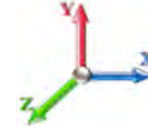
Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 19

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	263.79	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	257.13	0.750	0.000	5.00	23.543	17.66	144.5	0.0	1120.3
10.00		1.00	0.85	7.442	8.19	250.48	0.750	0.000	5.00	22.941	17.21	140.8	0.0	1091.4
15.00		1.00	0.85	7.442	8.19	243.82	0.750	0.000	5.00	22.339	16.75	137.2	0.0	1062.6
20.00		1.00	0.90	7.896	8.69	244.29	0.750	0.000	5.00	21.737	16.30	141.6	0.0	1033.8
25.00		1.00	0.95	8.276	9.10	243.07	0.750	0.000	5.00	21.135	15.85	144.3	0.0	1004.9
30.00		1.00	0.98	8.600	9.46	240.63	0.750	0.000	5.00	20.533	15.40	145.7	0.0	976.1
32.00	Bot - Section 2	1.00	1.00	8.717	9.59	239.38	0.750	0.000	2.00	8.045	6.03	57.9	0.0	382.4
35.00		1.00	1.01	8.883	9.77	237.29	0.750	0.000	3.00	12.078	9.06	88.5	0.0	1138.9
37.50	Top - Section 1	1.00	1.03	9.013	9.91	235.35	0.750	0.000	2.50	9.899	7.42	73.6	0.0	933.3
40.00		1.00	1.04	9.137	10.05	237.17	0.750	0.000	2.50	9.749	7.31	73.5	0.0	463.2
45.00		1.00	1.07	9.366	10.30	232.66	0.750	0.000	5.00	19.047	14.28	147.2	0.0	904.9
50.00		1.00	1.09	9.576	10.53	227.71	0.750	0.000	5.00	18.445	13.83	145.7	0.0	876.0
55.00		1.00	1.12	9.770	10.75	222.37	0.750	0.000	5.00	17.843	13.38	143.8	0.0	847.2
60.00		1.00	1.14	9.951	10.95	216.72	0.750	0.000	5.00	17.241	12.93	141.5	0.0	818.4
64.83	Bot - Section 3	1.00	1.16	10.115	11.13	210.99	0.750	0.000	4.83	16.094	12.07	134.3	0.0	763.7
65.00		1.00	1.16	10.120	11.13	210.79	0.750	0.000	0.17	0.556	0.42	4.6	0.0	52.2
69.50	Top - Section 2	1.00	1.17	10.264	11.29	205.24	0.750	0.000	4.50	14.747	11.06	124.9	0.0	1385.6
70.00		1.00	1.17	10.279	11.31	208.76	0.750	0.000	0.50	1.609	1.21	13.6	0.0	76.3
75.00		1.00	1.19	10.430	11.47	202.39	0.750	0.000	5.00	15.754	11.82	135.6	0.0	747.1
80.00		1.00	1.21	10.572	11.63	195.84	0.750	0.000	5.00	15.152	11.36	132.2	0.0	718.3
85.00		1.00	1.22	10.708	11.78	189.10	0.750	0.000	5.00	14.550	10.91	128.5	0.0	689.5
87.00	Appurtenance(s)	1.00	1.23	10.761	11.84	186.37	0.750	0.000	2.00	5.652	4.24	50.2	0.0	267.7
90.00		1.00	1.24	10.838	11.92	182.21	0.750	0.000	3.00	8.297	6.22	74.2	0.0	392.9
95.00		1.00	1.25	10.962	12.06	175.17	0.750	0.000	5.00	13.347	10.01	120.7	0.0	631.8
97.00	Appurtenance(s)	1.00	1.26	11.010	12.11	172.31	0.750	0.000	2.00	5.170	3.88	47.0	0.0	244.6
98.50	Bot - Section 4	1.00	1.26	11.046	12.15	170.16	0.750	0.000	1.50	3.814	2.86	34.8	0.0	180.5
100.00		1.00	1.27	11.081	12.19	167.99	0.750	0.000	1.50	3.840	2.88	35.1	0.0	329.6
102.33	Top - Section 3	1.00	1.27	11.135	12.25	164.60	0.750	0.000	2.33	5.866	4.40	53.9	0.0	503.2
105.00		1.00	1.28	11.195	12.31	164.29	0.750	0.000	2.67	6.543	4.91	60.4	0.0	258.4
107.00	Appurtenance(s)	1.00	1.28	11.240	12.36	161.35	0.750	0.000	2.00	4.795	3.60	44.5	0.0	189.3
110.00		1.00	1.29	11.305	12.44	156.89	0.750	0.000	3.00	7.012	5.26	65.4	0.0	276.8
115.00		1.00	1.30	11.412	12.55	149.38	0.750	0.000	5.00	11.205	8.40	105.5	0.0	442.0
117.00	Appurtenance(s)	1.00	1.31	11.453	12.60	146.35	0.750	0.000	2.00	4.313	3.24	40.8	0.0	170.1
120.00		1.00	1.32	11.514	12.67	141.77	0.750	0.000	3.00	6.290	4.72	59.7	0.0	247.9
Totals:									120.00			3,191.6		21,220.7

Discrete Appurtenance Forces

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: 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 19

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	117.00	GPS	1	11.453	12.598	0.50	1.00	0.50	10.00	0.000	0.000	6.30	0.00	0.00	
2	117.00	HBXX-6517DS-VTM	6	11.453	12.598	0.77	1.00	39.50	244.20	0.000	0.000	497.65	0.00	0.00	
3	117.00	LNx-6514DS-VTM (72.7"	3	11.453	12.598	0.83	1.00	20.34	116.40	0.000	0.000	256.29	0.00	0.00	
4	117.00	LPA-80080/4CF	6	11.453	12.598	1.70	1.00	26.62	72.00	0.000	0.000	335.40	0.00	0.00	
5	117.00	Low Profile	1	11.453	12.598	1.00	1.00	22.00	1500.00	0.000	0.000	277.17	0.00	0.00	
6	117.00	RRH2X60-AWS	3	11.453	12.598	0.76	1.00	7.98	165.00	0.000	0.000	100.54	0.00	0.00	
7	117.00	RRH2X60-PCS	3	11.453	12.598	0.89	1.00	5.87	165.00	0.000	0.000	74.00	0.00	0.00	
8	117.00	DB-T1-6Z-8AB-0Z	2	11.453	12.598	0.71	1.00	6.82	37.80	0.000	0.000	85.87	0.00	0.00	
9	117.00	FD9R6004/2C-3L 3.1#	6	11.453	12.598	1.00	1.00	2.16	18.60	0.000	0.000	27.21	0.00	0.00	
10	107.00	HRK12 (Handrail Kit)	1	11.240	12.364	1.00	1.00	6.75	261.72	0.000	0.000	83.45	0.00	0.00	
11	107.00	Low Profile	1	11.240	12.364	1.00	1.00	22.00	1500.00	0.000	0.000	272.00	0.00	0.00	
12	107.00	APXVAARR24_43-U-NA2	3	11.240	12.364	0.52	0.75	31.88	384.00	0.000	0.000	394.13	0.00	0.00	
13	107.00	4449	3	11.240	12.364	0.50	0.75	2.49	210.00	0.000	0.000	30.75	0.00	0.00	
14	107.00	KRY 112 144/1	3	11.240	12.364	0.50	0.75	0.62	33.00	0.000	0.000	7.64	0.00	0.00	
15	107.00	KRY 112 489/2	6	11.240	12.364	0.50	0.75	0.03	0.60	0.000	0.000	0.37	0.00	0.00	
16	107.00	MS-KI22-5 (Kickers w/o	1	11.240	12.364	1.00	1.00	5.33	146.00	0.000	0.000	65.90	0.00	0.00	
17	97.00	RDIDC-9181-PF-48	1	11.010	12.111	0.75	0.75	1.51	21.90	0.000	0.000	18.26	0.00	0.00	
18	97.00	TA08025-B605	3	11.010	12.111	0.50	0.75	2.95	225.00	0.000	0.000	35.78	0.00	0.00	
19	97.00	MC-PK8-DSH	1	11.010	12.111	1.00	1.00	37.59	1727.00	0.000	0.000	455.25	0.00	0.00	
20	97.00	MX08FRO665-21	3	11.010	12.111	0.55	0.75	20.80	193.50	0.000	0.000	251.86	0.00	0.00	
21	97.00	TA08025-B604	3	11.010	12.111	0.50	0.75	2.95	191.70	0.000	0.000	35.78	0.00	0.00	
22	87.00	HRK12 (Handrail Kit)	1	10.761	11.837	1.00	1.00	6.75	261.72	0.000	0.000	79.90	0.00	0.00	
23	87.00	7770.00	3	10.761	11.837	0.55	0.75	9.03	105.00	0.000	0.000	106.93	0.00	0.00	
24	87.00	HPA-65R-BUU-H8	3	10.761	11.837	0.59	0.75	23.07	204.00	0.000	0.000	273.09	0.00	0.00	
25	87.00	800 10966	3	10.761	11.837	0.54	0.75	28.12	377.10	0.000	0.000	332.88	0.00	0.00	
26	87.00	Low Profile	1	10.761	11.837	1.00	1.00	22.00	1500.00	0.000	0.000	260.41	0.00	0.00	
27	87.00	PRK-1245 (kicker kit)	1	10.761	11.837	1.00	1.00	9.50	464.91	0.000	0.000	112.45	0.00	0.00	
28	87.00	B2 B66A 8843	3	10.761	11.837	0.64	0.75	3.14	210.00	0.000	0.000	37.13	0.00	0.00	
29	87.00	TT19-08BP111-001	6	10.761	11.837	0.68	0.75	2.59	96.00	0.000	0.000	30.68	0.00	0.00	
30	87.00	LGP21903	6	10.761	11.837	0.63	0.75	1.02	33.00	0.000	0.000	12.08	0.00	0.00	
31	87.00	4449 B5/B12	3	10.761	11.837	0.65	0.75	3.81	213.00	0.000	0.000	45.12	0.00	0.00	
32	87.00	DC6-48-60-18-8F(23.5"	1	10.761	11.837	1.00	1.00	1.26	20.00	0.000	0.000	14.91	0.00	0.00	
33	87.00	DC6-48-60-18-8C	1	10.761	11.837	1.00	1.00	1.26	20.00	0.000	0.000	14.91	0.00	0.00	
Totals:									10,728.15						4,632.11

Total Applied Force Summary

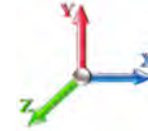
Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 19

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		144.54	1352.61	0.00	0.00
10.00		140.85	1323.77	0.00	0.00
15.00		137.15	1294.94	0.00	0.00
20.00		141.60	1266.11	0.00	0.00
25.00		144.30	1237.27	0.00	0.00
30.00		145.68	1208.44	0.00	0.00
32.00		57.86	475.30	0.00	0.00
35.00		88.52	1278.36	0.00	0.00
37.50		73.61	1049.44	0.00	0.00
40.00		73.49	579.41	0.00	0.00
45.00		147.17	1137.20	0.00	0.00
50.00		145.72	1108.37	0.00	0.00
55.00		143.82	1079.54	0.00	0.00
60.00		141.54	1050.70	0.00	0.00
64.83		134.30	988.27	0.00	0.00
65.00		4.64	59.96	0.00	0.00
69.50		124.87	1594.69	0.00	0.00
70.00		13.64	99.53	0.00	0.00
75.00		135.55	979.47	0.00	0.00
80.00		132.16	950.64	0.00	0.00
85.00		128.54	921.80	0.00	0.00
87.00	(32) attachments	1370.67	3865.38	0.00	0.00
90.00		74.18	477.39	0.00	0.00
95.00		120.70	772.59	0.00	0.00
97.00	(11) attachments	843.89	2660.06	0.00	0.00
98.50		34.76	221.19	0.00	0.00
100.00		35.10	370.31	0.00	0.00
102.33		53.88	566.59	0.00	0.00
105.00		60.43	330.82	0.00	0.00
107.00	(18) attachments	898.71	2778.95	0.00	0.00
110.00		65.40	317.68	0.00	0.00
115.00		105.49	510.24	0.00	0.00
117.00	(31) attachments	1701.18	2526.37	0.00	0.00
120.00		59.75	247.92	0.00	0.00
Totals:		7,823.72	36,681.31	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

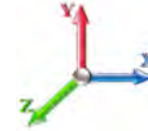
Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 19

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)
5.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.028	0.000	7.442	0.00	5.00
10.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.029	0.000	7.442	0.00	5.00
15.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.030	0.000	7.442	0.00	5.00
20.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.031	0.000	7.896	0.00	5.00
25.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.032	0.000	8.276	0.00	5.00
30.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.032	0.000	8.600	0.00	5.00
32.00	1.6" Hybrid	Yes	2.00	0.000	1.60	0.27	0.00	0.033	0.000	8.717	0.00	2.00
35.00	1.6" Hybrid	Yes	3.00	0.000	1.60	0.40	0.00	0.034	0.000	8.883	0.00	3.00
37.50	1.6" Hybrid	Yes	2.50	0.000	1.60	0.33	0.00	0.034	0.000	9.013	0.00	2.50
40.00	1.6" Hybrid	Yes	2.50	0.000	1.60	0.33	0.00	0.034	0.000	9.137	0.00	2.50
45.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.035	0.000	9.366	0.00	5.00
50.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.036	0.000	9.576	0.00	5.00
55.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.037	0.000	9.770	0.00	5.00
60.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.039	0.000	9.951	0.00	5.00
64.83	1.6" Hybrid	Yes	4.83	0.000	1.60	0.64	0.00	0.040	0.000	10.115	0.00	4.83
65.00	1.6" Hybrid	Yes	0.17	0.000	1.60	0.02	0.00	0.041	0.000	10.120	0.00	0.17
69.50	1.6" Hybrid	Yes	4.50	0.000	1.60	0.60	0.00	0.041	0.000	10.264	0.00	4.50
70.00	1.6" Hybrid	Yes	0.50	0.000	1.60	0.07	0.00	0.041	0.000	10.279	0.00	0.50
75.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.042	0.000	10.430	0.00	5.00
80.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.044	0.000	10.572	0.00	5.00
85.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.046	0.000	10.708	0.00	5.00
87.00	1.6" Hybrid	Yes	2.00	0.000	1.60	0.27	0.00	0.047	0.000	10.761	0.00	2.00
90.00	1.6" Hybrid	Yes	3.00	0.000	1.60	0.40	0.00	0.048	0.000	10.838	0.00	3.00
95.00	1.6" Hybrid	Yes	5.00	0.000	1.60	0.67	0.00	0.050	0.000	10.962	0.00	5.00
97.00	1.6" Hybrid	Yes	2.00	0.000	1.60	0.27	0.00	0.052	0.000	11.010	0.00	2.00
Totals:											0.0	97.0

Calculated Forces

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 19

Dead Load Factor 1.00
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	-36.68	-7.84	0.00	-679.42	0.00	679.42	4242.75	2121.37	9773.47	4851.96	0.00	0.000	0.000	0.149
5.00	-35.32	-7.71	0.00	-640.24	0.00	640.24	4184.67	2092.33	9393.09	4663.13	0.02	-0.036	0.000	0.146
10.00	-33.99	-7.59	0.00	-601.68	0.00	601.68	4124.00	2062.00	9013.89	4474.88	0.08	-0.072	0.000	0.143
15.00	-32.69	-7.47	0.00	-563.72	0.00	563.72	4060.73	2030.37	8636.33	4287.44	0.17	-0.109	0.000	0.140
20.00	-31.42	-7.35	0.00	-526.35	0.00	526.35	3994.87	1997.44	8260.86	4101.04	0.31	-0.147	0.000	0.136
25.00	-30.18	-7.22	0.00	-489.60	0.00	489.60	3926.42	1963.21	7887.94	3915.90	0.48	-0.185	0.000	0.133
30.00	-28.97	-7.09	0.00	-453.49	0.00	453.49	3855.38	1927.69	7518.03	3732.27	0.70	-0.223	0.000	0.129
32.00	-28.49	-7.04	0.00	-439.32	0.00	439.32	3826.23	1913.12	7371.01	3659.28	0.79	-0.239	0.000	0.128
35.00	-27.21	-6.95	0.00	-418.21	0.00	418.21	3781.74	1890.87	7151.59	3550.35	0.95	-0.263	0.000	0.125
37.50	-26.16	-6.88	0.00	-400.82	0.00	400.82	3783.94	1891.97	7162.31	3555.67	1.10	-0.283	0.000	0.120
40.00	-25.58	-6.82	0.00	-383.62	0.00	383.62	3746.19	1873.09	6980.48	3465.40	1.25	-0.303	0.000	0.118
45.00	-24.44	-6.68	0.00	-349.52	0.00	349.52	3668.73	1834.37	6619.97	3286.43	1.59	-0.341	0.000	0.113
50.00	-23.33	-6.54	0.00	-316.11	0.00	316.11	3588.69	1794.34	6264.07	3109.75	1.96	-0.378	0.000	0.108
55.00	-22.24	-6.41	0.00	-283.39	0.00	283.39	3506.05	1753.02	5913.22	2935.57	2.38	-0.415	0.000	0.103
60.00	-21.19	-6.27	0.00	-251.35	0.00	251.35	3420.81	1710.41	5567.90	2764.14	2.84	-0.452	0.000	0.097
64.83	-20.20	-6.14	0.00	-221.04	0.00	221.04	3335.96	1667.98	5239.76	2601.24	3.31	-0.487	0.000	0.091
65.00	-20.14	-6.14	0.00	-220.01	0.00	220.01	3332.99	1666.49	5228.55	2595.67	3.33	-0.488	0.000	0.091
69.50	-18.54	-6.00	0.00	-192.40	0.00	192.40	3299.78	1649.89	5104.40	2534.04	3.80	-0.520	0.000	0.082
70.00	-18.44	-5.99	0.00	-189.40	0.00	189.40	3290.76	1645.38	5071.06	2517.49	3.86	-0.523	0.000	0.081
75.00	-17.46	-5.86	0.00	-159.43	0.00	159.43	3199.12	1599.56	4741.34	2353.80	4.42	-0.555	0.000	0.073
80.00	-16.51	-5.72	0.00	-130.14	0.00	130.14	3073.61	1536.80	4374.21	2171.54	5.02	-0.584	0.000	0.065
85.00	-15.59	-5.59	0.00	-101.51	0.00	101.51	2947.70	1473.85	4021.34	1996.36	5.65	-0.610	0.000	0.056
87.00	-11.74	-4.18	0.00	-90.33	0.00	90.33	2897.34	1448.67	3884.35	1928.35	5.91	-0.620	0.000	0.051
90.00	-11.26	-4.11	0.00	-77.78	0.00	77.78	2821.79	1410.90	3683.31	1828.55	6.30	-0.634	0.000	0.047
95.00	-10.49	-3.98	0.00	-57.26	0.00	57.26	2695.89	1347.94	3360.11	1668.10	6.98	-0.654	0.000	0.038
97.00	-7.83	-3.11	0.00	-49.30	0.00	49.30	2645.52	1322.76	3234.99	1605.99	7.25	-0.661	0.000	0.034
98.50	-7.61	-3.07	0.00	-44.64	0.00	44.64	2607.75	1303.88	3142.71	1560.17	7.46	-0.666	0.000	0.032
100.00	-7.24	-3.03	0.00	-40.04	0.00	40.04	2569.98	1284.99	3051.76	1515.02	7.67	-0.671	0.000	0.029
102.33	-6.68	-2.97	0.00	-32.97	0.00	32.97	2143.60	1071.80	2553.25	1267.54	8.00	-0.677	0.000	0.029
105.00	-6.35	-2.91	0.00	-25.05	0.00	25.05	2087.65	1043.82	2420.99	1201.88	8.38	-0.684	0.000	0.024
107.00	-3.58	-1.97	0.00	-19.23	0.00	19.23	2045.68	1022.84	2324.11	1153.79	8.67	-0.688	0.000	0.018
110.00	-3.26	-1.91	0.00	-13.31	0.00	13.31	1982.72	991.36	2182.49	1083.48	9.10	-0.694	0.000	0.014
115.00	-2.75	-1.79	0.00	-3.78	0.00	3.78	1877.80	938.90	1956.35	971.22	9.83	-0.699	0.000	0.005
117.00	-0.25	-0.06	0.00	-0.19	0.00	0.19	1835.83	917.92	1869.36	928.03	10.12	-0.699	0.000	0.000
120.00	0.00	-0.06	0.00	0.00	0.00	0.00	1772.88	886.44	1742.58	865.09	10.56	-0.699	0.000	0.000

Final Analysis Summary

Structure: CT03801-S-SBA	Code: EIA/TIA-222-G	9/1/2021
Site Name: East Granby	Exposure: C	
Height: 120.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: 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 93 mph Wind	30.1	0.00	43.98	0.00	0.00	2621.57
0.9D + 1.6W 93 mph Wind	30.1	0.00	32.98	0.00	0.00	2605.61
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.3	0.00	76.26	0.00	0.00	822.54
1.2D + 1.0E	1.4	0.00	44.02	0.00	0.00	138.61
0.9D + 1.0E	1.4	0.00	33.01	0.00	0.00	137.71
1.0D + 1.0W 60 mph Wind	7.8	0.00	36.68	0.00	0.00	679.42

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 93 mph Wind	-43.98	-30.13	0.00	-2621.5	0.00	-2621.5	4242.75	2121.3	9773.47	4851.96	0.00	0.551
0.9D + 1.6W 93 mph Wind	-32.98	-30.11	0.00	-2605.6	0.00	-2605.6	4242.75	2121.3	9773.47	4851.96	0.00	0.545
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-76.26	-9.28	0.00	-822.54	0.00	-822.54	4242.75	2121.3	9773.47	4851.96	0.00	0.188
1.2D + 1.0E	-44.02	-1.45	0.00	-138.61	0.00	-138.61	4242.75	2121.3	9773.47	4851.96	0.00	0.039
0.9D + 1.0E	-33.01	-1.45	0.00	-137.71	0.00	-137.71	4242.75	2121.3	9773.47	4851.96	0.00	0.036
1.0D + 1.0W 60 mph Wind	-36.68	-7.84	0.00	-679.42	0.00	-679.42	4242.75	2121.3	9773.47	4851.96	0.00	0.149



Monopole Mat Foundation Design

Date

9/1/2021

Customer Name:	Dish Wireless	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	120
Site Number:	CT03801-S-SBA	Engineer Name:	T. Alajaj
Engr. Number:	114608	Engineer Login ID:	

Foundation Info Obtained from:

Mapping Operation

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

Axial Load (Kips):	44.0	Shear Force (Kips):	30.1
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2621.6

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	6.5	Depth of Base BG (ft.):	9.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	2.50
Length of Pad (ft.):	27	Width of Pad (ft.):	27

Final Length of pad (ft)	27.0	Final width of pad (ft):	27.0
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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 #:	11	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	27	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	35	Qty. of Rebar in Pad (W):	35
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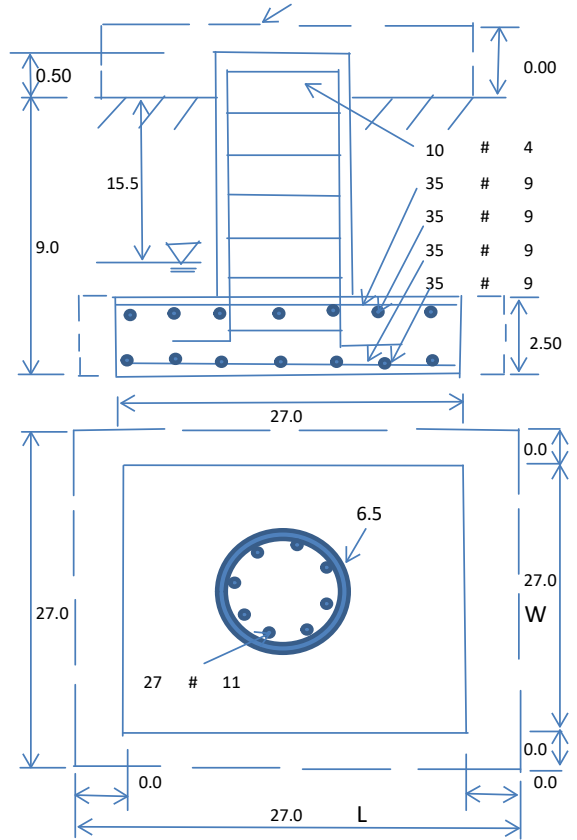
Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	35	Qty. of Rebar in Pad (W):	35
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

Soil Unit Weight (pcf):	110.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	15.5	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	5000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00			



Foundation Analysis and Design:	Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	4522.81	Total Dry Soil Weight (Kips):	497.51	
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00	
Total Effective Soil Weight (Kips):	497.51	Weight from the Concrete Block at Top (K):	0.00	
Total Dry Concrete Volume (cu. Ft.):	2054.78	Total Dry Concrete Weight (Kips):	308.22	
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00	
Total Effective Concrete Weight (Kips):	308.22	Total Vertical Load on Base (Kips):	849.73	

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	1622	<	Allowable Factored Soil Bearing (psf):	3750	0.43	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	10383.6	>	Design Factored Momont (kips-ft):	2599	0.25	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	4.00					OK!

Load/
Capacity
Ratio

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):	1.56	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	6141.1	> Design Factored Moment (Mu, Kips-F	2832.3	0.46	OK!
Calculated Shear Capacity (Kips):	578.1	> Design Factored Shear (Kips):	30.1	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	2274.5	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	8373.7	> Design Factored Axial Load (Pu Kips):	44.0	0.01	OK!
Moment & Axial Strength Combination:	0.46	OK! Check Tie Spacing (Design/Required):	1		OK!
Pier Reinforcement Ratio:	0.009	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	812.6	> One-Way Factored Shear (L-D. Kips):	215.5	0.27	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	812.6	> One-Way Factored Shear (W-D., Kips)	215.5	0.27	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	821.0	> One-Way Factored Shear (C-C, Kips):	186.0	0.23	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0041	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0041		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	4013.8	> Moment at Bottom (L-Dir. K-Ft):	1272.0	0.32	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	4013.8	> Moment at Bottom (W-Dir. K-Ft):	1272.0	0.32	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	5632.8	> Moment at Bottom (C-C Dir. K-Ft):	1798.9	0.32	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0041	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0041		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	4013.8	> Moment at the top (L-Dir K-Ft):	464.3	0.12	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	4013.8	> Moment at the top (W-Dir K-Ft):	464.3	0.12	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	5632.8	> Moment at the top (C-C Dir. K-Ft):	433.9	0.08	OK!

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

Moment transferred by punching shear:	1048.6	k-ft.	Max. factored shear stress $v_{u,CD}$:	3.0	Psi
Max. factored shear stress $v_{u,AB}$:	11.1	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	11.1	Psi	Check Usage of Punching Shear Capacity:	0.06	OK!

EXHIBIT 9

Antenna Mount Analysis



August 27, 2021

Sherri Knapik
SBA Communications Corporation
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
btwo@btgrp.com

Subject: **Appurtenance Mount Analysis Report**

Carrier Designation: **Dish Wireless Co-Locate**
Site Number: BOBDL00119A
Site Name: N/A

SBA Network Services Designation: **Site Number:** CT03801-S
Site Name: East Granby
Application Number: 167819, v1

Engineering Firm Designation: **B+T Group Project Number:** 149442.003.01

Site Data: **56 Floydville Road, East Granby, CT, 06026, Hartford County**
Latitude 41.92864°, Longitude -72.776099°
Monopole
8 ft. 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:

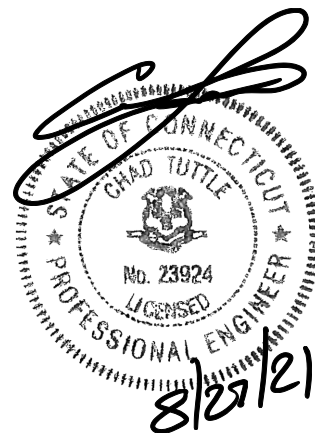
Proposed Equipment	Sufficient Capacity
Note: See Table 1 for the final loading configuration	(Passing at 70.2%)

"This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 120 mph converted to a nominal 3-second gust wind speed of 93 mph per Section 1609.3 and Appendix N as required for use in the 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 Communications Corporation*. If you have any questions or need further assistance on this or any other projects, please give us a call.

Mount structural analysis prepared by: Rose Denny

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



Chad E. Tuttle, P.E.

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1) INTRODUCTION

The appurtenance mount consists of Commscope platform mount (Part# MC-PK8-DSH) at 97 ft., attached to monopole at 56 Floydville Road, East Granby, RI, 06026, Hartford County. The proposed antenna loading information was obtained from SBA Communications Corporation. All information provided to B+T Group was assumed accurate and complete.

2) ANALYSIS CRITERIA

The structural analysis was performed for this mount in accordance with the ANSI/TIA-222-G-2-2005 Structural Standard for Antenna Supporting Structures and Antennas – Addendum 2 using a 3-second gust wind speed of 93 mph with no ice and 50 mph with 1 inch escalated ice thickness. Exposure category C, risk category II & Topo category 1 were used in the 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 30mph. 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	97	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 Mount.

Table 2 - Documents Provided

Documents	Remarks	Reference	Source
SBA Application	Proposed Loading	Date: 08/01/2021	SBA Communications Corporation
RFDS		Date: 07/22/2021	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

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

Manufacturer's drawings 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	97	9.6	Pass
-	Support Rails	97	17.0	Pass
-	Support Tubes	97	70.2	Pass
-	Support Channel	97	52.6	Pass
-	Support Angle	97	44.6	Pass
-	Mount Pipes	97	18.8	Pass
-	Connection Plates	97	28.8	Pass
-	Connection Angles	97	29.2	Pass

5) RECOMMENDATIONS

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

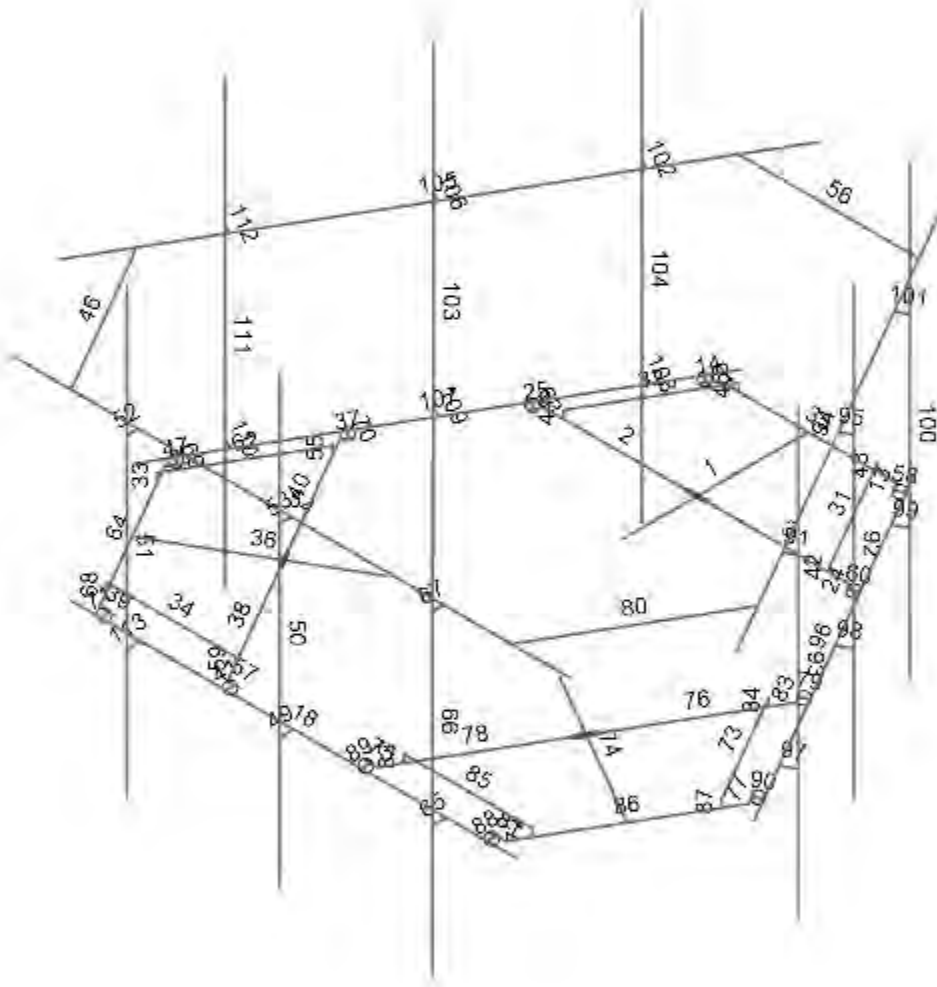
APPENDIX A

(RISA-3D Output)



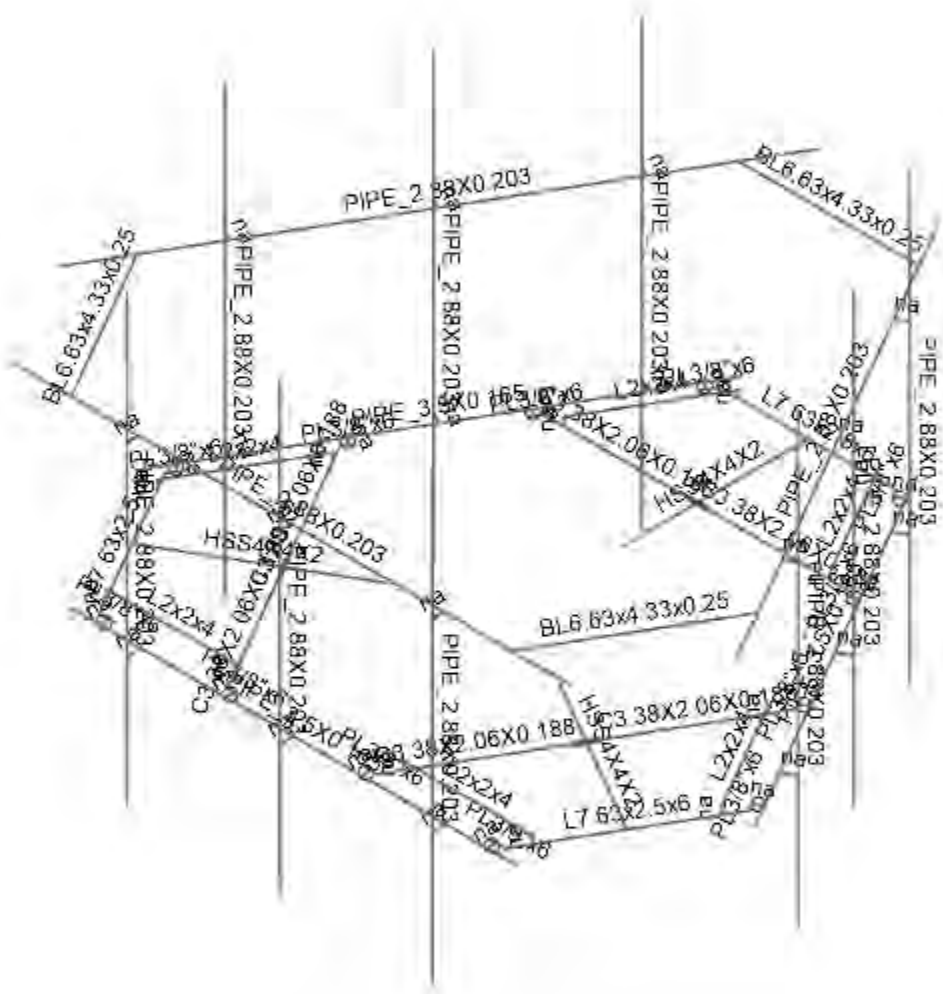
Envelope Only Solution

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SV		Aug 26, 2021
149442.003.01		149442_003_01_East Granby_CT...



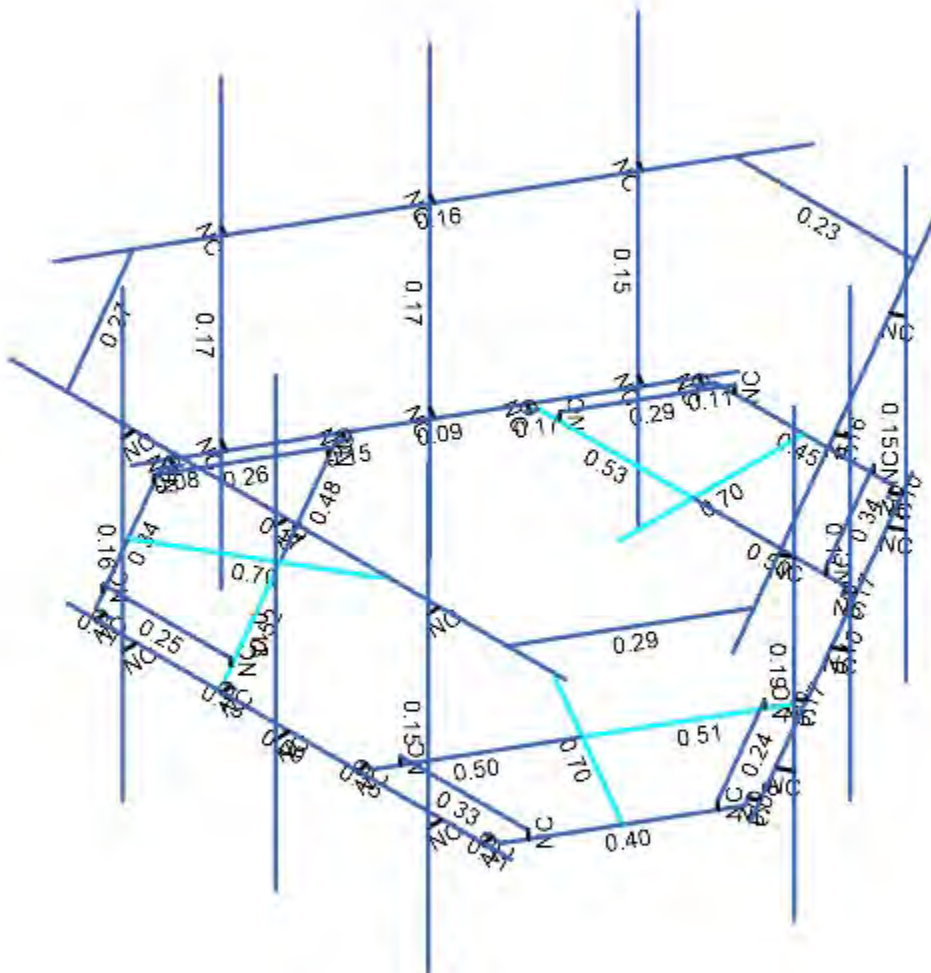
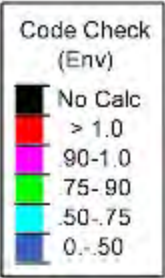
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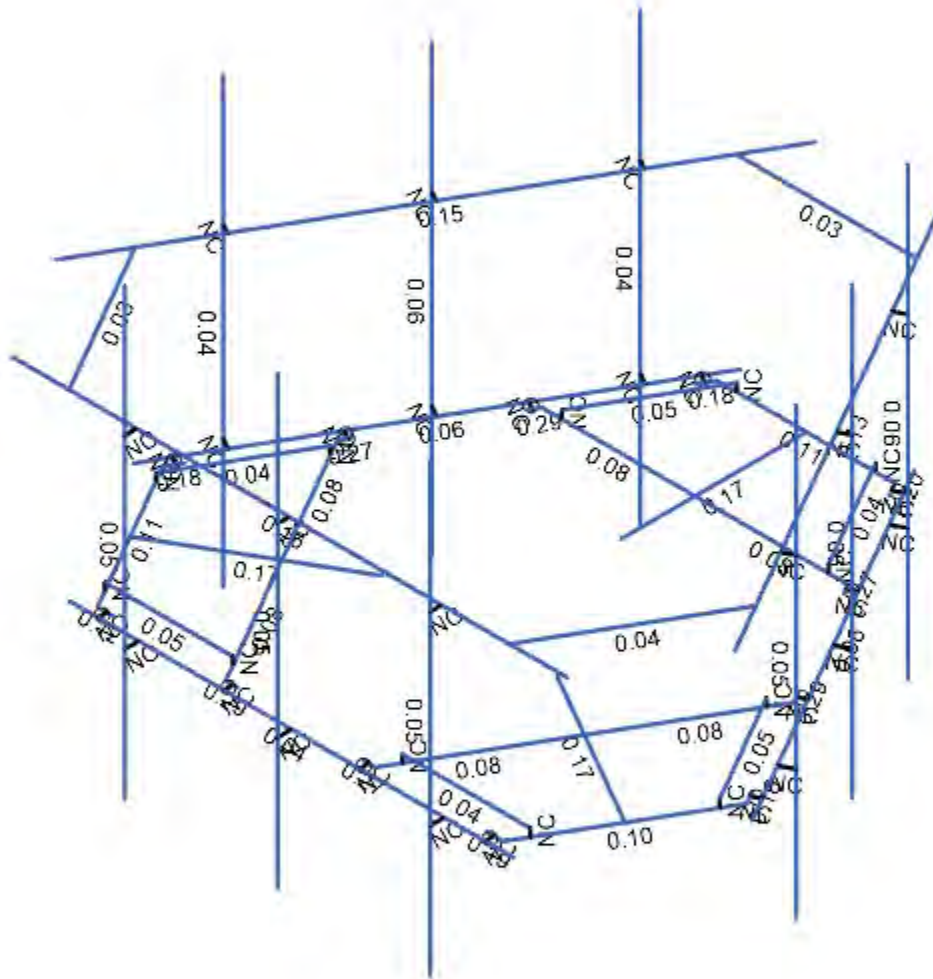
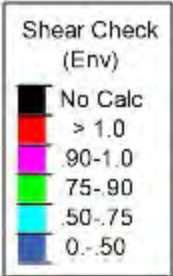
Envelope Only Solution

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SV		Aug 26, 2021
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Member Code Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	CT03801-S - East Granby	SK-4
SV		Aug 26, 2021
149442.003.01		149442_003_01_East Granby_CT...



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	CT03801-S - East Granby	SK-5
SV		Aug 26, 2021
149442.003.01		149442_003_01_East Granby_CT...

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	2	0	0.333337	-1.813967	
2	4	0	0.333337	-5.1473	
3	5	0	0.333337	-3.1473	
4	6	2.758333	0.333337	-3.1473	
5	7	-2.758333	0.333337	-3.1473	
6	16	-1.603633	0.333337	-5.1473	
7	17	1.603633	0.333337	-5.1473	
8	25	1.749466	0.333337	-4.894709	
9	26	-1.749466	0.333337	-4.894709	
10	33	1.686966	0.333337	-5.002962	
11	35	1.826806	0.333337	-5.083699	
12	36	-1.686966	0.333337	-5.002962	
13	38	-1.826806	0.333337	-5.083699	
14	40	-3.999998	0.333337	4.124209	
15	41	3.999998	0.333337	4.124209	
16	49	2.8625	0.333337	-2.966878	
17	51	2.820833	0.333337	-3.039048	
18	53	2.960672	0.333337	-3.119784	
19	54	-2.8625	0.333337	-2.966878	
20	56	-2.820833	0.333337	-3.039048	
21	58	-2.960672	0.333337	-3.119784	
22	60	-1.25	0.47417	-5.1473	
23	64	-2.404701	0.47417	-3.1473	
24	65	2.404701	0.47417	-3.1473	
25	71	1.25	0.47417	-5.1473	
26	72	-1.25	0.333337	-5.1473	
27	76	-2.404701	0.333337	-3.1473	
28	77	2.404701	0.333337	-3.1473	
29	83	1.25	0.333337	-5.1473	
30	85	0.000002	0.333337	4.124209	
31	87	0.000002	0.333337	4.374209	
32	88	-2.749998	6	4.374209	
33	89	0.000002	6	4.374209	
34	90	-2.749998	-2	4.374209	
35	91	0.000002	-2	4.374209	
36	92	-2.749998	3.666667	4.374209	
37	93	0.000002	3.666667	4.374209	
38	94	-2.749998	3.666667	4.165876	
39	95	0.000002	3.666667	4.165876	
40	96	-5	3.666667	4.165876	
41	97	5	3.666667	4.165876	
42	100	1.625018	3.666667	-5.516538	
43	101	-1.625018	3.666667	-5.516538	
44	102	2.749998	0.333337	4.124209	
45	103	2.749998	0.333337	4.374209	
46	104	2.749998	6	4.374209	
47	105	2.749998	-2	4.374209	
48	106	2.749998	3.666667	4.374209	
49	107	2.749998	3.666667	4.165876	
50	154	0	0.333337	0	
51	55	-3.927992	0.333337	-0.508882	
52	57	-5.082693	0.333337	1.491118	
53	59	-1.346475	0.333337	3.962437	
54	61	-4.000642	0.333337	-0.995559	
55	62	-1.570941	0.333337	0.906983	



Company : B+T Group
 Designer : SV
 Job Number : 149442.003.01
 Model Name : CT03801-S - East Granby

8/26/2021
 5:55:32 PM
 Checked By : _____

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	63	-2.725642	0.333337	1.57365	
57	66	-4.457693	0.333337	2.57365	
58	67	-4.104808	0.333337	-0.815137	
59	68	-5.113676	0.333337	0.932272	
60	69	-3.655876	0.333337	3.962437	
61	70	-5.259509	0.333337	1.184863	
62	73	-1.221476	0.333337	3.962437	
63	74	-3.364209	0.333337	3.962437	
64	75	-5.176176	0.333337	1.040526	
65	78	-5.316015	0.333337	0.959789	
66	79	-4.042309	0.333337	-0.923389	
67	80	-3.489209	0.333337	3.962437	
68	81	-3.489209	0.333337	4.124209	
69	82	-4.182148	0.333337	-1.004125	
70	98	-1.138142	0.333337	3.962437	
71	99	-1.221476	0.333337	4.124209	
72	108	-3.832693	0.47417	3.656182	
73	109	-1.523291	0.47417	3.656182	
74	110	-3.927992	0.47417	-0.508882	
75	111	-5.082693	0.47417	1.491118	
76	112	-3.832693	0.333337	3.656182	
77	113	-1.523291	0.333337	3.656182	
78	114	-5.589971	3.666667	1.350962	
79	115	-3.96478	3.666667	4.165876	
80	116	1.523317	0.333337	3.656197	
81	117	3.832719	0.333337	3.656197	
82	118	4.104834	0.333337	-0.815122	
83	119	1.138168	0.333337	3.962452	
84	120	1.570967	0.333337	0.906998	
85	121	2.725668	0.333337	1.573665	
86	122	4.457719	0.333337	2.573665	
87	123	1.346501	0.333337	3.962452	
88	124	3.364235	0.333337	3.962452	
89	125	5.259535	0.333337	1.184878	
90	126	3.655902	0.333337	3.962452	
91	127	4.042335	0.333337	-0.923374	
92	128	5.113702	0.333337	0.932288	
93	129	3.489235	0.333337	3.962452	
94	130	3.489235	0.333337	4.124209	
95	131	1.221502	0.333337	3.962452	
96	132	5.176202	0.333337	1.040541	
97	133	5.316028	0.333337	0.959812	
98	134	1.221502	0.333337	4.124209	
99	135	4.000668	0.333337	-0.995544	
100	136	4.182161	0.333337	-1.004103	
101	137	5.082719	0.47417	1.491133	
102	138	3.928018	0.47417	-0.508867	
103	139	1.523317	0.47417	3.656197	
104	140	3.832719	0.47417	3.656197	
105	141	5.082719	0.333337	1.491133	
106	142	3.928018	0.333337	-0.508867	
107	143	3.964815	3.666667	4.165876	
108	144	5.589989	3.666667	1.350992	
109	145	2.232496	3.666667	-4.464356	
110	146	2.196411	0.333337	-4.443523	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	147	4.946409	0.333337	0.319613	
112	148	3.571409	0.333337	-2.061956	
113	149	5.162916	0.333337	0.194613	
114	150	3.787916	0.333337	-2.186956	
115	151	5.162916	6	0.194613	
116	152	3.787916	6	-2.186956	
117	153	5.162916	-2	0.194613	
118	156	3.787916	-2	-2.186956	
119	157	5.162916	3.666667	0.194613	
120	158	3.787916	3.666667	-2.186956	
121	159	4.982494	3.666667	0.29878	
122	160	3.607494	3.666667	-2.08279	
123	161	2.412918	0.333337	-4.568523	
124	162	2.412918	6	-4.568523	
125	163	2.412918	-2	-4.568523	
126	164	2.412918	3.666667	-4.568523	
127	165	6.107495	3.666667	2.247339	
128	166	1.107495	3.666667	-6.412915	
129	167	5.571409	0.333337	1.402145	
130	168	1.571411	0.333337	-5.526055	
131	169	-4.982494	3.666667	0.29878	
132	170	-4.946409	0.333337	0.319613	
133	171	-2.196411	0.333337	-4.443523	
134	172	-3.571411	0.333337	-2.061953	
135	173	-2.412918	0.333337	-4.568523	
136	174	-3.787918	0.333337	-2.186953	
137	175	-2.412918	6	-4.568523	
138	176	-3.787918	6	-2.186953	
139	177	-2.412918	-2	-4.568523	
140	178	-3.787918	-2	-2.186953	
141	179	-2.412918	3.666667	-4.568523	
142	180	-3.787918	3.666667	-2.186953	
143	181	-2.232496	3.666667	-4.464356	
144	182	-3.607496	3.666667	-2.082786	
145	183	-5.162916	0.333337	0.194613	
146	184	-5.162916	6	0.194613	
147	185	-5.162916	-2	0.194613	
148	186	-5.162916	3.666667	0.194613	
149	187	-1.107495	3.666667	-6.412915	
150	188	-6.107495	3.666667	2.247339	
151	189	-1.571411	0.333337	-5.526055	
152	190	-5.571409	0.333337	1.402145	
153	155	-2.749998	0.333337	4.374209	
154	191	-2.749998	0.333337	4.124209	

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	2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	4						
3	5						
4	6						
5	7						
6	49						
7	51						
8	54						

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]
9	56					
10	60					
11	71					
12	72					
13	83					
14	57					
15	59					
16	61					
17	62	Reaction	Reaction	Reaction	Reaction	Reaction
18	63					
19	66					
20	67					
21	73					
22	79					
23	98					
24	108					
25	111					
26	112					
27	117					
28	118					
29	119					
30	120	Reaction	Reaction	Reaction	Reaction	Reaction
31	121					
32	122					
33	123					
34	127					
35	131					
36	135					
37	137					
38	140					
39	141					

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]	
1	MF-H1	PIPE 3.5X0.165	Beam	Pipe	A500 Gr.C	Typical	1.729	2.409	2.409	4.819
2	MF-H2	PIPE 2.88X0.203	Beam	Pipe	A500 Gr.C	Typical	1.704	1.53	1.53	3.059
3	SF-H1	HSS4X4X2	Beam	Tube	A500 Gr.B Rect	Typical	1.77	4.4	4.4	6.91
4	SF-H2	C3.38X2.06X0.188	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	1.704	1.53	1.53	3.059
8	MF-CP1	PL3/8"x6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101



Company : B+T Group
 Designer : SV
 Job Number : 149442.003.01
 Model Name : CT03801-S - East Granby

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 Checked By : _____

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
9	MF-H3	BL6.63x4.33x0.25	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	2	4		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
2	2	7	5	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
3	3	5	6	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
4	13	17	25		MF-CP1	Beam	RECT	A36 Gr.36	Typical
5	14	16	26		MF-CP1	Beam	RECT	A36 Gr.36	Typical
6	18	40	41		MF-H1	Beam	Pipe	A500 Gr.C	Typical
7	24	49	6		MF-CP1	Beam	RECT	A36 Gr.36	Typical
8	25	7	54		MF-CP1	Beam	RECT	A36 Gr.36	Typical
9	31	71	65		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
10	32	64	60		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
11	35	16	17		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
12	42	77	65		RIGID	None	None	RIGID	Typical
13	43	83	71		RIGID	None	None	RIGID	Typical
14	44	76	64		RIGID	None	None	RIGID	Typical
15	45	72	60		RIGID	None	None	RIGID	Typical
16	49	87	85		RIGID	None	None	RIGID	Typical
17	50	89	91		MF-P1	Column	Pipe	A500 Gr.C	Typical
18	51	88	90		MF-P1	Column	Pipe	A500 Gr.C	Typical
19	52	92	94		RIGID	None	None	RIGID	Typical
20	53	93	95		RIGID	None	None	RIGID	Typical
21	54	96	97		MF-H2	Beam	Pipe	A500 Gr.C	Typical
22	56	100	101	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
23	58	35	33		RIGID	None	None	RIGID	Typical
24	60	53	51		RIGID	None	None	RIGID	Typical
25	61	38	36		RIGID	None	None	RIGID	Typical
26	63	58	56		RIGID	None	None	RIGID	Typical
27	65	103	102		RIGID	None	None	RIGID	Typical
28	66	104	105		MF-P1	Column	Pipe	A500 Gr.C	Typical
29	67	106	107		RIGID	None	None	RIGID	Typical
30	33	57	111		RIGID	None	None	RIGID	Typical
31	34	109	108		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
32	36	62	66		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
33	37	61	67		MF-CP1	Beam	RECT	A36 Gr.36	Typical
34	38	59	63	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
35	39	69	74		MF-CP1	Beam	RECT	A36 Gr.36	Typical
36	40	63	67	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
37	41	99	73		RIGID	None	None	RIGID	Typical
38	46	114	115	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
39	47	70	68		MF-CP1	Beam	RECT	A36 Gr.36	Typical
40	55	55	110		RIGID	None	None	RIGID	Typical
41	57	59	98		MF-CP1	Beam	RECT	A36 Gr.36	Typical
42	59	113	109		RIGID	None	None	RIGID	Typical
43	62	111	110		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
44	64	69	70		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
45	68	112	108		RIGID	None	None	RIGID	Typical
46	69	78	75		RIGID	None	None	RIGID	Typical
47	70	82	79		RIGID	None	None	RIGID	Typical
48	71	81	80		RIGID	None	None	RIGID	Typical
49	72	117	140		RIGID	None	None	RIGID	Typical
50	73	138	137		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
51	74	120	122		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
52	75	119	123		MF-CP1	Beam	RECT	A36 Gr.36	Typical
53	76	118	121	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
54	77	125	128		MF-CP1	Beam	RECT	A36 Gr.36	Typical
55	78	121	123	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
56	79	136	127		RIGID	None	None	RIGID	Typical
57	80	143	144	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
58	81	126	124		MF-CP1	Beam	RECT	A36 Gr.36	Typical
59	82	116	139		RIGID	None	None	RIGID	Typical
60	83	118	135		MF-CP1	Beam	RECT	A36 Gr.36	Typical
61	84	142	138		RIGID	None	None	RIGID	Typical
62	85	140	139		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
63	86	125	126		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
64	87	141	137		RIGID	None	None	RIGID	Typical
65	88	130	129		RIGID	None	None	RIGID	Typical
66	89	134	131		RIGID	None	None	RIGID	Typical
67	90	133	132		RIGID	None	None	RIGID	Typical
68	91	157	159		RIGID	None	None	RIGID	Typical
69	92	152	156		MF-P1	Column	Pipe	A500 Gr.C	Typical
70	93	151	153		MF-P1	Column	Pipe	A500 Gr.C	Typical
71	94	165	166		MF-H2	Beam	Pipe	A500 Gr.C	Typical
72	95	158	160		RIGID	None	None	RIGID	Typical
73	96	167	168		MF-H1	Beam	Pipe	A500 Gr.C	Typical
74	97	149	147		RIGID	None	None	RIGID	Typical
75	98	150	148		RIGID	None	None	RIGID	Typical
76	99	161	146		RIGID	None	None	RIGID	Typical
77	100	162	163		MF-P1	Column	Pipe	A500 Gr.C	Typical
78	101	164	145		RIGID	None	None	RIGID	Typical
79	102	179	181		RIGID	None	None	RIGID	Typical
80	103	176	178		MF-P1	Column	Pipe	A500 Gr.C	Typical
81	104	175	177		MF-P1	Column	Pipe	A500 Gr.C	Typical
82	105	187	188		MF-H2	Beam	Pipe	A500 Gr.C	Typical
83	106	180	182		RIGID	None	None	RIGID	Typical
84	107	189	190		MF-H1	Beam	Pipe	A500 Gr.C	Typical
85	108	173	171		RIGID	None	None	RIGID	Typical
86	109	174	172		RIGID	None	None	RIGID	Typical
87	110	183	170		RIGID	None	None	RIGID	Typical
88	111	184	185		MF-P1	Column	Pipe	A500 Gr.C	Typical
89	112	186	169		RIGID	None	None	RIGID	Typical
90	113	155	191		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
1	1				Yes	N/A	None
2	2			2	Yes	N/A	None
3	3		2		Yes	N/A	None
4	13				Yes	Default	None
5	14				Yes	Default	None
6	18				Yes	N/A	None
7	24				Yes	Default	None
8	25				Yes	Default	None
9	31				Yes	N/A	None
10	32				Yes	N/A	None
11	35				Yes	N/A	None
12	42				Yes	** NA **	None
13	43				Yes	** NA **	None



Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
14	44				Yes	** NA **	None
15	45				Yes	** NA **	None
16	49				Yes	** NA **	None
17	50				Yes	** NA **	None
18	51				Yes	** NA **	None
19	52				Yes	** NA **	None
20	53				Yes	** NA **	None
21	54				Yes	N/A	None
22	56				Yes	Default	None
23	58	OOOOOX			Yes	** NA **	None
24	60	OOOOOX			Yes	** NA **	None
25	61	OOOOOX			Yes	** NA **	None
26	63	OOOOOX			Yes	** NA **	None
27	65				Yes	** NA **	None
28	66				Yes	** NA **	None
29	67				Yes	** NA **	None
30	33				Yes	** NA **	None
31	34				Yes	N/A	None
32	36				Yes	N/A	None
33	37				Yes	Default	None
34	38			2	Yes	N/A	None
35	39				Yes	Default	None
36	40		2		Yes	N/A	None
37	41	OOOOOX			Yes	** NA **	None
38	46				Yes	Default	None
39	47				Yes	Default	None
40	55				Yes	** NA **	None
41	57				Yes	Default	None
42	59				Yes	** NA **	None
43	62				Yes	N/A	None
44	64				Yes	N/A	None
45	68				Yes	** NA **	None
46	69	OOOOOX			Yes	** NA **	None
47	70	OOOOOX			Yes	** NA **	None
48	71	OOOOOX			Yes	** NA **	None
49	72				Yes	** NA **	None
50	73				Yes	N/A	None
51	74				Yes	N/A	None
52	75				Yes	Default	None
53	76			2	Yes	N/A	None
54	77				Yes	Default	None
55	78		2		Yes	N/A	None
56	79	OOOOOX			Yes	** NA **	None
57	80				Yes	Default	None
58	81				Yes	Default	None
59	82				Yes	** NA **	None
60	83				Yes	Default	None
61	84				Yes	** NA **	None
62	85				Yes	N/A	None
63	86				Yes	Default	None
64	87				Yes	** NA **	None
65	88	OOOOOX			Yes	** NA **	None
66	89	OOOOOX			Yes	** NA **	None
67	90	OOOOOX			Yes	** NA **	None
68	91				Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
69	92				Yes	** NA **	None
70	93				Yes	** NA **	None
71	94				Yes	N/A	None
72	95				Yes	** NA **	None
73	96				Yes	N/A	None
74	97				Yes	** NA **	None
75	98				Yes	** NA **	None
76	99				Yes	** NA **	None
77	100				Yes	** NA **	None
78	101				Yes	** NA **	None
79	102				Yes	** NA **	None
80	103				Yes	** NA **	None
81	104				Yes	** NA **	None
82	105				Yes	N/A	None
83	106				Yes	** NA **	None
84	107				Yes	N/A	None
85	108				Yes	** NA **	None
86	109				Yes	** NA **	None
87	110				Yes	** NA **	None
88	111				Yes	** NA **	None
89	112				Yes	** NA **	None
90	113				Yes	** NA **	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	13	MF-CP1	0.292	Lbyy	Lateral
5	14	MF-CP1	0.292	Lbyy	Lateral
6	18	MF-H1	8	Lbyy	Lateral
7	24	MF-CP1	0.208	Lbyy	Lateral
8	25	MF-CP1	0.208	Lbyy	Lateral
9	31	SF-H3	2.309	Lbyy	Lateral
10	32	SF-H3	2.309	Lbyy	Lateral
11	35	SF-H4	3.207	Lbyy	Lateral
12	50	MF-P1	8	Lbyy	Lateral
13	51	MF-P1	8	Lbyy	Lateral
14	54	MF-H2	10	Lbyy	Lateral
15	56	MF-H3	3.25	Lbyy	Lateral
16	66	MF-P1	8	Lbyy	Lateral
17	34	SF-H3	2.309	Lbyy	Lateral
18	36	SF-H1	3.333	Lbyy	Lateral
19	37	MF-CP1	0.208	Lbyy	Lateral
20	38	SF-H2	2.758	Lbyy	Lateral
21	39	MF-CP1	0.292	Lbyy	Lateral
22	40	SF-H2	2.758	Lbyy	Lateral
23	46	MF-H3	3.25	Lbyy	Lateral
24	47	MF-CP1	0.292	Lbyy	Lateral
25	57	MF-CP1	0.208	Lbyy	Lateral
26	62	SF-H3	2.309	Lbyy	Lateral
27	64	SF-H4	3.207	Lbyy	Lateral
28	73	SF-H3	2.309	Lbyy	Lateral
29	74	SF-H1	3.333	Lbyy	Lateral
30	75	MF-CP1	0.208	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
31	76	SF-H2	2.758	Lbyy	Lateral
32	77	MF-CP1	0.292	Lbyy	Lateral
33	78	SF-H2	2.758	Lbyy	Lateral
34	80	MF-H3	3.25	Lbyy	Lateral
35	81	MF-CP1	0.292	Lbyy	Lateral
36	83	MF-CP1	0.208	Lbyy	Lateral
37	85	SF-H3	2.309	Lbyy	Lateral
38	86	SF-H4	3.207	Lbyy	Lateral
39	92	MF-P1	8	Lbyy	Lateral
40	93	MF-P1	8	Lbyy	Lateral
41	94	MF-H2	10	Lbyy	Lateral
42	96	MF-H1	8	Lbyy	Lateral
43	100	MF-P1	8	Lbyy	Lateral
44	103	MF-P1	8	Lbyy	Lateral
45	104	MF-P1	8	Lbyy	Lateral
46	105	MF-H2	10	Lbyy	Lateral
47	107	MF-H1	8	Lbyy	Lateral
48	111	MF-P1	8	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	Y	-0.032	%15
2	66	Y	-0.032	%85
3	66	Y	-0.064	%15
4	66	Y	-0.075	%50
5	66	Y	0	0
6	36	Y	-0.022	%20
7	36	Y	0	0
8	36	Y	0	0
9	36	Y	0	0
10	36	Y	0	0
11	111	Y	-0.032	%15
12	111	Y	-0.032	%85
13	111	Y	-0.064	%15
14	111	Y	-0.075	%50
15	111	Y	0	0
16	100	Y	-0.032	%15
17	100	Y	-0.032	%85
18	100	Y	-0.064	%15
19	100	Y	-0.075	%50
20	100	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	Z	-0.165	%15
2	66	Z	-0.165	%85
3	66	Z	-0.052	%15
4	66	Z	-0.052	%50
5	66	Z	0	0
6	36	Z	-0.053	%20
7	36	Z	0	0
8	36	Z	0	0
9	36	Z	0	0



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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
10	36	Z	0	0
11	111	Z	-0.165	%15
12	111	Z	-0.165	%85
13	111	Z	-0.052	%15
14	111	Z	-0.052	%50
15	111	Z	0	0
16	100	Z	-0.165	%15
17	100	Z	-0.165	%85
18	100	Z	-0.052	%15
19	100	Z	-0.052	%50
20	100	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	X	-0.066	%15
2	66	X	-0.066	%85
3	66	X	-0.027	%15
4	66	X	-0.031	%50
5	66	X	0	0
6	36	X	-0.03	%20
7	36	X	0	0
8	36	X	0	0
9	36	X	0	0
10	36	X	0	0
11	111	X	-0.066	%15
12	111	X	-0.066	%85
13	111	X	-0.027	%15
14	111	X	-0.031	%50
15	111	X	0	0
16	100	X	-0.066	%15
17	100	X	-0.066	%85
18	100	X	-0.027	%15
19	100	X	-0.031	%50
20	100	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	Z	-0.062	%15
2	66	Z	-0.062	%85
3	66	Z	-0.025	%15
4	66	Z	-0.025	%50
5	66	Z	0	0
6	36	Z	-0.026	%20
7	36	Z	0	0
8	36	Z	0	0
9	36	Z	0	0
10	36	Z	0	0
11	111	Z	-0.062	%15
12	111	Z	-0.062	%85
13	111	Z	-0.025	%15
14	111	Z	-0.025	%50
15	111	Z	0	0
16	100	Z	-0.062	%15



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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
17	100	Z	-0.062	%85
18	100	Z	-0.025	%15
19	100	Z	-0.025	%50
20	100	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	X	-0.031	%15
2	66	X	-0.031	%85
3	66	X	-0.016	%15
4	66	X	-0.017	%50
5	66	X	0	0
6	36	X	-0.017	%20
7	36	X	0	0
8	36	X	0	0
9	36	X	0	0
10	36	X	0	0
11	111	X	-0.031	%15
12	111	X	-0.031	%85
13	111	X	-0.016	%15
14	111	X	-0.017	%50
15	111	X	0	0
16	100	X	-0.031	%15
17	100	X	-0.031	%85
18	100	X	-0.016	%15
19	100	X	-0.017	%50
20	100	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	Z	-0.017	%15
2	66	Z	-0.017	%85
3	66	Z	-0.005	%15
4	66	Z	-0.005	%50
5	66	Z	0	0
6	36	Z	-0.006	%20
7	36	Z	0	0
8	36	Z	0	0
9	36	Z	0	0
10	36	Z	0	0
11	111	Z	-0.017	%15
12	111	Z	-0.017	%85
13	111	Z	-0.005	%15
14	111	Z	-0.005	%50
15	111	Z	0	0
16	100	Z	-0.017	%15
17	100	Z	-0.017	%85
18	100	Z	-0.005	%15
19	100	Z	-0.005	%50
20	100	Z	0	0



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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	X	-0.007	%15
2	66	X	-0.007	%85
3	66	X	-0.003	%15
4	66	X	-0.003	%50
5	66	X	0	0
6	36	X	-0.003	%20
7	36	X	0	0
8	36	X	0	0
9	36	X	0	0
10	36	X	0	0
11	111	X	-0.007	%15
12	111	X	-0.007	%85
13	111	X	-0.003	%15
14	111	X	-0.003	%50
15	111	X	0	0
16	100	X	-0.007	%15
17	100	X	-0.007	%85
18	100	X	-0.003	%15
19	100	X	-0.003	%50
20	100	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	66	Y	-0.194	%15
2	66	Y	-0.194	%85
3	66	Y	-0.068	%15
4	66	Y	-0.07	%50
5	66	Y	0	0
6	36	Y	-0.071	%20
7	36	Y	0	0
8	36	Y	0	0
9	36	Y	0	0
10	36	Y	0	0
11	111	Y	-0.194	%15
12	111	Y	-0.194	%85
13	111	Y	-0.068	%15
14	111	Y	-0.07	%50
15	111	Y	0	0
16	100	Y	-0.194	%15
17	100	Y	-0.194	%85
18	100	Y	-0.068	%15
19	100	Y	-0.07	%50
20	100	Y	0	0

Member Point Loads (BLC 13 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	74	Y	-0.25	%95



Member Point Loads (BLC 14 : Maint LL 2)

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

Member Point Loads (BLC 15 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	Y	-0.25	%95

Member Point Loads (BLC 16 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	54	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	107	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	105	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	96	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	94	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	Y	-0.25	%5

Member Point Loads (BLC 22 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	54	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	107	Y	-0.25	%95



Member Point Loads (BLC 24 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	105	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	96	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	94	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	36	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	-0.013	-0.013	0	%100
2	2	Z	-0.011	-0.011	0	%100
3	3	Z	-0.011	-0.011	0	%100
4	13	Z	-0.016	-0.016	0	%100
5	14	Z	-0.016	-0.016	0	%100
6	18	Z	-0.009	-0.009	0	%100
7	24	Z	-0.016	-0.016	0	%100
8	25	Z	-0.016	-0.016	0	%100
9	31	Z	-0.007	-0.007	0	%100
10	32	Z	-0.007	-0.007	0	%100
11	35	Z	-0.022	-0.022	0	%100
12	50	Z	-0.008	-0.008	0	%100
13	51	Z	-0.008	-0.008	0	%100
14	54	Z	-0.008	-0.008	0	%100
15	56	Z	-0.019	-0.019	0	%100
16	66	Z	-0.008	-0.008	0	%100
17	34	Z	-0.007	-0.007	0	%100
18	36	Z	-0.013	-0.013	0	%100
19	37	Z	-0.016	-0.016	0	%100
20	38	Z	-0.011	-0.011	0	%100
21	39	Z	-0.016	-0.016	0	%100
22	40	Z	-0.011	-0.011	0	%100
23	46	Z	-0.019	-0.019	0	%100
24	47	Z	-0.016	-0.016	0	%100
25	57	Z	-0.016	-0.016	0	%100
26	62	Z	-0.007	-0.007	0	%100
27	64	Z	-0.022	-0.022	0	%100
28	73	Z	-0.007	-0.007	0	%100
29	74	Z	-0.013	-0.013	0	%100
30	75	Z	-0.016	-0.016	0	%100
31	76	Z	-0.011	-0.011	0	%100
32	77	Z	-0.016	-0.016	0	%100
33	78	Z	-0.011	-0.011	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, %)]
34	80	Z	-0.019	-0.019	0	%100
35	81	Z	-0.016	-0.016	0	%100
36	83	Z	-0.016	-0.016	0	%100
37	85	Z	-0.007	-0.007	0	%100
38	86	Z	-0.022	-0.022	0	%100
39	92	Z	-0.008	-0.008	0	%100
40	93	Z	-0.008	-0.008	0	%100
41	94	Z	-0.008	-0.008	0	%100
42	96	Z	-0.009	-0.009	0	%100
43	100	Z	-0.008	-0.008	0	%100
44	103	Z	-0.008	-0.008	0	%100
45	104	Z	-0.008	-0.008	0	%100
46	105	Z	-0.008	-0.008	0	%100
47	107	Z	-0.009	-0.009	0	%100
48	111	Z	-0.008	-0.008	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	-0.013	-0.013	0	%100
2	2	X	-0.011	-0.011	0	%100
3	3	X	-0.011	-0.011	0	%100
4	13	X	-0.016	-0.016	0	%100
5	14	X	-0.016	-0.016	0	%100
6	18	X	-0.009	-0.009	0	%100
7	24	X	-0.016	-0.016	0	%100
8	25	X	-0.016	-0.016	0	%100
9	31	X	-0.007	-0.007	0	%100
10	32	X	-0.007	-0.007	0	%100
11	35	X	-0.022	-0.022	0	%100
12	50	X	-0.008	-0.008	0	%100
13	51	X	-0.008	-0.008	0	%100
14	54	X	-0.008	-0.008	0	%100
15	56	X	-0.019	-0.019	0	%100
16	66	X	-0.008	-0.008	0	%100
17	34	X	-0.007	-0.007	0	%100
18	36	X	-0.013	-0.013	0	%100
19	37	X	-0.016	-0.016	0	%100
20	38	X	-0.011	-0.011	0	%100
21	39	X	-0.016	-0.016	0	%100
22	40	X	-0.011	-0.011	0	%100
23	46	X	-0.019	-0.019	0	%100
24	47	X	-0.016	-0.016	0	%100
25	57	X	-0.016	-0.016	0	%100
26	62	X	-0.007	-0.007	0	%100
27	64	X	-0.022	-0.022	0	%100
28	73	X	-0.007	-0.007	0	%100
29	74	X	-0.013	-0.013	0	%100
30	75	X	-0.016	-0.016	0	%100
31	76	X	-0.011	-0.011	0	%100
32	77	X	-0.016	-0.016	0	%100
33	78	X	-0.011	-0.011	0	%100
34	80	X	-0.019	-0.019	0	%100
35	81	X	-0.016	-0.016	0	%100
36	83	X	-0.016	-0.016	0	%100
37	85	X	-0.007	-0.007	0	%100



Company : B+T Group
 Designer : SV
 Job Number : 149442.003.01
 Model Name : CT03801-S - East Granby

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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, %)]
38	86	X	-0.022	-0.022	0	%100
39	92	X	-0.008	-0.008	0	%100
40	93	X	-0.008	-0.008	0	%100
41	94	X	-0.008	-0.008	0	%100
42	96	X	-0.009	-0.009	0	%100
43	100	X	-0.008	-0.008	0	%100
44	103	X	-0.008	-0.008	0	%100
45	104	X	-0.008	-0.008	0	%100
46	105	X	-0.008	-0.008	0	%100
47	107	X	-0.009	-0.009	0	%100
48	111	X	-0.008	-0.008	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	-0.009	-0.009	0	%100
2	2	Z	-0.008	-0.008	0	%100
3	3	Z	-0.008	-0.008	0	%100
4	13	Z	-0.018	-0.018	0	%100
5	14	Z	-0.018	-0.018	0	%100
6	18	Z	-0.003	-0.003	0	%100
7	24	Z	-0.022	-0.022	0	%100
8	25	Z	-0.022	-0.022	0	%100
9	31	Z	-0.008	-0.008	0	%100
10	32	Z	-0.008	-0.008	0	%100
11	35	Z	-0.011	-0.011	0	%100
12	50	Z	-0.003	-0.003	0	%100
13	51	Z	-0.003	-0.003	0	%100
14	54	Z	-0.003	-0.003	0	%100
15	56	Z	-0.01	-0.01	0	%100
16	66	Z	-0.003	-0.003	0	%100
17	34	Z	-0.008	-0.008	0	%100
18	36	Z	-0.009	-0.009	0	%100
19	37	Z	-0.022	-0.022	0	%100
20	38	Z	-0.008	-0.008	0	%100
21	39	Z	-0.018	-0.018	0	%100
22	40	Z	-0.008	-0.008	0	%100
23	46	Z	-0.01	-0.01	0	%100
24	47	Z	-0.018	-0.018	0	%100
25	57	Z	-0.022	-0.022	0	%100
26	62	Z	-0.008	-0.008	0	%100
27	64	Z	-0.011	-0.011	0	%100
28	73	Z	-0.008	-0.008	0	%100
29	74	Z	-0.009	-0.009	0	%100
30	75	Z	-0.022	-0.022	0	%100
31	76	Z	-0.008	-0.008	0	%100
32	77	Z	-0.018	-0.018	0	%100
33	78	Z	-0.008	-0.008	0	%100
34	80	Z	-0.01	-0.01	0	%100
35	81	Z	-0.018	-0.018	0	%100
36	83	Z	-0.022	-0.022	0	%100
37	85	Z	-0.008	-0.008	0	%100
38	86	Z	-0.011	-0.011	0	%100
39	92	Z	-0.003	-0.003	0	%100
40	93	Z	-0.003	-0.003	0	%100
41	94	Z	-0.003	-0.003	0	%100



Company : B+T Group
 Designer : SV
 Job Number : 149442.003.01
 Model Name : CT03801-S - East Granby

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Member Distributed Loads (BLC 4 : 0 Wind - 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, %)]
42	96	Z	-0.003	-0.003	0	%100
43	100	Z	-0.003	-0.003	0	%100
44	103	Z	-0.003	-0.003	0	%100
45	104	Z	-0.003	-0.003	0	%100
46	105	Z	-0.003	-0.003	0	%100
47	107	Z	-0.003	-0.003	0	%100
48	111	Z	-0.003	-0.003	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	-0.009	-0.009	0	%100
2	2	X	-0.008	-0.008	0	%100
3	3	X	-0.008	-0.008	0	%100
4	13	X	-0.018	-0.018	0	%100
5	14	X	-0.018	-0.018	0	%100
6	18	X	-0.003	-0.003	0	%100
7	24	X	-0.022	-0.022	0	%100
8	25	X	-0.022	-0.022	0	%100
9	31	X	-0.008	-0.008	0	%100
10	32	X	-0.008	-0.008	0	%100
11	35	X	-0.011	-0.011	0	%100
12	50	X	-0.003	-0.003	0	%100
13	51	X	-0.003	-0.003	0	%100
14	54	X	-0.003	-0.003	0	%100
15	56	X	-0.01	-0.01	0	%100
16	66	X	-0.003	-0.003	0	%100
17	34	X	-0.008	-0.008	0	%100
18	36	X	-0.009	-0.009	0	%100
19	37	X	-0.022	-0.022	0	%100
20	38	X	-0.008	-0.008	0	%100
21	39	X	-0.018	-0.018	0	%100
22	40	X	-0.008	-0.008	0	%100
23	46	X	-0.01	-0.01	0	%100
24	47	X	-0.018	-0.018	0	%100
25	57	X	-0.022	-0.022	0	%100
26	62	X	-0.008	-0.008	0	%100
27	64	X	-0.011	-0.011	0	%100
28	73	X	-0.008	-0.008	0	%100
29	74	X	-0.009	-0.009	0	%100
30	75	X	-0.022	-0.022	0	%100
31	76	X	-0.008	-0.008	0	%100
32	77	X	-0.018	-0.018	0	%100
33	78	X	-0.008	-0.008	0	%100
34	80	X	-0.01	-0.01	0	%100
35	81	X	-0.018	-0.018	0	%100
36	83	X	-0.022	-0.022	0	%100
37	85	X	-0.008	-0.008	0	%100
38	86	X	-0.011	-0.011	0	%100
39	92	X	-0.003	-0.003	0	%100
40	93	X	-0.003	-0.003	0	%100
41	94	X	-0.003	-0.003	0	%100
42	96	X	-0.003	-0.003	0	%100
43	100	X	-0.003	-0.003	0	%100
44	103	X	-0.003	-0.003	0	%100
45	104	X	-0.003	-0.003	0	%100



Member Distributed Loads (BLC 5 : 90 Wind - 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, %)]
46	105	X	-0.003	-0.003	0	%100
47	107	X	-0.003	-0.003	0	%100
48	111	X	-0.003	-0.003	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	13	Z	-0.002	-0.002	0	%100
5	14	Z	-0.002	-0.002	0	%100
6	18	Z	-0.0005	-0.0005	0	%100
7	24	Z	-0.002	-0.002	0	%100
8	25	Z	-0.002	-0.002	0	%100
9	31	Z	-0.0007	-0.0007	0	%100
10	32	Z	-0.0007	-0.0007	0	%100
11	35	Z	-0.002	-0.002	0	%100
12	50	Z	-0.0004	-0.0004	0	%100
13	51	Z	-0.0004	-0.0004	0	%100
14	54	Z	-0.0004	-0.0004	0	%100
15	56	Z	-0.002	-0.002	0	%100
16	66	Z	-0.0004	-0.0004	0	%100
17	34	Z	-0.0007	-0.0007	0	%100
18	36	Z	-0.001	-0.001	0	%100
19	37	Z	-0.002	-0.002	0	%100
20	38	Z	-0.001	-0.001	0	%100
21	39	Z	-0.002	-0.002	0	%100
22	40	Z	-0.001	-0.001	0	%100
23	46	Z	-0.002	-0.002	0	%100
24	47	Z	-0.002	-0.002	0	%100
25	57	Z	-0.002	-0.002	0	%100
26	62	Z	-0.0007	-0.0007	0	%100
27	64	Z	-0.002	-0.002	0	%100
28	73	Z	-0.0007	-0.0007	0	%100
29	74	Z	-0.001	-0.001	0	%100
30	75	Z	-0.002	-0.002	0	%100
31	76	Z	-0.001	-0.001	0	%100
32	77	Z	-0.002	-0.002	0	%100
33	78	Z	-0.001	-0.001	0	%100
34	80	Z	-0.002	-0.002	0	%100
35	81	Z	-0.002	-0.002	0	%100
36	83	Z	-0.002	-0.002	0	%100
37	85	Z	-0.0007	-0.0007	0	%100
38	86	Z	-0.002	-0.002	0	%100
39	92	Z	-0.0004	-0.0004	0	%100
40	93	Z	-0.0004	-0.0004	0	%100
41	94	Z	-0.0004	-0.0004	0	%100
42	96	Z	-0.0005	-0.0005	0	%100
43	100	Z	-0.0004	-0.0004	0	%100
44	103	Z	-0.0004	-0.0004	0	%100
45	104	Z	-0.0004	-0.0004	0	%100
46	105	Z	-0.0004	-0.0004	0	%100
47	107	Z	-0.0005	-0.0005	0	%100
48	111	Z	-0.0004	-0.0004	0	%100



Company : B+T Group
 Designer : SV
 Job Number : 149442.003.01
 Model Name : CT03801-S - East Granby

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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	13	X	-0.002	-0.002	0	%100
5	14	X	-0.002	-0.002	0	%100
6	18	X	-0.0005	-0.0005	0	%100
7	24	X	-0.002	-0.002	0	%100
8	25	X	-0.002	-0.002	0	%100
9	31	X	-0.0007	-0.0007	0	%100
10	32	X	-0.0007	-0.0007	0	%100
11	35	X	-0.002	-0.002	0	%100
12	50	X	-0.0004	-0.0004	0	%100
13	51	X	-0.0004	-0.0004	0	%100
14	54	X	-0.0004	-0.0004	0	%100
15	56	X	-0.002	-0.002	0	%100
16	66	X	-0.0004	-0.0004	0	%100
17	34	X	-0.0007	-0.0007	0	%100
18	36	X	-0.001	-0.001	0	%100
19	37	X	-0.002	-0.002	0	%100
20	38	X	-0.001	-0.001	0	%100
21	39	X	-0.002	-0.002	0	%100
22	40	X	-0.001	-0.001	0	%100
23	46	X	-0.002	-0.002	0	%100
24	47	X	-0.002	-0.002	0	%100
25	57	X	-0.002	-0.002	0	%100
26	62	X	-0.0007	-0.0007	0	%100
27	64	X	-0.002	-0.002	0	%100
28	73	X	-0.0007	-0.0007	0	%100
29	74	X	-0.001	-0.001	0	%100
30	75	X	-0.002	-0.002	0	%100
31	76	X	-0.001	-0.001	0	%100
32	77	X	-0.002	-0.002	0	%100
33	78	X	-0.001	-0.001	0	%100
34	80	X	-0.002	-0.002	0	%100
35	81	X	-0.002	-0.002	0	%100
36	83	X	-0.002	-0.002	0	%100
37	85	X	-0.0007	-0.0007	0	%100
38	86	X	-0.002	-0.002	0	%100
39	92	X	-0.0004	-0.0004	0	%100
40	93	X	-0.0004	-0.0004	0	%100
41	94	X	-0.0004	-0.0004	0	%100
42	96	X	-0.0005	-0.0005	0	%100
43	100	X	-0.0004	-0.0004	0	%100
44	103	X	-0.0004	-0.0004	0	%100
45	104	X	-0.0004	-0.0004	0	%100
46	105	X	-0.0004	-0.0004	0	%100
47	107	X	-0.0005	-0.0005	0	%100
48	111	X	-0.0004	-0.0004	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	-0.021	-0.021	0	%100
2	2	Y	-0.017	-0.017	0	%100
3	3	Y	-0.017	-0.017	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, %)]
4	13	Y	-0.022	-0.022	0	%100
5	14	Y	-0.022	-0.022	0	%100
6	18	Y	-0.016	-0.016	0	%100
7	24	Y	-0.022	-0.022	0	%100
8	25	Y	-0.022	-0.022	0	%100
9	31	Y	-0.014	-0.014	0	%100
10	32	Y	-0.014	-0.014	0	%100
11	35	Y	-0.028	-0.028	0	%100
12	50	Y	-0.014	-0.014	0	%100
13	51	Y	-0.014	-0.014	0	%100
14	54	Y	-0.014	-0.014	0	%100
15	56	Y	-0.028	-0.028	0	%100
16	66	Y	-0.014	-0.014	0	%100
17	34	Y	-0.014	-0.014	0	%100
18	36	Y	-0.021	-0.021	0	%100
19	37	Y	-0.022	-0.022	0	%100
20	38	Y	-0.017	-0.017	0	%100
21	39	Y	-0.022	-0.022	0	%100
22	40	Y	-0.017	-0.017	0	%100
23	46	Y	-0.028	-0.028	0	%100
24	47	Y	-0.022	-0.022	0	%100
25	57	Y	-0.022	-0.022	0	%100
26	62	Y	-0.014	-0.014	0	%100
27	64	Y	-0.028	-0.028	0	%100
28	73	Y	-0.014	-0.014	0	%100
29	74	Y	-0.021	-0.021	0	%100
30	75	Y	-0.022	-0.022	0	%100
31	76	Y	-0.017	-0.017	0	%100
32	77	Y	-0.022	-0.022	0	%100
33	78	Y	-0.017	-0.017	0	%100
34	80	Y	-0.028	-0.028	0	%100
35	81	Y	-0.022	-0.022	0	%100
36	83	Y	-0.022	-0.022	0	%100
37	85	Y	-0.014	-0.014	0	%100
38	86	Y	-0.028	-0.028	0	%100
39	92	Y	-0.014	-0.014	0	%100
40	93	Y	-0.014	-0.014	0	%100
41	94	Y	-0.014	-0.014	0	%100
42	96	Y	-0.016	-0.016	0	%100
43	100	Y	-0.014	-0.014	0	%100
44	103	Y	-0.014	-0.014	0	%100
45	104	Y	-0.014	-0.014	0	%100
46	105	Y	-0.014	-0.014	0	%100
47	107	Y	-0.016	-0.016	0	%100
48	111	Y	-0.014	-0.014	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	62	Y	-0.016	0.0006163	1.155	2.309
2	73	Y	0.0006164	-0.016	0	1.155
3	73	Y	-0.016	-0.035	1.155	2.309
4	85	Y	-0.018	-0.016	0	2.078
5	31	Y	-0.035	-0.016	0	1.155
6	31	Y	-0.016	0.0006163	1.155	2.309
7	32	Y	-0.018	-0.016	0.231	2.309

Member Distributed Loads (BLC 28 : BLC 1 Transient Area Loads) (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	34	Y	-0.018	-0.016	0.231 2.309
9	62	Y	-0.035	-0.016	0 1.155

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

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	31	Y	-0.037	-0.017	0 1.155
2	31	Y	-0.017	0.0006552	1.155 2.309
3	32	Y	-0.019	-0.017	0.231 2.309
4	34	Y	-0.02	-0.017	0.231 2.309
5	62	Y	-0.038	-0.017	0 1.155
6	62	Y	-0.017	0.000678	1.155 2.309
7	73	Y	0.0006781	-0.017	0 1.155
8	73	Y	-0.017	-0.038	1.155 2.309
9	85	Y	-0.02	-0.017	0 2.078

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	64	60	71	65	Y	Two Way	-0.01
2	111	110	109	108	Y	Two Way	-0.01
3	139	138	137	140	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	64	60	71	65	Y	Two Way	-0.011
2	111	110	109	108	Y	Two Way	-0.011
3	139	138	137	140	Y	Two Way	-0.011

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	102	L	Y	-0.5
2	170	L	Y	-0.5
3	147	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 ² /ft, k*s ² *ft)]
1	85	L	Y	-0.5
2	172	L	Y	-0.5
3	148	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 ² /ft, k*s ² *ft)]
1	171	L	Y	-0.5
2	146	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		2			
12	Live Load d	LL					
13	Maint LL 1	LL			1		
14	Maint LL 2	LL			1		
15	Maint LL 3	LL			1		
16	Maint LL 4	LL			1		
17	Maint LL 5	LL			1		
18	Maint LL 6	LL			1		
19	Maint LL 7	LL			1		
20	Maint LL 8	LL			1		
21	Maint LL 9	LL			1		
22	Maint LL 10	LL			1		
23	Maint LL 11	LL			1		
24	Maint LL 12	LL			1		
25	Maint LL 13	LL			1		
26	Maint LL 14	LL			1		
27	Maint LL 15	LL			1		
28	BLC 1 Transient Area Loads	None				9	
29	BLC 8 Transient Area Loads	None				9	

Load Combinations

	Description	Solve	P-Delta	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		



Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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
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

Load Combinations (Continued)

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

Envelope Node Reactions

Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1	2	max	1.299	5	2.715	38	1.603	2	5.533	26	1.313	11	0.342	110
2		min	-1.301	23	-0.518	8	-1.716	20	-1.69	8	-1.315	17	-0.212	6
3	62	max	1.342	5	2.767	42	1.678	14	0.655	13	1.641	3	0.878	12
4		min	-1.436	23	-0.256	12	-1.62	8	-2.531	31	-1.641	21	-4.814	42
5	120	max	1.28	17	2.67	46	1.847	14	0.692	3	1.656	7	4.518	46
6		min	-1.184	11	-0.279	4	-1.794	8	-2.927	33	-1.658	25	-0.924	4
7	Totals:	max	3.908	17	7.373	42	5.113	2						
8		min	-3.908	11	1.796	12	-5.113	20						

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	0.702	0	37	0.167	0	y	49	70.173	73.278	8.24	8.24	2.141	H1-1b
2	2	C3.38X2.06X0.188	0.526	2	592	0.084	0.351	y	40	38.433	43.394	1.694	4.483	1.627	H1-1b
3	3	C3.38X2.06X0.188	0.498	0	37	0.083	2.241	z	20	38.433	43.394	1.694	4.483	1.626	H1-1b
4	13	PL3/8"x6	0.1	0	14	0.203	0	y	74	68.856	72.9	0.57	9.113	2.396	H1-1b

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
5	14	PL3/8"x6	0.107	0	15	0.178	0	y	74	68.856	72.9	0.57		9.113	1.976			H1-1b	
6	18	PIPE 3.5X0.165	0.087	6.75	19	0.045	4		16	45.872	71.57	6.336		6.336	1.926			H1-1b	
7	24	PL3/8"x6	0.169	0.208	14	0.275	0.208	y	38	70.733	72.9	0.57		9.113	2.432			H1-1b	
8	25	PL3/8"x6	0.168	0	25	0.288	0	y	39	70.733	72.9	0.57		9.113	2.857			H1-1b	
9	31	L2x2x4	0.335	0	20	0.036	2.309	z	43	23.349	30.586	0.691		1.577	1.5			H2-1	
10	32	L2x2x4	0.285	2.309	20	0.05	0	y	40	23.349	30.586	0.691		1.577	1.5			H2-1	
11	35	L7.63x2.5x6	0.446	1.604	8	0.106	0.334	y	38	73.845	118.523	1.798		13.675	1.232			H2-1	
12	50	PIPE 2.88X0.203	0.131	5.667	17	0.048	5.667		18	35.361	70.548	5.01		5.01	3			H1-1b	
13	51	PIPE 2.88X0.203	0.156	2.333	21	0.054	5.667		21	35.361	70.548	5.01		5.01	3			H1-1b	
14	54	PIPE 2.88X0.203	0.17	7.812	25	0.162	8.958		14	23.996	70.548	5.01		5.01	2.483			H1-1b	
15	56	BL6.63x4.33x0.25	0.232	3.25	6	0.028	3.25	z	24	49.982	86.767	2.31		6.976	1.5			H2-1	
16	66	PIPE 2.88X0.203	0.145	2.333	19	0.053	2.333		20	35.361	70.548	5.01		5.01	3			H1-1b	
17	34	L2x2x4	0.246	2.309	25	0.05	0	y	44	23.349	30.586	0.691		1.577	1.5			H2-1	
18	36	HSS4X4X2	0.699	0	31	0.168	0	y	41	70.173	73.278	8.24		8.24	2.166			H1-1b	
19	37	PL3/8"x6	0.146	0.208	25	0.27	0.208	y	42	70.733	72.9	0.57		9.113	1.823			H1-1b	
20	38	C3.38X2.06X0.188	0.524	2.592	31	0.085	0.351	y	45	38.433	43.394	1.694		4.483	1.627			H1-1b	
21	39	PL3/8"x6	0.106	0	19	0.124	0	y	18	68.856	72.9	0.57		9.113	1.9			H1-1b	
22	40	C3.38X2.06X0.188	0.479	0	29	0.081	2.241	y	48	38.433	43.394	1.694		4.483	1.628			H1-1b	
23	46	BL6.63x4.33x0.25	0.267	0	2	0.031	3.25	y	21	49.982	86.767	2.31		6.976	1.5			H2-1	
24	47	PL3/8"x6	0.084	0	18	0.183	0	y	30	68.856	72.9	0.57		9.113	2.378			H1-1b	
25	57	PL3/8"x6	0.134	0	17	0.288	0	y	43	70.733	72.9	0.57		9.113	2.94			H1-1b	
26	62	L2x2x4	0.256	0	23	0.035	0	y	40	23.349	30.586	0.691		1.577	1.5			H2-1	
27	64	L7.63x2.5x6	0.338	1.604	12	0.105	0.334	y	43	73.845	118.523	1.798		13.717	1.241			H2-1	
28	73	L2x2x4	0.237	2.309	16	0.05	2.309	y	48	23.349	30.586	0.691		1.577	1.5			H2-1	
29	74	HSS4X4X2	0.701	0	33	0.168	0	y	32	70.173	73.278	8.24		8.24	2.144			H1-1b	
30	75	PL3/8"x6	0.148	0.085	14	0.272	0.208	y	45	70.733	72.9	0.57		9.113	1.491			H1-1b	
31	76	C3.38X2.06X0.188	0.513	2.592	47	0.085	0.351	y	49	38.433	43.394	1.694		4.483	1.63			H1-1b	
32	77	PL3/8"x6	0.084	0	23	0.162	0	y	57	68.856	72.9	0.57		9.113	1.884			H1-1b	
33	78	C3.38X2.06X0.188	0.498	0	33	0.081	2.241	y	39	38.433	43.394	1.694		4.483	1.628			H1-1b	
34	80	BL6.63x4.33x0.25	0.292	3.25	2	0.036	3.25	z	20	49.982	86.767	2.31		6.976	1.5			H2-1	
35	81	PL3/8"x6	0.109	0.164	15	0.187	0	y	34	68.856	72.9	0.57		9.113	2.337			H1-1b	
36	83	PL3/8"x6	0.17	0	21	0.286	0	y	47	70.733	72.9	0.57		9.113	2.869			H1-1b	
37	85	L2x2x4	0.325	0	15	0.036	2.309	z	39	23.349	30.586	0.691		1.577	1.5			H2-1	
38	86	L7.63x2.5x6	0.398	1.604	3	0.103	0.334	y	46	73.845	118.523	1.798		13.924	1.287			H2-1	
39	92	PIPE 2.88X0.203	0.167	5.667	21	0.056	5.667		21	35.361	70.548	5.01		5.01	3			H1-1b	
40	93	PIPE 2.88X0.203	0.188	2.333	14	0.054	5.667		25	35.361	70.548	5.01		5.01	3			H1-1b	
41	94	PIPE 2.88X0.203	0.161	2.187	25	0.131	2.187		25	23.996	70.548	5.01		5.01	2.228			H1-1b	
42	96	PIPE 3.5X0.165	0.096	1.25	14	0.06	4		20	45.872	71.57	6.336		6.336	1.756			H1-1b	
43	100	PIPE 2.88X0.203	0.148	5.667	21	0.055	2.333		25	35.361	70.548	5.01		5.01	3			H1-1b	
44	103	PIPE 2.88X0.203	0.165	5.667	25	0.063	5.667		25	35.361	70.548	5.01		5.01	3			H1-1b	
45	104	PIPE 2.88X0.203	0.148	2.333	18	0.04	5.667		17	35.361	70.548	5.01		5.01	3			H1-1b	
46	105	PIPE 2.88X0.203	0.157	7.812	21	0.146	8.958		21	23.996	70.548	5.01		5.01	2.472			H1-1b	
47	107	PIPE 3.5X0.165	0.086	6.75	26	0.056	2.833		25	45.872	71.57	6.336		6.336	2.088			H1-1b	
48	111	PIPE 2.88X0.203	0.171	5.667	14	0.038	5.667		16	35.361	70.548	5.01		5.01	3			H1-1b	

APPENDIX B

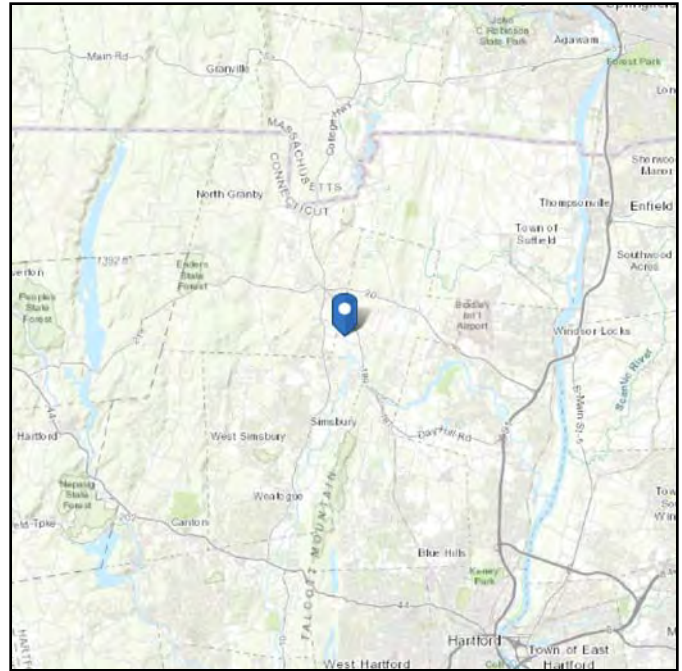
(Additional Calculations)

ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 173.29 ft (NAVD 88)
Latitude: 41.928649
Longitude: -72.776099

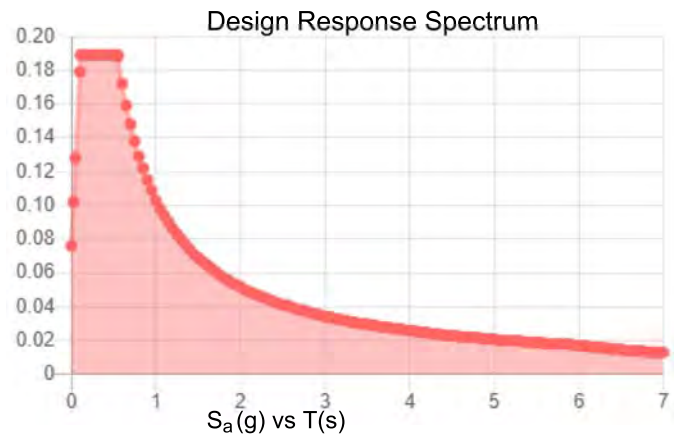
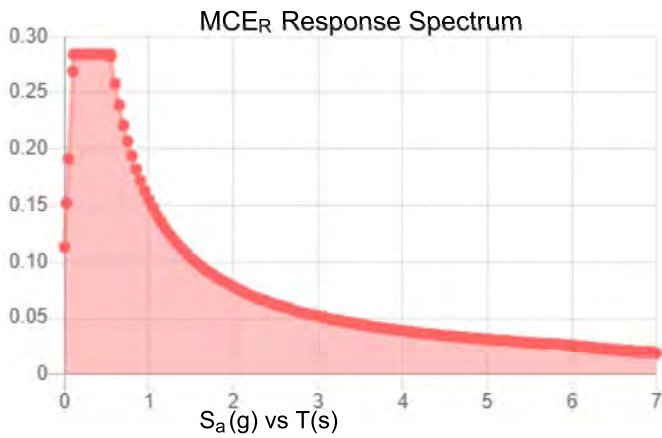


Site Soil Class: D - Stiff Soil

Results:

S_s :	0.177	S_{DS} :	0.189
S_1 :	0.065	S_{D1} :	0.103
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.088
S_{MS} :	0.284	PGA _M :	0.14
S_{M1} :	0.155	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Thu Aug 26 2021

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 5 F

Gust Speed: 50 mph

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

Date Accessed: Thu Aug 26 2021

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

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

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.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

EXHIBIT 10

Construction Drawings



DISH Wireless L.L.C. SITE ID:

BOBDL00119A

DISH Wireless L.L.C. SITE ADDRESS:

**56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026**

SBA APPROVED

By Stephen Roth at 6:02:58 AM, 10/26/2021

SCOPE OF WORK

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

- TOWER SCOPE OF WORK:**
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
 - INSTALL (1) PROPOSED ANTENNA PLATFORM MOUNT
 - INSTALL PROPOSED JUMPERS
 - INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
 - INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
 - INSTALL (1) PROPOSED HYBRID CABLE

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

SITE INFORMATION

PROPERTY OWNER: D I PAINE & SONS LLC
 ADDRESS: 54 FLOYDVILLE ROAD
 EAST GRANBY, CT 06026

TOWER TYPE: MONOPOLE

TOWER CO SITE ID: CT03801-S

TOWER APP NUMBER: 167819

COUNTY: HARTFORD

LATITUDE (NAD 83): 41° 55' 43.1" N
 41.928649 N

LONGITUDE (NAD 83): 72° 46' 34.0" W
 72.77609933 W

ZONING JURISDICTION: TOWN OF EAST GRANBY

ZONING DISTRICT: C

PARCEL NUMBER: 09003040-649

OCCUPANCY GROUP: U

CONSTRUCTION TYPE: II-B

POWER COMPANY: CONNECTICUT LIGHT & POWER CO

TELEPHONE COMPANY: T.B.D.

PROJECT DIRECTORY

APPLICANT: DISH Wireless L.L.C.
 5701 SOUTH SANTA FE DRIVE
 LITTLETON, CO 80120

TOWER OWNER: SBA COMMUNICATAIONS CORP.
 8051 CONGRESS AVENUE
 BOCA RATON, FL 33487
 (800) 487-7483

SITE DESIGNER: B+T GROUP
 1717 S. BOULDER AVE, SUITE 300
 TULSA, OK 74119
 (918) 587-4630

SITE ACQUISITION: RYAN LYNCH
 RYAN.LYNCH@DISH.COM

CONST. MANAGER: JAVIER SOTO
 JAVIER.SOTO@DISH.COM

RF ENGINEER: BOSSENER CHARLES
 BOSSENER.CHARLES@DISH.COM



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.
 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: BLJ
 CHECKED BY: BLJ
 APPROVED BY: BLJ

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	9/13/21	ISSUED FOR REVIEW
0	10/21/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149442.001.01

DISH Wireless L.L.C.
 PROJECT INFORMATION

BOBDL00119A
56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

CONNECTICUT CODE OF COMPLIANCE

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

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

SITE PHOTO



DIRECTIONS

DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT:
 CONTINUE TO BRADLEY INTERNATIONAL AIRPORT CON, HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT. SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT, SLIGHT LEFT, DRIVE ALONG CT-20 W AND HOLCOMB ST. CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON, TAKE THE CT-20 W EXIT TOWARD E GRANBY/GRANBY. CONTINUE ONTO CT-20 W, TURN LEFT ONTO HOLCOMB ST, SLIGHT RIGHT ONTO FLOYDVILLE RD, TURN RIGHT, ARRIVE AT BOBDL00119A.

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.



NO SCALE

E Granby

10125-067

CT3801-S

10125-067

LANDS NOW OR FORMERLY OF
RIVERBEND ASSOC INC.
BOOK 114 PAGE 602B
TAX MAP 15-8

PROPERTY
LINE

12" SCHWAB
IRON PIPE
ELEV. = 164.17'

LINE T.	LINE	LENGTH
1	1	27.71
1	2	20.00

LANDS NOW
DE PAD:
SEE NOTE RE
LAND RECD

114' TOWER
RETRACT

PROPOSED 100'x100'
LEASE AREA

100' TOWER
RETRACT

100' TOWER
RETRACT

LANDS NOW OR FORMERLY
OF PARR & SONS
SEE NOTE BELOW REGARDING
LAND RECORD RECORDING

LANDS NOW OR FORMERLY OF
RIVERBEND ASSOC. INC.
BOOK 117 PAGE 330
TAX MAP 19-18

12" SCHWAB
IRON PIPE
ELEV. = 164.17'

HOUSE

FLOYDVILLE ROAD



SCALE: 1" = 40'

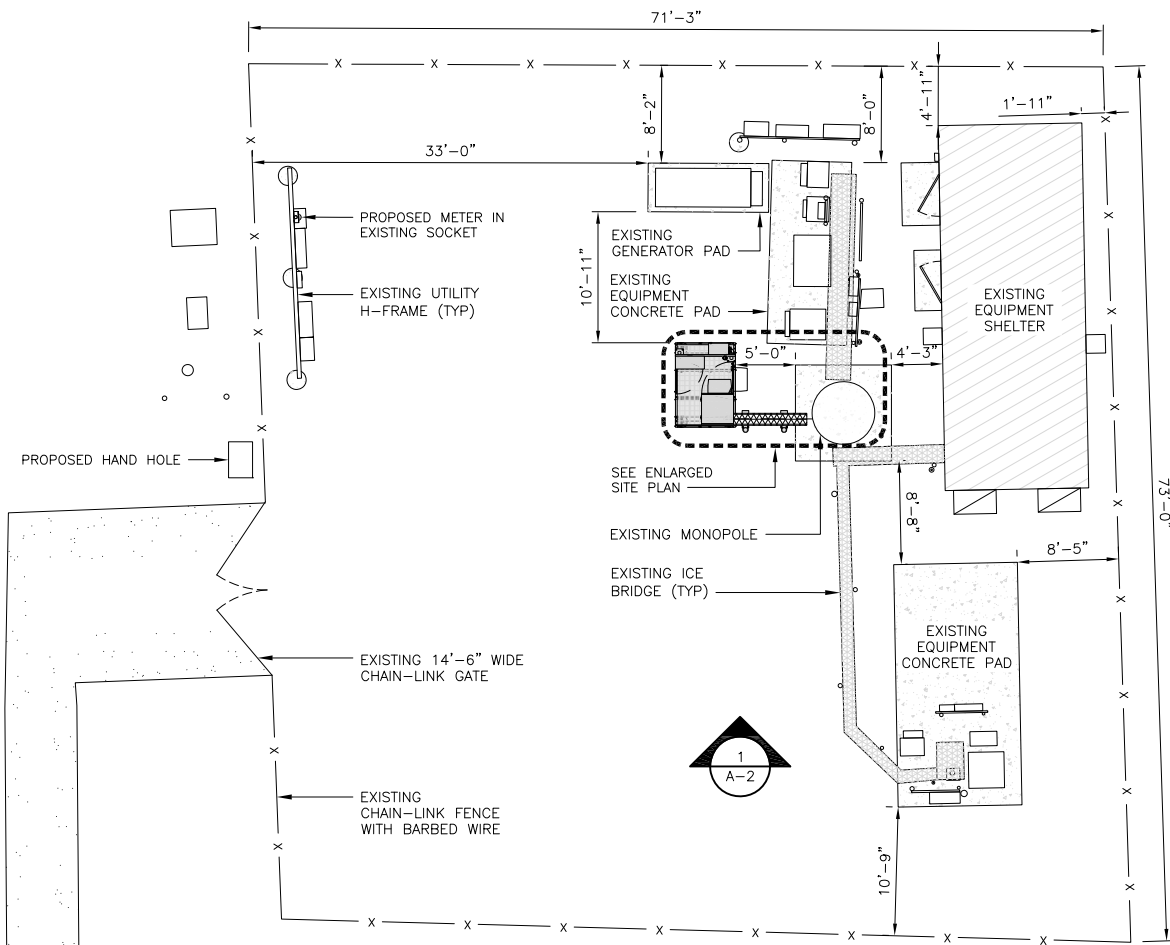


40' 0' 20' 40' 80'

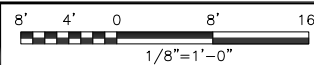
ERDMAN ANTHONY CONSULTING ENGINE
 Rochester, NY - Mechanicsburg, PA - Boston, MA - Buffalo, NY - Albany, NY
 Albany Office: 317 Brick Church Road, Troy, N.Y. 12180, Tel: (518) 279-0505 Fax: (518) 279-0506
 REG. NO. 17740 BS REG. NO. E.W.E. REG. NO. T.A.D. REG. NO. W.P.R.

NOTES

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



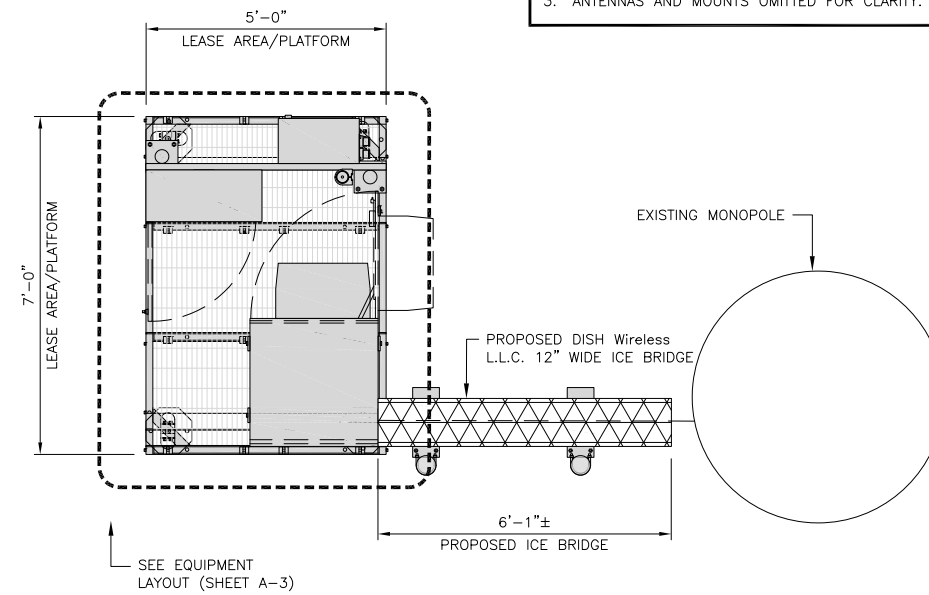
OVERALL SITE PLAN



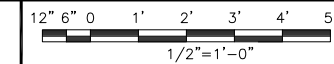
1

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
BOCA RATON, FL 33487



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



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

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

RFDS REV #: 1.0

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56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

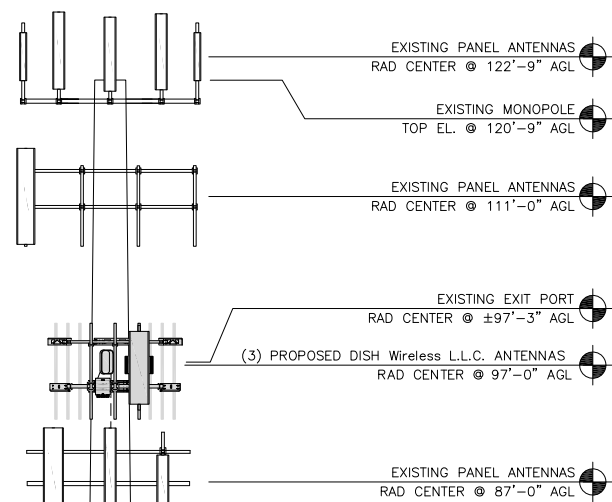
SHEET TITLE
OVERALL AND ENLARGED
SITE PLAN

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

PROPOSED DISH Wireless L.L.C. ICE BRIDGE

PROPOSED DISH Wireless L.L.C. GPS UNIT

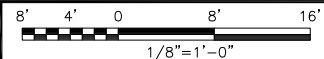
PROPOSED DISH Wireless L.L.C. EQUIPMENT ON PROPOSED STEEL PLATFORM

EXISTING MONOPOLE

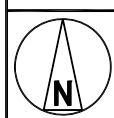
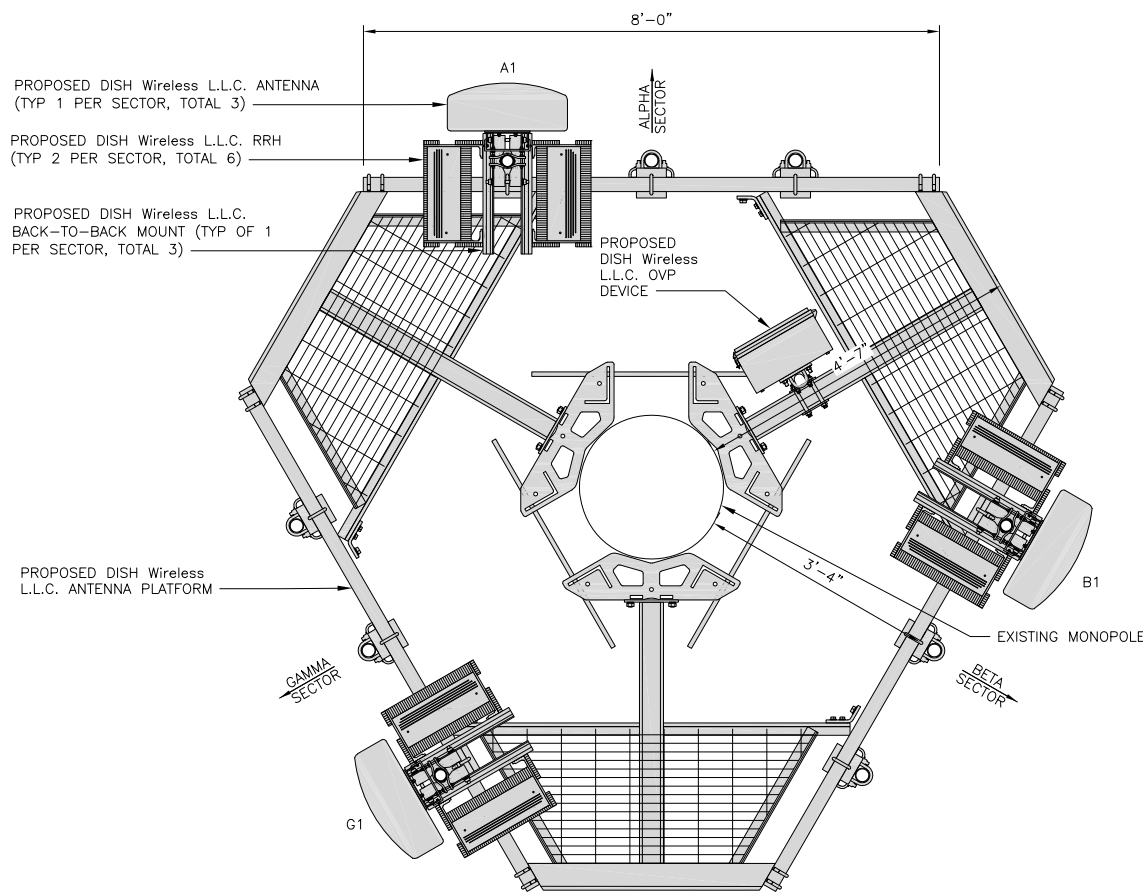
EXISTING ENTRY PORT

EXISTING MONOPOLE
BOTTOM EL. @ 6" AGL

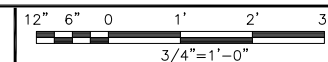
PROPOSED SOUTH ELEVATION



1



ANTENNA LAYOUT



2

SECTOR	POSITION	ANTENNA					TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	
ALPHA	A1	PROPOSED	JMA WIRELESS-MX08FR0665-21	5G	72.0" x 20.0"	0°	97'-0"
BETA	B1	PROPOSED	JMA WIRELESS-MX08FR0665-21	5G	72.0" x 20.0"	120°	97'-0"
GAMMA	G1	PROPOSED	JMA WIRELESS-MX08FR0665-21	5G	72.0" x 20.0"	240°	97'-0"

(1) HIGH-CAPACITY HYBRID CABLE (130' LONG)

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	G1	FUJITSU - TA08025-B605	5G	
	G1	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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CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
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0	10/21/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149442.001.01

DISH Wireless L.L.C. PROJECT INFORMATION
BOBDL00119A
56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER

A-2



5701 SOUTH SANTA FE DRIVE
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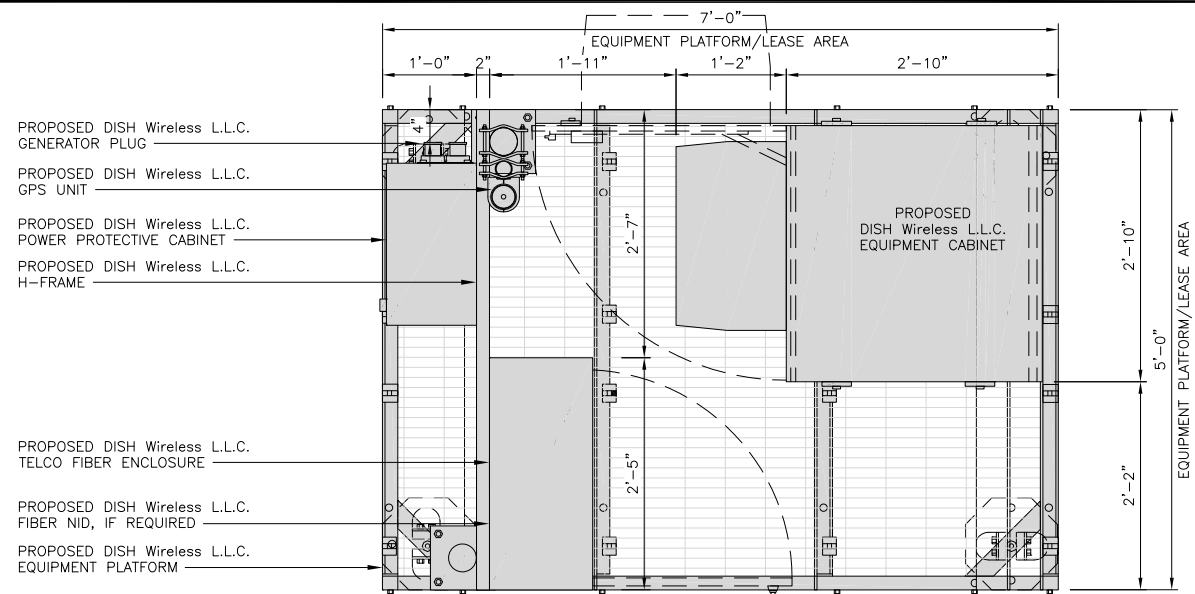
SHEET TITLE
EQUIPMENT PLATFORM AND
H-FRAME DETAILS

SHEET NUMBER

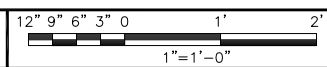
A-3

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

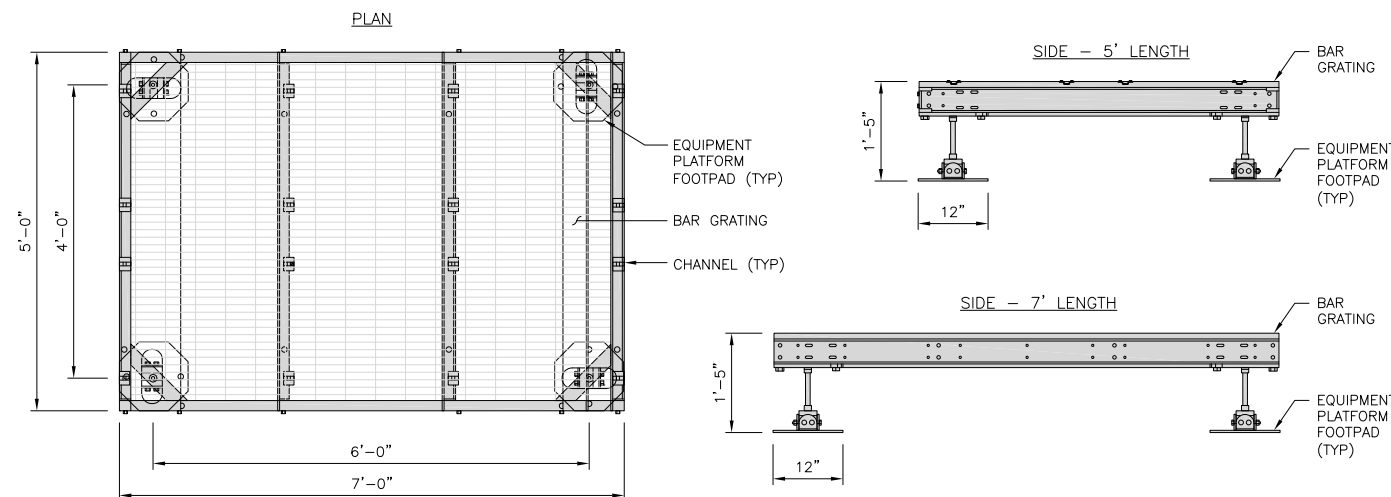


1

COMMSCOPE MTC4045LP
5X7 PLATFORM

DIMENSIONS (HxWxD)	16"x84"x60"
TOTAL WEIGHT	423 LBS

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



PLATFORM DETAIL

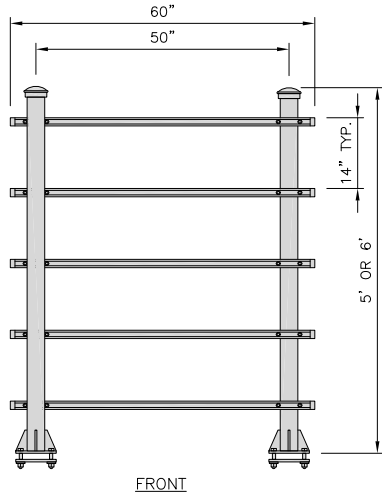
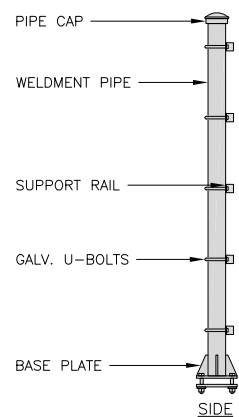
NO SCALE

2

COMMSCOPE MTC4045HFLD
H-FRAME

UNISTRUT/SUPPORT RAILS QTY	5
WEIGHT	59.74 lbs

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



H-FRAME DETAIL

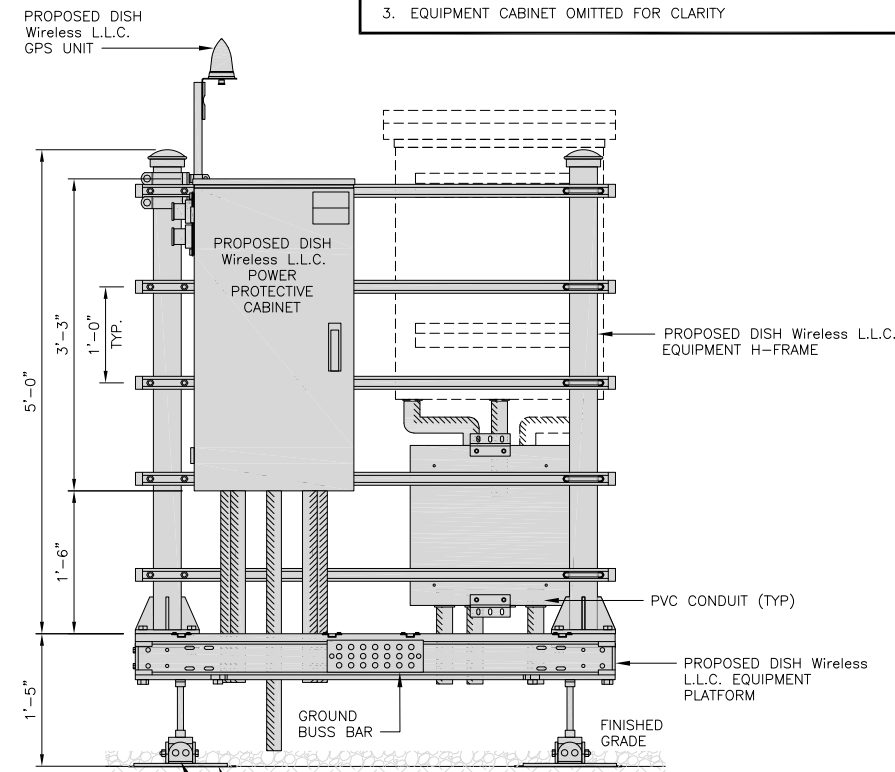
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3

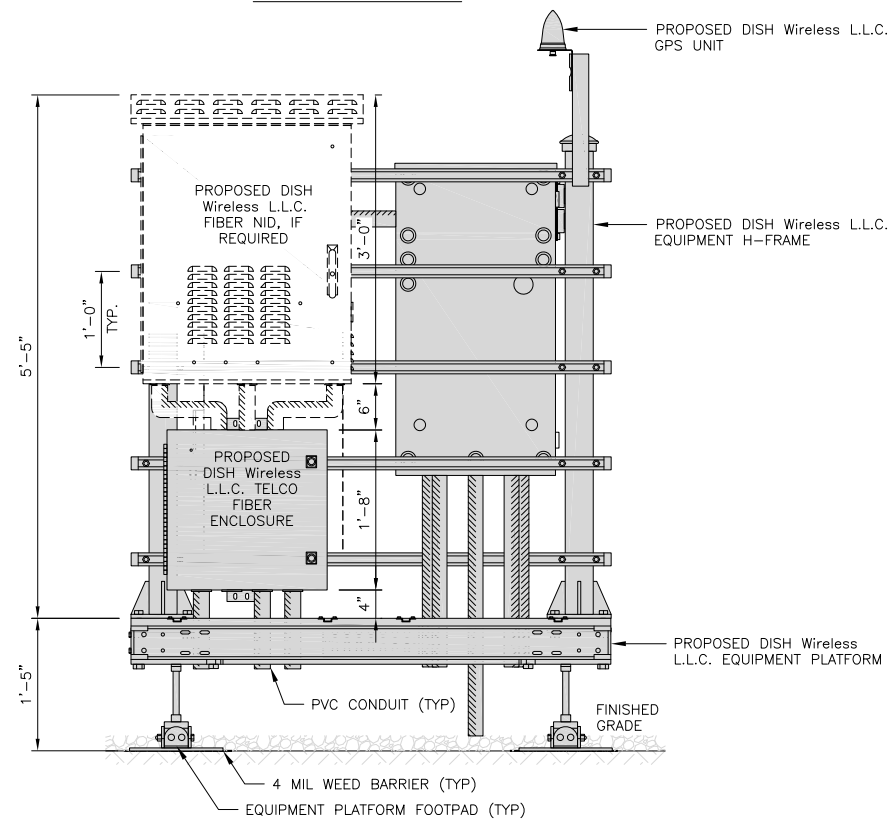
NOT USED

NO SCALE

4

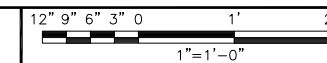


FRONT ELEVATION

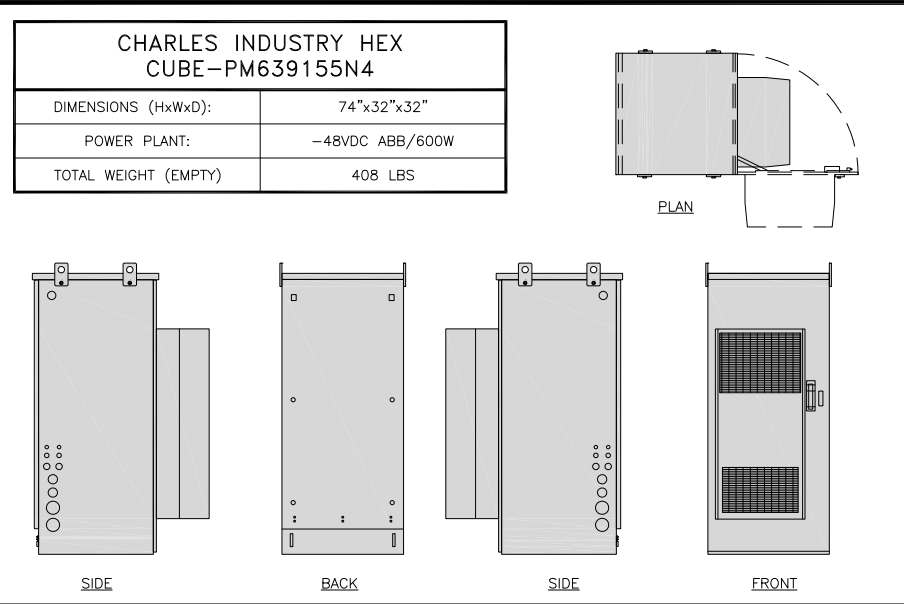


BACK ELEVATION

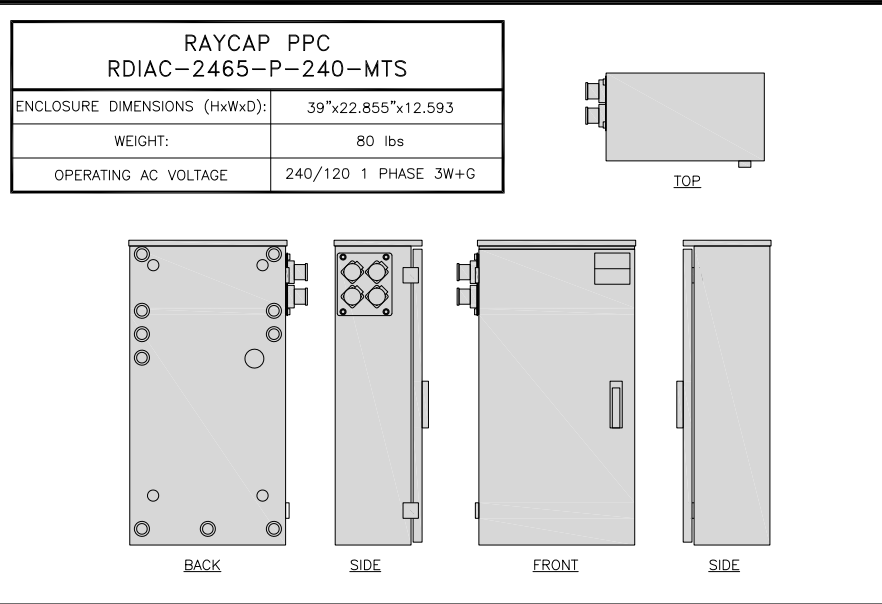
H-FRAME EQUIPMENT ELEVATION



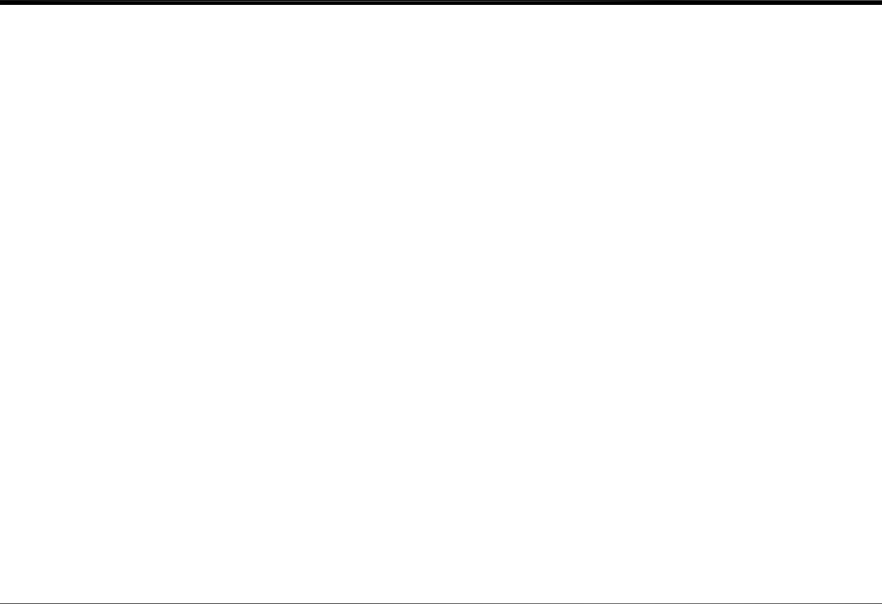
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CABINET DETAIL NO SCALE **1**



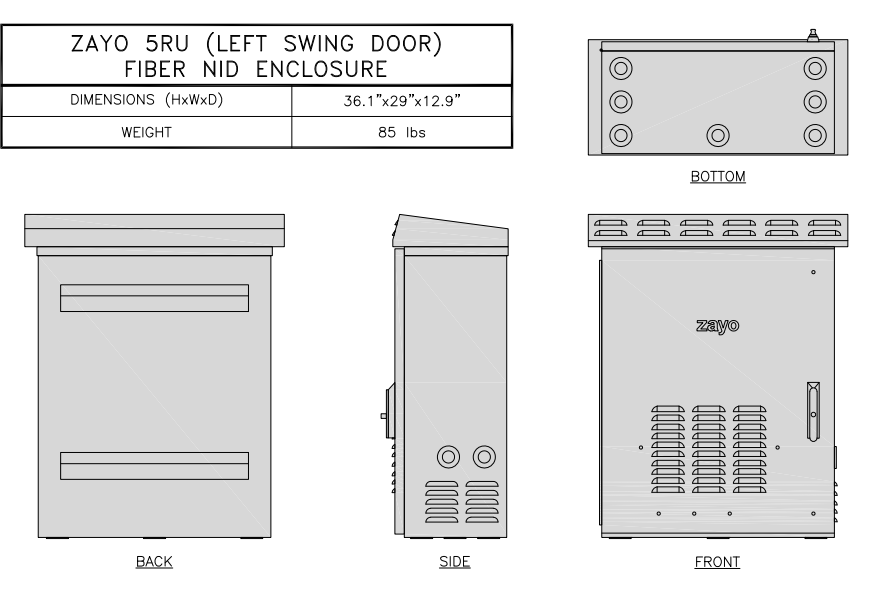
POWER PROTECTION CABINET (PPC) DETAIL NO SCALE **2**



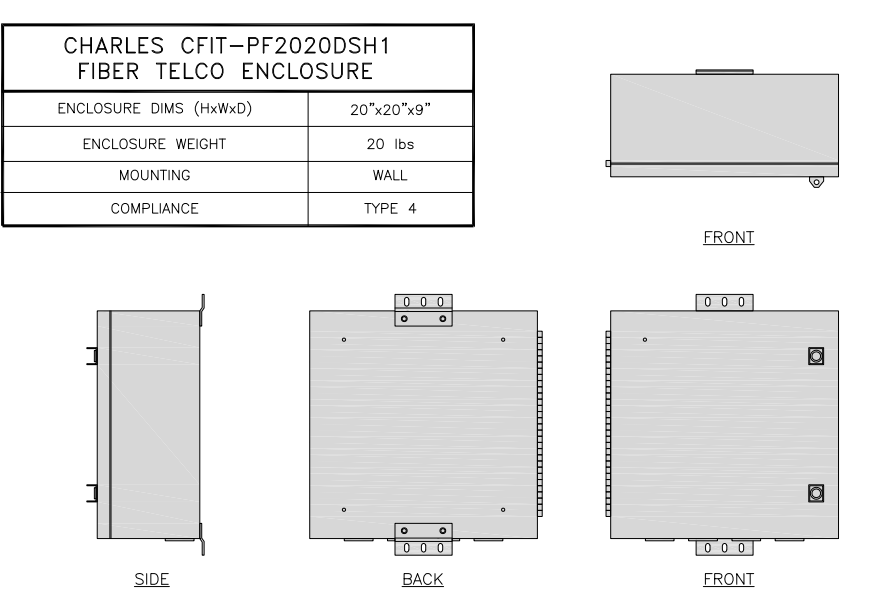
NOT USED NO SCALE **3**



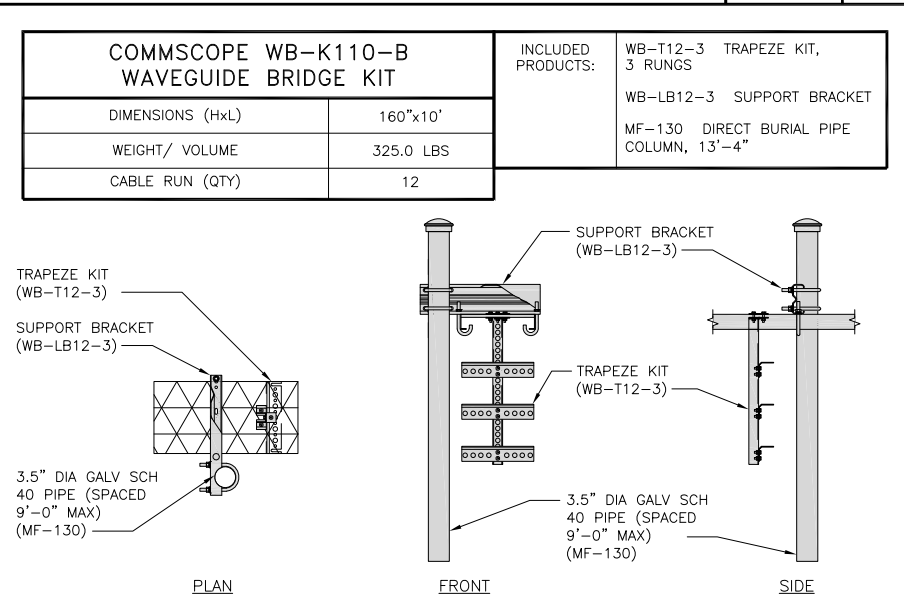
NOT USED NO SCALE **4**



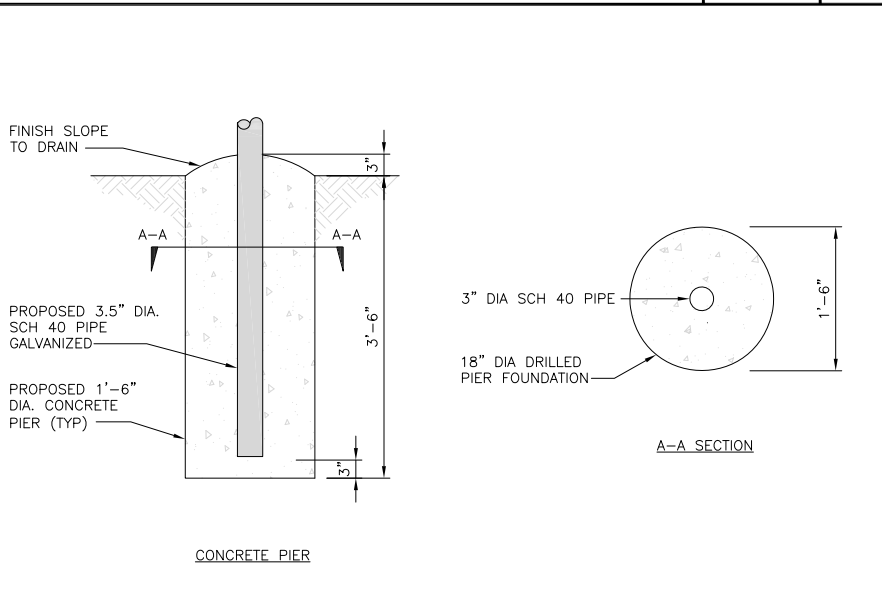
FIBER NID ENCLOSURE DETAIL NO SCALE **5**



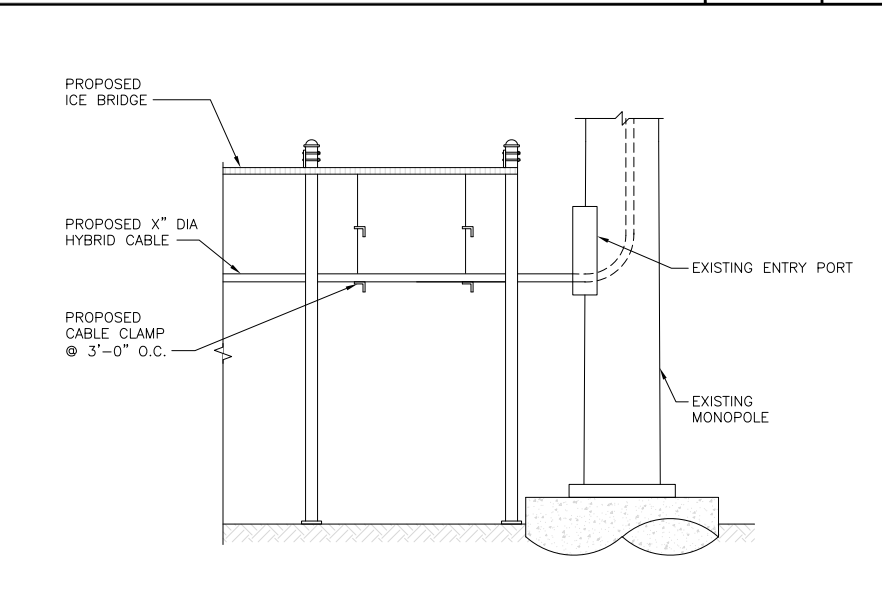
FIBER TELCO ENCLOSURE DETAIL NO SCALE **6**



ICE BRIDGE DETAIL NO SCALE **7**



TYPICAL ICE BRIDGE CONCRETE PIER DETAIL NO SCALE **8**



HYBRID CABLE RUN NO SCALE **9**

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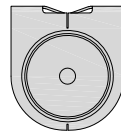
A&E PROJECT NUMBER
149442.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00119A
56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

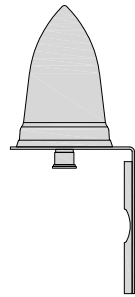
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

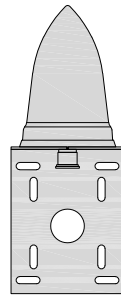
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



TOP



BACK

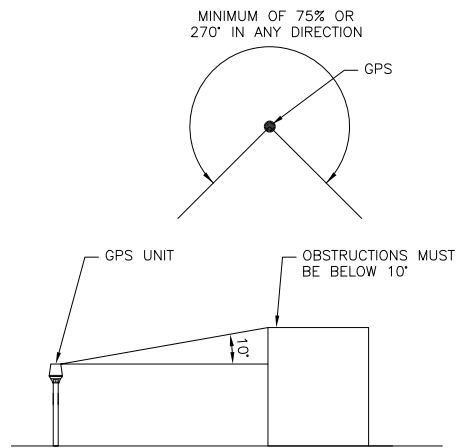


SIDE

GPS DETAIL

NO SCALE

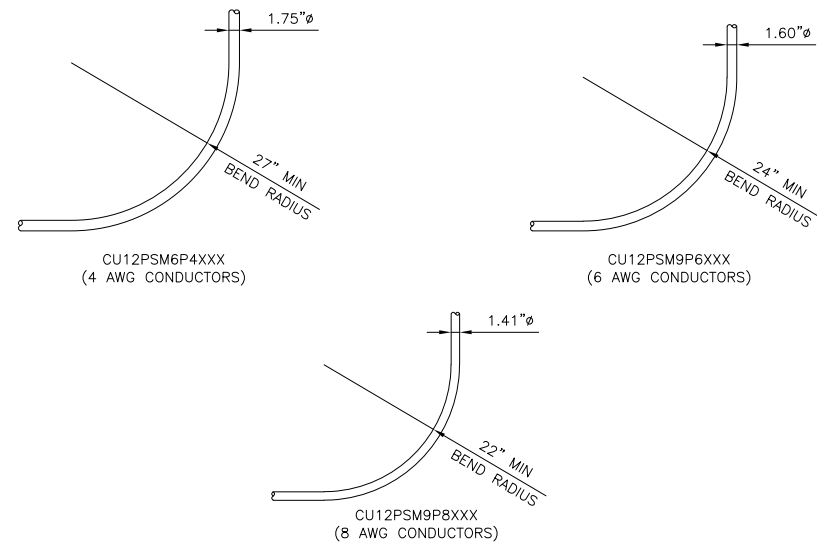
1



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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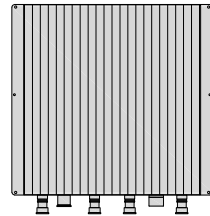
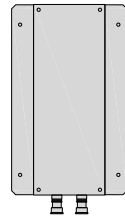
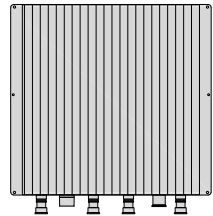
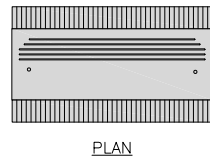
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149442.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
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56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-5

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

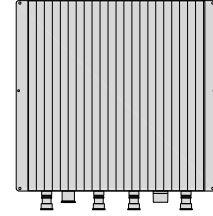
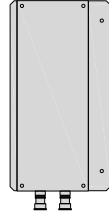
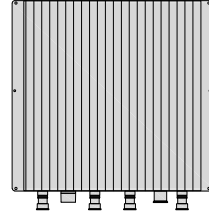
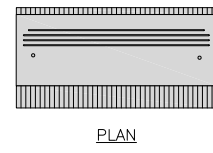


RRH DETAIL

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



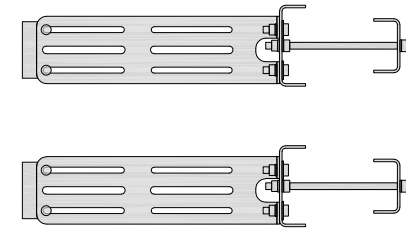
RRH DETAIL

NO SCALE

2

COMMSCOPE RR-FA2 LARGE STABILIZER	
DIMENSIONS (HxWxD)	16.4"x8.5"x18"
WEIGHT	39.2 lbs

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



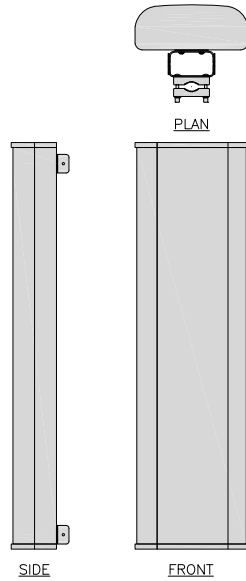
NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

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



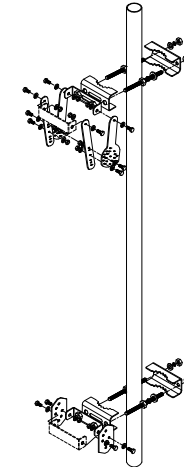
ANTENNA DETAIL

NO SCALE

4

JMA ANTENNA MOUNT BRACKET #91900318	
TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5" TO 4.5"

NOTE:
KIT #91900318: TOP AND BOTTOM BRACKETS
FOR 4-, 6-, AND 8-FOOT ANTENNAS
ANTENNA BRACKET NOT PART OF KIT



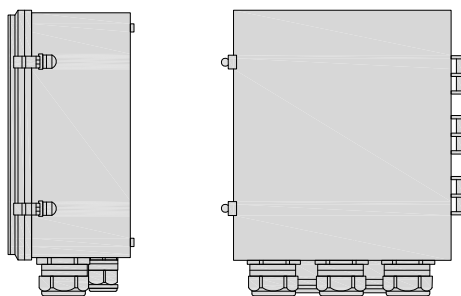
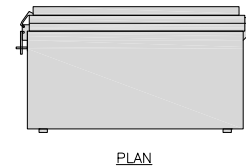
NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

ANTENNA BRACKET DETAIL

NO SCALE

6

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



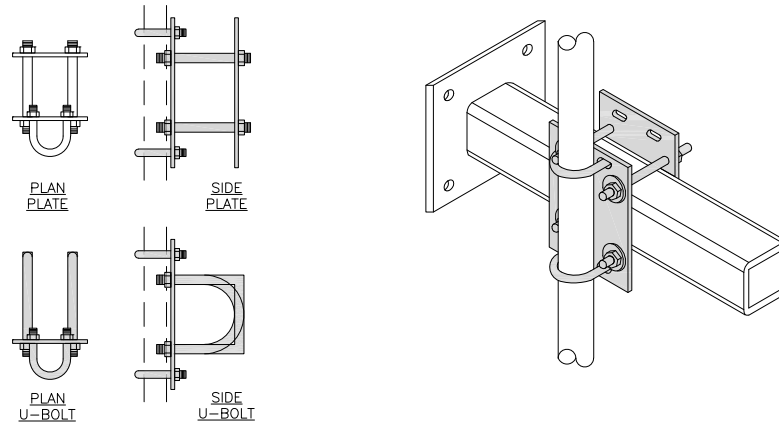
SURGE SUPPRESSION DETAIL (OVP)

NO SCALE

7

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

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



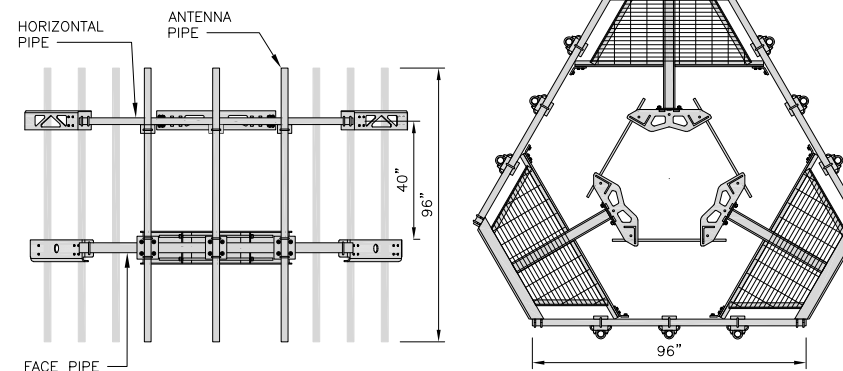
RRH/OVP MOUNT DETAIL

NO SCALE

8

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

NOTE:
OR DISH Wireless L.L.C.
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ANTENNA PLATFORM DETAIL

NO SCALE

9

dish
wireless.

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SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER

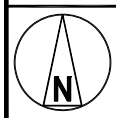
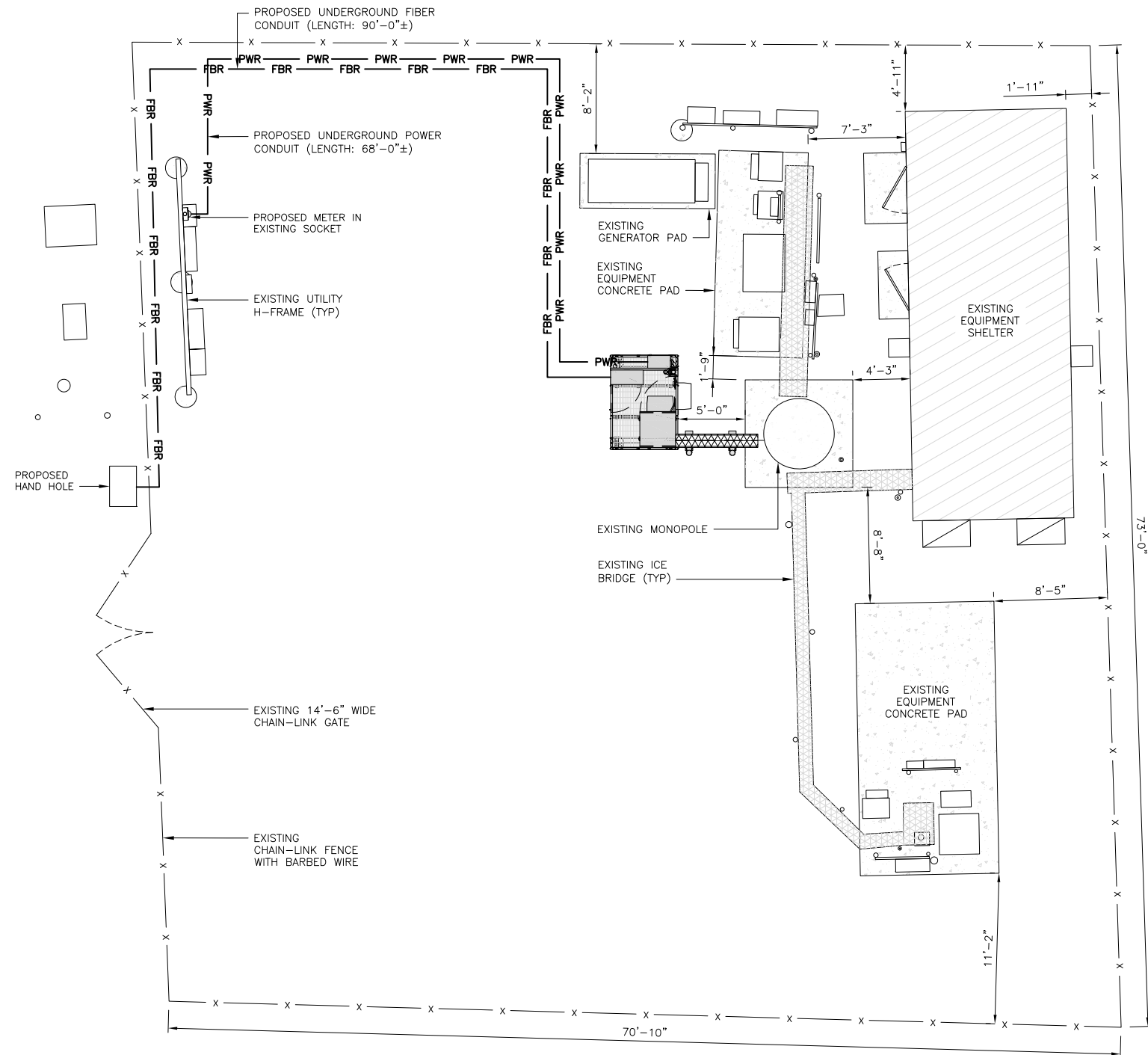
A-6

NOTES

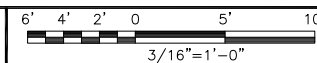
1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.

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

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



UTILITY ROUTE PLAN

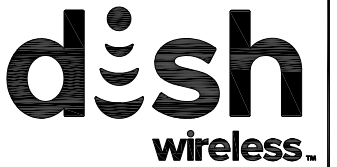


1

ELECTRICAL NOTES

NO SCALE

2



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A&E PROJECT NUMBER
149442.001.01

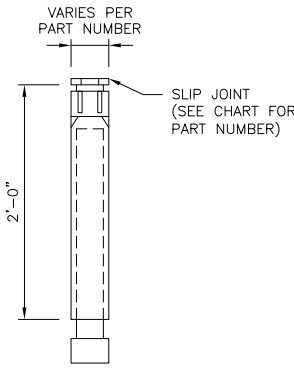
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00119A
56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

SHEET TITLE
ELECTRICAL/FIBER ROUTE
PLAN AND NOTES

SHEET NUMBER
E-1

CARLON EXPANSION FITTINGS

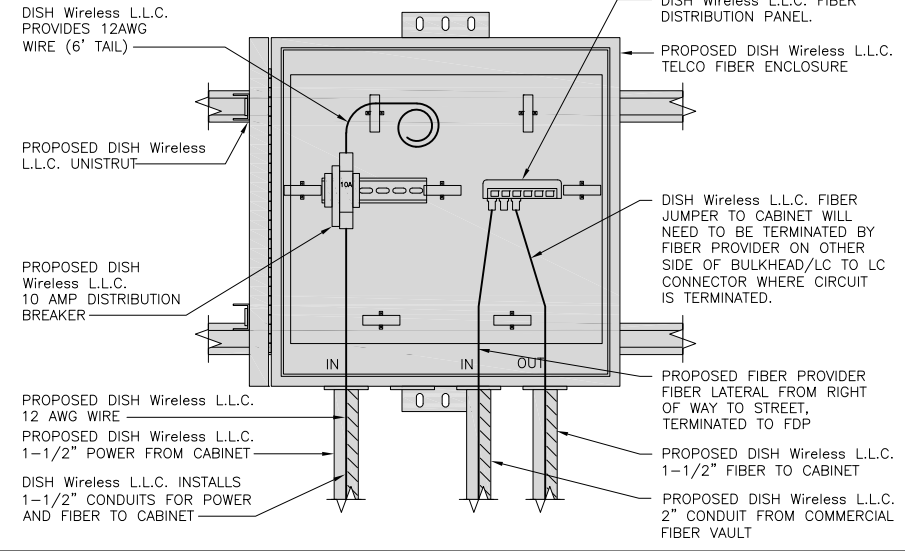
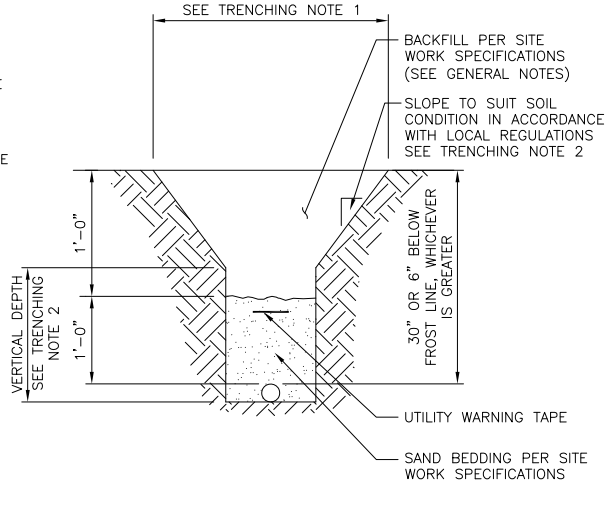
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N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



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EAST GRANBY, CT 06026

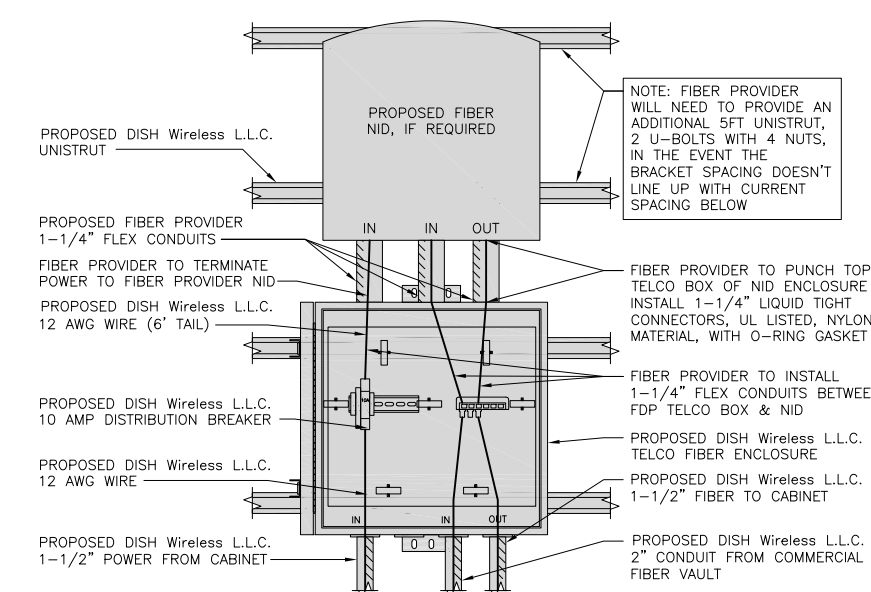
SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-2

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

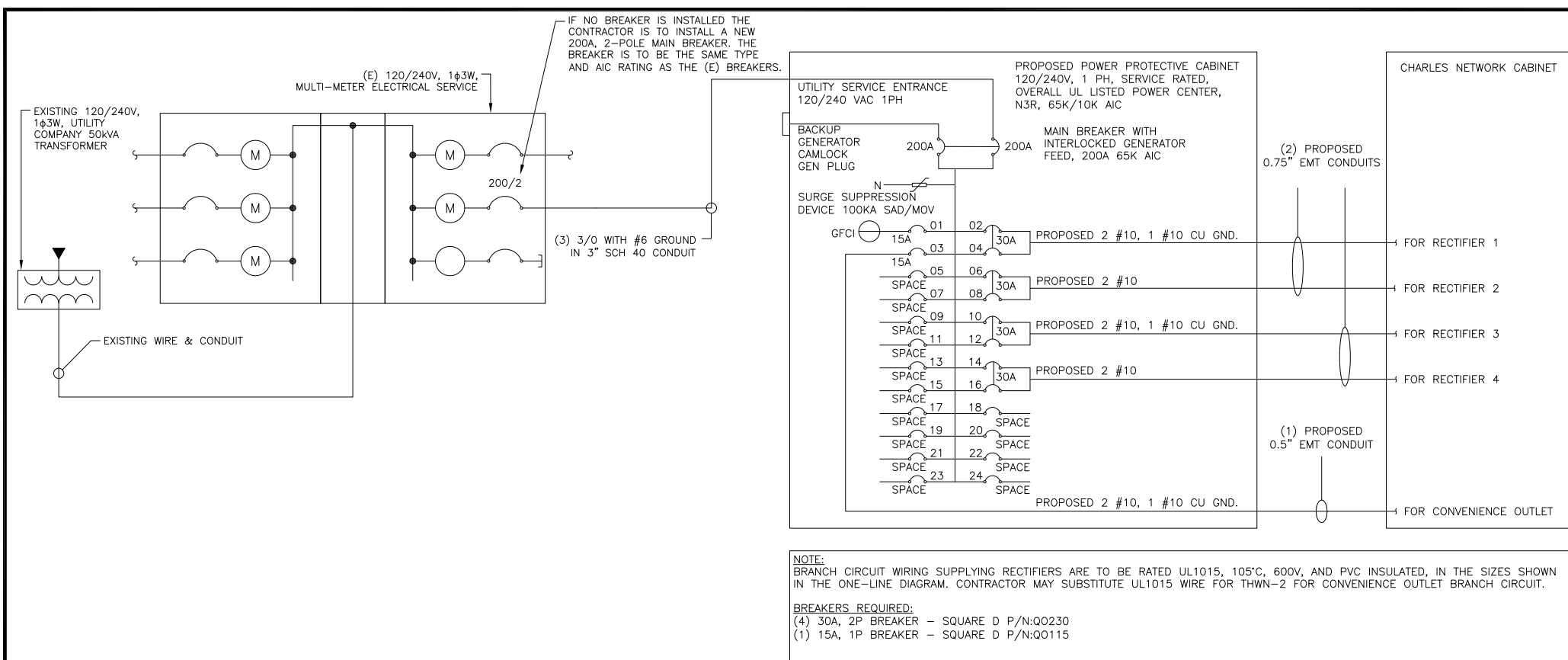
NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9



NOTES

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

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

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.

0.5" CONDUIT - 0.122 SQ. IN AREA
 0.75" CONDUIT - 0.213 SQ. IN AREA
 2.0" CONDUIT - 1.316 SQ. IN AREA
 3.0" CONDUIT - 2.907 SQ. IN AREA

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

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

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

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

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

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

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

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

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

PPC ONE-LINE DIAGRAM

NO SCALE

1

PROPOSED CHARLES PANEL SCHEDULE

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

PANEL SCHEDULE

NO SCALE

2

NOT USED

NO SCALE

3



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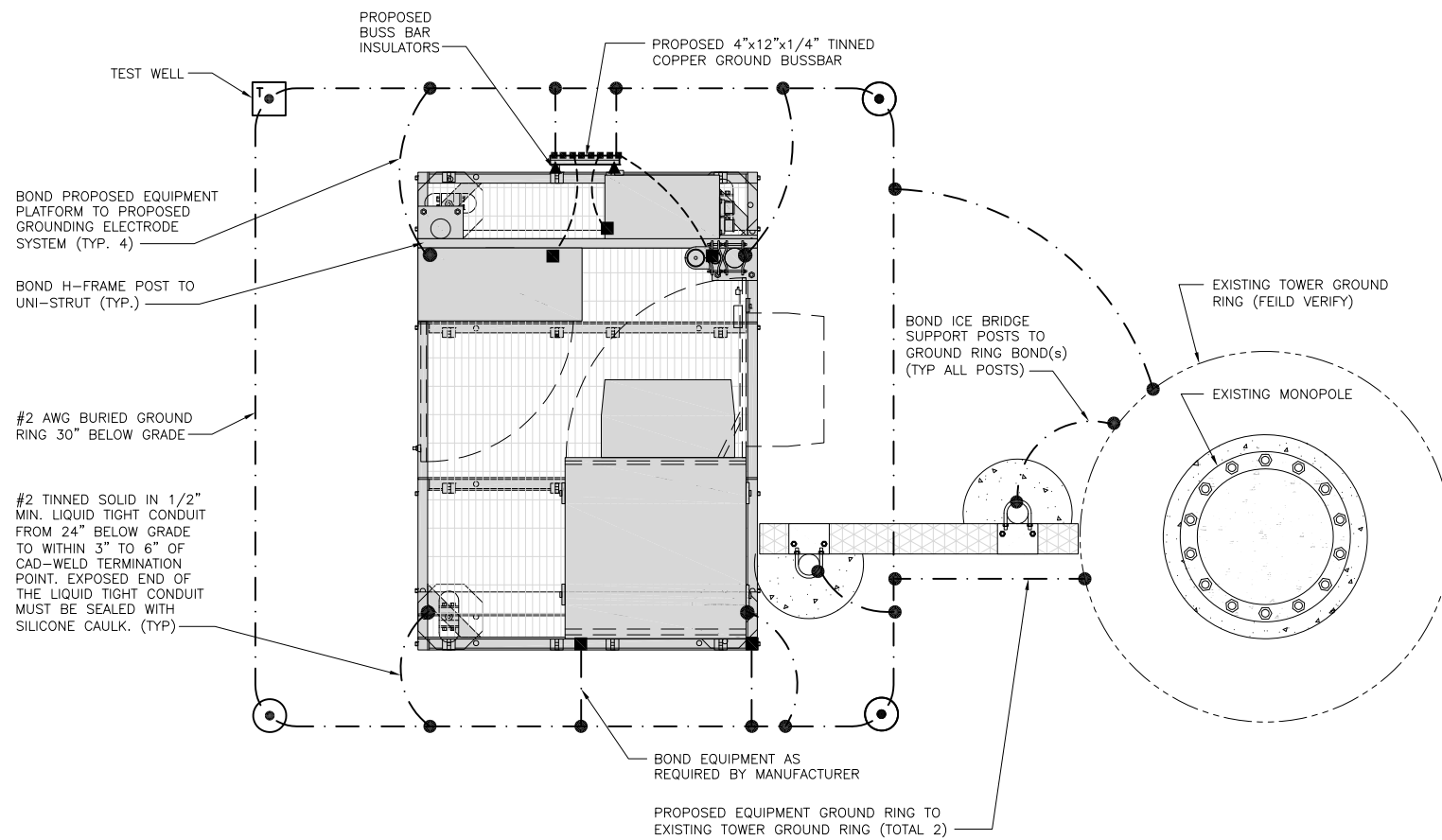
A&E PROJECT NUMBER
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DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00119A
56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

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

SHEET NUMBER

E-3

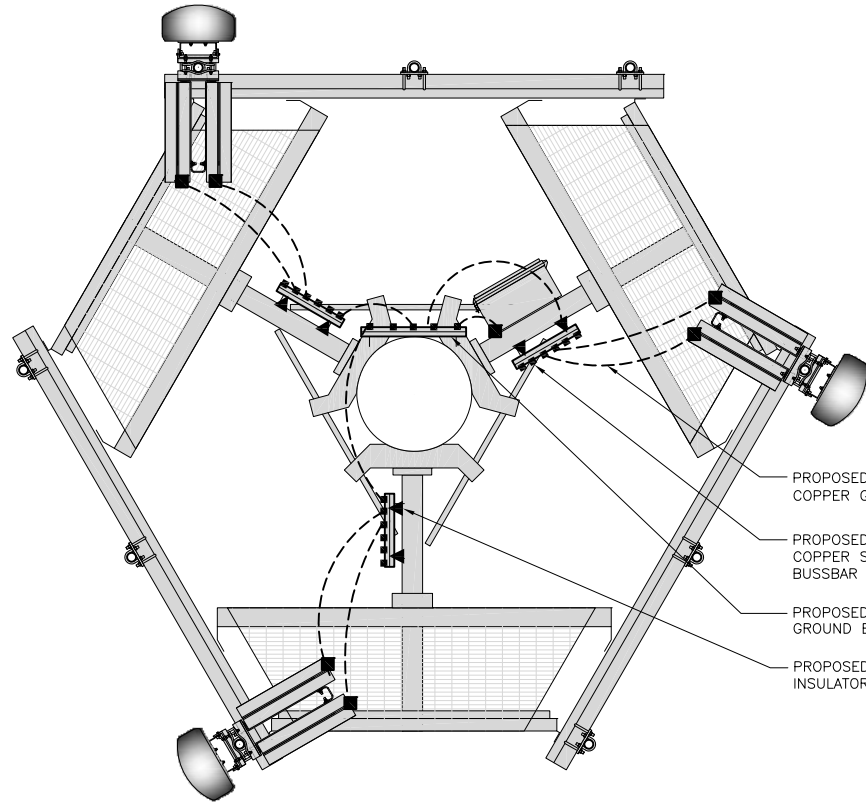


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1

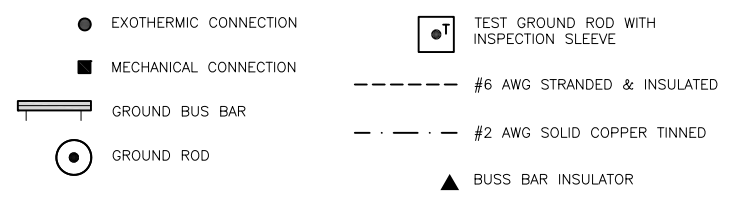
NOTES

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



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2



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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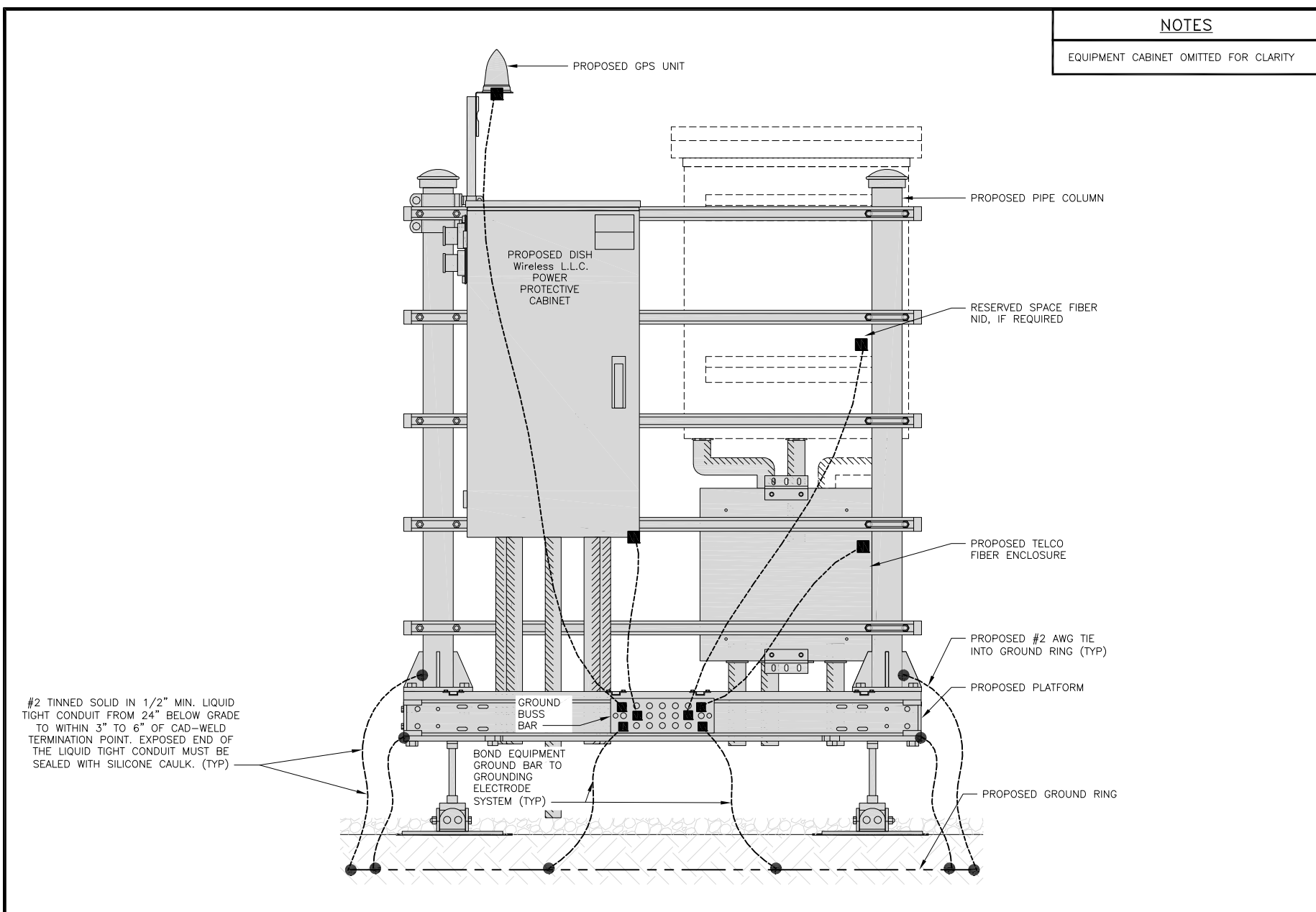
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EAST GRANBY, CT 06026

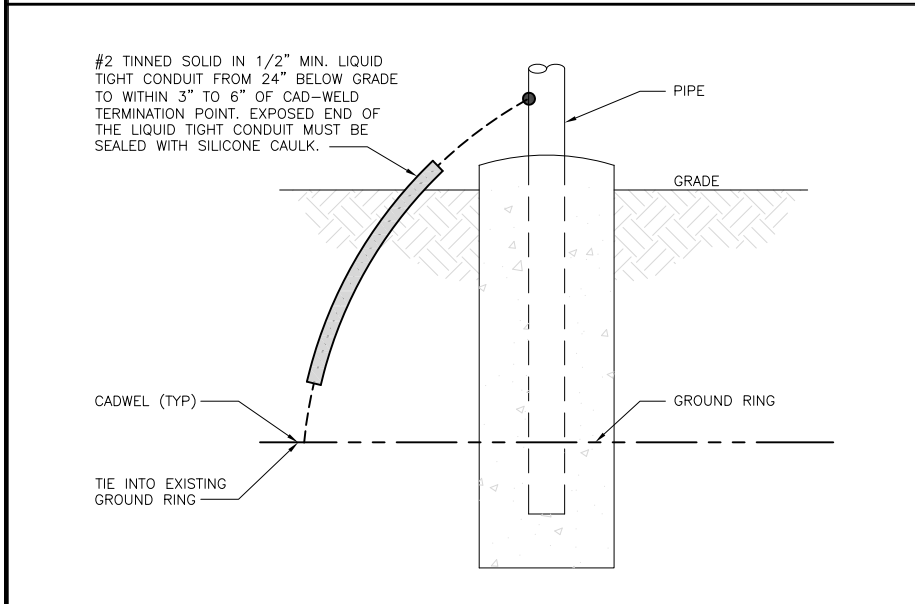
SHEET TITLE
GROUNDING PLANS
AND NOTES

SHEET NUMBER
G-1

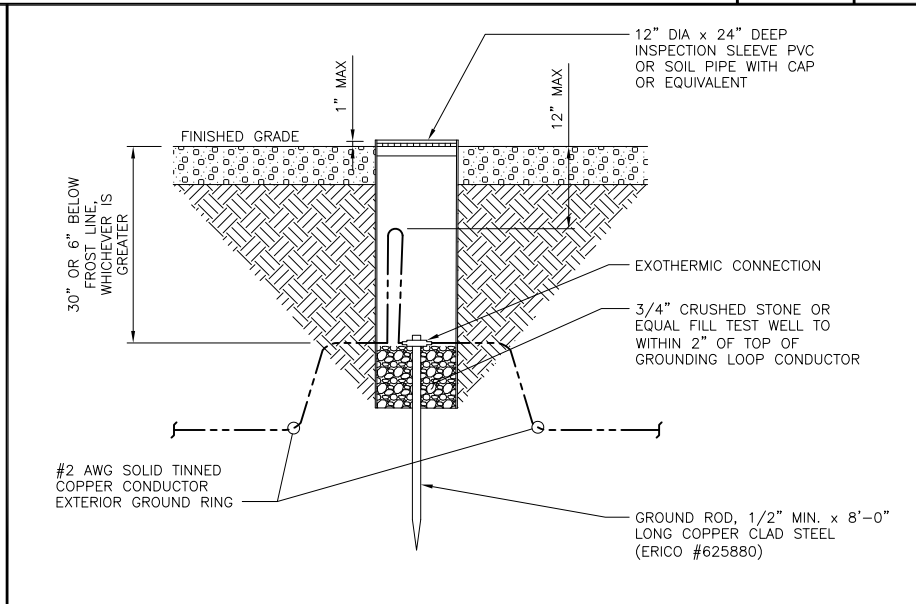


NOTES
EQUIPMENT CABINET OMITTED FOR CLARITY

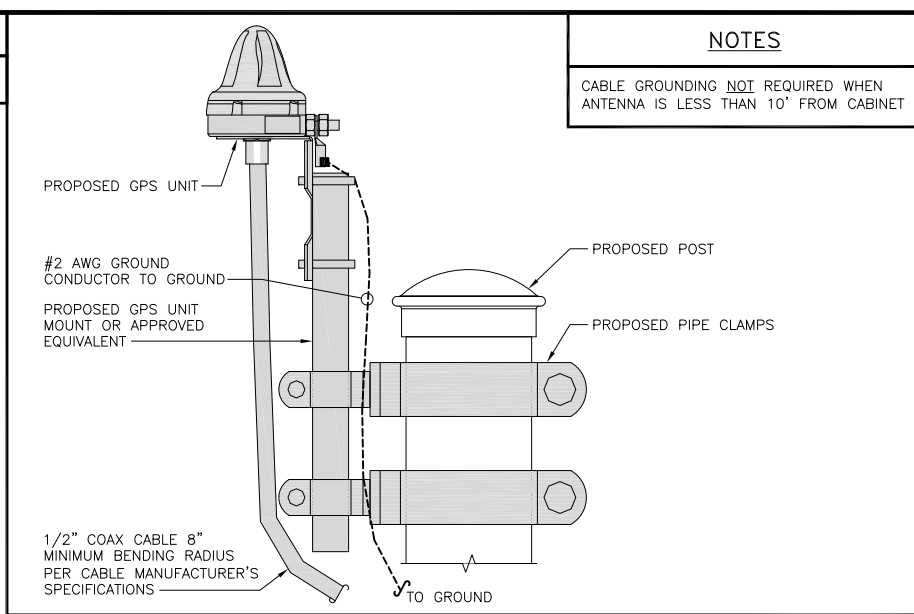
H-FRAME GROUNDING DETAIL NO SCALE **1**



TRANSITIONING GROUND DETAIL NO SCALE **4**

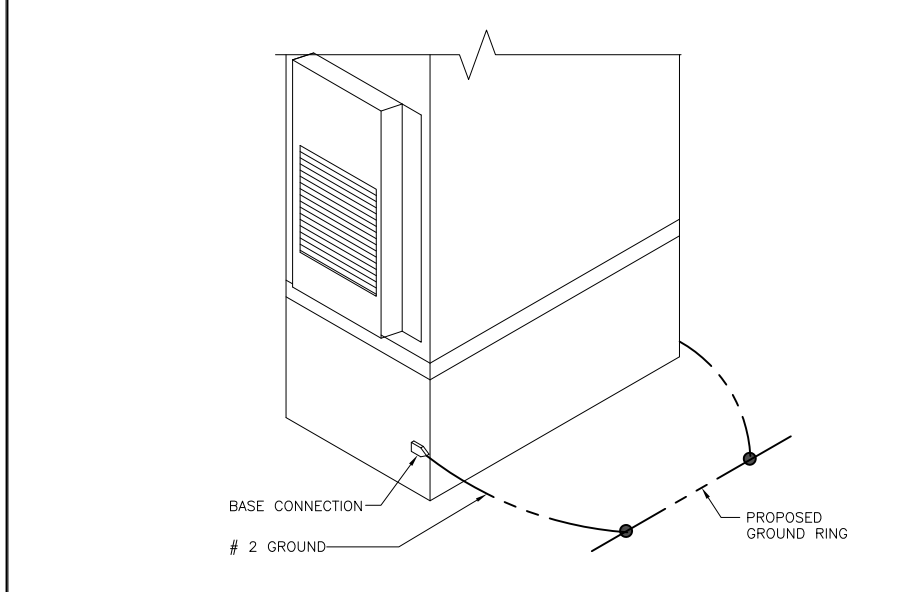


TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE NO SCALE **5**

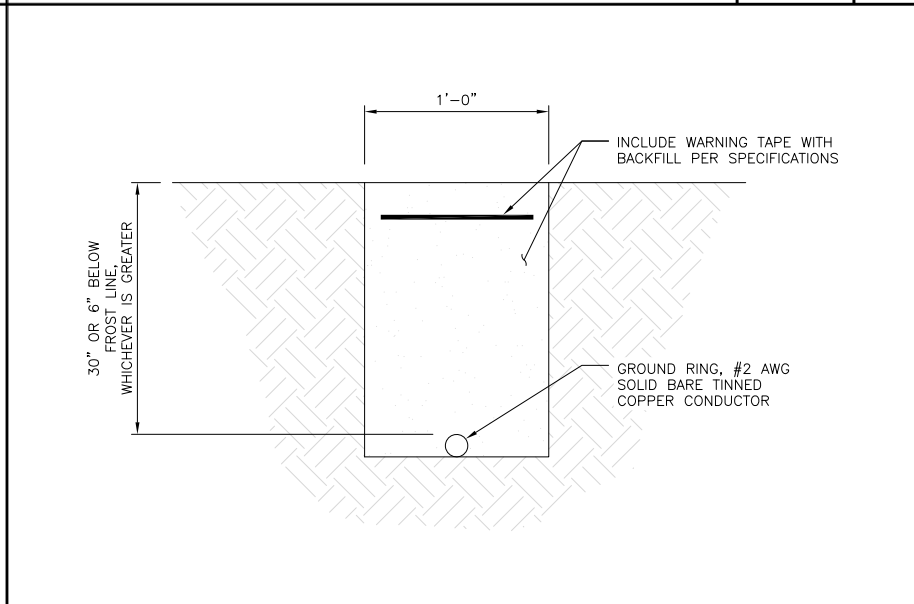


NOTES
CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET

TYPICAL GPS UNIT GROUNDING NO SCALE **2**



OUTDOOR CABINET GROUNDING NO SCALE **3**



TYPICAL GROUND RING TRENCH NO SCALE **6**

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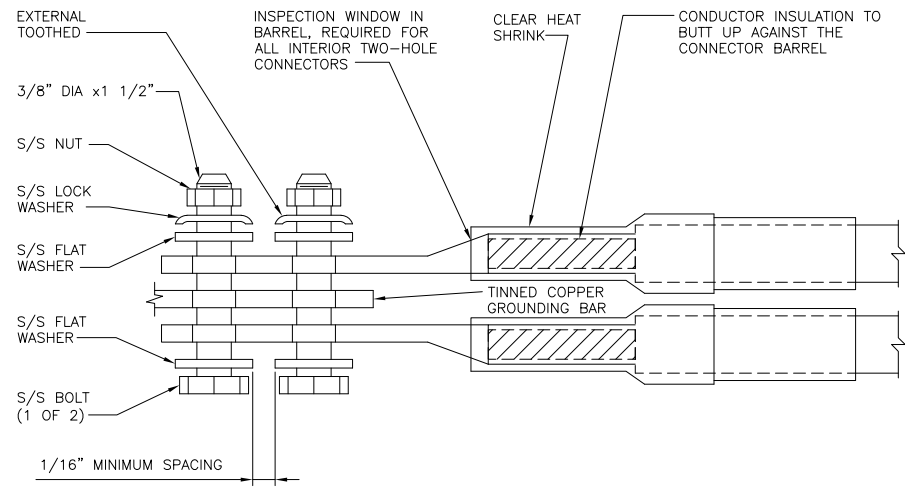
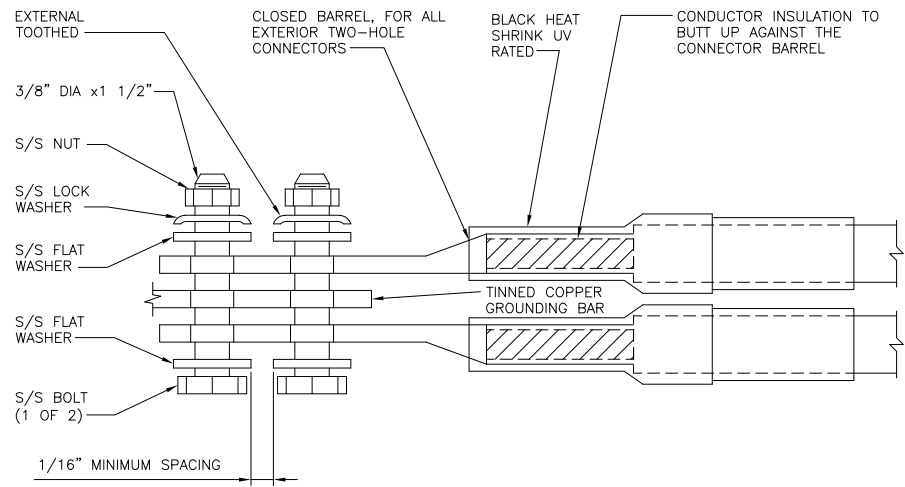
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56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-2

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



TYPICAL GROUNDING NOTES

NO SCALE

1

TYPICAL EXTERIOR TWO HOLE LUG

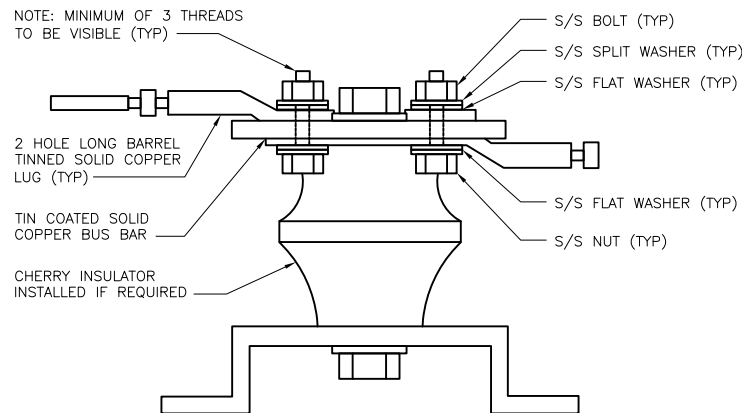
NO SCALE

2

TYPICAL INTERIOR TWO HOLE LUG

NO SCALE

3



LUG DETAIL

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9



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SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-3

RF JUMPER COLOR CODING

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

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

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

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		

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

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

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



CBRS TECH
(3 GHz)



AWS
(N66+N70+H-BLOCK)



NEGATIVE SLANT PORT
ON ANT/RRH



ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR



COLOR IDENTIFIER

NO SCALE

2

NOT USED

NO SCALE

3

RF CABLE COLOR CODES

NO SCALE

1

NOT USED

NO SCALE

4



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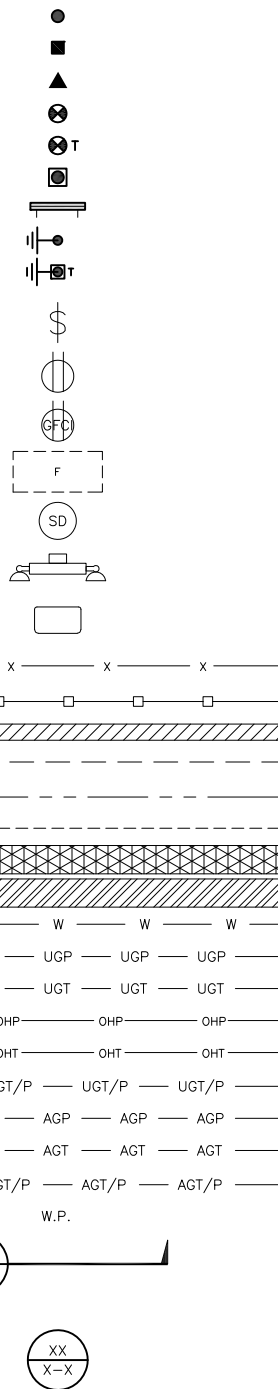
DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00119A
56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

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

ABBREVIATIONS



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EAST GRANBY, CT 06026

SHEET TITLE
LEGEND AND ABBREVIATIONS

SHEET NUMBER
GN-1

SITE ACTIVITY REQUIREMENTS:

- 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.
- "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.
- 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.
- 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).
- 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."
- 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.
- 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.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.
- 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.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- 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.
- 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.
- 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.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- 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.
- 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.
- 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.
- 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.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- 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:

- 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
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- 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.
- 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.
- 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
- 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.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.



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PROJECT INFORMATION
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56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

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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PEC.0001564
Expires 2/10/22

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CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	9/13/21	ISSUED FOR REVIEW
0	10/21/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149442.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00119A
56 FLOYDVILLE ROAD
EAST GRANBY, CT 06026

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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