April 29, 2022

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

Re: Tower Share Application – Dish Site 13746611
Dish Wireless Telecommunications Facility @ 20 Mel Road, Lisbon, CT 06351
AKA **26 Mell Road, Lisbon, CT**
AKA 26 Mell Road, Griswold, CT

Dear Ms. Bachman,

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred and eighty one (181) foot tall monopole tower at the location identified on the Siting Council database as 26 Mell Road, Lisbon, CT 06351 (Latitude: 41.59083333 Longitude: -72.0169) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by Stanley Wildowski. The tower was originally approved by the Connecticut Siting Council in Docket #124, dated March 12, 1990.

Research into prior CSC cases involving this tower reveals that "*the address of 26 Mell Road appears on two sub-accounts which appear to be "tax accounts" for American Tower and SBA judging by the mailing addresses – both list the same primary Parcel ID # and show Mr. Stanley Wildowski as the property owner. The Lisbon Building Inspector, Mr. Carl Brown also confirmed that 26 Mell Road is the address by which the Tower is known and identified locally.*" Accordingly, the correct tower location address is 26 Mell Road and the underlying property address for the property owner is 6 Mell Road.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound and install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at one hundred seventy three (173) feet as more particularly detailed and described on the enclosed Construction Drawings. No height extension or compound expansion are proposed.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish's intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: American Tower Corporation as Tower Operator/Owner; Stanley Wildowski, Jr., as Property Owner; the Honorable Thomas Sparkman, First Selectman of the Town of Lisbon, and Zoning Enforcement Officer Carl Brown.

The applicant's proposal falls squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. Specifically:

1. The proposed modifications will NOT result in an increase in the height of the existing structure.
2. The proposed modifications will NOT require an extension of the site boundary.
3. The proposed modifications will NOT increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will NOT increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Please see the RF emissions calculation for DISH's modified facility enclosed herewith.
5. The proposed modifications will NOT cause an ineligible change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis enclosed herewith.

Connecticut General Statute 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 respectfully indicates that the shared use of this facility satisfies these criteria:

A. Technical Feasibility. The existing tower has been deemed structurally capable of supporting Dish's proposed loading (see attached Structural Analysis).

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. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit Dish to obtain a building permit for the proposed installation. Further, a Letter of Authorization is attached, authorizing Dish 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 equipment on the existing tower would have an insignificant visual impact on the area around the tower. Dish ground equipment would be installed within the existing facility compound. The shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by the attached EME study, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

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

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting the proposed loading. Dish is not aware of any public safety concerns relative to the proposed sharing of the existing tower. Dish's 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 visitors traveling through the area.

For the foregoing reasons, Dish respectfully requests that the Council approve this request for the shared use of this tower located at 26 Mel Road, Jewett City CT 06351.

If you have any questions, please feel free to contact me.

Sincerely,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures:
Exhibit 1 – Letter of Authorization from tower owner
Exhibit 2 – Property Card and GIS
Exhibit 3 – Construction Drawings
Exhibit 4 – Structural Analysis Report
Exhibit 5 – Antenna Mount Analysis Report
Exhibit 6 – EME Study Report
Exhibit 7 – Original Tower Approval
Exhibit 8 – (4) Notice Confirmations

cc: American Tower Corporation - Tower Operator/Owner
Stanley Wildowski, Jr., - Property Owner
The Honorable Thomas Sparkman - First Selectman, Town of Lisbon
Carl Brown - Zoning Enforcement Officer, Town of Lisbon Hampton

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CORPORATION

LETTER OF AUTHORIZATION

SITE NO: See Site List Below **SITE NAME: See Site List Below**

ADDRESS: See Site List Below

I, Margaret Robinson, Senior Counsel, US Tower Division on behalf of American Tower*, owner and/or operator of the tower facilities located at the addresses identified below (the "Tower Facilities"), do hereby authorize Centerline Communications, LLC ("Centerline"), its agents, successors and assigns, to act as American Tower's non-exclusive agent for the purpose of filing and securing any zoning, land-use, building permit and/or electrical permit application(s) and approvals of the applicable jurisdiction for and to conduct the construction of the installation of antennas and related telecommunications equipment owned and operated by DISH Network on the Tower Facilities located at the addresses identified below. This installation shall not affect adjoining lands and will occur only within the areas leased or owned by American Tower.

American Tower understands that the applications may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by American Tower of conditions related to American Tower's installations. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit Centerline to modify or alter any existing permit(s) and/or zoning or land-use conditions or impose any additional conditions unrelated to American Tower's installations of telecommunications equipment without the prior written approval of American Tower.

Site Authorized:

ATC PROJECT#	ATC SITE#	DISH SITE#	ADDRESS
13683503	302472	BOBDL00010A	104 Bunker Hill Road, Andover, Connecticut
13701209	302470	BOHVN00141A	401 Wakelee Ave, Ansonia, Connecticut
13702524	370641	BOHVN00148A	401-411 Lopus Road, Beacon Falls, Connecticut
13709244	88008	BOHVN00151A	9 Meyers Road, Bethany, Connecticut
13694329	283419	BOHVN00136A	123 Pine Orchard Road, Branford, Connecticut
13694332	283422	BOHVN00137A	171 Short Beach Road, Branford, Connecticut
13701211	302484	BOHVN00142A	405 Brushy Plain Rd, Branford, Connecticut
13709418	281862	BOHVN00200A	111 SECOND HILL RD, BRIDGEWATER, Connecticut
13733440	411216	BOBOS00893A	123 Palmer Road, Chaplin, Connecticut
13733449	208478	BOHVN00033A	1325 Cheshire Street, Cheshire, Connecticut
13694579	302496	BOBOS00887A	Chestnut Hill Road, Colchester, Connecticut
13694582	302465	BOBOS00890A	355 Route 85, Colchester, Connecticut
13733436	6270	BOBOS00031A	Rt 101 off Rt. 395 @1385 North Rd., Dayville, Connecticut
13702522	311305	BOHVN00147A	10 Tanner Marsh Road, Guilford, Connecticut
13733446	10029	BOBOS00894A	185 Fisk Road, Hampton, Connecticut
14046283	302466	BOBDL00079B	305 W. Service Rd., Hartford, Connecticut

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13746611	302503	BOBOS00068B	20 Mel Road, Jewett City, Connecticut
13702514	302540	BOHVN00146A	8 Old 79, Madison, Connecticut
OAA745087	411260	Middlefield CT	484 Meriden Rd., Middlefield, Connecticut
13698061	283564	BOHVN00139A	234 Melba Street, Milford, Connecticut
13702496	302516	BOHVN00144A	438 Bridgeport Ave, Milford, Connecticut
13693709	411182	BOHVN00005A	20 Antolini Road, New Hartford, Connecticut
13702509	302523	BOHVN00145A	4 Elkington Farm Rd, New Milford, Connecticut
13693659	283418	BOHVN00135A	50 Devine Street, North Haven, Connecticut
13694578	6260	BOBOS00884A	118C Wintechog Hill Rd., North Stonington, Connecticut
13693124	311014	BOBOS00023A	202 N Wawecus Hill Rd, Norwich, Connecticut
13726721	302532	BOBOS00022A	1337 Route 85, Oakdale, Connecticut
13693120	284984	BOBOS00021A	166 Pawcatuck Ave, Pawcatuck, Connecticut
13701212	302501	BOHVN00143A	297 North Street, Plymouth, Connecticut
13693135	411184	BOBOS00026A	399 West Road, SALEM, Connecticut
13729958	208205	BOHVN00035A	80 Great Hill Road, Seymour, Connecticut
13693705	411188	BOHVN00006A	111 Upper Fishrock Road, Southbury, Connecticut
13733433	415784	BOBOS00029A	165 Elmwood Hill Road, THOMPSON, Connecticut
13693127	370623	BOBOS00024A	139 Sharp Hill Road, Uncasville, Connecticut
13701206	302467	BOHVN00140A	90 North Plains Industrial Rd., Wallingford, Connecticut
13693131	411183	BOBOS00025A	53 Dayton Rd., Waterford, Connecticut
13693702	243036	BOHVN00132A	668 Jones Hill Road, West Haven, Connecticut
13729960	207941	BOHVN00036A	164 County Road, Wolcott, Connecticut
13702538	411180	BOHVN00150A	481 GOOD HILL ROAD, Woodbury, Connecticut
13733429	415439	BOBOS00027A	40 Sherman Road, Woodstock, Connecticut
13733431	415484	BOBOS00028A	445 Prospect St, Woodstock, Connecticut
13733434	418609	BOBOS00030A	87 West Quasset Road, Woodstock, Connecticut
13733438	6300	BOBOS00032A	156 Lebanon Hill Rd., Woodstock, Connecticut
13741553	283425	BOBOS00019A	350 Route 198, WOODSTOCK VALLEY, Connecticut
13743708	305310	BOPWM00004A	491 Court Street, Auburn, Maine
13743725	371976	BOPWM00007A	840 North River Rd, Auburn, Maine
13741457	371989	BOAUG00001A	627 Coldbrook Rd, BANGOR, Maine
13741460	416485	BOAUG00002A	237 Bomarc Rd, BANGOR, Maine
13735679	305311	BOBOS00433A	19 Little Harbor Road, Berwick, Maine
13746623	416552	BOPWM00012A	60 Andrews Road, Biddeford, Maine
13741463	305313	BOBOS00434A	71 Brixham Road, Eliot, Maine
13743702	10044	BOPWM00002A	26 Dorrington Drive, Freeport, Maine
13743704	281252	BOPWM00003A	71 Finn Parker Road, GORHAM, Maine

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13742891	207962	BOBOS00552A	37 Laurel Avenue, Westerly, Rhode Island
13735695	374119	BOBOS00523A	9 New Kings Factory Road, Wood River Junction, Rhode Island

Signature: _____

Margaret Robinson, Senior Counsel
US Tower Division

NOTARY BLOCK

COMMONWEALTH OF MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Senior Counsel of American Tower (owner and/or operator of the above referenced Tower Facilities), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same.

WITNESS my hand and official seal, this 24th day of March, 2022.

NOTARY SEAL

GERARD T. HEFFRON
Notary Public
Commonwealth of Massachusetts
My Commission Expires
August 9, 2024

Notary Public Gerard T. Heffron
My Commission Expires: August 9th, 2024

* American Tower as used herein is defined as American Tower Corporation and any of its affiliates or subsidiaries.

SCCOG

Property

Zoom To | Share | Print | 26 mel

26 MELL RD

Search Survey Docs (https://docs.sccogct.mapgeo.io)

Property

Address	26 MELL RD
ID	73-09-073-0000
Account	W0187900

Ownership

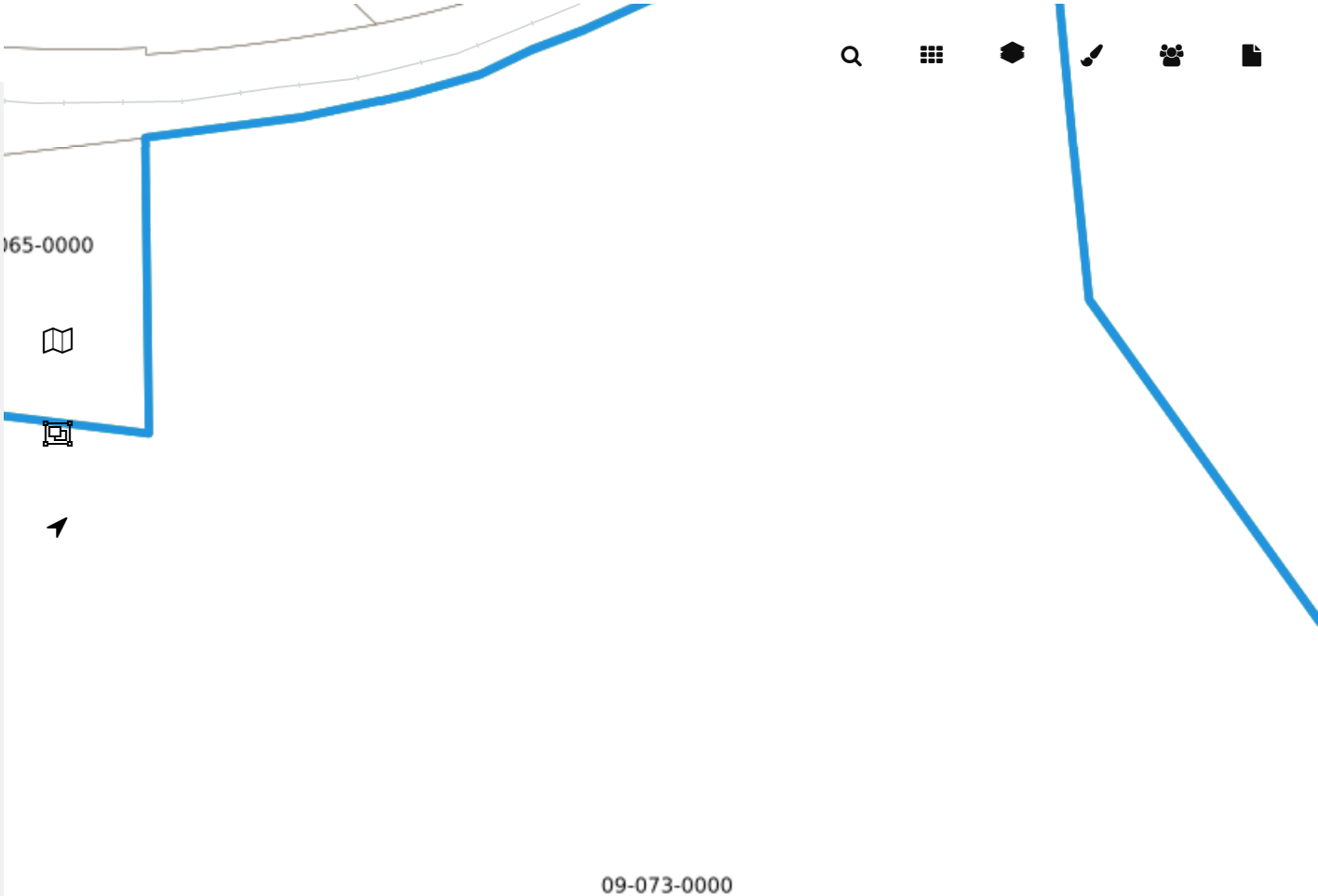
Name 1	WILDOWSKY STANLEY JR/ C/O SBA TOWERS INC
Address	10 PRESIDENTIAL WAY, WOBURN, MA 01801
Last Sale	$0 on 1995-09-27
Book / Page	77/11

Valuation

Total Assessed Value	$104,960
Assessed Building Value	$0
Assessed Land Value	$125,000
Assessed Other Value	$0

Land

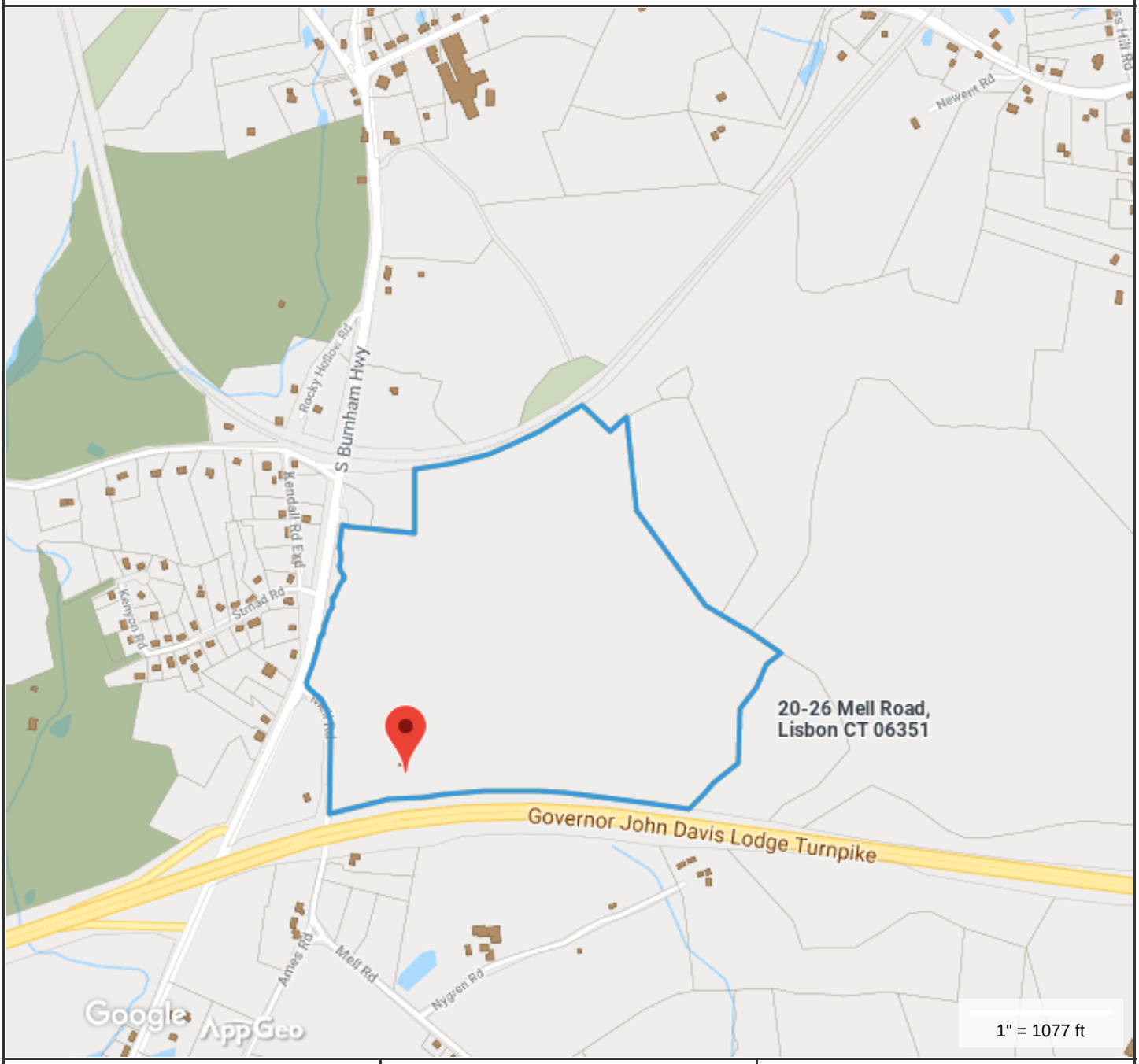
Area	0.11
Zone	R-60
Land Use Code	4340
Land Description	Cell Tower



Google (https://www.google.com/maps/@41.595913,-72.017694,17z?hl=en-US) 41.595913,-72.017694

AppGeo (http://www.mapgeo.io)

Map data ©2022 Google



SCCOG

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

SCCOG makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 05/31/2017
Data updated 10/1/2013

DOCKET NO. 124 - AN APPLICATION OF SNET CELLULAR, INC., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF A CELLULAR TELEPHONE TOWER AND ASSOCIATED EQUIPMENT IN THE TOWN OF LISBON, CONNECTICUT.

CONNECTICUT

SITING

COUNCIL

March 12, 1990

DECISION AND ORDER

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council finds that the effects associated with the construction, operation, and maintenance of a cellular telephone monopole tower and associated equipment building at the proposed Lisbon site, including effects on the natural environment; ecological balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not significant either alone or cumulatively with other effects, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the proposed Lisbon site in this application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by Section 16-50k of the Connecticut General Statutes (CGS), be issued to SNET Cellular, Inc. (SNET), for the construction, operation, and maintenance of a cellular telephone tower site at the proposed tower site on Mell Road in Lisbon, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record on this matter, and subject to the following conditions:

1. The tower shall be a monopole no taller than necessary to provide the proposed service, and in no event shall the structure exceed a total height of 199 feet above ground level, including antennas.

2. The facility shall be constructed in accordance with applicable sections of the State of Connecticut Basic Building Code.

3. Unless necessary to comply with conditions of the Federal Aviation Administration, no lights shall be installed on this tower.

4. The Certificate Holder shall prepare a Development and Management Plan (D&M Plan) for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of State Agencies. The D&M Plan shall include detailed plans for erosion and sediment control; access road specifications, choice, and location; and seeding, loaming, and landscaping around the tower site.

5. The Certificate Holder shall permit public or private entities to share space on the tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. The Certificate Holder shall notify the Council if and when directional antennas or any equipment other than that listed in this application are added to this facility.

7. If this facility does not initially provide, or permanently ceases to provide, cellular service following the completion of construction, this Decision and Order shall be void, and the tower and all associated equipment in this application shall be dismantled and removed or reapplication for any new use shall be made to the Council and a Certificate granted before any such new use is made.

8. The Certificate Holder shall comply with any future radio frequency (RF) standard promulgated by State or federal regulatory agencies. Upon the establishment of any new governmental RF standards, the facility granted in this Decision and Order shall be brought into compliance with such standards.

9. The Certificate Holder or its successor shall provide the Council a recalculated report of power density if and when additional channels over the proposed 45 channels, higher wattage over the proposed 100 watts per channel, or if other circumstances in operation cause a change in power density above the levels originally calculated in the application.

10. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the effective date of this Decision and Order.

Pursuant to Section 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below. A notice of issuance shall be published in the New London Day, the Norwich Bulletin, and the Hartford Courant. By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of State Agencies.

The parties or intervenors to this proceeding are:

PARTY	REPRESENTATIVE
SNET Cellular, Inc. 227 Church Street New Haven, CT 06506	Peter J. Tyrrell Senior Attorney SNET Cellular, Inc. 227 Church Street Room 1021 New Haven, CT 06506
Metro Mobile CTS of New London, Inc. 100 Corporate Drive Windsor, CT 06095 (SERVICE WAIVED)	Henry H. Sprague, Esq. Robinson & Cole One Commercial Plaza Hartford, CT 06103-3597
Metro Mobile CTS, Inc. 110 East 59th Street New York, NY 10022 (SERVICE WAIVED)	Henry H. Sprague, Esq. Robinson & Cole One Commercial Plaza Hartford, CT 06103-3597 (SERVICE WAIVED)

CERTIFICATION

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case in Docket No. 124 - An application of SNET Cellular, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, operation, and maintenance of a cellular telephone tower and associated equipment in the Town of Lisbon, Connecticut or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut the 12th day of March, 1990.

Council Members	Vote Cast
Gloria Dibble Pond Chairperson	Yes
Commissioner Peter Boucher Designee: Robert A. Pulito	Yes
Commissioner Leslie Carothers Designee: Brian Emerick	Yes
Harry E. Covey	Yes
Mortimer A. Gelston	Yes
Daniel P. Lynch, Jr.	Yes
Paulann H. Sheets	Yes
William H. Smith	Yes
Colin C. Tait	Yes

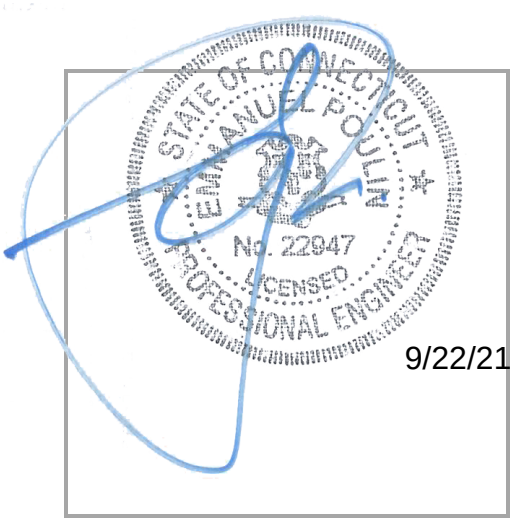
4195E-2

MOUNT ANALYSIS REPORT

September 21, 2021

Dish Wireless Site Name	BOBOS00068B
Dish Wireless Site Number	BOBOS00068B
Infinigy Job Number	1197-F0001-B
Client	NSS/DISH
Carrier	Dish Wireless
Site Location	20 Mel Road Libson, CT 06351 New London County 41.590833 N NAD83 72.016900 W NAD83
Mount Type	8.0 ft Platform
Mount Elevation	173.0 ft AGL
Structural Usage Ratio	**37.1%**
Overall Result	**Pass**
NOTES:	**Since no tower information is provided, the mount analysis relies on Option 1 Mount, and the tower height is assumed to be the Dish Rad height.**

The enclosed mount structural analysis has been performed in accordance with the 2018 Connecticut State Building Code (2015 IBC) based on an ultimate 3-second gust wind speed of 124 mph. The evaluation criteria and applicable codes are presented in the next section of this report.



CONTENTS

1. INTRODUCTION

Infinigy performed a structural analysis on the Dish Wireless proposed telecommunication equipment supporting Platform mounted to the existing structure located at the aforementioned address. All referenced supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using Risa-3D version 17.0.4 analysis software.

2. DESIGN/ANALYSIS PARAMETERS

Wind Speed	124 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1" ice
Code / Standard	TIA-222-H
Adopted Code	2018 Connecticut State Building Code (2015 IBC)
Risk Category	II
Exposure Category	C
Topographic Category	1
Seismic Spectral Response	S_s = 0.19 g / S_1 = 0.054 g
Live Load Wind Speed	60 mph
Man Live Load at Mid/End Points	250 lbs
Man Live Load at Mount Pipes	500 lbs

3. PROPOSED LOADING CONFIGURATION - 173.0 ft. AGL Platform

Antenna Centerline (ft)	Qty.	Appurtenance Manufacturers	Appurtenance Models
173.0	3	JMA WIRELESS	MX08FRO665-21
	3	FUJITSU	TA08025-B605
	3	FUJITSU	TA08025-B604
	1	RAYCAP	RDIDC-9181-PF-48

4. SUPPORTING DOCUMENTATION

Proposed Loading	Dish Wireless Asset ID CT-ATC-T-302503, Rev 0, Site # BOBOS00068B, dated May 26, 2021
Mount Manufacturer Drawing	Commscope Document # MC-PK8-DSH, dated March 08, 2021

5. RESULTS

Components	Capacity	Pass/Fail
Mount Pipes	25.5%	Pass
Horizontals	15.6%	Pass
Standoffs	37.1%	Pass
Handrails	30.9%	Pass
Connections	37.1%	Pass
MOUNT RATING =	**37.1%**	**Pass**

Notes:
1. See additional documentation in Appendix for calculations supporting the capacity consumed and detailed mount connection calculations.

6. RECOMMENDATIONS

Infinigy recommends installing Dish Wireless's proposed equipment loading configuration on the mount at 173.0 ft. The installation shall be performed in accordance with the construction documents issued for this site.

Binita Yadav
Project Engineer I | **INFINIGY**

7. ASSUMPTIONS

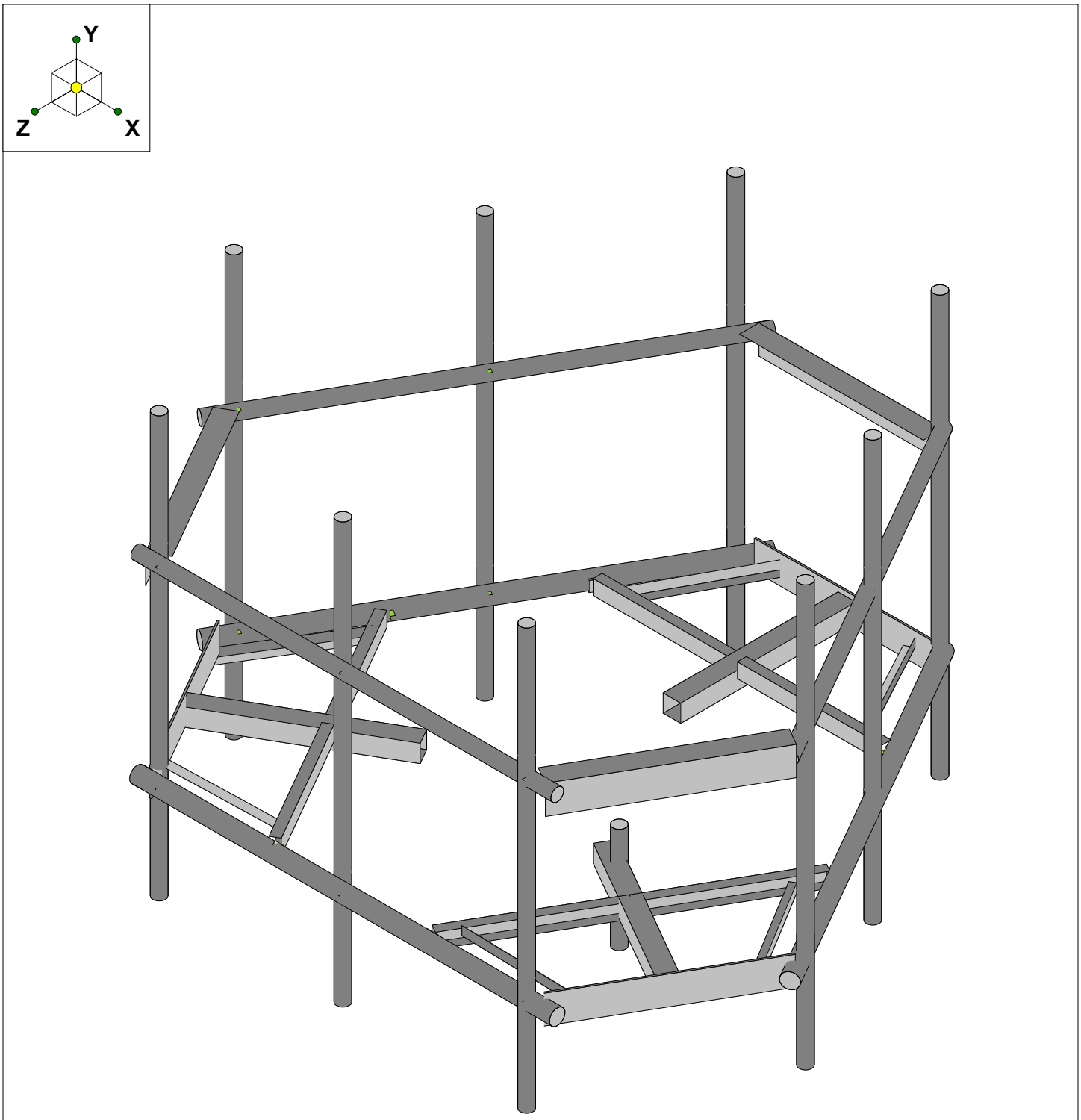
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.
All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
The analysis will require revisions if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
Steel grades have been assumed as follows, unless noted otherwise: Channel, Solid Round, Plate, Built-up Angle — ASTM A1011 36 KSI Structural Angle — ASTM A529 Gr. 50 HSS (Rectangular) — ASTM A500-B GR 46 HSS (Circular) — ASTM A500-B GR 42 Pipe — ASTM A500 Gr C Connection Bolts — ASTM A325 U-Bolts — ASTM A307
All bolted connections are pretensioned in accordance with Table 8.2 of the RCSC 2014 Standard

8. LIABILITY WAIVER AND LIMITATIONS

Our structural calculations are completed assuming all information provided to Infinigy is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition as erected and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report, Infinigy should be notified immediately to assess the impact on the results of this report.

Our evaluation is completed using industry standard methods and procedures. The structural results, conclusions and recommendations contained in this report are proprietary and should not be used by others as their own. Infinigy is not responsible for decisions made by others that are or are not based on the stated assumptions and conclusions in this report.

This report is an evaluation of the mount structure only and does not determine the adequacy of the supporting structure, other carrier mounts or cable mounting attachments. The analysis of these elements is outside the scope of this analysis, are assumed to be adequate for the purpose of this report and to have been installed per their manufacturer requirements. This document is not for construction purposes.



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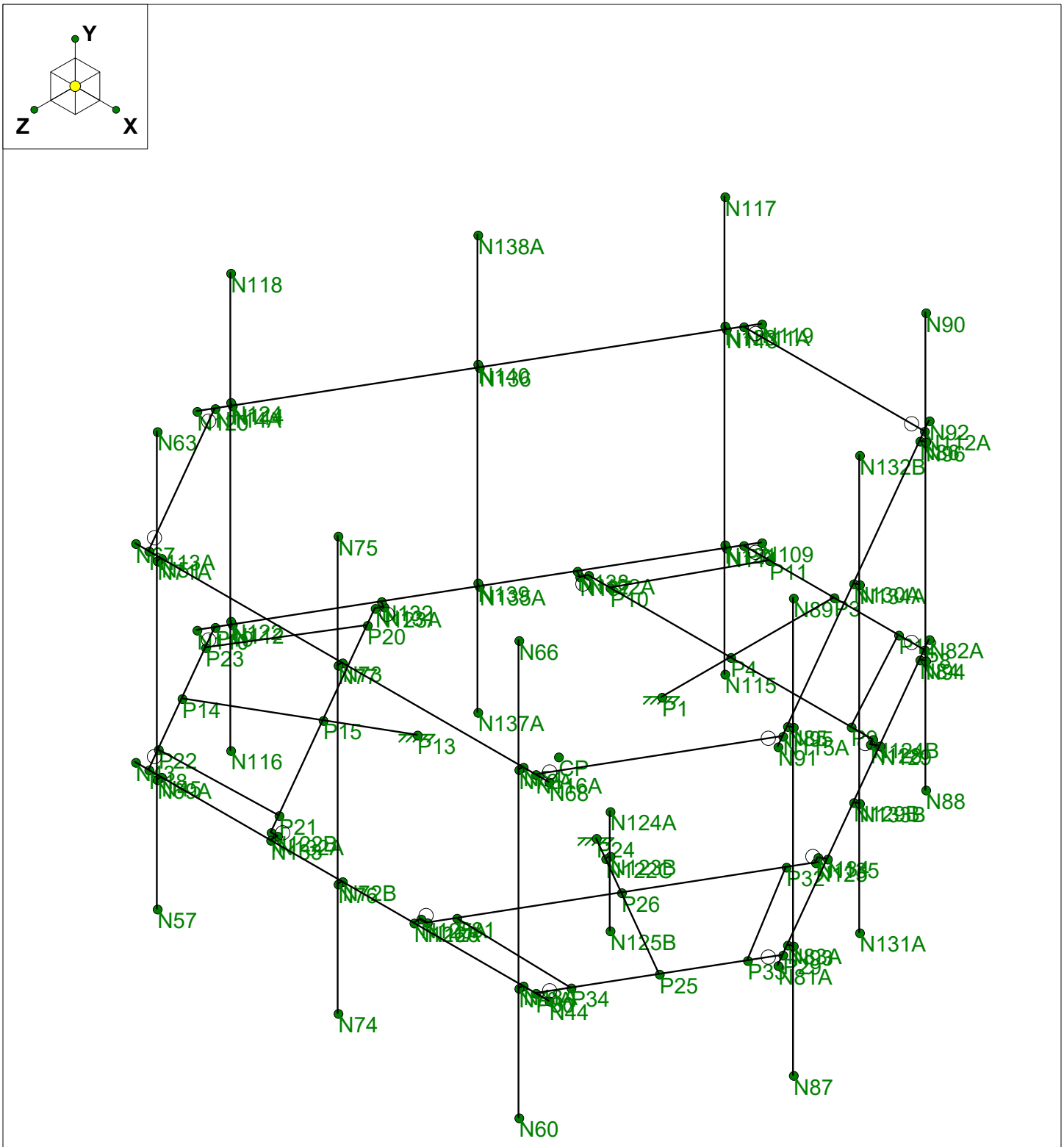

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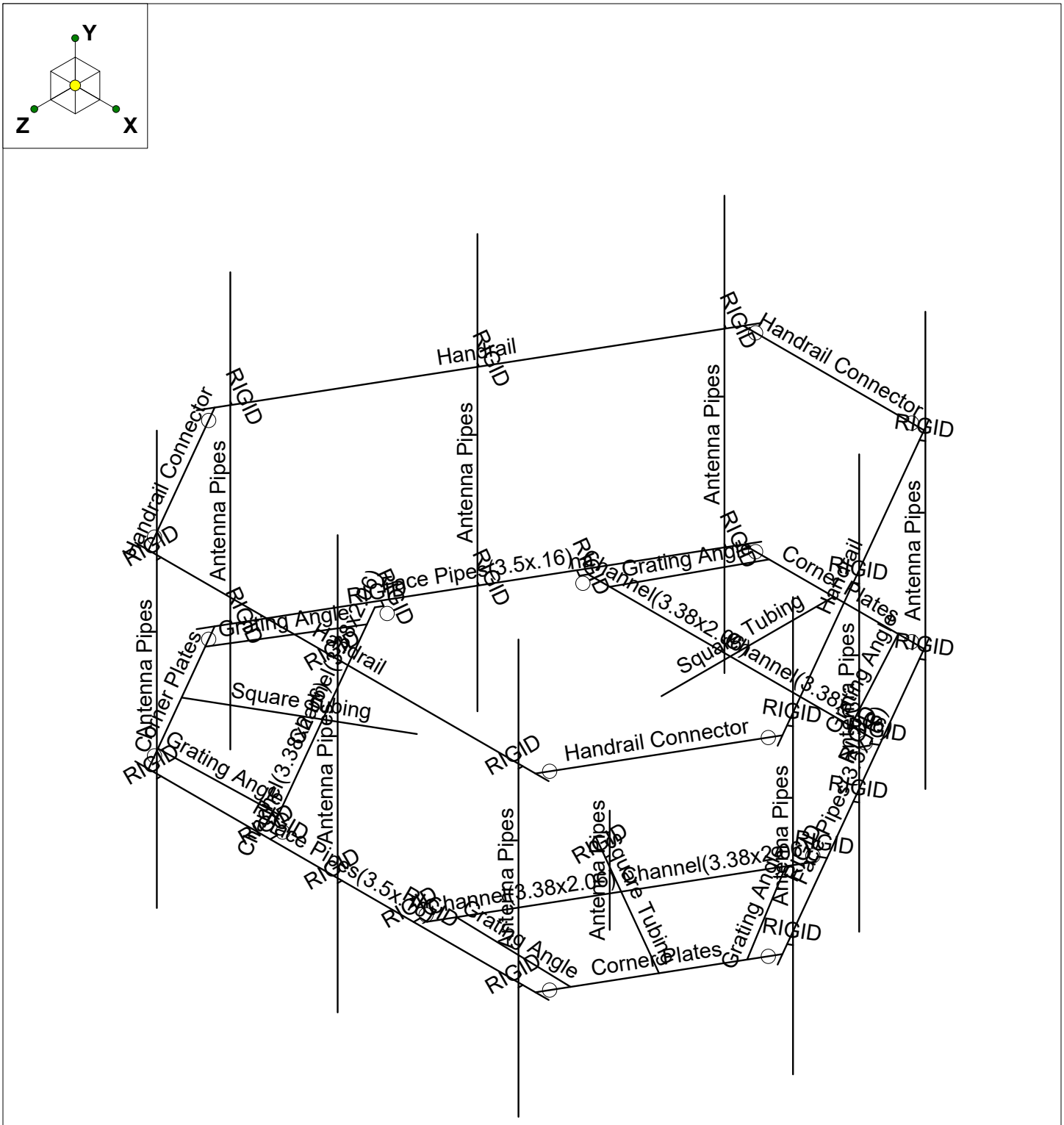

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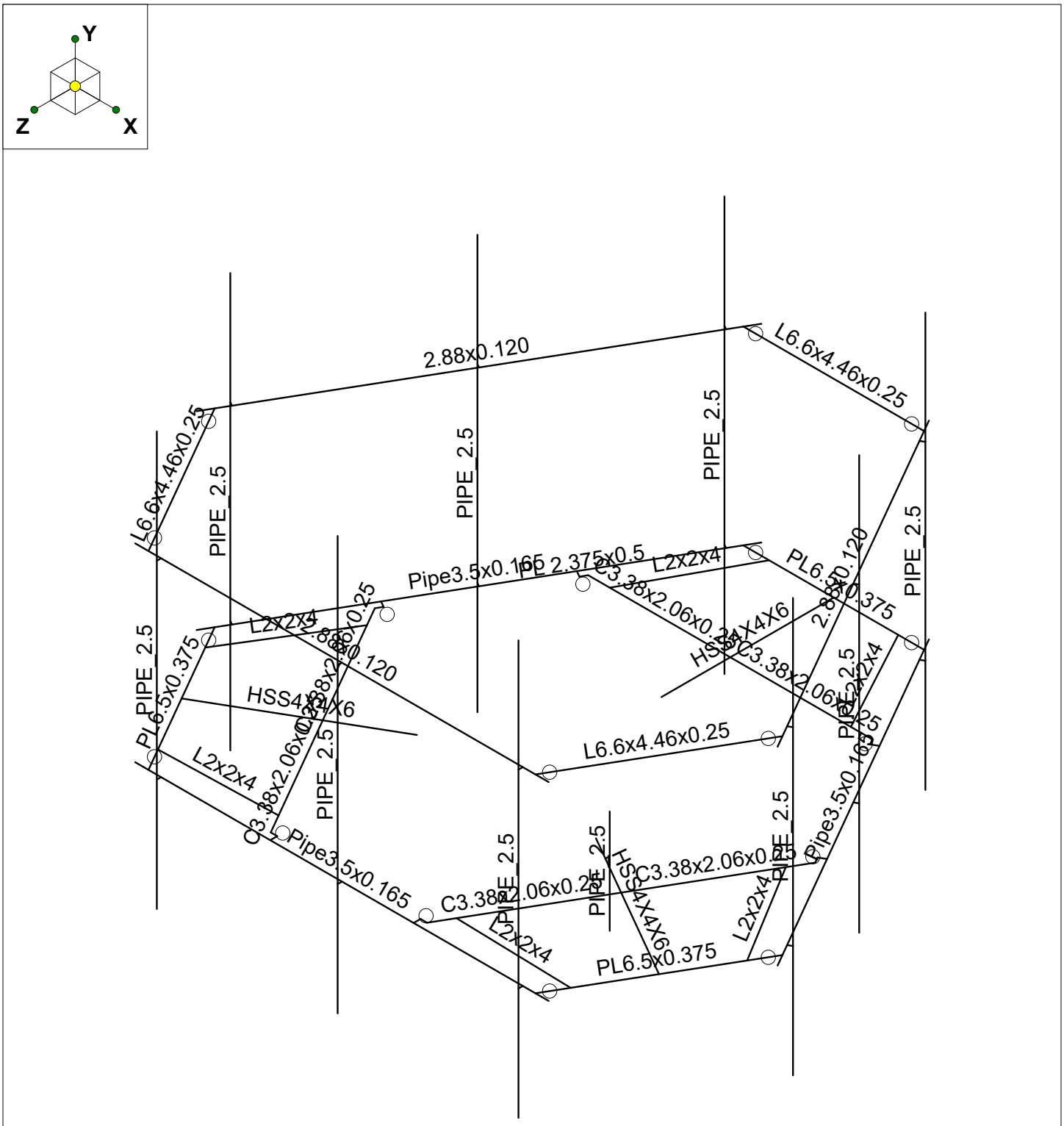

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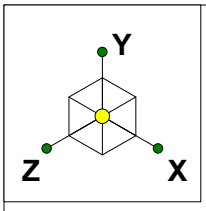

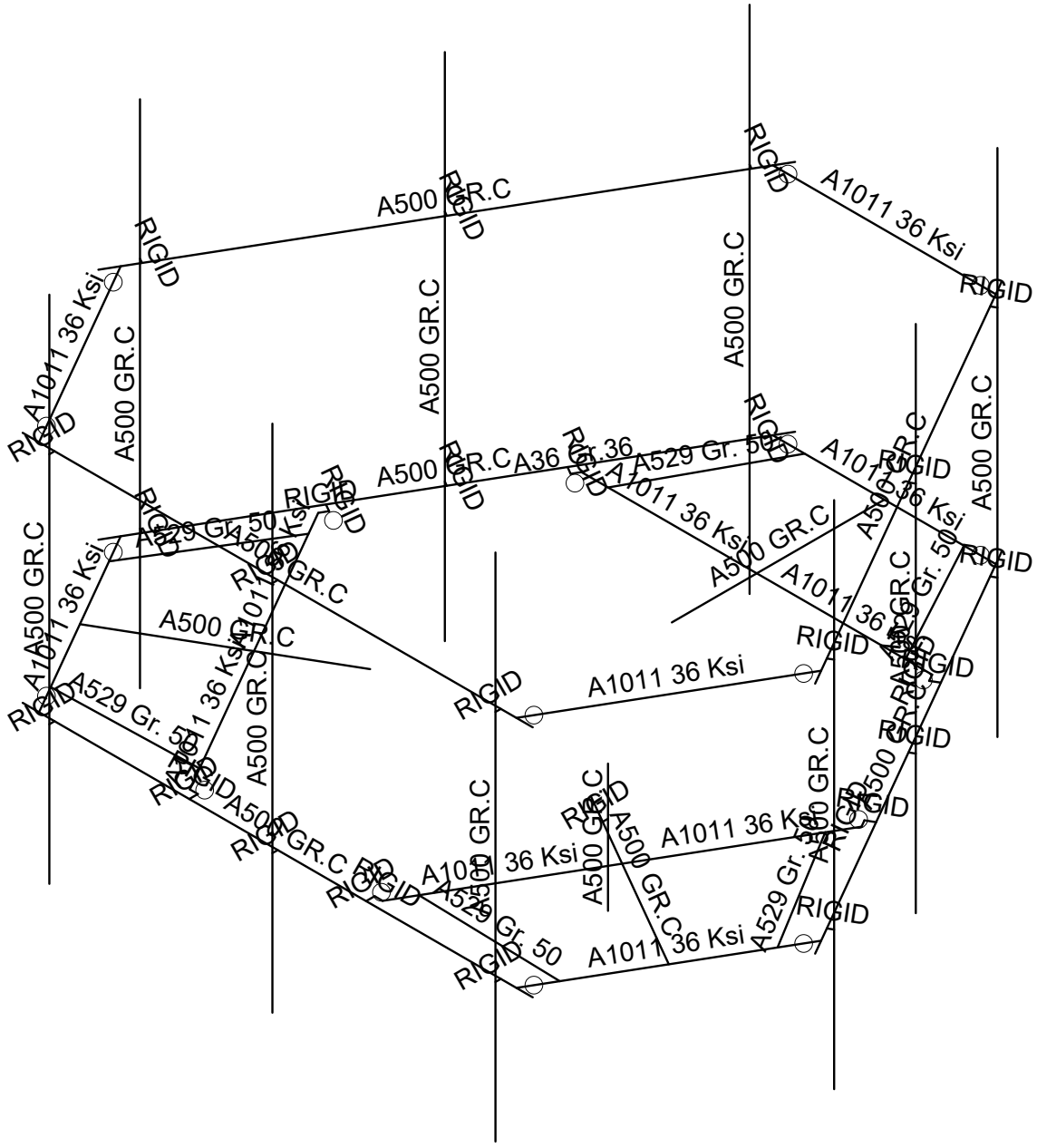

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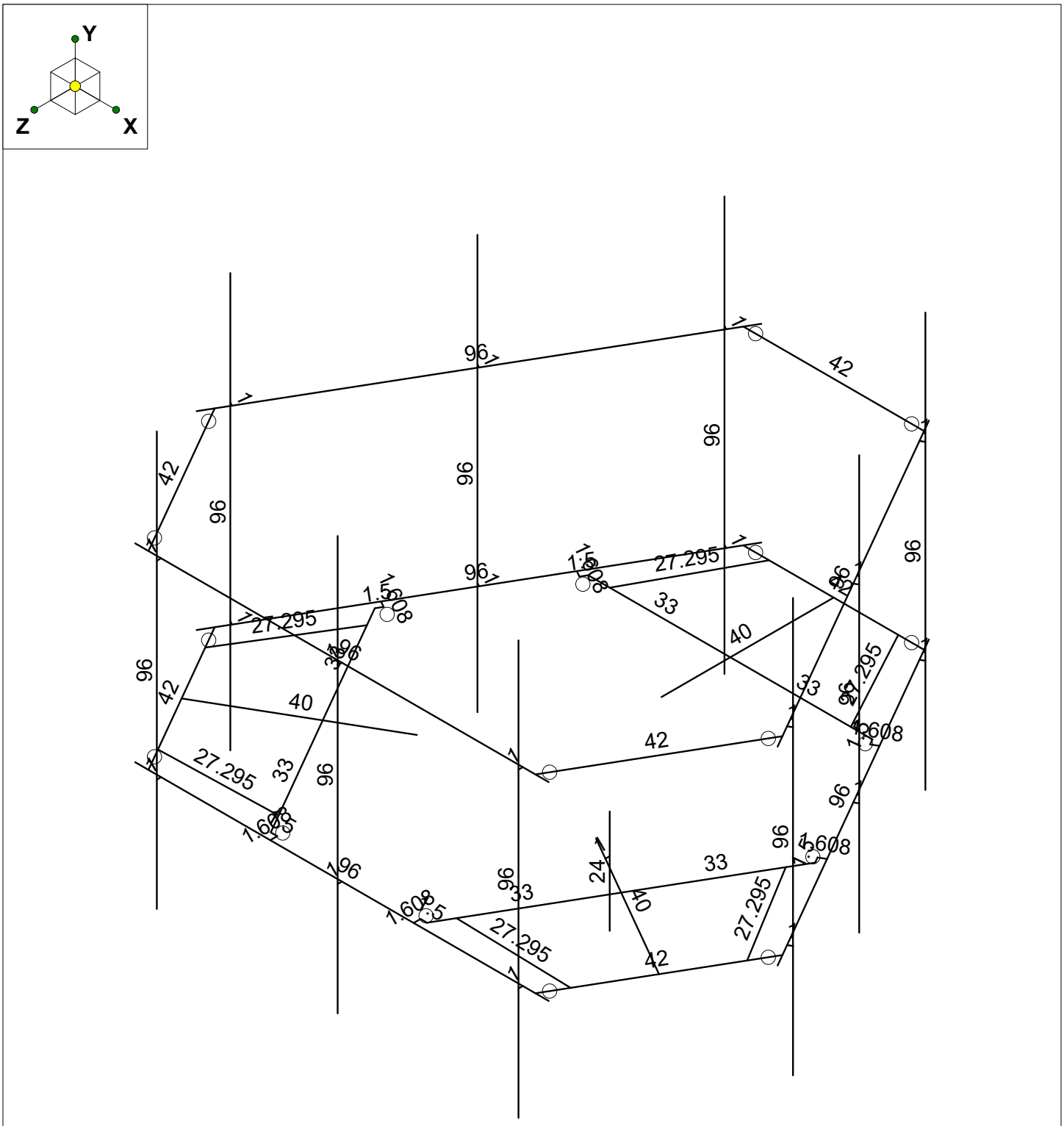

Member Length (in) Displayed
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00068B	Member lengths
BY		Sept 20, 2021 at 1:26 PM
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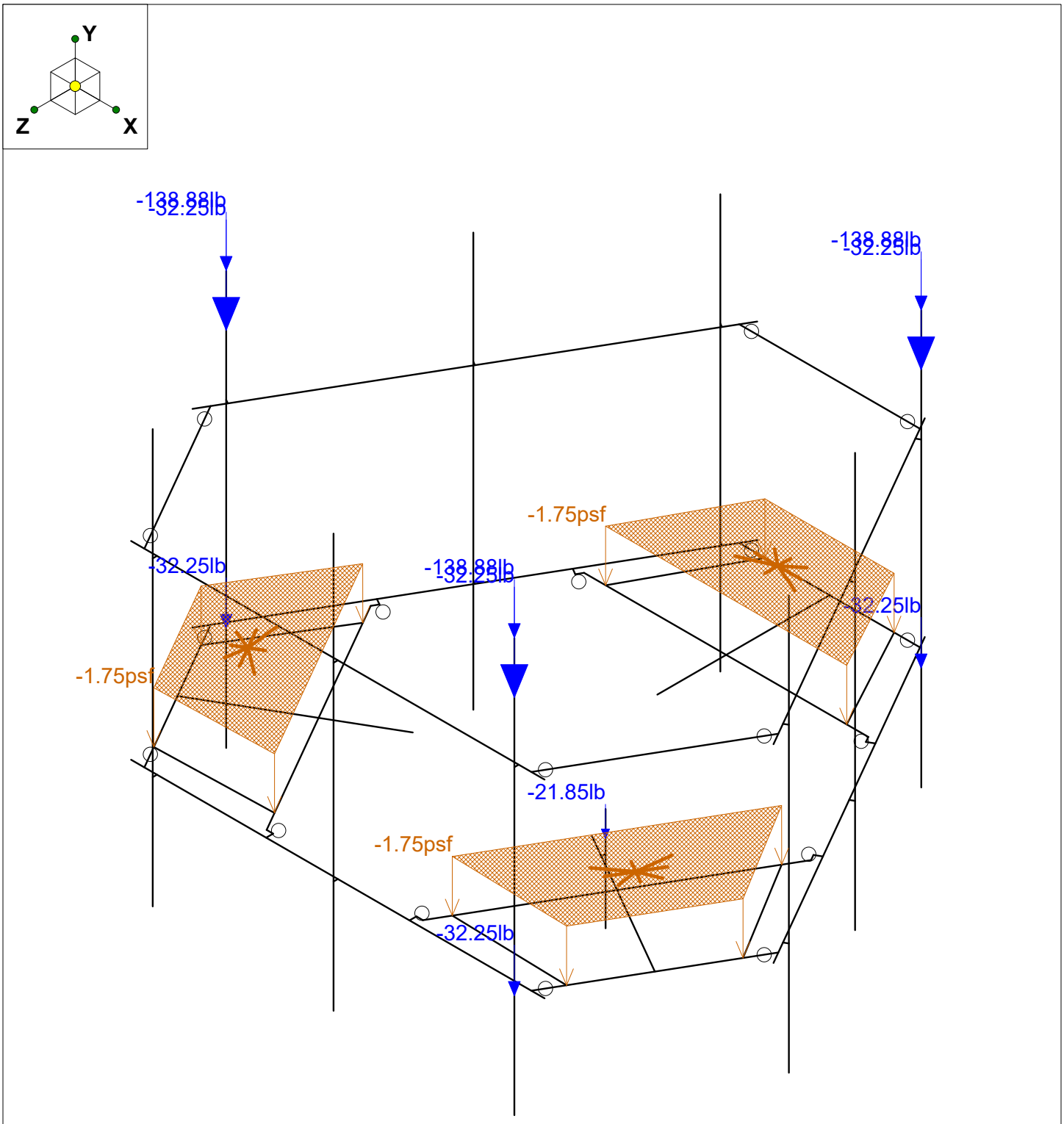

Loads: BLC 1, Self Weight
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00068B	Self-Weights
BY		Sept 20, 2021 at 1:26 PM
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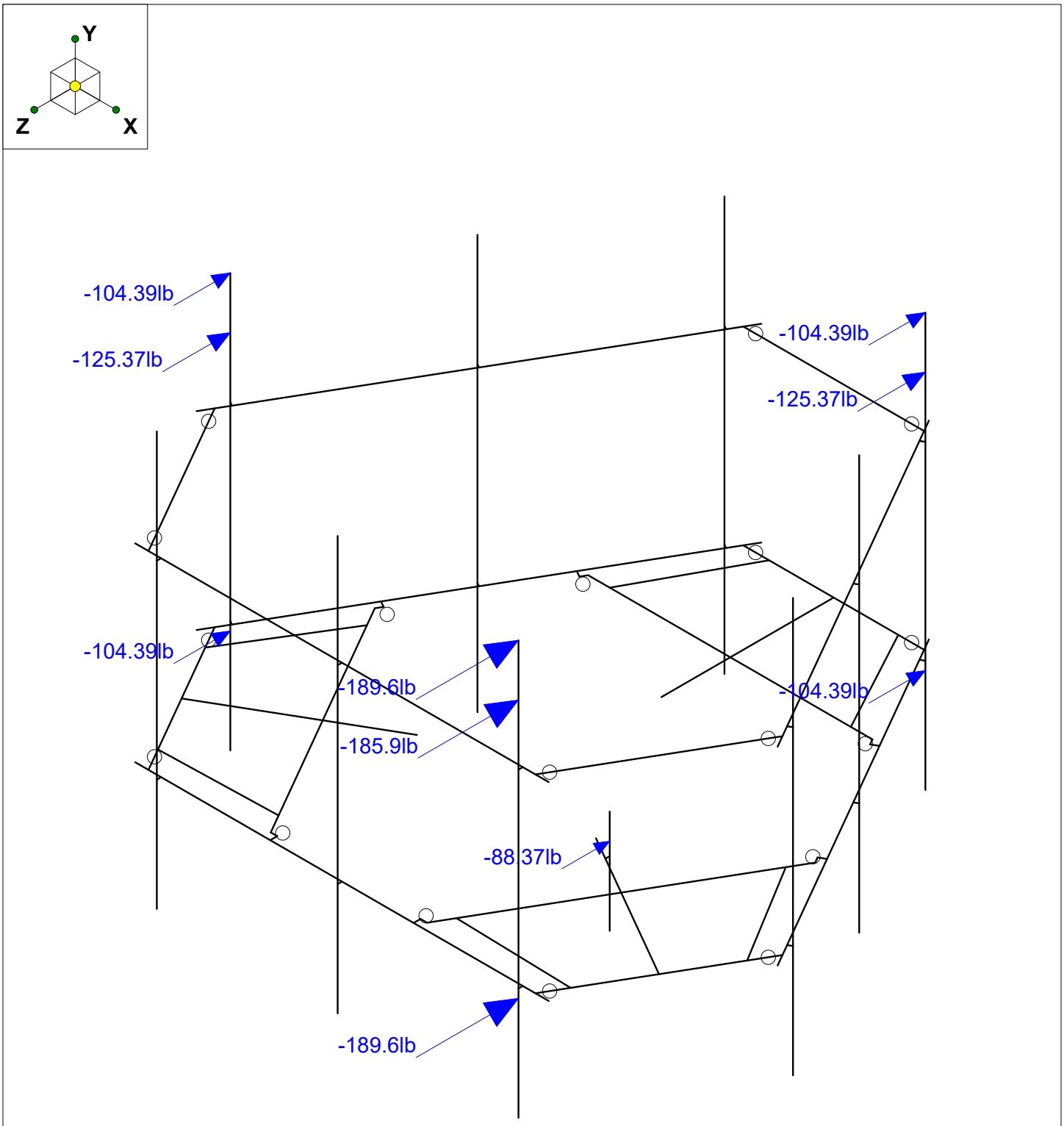
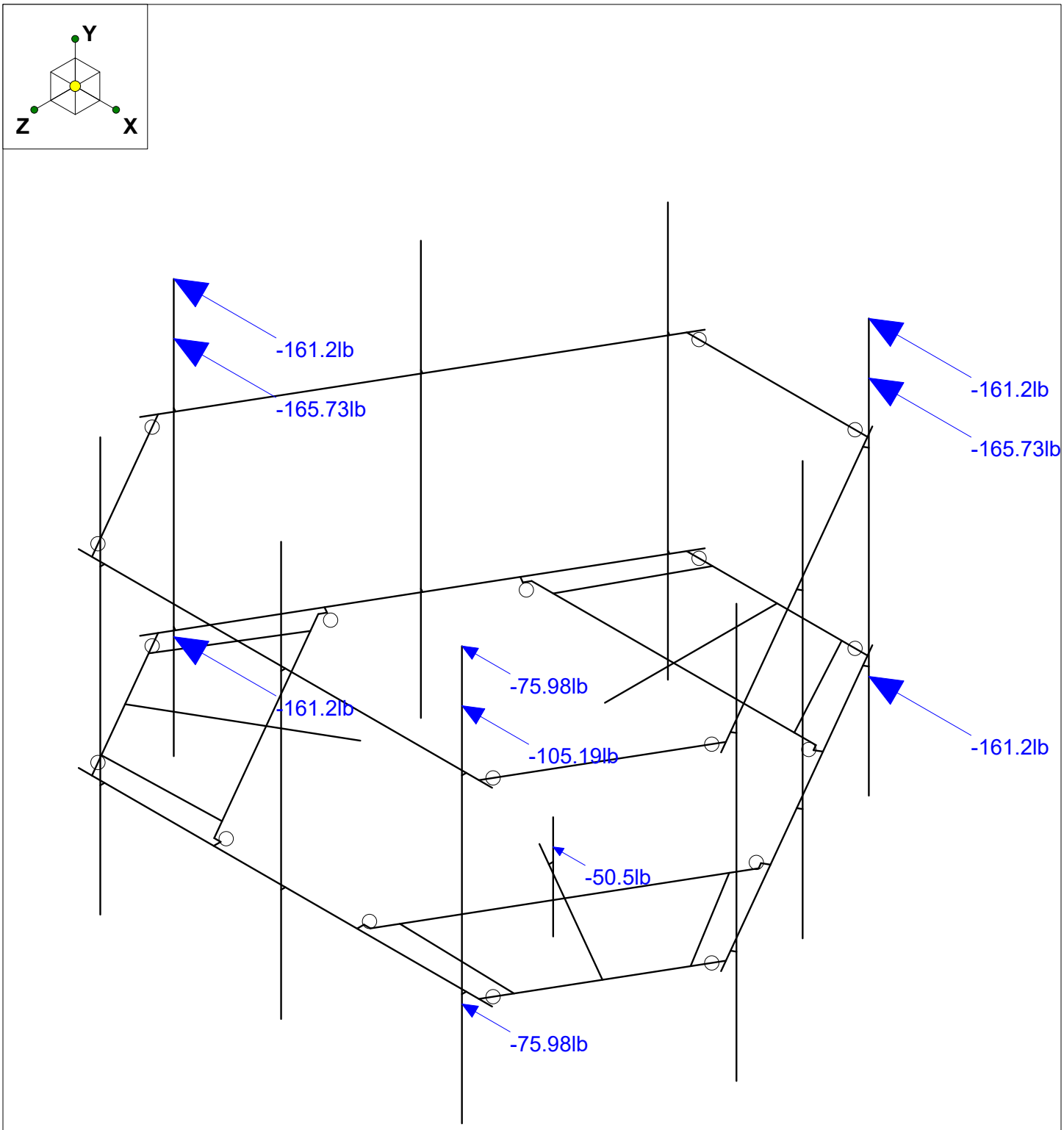


Loads: BLC 2, Wind Load AZI 0

Infinigy Engineering, PLLC	BOBOS00068B	Wind Load AZI 000
BY		Sept 21, 2021 at 5:36 PM
1197-F0001-B		BOBOS00068B_loaded.r3d



Loads: BLC 5, Wind Load AZI 90

Infinigy Engineering, PLLC	BOBOS00068B	Wind Load AZI 090
BY		Sept 21, 2021 at 5:37 PM
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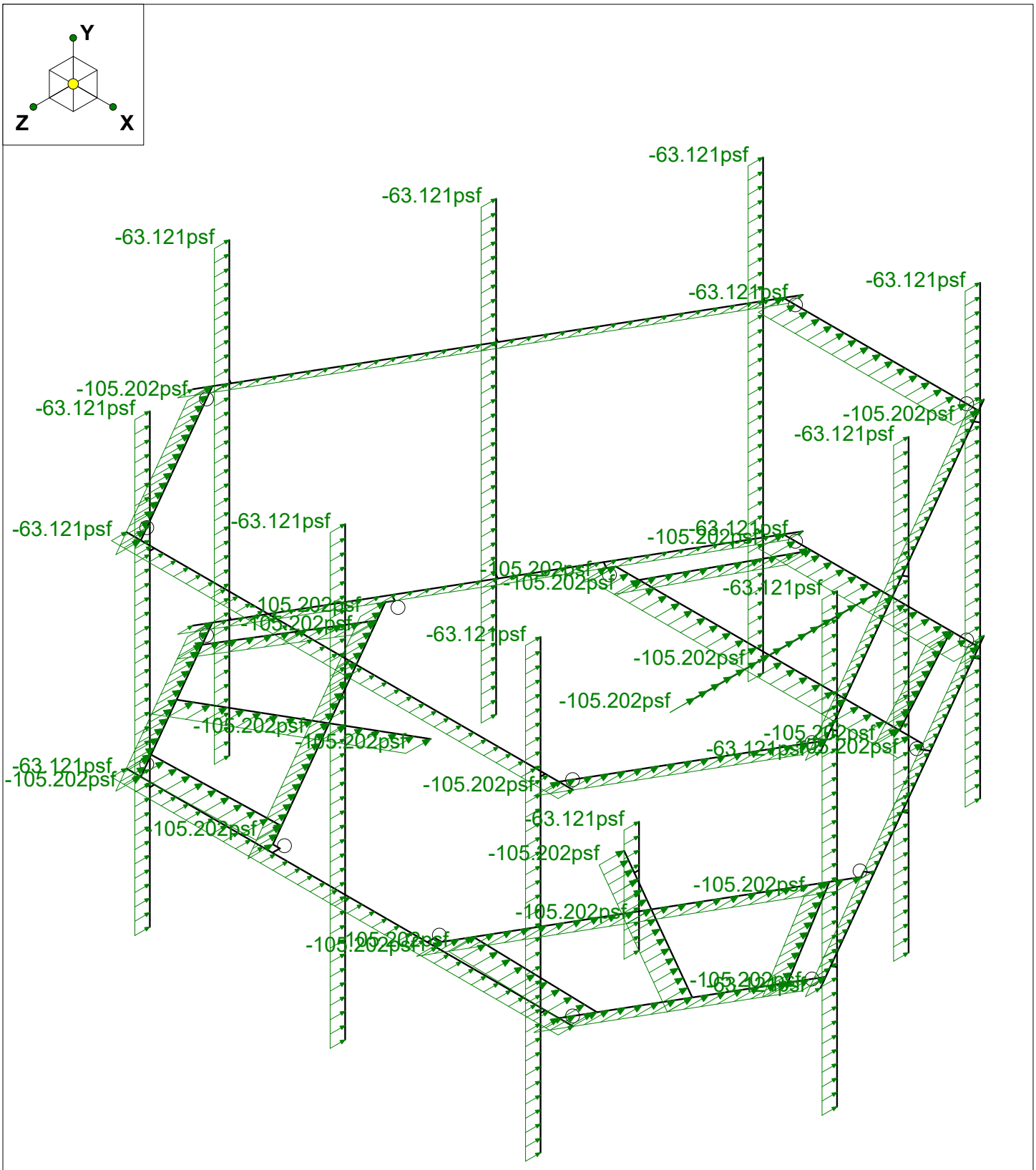

Loads: BLC 14, Distr. Wind Load Z

Infinigy Engineering, PLLC	BOBOS00068B	Distr. Wind Load AZI 000
BY		Sept 21, 2021 at 5:37 PM
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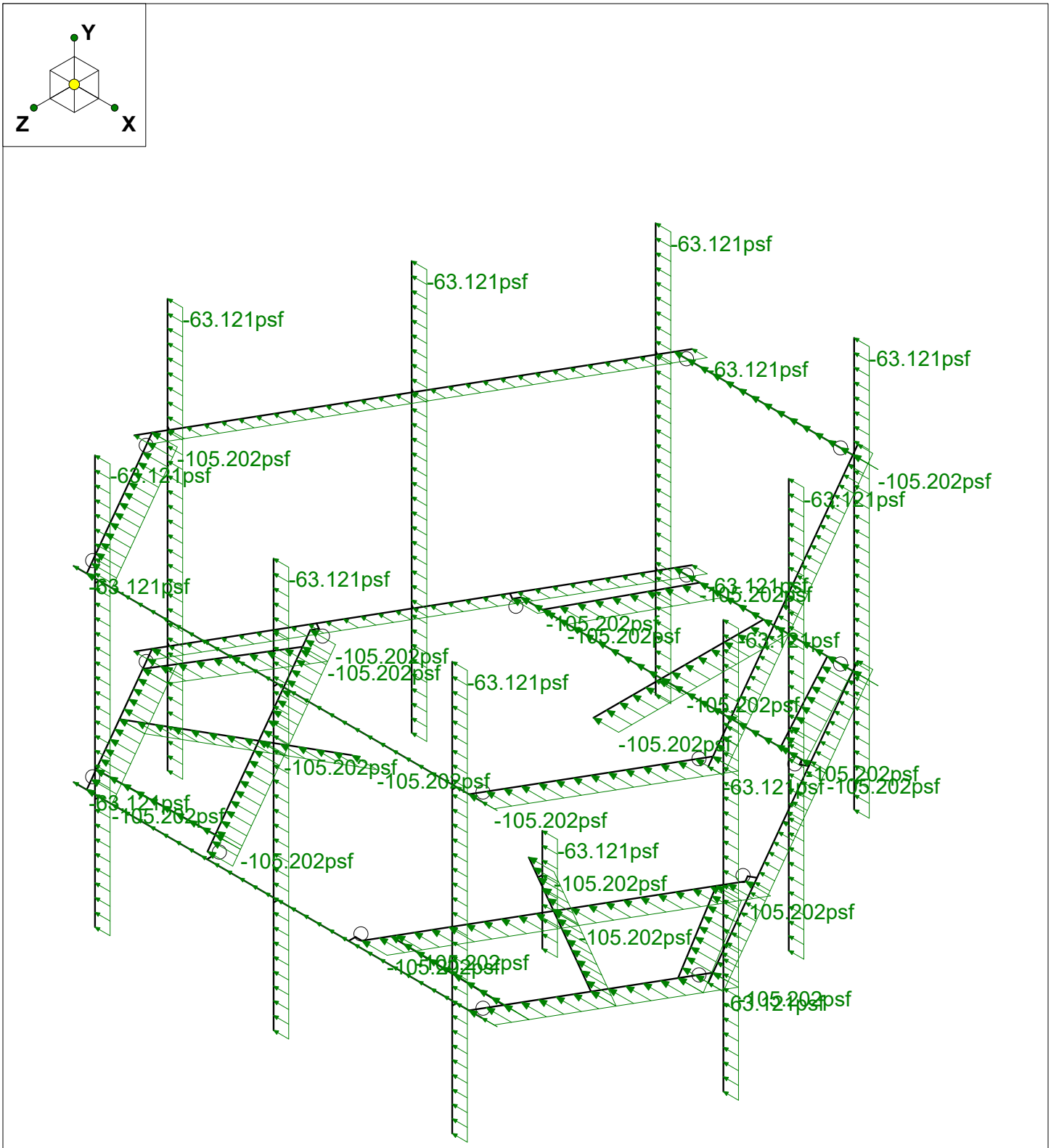

Loads: BLC 15, Distr. Wind Load X

Infinigy Engineering, PLLC	BOBOS00068B	Distr. Wind Load AZI 090
BY		Sept 21, 2021 at 5:39 PM
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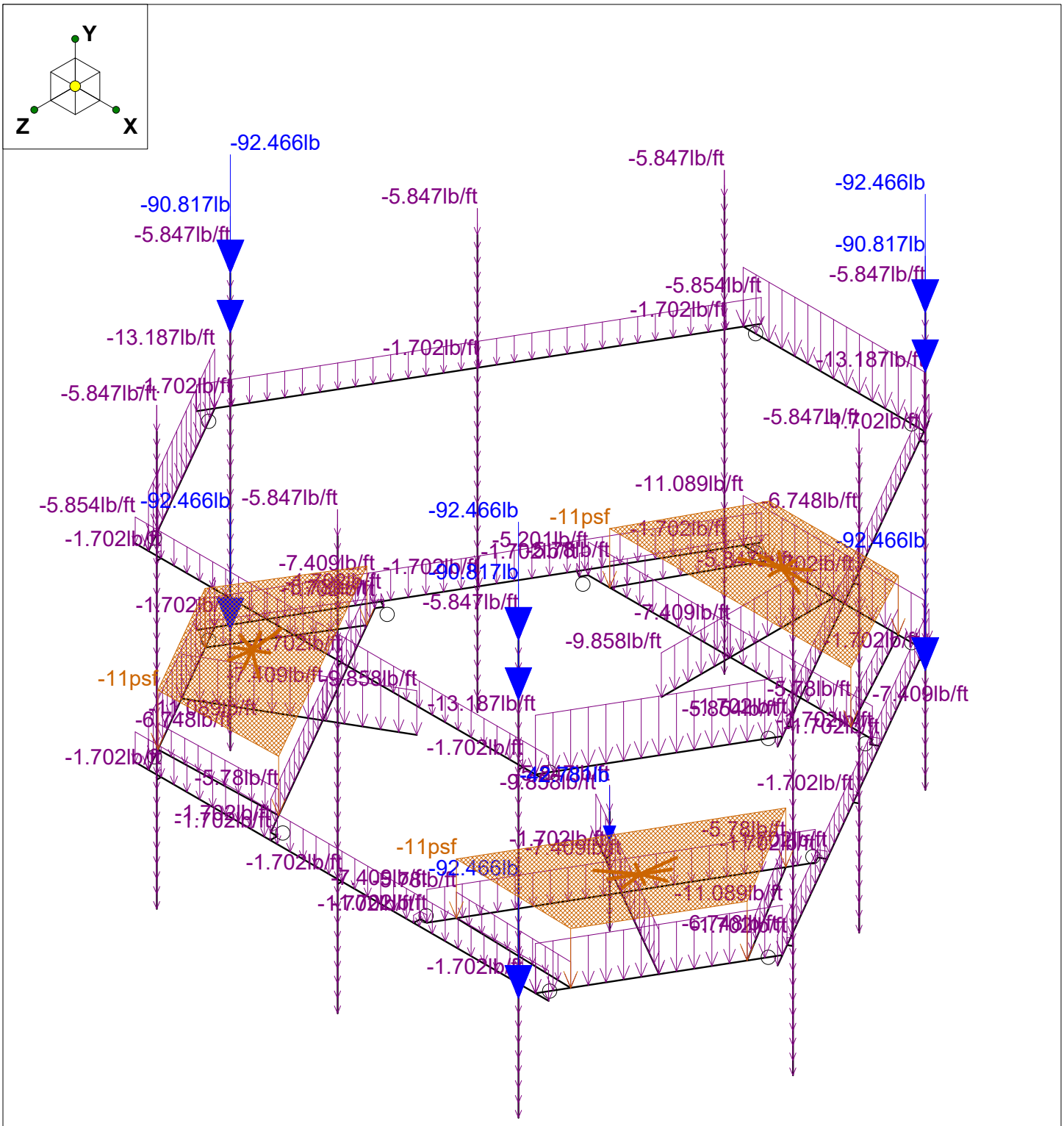

Loads: BLC 16, Ice Weight

Infinigy Engineering, PLLC	BOBOS00068B	Ice Weight
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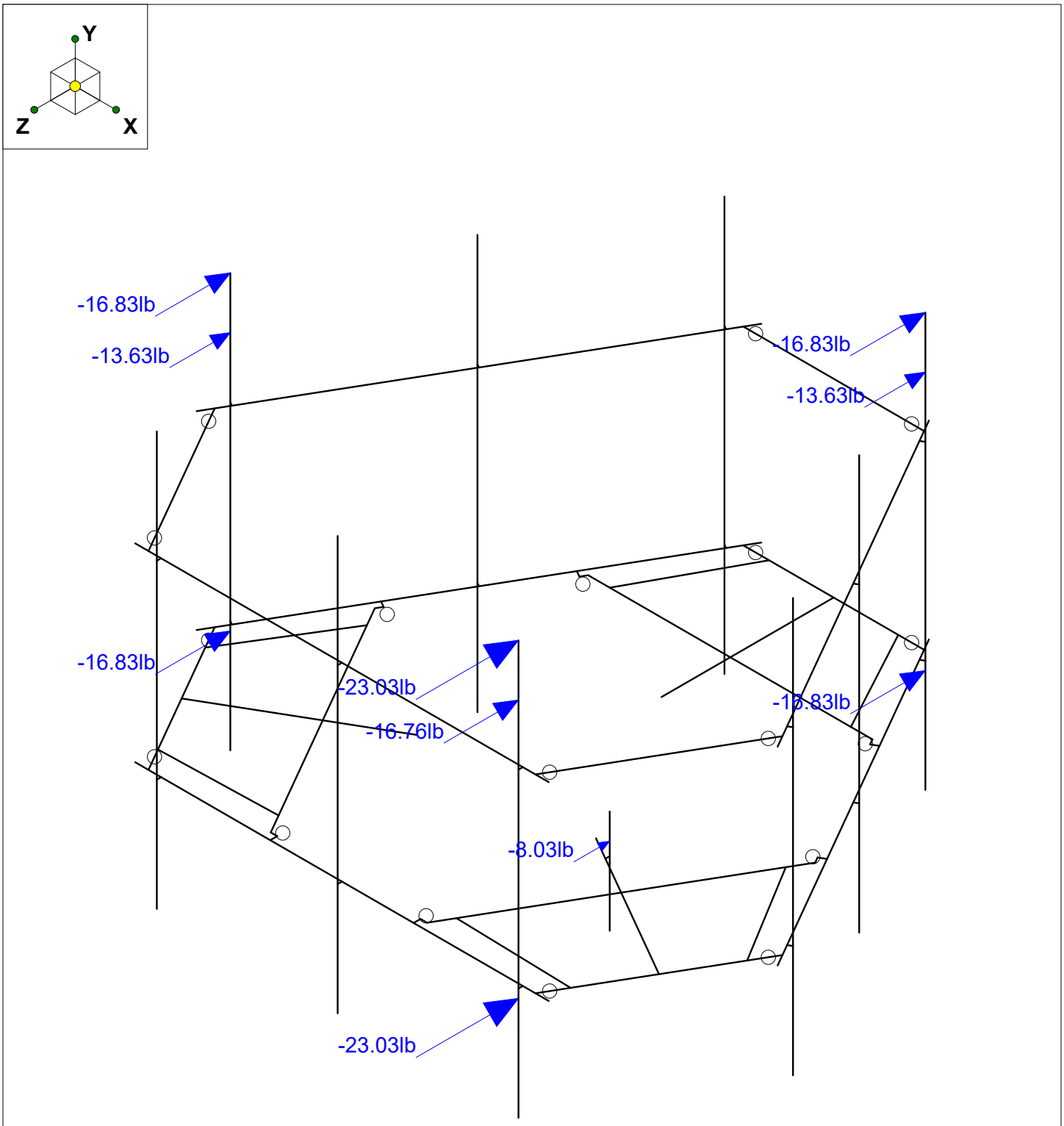

Loads: BLC 17, Ice Wind Load AZI 0

Infinigy Engineering, PLLC	BOBOS00068B	Ice Wind Load AZI 000
BY		Sept 21, 2021 at 5:40 PM
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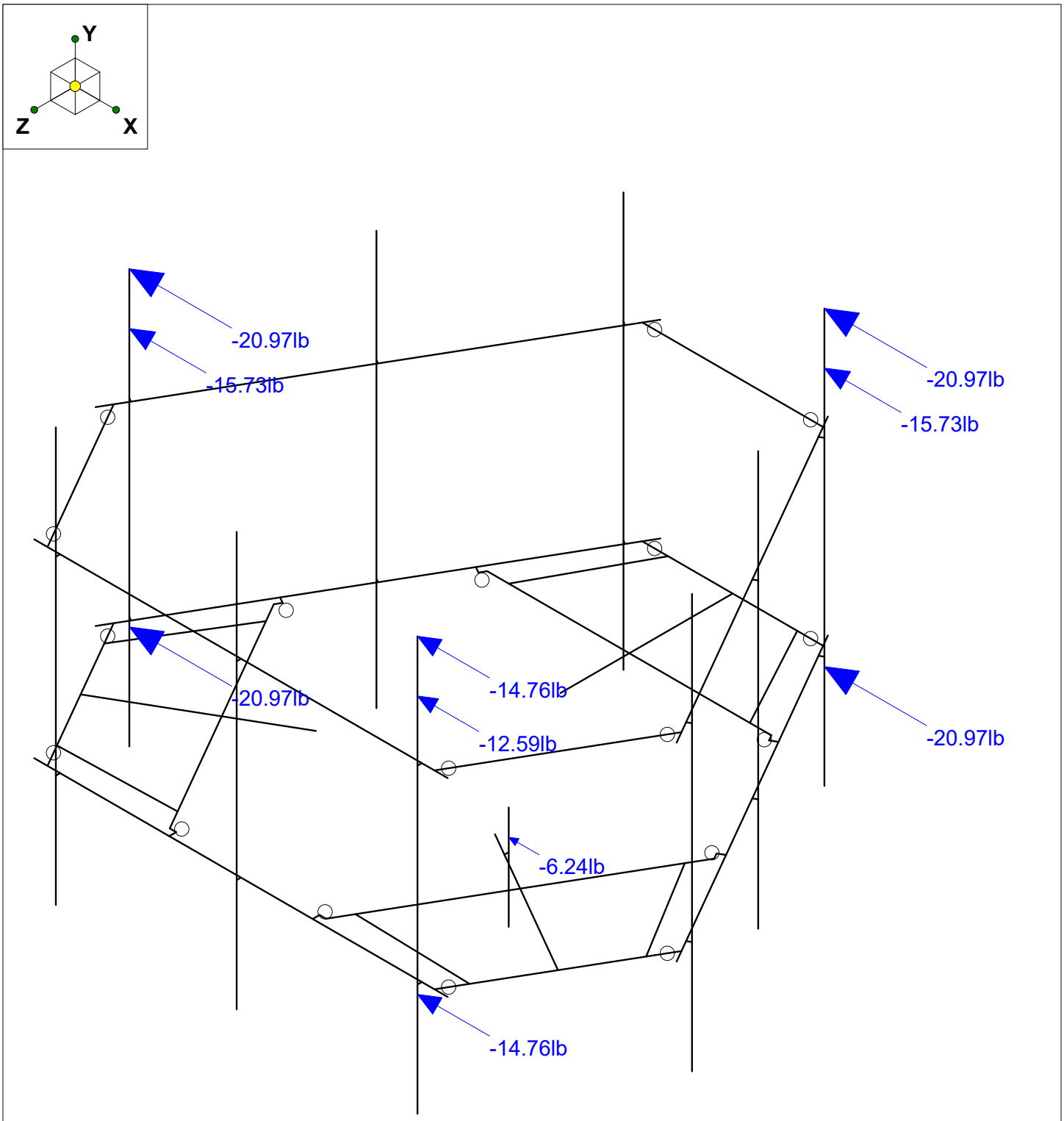

Loads: BLC 20, Ice Wind Load AZI 90

Infinigy Engineering, PLLC	BOBOS00068B	Ice Wind Load AZI 090
BY		Sept 21, 2021 at 5:41 PM
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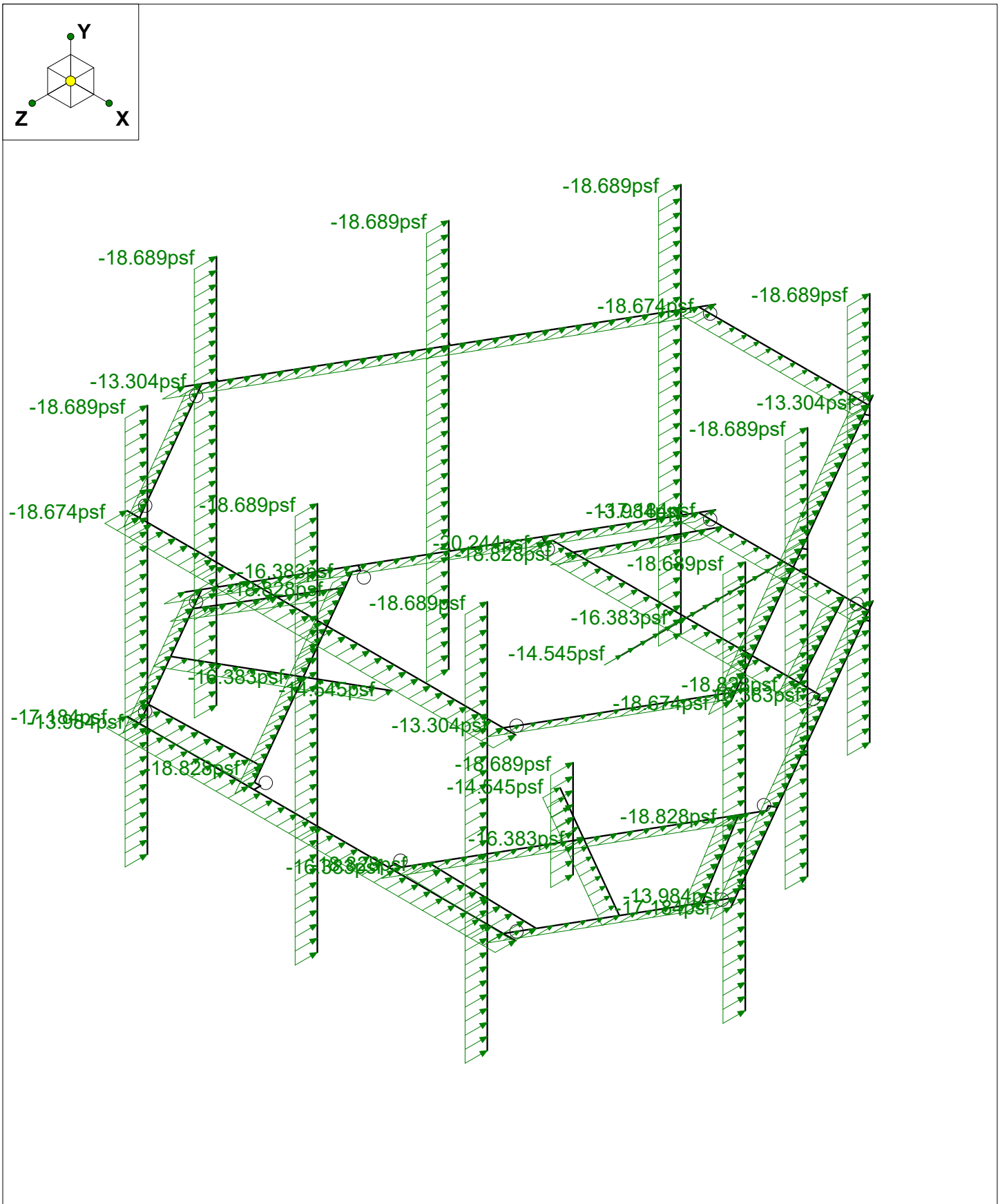

Loads: BLC 29, Distr. Ice Wind Load Z

Infinigy Engineering, PLLC	BOBOS00068B	Distr.Ice Wind Load AZI 000
BY		Sept 21, 2021 at 5:41 PM
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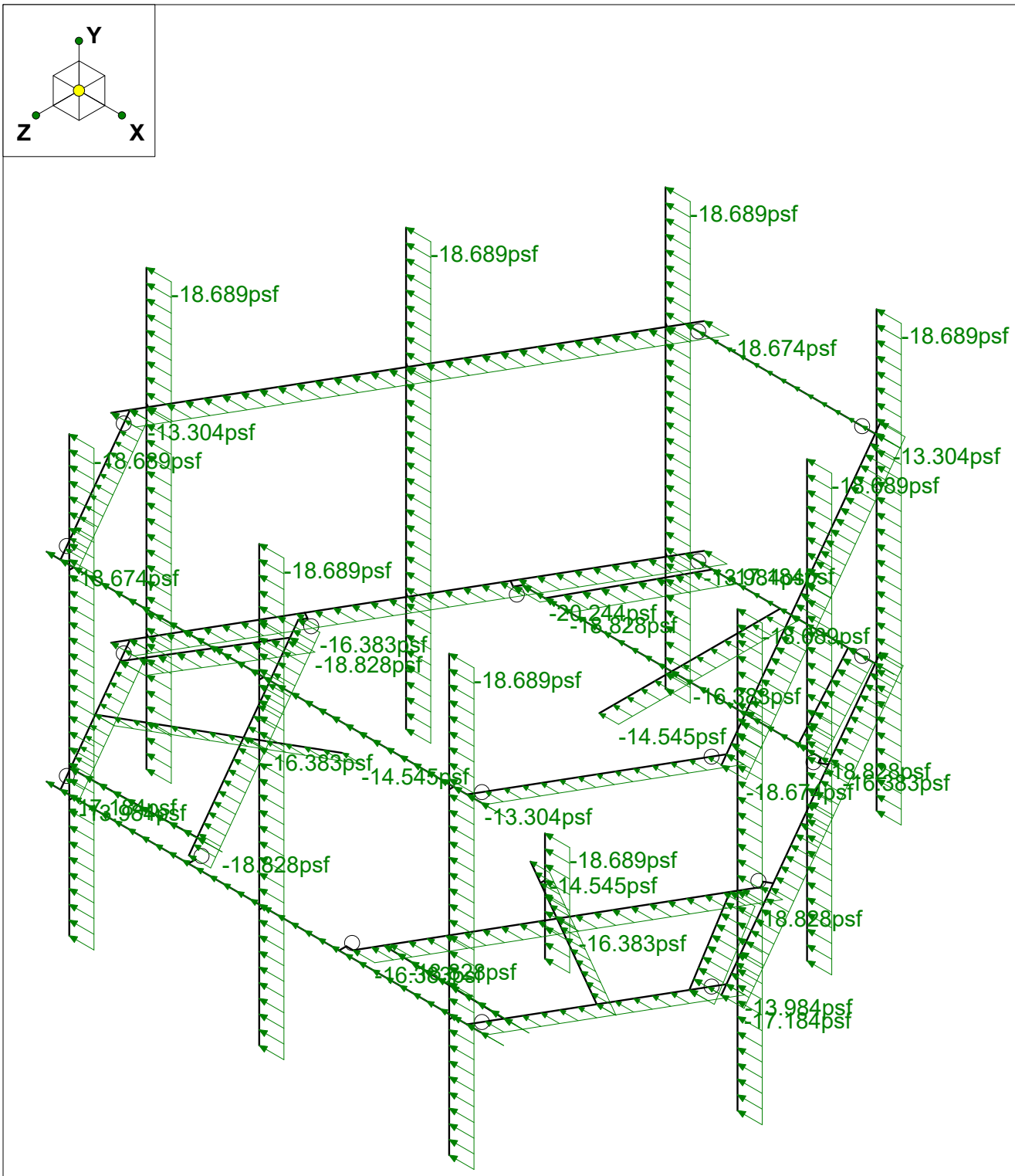

Loads: BLC 30, Distr. Ice Wind Load X

Infinigy Engineering, PLLC	BOBOS00068B	Distr.Ice Wind Load AZI 090
BY		Sept 21, 2021 at 5:52 PM
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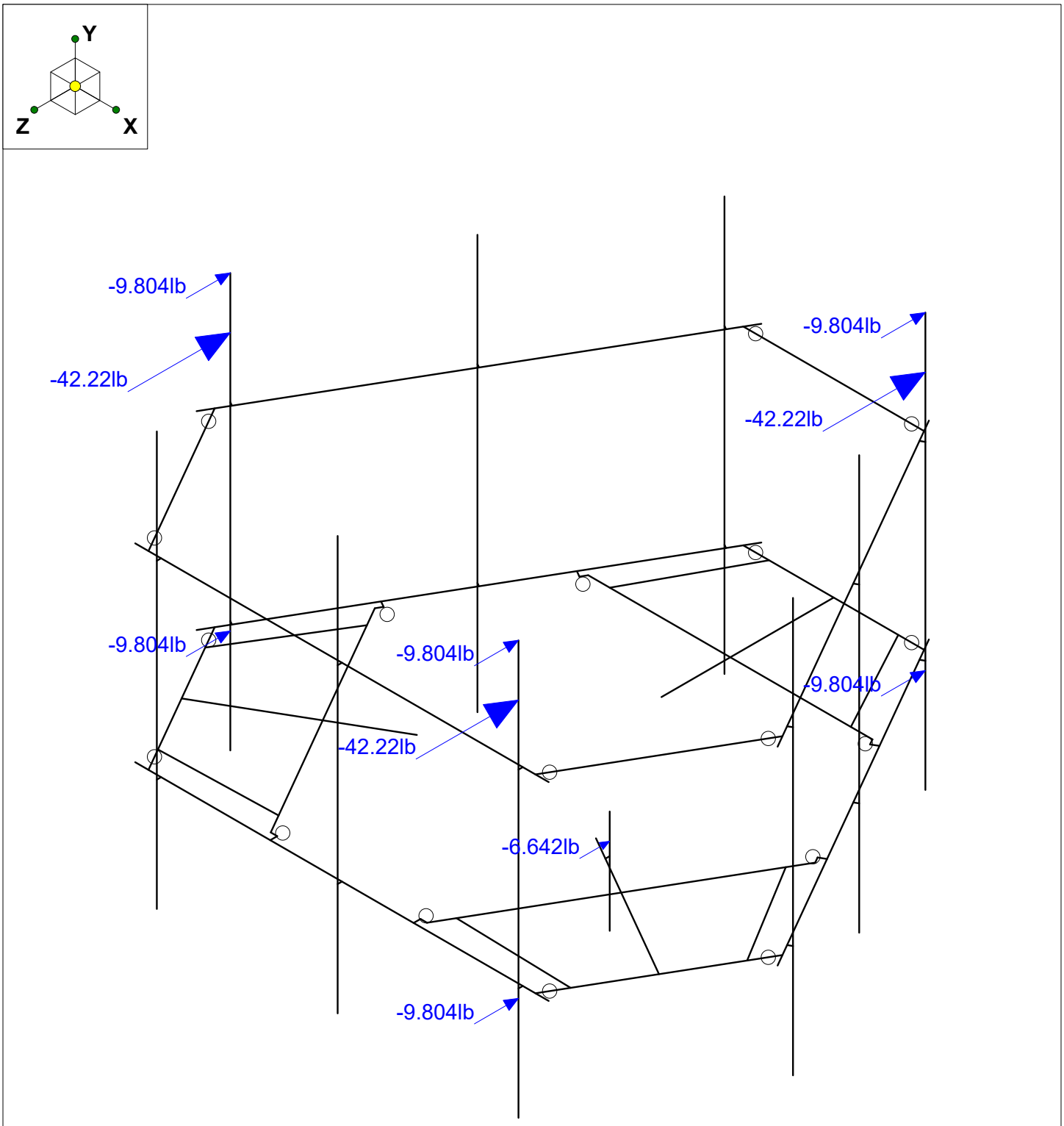

Loads: BLC 31, Seismic Load Z

Infinigy Engineering, PLLC	BOBOS00068B	Seismic Wind Load AZI 000
BY		Sept 21, 2021 at 5:53 PM
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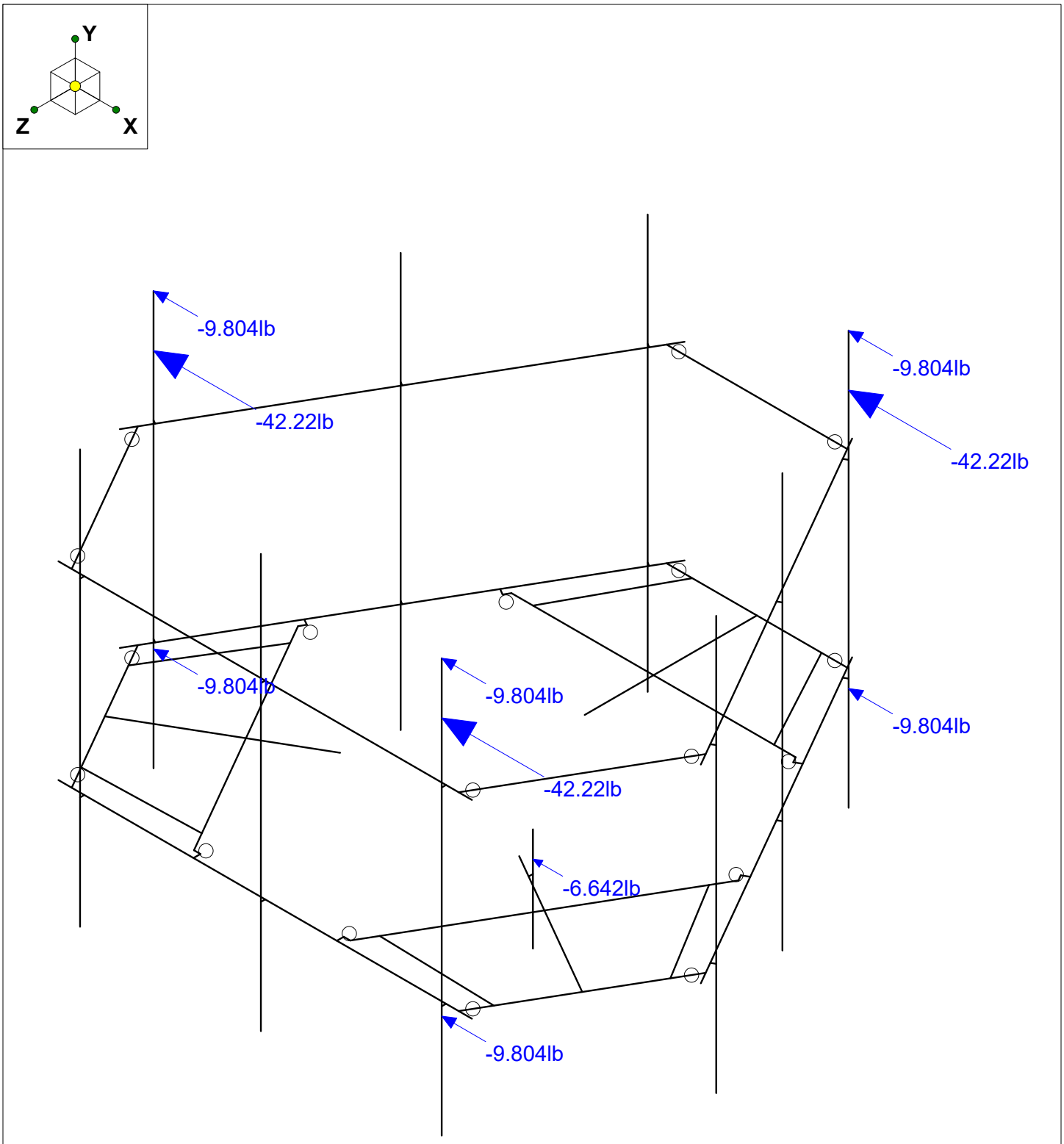
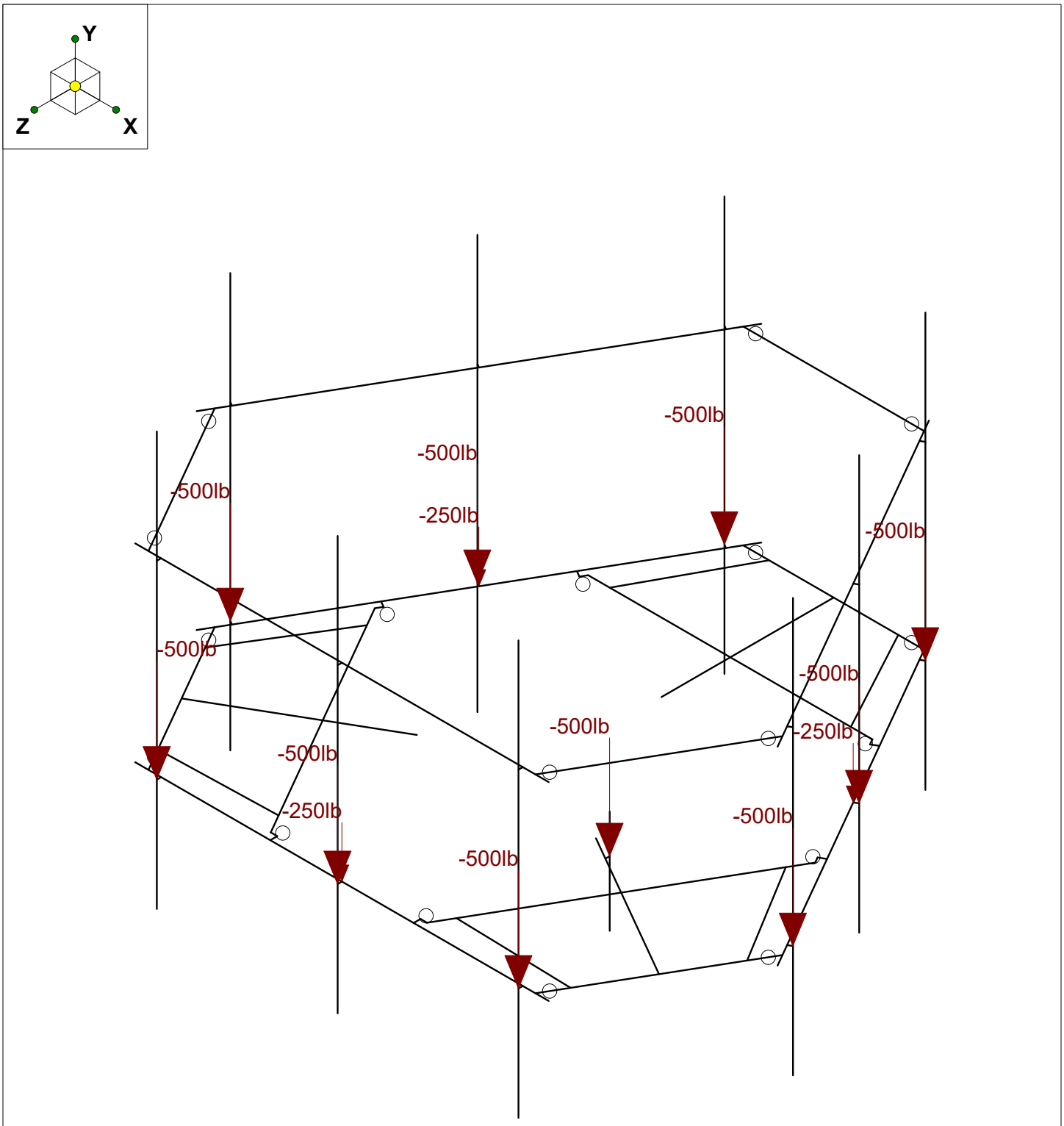


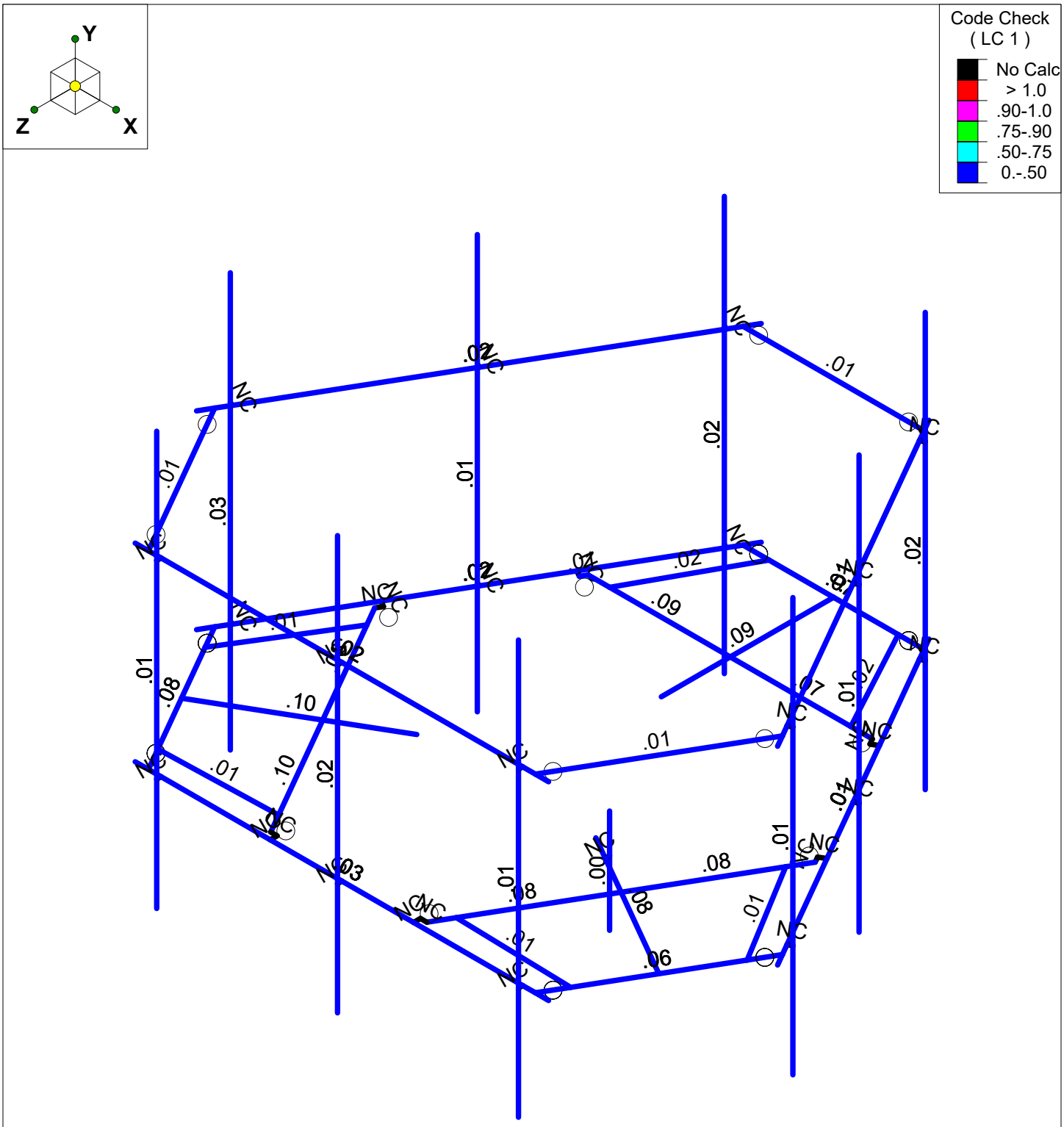
Loads: BLC 32, Seismic Load X

Infinigy Engineering, PLLC	BOBOS00068B	Seismic Wind Load AZI 090
BY		Sept 21, 2021 at 5:53 PM
1197-F0001-B		BOBOS00068B_loaded.r3d



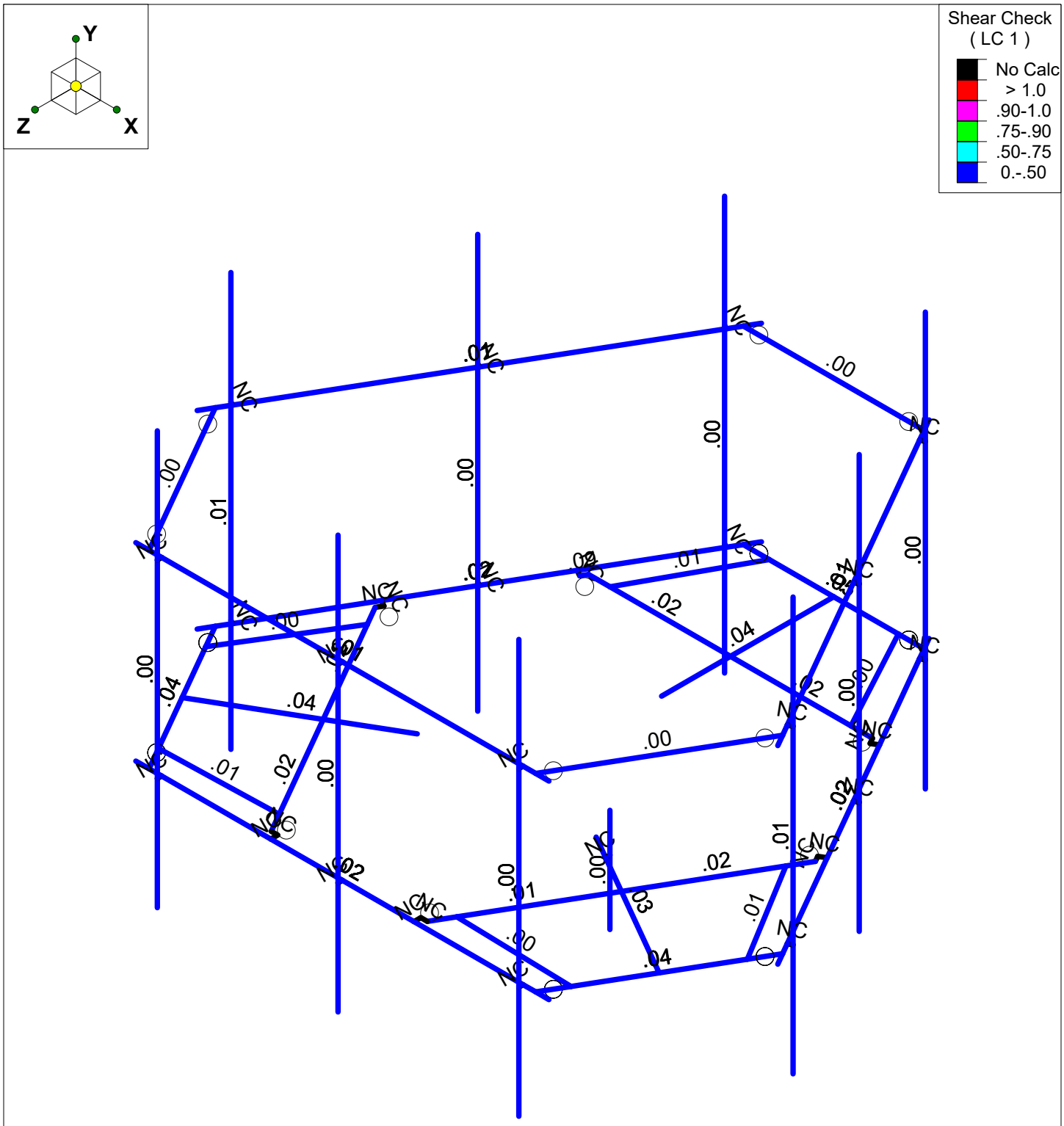
Loads: LL - Live Load

Infinigy Engineering, PLLC	BOBOS00068B	Live Loads
BY		Sept 21, 2021 at 5:54 PM
1197-F0001-B		BOBOS00068B_loaded.r3d



Member Code Checks Displayed
Results for LC 1, 1.4DL

Infinigy Engineering, PLLC	BOBOS00068B	Bending Check
BY		Sept 21, 2021 at 5:55 PM
1197-F0001-B		BOBOS00068B_loaded.r3d



Member Shear Checks Displayed
Results for LC 1, 1.4DL

Infinigy Engineering, PLLC	BOBOS00068B	Shear Check
BY		Sept 21, 2021 at 5:55 PM
1197-F0001-B		BOBOS00068B_loaded.r3d

Program Inputs

PROJECT INFORMATION	
Client:	NSS
Carrier:	Dish Wireless
Engineer:	Binita Yadav

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	C	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	269.00	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	173.00	ft
Tower Height AGL:	173.00	ft

TOPOGRAPHIC DATA		
Topo Feature:	N/A	
Slope Distance:	N/A	ft
Crest Distance:	N/A	ft
Crest Height:	N/A	ft

FACTORS		
Directionality Fact. (K_d):	0.950	
Ground Ele. Factor (K_e):	0.990	*Rev H Only
Rooftop Speed-Up (K_s):	1.000	*Rev H Only
Topographic Factor (K_{zt}):	1.000	
Gust Effect Factor (G_h):	1.000	

CODE STANDARDS		
Building Code:	2015 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-16	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	124	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1	in
Flat Pressure:	105.202	psf
Round Pressure:	63.121	psf
Ice Wind Pressure:	10.263	psf

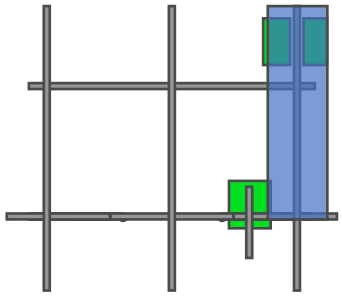
SEISMIC DATA		
Short-Period Accel. (S_s):	0.190	g
1-Second Accel. (S_1):	0.054	g
Short-Period Design (S_{DS}):	0.203	
1-Second Design (S_{D1}):	0.086	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

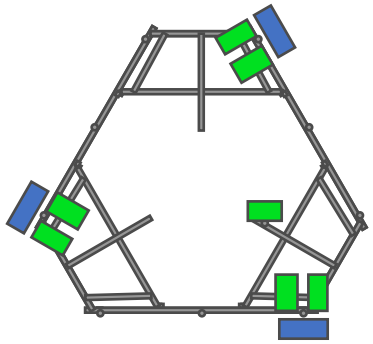
Infinigy Load Calculator V2.1.7

Program Inputs

ELEVATION VIEW



PLAN VIEW



Infinigy Load Calculator V2.1.7

APPURTENANCE INFORMATION

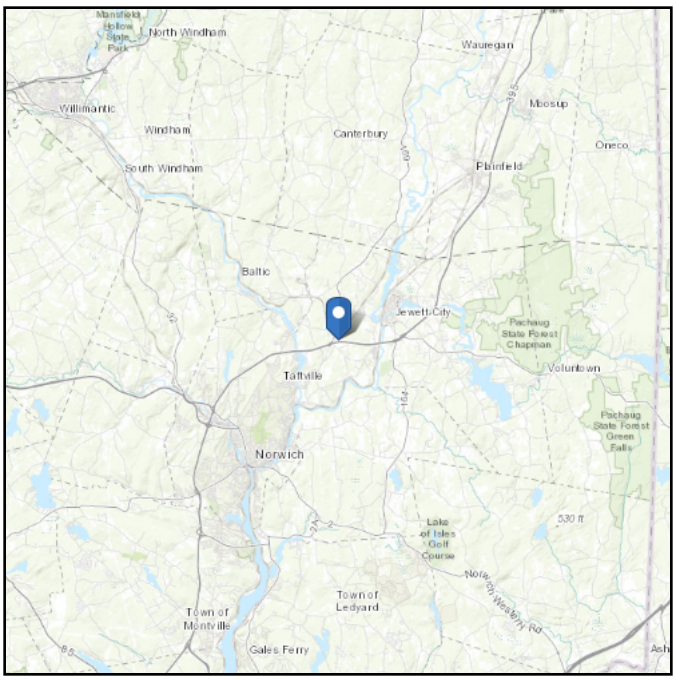
Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
JMA WIRELESS MX08FRO665-21	173.0	3	0.90	52.60	8.01	3.21	379.20	151.96	64.50	19.61	MP1
FUJITSU TA08025-B605	173.0	3	0.90	52.60	1.96	1.19	92.95	56.29	74.95	22.78	MP1
FUJITSU TA08025-B604	173.0	3	0.90	52.60	1.96	1.03	92.95	48.90	63.93	19.43	MP1
RAYCAP RDIDC-9181-PF-48	173.0	1	0.90	52.60	1.87	1.07	88.37	50.50	21.85	6.64	MP10

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 269 ft (NAVD 88) From Google Earth
Latitude: 41.590833
Longitude: -72.0169



Wind

Results:

Wind Speed:	124 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	96 Vmph
100-year MRI	102 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Mon Sep 20 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

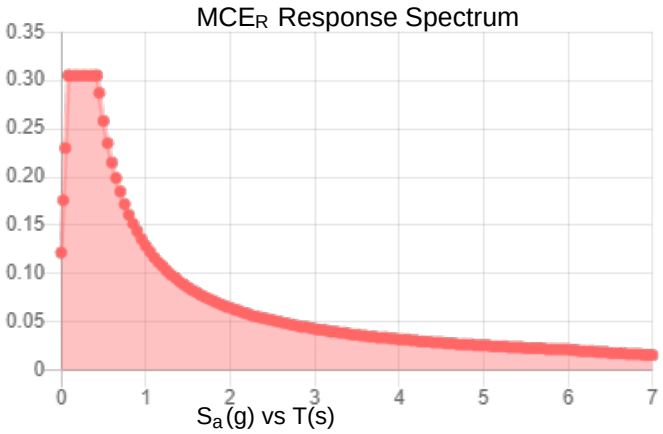
Seismic

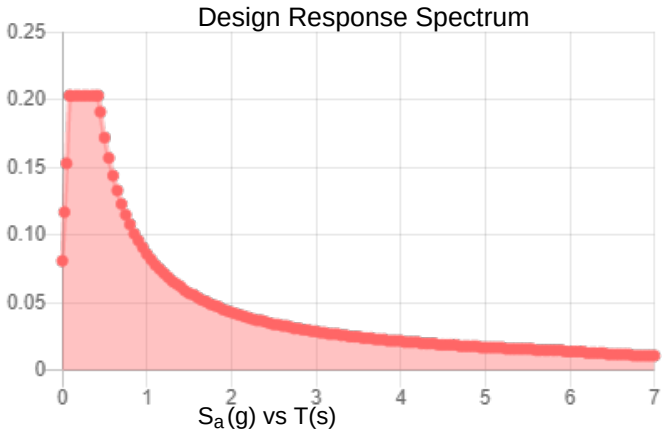
Site Soil Class: D - Default (see Section 11.4.3)

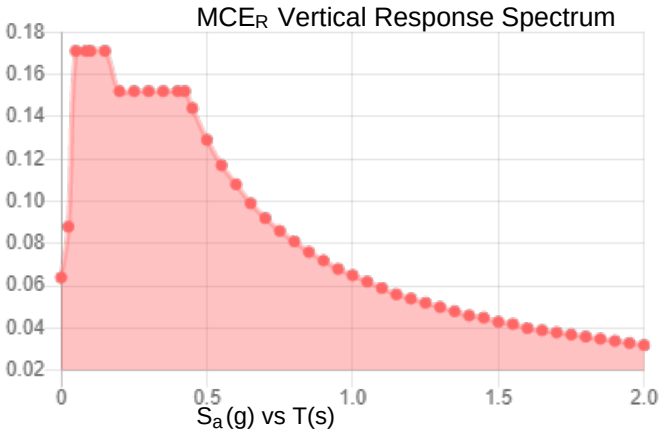
Results:

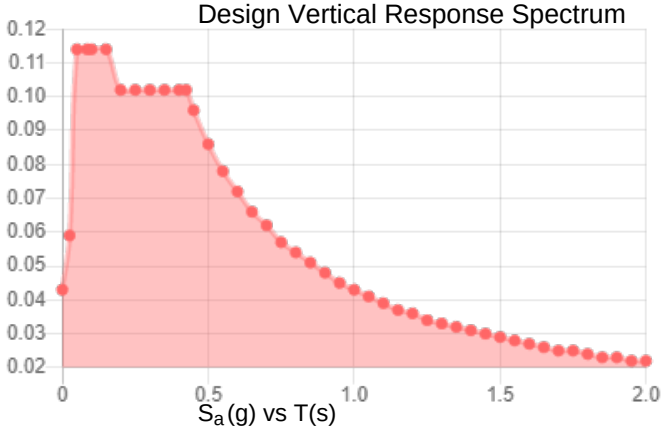
S_S :	0.19	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.104
F_v :	2.4	PGA_M :	0.166
S_{MS} :	0.305	F_{PGA} :	1.592
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.203	C_v :	0.7

Seismic Design Category B









Data Accessed: Mon Sep 20 2021

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Mon Sep 20 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 500-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.

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	S3	P1	P3			Square Tubing	Beam	None	A500 GR.C	Typical
2	GA4	P9	P12		270	Grating Angle	Beam	None	A529 Gr. 50	Typical
3	GA3	P10	P11			Grating Angle	Beam	None	A529 Gr. 50	Typical
4	P3	P7	P8			Corner Plates	Beam	None	A1011 36 ...	Typical
5	S2	P13	P14			Square Tubing	Beam	None	A500 GR.C	Typical
6	GA2	P20	P23		270	Grating Angle	Beam	None	A529 Gr. 50	Typical
7	GA1	P21	P22			Grating Angle	Beam	None	A529 Gr. 50	Typical
8	P2	P18	P19			Corner Plates	Beam	None	A1011 36 ...	Typical
9	S1	P24	P25			Square Tubing	Beam	None	A500 GR.C	Typical
10	GA6	P31	P34		270	Grating Angle	Beam	None	A529 Gr. 50	Typical
11	GA5	P32	P33			Grating Angle	Beam	None	A529 Gr. 50	Typical
12	P1	P29	P30			Corner Plates	Beam	None	A1011 36 ...	Typical
13	H1	N43	N44			Face Pipes(3.5...	Beam	None	A500 GR.C	Typical
14	MP1	N66	N60			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
15	MP3	N63	N57			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
16	HR1	N67	N68			Handrail	Beam	None	A500 GR.C	Typical
17	CA8	N114A	N113A		180	Handrail Conn...	Beam	None	A1011 36 ...	Typical
18	CA9	N112A	N111A		180	Handrail Conn...	Beam	None	A1011 36 ...	Typical
19	CA7	N116A	N115A		180	Handrail Conn...	Beam	None	A1011 36 ...	Typical
20	M32	N48A	N70A			RIGID	None	None	RIGID	Typical
21	M35	N45	N69A			RIGID	None	None	RIGID	Typical
22	M36	N51	N71A			RIGID	None	None	RIGID	Typical
23	M39A	N54	N72A			RIGID	None	None	RIGID	Typical
24	CA3	P4	N122A			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
25	CA4	N124B	P4			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
26	CA1	P15	N122B			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
27	CA2	N123A	P15			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
28	CA5	P26	N125			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
29	CA6	N126	P26			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
30	M64	N126A	N125A			RIGID	None	None	RIGID	Typical
31	M65	N126	N125A			RIGID	None	None	RIGID	Typical
32	M66	N129	N128			RIGID	None	None	RIGID	Typical
33	M67	N124B	N128			RIGID	None	None	RIGID	Typical
34	M68	N132	N131			RIGID	None	None	RIGID	Typical
35	M69	N123A	N131			RIGID	None	None	RIGID	Typical
36	M70	N133	N132A			RIGID	None	None	RIGID	Typical
37	M71	N122B	N132A			RIGID	None	None	RIGID	Typical
38	M72	N135	N134			RIGID	None	None	RIGID	Typical
39	M73	N125	N134			RIGID	None	None	RIGID	Typical
40	M74	N138	N137			RIGID	None	None	RIGID	Typical
41	M75	N122A	N137			PL 2.375x0.5	None	None	A36 Gr.36	Typical
42	MP2	N75	N74			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
43	M43	N72B	N76			RIGID	None	None	RIGID	Typical
44	M44	N73	N77			RIGID	None	None	RIGID	Typical
45	H3	N81A	N82A			Face Pipes(3.5...	Beam	None	A500 GR.C	Typical
46	MP7	N90	N88			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
47	MP9	N89	N87			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
48	HR3	N91	N92			Handrail	Beam	None	A500 GR.C	Typical
49	M52	N84	N94			RIGID	None	None	RIGID	Typical
50	M53	N83A	N93			RIGID	None	None	RIGID	Typical
51	M54	N85	N95			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
52	M55	N86	N96			RIGID	None	None	RIGID	Typical
53	H2	N109	N110			Face Pipes(3.5...	Beam	None	A500 GR.C	Typical
54	MP4	N118	N116			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
55	MP6	N117	N115			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
56	HR2	N119	N120			Handrail	Beam	None	A500 GR.C	Typical
57	M66A	N112	N122			RIGID	None	None	RIGID	Typical
58	M67A	N111	N121			RIGID	None	None	RIGID	Typical
59	M68A	N113	N123			RIGID	None	None	RIGID	Typical
60	M69A	N114	N124			RIGID	None	None	RIGID	Typical
61	MP8	N132B	N131A			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
62	M68B	N129B	N133B			RIGID	None	None	RIGID	Typical
63	M69B	N130A	N134A			RIGID	None	None	RIGID	Typical
64	MP5	N138A	N137A			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
65	M71B	N135A	N139			RIGID	None	None	RIGID	Typical
66	M72B	N136	N140			RIGID	None	None	RIGID	Typical
67	MP10	N124A	N125B			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
68	M68D	N122C	N123B			RIGID	None	None	RIGID	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	S3	Square Tubi...	40			Lbyy						Lateral
2	GA4	Grating Angle	27.295			Lbyy						Lateral
3	GA3	Grating Angle	27.295			Lbyy						Lateral
4	P3	Corner Plates	42			Lbyy						Lateral
5	S2	Square Tubi...	40			Lbyy						Lateral
6	GA2	Grating Angle	27.295			Lbyy						Lateral
7	GA1	Grating Angle	27.295			Lbyy						Lateral
8	P2	Corner Plates	42			Lbyy						Lateral
9	S1	Square Tubi...	40			Lbyy						Lateral
10	GA6	Grating Angle	27.295			Lbyy						Lateral
11	GA5	Grating Angle	27.295			Lbyy						Lateral
12	P1	Corner Plates	42			Lbyy						Lateral
13	H1	Face Pipes(...	96			Lbyy						Lateral
14	MP1	Antenna Pip...	96			Lbyy						Lateral
15	MP3	Antenna Pip...	96			Lbyy						Lateral
16	HR1	Handrail	96			Lbyy						Lateral
17	CA8	Handrail Co...	42			Lbyy						Lateral
18	CA9	Handrail Co...	42			Lbyy						Lateral
19	CA7	Handrail Co...	42			Lbyy						Lateral
20	CA3	Channel(3.3...	33			Lbyy						Lateral
21	CA4	Channel(3.3...	33			Lbyy						Lateral
22	CA1	Channel(3.3...	33			Lbyy						Lateral
23	CA2	Channel(3.3...	33			Lbyy						Lateral
24	CA5	Channel(3.3...	33			Lbyy						Lateral
25	CA6	Channel(3.3...	33			Lbyy						Lateral
26	M75	PL 2.375x0.5	1.5			Lbyy						Lateral
27	MP2	Antenna Pip...	96			Lbyy						Lateral
28	H3	Face Pipes(...	96			Lbyy						Lateral
29	MP7	Antenna Pip...	96			Lbyy						Lateral
30	MP9	Antenna Pip...	96			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
31	HR3	Handrail	96			Lbyy						Lateral
32	H2	Face Pipes(...	96			Lbyy						Lateral
33	MP4	Antenna Pip...	96			Lbyy						Lateral
34	MP6	Antenna Pip...	96			Lbyy						Lateral
35	HR2	Handrail	96			Lbyy						Lateral
36	MP8	Antenna Pip...	96			Lbyy						Lateral
37	MP5	Antenna Pip...	96			Lbyy						Lateral
38	MP10	Antenna Pip...	24			Lbyy						Lateral

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	S3						Yes				None
2	GA4						Yes				None
3	GA3						Yes				None
4	P3	BenPIN	BenPIN				Yes	Default			None
5	S2						Yes				None
6	GA2						Yes				None
7	GA1						Yes				None
8	P2	BenPIN	BenPIN				Yes	Default			None
9	S1						Yes	Default			None
10	GA6						Yes				None
11	GA5						Yes				None
12	P1	BenPIN	BenPIN				Yes	Default			None
13	H1						Yes				None
14	MP1						Yes	** NA **	+y+3		None
15	MP3						Yes	** NA **	+y+3		None
16	HR1						Yes				None
17	CA8	OOOOOX	OOOOOX				Yes				None
18	CA9	OOOOOX	OOOOOX				Yes				None
19	CA7	OOOOOX	OOOOOX				Yes	Default			None
20	M32						Yes	** NA **			None
21	M35						Yes	** NA **			None
22	M36						Yes	** NA **			None
23	M39A						Yes	** NA **			None
24	CA3						Yes	Default			None
25	CA4						Yes	Default			None
26	CA1						Yes	Default			None
27	CA2						Yes	Default			None
28	CA5						Yes	Default			None
29	CA6						Yes	Default			None
30	M64	BenPIN					Yes	** NA **			None
31	M65						Yes	** NA **			None
32	M66	BenPIN					Yes	** NA **			None
33	M67						Yes	** NA **			None
34	M68	BenPIN					Yes	** NA **			None
35	M69						Yes	** NA **			None
36	M70	BenPIN					Yes	** NA **			None
37	M71						Yes	** NA **			None
38	M72	BenPIN					Yes	** NA **			None
39	M73						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
40	M74	BenPIN					Yes	** NA **			None
41	M75						Yes	** NA **			None
42	MP2						Yes	** NA **	+y+3		None
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	H3						Yes				None
46	MP7						Yes	** NA **	+y+3		None
47	MP9						Yes	** NA **	+y+3		None
48	HR3						Yes				None
49	M52						Yes	** NA **			None
50	M53						Yes	** NA **			None
51	M54						Yes	** NA **			None
52	M55						Yes	** NA **			None
53	H2						Yes				None
54	MP4						Yes	** NA **	+y+3		None
55	MP6						Yes	** NA **	+y+3		None
56	HR2						Yes				None
57	M66A						Yes	** NA **			None
58	M67A						Yes	** NA **			None
59	M68A						Yes	** NA **			None
60	M69A						Yes	** NA **			None
61	MP8						Yes	** NA **	+y+3		None
62	M68B						Yes	** NA **			None
63	M69B						Yes	** NA **			None
64	MP5						Yes	** NA **	+y+3		None
65	M71B						Yes	** NA **			None
66	M72B						Yes	** NA **			None
67	MP10						Yes	** NA **			None
68	M68D						Yes	** NA **			None

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		30	36.1	0
3	Total General		30	36.1	0
4					
5	Hot Rolled Steel				
6	A1011 36 Ksi	C3.38x2.06x0.25	6	198	98.255
7	A1011 36 Ksi	PL6.5x0.375	3	126	87.09
8	A1011 36 Ksi	L6.6x4.46x0.25	3	126	96.558
9	A36 Gr.36	PL 2.375x0.5	1	1.5	.505
10	A500 GR.C	2.88x0.120	3	288	84.974
11	A500 GR.C	HSS4X4X6	3	120	162.653
12	A500 GR.C	Pipe3.5x0.165	3	288	141.202
13	A500 GR.C	PIPE 2.5	10	888	405.407
14	A529 Gr. 50	L2x2x4	6	163.8	43.838
15	Total HR Steel		38	2199.3	1120.482

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Corner Plates	PL6.5x0.375	Beam	None	A1011 36 Ksi	Typical	2.438	.029	8.582	.11
2	6"x0.37" Plate	Plate 6x.37	Beam	None	A1011 36 Ksi	Typical	2.22	.025	6.66	.097
3	Grating Angle	L2x2x4	Beam	None	A529 Gr. 50	Typical	.944	.346	.346	.021
4	Face Pipes(...	Pipe3.5x0.165	Beam	None	A500 GR.C	Typical	1.729	2.409	2.409	4.819
5	Antenna Pipes	PIPE 2.5	Column	Wide Flange	A500 GR.C	Typical	1.61	1.45	1.45	2.89
6	Channel(3.3...	C3.38x2.06x...	Beam	None	A1011 36 Ksi	Typical	1.75	.715	3.026	.034
7	Square Tubing	HSS4X4X6	Beam	None	A500 GR.C	Typical	4.78	10.3	10.3	17.5
8	Handrail Con...	L6.6x4.46x0....	Beam	None	A1011 36 Ksi	Typical	2.703	4.759	12.473	.055
9	Handrail	2.88x0.120	Beam	None	A500 GR.C	Typical	1.04	.993	.993	1.985

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Self Weight	DL		-1			13		3	
2	Wind Load AZI 0	WLZ					26			
3	Wind Load AZI 30	None					26			
4	Wind Load AZI 60	None					26			
5	Wind Load AZI 90	WLX					26			
6	Wind Load AZI 120	None					26			
7	Wind Load AZI 150	None					26			
8	Wind Load AZI 180	None					26			
9	Wind Load AZI 210	None					26			
10	Wind Load AZI 240	None					26			
11	Wind Load AZI 270	None					26			
12	Wind Load AZI 300	None					26			
13	Wind Load AZI 330	None					26			
14	Distr. Wind Load Z	WLZ						68		
15	Distr. Wind Load X	WLX						68		
16	Ice Weight	OL1					13	68	3	
17	Ice Wind Load AZI 0	OL2					26			
18	Ice Wind Load AZI 30	None					26			
19	Ice Wind Load AZI 60	None					26			
20	Ice Wind Load AZI 90	OL3					26			
21	Ice Wind Load AZI 120	None					26			
22	Ice Wind Load AZI 150	None					26			
23	Ice Wind Load AZI 180	None					26			
24	Ice Wind Load AZI 210	None					26			
25	Ice Wind Load AZI 240	None					26			
26	Ice Wind Load AZI 270	None					26			
27	Ice Wind Load AZI 300	None					26			
28	Ice Wind Load AZI 330	None					26			
29	Distr. Ice Wind Load Z	OL2						68		
30	Distr. Ice Wind Load X	OL3						68		
31	Seismic Load Z	ELZ			-.304		13			
32	Seismic Load X	ELX	-.304				13			
33	Service Live Loads	LL				3				
34	Maintenance Load 1	LL				1				
35	Maintenance Load 2	LL				1				
36	Maintenance Load 3	LL				1				
37	Maintenance Load 4	LL				1				

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
38	Maintenance Load 5	LL				1				
39	Maintenance Load 6	LL				1				
40	Maintenance Load 7	LL				1				
41	Maintenance Load 8	LL				1				
42	Maintenance Load 9	LL				1				
43	Maintenance Load 10	LL				1				
44	BLC 1 Transient Area Loads	None						9		
45	BLC 16 Transient Area Loads	None						9		

Load Combinations

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
1	1.4DL	Yes	Y		1	1.4																		
2	1.2DL + 1WL AZI 0	Yes	Y		1	1.2	2	1	14	1	15													
3	1.2DL + 1WL AZI 30	Yes	Y		1	1.2	3	1	14	.866	15	.5												
4	1.2DL + 1WL AZI 60	Yes	Y		1	1.2	4	1	14	.5	15	.866												
5	1.2DL + 1WL AZI 90	Yes	Y		1	1.2	5	1	14		15	1												
6	1.2DL + 1WL AZI 120	Yes	Y		1	1.2	6	1	14	-.5	15	.866												
7	1.2DL + 1WL AZI 150	Yes	Y		1	1.2	7	1	14	-.866	15	.5												
8	1.2DL + 1WL AZI 180	Yes	Y		1	1.2	8	1	14	-1	15													
9	1.2DL + 1WL AZI 210	Yes	Y		1	1.2	9	1	14	-.866	15	-.5												
10	1.2DL + 1WL AZI 240	Yes	Y		1	1.2	10	1	14	-.5	15	-.866												
11	1.2DL + 1WL AZI 270	Yes	Y		1	1.2	11	1	14		15	-1												
12	1.2DL + 1WL AZI 300	Yes	Y		1	1.2	12	1	14	.5	15	-.866												
13	1.2DL + 1WL AZI 330	Yes	Y		1	1.2	13	1	14	.866	15	-.5												
14	0.9DL + 1WL AZI 0	Yes	Y		1	.9	2	1	14	1	15													
15	0.9DL + 1WL AZI 30	Yes	Y		1	.9	3	1	14	.866	15	.5												
16	0.9DL + 1WL AZI 60	Yes	Y		1	.9	4	1	14	.5	15	.866												
17	0.9DL + 1WL AZI 90	Yes	Y		1	.9	5	1	14		15	1												
18	0.9DL + 1WL AZI 120	Yes	Y		1	.9	6	1	14	-.5	15	.866												
19	0.9DL + 1WL AZI 150	Yes	Y		1	.9	7	1	14	-.866	15	.5												
20	0.9DL + 1WL AZI 180	Yes	Y		1	.9	8	1	14	-1	15													
21	0.9DL + 1WL AZI 210	Yes	Y		1	.9	9	1	14	-.866	15	-.5												
22	0.9DL + 1WL AZI 240	Yes	Y		1	.9	10	1	14	-.5	15	-.866												
23	0.9DL + 1WL AZI 270	Yes	Y		1	.9	11	1	14		15	-1												
24	0.9DL + 1WL AZI 300	Yes	Y		1	.9	12	1	14	.5	15	-.866												
25	0.9DL + 1WL AZI 330	Yes	Y		1	.9	13	1	14	.866	15	-.5												
26	1.2D + 1.0Di	Yes	Y		1	1.2	16	1																
27	1.2D + 1.0Di +1.0Wi AZI 0	Yes	Y		1	1.2	16	1	17	1	29	1	30											
28	1.2D + 1.0Di +1.0Wi AZI 30	Yes	Y		1	1.2	16	1	18	1	29	.866	30	.5										
29	1.2D + 1.0Di +1.0Wi AZI 60	Yes	Y		1	1.2	16	1	19	1	29	.5	30	.866										
30	1.2D + 1.0Di +1.0Wi AZI 90	Yes	Y		1	1.2	16	1	20	1	29		30	1										
31	1.2D + 1.0Di +1.0Wi AZI 120	Yes	Y		1	1.2	16	1	21	1	29	-.5	30	.866										
32	1.2D + 1.0Di +1.0Wi AZI 150	Yes	Y		1	1.2	16	1	22	1	29	-.866	30	.5										
33	1.2D + 1.0Di +1.0Wi AZI 180	Yes	Y		1	1.2	16	1	23	1	29	-1	30											
34	1.2D + 1.0Di +1.0Wi AZI 210	Yes	Y		1	1.2	16	1	24	1	29	-.866	30	-.5										
35	1.2D + 1.0Di +1.0Wi AZI 240	Yes	Y		1	1.2	16	1	25	1	29	-.5	30	-.866										
36	1.2D + 1.0Di +1.0Wi AZI 270	Yes	Y		1	1.2	16	1	26	1	29		30	-1										
37	1.2D + 1.0Di +1.0Wi AZI 300	Yes	Y		1	1.2	16	1	27	1	29	.5	30	-.866										
38	1.2D + 1.0Di +1.0Wi AZI 330	Yes	Y		1	1.2	16	1	28	1	29	.866	30	-.5										
39	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	1	32															

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
40	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	.866	32	.5														
41	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	.5	32	.866														
42	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31		32	1														
43	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	-.5	32	.866														
44	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	-.866	32	.5														
45	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	-1	32															
46	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	-.866	32	-.5														
47	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	-.5	32	-.866														
48	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31		32	-1														
49	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	.5	32	-.866														
50	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	.866	32	-.5														
51	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31	1	32															
52	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31	.866	32	.5														
53	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31	.5	32	.866														
54	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31		32	1														
55	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31	-.5	32	.866														
56	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31	-.866	32	.5														
57	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31	-1	32															
58	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31	-.866	32	-.5														
59	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31	-.5	32	-.866														
60	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31		32	-1														
61	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31	.5	32	-.866														
62	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.859	31	.866	32	-.5														
63	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	2	.234	14	.234	15		33	1.5										
64	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	3	.234	14	.203	15	.117	33	1.5										
65	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	4	.234	14	.117	15	.203	33	1.5										
66	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	5	.234	14		15	.234	33	1.5										
67	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	6	.234	14	-.117	15	.203	33	1.5										
68	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	7	.234	14	-.203	15	.117	33	1.5										
69	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	8	.234	14	-.234	15		33	1.5										
70	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	9	.234	14	-.203	15	-.117	33	1.5										
71	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	10	.234	14	-.117	15	-.203	33	1.5										
72	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	11	.234	14		15	-.234	33	1.5										
73	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	12	.234	14	.117	15	-.203	33	1.5										
74	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	13	.234	14	.203	15	-.117	33	1.5										
75	1.2DL + 1.5LL	Yes	Y		1	1.2	33	1.5																
76	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	2	.059	14	.059	15											
77	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	3	.059	14	.051	15	.029										
78	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	4	.059	14	.029	15	.051										
79	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	5	.059	14		15	.059										
80	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	6	.059	14	-.029	15	.051										
81	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	7	.059	14	-.051	15	.029										
82	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	8	.059	14	-.059	15											
83	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	9	.059	14	-.051	15	-.029										
84	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	10	.059	14	-.029	15	-.051										
85	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	11	.059	14		15	-.059										
86	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	12	.059	14	.029	15	-.051										
87	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	13	.059	14	.051	15	-.029										
88	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	2	.059	14	.059	15											
89	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	3	.059	14	.051	15	.029										
90	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	4	.059	14	.029	15	.051										
91	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	5	.059	14		15	.059										

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
92	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	6	.059	14	-.029	15	.051										
93	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	7	.059	14	-.051	15	.029										
94	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	8	.059	14	-.059	15											
95	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	9	.059	14	-.051	15	-.029										
96	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	10	.059	14	-.029	15	-.051										
97	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	11	.059	14		15	-.059										
98	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	12	.059	14	.029	15	-.051										
99	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	13	.059	14	.051	15	-.029										
100	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	2	.059	14	.059	15											
101	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	3	.059	14	.051	15	.029										
102	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	4	.059	14	.029	15	.051										
103	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	5	.059	14		15	.059										
104	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	6	.059	14	-.029	15	.051										
105	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	7	.059	14	-.051	15	.029										
106	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	8	.059	14	-.059	15											
107	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	9	.059	14	-.051	15	-.029										
108	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	10	.059	14	-.029	15	-.051										
109	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	11	.059	14		15	-.059										
110	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	12	.059	14	.029	15	-.051										
111	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	13	.059	14	.051	15	-.029										
112	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	2	.059	14	.059	15											
113	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	3	.059	14	.051	15	.029										
114	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	4	.059	14	.029	15	.051										
115	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	5	.059	14		15	.059										
116	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	6	.059	14	-.029	15	.051										
117	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	7	.059	14	-.051	15	.029										
118	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	8	.059	14	-.059	15											
119	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	9	.059	14	-.051	15	-.029										
120	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	10	.059	14	-.029	15	-.051										
121	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	11	.059	14		15	-.059										
122	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	12	.059	14	.029	15	-.051										
123	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	13	.059	14	.051	15	-.029										
124	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	2	.059	14	.059	15											
125	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	3	.059	14	.051	15	.029										
126	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	4	.059	14	.029	15	.051										
127	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	5	.059	14		15	.059										
128	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	6	.059	14	-.029	15	.051										
129	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	7	.059	14	-.051	15	.029										
130	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	8	.059	14	-.059	15											
131	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	9	.059	14	-.051	15	-.029										
132	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	10	.059	14	-.029	15	-.051										
133	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	11	.059	14		15	-.059										
134	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	12	.059	14	.029	15	-.051										
135	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	13	.059	14	.051	15	-.029										
136	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	2	.059	14	.059	15											
137	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	3	.059	14	.051	15	.029										
138	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	4	.059	14	.029	15	.051										
139	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	5	.059	14		15	.059										
140	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	6	.059	14	-.029	15	.051										
141	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	7	.059	14	-.051	15	.029										
142	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	8	.059	14	-.059	15											
143	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	9	.059	14	-.051	15	-.029										

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
144	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	10	.059	14	-.029	15	-.051												
145	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	11	.059	14		15	-.059												
146	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	12	.059	14	.029	15	-.051												
147	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	13	.059	14	.051	15	-.029												
148	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	2	.059	14	.059	15													
149	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	3	.059	14	.051	15	.029												
150	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	4	.059	14	.029	15	.051												
151	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	5	.059	14		15	.059												
152	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	6	.059	14	-.029	15	.051												
153	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	7	.059	14	-.051	15	.029												
154	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	8	.059	14	-.059	15													
155	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	9	.059	14	-.051	15	-.029												
156	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	10	.059	14	-.029	15	-.051												
157	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	11	.059	14		15	-.059												
158	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	12	.059	14	.029	15	-.051												
159	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	13	.059	14	.051	15	-.029												
160	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	2	.059	14	.059	15													
161	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	3	.059	14	.051	15	.029												
162	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	4	.059	14	.029	15	.051												
163	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	5	.059	14		15	.059												
164	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	6	.059	14	-.029	15	.051												
165	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	7	.059	14	-.051	15	.029												
166	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	8	.059	14	-.059	15													
167	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	9	.059	14	-.051	15	-.029												
168	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	10	.059	14	-.029	15	-.051												
169	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	11	.059	14		15	-.059												
170	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	12	.059	14	.029	15	-.051												
171	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	13	.059	14	.051	15	-.029												
172	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	2	.059	14	.059	15													
173	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	3	.059	14	.051	15	.029												
174	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	4	.059	14	.029	15	.051												
175	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	5	.059	14		15	.059												
176	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	6	.059	14	-.029	15	.051												
177	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	7	.059	14	-.051	15	.029												
178	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	8	.059	14	-.059	15													
179	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	9	.059	14	-.051	15	-.029												
180	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	10	.059	14	-.029	15	-.051												
181	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	11	.059	14		15	-.059												
182	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	12	.059	14	.029	15	-.051												
183	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	13	.059	14	.051	15	-.029												
184	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	2	.059	14	.059	15													
185	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	3	.059	14	.051	15	.029												
186	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	4	.059	14	.029	15	.051												
187	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	5	.059	14		15	.059												
188	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	6	.059	14	-.029	15	.051												
189	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	7	.059	14	-.051	15	.029												
190	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	8	.059	14	-.059	15													
191	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	9	.059	14	-.051	15	-.029												
192	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	10	.059	14	-.029	15	-.051												
193	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	11	.059	14		15	-.059												
194	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	12	.059	14	.029	15	-.051												

Joint Boundary Conditions

	Joint 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	P24	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	P13	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	P1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	P24	max	1237.603	6	1915.052	10	1885.582	2	1326.88	16	2285.334	19	4173.981	10
2		min	-1218.642	24	-708.395	16	-1873.555	20	-3217.855	84	-2301.313	13	-2229.423	16
3	P13	max	1364.851	4	1995.389	6	1804.864	15	1216.619	24	2452.874	15	2118.322	24
4		min	-1364.578	22	-665.752	24	-1811.015	9	-2822.614	92	-2497.438	9	-5106.156	6
5	P1	max	1825.975	17	1962.77	2	941.099	2	5451.459	2	2069.073	11	1588.779	115
6		min	-1845.529	11	-736.254	20	-950.195	8	-2614.837	20	-2015.973	17	-866.691	157
7	Totals:	max	4222.587	17	4550.126	35	4471.1	2						
8		min	-4222.603	11	1538.497	53	-4471.093	20						

Joint Loads and Enforced Displacements (BLC 33 : Service Live Loads)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N72B	L	Y	-250
2	N129B	L	Y	-250
3	N135A	L	Y	-250

Joint Loads and Enforced Displacements (BLC 34 : Maintenance Load 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N70A	L	Y	-500

Joint Loads and Enforced Displacements (BLC 35 : Maintenance Load 2)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N69A	L	Y	-500

Joint Loads and Enforced Displacements (BLC 36 : Maintenance Load 3)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N76	L	Y	-500

Joint Loads and Enforced Displacements (BLC 37 : Maintenance Load 4)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N94	L	Y	-500

Joint Loads and Enforced Displacements (BLC 38 : Maintenance Load 5)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N93	L	Y	-500

Joint Loads and Enforced Displacements (BLC 39 : Maintenance Load 6)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N122	L	Y	-500

Joint Loads and Enforced Displacements (BLC 40 : Maintenance Load 7)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N121	L	Y	-500

Joint Loads and Enforced Displacements (BLC 41 : Maintenance Load 8)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N133B	L	Y	-500

Joint Loads and Enforced Displacements (BLC 42 : Maintenance Load 9)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N139	L	Y	-500

Joint Loads and Enforced Displacements (BLC 43 : Maintenance Load 10)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N123B	L	Y	-500

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-32.25	0
2	MP1	Y	-32.25	72
3	MP1	Y	-74.95	12
4	MP1	Y	-63.93	12
5	MP10	Y	-21.85	6
6	MP4	Y	-32.25	0
7	MP4	Y	-32.25	72
8	MP4	Y	-74.95	12
9	MP4	Y	-63.93	12
10	MP7	Y	-32.25	0
11	MP7	Y	-32.25	72
12	MP7	Y	-74.95	12
13	MP7	Y	-63.93	12

Member Point Loads (BLC 2 : Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-189.6	0
3	MP1	X	0	72
4	MP1	Z	-189.6	72
5	MP1	X	0	12
6	MP1	Z	-92.95	12
7	MP1	X	0	12
8	MP1	Z	-92.95	12
9	MP10	X	0	6
10	MP10	Z	-88.37	6
11	MP4	X	0	0
12	MP4	Z	-104.39	0
13	MP4	X	0	72
14	MP4	Z	-104.39	72
15	MP4	X	0	12
16	MP4	Z	-65.46	12

Member Point Loads (BLC 2 : Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
17	MP4	X	0	12
18	MP4	Z	-59.91	12
19	MP7	X	0	0
20	MP7	Z	-104.39	0
21	MP7	X	0	72
22	MP7	Z	-104.39	72
23	MP7	X	0	12
24	MP7	Z	-65.46	12
25	MP7	X	0	12
26	MP7	Z	-59.91	12

Member Point Loads (BLC 3 : Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-80.6	0
2	MP1	Z	-139.6	0
3	MP1	X	-80.6	72
4	MP1	Z	-139.6	72
5	MP1	X	-41.89	12
6	MP1	Z	-72.56	12
7	MP1	X	-40.97	12
8	MP1	Z	-70.96	12
9	MP10	X	-39.45	6
10	MP10	Z	-68.33	6
11	MP4	X	-80.6	0
12	MP4	Z	-139.6	0
13	MP4	X	-80.6	72
14	MP4	Z	-139.6	72
15	MP4	X	-41.89	12
16	MP4	Z	-72.56	12
17	MP4	X	-40.97	12
18	MP4	Z	-70.96	12
19	MP7	X	-37.99	0
20	MP7	Z	-65.8	0
21	MP7	X	-37.99	72
22	MP7	Z	-65.8	72
23	MP7	X	-28.15	12
24	MP7	Z	-48.75	12
25	MP7	X	-24.45	12
26	MP7	Z	-42.35	12

Member Point Loads (BLC 4 : Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-90.4	0
2	MP1	Z	-52.19	0
3	MP1	X	-90.4	72
4	MP1	Z	-52.19	72
5	MP1	X	-56.69	12
6	MP1	Z	-32.73	12
7	MP1	X	-51.89	12
8	MP1	Z	-29.96	12
9	MP10	X	-51.93	6

Member Point Loads (BLC 4 : Wind Load AZI 60) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
10	MP10	Z	-29.98	6
11	MP4	X	-164.2	0
12	MP4	Z	-94.8	0
13	MP4	X	-164.2	72
14	MP4	Z	-94.8	72
15	MP4	X	-80.5	12
16	MP4	Z	-46.48	12
17	MP4	X	-80.5	12
18	MP4	Z	-46.48	12
19	MP7	X	-90.4	0
20	MP7	Z	-52.19	0
21	MP7	X	-90.4	72
22	MP7	Z	-52.19	72
23	MP7	X	-56.69	12
24	MP7	Z	-32.73	12
25	MP7	X	-51.89	12
26	MP7	Z	-29.96	12

Member Point Loads (BLC 5 : Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-75.98	0
2	MP1	Z	0	0
3	MP1	X	-75.98	72
4	MP1	Z	0	72
5	MP1	X	-56.29	12
6	MP1	Z	0	12
7	MP1	X	-48.9	12
8	MP1	Z	0	12
9	MP10	X	-50.5	6
10	MP10	Z	0	6
11	MP4	X	-161.2	0
12	MP4	Z	0	0
13	MP4	X	-161.2	72
14	MP4	Z	0	72
15	MP4	X	-83.79	12
16	MP4	Z	0	12
17	MP4	X	-81.94	12
18	MP4	Z	0	12
19	MP7	X	-161.2	0
20	MP7	Z	0	0
21	MP7	X	-161.2	72
22	MP7	Z	0	72
23	MP7	X	-83.79	12
24	MP7	Z	0	12
25	MP7	X	-81.94	12
26	MP7	Z	0	12

Member Point Loads (BLC 6 : Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-90.4	0
2	MP1	Z	52.19	0

Member Point Loads (BLC 6 : Wind Load AZI 120) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-90.4	72
4	MP1	Z	52.19	72
5	MP1	X	-56.69	12
6	MP1	Z	32.73	12
7	MP1	X	-51.89	12
8	MP1	Z	29.96	12
9	MP10	X	-51.93	6
10	MP10	Z	29.98	6
11	MP4	X	-90.4	0
12	MP4	Z	52.19	0
13	MP4	X	-90.4	72
14	MP4	Z	52.19	72
15	MP4	X	-56.69	12
16	MP4	Z	32.73	12
17	MP4	X	-51.89	12
18	MP4	Z	29.96	12
19	MP7	X	-164.2	0
20	MP7	Z	94.8	0
21	MP7	X	-164.2	72
22	MP7	Z	94.8	72
23	MP7	X	-80.5	12
24	MP7	Z	46.48	12
25	MP7	X	-80.5	12
26	MP7	Z	46.48	12

Member Point Loads (BLC 7 : Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-80.6	0
2	MP1	Z	139.6	0
3	MP1	X	-80.6	72
4	MP1	Z	139.6	72
5	MP1	X	-41.89	12
6	MP1	Z	72.56	12
7	MP1	X	-40.97	12
8	MP1	Z	70.96	12
9	MP10	X	-39.45	6
10	MP10	Z	68.33	6
11	MP4	X	-37.99	0
12	MP4	Z	65.8	0
13	MP4	X	-37.99	72
14	MP4	Z	65.8	72
15	MP4	X	-28.15	12
16	MP4	Z	48.75	12
17	MP4	X	-24.45	12
18	MP4	Z	42.35	12
19	MP7	X	-80.6	0
20	MP7	Z	139.6	0
21	MP7	X	-80.6	72
22	MP7	Z	139.6	72
23	MP7	X	-41.89	12
24	MP7	Z	72.56	12

Member Point Loads (BLC 7 : Wind Load AZI 150) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
25	MP7	X	-40.97	12
26	MP7	Z	70.96	12

Member Point Loads (BLC 8 : Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	189.6	0
3	MP1	X	0	72
4	MP1	Z	189.6	72
5	MP1	X	0	12
6	MP1	Z	92.95	12
7	MP1	X	0	12
8	MP1	Z	92.95	12
9	MP10	X	0	6
10	MP10	Z	88.37	6
11	MP4	X	0	0
12	MP4	Z	104.39	0
13	MP4	X	0	72
14	MP4	Z	104.39	72
15	MP4	X	0	12
16	MP4	Z	65.46	12
17	MP4	X	0	12
18	MP4	Z	59.91	12
19	MP7	X	0	0
20	MP7	Z	104.39	0
21	MP7	X	0	72
22	MP7	Z	104.39	72
23	MP7	X	0	12
24	MP7	Z	65.46	12
25	MP7	X	0	12
26	MP7	Z	59.91	12

Member Point Loads (BLC 9 : Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	80.6	0
2	MP1	Z	139.6	0
3	MP1	X	80.6	72
4	MP1	Z	139.6	72
5	MP1	X	41.89	12
6	MP1	Z	72.56	12
7	MP1	X	40.97	12
8	MP1	Z	70.96	12
9	MP10	X	39.45	6
10	MP10	Z	68.33	6
11	MP4	X	80.6	0
12	MP4	Z	139.6	0
13	MP4	X	80.6	72
14	MP4	Z	139.6	72
15	MP4	X	41.89	12
16	MP4	Z	72.56	12
17	MP4	X	40.97	12

Member Point Loads (BLC 9 : Wind Load AZI 210) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
18	MP4	Z	70.96	12
19	MP7	X	37.99	0
20	MP7	Z	65.8	0
21	MP7	X	37.99	72
22	MP7	Z	65.8	72
23	MP7	X	28.15	12
24	MP7	Z	48.75	12
25	MP7	X	24.45	12
26	MP7	Z	42.35	12

Member Point Loads (BLC 10 : Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	90.4	0
2	MP1	Z	52.19	0
3	MP1	X	90.4	72
4	MP1	Z	52.19	72
5	MP1	X	56.69	12
6	MP1	Z	32.73	12
7	MP1	X	51.89	12
8	MP1	Z	29.96	12
9	MP10	X	51.93	6
10	MP10	Z	29.98	6
11	MP4	X	164.2	0
12	MP4	Z	94.8	0
13	MP4	X	164.2	72
14	MP4	Z	94.8	72
15	MP4	X	80.5	12
16	MP4	Z	46.48	12
17	MP4	X	80.5	12
18	MP4	Z	46.48	12
19	MP7	X	90.4	0
20	MP7	Z	52.19	0
21	MP7	X	90.4	72
22	MP7	Z	52.19	72
23	MP7	X	56.69	12
24	MP7	Z	32.73	12
25	MP7	X	51.89	12
26	MP7	Z	29.96	12

Member Point Loads (BLC 11 : Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	75.98	0
2	MP1	Z	0	0
3	MP1	X	75.98	72
4	MP1	Z	0	72
5	MP1	X	56.29	12
6	MP1	Z	0	12
7	MP1	X	48.9	12
8	MP1	Z	0	12
9	MP10	X	50.5	6
10	MP10	Z	0	6

Member Point Loads (BLC 11 : Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
11	MP4	X	161.2	0
12	MP4	Z	0	0
13	MP4	X	161.2	72
14	MP4	Z	0	72
15	MP4	X	83.79	12
16	MP4	Z	0	12
17	MP4	X	81.94	12
18	MP4	Z	0	12
19	MP7	X	161.2	0
20	MP7	Z	0	0
21	MP7	X	161.2	72
22	MP7	Z	0	72
23	MP7	X	83.79	12
24	MP7	Z	0	12
25	MP7	X	81.94	12
26	MP7	Z	0	12

Member Point Loads (BLC 12 : Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	90.4	0
2	MP1	Z	-52.19	0
3	MP1	X	90.4	72
4	MP1	Z	-52.19	72
5	MP1	X	56.69	12
6	MP1	Z	-32.73	12
7	MP1	X	51.89	12
8	MP1	Z	-29.96	12
9	MP10	X	51.93	6
10	MP10	Z	-29.98	6
11	MP4	X	90.4	0
12	MP4	Z	-52.19	0
13	MP4	X	90.4	72
14	MP4	Z	-52.19	72
15	MP4	X	56.69	12
16	MP4	Z	-32.73	12
17	MP4	X	51.89	12
18	MP4	Z	-29.96	12
19	MP7	X	164.2	0
20	MP7	Z	-94.8	0
21	MP7	X	164.2	72
22	MP7	Z	-94.8	72
23	MP7	X	80.5	12
24	MP7	Z	-46.48	12
25	MP7	X	80.5	12
26	MP7	Z	-46.48	12

Member Point Loads (BLC 13 : Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	80.6	0
2	MP1	Z	-139.6	0
3	MP1	X	80.6	72

Member Point Loads (BLC 13 : Wind Load AZI 330) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP1	Z	-139.6	72
5	MP1	X	41.89	12
6	MP1	Z	-72.56	12
7	MP1	X	40.97	12
8	MP1	Z	-70.96	12
9	MP10	X	39.45	6
10	MP10	Z	-68.33	6
11	MP4	X	37.99	0
12	MP4	Z	-65.8	0
13	MP4	X	37.99	72
14	MP4	Z	-65.8	72
15	MP4	X	28.15	12
16	MP4	Z	-48.75	12
17	MP4	X	24.45	12
18	MP4	Z	-42.35	12
19	MP7	X	80.6	0
20	MP7	Z	-139.6	0
21	MP7	X	80.6	72
22	MP7	Z	-139.6	72
23	MP7	X	41.89	12
24	MP7	Z	-72.56	12
25	MP7	X	40.97	12
26	MP7	Z	-70.96	12

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-92.466	0
2	MP1	Y	-92.466	72
3	MP1	Y	-46.914	12
4	MP1	Y	-43.903	12
5	MP10	Y	-42.781	6
6	MP4	Y	-92.466	0
7	MP4	Y	-92.466	72
8	MP4	Y	-46.914	12
9	MP4	Y	-43.903	12
10	MP7	Y	-92.466	0
11	MP7	Y	-92.466	72
12	MP7	Y	-46.914	12
13	MP7	Y	-43.903	12

Member Point Loads (BLC 17 : Ice Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-23.03	0
3	MP1	X	0	72
4	MP1	Z	-23.03	72
5	MP1	X	0	12
6	MP1	Z	-8.38	12
7	MP1	X	0	12
8	MP1	Z	-8.38	12
9	MP10	X	0	6

Member Point Loads (BLC 17 : Ice Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
10	MP10	Z	-8.03	6
11	MP4	X	0	0
12	MP4	Z	-16.83	0
13	MP4	X	0	72
14	MP4	Z	-16.83	72
15	MP4	X	0	12
16	MP4	Z	-6.95	12
17	MP4	X	0	12
18	MP4	Z	-6.68	12
19	MP7	X	0	0
20	MP7	Z	-16.83	0
21	MP7	X	0	72
22	MP7	Z	-16.83	72
23	MP7	X	0	12
24	MP7	Z	-6.95	12
25	MP7	X	0	12
26	MP7	Z	-6.68	12

Member Point Loads (BLC 18 : Ice Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-10.48	0
2	MP1	Z	-18.16	0
3	MP1	X	-10.48	72
4	MP1	Z	-18.16	72
5	MP1	X	-3.95	12
6	MP1	Z	-6.85	12
7	MP1	X	-3.91	12
8	MP1	Z	-6.77	12
9	MP10	X	-3.79	6
10	MP10	Z	-6.57	6
11	MP4	X	-10.48	0
12	MP4	Z	-18.16	0
13	MP4	X	-10.48	72
14	MP4	Z	-18.16	72
15	MP4	X	-3.95	12
16	MP4	Z	-6.85	12
17	MP4	X	-3.91	12
18	MP4	Z	-6.77	12
19	MP7	X	-7.38	0
20	MP7	Z	-12.78	0
21	MP7	X	-7.38	72
22	MP7	Z	-12.78	72
23	MP7	X	-3.24	12
24	MP7	Z	-5.61	12
25	MP7	X	-3.06	12
26	MP7	Z	-5.3	12

Member Point Loads (BLC 19 : Ice Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-14.57	0
2	MP1	Z	-8.41	0

Member Point Loads (BLC 19 : Ice Wind Load AZI 60) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-14.57	72
4	MP1	Z	-8.41	72
5	MP1	X	-6.02	12
6	MP1	Z	-3.48	12
7	MP1	X	-5.79	12
8	MP1	Z	-3.34	12
9	MP10	X	-5.79	6
10	MP10	Z	-3.34	6
11	MP4	X	-19.95	0
12	MP4	Z	-11.52	0
13	MP4	X	-19.95	72
14	MP4	Z	-11.52	72
15	MP4	X	-7.26	12
16	MP4	Z	-4.19	12
17	MP4	X	-7.26	12
18	MP4	Z	-4.19	12
19	MP7	X	-14.57	0
20	MP7	Z	-8.41	0
21	MP7	X	-14.57	72
22	MP7	Z	-8.41	72
23	MP7	X	-6.02	12
24	MP7	Z	-3.48	12
25	MP7	X	-5.79	12
26	MP7	Z	-3.34	12

Member Point Loads (BLC 20 : Ice Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-14.76	0
2	MP1	Z	0	0
3	MP1	X	-14.76	72
4	MP1	Z	0	72
5	MP1	X	-6.47	12
6	MP1	Z	0	12
7	MP1	X	-6.12	12
8	MP1	Z	0	12
9	MP10	X	-6.24	6
10	MP10	Z	0	6
11	MP4	X	-20.97	0
12	MP4	Z	0	0
13	MP4	X	-20.97	72
14	MP4	Z	0	72
15	MP4	X	-7.91	12
16	MP4	Z	0	12
17	MP4	X	-7.82	12
18	MP4	Z	0	12
19	MP7	X	-20.97	0
20	MP7	Z	0	0
21	MP7	X	-20.97	72
22	MP7	Z	0	72
23	MP7	X	-7.91	12
24	MP7	Z	0	12

Member Point Loads (BLC 20 : Ice Wind Load AZI 90) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
25	MP7	X	-7.82	12
26	MP7	Z	0	12

Member Point Loads (BLC 21 : Ice Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-14.57	0
2	MP1	Z	8.41	0
3	MP1	X	-14.57	72
4	MP1	Z	8.41	72
5	MP1	X	-6.02	12
6	MP1	Z	3.48	12
7	MP1	X	-5.79	12
8	MP1	Z	3.34	12
9	MP10	X	-5.79	6
10	MP10	Z	3.34	6
11	MP4	X	-14.57	0
12	MP4	Z	8.41	0
13	MP4	X	-14.57	72
14	MP4	Z	8.41	72
15	MP4	X	-6.02	12
16	MP4	Z	3.48	12
17	MP4	X	-5.79	12
18	MP4	Z	3.34	12
19	MP7	X	-19.95	0
20	MP7	Z	11.52	0
21	MP7	X	-19.95	72
22	MP7	Z	11.52	72
23	MP7	X	-7.26	12
24	MP7	Z	4.19	12
25	MP7	X	-7.26	12
26	MP7	Z	4.19	12

Member Point Loads (BLC 22 : Ice Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-10.48	0
2	MP1	Z	18.16	0
3	MP1	X	-10.48	72
4	MP1	Z	18.16	72
5	MP1	X	-3.95	12
6	MP1	Z	6.85	12
7	MP1	X	-3.91	12
8	MP1	Z	6.77	12
9	MP10	X	-3.79	6
10	MP10	Z	6.57	6
11	MP4	X	-7.38	0
12	MP4	Z	12.78	0
13	MP4	X	-7.38	72
14	MP4	Z	12.78	72
15	MP4	X	-3.24	12
16	MP4	Z	5.61	12
17	MP4	X	-3.06	12

Member Point Loads (BLC 22 : Ice Wind Load AZI 150) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
18	MP4	Z	5.3	12
19	MP7	X	-10.48	0
20	MP7	Z	18.16	0
21	MP7	X	-10.48	72
22	MP7	Z	18.16	72
23	MP7	X	-3.95	12
24	MP7	Z	6.85	12
25	MP7	X	-3.91	12
26	MP7	Z	6.77	12

Member Point Loads (BLC 23 : Ice Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	23.03	0
3	MP1	X	0	72
4	MP1	Z	23.03	72
5	MP1	X	0	12
6	MP1	Z	8.38	12
7	MP1	X	0	12
8	MP1	Z	8.38	12
9	MP10	X	0	6
10	MP10	Z	8.03	6
11	MP4	X	0	0
12	MP4	Z	16.83	0
13	MP4	X	0	72
14	MP4	Z	16.83	72
15	MP4	X	0	12
16	MP4	Z	6.95	12
17	MP4	X	0	12
18	MP4	Z	6.68	12
19	MP7	X	0	0
20	MP7	Z	16.83	0
21	MP7	X	0	72
22	MP7	Z	16.83	72
23	MP7	X	0	12
24	MP7	Z	6.95	12
25	MP7	X	0	12
26	MP7	Z	6.68	12

Member Point Loads (BLC 24 : Ice Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	10.48	0
2	MP1	Z	18.16	0
3	MP1	X	10.48	72
4	MP1	Z	18.16	72
5	MP1	X	3.95	12
6	MP1	Z	6.85	12
7	MP1	X	3.91	12
8	MP1	Z	6.77	12
9	MP10	X	3.79	6
10	MP10	Z	6.57	6

Member Point Loads (BLC 24 : Ice Wind Load AZI 210) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
11	MP4	X	10.48	0
12	MP4	Z	18.16	0
13	MP4	X	10.48	72
14	MP4	Z	18.16	72
15	MP4	X	3.95	12
16	MP4	Z	6.85	12
17	MP4	X	3.91	12
18	MP4	Z	6.77	12
19	MP7	X	7.38	0
20	MP7	Z	12.78	0
21	MP7	X	7.38	72
22	MP7	Z	12.78	72
23	MP7	X	3.24	12
24	MP7	Z	5.61	12
25	MP7	X	3.06	12
26	MP7	Z	5.3	12

Member Point Loads (BLC 25 : Ice Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	14.57	0
2	MP1	Z	8.41	0
3	MP1	X	14.57	72
4	MP1	Z	8.41	72
5	MP1	X	6.02	12
6	MP1	Z	3.48	12
7	MP1	X	5.79	12
8	MP1	Z	3.34	12
9	MP10	X	5.79	6
10	MP10	Z	3.34	6
11	MP4	X	19.95	0
12	MP4	Z	11.52	0
13	MP4	X	19.95	72
14	MP4	Z	11.52	72
15	MP4	X	7.26	12
16	MP4	Z	4.19	12
17	MP4	X	7.26	12
18	MP4	Z	4.19	12
19	MP7	X	14.57	0
20	MP7	Z	8.41	0
21	MP7	X	14.57	72
22	MP7	Z	8.41	72
23	MP7	X	6.02	12
24	MP7	Z	3.48	12
25	MP7	X	5.79	12
26	MP7	Z	3.34	12

Member Point Loads (BLC 26 : Ice Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	14.76	0
2	MP1	Z	0	0
3	MP1	X	14.76	72

Member Point Loads (BLC 26 : Ice Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP1	Z	0	72
5	MP1	X	6.47	12
6	MP1	Z	0	12
7	MP1	X	6.12	12
8	MP1	Z	0	12
9	MP10	X	6.24	6
10	MP10	Z	0	6
11	MP4	X	20.97	0
12	MP4	Z	0	0
13	MP4	X	20.97	72
14	MP4	Z	0	72
15	MP4	X	7.91	12
16	MP4	Z	0	12
17	MP4	X	7.82	12
18	MP4	Z	0	12
19	MP7	X	20.97	0
20	MP7	Z	0	0
21	MP7	X	20.97	72
22	MP7	Z	0	72
23	MP7	X	7.91	12
24	MP7	Z	0	12
25	MP7	X	7.82	12
26	MP7	Z	0	12

Member Point Loads (BLC 27 : Ice Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	14.57	0
2	MP1	Z	-8.41	0
3	MP1	X	14.57	72
4	MP1	Z	-8.41	72
5	MP1	X	6.02	12
6	MP1	Z	-3.48	12
7	MP1	X	5.79	12
8	MP1	Z	-3.34	12
9	MP10	X	5.79	6
10	MP10	Z	-3.34	6
11	MP4	X	14.57	0
12	MP4	Z	-8.41	0
13	MP4	X	14.57	72
14	MP4	Z	-8.41	72
15	MP4	X	6.02	12
16	MP4	Z	-3.48	12
17	MP4	X	5.79	12
18	MP4	Z	-3.34	12
19	MP7	X	19.95	0
20	MP7	Z	-11.52	0
21	MP7	X	19.95	72
22	MP7	Z	-11.52	72
23	MP7	X	7.26	12
24	MP7	Z	-4.19	12
25	MP7	X	7.26	12

Member Point Loads (BLC 27 : Ice Wind Load AZI 300) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
26	MP7	Z	-4.19	12

Member Point Loads (BLC 28 : Ice Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	10.48	0
2	MP1	Z	-18.16	0
3	MP1	X	10.48	72
4	MP1	Z	-18.16	72
5	MP1	X	3.95	12
6	MP1	Z	-6.85	12
7	MP1	X	3.91	12
8	MP1	Z	-6.77	12
9	MP10	X	3.79	6
10	MP10	Z	-6.57	6
11	MP4	X	7.38	0
12	MP4	Z	-12.78	0
13	MP4	X	7.38	72
14	MP4	Z	-12.78	72
15	MP4	X	3.24	12
16	MP4	Z	-5.61	12
17	MP4	X	3.06	12
18	MP4	Z	-5.3	12
19	MP7	X	10.48	0
20	MP7	Z	-18.16	0
21	MP7	X	10.48	72
22	MP7	Z	-18.16	72
23	MP7	X	3.95	12
24	MP7	Z	-6.85	12
25	MP7	X	3.91	12
26	MP7	Z	-6.77	12

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Z	-9.804	0
2	MP1	Z	-9.804	72
3	MP1	Z	-22.785	12
4	MP1	Z	-19.435	12
5	MP10	Z	-6.642	6
6	MP4	Z	-9.804	0
7	MP4	Z	-9.804	72
8	MP4	Z	-22.785	12
9	MP4	Z	-19.435	12
10	MP7	Z	-9.804	0
11	MP7	Z	-9.804	72
12	MP7	Z	-22.785	12
13	MP7	Z	-19.435	12

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.804	0

Member Point Loads (BLC 32 : Seismic Load X) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP1	X	-9.804	72
3	MP1	X	-22.785	12
4	MP1	X	-19.435	12
5	MP10	X	-6.642	6
6	MP4	X	-9.804	0
7	MP4	X	-9.804	72
8	MP4	X	-22.785	12
9	MP4	X	-19.435	12
10	MP7	X	-9.804	0
11	MP7	X	-9.804	72
12	MP7	X	-22.785	12
13	MP7	X	-19.435	12

Member Distributed Loads (BLC 14 : Distr. Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	S3	SZ	-105.202	-105.202	0	%100
2	GA4	SZ	-105.202	-105.202	0	%100
3	GA3	SZ	-105.202	-105.202	0	%100
4	P3	SZ	-105.202	-105.202	0	%100
5	S2	SZ	-105.202	-105.202	0	%100
6	GA2	SZ	-105.202	-105.202	0	%100
7	GA1	SZ	-105.202	-105.202	0	%100
8	P2	SZ	-105.202	-105.202	0	%100
9	S1	SZ	-105.202	-105.202	0	%100
10	GA6	SZ	-105.202	-105.202	0	%100
11	GA5	SZ	-105.202	-105.202	0	%100
12	P1	SZ	-105.202	-105.202	0	%100
13	H1	SZ	-63.121	-63.121	0	%100
14	MP1	SZ	-63.121	-63.121	0	%100
15	MP3	SZ	-63.121	-63.121	0	%100
16	HR1	SZ	-63.121	-63.121	0	%100
17	CA8	SZ	-105.202	-105.202	0	%100
18	CA9	SZ	-105.202	-105.202	0	%100
19	CA7	SZ	-105.202	-105.202	0	%100
20	M32	SZ	0	0	0	%100
21	M35	SZ	0	0	0	%100
22	M36	SZ	0	0	0	%100
23	M39A	SZ	0	0	0	%100
24	CA3	SZ	-105.202	-105.202	0	%100
25	CA4	SZ	-105.202	-105.202	0	%100
26	CA1	SZ	-105.202	-105.202	0	%100
27	CA2	SZ	-105.202	-105.202	0	%100
28	CA5	SZ	-105.202	-105.202	0	%100
29	CA6	SZ	-105.202	-105.202	0	%100
30	M64	SZ	0	0	0	%100
31	M65	SZ	0	0	0	%100
32	M66	SZ	0	0	0	%100
33	M67	SZ	0	0	0	%100
34	M68	SZ	0	0	0	%100
35	M69	SZ	0	0	0	%100

Member Distributed Loads (BLC 14 : Distr. Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
36	M70	SZ	0	0	0	%100
37	M71	SZ	0	0	0	%100
38	M72	SZ	0	0	0	%100
39	M73	SZ	0	0	0	%100
40	M74	SZ	0	0	0	%100
41	M75	SZ	-105.202	-105.202	0	%100
42	MP2	SZ	-63.121	-63.121	0	%100
43	M43	SZ	0	0	0	%100
44	M44	SZ	0	0	0	%100
45	H3	SZ	-63.121	-63.121	0	%100
46	MP7	SZ	-63.121	-63.121	0	%100
47	MP9	SZ	-63.121	-63.121	0	%100
48	HR3	SZ	-63.121	-63.121	0	%100
49	M52	SZ	0	0	0	%100
50	M53	SZ	0	0	0	%100
51	M54	SZ	0	0	0	%100
52	M55	SZ	0	0	0	%100
53	H2	SZ	-63.121	-63.121	0	%100
54	MP4	SZ	-63.121	-63.121	0	%100
55	MP6	SZ	-63.121	-63.121	0	%100
56	HR2	SZ	-63.121	-63.121	0	%100
57	M66A	SZ	0	0	0	%100
58	M67A	SZ	0	0	0	%100
59	M68A	SZ	0	0	0	%100
60	M69A	SZ	0	0	0	%100
61	MP8	SZ	-63.121	-63.121	0	%100
62	M68B	SZ	0	0	0	%100
63	M69B	SZ	0	0	0	%100
64	MP5	SZ	-63.121	-63.121	0	%100
65	M71B	SZ	0	0	0	%100
66	M72B	SZ	0	0	0	%100
67	MP10	SZ	-63.121	-63.121	0	%100
68	M68D	SZ	0	0	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	SX	-105.202	-105.202	0	%100
2	GA4	SX	-105.202	-105.202	0	%100
3	GA3	SX	-105.202	-105.202	0	%100
4	P3	SX	-105.202	-105.202	0	%100
5	S2	SX	-105.202	-105.202	0	%100
6	GA2	SX	-105.202	-105.202	0	%100
7	GA1	SX	-105.202	-105.202	0	%100
8	P2	SX	-105.202	-105.202	0	%100
9	S1	SX	-105.202	-105.202	0	%100
10	GA6	SX	-105.202	-105.202	0	%100
11	GA5	SX	-105.202	-105.202	0	%100
12	P1	SX	-105.202	-105.202	0	%100
13	H1	SX	-63.121	-63.121	0	%100
14	MP1	SX	-63.121	-63.121	0	%100
15	MP3	SX	-63.121	-63.121	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
16	HR1	SX	-63.121	-63.121	0	%100
17	CA8	SX	-105.202	-105.202	0	%100
18	CA9	SX	-105.202	-105.202	0	%100
19	CA7	SX	-105.202	-105.202	0	%100
20	M32	SX	0	0	0	%100
21	M35	SX	0	0	0	%100
22	M36	SX	0	0	0	%100
23	M39A	SX	0	0	0	%100
24	CA3	SX	-105.202	-105.202	0	%100
25	CA4	SX	-105.202	-105.202	0	%100
26	CA1	SX	-105.202	-105.202	0	%100
27	CA2	SX	-105.202	-105.202	0	%100
28	CA5	SX	-105.202	-105.202	0	%100
29	CA6	SX	-105.202	-105.202	0	%100
30	M64	SX	0	0	0	%100
31	M65	SX	0	0	0	%100
32	M66	SX	0	0	0	%100
33	M67	SX	0	0	0	%100
34	M68	SX	0	0	0	%100
35	M69	SX	0	0	0	%100
36	M70	SX	0	0	0	%100
37	M71	SX	0	0	0	%100
38	M72	SX	0	0	0	%100
39	M73	SX	0	0	0	%100
40	M74	SX	0	0	0	%100
41	M75	SX	-105.202	-105.202	0	%100
42	MP2	SX	-63.121	-63.121	0	%100
43	M43	SX	0	0	0	%100
44	M44	SX	0	0	0	%100
45	H3	SX	-63.121	-63.121	0	%100
46	MP7	SX	-63.121	-63.121	0	%100
47	MP9	SX	-63.121	-63.121	0	%100
48	HR3	SX	-63.121	-63.121	0	%100
49	M52	SX	0	0	0	%100
50	M53	SX	0	0	0	%100
51	M54	SX	0	0	0	%100
52	M55	SX	0	0	0	%100
53	H2	SX	-63.121	-63.121	0	%100
54	MP4	SX	-63.121	-63.121	0	%100
55	MP6	SX	-63.121	-63.121	0	%100
56	HR2	SX	-63.121	-63.121	0	%100
57	M66A	SX	0	0	0	%100
58	M67A	SX	0	0	0	%100
59	M68A	SX	0	0	0	%100
60	M69A	SX	0	0	0	%100
61	MP8	SX	-63.121	-63.121	0	%100
62	M68B	SX	0	0	0	%100
63	M69B	SX	0	0	0	%100
64	MP5	SX	-63.121	-63.121	0	%100
65	M71B	SX	0	0	0	%100
66	M72B	SX	0	0	0	%100
67	MP10	SX	-63.121	-63.121	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
68	M68D	SX	0	0	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	Y	-9.858	-9.858	0	%100
2	GA4	Y	-5.78	-5.78	0	%100
3	GA3	Y	-5.78	-5.78	0	%100
4	P3	Y	-11.089	-11.089	0	%100
5	S2	Y	-9.858	-9.858	0	%100
6	GA2	Y	-5.78	-5.78	0	%100
7	GA1	Y	-5.78	-5.78	0	%100
8	P2	Y	-11.089	-11.089	0	%100
9	S1	Y	-9.858	-9.858	0	%100
10	GA6	Y	-5.78	-5.78	0	%100
11	GA5	Y	-5.78	-5.78	0	%100
12	P1	Y	-11.089	-11.089	0	%100
13	H1	Y	-6.748	-6.748	0	%100
14	MP1	Y	-5.847	-5.847	0	%100
15	MP3	Y	-5.847	-5.847	0	%100
16	HR1	Y	-5.854	-5.854	0	%100
17	CA8	Y	-13.187	-13.187	0	%100
18	CA9	Y	-13.187	-13.187	0	%100
19	CA7	Y	-13.187	-13.187	0	%100
20	M32	Y	-1.702	-1.702	0	%100
21	M35	Y	-1.702	-1.702	0	%100
22	M36	Y	-1.702	-1.702	0	%100
23	M39A	Y	-1.702	-1.702	0	%100
24	CA3	Y	-7.409	-7.409	0	%100
25	CA4	Y	-7.409	-7.409	0	%100
26	CA1	Y	-7.409	-7.409	0	%100
27	CA2	Y	-7.409	-7.409	0	%100
28	CA5	Y	-7.409	-7.409	0	%100
29	CA6	Y	-7.409	-7.409	0	%100
30	M64	Y	-1.702	-1.702	0	%100
31	M65	Y	-1.702	-1.702	0	%100
32	M66	Y	-1.702	-1.702	0	%100
33	M67	Y	-1.702	-1.702	0	%100
34	M68	Y	-1.702	-1.702	0	%100
35	M69	Y	-1.702	-1.702	0	%100
36	M70	Y	-1.702	-1.702	0	%100
37	M71	Y	-1.702	-1.702	0	%100
38	M72	Y	-1.702	-1.702	0	%100
39	M73	Y	-1.702	-1.702	0	%100
40	M74	Y	-1.702	-1.702	0	%100
41	M75	Y	-5.201	-5.201	0	%100
42	MP2	Y	-5.847	-5.847	0	%100
43	M43	Y	-1.702	-1.702	0	%100
44	M44	Y	-1.702	-1.702	0	%100
45	H3	Y	-6.748	-6.748	0	%100
46	MP7	Y	-5.847	-5.847	0	%100
47	MP9	Y	-5.847	-5.847	0	%100

Member Distributed Loads (BLC 16 : Ice Weight) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
48	HR3	Y	-5.854	-5.854	0	%100
49	M52	Y	-1.702	-1.702	0	%100
50	M53	Y	-1.702	-1.702	0	%100
51	M54	Y	-1.702	-1.702	0	%100
52	M55	Y	-1.702	-1.702	0	%100
53	H2	Y	-6.748	-6.748	0	%100
54	MP4	Y	-5.847	-5.847	0	%100
55	MP6	Y	-5.847	-5.847	0	%100
56	HR2	Y	-5.854	-5.854	0	%100
57	M66A	Y	-1.702	-1.702	0	%100
58	M67A	Y	-1.702	-1.702	0	%100
59	M68A	Y	-1.702	-1.702	0	%100
60	M69A	Y	-1.702	-1.702	0	%100
61	MP8	Y	-5.847	-5.847	0	%100
62	M68B	Y	-1.702	-1.702	0	%100
63	M69B	Y	-1.702	-1.702	0	%100
64	MP5	Y	-5.847	-5.847	0	%100
65	M71B	Y	-1.702	-1.702	0	%100
66	M72B	Y	-1.702	-1.702	0	%100
67	MP10	Y	-5.847	-5.847	0	%100
68	M68D	Y	-1.702	-1.702	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	SZ	-14.545	-14.545	0	%100
2	GA4	SZ	-18.828	-18.828	0	%100
3	GA3	SZ	-18.828	-18.828	0	%100
4	P3	SZ	-13.984	-13.984	0	%100
5	S2	SZ	-14.545	-14.545	0	%100
6	GA2	SZ	-18.828	-18.828	0	%100
7	GA1	SZ	-18.828	-18.828	0	%100
8	P2	SZ	-13.984	-13.984	0	%100
9	S1	SZ	-14.545	-14.545	0	%100
10	GA6	SZ	-18.828	-18.828	0	%100
11	GA5	SZ	-18.828	-18.828	0	%100
12	P1	SZ	-13.984	-13.984	0	%100
13	H1	SZ	-17.184	-17.184	0	%100
14	MP1	SZ	-18.689	-18.689	0	%100
15	MP3	SZ	-18.689	-18.689	0	%100
16	HR1	SZ	-18.674	-18.674	0	%100
17	CA8	SZ	-13.304	-13.304	0	%100
18	CA9	SZ	-13.304	-13.304	0	%100
19	CA7	SZ	-13.304	-13.304	0	%100
20	M32	SZ	0	0	0	%100
21	M35	SZ	0	0	0	%100
22	M36	SZ	0	0	0	%100
23	M39A	SZ	0	0	0	%100
24	CA3	SZ	-16.383	-16.383	0	%100
25	CA4	SZ	-16.383	-16.383	0	%100
26	CA1	SZ	-16.383	-16.383	0	%100
27	CA2	SZ	-16.383	-16.383	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
28	CA5	SZ	-16.383	-16.383	0	%100
29	CA6	SZ	-16.383	-16.383	0	%100
30	M64	SZ	0	0	0	%100
31	M65	SZ	0	0	0	%100
32	M66	SZ	0	0	0	%100
33	M67	SZ	0	0	0	%100
34	M68	SZ	0	0	0	%100
35	M69	SZ	0	0	0	%100
36	M70	SZ	0	0	0	%100
37	M71	SZ	0	0	0	%100
38	M72	SZ	0	0	0	%100
39	M73	SZ	0	0	0	%100
40	M74	SZ	0	0	0	%100
41	M75	SZ	-20.244	-20.244	0	%100
42	MP2	SZ	-18.689	-18.689	0	%100
43	M43	SZ	0	0	0	%100
44	M44	SZ	0	0	0	%100
45	H3	SZ	-17.184	-17.184	0	%100
46	MP7	SZ	-18.689	-18.689	0	%100
47	MP9	SZ	-18.689	-18.689	0	%100
48	HR3	SZ	-18.674	-18.674	0	%100
49	M52	SZ	0	0	0	%100
50	M53	SZ	0	0	0	%100
51	M54	SZ	0	0	0	%100
52	M55	SZ	0	0	0	%100
53	H2	SZ	-17.184	-17.184	0	%100
54	MP4	SZ	-18.689	-18.689	0	%100
55	MP6	SZ	-18.689	-18.689	0	%100
56	HR2	SZ	-18.674	-18.674	0	%100
57	M66A	SZ	0	0	0	%100
58	M67A	SZ	0	0	0	%100
59	M68A	SZ	0	0	0	%100
60	M69A	SZ	0	0	0	%100
61	MP8	SZ	-18.689	-18.689	0	%100
62	M68B	SZ	0	0	0	%100
63	M69B	SZ	0	0	0	%100
64	MP5	SZ	-18.689	-18.689	0	%100
65	M71B	SZ	0	0	0	%100
66	M72B	SZ	0	0	0	%100
67	MP10	SZ	-18.689	-18.689	0	%100
68	M68D	SZ	0	0	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	SX	-14.545	-14.545	0	%100
2	GA4	SX	-18.828	-18.828	0	%100
3	GA3	SX	-18.828	-18.828	0	%100
4	P3	SX	-13.984	-13.984	0	%100
5	S2	SX	-14.545	-14.545	0	%100
6	GA2	SX	-18.828	-18.828	0	%100
7	GA1	SX	-18.828	-18.828	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
8	P2	SX	-13.984	-13.984	0	%100
9	S1	SX	-14.545	-14.545	0	%100
10	GA6	SX	-18.828	-18.828	0	%100
11	GA5	SX	-18.828	-18.828	0	%100
12	P1	SX	-13.984	-13.984	0	%100
13	H1	SX	-17.184	-17.184	0	%100
14	MP1	SX	-18.689	-18.689	0	%100
15	MP3	SX	-18.689	-18.689	0	%100
16	HR1	SX	-18.674	-18.674	0	%100
17	CA8	SX	-13.304	-13.304	0	%100
18	CA9	SX	-13.304	-13.304	0	%100
19	CA7	SX	-13.304	-13.304	0	%100
20	M32	SX	0	0	0	%100
21	M35	SX	0	0	0	%100
22	M36	SX	0	0	0	%100
23	M39A	SX	0	0	0	%100
24	CA3	SX	-16.383	-16.383	0	%100
25	CA4	SX	-16.383	-16.383	0	%100
26	CA1	SX	-16.383	-16.383	0	%100
27	CA2	SX	-16.383	-16.383	0	%100
28	CA5	SX	-16.383	-16.383	0	%100
29	CA6	SX	-16.383	-16.383	0	%100
30	M64	SX	0	0	0	%100
31	M65	SX	0	0	0	%100
32	M66	SX	0	0	0	%100
33	M67	SX	0	0	0	%100
34	M68	SX	0	0	0	%100
35	M69	SX	0	0	0	%100
36	M70	SX	0	0	0	%100
37	M71	SX	0	0	0	%100
38	M72	SX	0	0	0	%100
39	M73	SX	0	0	0	%100
40	M74	SX	0	0	0	%100
41	M75	SX	-20.244	-20.244	0	%100
42	MP2	SX	-18.689	-18.689	0	%100
43	M43	SX	0	0	0	%100
44	M44	SX	0	0	0	%100
45	H3	SX	-17.184	-17.184	0	%100
46	MP7	SX	-18.689	-18.689	0	%100
47	MP9	SX	-18.689	-18.689	0	%100
48	HR3	SX	-18.674	-18.674	0	%100
49	M52	SX	0	0	0	%100
50	M53	SX	0	0	0	%100
51	M54	SX	0	0	0	%100
52	M55	SX	0	0	0	%100
53	H2	SX	-17.184	-17.184	0	%100
54	MP4	SX	-18.689	-18.689	0	%100
55	MP6	SX	-18.689	-18.689	0	%100
56	HR2	SX	-18.674	-18.674	0	%100
57	M66A	SX	0	0	0	%100
58	M67A	SX	0	0	0	%100
59	M68A	SX	0	0	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
60	M69A	SX	0	0	0	%100
61	MP8	SX	-18.689	-18.689	0	%100
62	M68B	SX	0	0	0	%100
63	M69B	SX	0	0	0	%100
64	MP5	SX	-18.689	-18.689	0	%100
65	M71B	SX	0	0	0	%100
66	M72B	SX	0	0	0	%100
67	MP10	SX	-18.689	-18.689	0	%100
68	M68D	SX	0	0	0	%100

Member Distributed Loads (BLC 44 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S2	Y	-3.185	-3.185	16.404	40
2	GA2	Y	-1.605	-1.605	3.828	27.295
3	GA1	Y	-1.605	-1.605	3.828	27.295
4	S3	Y	-3.185	-3.185	16.404	40
5	GA4	Y	-1.605	-1.605	3.828	27.295
6	GA3	Y	-1.605	-1.605	3.828	27.295
7	S1	Y	-3.185	-3.185	16.404	40
8	GA6	Y	-1.605	-1.605	3.828	27.295
9	GA5	Y	-1.605	-1.605	3.828	27.295

Member Distributed Loads (BLC 45 : BLC 16 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S2	Y	-20.022	-20.022	16.404	40
2	GA2	Y	-10.09	-10.09	3.828	27.295
3	GA1	Y	-10.09	-10.09	3.828	27.295
4	S3	Y	-20.022	-20.022	16.404	40
5	GA4	Y	-10.09	-10.09	3.828	27.295
6	GA3	Y	-10.09	-10.09	3.828	27.295
7	S1	Y	-20.022	-20.022	16.404	40
8	GA6	Y	-10.09	-10.09	3.828	27.295
9	GA5	Y	-10.09	-10.09	3.828	27.295

Member Area Loads (BLC 1 : Self Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	P22	P21	P20	P23	Y	Two Way	-1.75
2	P10	P11	P12	P9	Y	Two Way	-1.75
3	P31	P34	P33	P32	Y	Two Way	-1.75

Member Area Loads (BLC 16 : Ice Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	P22	P21	P20	P23	Y	Two Way	-11
2	P10	P11	P12	P9	Y	Two Way	-11
3	P31	P34	P33	P32	Y	Two Way	-11

Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc ...	phi*Pnt [lb]	phi*Mn y-y ...	phi*Mn z-z [l...	Cb	Eqn
1	P3	PL6.5x...	.371	21	2	.165	36.312	y	5	3658.14	78975	616.993	7907.924	1.407	H1-1b
2	P2	PL6.5x...	.362	21	6	.159	36.312	y	10	3658.14	78975	616.993	7904.907	1.406	H1-1b
3	P1	PL6.5x...	.342	21	10	.169	36.312	y	2	3658.14	78975	616.993	7917.845	1.409	H1-1b
4	CA4	C3.38x...	.338	33	2	.036	4.813	z	8	47760.0...	56700	2202.821	5751.945	1.625	H1-1b
5	CA5	C3.38x...	.329	0	10	.035	28.187	z	4	47760.0...	56700	2202.821	5751.945	1.617	H1-1b
6	CA8	L6.6x4...	.325	41.562	22	.044	42	z	4	51170.9...	87561	2464.809	7125.374	1.136	H2-1
7	CA3	C3.38x...	.321	0	2	.035	28.188	y	32	47760.0...	56700	2202.821	5751.945	1.613	H1-1b
8	CA2	C3.38x...	.318	33	6	.036	4.813	z	12	47760.0...	56700	2202.821	5751.945	1.618	H1-1b
9	CA1	C3.38x...	.318	0	6	.035	28.188	y	36	47760.0...	56700	2202.821	5751.945	1.616	H1-1b
10	M75	PL 2.3...	.318	1.5	12	.186	0	y	173	38256.8...	38475	400.783	1903.711	2.262	H1-1b
11	CA6	C3.38x...	.314	33	10	.035	4.813	y	10	47760.0...	56700	2202.821	5751.945	1.62	H1-1b
12	CA7	L6.6x4...	.311	41.562	3	.041	42	z	8	51170.9...	87561	2464.809	7125.374	1.136	H2-1
13	HR2	2.88x0...	.309	90	3	.154	92		4	22491.6...	43076.493	3155.674	3155.674	1.657	H1-1b
14	HR3	2.88x0...	.307	6	2	.144	92		6	22491.6...	43076.493	3155.674	3155.674	1.818	H1-1b
15	HR1	2.88x0...	.296	6	4	.134	6		4	22491.6...	43076.493	3155.674	3155.674	1.929	H1-1b
16	CA9	L6.6x4...	.284	41.562	6	.040	42	z	12	51170.9...	87561	2464.809	7125.374	1.136	H2-1
17	S2	HSS4X...	.279	0	5	.111	0	y	142	188250....	197892	22045.5	22045.5	1.786	H1-1b
18	S3	HSS4X...	.275	0	13	.112	0	y	114	188250....	197892	22045.5	22045.5	1.797	H1-1b
19	S1	HSS4X...	.257	0	9	.109	0	y	86	188250....	197892	22045.5	22045.5	1.811	H1-1b
20	MP2	PIPE_...	.255	70	5	.091	70		5	33487.3...	66654	4726.5	4726.5	4.428	H1-1b
21	MP5	PIPE_...	.253	70	7	.078	70		7	33487.3...	66654	4726.5	4726.5	4.652	H1-1b
22	GA4	L2x2x4	.238	0	2	.017	27.295	y	9	29527.5...	42480	959.63	2190.068	2.215	H2-1
23	MP8	PIPE_...	.227	70	9	.097	70		3	33487.3...	66654	4726.5	4726.5	4.115	H1-1b
24	GA5	L2x2x4	.227	0	9	.020	27.295	z	2	29527.5...	42480	959.63	2190.068	2.197	H2-1
25	GA2	L2x2x4	.220	0	12	.018	0	y	12	29527.5...	42480	959.63	2190.068	2.326	H2-1
26	GA1	L2x2x4	.204	0	6	.018	27.295	z	10	29527.5...	42480	959.63	2190.068	2.293	H2-1
27	GA6	L2x2x4	.203	0	4	.016	0	y	4	29527.5...	42480	959.63	2190.068	2.341	H2-1
28	GA3	L2x2x4	.203	0	7	.019	27.295	z	6	29527.5...	42480	959.63	2190.068	2.194	H2-1
29	MP9	PIPE_...	.200	70	2	.091	70		7	33487.3...	66654	4726.5	4726.5	3.294	H1-1b
30	MP6	PIPE_...	.183	70	7	.099	70		6	33487.3...	66654	4726.5	4726.5	4.512	H1-1b
31	MP1	PIPE_...	.180	70	11	.111	26		8	33487.3...	66654	4726.5	4726.5	2.657	H1-1b
32	MP3	PIPE_...	.178	70	5	.100	70		3	33487.3...	66654	4726.5	4726.5	4.386	H1-1b
33	MP4	PIPE_...	.172	70	7	.100	26		4	33487.3...	66654	4726.5	4726.5	1.887	H1-1b
34	MP7	PIPE_...	.168	70	9	.091	26		6	33487.3...	66654	4726.5	4726.5	3.415	H1-1b
35	H3	Pipe3.5...	.156	31	2	.093	90		2	45873.0...	71580.6	6337.65	6337.65	1.896	H1-1b
36	H1	Pipe3.5...	.149	31	10	.085	48		4	45873.0...	71580.6	6337.65	6337.65	2.001	H1-1b
37	H2	Pipe3.5...	.148	31	6	.069	48		12	45873.0...	71580.6	6337.65	6337.65	1.728	H1-1b
38	MP10	PIPE_...	.006	9	8	.005	9		8	63847.2...	66654	4726.5	4726.5	1.943	H1-1b

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	BOBOS00068B
Site Number:	BOBOS00068B
Connection Description:	Platform to Monopole

MAXIMUM BOLT LOADS		
Bolt Tension:	7536.27	lbs
Bolt Shear:	1642.27	lbs

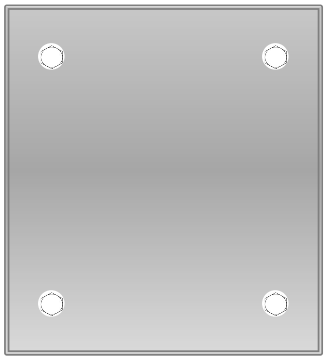
WORST CASE BOLT LOADS[1]		
Bolt Tension:	7536.27	lbs
Bolt Shear:	506.93	lbs

BOLT PROPERTIES		
Bolt Type:	Bolt	-
Bolt Diameter:	0.625	in
Bolt Grade:	A325	-
# of Bolts:	4	-
Threads Excluded?	No	-

[1] *Worst case bolt loads correspond to Load combination #5 on member S2 in RISA-3D, which causes the maximum demand on the bolts.*

Member Information
I nodes of S3, S2, S1

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Max Tensile Usage	37.1%	
Max Shear Usage	11.9%	
Interaction Check (Worst Case)	0.14	***≤1.05***
Result	Pass	



EBI Consulting

environmental | engineering | due diligence

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

Dish Wireless Existing Facility

Site ID: BOBOS00068B

BOBOS00068B
20 Mell Road
Lisbon, Connecticut 06351

April 19, 2022

EBI Project Number: 6222000521

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**2.96%**

April 19, 2022

Dish Wireless

Emissions Analysis for Site: BOBOS00068B - BOBOS00068B

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **20 Mell Road** in **Lisbon, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless antenna facility located at 20 Mell Road in Lisbon, 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) A conservative roof attenuation factor of 10 dB, in which a radiofrequency signal is reduced by a factor of 10 due to intervening roof building materials, was also included. For purposes of this analysis, it is assumed that the roof building material is comprised of a poured concrete and steel underlayment with a rubber fabric roof membrane.

7) The antennas used in this modeling are the Commscope FFVV-65B-R2 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the Commscope FFVV-65B-R2 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the Commscope FFVV-65B-R2 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.

8) The antenna mounting height centerline of the proposed antennas is 173 feet above ground level (AGL).

9) 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.

10) Emissions from additional carriers were not included because emissions data for the site location are not available.

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

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Commscope FFVV-65B-R2	Make / Model:	Commscope FFVV-65B-R2	Make / Model:	Commscope FFVV-65B-R2
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:	17.55 dBd / 22.05 dBd / 22.05 dBd	Gain:	17.55 dBd / 22.05 dBd / 22.05 dBd	Gain:	17.55 dBd / 22.05 dBd / 22.05 dBd
Height (AGL):	173 feet	Height (AGL):	173 feet	Height (AGL):	173 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):	4,956.89	ERP (W):	4,956.89	ERP (W):	4,956.89
Antenna A1 MPE %:	**0.81%**	Antenna B1 MPE %:	**0.81%**	Antenna C1 MPE %:	**0.81%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	0.81%
AT&T	2.15%
Site Total MPE % :	2.96%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	0.81%
Dish Wireless Sector B Total:	0.81%
Dish Wireless Sector C Total:	0.81%
Site Total MPE % :	2.96%

Dish Wireless Maximum MPE Power Values (Sector A)

Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
Dish Wireless 600 MHz n71	4	226.27	173.0	1.17	600 MHz n71	400	0.29%
Dish Wireless 1900 MHz n70	4	506.48	173.0	2.61	1900 MHz n70	1000	0.26%
Dish Wireless 2190 MHz n66	4	506.48	173.0	2.61	2190 MHz n66	1000	0.26%
						Total:	**0.81%**

• 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:	0.81%
Sector B:	0.81%
Sector C:	0.81%
Dish Wireless Maximum MPE % (Sector A):	0.81%
Site Total:	2.96%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **2.96%** 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.

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

CLS ENGINEERING PLLC

Structural Analysis Report

Structure	:	**180 ft Monopole**
ATC Site Name	:	**Lisbon CT 3,CT**
ATC Site Number	:	**302503**
Engineering Number	:	**13746611_C3_02**
Proposed Carrier	:	**DISH WIRELESS L.L.C.**
Carrier Site Name	:	**BOBOS00068B**
Carrier Site Number	:	**BOBOS00068B**
Site Location	:	**20 Mel Road** **Jewett City, CT 06351-3017** **41.59083333, -72.0169**
County	:	**New London**
Date	:	**November 24, 2021**
Max Usage	:	**95%**
Result	:	**Pass**

Prepared By:

Sreenivasa Kailasa
CLS

Reviewed By:

STATE OF CONNECTICUT
TYLER M BARKER
No. 32402
LICENSED PROFESSIONAL ENGINEER

Tyler M. Barker
CLS Engineering PLLC
PE # 32402 Exp. 1/31/2022
COA # PEC.001833 Exp. 8/14/2022
11/24/2021

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft Monopole to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	HTS Mapping Project #HTS011509, dated January 13, 2009
Foundation Drawing	SNET Drawing #3C255, dated August 8, 1990
Geotechnical Report	DOG Project #GEO17-00679-01, dated March 3, 2017
Modifications	ATC Job #50406832, dated October 25, 2012 ATC Job #42728432, dated January 28, 2009
Inspection	HDG Project #CT2058, dated October 25, 2019

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	124 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.19, S_1 = 0.05
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
192.0	1	Generic 6' Omni	Flush	(1) 1 5/8" Coax	SPOK HOLDINGS, INC.
184.0	3	Powerwave Allgon 7770.00	Site Pro 1 V-Frame	(1) 0.39" (10mm) Fiber Trunk (2) 0.65" (16.4mm) 8 AWG 2C (2) 0.78" (19.7mm) 8 AWG 6 (6) 1 5/8" Coax (1) 1.3" (33mm) Hybrid (Type 1) (2) 2" conduit (3) 3/8" (0.38"-9.5mm) RET Control Cable	AT&T MOBILITY
	2	CCI DMP65R-BU6DA			
	4	CCI DMP65R-BU8D			
	6	LGP Allgon LGP21903			
	1	Raycap DC6-48-60-18-8C			
	3	Ericsson RRUS 32 B2			
	6	Powerwave Allgon LGP21401			
	1	Raycap DC6-48-60-18-8F (23.5" Height)			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 4478 B14			
10.0	1	Channel Master Type 120	Flush	(1) 0.28" (7mm) RG-6	SPOK HOLDINGS, INC.

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
No loading was considered as removed as part of this analysis.					

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
173.0	1	Raycap RDIDC-9181-PF-48	Triangular Platform with Handrails	(1) 1.75" (44.5mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B604			
	3	Fujitsu TA08025-B605			
	3	Commscope FFVV-65B-R2			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines outside the pole shaft. Stacking lines is not allowed.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	84%	Pass
Shaft	94%	Pass
Base Plate	27%	Pass
Reinforcement	95%	Pass
Flange	43%	Pass

Foundation

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3619.5	88%
Axial (Kips)	48.5	2%
Shear (Kips)	31.4	30%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
173.0	Raycap RDIDC-9181-PF-48	DISH WIRELESS L.L.C.	3.289	2.210
	Fujitsu TA08025-B604			
	Fujitsu TA08025-B605			
	Commscope FFVV-65B-R2			
10.0	Channel Master Type 120	SPOK HOLDINGS, INC.	0.011	0.130

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H**

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

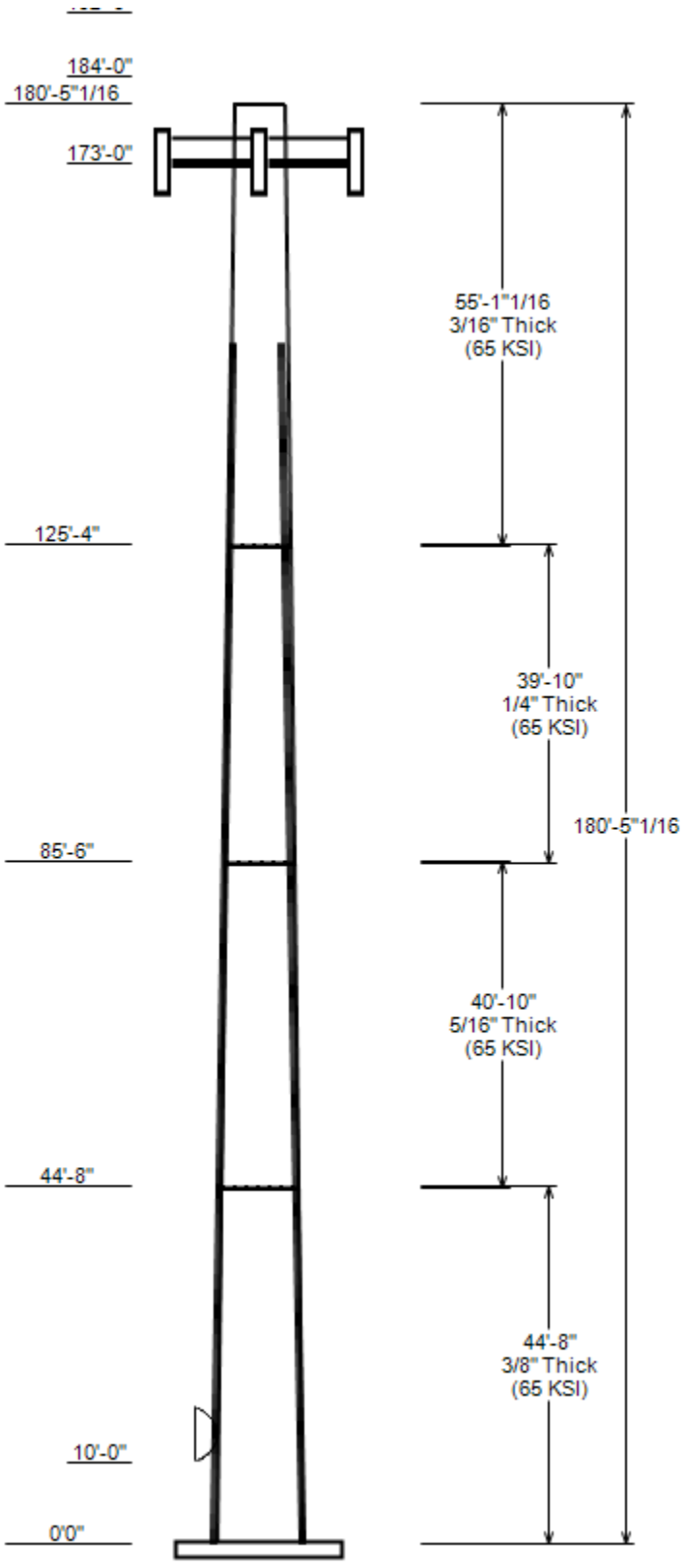
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

JOB INFORMATION

Asset :	302503, Lisbon CT 3	Height :	180.42 ft
Client :	DISH WIRELESS L.L.C.	Base Width :	41.699
Code :	ANSI/TIA-222-H	Shape :	12 Sides



SITE PARAMETERS

Base Elev (ft):	0.00	Structure Class:	II
Taper :	0.14800 (In/ft)	Exposure :	B
Topographic Category :	1	Topographic Feature:	
Topo Method :	Method 1		

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Diameter (in) Across Flats Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	44.667	35.10	41.70	0.375		0.000	12 Sides	65
2	40.833	29.07	35.10	0.312	Butt Joint	0.000	12 Sides	65
3	39.833	23.18	29.07	0.250	Butt Joint	0.000	12 Sides	65
4	55.087	15.04	23.18	0.188	Butt Joint	0.000	12 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
192.0	189.0	1	Generic 6' Omni
184.0	184.0	6	LGP Allgon LGP21903
184.0	184.0	6	Powerwave Allgon LGP21401
184.0	184.0	1	Raycap DC6-48-60-18-8F (23.5"
184.0	184.0	3	Ericsson RRUS 4449 B5, B12
184.0	184.0	3	Ericsson RRUS 4478 B14
184.0	184.0	1	Raycap DC6-48-60-18-8C
184.0	184.0	3	Ericsson RRUS 32 B2
184.0	184.0	3	Powerwave Allgon 7770.00
184.0	184.0	2	CCI DMP65R-BU6DA
184.0	184.0	3	SitePro1 VFA12-M3-WLL Sector F
184.0	184.0	4	CCI DMP65R-BU8D
173.0	173.0	1	Raycap RDIDC-9181-PF-48
173.0	173.0	3	Fujitsu TA08025-B605
173.0	173.0	3	Fujitsu TA08025-B604
173.0	173.0	3	Commscope FFVV-65B-R2
173.0	173.0	1	Generic Flat Platform with Han
10.0	14.0	1	Channel Master Type 120

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	192.0	1 5/8" Coax	No
0.0	184.0	3/8" (0.38"- 9.5mm) RET Control Cable	No
0.0	184.0	2" conduit	No
0.0	184.0	1.3" (33mm) Hybrid (Type 1)	No
0.0	184.0	1 5/8" Coax	No
0.0	184.0	0.78" (19.7mm) 8 AWG 6	No
0.0	184.0	0.65" (16.4mm) 8 AWG 2C	No
0.0	184.0	0.39" (10mm) Fiber Trunk	No
0.0	173.0	1.75" (44.5mm) Hybrid	Yes
0.0	155.0	#20 w/ Angle Brackets	Yes
0.0	155.0	#20 w/ Angle Brackets	Yes
0.0	155.0	#20 w/ Angle Brackets	Yes
0.0	155.0	#20 w/ Angle Brackets	Yes
0.0	10.0	0.28" (7mm) RG-6	Yes

LOAD CASES

1.2D + 1.0W	124 mph wind with no ice
0.9D + 1.0W	124 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

JOB INFORMATION			
Asset :	302503, Lisbon CT 3	Height :	180.42 ft
Client :	DISH WIRELESS L.L.C.	Base Width :	41.699
Code :	ANSI/TIA-222-H	Shape :	12 Sides

REACTIONS			
Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W	3619.46	31.43	48.46
0.9D + 1.0W	3535.14	31.39	36.33
1.2D + 1.0Di + 1.0Wi	721.83	5.47	62.27
1.2D + 1.0Ev + 1.0Eh	196.87	1.22	48.49
0.9D - 1.0Ev + 1.0Eh	190.66	1.22	33.60
1.0D + 1.0W	753.08	6.61	40.45

DISH DEFLECTIONS			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	10.00	0.133	0.126

ANALYSIS PARAMETERS

Location:	New London County,CT	**Height:**	180.42 ft
Type and Shape:	Taper, 12 Sides	**Base Diameter:**	41.70 in
Manufacturer:	Undetermined	**Top Diameter:**	15.04 in
K_d (non-service):	0.95	**Taper:**	0.1480 in/ft
K_e:	0.99	**Rotation:**	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	**Design Wind Speed w/o Ice:**	124 mph
Risk Category:	II	**Design Wind Speed w/Ice:**	50 mph
Topo Factor Procedure:	Method 1	**Operational Wind Speed:**	60 mph
Topographic Category:	1	**Design Ice Thickness:**	1.00 in
Crest Height:	0 ft	**HMSL:**	272.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	3.73
T_L (sec):	6	**P:**	1	**C_s:**	0.030
S_s:	0.190	**S_1:**	0.054	**C_s Max:**	0.030
F_a:	1.600	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.203	**S_{d1}:**	0.086		

LOAD CASES

1.2D + 1.0W	124 mph wind with no ice
0.9D + 1.0W	124 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

ASSET:	302503, Lisbon CT 3	CODE:	ANSI/TIA-222-H
CUSTOMER:	DISH WIRELESS L.L.C.	ENG NO:	13746611_C3_02

SHAFT SECTION PROPERTIES

							Bottom						Top						
Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Dia (in)	Elev (ft)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	44.67	0.3750	65		0.00	6,979	41.70	0.003	49.90	10,876.3	27.12	111.20	35.10	44.67	41.93	6,453.0	22.40	93.60	0.1478
2-12	40.83	0.3125	65	Butt	0.00	4,442	35.10	44.667	35.00	5,406.6	27.42	112.32	29.07	85.50	28.93	3,053.1	22.24	93.01	0.1478
3-12	39.83	0.2500	65	Butt	0.00	2,823	29.07	85.497	23.20	2,458.5	28.47	116.26	23.18	125.33	18.46	1,238.7	22.16	92.72	0.1478
								125.33								252.5			
4-12	55.09	0.1875	65	Butt	0.00	2,141	23.18	3	13.88	936.7	30.45	123.63	15.04	180.42	8.97		18.81	80.21	0.1478
				Shaft Weight		16,385													

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
192.00	Generic 6' Omni	1	1.00	-3.000	25.00	1.760	1.00	56.37	2.616	1.00
184.00	Raycap DC6-48-60-18-8F (23.5"	1	0.80	0.000	20.00	1.260	0.50	55.83	1.708	0.50
184.00	CCI DMP65R-BU8D	4	0.80	0.000	95.70	17.871	0.63	326.96	20.378	0.63
184.00	SitePro1 VFA12-M3-WLL Sector F	3	0.75	0.000	1000.00	14.400	0.67	1474.01	21.226	0.67
184.00	CCI DMP65R-BU6DA	2	0.80	0.000	79.40	12.709	0.72	254.67	14.607	0.72
184.00	Powerwave Allgon 7770.00	3	0.80	0.000	35.00	5.508	0.65	112.34	6.954	0.65
184.00	Ericsson RRUS 32 B2	3	0.80	0.000	53.00	2.743	0.50	103.04	3.539	0.50
184.00	LGP Allgon LGP21903	6	0.80	0.000	5.50	0.231	0.50	11.22	0.462	0.50
184.00	Powerwave Allgon LGP21401	6	0.80	0.000	14.10	1.104	0.50	31.08	1.590	0.50
184.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	114.85	2.604	0.50
184.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.40	2.021	0.50	101.16	2.663	0.50
184.00	Raycap DC6-48-60-18-8C	1	0.80	0.000	16.00	2.030	0.50	55.61	2.547	0.50
173.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3702.75	56.599	1.00
173.00	Commscope FFVV-65B-R2	3	0.75	0.000	70.80	12.271	0.64	240.94	14.169	0.64
173.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	117.41	2.585	0.50
173.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	103.38	2.585	0.50
173.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	0.50	60.43	2.476	0.50
10.00	Channel Master Type 120	1	1.00	4.000	126.00	20.190	1.00	227.83	21.680	1.00
Totals	Num Loadings: 18	48			7,652.40			13,331.19		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	192.00	1	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	SPOK HOLDINGS
0.00	184.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	3	3/8" (0.38"- 9.5mm) R	0.38	0.23	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	2	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	2	0.65" (16.4mm) 8 AWG	0.65	0.31	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	1	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	1	1.3" (33mm) Hybrid (T	1.3	1	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	173.00	1	1.75" (44.5mm) Hybrid	1.75	2.72	N	1	0	0	85	1	Y	DISH WIRELESS
0.00	155.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	0	0	Y	
0.00	155.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	90	0	Y	
0.00	155.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	180	0	Y	
0.00	155.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	270	0	Y	
0.00	10.00	1	0.28" (7mm) RG-6	0.28	0.03	N	1	0	0	90	0	Y	SPOK HOLDINGS

ADDITIONAL STEEL

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Intermediate Connectors Description	Spacing (in)	Len (in)	Connectors	Continuation?
0.00	150.50	4	SOL #20 All Thread Bar	80	2.19	6" Angle Bracket	30.00	3.31	5/8" A36 U-Bolt	N

SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ix (in^4)	Additional Reinforcing Weight (lb)
0.00		0.3750	41.699	49.899	10,876.30	27.12	111.20	75.1	503.9	0.0	0.0	19.640	5,801.30	0.0
5.00		0.3750	40.960	49.007	10,303.30	26.59	109.23	75.7	485.9	0.0	841.4	19.640	5,626.40	334.0
10.00		0.3750	40.221	48.115	9,750.80	26.06	107.26	76.3	468.3	0.0	826.2	19.640	5,454.20	334.0
15.00		0.3750	39.483	47.222	9,218.40	25.53	105.29	76.9	451.0	0.0	811.0	19.640	5,284.70	334.0
20.00		0.3750	38.744	46.330	8,705.80	25.00	103.32	77.4	434.1	0.0	795.8	19.640	5,117.80	334.0
25.00		0.3750	38.005	45.438	8,212.50	24.48	101.35	78	417.5	0.0	780.7	19.640	4,953.70	334.0
30.00		0.3750	37.266	44.546	7,738.20	23.95	99.38	78.6	401.1	0.0	765.5	19.640	4,792.20	334.0
35.00		0.3750	36.527	43.654	7,282.60	23.42	97.41	79.2	385.2	0.0	750.3	19.640	4,633.40	334.0
40.00		0.3750	35.789	42.762	6,845.20	22.89	95.44	79.7	369.5	0.0	735.1	19.640	4,477.30	334.0
44.67	Top - Section 1	0.3750	35.099	41.929	6,453.00	22.40	93.60	80.3	355.2	0.0	672.4	19.640	4,334.00	311.7
44.67	Bot - Section 2	0.3125	35.099	35.004	5,406.60	27.42	112.32	74.8	297.6	0.0		19.640	4,334.00	
45.00		0.3125	35.050	34.954	5,383.70	27.37	112.16	74.9	296.7	0.0	39.7	19.640	4,323.80	22.3
50.00		0.3125	34.311	34.211	5,047.40	26.74	109.80	75.6	284.2	0.0	588.4	19.640	4,173.10	334.0
55.00		0.3125	33.572	33.468	4,725.50	26.11	107.43	76.2	271.9	0.0	575.7	19.640	4,025.00	334.0
60.00		0.3125	32.833	32.724	4,417.50	25.47	105.07	76.9	259.9	0.0	563.1	19.640	3,879.60	334.0
65.00		0.3125	32.095	31.981	4,123.20	24.84	102.70	77.6	248.2	0.0	550.4	19.640	3,736.90	334.0
70.00		0.3125	31.356	31.237	3,842.30	24.21	100.34	78.3	236.7	0.0	537.8	19.640	3,596.80	334.0
75.00		0.3125	30.617	30.494	3,574.50	23.57	97.97	79	225.5	0.0	525.1	19.640	3,459.50	334.0
80.00		0.3125	29.878	29.750	3,319.40	22.94	95.61	79.7	214.6	0.0	512.5	19.640	3,324.80	334.0
85.00		0.3125	29.139	29.007	3,076.70	22.31	93.25	80.4	204.0	0.0	499.8	19.640	3,192.80	334.0
85.50	Top - Section 2	0.3125	29.066	28.933	3,053.10	22.24	93.01	80.5	202.9	0.0	49.3	19.640	3,179.70	33.4
85.50	Bot - Section 3	0.2500	29.066	23.197	2,458.50	28.47	116.26	73.7	163.4	0.0		19.640	3,179.70	
90.00		0.2500	28.401	22.661	2,292.20	27.76	113.60	74.4	155.9	0.0	351.1	19.640	3,063.50	300.6
95.00		0.2500	27.662	22.066	2,116.40	26.97	110.65	75.3	147.8	0.0	380.5	19.640	2,936.80	334.0
100.00		0.2500	26.923	21.472	1,949.80	26.18	107.69	76.2	139.9	0.0	370.4	19.640	2,812.90	334.0
105.00		0.2500	26.184	20.877	1,792.30	25.38	104.74	77	132.2	0.0	360.3	19.640	2,691.60	334.0
110.00		0.2500	25.445	20.282	1,643.40	24.59	101.78	77.9	124.8	0.0	350.1	19.640	2,573.00	334.0
115.00		0.2500	24.707	19.688	1,503.00	23.80	98.83	78.8	117.5	0.0	340.0	19.640	2,457.10	334.0
120.00		0.2500	23.968	19.093	1,370.90	23.01	95.87	79.6	110.5	0.0	329.9	19.640	2,343.80	334.0
125.00		0.2500	23.229	18.498	1,246.70	22.22	92.92	80.5	103.7	0.0	319.8	19.640	2,233.30	334.0
125.33	Top - Section 3	0.2500	23.180	18.458	1,238.70	22.16	92.72	80.5	103.2	0.0	21.0	19.640	2,226.00	22.3
125.33	Bot - Section 4	0.1875	23.180	13.882	936.70	30.45	123.63	71.5	78.1	0.0		19.640	2,226.00	
130.00		0.1875	22.490	13.465	854.90	29.46	119.95	72.6	73.4	0.0	217.1	19.640	2,125.40	311.7
135.00		0.1875	21.751	13.019	772.70	28.40	116.01	73.7	68.6	0.0	225.3	19.640	2,020.20	334.0
140.00		0.1875	21.013	12.573	696.00	27.35	112.07	74.9	64.0	0.0	217.7	19.640	1,917.70	334.0
145.00		0.1875	20.274	12.127	624.50	26.29	108.13	76	59.5	0.0	210.1	19.640	1,817.80	334.0
150.00		0.1875	19.535	11.681	558.10	25.24	104.19	77.2	55.2	0.0	202.5	19.640	1,720.70	334.0
150.50	Reinf. Top	0.1875	19.461	11.636	551.70	25.13	103.79	77.3	54.8	0.0	19.8	19.640	1,711.10	33.4
155.00		0.1875	18.796	11.235	496.60	24.18	100.25	78.3	51.0	0.0	175.1			
160.00		0.1875	18.057	10.789	439.80	23.13	96.31	79.5	47.0	0.0	187.4			
165.00		0.1875	17.319	10.343	387.40	22.07	92.37	80.6	43.2	0.0	179.8			
170.00		0.1875	16.580	9.897	339.40	21.01	88.43	81.8	39.6	0.0	172.2			
173.00		0.1875	16.137	9.629	312.60	20.38	86.06	81.9	37.4	0.0	99.7			
175.00		0.1875	15.841	9.451	295.60	19.96	84.49	81.9	36.0	0.0	64.9			
180.00		0.1875	15.102	9.005	255.70	18.90	80.55	81.9	32.7	0.0	157.0			
180.42		0.1875	15.040	8.967	252.50	18.81	80.21	81.9	32.4	0.0	12.8			
									Totals:		16,384.7			10,053.4

Load Case: 1.2D + 1.0W 124 mph wind with no ice 30 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

CALCULATED FORCES

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 (deg)	Ratio
0.00	-48.46	-31.43	0.00	-3,619.5	0.00	3,619.46	3,374.49	875.72	3,413.89	2,839.66	0	0	0.843
5.00	-46.66	-30.90	0.00	-3,462.3	0.00	3,462.33	3,339.56	860.07	3,292.95	2,759.57	0.16	-0.3	0.823
10.00	-44.75	-29.79	0.00	-3,305.5	0.00	3,305.52	3,303.70	844.41	3,174.19	2,679.78	0.64	-0.6	0.802
15.00	-43.00	-29.25	0.00	-3,156.6	0.00	3,156.57	3,266.91	828.75	3,057.61	2,600.36	1.44	-0.91	0.782
20.00	-41.28	-28.78	0.00	-3,010.3	0.00	3,010.33	3,229.20	813.10	2,943.22	2,521.32	2.55	-1.21	0.762
25.00	-39.58	-28.28	0.00	-2,866.4	0.00	2,866.43	3,190.57	797.44	2,831.00	2,442.72	3.97	-1.51	0.742
30.00	-37.91	-27.76	0.00	-2,725.0	0.00	2,725.04	3,151.01	781.78	2,720.96	2,364.61	5.72	-1.81	0.721
35.00	-36.26	-27.22	0.00	-2,586.2	0.00	2,586.23	3,110.53	766.13	2,613.11	2,287.01	7.78	-2.11	0.700
40.00	-34.64	-26.66	0.00	-2,450.1	0.00	2,450.13	3,069.12	750.47	2,507.44	2,209.98	10.16	-2.42	0.679
44.67	-33.20	-26.28	0.00	-2,325.7	0.00	2,325.71	3,029.64	735.86	2,410.78	2,138.63	12.66	-2.7	0.659
44.67	-33.20	-26.28	0.00	-2,325.7	0.00	2,325.71	2,356.90	614.32	2,015.97	1,669.73	12.66	-2.7	0.784
45.00	-33.04	-26.06	0.00	-2,317.0	0.00	2,316.95	2,355.01	613.45	2,010.27	1,666.01	12.84	-2.72	0.782
50.00	-31.60	-25.46	0.00	-2,186.7	0.00	2,186.66	2,326.20	600.40	1,925.69	1,610.32	15.86	-3.05	0.754
55.00	-30.18	-24.83	0.00	-2,059.4	0.00	2,059.37	2,296.46	587.36	1,842.93	1,554.87	19.23	-3.37	0.725
60.00	-28.79	-24.19	0.00	-1,935.2	0.00	1,935.21	2,265.80	574.31	1,762.00	1,499.71	22.93	-3.7	0.697
65.00	-27.42	-23.52	0.00	-1,814.3	0.00	1,814.27	2,234.21	561.26	1,682.87	1,444.89	26.98	-4.02	0.668
70.00	-26.08	-22.84	0.00	-1,696.6	0.00	1,696.64	2,201.70	548.21	1,605.57	1,390.45	31.35	-4.34	0.639
75.00	-24.76	-22.15	0.00	-1,582.4	0.00	1,582.42	2,168.26	535.17	1,530.08	1,336.42	36.06	-4.65	0.610
80.00	-23.47	-21.44	0.00	-1,471.7	0.00	1,471.69	2,133.90	522.12	1,456.41	1,282.85	41.09	-4.96	0.581
85.00	-22.23	-20.93	0.00	-1,364.5	0.00	1,364.49	2,098.61	509.07	1,384.56	1,229.78	46.44	-5.26	0.553
85.50	-22.08	-20.67	0.00	-1,354.0	0.00	1,354.03	2,095.03	507.77	1,377.48	1,224.50	46.99	-5.29	0.550
85.50	-22.08	-20.67	0.00	-1,354.0	0.00	1,354.03	1,537.81	407.10	1,106.61	902.72	46.99	-5.29	0.664
90.00	-21.06	-20.01	0.00	-1,261.0	0.00	1,261.01	1,518.17	397.70	1,056.14	870.46	52.11	-5.56	0.630
95.00	-19.94	-19.29	0.00	-1,161.0	0.00	1,160.97	1,495.48	387.27	1,001.45	834.75	58.1	-5.88	0.592
100.00	-18.85	-18.57	0.00	-1,064.5	0.00	1,064.50	1,471.86	376.83	948.21	799.22	64.42	-6.2	0.554
105.00	-17.78	-17.84	0.00	-971.6	0.00	971.65	1,447.32	366.39	896.43	763.92	71.06	-6.5	0.517
110.00	-16.73	-17.11	0.00	-882.4	0.00	882.44	1,421.86	355.95	846.10	728.90	78.01	-6.8	0.480
115.00	-15.71	-16.37	0.00	-796.9	0.00	796.90	1,395.47	345.52	797.22	694.19	85.26	-7.08	0.444
120.00	-14.71	-15.63	0.00	-715.1	0.00	715.06	1,368.15	335.08	749.80	659.83	92.8	-7.35	0.407
125.00	-13.72	-15.09	0.00	-636.9	0.00	636.91	1,339.91	324.64	703.83	625.87	100.62	-7.61	0.372
125.33	-13.66	-14.85	0.00	-631.9	0.00	631.88	1,338.00	323.95	700.82	623.63	101.15	-7.63	0.369
125.33	-13.66	-14.85	0.00	-631.9	0.00	631.88	893.39	243.62	528.39	418.67	101.15	-7.63	0.457
130.00	-12.85	-14.16	0.00	-562.6	0.00	562.57	879.62	236.32	497.18	399.76	108.7	-7.86	0.413
135.00	-11.99	-13.43	0.00	-491.8	0.00	491.78	863.98	228.49	464.79	379.53	117.04	-8.11	0.367
140.00	-11.15	-12.71	0.00	-424.6	0.00	424.61	847.41	220.66	433.50	359.39	125.63	-8.34	0.323
145.00	-10.33	-11.99	0.00	-361.1	0.00	361.06	829.91	212.83	403.29	339.37	134.45	-8.55	0.280
150.00	-9.51	-11.46	0.00	-301.1	0.00	301.10	811.49	205.00	374.18	319.52	143.48	-8.75	0.238
150.50	-9.45	-11.22	0.00	-295.4	0.00	295.37	809.60	204.22	371.33	317.55	144.39	-8.77	0.234
150.50	-9.45	-11.22	0.00	-295.4	0.00	295.37	809.60	204.22	371.33	317.55	144.39	-8.77	0.945
155.00	-9.04	-10.70	0.00	-244.9	0.00	244.87	792.15	197.17	346.16	299.88	152.7	-8.92	0.831
160.00	-8.66	-10.40	0.00	-191.4	0.00	191.36	771.88	189.35	319.23	280.49	162.34	-9.54	0.696
165.00	-8.30	-10.09	0.00	-139.4	0.00	139.37	750.69	181.52	293.39	261.39	172.58	-10.08	0.547
170.00	-7.98	-9.82	0.00	-88.9	0.00	88.93	728.57	173.69	268.64	242.63	183.32	-10.5	0.381
173.00	-4.66	-5.93	0.00	-59.5	0.00	59.48	709.77	168.99	254.31	229.91	189.94	-10.68	0.266
175.00	-4.57	-5.71	0.00	-47.6	0.00	47.62	696.62	165.86	244.98	221.42	194.41	-10.78	0.223
180.00	-4.31	-5.50	0.00	-19.1	0.00	19.09	663.74	158.03	222.41	200.89	205.73	-10.94	0.103
180.42	0.00	-4.58	0.00	-16.8	0.00	16.78	660.98	157.38	220.56	199.21	206.69	-10.95	0.085

Load Case: 0.9D + 1.0W 124 mph wind with no ice 30 Iterations
Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

CALCULATED FORCES

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 (deg)	Ratio
0.00	-36.33	-31.39	0.00	-3,535.1	0.00	3,535.14	3,374.49	875.72	3,413.89	2,839.66	0	0	0.821
5.00	-34.94	-30.80	0.00	-3,378.2	0.00	3,378.20	3,339.56	860.07	3,292.95	2,759.57	0.16	-0.29	0.801
10.00	-33.47	-29.63	0.00	-3,221.9	0.00	3,221.88	3,303.70	844.41	3,174.19	2,679.78	0.63	-0.59	0.779
15.00	-32.13	-29.03	0.00	-3,073.7	0.00	3,073.72	3,266.91	828.75	3,057.61	2,600.36	1.4	-0.88	0.759
20.00	-30.81	-28.51	0.00	-2,928.6	0.00	2,928.57	3,229.20	813.10	2,943.22	2,521.32	2.48	-1.18	0.739
25.00	-29.51	-27.96	0.00	-2,786.0	0.00	2,786.01	3,190.57	797.44	2,831.00	2,442.72	3.88	-1.47	0.719
30.00	-28.23	-27.40	0.00	-2,646.2	0.00	2,646.20	3,151.01	781.78	2,720.96	2,364.61	5.58	-1.77	0.699
35.00	-26.97	-26.82	0.00	-2,509.2	0.00	2,509.18	3,110.53	766.13	2,613.11	2,287.01	7.58	-2.06	0.678
40.00	-25.73	-26.23	0.00	-2,375.1	0.00	2,375.06	3,069.12	750.47	2,507.44	2,209.98	9.89	-2.35	0.657
44.67	-24.64	-25.84	0.00	-2,252.6	0.00	2,252.65	3,029.64	735.86	2,410.78	2,138.63	12.33	-2.62	0.637
44.67	-24.64	-25.84	0.00	-2,252.6	0.00	2,252.65	2,356.90	614.32	2,015.97	1,669.73	12.33	-2.62	0.757
45.00	-24.51	-25.59	0.00	-2,244.0	0.00	2,244.04	2,355.01	613.45	2,010.27	1,666.01	12.51	-2.64	0.755
50.00	-23.41	-24.96	0.00	-2,116.1	0.00	2,116.08	2,326.20	600.40	1,925.69	1,610.32	15.45	-2.96	0.727
55.00	-22.33	-24.31	0.00	-1,991.3	0.00	1,991.29	2,296.46	587.36	1,842.93	1,554.87	18.72	-3.28	0.699
60.00	-21.26	-23.64	0.00	-1,869.8	0.00	1,869.76	2,265.80	574.31	1,762.00	1,499.71	22.31	-3.59	0.671
65.00	-20.22	-22.95	0.00	-1,751.6	0.00	1,751.58	2,234.21	561.26	1,682.87	1,444.89	26.24	-3.9	0.643
70.00	-19.20	-22.25	0.00	-1,636.8	0.00	1,636.83	2,201.70	548.21	1,605.57	1,390.45	30.49	-4.21	0.615
75.00	-18.21	-21.55	0.00	-1,525.6	0.00	1,525.56	2,168.26	535.17	1,530.08	1,336.42	35.05	-4.51	0.587
80.00	-17.23	-20.83	0.00	-1,417.8	0.00	1,417.83	2,133.90	522.12	1,456.41	1,282.85	39.93	-4.81	0.559
85.00	-16.30	-20.33	0.00	-1,313.7	0.00	1,313.68	2,098.61	509.07	1,384.56	1,229.78	45.12	-5.1	0.530
85.50	-16.18	-20.06	0.00	-1,303.5	0.00	1,303.52	2,095.03	507.77	1,377.48	1,224.50	45.65	-5.13	0.528
85.50	-16.18	-20.06	0.00	-1,303.5	0.00	1,303.52	1,537.81	407.10	1,106.61	902.72	45.65	-5.13	0.638
90.00	-15.41	-19.39	0.00	-1,213.3	0.00	1,213.26	1,518.17	397.70	1,056.14	870.46	50.61	-5.39	0.604
95.00	-14.57	-18.67	0.00	-1,116.3	0.00	1,116.32	1,495.48	387.27	1,001.45	834.75	56.41	-5.7	0.568
100.00	-13.75	-17.95	0.00	-1,023.0	0.00	1,022.98	1,471.86	376.83	948.21	799.22	62.53	-6	0.531
105.00	-12.95	-17.22	0.00	-933.2	0.00	933.25	1,447.32	366.39	896.43	763.92	68.96	-6.29	0.495
110.00	-12.16	-16.50	0.00	-847.1	0.00	847.14	1,421.86	355.95	846.10	728.90	75.69	-6.57	0.459
115.00	-11.40	-15.77	0.00	-764.7	0.00	764.66	1,395.47	345.52	797.22	694.19	82.7	-6.85	0.424
120.00	-10.65	-15.04	0.00	-685.8	0.00	685.83	1,368.15	335.08	749.80	659.83	90	-7.11	0.389
125.00	-9.92	-14.53	0.00	-610.6	0.00	610.62	1,339.91	324.64	703.83	625.87	97.55	-7.35	0.355
125.33	-9.88	-14.28	0.00	-605.8	0.00	605.78	1,338.00	323.95	700.82	623.63	98.07	-7.37	0.353
125.33	-9.88	-14.28	0.00	-605.8	0.00	605.78	893.39	243.62	528.39	418.67	98.07	-7.37	0.437
130.00	-9.27	-13.60	0.00	-539.1	0.00	539.12	879.62	236.32	497.18	399.76	105.36	-7.59	0.394
135.00	-8.64	-12.90	0.00	-471.1	0.00	471.09	863.98	228.49	464.79	379.53	113.42	-7.83	0.351
140.00	-8.02	-12.20	0.00	-406.6	0.00	406.60	847.41	220.66	433.50	359.39	121.72	-8.06	0.308
145.00	-7.42	-11.50	0.00	-345.6	0.00	345.62	829.91	212.83	403.29	339.37	130.24	-8.26	0.267
150.00	-6.82	-11.00	0.00	-288.1	0.00	288.12	811.49	205.00	374.18	319.52	138.96	-8.44	0.227
150.50	-6.77	-10.76	0.00	-282.6	0.00	282.62	809.60	204.22	371.33	317.55	139.84	-8.46	0.223
150.50	-6.77	-10.76	0.00	-282.6	0.00	282.62	809.60	204.22	371.33	317.55	139.84	-8.46	0.901
155.00	-6.47	-10.24	0.00	-234.2	0.00	234.20	792.15	197.17	346.16	299.88	147.86	-8.61	0.792
160.00	-6.18	-9.92	0.00	-183.0	0.00	183.01	771.88	189.35	319.23	280.49	157.17	-9.21	0.663
165.00	-5.91	-9.60	0.00	-133.4	0.00	133.39	750.69	181.52	293.39	261.39	167.05	-9.72	0.521
170.00	-5.67	-9.34	0.00	-85.4	0.00	85.37	728.57	173.69	268.64	242.63	177.4	-10.12	0.363
173.00	-3.30	-5.64	0.00	-57.4	0.00	57.37	709.77	168.99	254.31	229.91	183.79	-10.3	0.255
175.00	-3.24	-5.42	0.00	-46.1	0.00	46.09	696.62	165.86	244.98	221.42	188.1	-10.39	0.214
180.00	-3.05	-5.23	0.00	-19.0	0.00	18.97	663.74	158.03	222.41	200.89	199.02	-10.55	0.100
180.42	0.00	-4.58	0.00	-16.8	0.00	16.78	660.98	157.38	220.56	199.21	199.94	-10.56	0.085

Load Case: 1.2D + 1.0Di + 1.0Wi		50 mph wind with 1" radial ice			29 Iterations
Gust Response Factor:	1.10	Ice Dead Load Factor	1.00		
Dead load Factor:	1.20			Ice Importance Factor	1.00
Wind Load Factor:	1.00				

CALCULATED FORCES

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 (deg)	Ratio
0.00	-62.27	-5.47	0.00	-721.8	0.00	721.83	3,374.49	875.72	3,413.89	2,839.66	0	0	0.179
5.00	-60.37	-5.43	0.00	-694.5	0.00	694.49	3,339.56	860.07	3,292.95	2,759.57	0.03	-0.06	0.176
10.00	-58.24	-5.29	0.00	-667.0	0.00	666.95	3,303.70	844.41	3,174.19	2,679.78	0.13	-0.12	0.172
15.00	-56.34	-5.24	0.00	-640.5	0.00	640.52	3,266.91	828.75	3,057.61	2,600.36	0.29	-0.18	0.169
20.00	-54.45	-5.20	0.00	-614.3	0.00	614.31	3,229.20	813.10	2,943.22	2,521.32	0.51	-0.24	0.165
25.00	-52.58	-5.15	0.00	-588.3	0.00	588.33	3,190.57	797.44	2,831.00	2,442.72	0.8	-0.31	0.162
30.00	-50.72	-5.10	0.00	-562.6	0.00	562.58	3,151.01	781.78	2,720.96	2,364.61	1.15	-0.37	0.158
35.00	-48.88	-5.04	0.00	-537.1	0.00	537.10	3,110.53	766.13	2,613.11	2,287.01	1.57	-0.43	0.154
40.00	-47.06	-4.98	0.00	-511.9	0.00	511.90	3,069.12	750.47	2,507.44	2,209.98	2.06	-0.49	0.151
44.67	-45.38	-4.94	0.00	-488.7	0.00	488.67	3,029.64	735.86	2,410.78	2,138.63	2.57	-0.55	0.147
44.67	-45.38	-4.94	0.00	-488.7	0.00	488.67	2,356.90	614.32	2,015.97	1,669.73	2.57	-0.55	0.175
45.00	-45.27	-4.91	0.00	-487.0	0.00	487.02	2,355.01	613.45	2,010.27	1,666.01	2.61	-0.56	0.174
50.00	-43.63	-4.84	0.00	-462.5	0.00	462.47	2,326.20	600.40	1,925.69	1,610.32	3.23	-0.63	0.169
55.00	-42.00	-4.77	0.00	-438.2	0.00	438.25	2,296.46	587.36	1,842.93	1,554.87	3.92	-0.69	0.164
60.00	-40.40	-4.69	0.00	-414.4	0.00	414.40	2,265.80	574.31	1,762.00	1,499.71	4.68	-0.76	0.158
65.00	-38.81	-4.61	0.00	-390.9	0.00	390.93	2,234.21	561.26	1,682.87	1,444.89	5.52	-0.83	0.153
70.00	-37.24	-4.53	0.00	-367.9	0.00	367.87	2,201.70	548.21	1,605.57	1,390.45	6.43	-0.9	0.147
75.00	-35.69	-4.44	0.00	-345.2	0.00	345.24	2,168.26	535.17	1,530.08	1,336.42	7.41	-0.97	0.141
80.00	-34.15	-4.34	0.00	-323.1	0.00	323.07	2,133.90	522.12	1,456.41	1,282.85	8.46	-1.04	0.136
85.00	-32.64	-4.27	0.00	-301.4	0.00	301.37	2,098.61	509.07	1,384.56	1,229.78	9.59	-1.1	0.130
85.50	-32.49	-4.24	0.00	-299.2	0.00	299.23	2,095.03	507.77	1,377.48	1,224.50	9.7	-1.11	0.129
85.50	-32.49	-4.24	0.00	-299.2	0.00	299.23	1,537.81	407.10	1,106.61	902.72	9.7	-1.11	0.156
90.00	-31.25	-4.15	0.00	-280.2	0.00	280.17	1,518.17	397.70	1,056.14	870.46	10.78	-1.17	0.149
95.00	-29.88	-4.05	0.00	-259.4	0.00	259.44	1,495.48	387.27	1,001.45	834.75	12.04	-1.24	0.141
100.00	-28.54	-3.94	0.00	-239.2	0.00	239.21	1,471.86	376.83	948.21	799.22	13.38	-1.31	0.133
105.00	-27.20	-3.84	0.00	-219.5	0.00	219.49	1,447.32	366.39	896.43	763.92	14.79	-1.38	0.125
110.00	-25.89	-3.73	0.00	-200.3	0.00	200.30	1,421.86	355.95	846.10	728.90	16.28	-1.45	0.116
115.00	-24.59	-3.62	0.00	-181.7	0.00	181.66	1,395.47	345.52	797.22	694.19	17.83	-1.51	0.108
120.00	-23.31	-3.49	0.00	-163.6	0.00	163.57	1,368.15	335.08	749.80	659.83	19.44	-1.57	0.100
125.00	-22.05	-3.39	0.00	-146.1	0.00	146.12	1,339.91	324.64	703.83	625.87	21.13	-1.63	0.092
125.33	-21.96	-3.35	0.00	-145.0	0.00	144.99	1,338.00	323.95	700.82	623.63	21.24	-1.64	0.091
125.33	-21.96	-3.35	0.00	-145.0	0.00	144.99	893.39	243.62	528.39	418.67	21.24	-1.64	0.113
130.00	-20.89	-3.22	0.00	-129.4	0.00	129.36	879.62	236.32	497.18	399.76	22.87	-1.69	0.103
135.00	-19.75	-3.07	0.00	-113.3	0.00	113.28	863.98	228.49	464.79	379.53	24.67	-1.75	0.092
140.00	-18.62	-2.92	0.00	-97.9	0.00	97.93	847.41	220.66	433.50	359.39	26.53	-1.8	0.081
145.00	-17.51	-2.76	0.00	-83.3	0.00	83.33	829.91	212.83	403.29	339.37	28.44	-1.85	0.071
150.00	-16.41	-2.64	0.00	-69.5	0.00	69.51	811.49	205.00	374.18	319.52	30.41	-1.9	0.061
150.50	-16.30	-2.59	0.00	-68.2	0.00	68.19	809.60	204.22	371.33	317.55	30.6	-1.9	0.060
150.50	-16.30	-2.59	0.00	-68.2	0.00	68.19	809.60	204.22	371.33	317.55	30.6	-1.9	0.235
155.00	-15.68	-2.48	0.00	-56.5	0.00	56.53	792.15	197.17	346.16	299.88	32.41	-1.94	0.208
160.00	-15.19	-2.42	0.00	-44.1	0.00	44.14	771.88	189.35	319.23	280.49	34.52	-2.08	0.177
165.00	-14.70	-2.35	0.00	-32.1	0.00	32.06	750.69	181.52	293.39	261.39	36.76	-2.2	0.142
170.00	-14.24	-2.29	0.00	-20.3	0.00	20.31	728.57	173.69	268.64	242.63	39.13	-2.3	0.103
173.00	-8.64	-1.39	0.00	-13.4	0.00	13.45	709.77	168.99	254.31	229.91	40.58	-2.34	0.071
175.00	-8.47	-1.33	0.00	-10.7	0.00	10.67	696.62	165.86	244.98	221.42	41.57	-2.36	0.060
180.00	-8.06	-1.28	0.00	-4.0	0.00	4.00	663.74	158.03	222.41	200.89	44.06	-2.4	0.032
180.42	0.00	-0.94	0.00	-3.5	0.00	3.47	660.98	157.38	220.56	199.21	44.28	-2.4	0.017

Load Case: 1.0D + 1.0W 60 mph Wind with No Ice 29 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.00
Wind Load Factor: 1.00

CALCULATED FORCES

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 (deg)	Ratio
0.00	-40.45	-6.61	0.00	-753.1	0.00	753.08	3,374.49	875.72	3,413.89	2,839.66	0	0	0.182
5.00	-39.08	-6.49	0.00	-720.1	0.00	720.06	3,339.56	860.07	3,292.95	2,759.57	0.03	-0.06	0.177
10.00	-37.60	-6.25	0.00	-687.1	0.00	687.13	3,303.70	844.41	3,174.19	2,679.78	0.13	-0.13	0.173
15.00	-36.26	-6.13	0.00	-655.9	0.00	655.90	3,266.91	828.75	3,057.61	2,600.36	0.3	-0.19	0.168
20.00	-34.93	-6.02	0.00	-625.3	0.00	625.27	3,229.20	813.10	2,943.22	2,521.32	0.53	-0.25	0.164
25.00	-33.62	-5.91	0.00	-595.2	0.00	595.16	3,190.57	797.44	2,831.00	2,442.72	0.83	-0.31	0.159
30.00	-32.32	-5.80	0.00	-565.6	0.00	565.60	3,151.01	781.78	2,720.96	2,364.61	1.19	-0.38	0.155
35.00	-31.04	-5.68	0.00	-536.6	0.00	536.61	3,110.53	766.13	2,613.11	2,287.01	1.62	-0.44	0.150
40.00	-29.78	-5.56	0.00	-508.2	0.00	508.21	3,069.12	750.47	2,507.44	2,209.98	2.11	-0.5	0.146
44.67	-28.62	-5.48	0.00	-482.3	0.00	482.27	3,029.64	735.86	2,410.78	2,138.63	2.63	-0.56	0.141
44.67	-28.62	-5.48	0.00	-482.3	0.00	482.27	2,356.90	614.32	2,015.97	1,669.73	2.63	-0.56	0.168
45.00	-28.54	-5.43	0.00	-480.4	0.00	480.44	2,355.01	613.45	2,010.27	1,666.01	2.67	-0.56	0.168
50.00	-27.42	-5.30	0.00	-453.3	0.00	453.29	2,326.20	600.40	1,925.69	1,610.32	3.3	-0.63	0.162
55.00	-26.32	-5.17	0.00	-426.8	0.00	426.79	2,296.46	587.36	1,842.93	1,554.87	4	-0.7	0.156
60.00	-25.23	-5.03	0.00	-401.0	0.00	400.95	2,265.80	574.31	1,762.00	1,499.71	4.77	-0.77	0.149
65.00	-24.15	-4.89	0.00	-375.8	0.00	375.80	2,234.21	561.26	1,682.87	1,444.89	5.61	-0.83	0.143
70.00	-23.08	-4.75	0.00	-351.4	0.00	351.35	2,201.70	548.21	1,605.57	1,390.45	6.51	-0.9	0.137
75.00	-22.03	-4.60	0.00	-327.6	0.00	327.62	2,168.26	535.17	1,530.08	1,336.42	7.49	-0.96	0.131
80.00	-20.99	-4.45	0.00	-304.6	0.00	304.61	2,133.90	522.12	1,456.41	1,282.85	8.54	-1.03	0.125
85.00	-19.97	-4.35	0.00	-282.4	0.00	282.36	2,098.61	509.07	1,384.56	1,229.78	9.65	-1.09	0.118
85.50	-19.87	-4.29	0.00	-280.2	0.00	280.18	2,095.03	507.77	1,377.48	1,224.50	9.76	-1.1	0.118
85.50	-19.87	-4.29	0.00	-280.2	0.00	280.18	1,537.81	407.10	1,106.61	902.72	9.76	-1.1	0.142
90.00	-19.04	-4.15	0.00	-260.9	0.00	260.87	1,518.17	397.70	1,056.14	870.46	10.82	-1.15	0.135
95.00	-18.14	-4.00	0.00	-240.1	0.00	240.11	1,495.48	387.27	1,001.45	834.75	12.07	-1.22	0.127
100.00	-17.24	-3.85	0.00	-220.1	0.00	220.10	1,471.86	376.83	948.21	799.22	13.38	-1.28	0.119
105.00	-16.36	-3.70	0.00	-200.8	0.00	200.85	1,447.32	366.39	896.43	763.92	14.76	-1.35	0.111
110.00	-15.48	-3.54	0.00	-182.4	0.00	182.36	1,421.86	355.95	846.10	728.90	16.21	-1.41	0.103
115.00	-14.62	-3.39	0.00	-164.6	0.00	164.63	1,395.47	345.52	797.22	694.19	17.71	-1.47	0.095
120.00	-13.77	-3.24	0.00	-147.7	0.00	147.68	1,368.15	335.08	749.80	659.83	19.28	-1.52	0.088
125.00	-12.92	-3.13	0.00	-131.5	0.00	131.50	1,339.91	324.64	703.83	625.87	20.9	-1.58	0.080
125.33	-12.87	-3.07	0.00	-130.5	0.00	130.46	1,338.00	323.95	700.82	623.63	21.01	-1.58	0.080
125.33	-12.87	-3.07	0.00	-130.5	0.00	130.46	893.39	243.62	528.39	418.67	21.01	-1.58	0.098
130.00	-12.16	-2.93	0.00	-116.1	0.00	116.11	879.62	236.32	497.18	399.76	22.58	-1.63	0.089
135.00	-11.41	-2.78	0.00	-101.5	0.00	101.46	863.98	228.49	464.79	379.53	24.31	-1.68	0.079
140.00	-10.67	-2.63	0.00	-87.6	0.00	87.58	847.41	220.66	433.50	359.39	26.1	-1.73	0.070
145.00	-9.94	-2.48	0.00	-74.4	0.00	74.45	829.91	212.83	403.29	339.37	27.93	-1.77	0.061
150.00	-9.22	-2.37	0.00	-62.1	0.00	62.07	811.49	205.00	374.18	319.52	29.81	-1.81	0.052
150.50	-9.15	-2.31	0.00	-60.9	0.00	60.89	809.60	204.22	371.33	317.55	30	-1.82	0.051
150.50	-9.15	-2.31	0.00	-60.9	0.00	60.89	809.60	204.22	371.33	317.55	30	-1.82	0.203
155.00	-8.80	-2.20	0.00	-50.5	0.00	50.47	792.15	197.17	346.16	299.88	31.73	-1.85	0.180
160.00	-8.52	-2.14	0.00	-39.4	0.00	39.45	771.88	189.35	319.23	280.49	33.73	-1.98	0.152
165.00	-8.24	-2.08	0.00	-28.8	0.00	28.75	750.69	181.52	293.39	261.39	35.86	-2.09	0.121
170.00	-7.97	-2.02	0.00	-18.4	0.00	18.37	728.57	173.69	268.64	242.63	38.09	-2.17	0.087
173.00	-4.69	-1.22	0.00	-12.3	0.00	12.31	709.77	168.99	254.31	229.91	39.47	-2.21	0.060
175.00	-4.59	-1.17	0.00	-9.9	0.00	9.86	696.62	165.86	244.98	221.42	40.4	-2.23	0.051
180.00	-4.35	-1.13	0.00	-4.0	0.00	3.99	663.74	158.03	222.41	200.89	42.76	-2.26	0.026
180.42	0.00	-0.96	0.00	-3.5	0.00	3.51	660.98	157.38	220.56	199.21	42.96	-2.27	0.018

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.190
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.054
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient $F_{a:}$	1.600
Site Coefficient F_v:	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.203
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.086
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_S:	0.030
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	3.730
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	40.460 k
Seismic Base Shear (E):	1.210 k

1.2D + 1.0Ev + 1.0Eh **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
42	180.21	20	643	0.001	2	25
41	177.5	240	7,560	0.016	19	298
40	174	98	2,970	0.006	8	122
39	171.5	158	4,635	0.010	12	196
38	167.5	269	7,540	0.016	19	333
37	162.5	276	7,297	0.015	19	343
36	157.5	284	7,043	0.015	18	352
35	152.75	346	8,079	0.017	21	430
34	150.25	72	1,631	0.003	4	90
33	147.5	727	15,810	0.033	40	901
32	142.5	734	14,910	0.031	38	911
31	137.5	742	14,026	0.029	36	920
30	132.5	749	13,158	0.028	33	930
29	127.6666	706	11,513	0.024	29	876
28	125.1666	56	875	0.002	2	69
27	122.5	844	12,664	0.026	32	1,047
26	117.5	854	11,791	0.025	30	1,059
25	112.5	864	10,937	0.023	28	1,072
24	107.5	874	10,103	0.021	26	1,085
23	102.5	884	9,292	0.020	24	1,097
22	97.5	895	8,504	0.018	22	1,110
21	92.5	905	7,740	0.016	20	1,122
20	87.75	823	6,336	0.013	16	1,021
19	85.25	102	739	0.002	2	126
18	82.5	1,024	6,970	0.015	18	1,270
17	77.5	1,037	6,226	0.013	16	1,286
16	72.5	1,049	5,515	0.012	14	1,302
15	67.5	1,062	4,838	0.010	12	1,317
14	62.5	1,075	4,198	0.009	11	1,333
13	57.5	1,087	3,595	0.008	9	1,349
12	52.5	1,100	3,032	0.006	8	1,364
11	47.5	1,113	2,510	0.005	6	1,380
10	44.8333	75	150	0.000	0	93
9	42.3333	1,162	2,082	0.004	5	1,441

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
8	37.5	1,259	1,771	0.004	5	1,562
7	32.5	1,274	1,346	0.003	3	1,581
6	27.5	1,290	975	0.002	2	1,600
5	22.5	1,305	661	0.001	2	1,619
4	17.5	1,320	404	0.001	1	1,637
3	12.5	1,335	209	0.000	1	1,656
2	7.5	1,351	76	0.000	0	1,675
1	2.5	1,366	9	0.000	0	1,694
Generic 6' Omni	180.42	25	814	0.002	2	31
LGP Allgon LGP21903	180.42	33	1,074	0.002	3	41
Powerwave Allgon LGP21401	180.42	85	2,754	0.006	7	105
Raycap DC6-48-60-18-8F (23.5" Height)	180.42	20	651	0.001	2	25
Ericsson RRUS 4449 B5, B12	180.42	213	6,933	0.014	18	264
Ericsson RRUS 4478 B14	180.42	178	5,801	0.012	15	221
Raycap DC6-48-60-18-8C	180.42	16	521	0.001	1	20
Ericsson RRUS 32 B2	180.42	159	5,176	0.011	13	197
Powerwave Allgon 7770.00	180.42	105	3,418	0.007	9	130
CCI DMP65R-BU6DA	180.42	159	5,169	0.011	13	197
SitePro1 VFA12-M3-WLL Sector Frames	180.42	3,000	97,654	0.205	248	3,722
CCI DMP65R-BU8D	180.42	383	12,461	0.026	32	475
Raycap RDIDC-9181-PF-48	173	22	655	0.001	2	27
Fujitsu TA08025-B604	173	192	5,737	0.012	15	238
Fujitsu TA08025-B605	173	225	6,734	0.014	17	279
Commscope FFVV-65B-R2	173	212	6,357	0.013	16	263
Generic Flat Platform with Handrails	173	2,500	74,822	0.157	190	3,101
Channel Master Type 120	10	126	13	0.000	0	156
		40,456	477,106	1.000	1,214	50,187

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
42	180.21	20	643	0.001	2	17
41	177.5	240	7,560	0.016	19	206
40	174	98	2,970	0.006	8	84
39	171.5	158	4,635	0.010	12	135
38	167.5	269	7,540	0.016	19	231
37	162.5	276	7,297	0.015	19	237
36	157.5	284	7,043	0.015	18	244
35	152.75	346	8,079	0.017	21	298
34	150.25	72	1,631	0.003	4	62
33	147.5	727	15,810	0.033	40	625
32	142.5	734	14,910	0.031	38	631
31	137.5	742	14,026	0.029	36	638
30	132.5	749	13,158	0.028	33	644
29	127.6666	706	11,513	0.024	29	607
28	125.1666	56	875	0.002	2	48
27	122.5	844	12,664	0.026	32	725
26	117.5	854	11,791	0.025	30	734
25	112.5	864	10,937	0.023	28	743
24	107.5	874	10,103	0.021	26	751
23	102.5	884	9,292	0.020	24	760
22	97.5	895	8,504	0.018	22	769
21	92.5	905	7,740	0.016	20	778
20	87.75	823	6,336	0.013	16	707
19	85.25	102	739	0.002	2	87
18	82.5	1,024	6,970	0.015	18	880
17	77.5	1,037	6,226	0.013	16	891
16	72.5	1,049	5,515	0.012	14	902
15	67.5	1,062	4,838	0.010	12	913
14	62.5	1,075	4,198	0.009	11	924
13	57.5	1,087	3,595	0.008	9	934
12	52.5	1,100	3,032	0.006	8	945

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
11	47.5	1,113	2,510	0.005	6	956
10	44.8333	75	150	0.000	0	64
9	42.3333	1,162	2,082	0.004	5	998
8	37.5	1,259	1,771	0.004	5	1,082
7	32.5	1,274	1,346	0.003	3	1,095
6	27.5	1,290	975	0.002	2	1,108
5	22.5	1,305	661	0.001	2	1,121
4	17.5	1,320	404	0.001	1	1,134
3	12.5	1,335	209	0.000	1	1,148
2	7.5	1,351	76	0.000	0	1,161
1	2.5	1,366	9	0.000	0	1,174
Generic 6' Omni	180.42	25	814	0.002	2	21
LGP Allgon LGP21903	180.42	33	1,074	0.002	3	28
Powerwave Allgon LGP21401	180.42	85	2,754	0.006	7	73
Raycap DC6-48-60-18-8F (23.5" Height)	180.42	20	651	0.001	2	17
Ericsson RRUS 4449 B5, B12	180.42	213	6,933	0.014	18	183
Ericsson RRUS 4478 B14	180.42	178	5,801	0.012	15	153
Raycap DC6-48-60-18-8C	180.42	16	521	0.001	1	14
Ericsson RRUS 32 B2	180.42	159	5,176	0.011	13	137
Powerwave Allgon 7770.00	180.42	105	3,418	0.007	9	90
CCI DMP65R-BU6DA	180.42	159	5,169	0.011	13	136
SitePro1 VFA12-M3-WLL Sector Frames	180.42	3,000	97,654	0.205	248	2,578
CCI DMP65R-BU8D	180.42	383	12,461	0.026	32	329
Raycap RDIDC-9181-PF-48	173	22	655	0.001	2	19
Fujitsu TA08025-B604	173	192	5,737	0.012	15	165
Fujitsu TA08025-B605	173	225	6,734	0.014	17	193
Commscope FFVV-65B-R2	173	212	6,357	0.013	16	183
Generic Flat Platform with Handrails	173	2,500	74,822	0.157	190	2,149
Channel Master Type 120	10	126	13	0.000	0	108
		40,456	477,106	1.000	1,214	34,771

1.2D + 1.0Ev + 1.0Eh **Seismic**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-48.49	-1.22	0.00	-196.87	0.00	196.87	3,374.49	875.72	3,414	2,839.66	0.00	0.00	0.06
5.00	-46.82	-1.23	0.00	-190.77	0.00	190.77	3,339.56	860.07	3,293	2,759.57	0.01	-0.02	0.06
10.00	-45.00	-1.24	0.00	-184.61	0.00	184.61	3,303.70	844.41	3,174	2,679.78	0.04	-0.03	0.05
15.00	-43.37	-1.26	0.00	-178.38	0.00	178.38	3,266.91	828.75	3,058	2,600.36	0.08	-0.05	0.05
20.00	-41.75	-1.26	0.00	-172.10	0.00	172.10	3,229.20	813.10	2,943	2,521.32	0.14	-0.07	0.05
25.00	-40.15	-1.27	0.00	-165.78	0.00	165.78	3,190.57	797.44	2,831	2,442.72	0.22	-0.08	0.05
30.00	-38.57	-1.28	0.00	-159.42	0.00	159.42	3,151.01	781.78	2,721	2,364.61	0.32	-0.10	0.05
35.00	-37.00	-1.28	0.00	-153.03	0.00	153.03	3,110.53	766.13	2,613	2,287.01	0.44	-0.12	0.05
40.00	-35.56	-1.28	0.00	-146.62	0.00	146.62	3,069.12	750.47	2,507	2,209.98	0.57	-0.14	0.05
44.67	-35.47	-1.29	0.00	-140.62	0.00	140.62	3,029.64	735.86	2,411	2,138.63	0.71	-0.15	0.05
44.67	-35.47	-1.29	0.00	-140.62	0.00	140.62	2,356.90	614.32	2,016	1,669.73	0.71	-0.15	0.06
45.00	-34.09	-1.29	0.00	-140.19	0.00	140.19	2,355.01	613.45	2,010	1,666.01	0.73	-0.16	0.06
50.00	-32.72	-1.29	0.00	-133.76	0.00	133.76	2,326.20	600.40	1,926	1,610.32	0.90	-0.18	0.05
55.00	-31.37	-1.28	0.00	-127.33	0.00	127.33	2,296.46	587.36	1,843	1,554.87	1.09	-0.20	0.05
60.00	-30.04	-1.28	0.00	-120.92	0.00	120.92	2,265.80	574.31	1,762	1,499.71	1.31	-0.22	0.05
65.00	-28.72	-1.27	0.00	-114.53	0.00	114.53	2,234.21	561.26	1,683	1,444.89	1.55	-0.24	0.05
70.00	-27.42	-1.26	0.00	-108.18	0.00	108.18	2,201.70	548.21	1,606	1,390.45	1.81	-0.26	0.05
75.00	-26.14	-1.25	0.00	-101.87	0.00	101.87	2,168.26	535.17	1,530	1,336.42	2.09	-0.28	0.05
80.00	-24.86	-1.23	0.00	-95.63	0.00	95.63	2,133.90	522.12	1,456	1,282.85	2.39	-0.30	0.04
85.00	-24.74	-1.23	0.00	-89.47	0.00	89.47	2,098.61	509.07	1,385	1,229.78	2.71	-0.32	0.04
85.50	-23.72	-1.22	0.00	-88.85	0.00	88.85	2,095.03	507.77	1,377	1,224.50	2.74	-0.32	0.04
85.50	-23.72	-1.22	0.00	-88.85	0.00	88.85	1,537.81	407.10	1,107	902.72	2.74	-0.32	0.05
90.00	-22.59	-1.20	0.00	-83.37	0.00	83.37	1,518.17	397.70	1,056	870.46	3.05	-0.34	0.05
95.00	-21.48	-1.18	0.00	-77.38	0.00	77.38	1,495.48	387.27	1,001	834.75	3.42	-0.36	0.05
100.00	-20.39	-1.16	0.00	-71.49	0.00	71.49	1,471.86	376.83	948	799.22	3.80	-0.38	0.04
105.00	-19.30	-1.13	0.00	-65.71	0.00	65.71	1,447.32	366.39	896	763.92	4.21	-0.40	0.04
110.00	-18.23	-1.10	0.00	-60.07	0.00	60.07	1,421.86	355.95	846	728.90	4.64	-0.42	0.04
115.00	-17.17	-1.07	0.00	-54.57	0.00	54.57	1,395.47	345.52	797	694.19	5.09	-0.44	0.04

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
120.00	-16.12	-1.03	0.00	-49.23	0.00	49.23	1,368.15	335.08	750	659.83	5.56	-0.46	0.03
125.00	-16.05	-1.03	0.00	-44.07	0.00	44.07	1,339.91	324.64	704	625.87	6.05	-0.48	0.03
125.33	-15.18	-1.00	0.00	-43.73	0.00	43.73	1,338.00	323.95	701	623.63	6.08	-0.48	0.03
125.33	-15.18	-1.00	0.00	-43.73	0.00	43.73	893.39	243.62	528	418.67	6.08	-0.48	0.04
130.00	-14.25	-0.96	0.00	-39.07	0.00	39.07	879.62	236.32	497	399.76	6.55	-0.49	0.04
135.00	-13.33	-0.92	0.00	-34.27	0.00	34.27	863.98	228.49	465	379.53	7.08	-0.51	0.03
140.00	-12.42	-0.88	0.00	-29.67	0.00	29.67	847.41	220.66	434	359.39	7.62	-0.53	0.03
145.00	-11.52	-0.83	0.00	-25.28	0.00	25.28	829.91	212.83	403	339.37	8.18	-0.54	0.02
150.00	-11.43	-0.83	0.00	-21.11	0.00	21.11	811.49	205.00	374	319.52	8.75	-0.55	0.02
150.50	-11.00	-0.81	0.00	-20.70	0.00	20.70	809.60	204.22	371	317.55	8.81	-0.56	0.02
150.50	-11.00	-0.81	0.00	-20.70	0.00	20.70	809.60	204.22	371	317.55	8.81	-0.56	0.08
155.00	-10.64	-0.79	0.00	-17.07	0.00	17.07	792.15	197.17	346	299.88	9.34	-0.57	0.07
160.00	-10.30	-0.77	0.00	-13.13	0.00	13.13	771.88	189.35	319	280.49	9.96	-0.61	0.06
165.00	-9.97	-0.76	0.00	-9.26	0.00	9.26	750.69	181.52	293	261.39	10.62	-0.65	0.05
170.00	-9.77	-0.75	0.00	-5.47	0.00	5.47	728.57	173.69	269	242.63	11.31	-0.67	0.04
173.00	-5.75	-0.45	0.00	-3.23	0.00	3.23	709.77	168.99	254	229.91	11.73	-0.68	0.02
175.00	-5.45	-0.43	0.00	-2.33	0.00	2.33	696.62	165.86	245	221.42	12.02	-0.69	0.02
180.00	-5.42	-0.43	0.00	-0.18	0.00	0.18	663.74	158.03	222	200.89	12.75	-0.69	0.01
180.42	0.00	-0.36	0.00	0.00	0.00	0.00	660.98	157.38	221	199.21	12.81	-0.69	0.00

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-33.60	-1.22	0.00	-190.66	0.00	190.66	3,374.49	875.72	3,414	2,839.66	0.00	0.00	0.05
5.00	-32.44	-1.23	0.00	-184.57	0.00	184.57	3,339.56	860.07	3,293	2,759.57	0.01	-0.02	0.05
10.00	-31.18	-1.23	0.00	-178.44	0.00	178.44	3,303.70	844.41	3,174	2,679.78	0.03	-0.03	0.05
15.00	-30.04	-1.24	0.00	-172.27	0.00	172.27	3,266.91	828.75	3,058	2,600.36	0.08	-0.05	0.05
20.00	-28.92	-1.25	0.00	-166.06	0.00	166.06	3,229.20	813.10	2,943	2,521.32	0.14	-0.07	0.05
25.00	-27.81	-1.25	0.00	-159.83	0.00	159.83	3,190.57	797.44	2,831	2,442.72	0.21	-0.08	0.05
30.00	-26.72	-1.25	0.00	-153.58	0.00	153.58	3,151.01	781.78	2,721	2,364.61	0.31	-0.10	0.05
35.00	-25.64	-1.25	0.00	-147.31	0.00	147.31	3,110.53	766.13	2,613	2,287.01	0.42	-0.12	0.05
40.00	-24.64	-1.25	0.00	-141.03	0.00	141.03	3,069.12	750.47	2,507	2,209.98	0.55	-0.13	0.04
44.67	-24.57	-1.26	0.00	-135.18	0.00	135.18	3,029.64	735.86	2,411	2,138.63	0.69	-0.15	0.04
44.67	-24.57	-1.26	0.00	-135.18	0.00	135.18	2,356.90	614.32	2,016	1,669.73	0.69	-0.15	0.05
45.00	-23.62	-1.25	0.00	-134.76	0.00	134.76	2,355.01	613.45	2,010	1,666.01	0.70	-0.15	0.05
50.00	-22.67	-1.25	0.00	-128.50	0.00	128.50	2,326.20	600.40	1,926	1,610.32	0.87	-0.17	0.05
55.00	-21.74	-1.25	0.00	-122.24	0.00	122.24	2,296.46	587.36	1,843	1,554.87	1.06	-0.19	0.05
60.00	-20.81	-1.24	0.00	-116.02	0.00	116.02	2,265.80	574.31	1,762	1,499.71	1.27	-0.21	0.05
65.00	-19.90	-1.23	0.00	-109.82	0.00	109.82	2,234.21	561.26	1,683	1,444.89	1.49	-0.23	0.05
70.00	-19.00	-1.22	0.00	-103.67	0.00	103.67	2,201.70	548.21	1,606	1,390.45	1.74	-0.25	0.04
75.00	-18.11	-1.20	0.00	-97.58	0.00	97.58	2,168.26	535.17	1,530	1,336.42	2.01	-0.27	0.04
80.00	-17.22	-1.19	0.00	-91.56	0.00	91.56	2,133.90	522.12	1,456	1,282.85	2.30	-0.29	0.04
85.00	-17.14	-1.19	0.00	-85.62	0.00	85.62	2,098.61	509.07	1,385	1,229.78	2.61	-0.30	0.04
85.50	-16.43	-1.17	0.00	-85.02	0.00	85.02	2,095.03	507.77	1,377	1,224.50	2.64	-0.31	0.04
85.50	-16.43	-1.17	0.00	-85.02	0.00	85.02	1,537.81	407.10	1,107	902.72	2.64	-0.31	0.05
90.00	-15.65	-1.15	0.00	-79.75	0.00	79.75	1,518.17	397.70	1,056	870.46	2.94	-0.32	0.05
95.00	-14.88	-1.13	0.00	-73.98	0.00	73.98	1,495.48	387.27	1,001	834.75	3.29	-0.34	0.04
100.00	-14.12	-1.11	0.00	-68.32	0.00	68.32	1,471.86	376.83	948	799.22	3.66	-0.36	0.04
105.00	-13.37	-1.08	0.00	-62.78	0.00	62.78	1,447.32	366.39	896	763.92	4.05	-0.38	0.04
110.00	-12.63	-1.05	0.00	-57.36	0.00	57.36	1,421.86	355.95	846	728.90	4.46	-0.40	0.04
115.00	-11.89	-1.02	0.00	-52.09	0.00	52.09	1,395.47	345.52	797	694.19	4.90	-0.42	0.03
120.00	-11.17	-0.99	0.00	-46.98	0.00	46.98	1,368.15	335.08	750	659.83	5.35	-0.44	0.03
125.00	-11.12	-0.99	0.00	-42.04	0.00	42.04	1,339.91	324.64	704	625.87	5.82	-0.46	0.03
125.33	-10.51	-0.95	0.00	-41.71	0.00	41.71	1,338.00	323.95	701	623.63	5.85	-0.46	0.03
125.33	-10.51	-0.95	0.00	-41.71	0.00	41.71	893.39	243.62	528	418.67	5.85	-0.46	0.03
130.00	-9.87	-0.92	0.00	-37.25	0.00	37.25	879.62	236.32	497	399.76	6.30	-0.47	0.03
135.00	-9.23	-0.88	0.00	-32.66	0.00	32.66	863.98	228.49	465	379.53	6.81	-0.49	0.03
140.00	-8.60	-0.84	0.00	-28.26	0.00	28.26	847.41	220.66	434	359.39	7.33	-0.50	0.03
145.00	-7.98	-0.80	0.00	-24.06	0.00	24.06	829.91	212.83	403	339.37	7.86	-0.52	0.02
150.00	-7.91	-0.79	0.00	-20.08	0.00	20.08	811.49	205.00	374	319.52	8.41	-0.53	0.02
150.50	-7.62	-0.77	0.00	-19.69	0.00	19.69	809.60	204.22	371	317.55	8.47	-0.53	0.02
150.50	-7.62	-0.77	0.00	-19.69	0.00	19.69	809.60	204.22	371	317.55	8.47	-0.53	0.07
155.00	-7.37	-0.75	0.00	-16.22	0.00	16.22	792.15	197.17	346	299.88	8.97	-0.54	0.06
160.00	-7.14	-0.74	0.00	-12.46	0.00	12.46	771.88	189.35	319	280.49	9.57	-0.58	0.05
165.00	-6.90	-0.72	0.00	-8.78	0.00	8.78	750.69	181.52	293	261.39	10.20	-0.62	0.04
170.00	-6.77	-0.71	0.00	-5.19	0.00	5.19	728.57	173.69	269	242.63	10.86	-0.64	0.03

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
173.00	-3.98	-0.43	0.00	-3.07	0.00	3.07	709.77	168.99	254	229.91	11.27	-0.65	0.02
175.00	-3.77	-0.41	0.00	-2.21	0.00	2.21	696.62	165.86	245	221.42	11.54	-0.66	0.02
180.00	-3.76	-0.41	0.00	-0.17	0.00	0.17	663.74	158.03	222	200.89	12.24	-0.66	0.01
180.42	0.00	-0.36	0.00	0.00	0.00	0.00	660.98	157.38	221	199.21	12.29	-0.66	0.00

ANALYSIS SUMMARY

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	31.43	0.00	48.46	0.00	0.00	3619.46	150.50	0.94
0.9D + 1.0W	31.39	0.00	36.33	0.00	0.00	3535.14	150.50	0.9
1.2D + 1.0Di + 1.0Wi	5.47	0.00	62.27	0.00	0.00	721.83	150.50	0.24
1.2D + 1.0Ev + 1.0Eh	1.29	0.00	48.49	0.00	0.00	196.87	150.50	0.08
0.9D - 1.0Ev + 1.0Eh	1.26	0.00	33.60	0.00	0.00	190.66	150.50	0.07
1.0D + 1.0W	6.61	0.00	40.45	0.00	0.00	753.08	150.50	0.2

ADDITIONAL STEEL SUMMARY

			Intermediate Connectors				Max member		
Elev From (ft)	Elev To (ft)	Member	VQ/I	Shear Applied (kips)	Shear (phiVn) (kips)	Ratio	Pu (kip)	PhiPn (kip)	Ratio
0.00	150.50	SOL #20 All Thread Bar	342.6	10.3	16.8	0.6113	314.0	330.5	0.9502

			Upper Termination Connectors					Lower Termination Connectors				
Elev From (ft)	Elev To (ft)	Member	MQ/I	phiVn (kips)	Num Reqd	Num Actual	Ratio	MQ/I (kips)	phiVn (kip)	Num Reqd	Num Actual	Ratio
0.00	150.50	SOL #20 All Thread Bar	101.2954	12	9	12	0.7034	0	12	0	0	0.0000

Base Plate & Anchor Rod Analysis

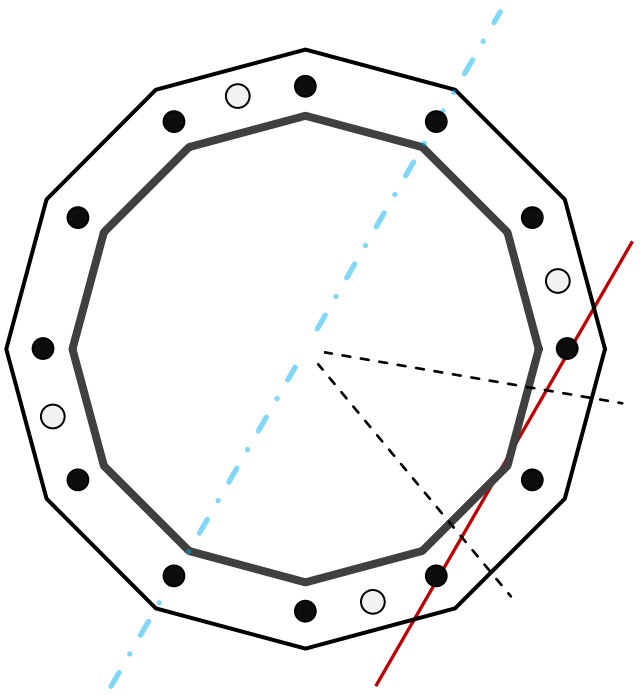
Pole Dimensions		
Number of Sides	12	-
Diameter	41.699	in
Thickness	3/8	in
Orientation Offset		°

Base Reactions		
Moment, Mu	3,619.5	k-ft
Axial, Pu	48.5	k
Shear, Vu	31.4	k
Neutral Axis	240	°

Report Capacities		
Component	Capacity	Result
Base Plate	27%	Pass
Anchor Rods	84%	Pass
Dwyidag	63%	Pass

Base Plate		
Number of Sides	12	-
Diameter, ø	53.699	in
Thickness	2 1/2	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset		°
Anchor Rod Detail	c	η=0.55
Clear Distance	N/A	in
Applied Moment, Mu	454.9	k
Bending Stress, ϕMn	1696.8	k

Original Anchor Rods		
Arrangement	Radial	-
Quantity	12	-
Diameter, ø	2 1/4	in
Bolt Circle	48.699	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	12.7	in
Orientation Offset		°
Applied Force, Pu	202.2	k
Anchor Rods, ϕPn	243.6	k



Dywidag Reinforcement		
Quantity	4	-
Bar Size	#20	in
Diameter, ø	2.5	in
Bracket Type	Angle	-
Circle	48.58	in
Orientation Offset	15	°
Applied Force, Pu	232.2	k
Dywidag Bar, ϕPn	368.2	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	31.4	2313.6	0.64
Anchor Rod Forces	31.4	2313.6	0.64
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	1305.8	0.36
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	48.1295	4.0108	0.1889		10275.94
Bolt	3.9761	3.2477	0.8393	4.5	10463.96
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	4.9087	4.9087	1.9175		5799.78
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	12	-
Width, W	53.699	in
Thickness, t	2.5	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	33.835	in
Detail Type	c	-
Detail Factor	0.55	-
Clear Distance	N/A	-

Anchor Rods		
Anchor Rod Quantity, N	12	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	48.699	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	202.2	k
Applied Shear, Vu	1.5	k
Compressive Capacity, ϕPn	243.6	k
Tensile Capacity, ϕRnt	0.830	OK
Interaction Capacity	0.841	OK

External Base Plate		
Chord Length AA	34.118	in
Additional AA	5.000	in
Section Modulus, Z	61.122	in^3
Applied Moment, Mu	454.9	k-ft
Bending Capacity, ϕMn	3300.6	k-ft
Capacity, Mu/ϕMn	0.138	OK
Chord Length AB	32.642	in
Additional AB	5.000	in
Section Modulus, Z	58.816	in^3
Applied Moment, Mu	305.7	k-ft
Bending Capacity, ϕMn	3176.1	k-ft
Capacity, Mu/ϕMn	0.096	OK
Bend Line Length	20.110	in
Additional Bend Line	0.000	in
Section Modulus, Z	31.421	in^3
Applied Moment, Mu	454.9	k-ft
Bending Capacity, ϕMn	1696.8	k-ft
Capacity, Mu/ϕMn	0.268	OK

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Dywidag Reinforcement		
Dywidag Quantity, N	4	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	48.579	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	232.2	k
Compressive Capacity, ϕPn	368.2	k
Capacity, Pu/ϕPn	0.631	OK

Flange Plate Analysis

Flange Plate

Plate Type	***Flange***	***@ 125 ft***
Pole Diameter	23.179	in
Pole Thickness	0.1875	in
Plate Diameter	29.6028	in
Plate Thickness	1.25	in
Plate Fy	36	ksi
Weld Length	0.1875	in
f_s Resistance	51.20	k-in
Applied	21.89	k-in

Code Rev.	***H***
Moment	636.9 k-ft
Axial	13.7 k

Required Flange Thickness:
0.82 in OK

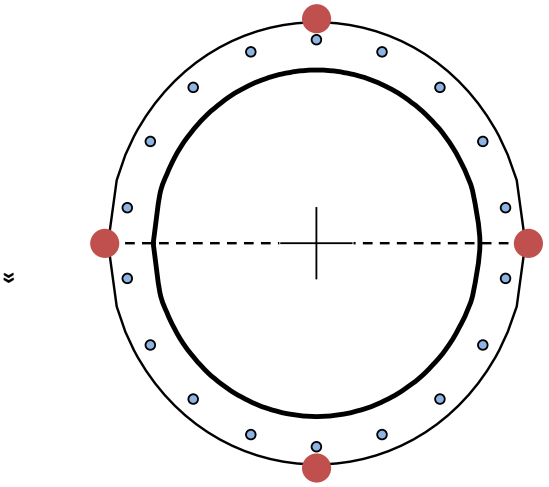
Date	11/24/2021
Engineer	SRK
Site #	302503
Carrier	DISH

Stiffeners

#	***0***

Bolts

#	***18***	
Bolt Circle	27.237	in
(R)adial / (S)quare	R	
Bolt Gap	6	in
Diameter	1	in
Hole Diameter	1.125	in
Type	A325	
Fy	92	ksi
Fu	120	ksi
f_s Resistance	54.52	k
Applied	17.12	k



Reinforcement

#	***4***	
DYW. Circle	30.054	in
Offset Angle	0	°
Type	#20	
Diameter	2.5	in
Fu	100	ksi
f_s Resistance	392.70	k
Applied	180.72	k

Plate Stress Ratio:
43% Pass

Bolt Stress Ratio:
31% Pass

Extra Bolts O

#	

Reinforcement Stress Ratio:
46% Pass

Site Name:	Lisbon CT 3
Site Number:	302503
Engineering Number:	13746611_C3_02
Engineer:	SRK
Date:	11/24/2021

Design Base Loads (Factored) - Design per TIA-222-H Standard

Moment (Overturning) (M_u):	3619.5	k-ft
Shear/Leg (V_u):	31.4	k
Compression/Leg (P_u):	48.5	k
Uplift/Leg (T_u):	0.0	k
Tower Type (GT / SST / MP):	MP	

Length / Width of Block:	14.0	ft
Thickness of Block:	6.0	ft
Block Height Above Ground:	0.5	ft
Depth Below Ground Surface to Water Table (w):	30.0	ft
Unit Weight of Concrete:	150.0	pcf
Unit Weight of Soil:	130.0	pcf
Unit Weight of Water:	62.4	pcf
Ultimate Compressive Bearing Pressure:	30000	psf
Capacity Increase (Due to Transient Loads):	1.00	
Pullout Angle:	45.0	degrees
Rod Diameter:	1.00	in
Rod Ultimate Strength:	90	ksi
Rod Net Area:	0.79	in^2
Number of Rods:	16	
Diameter of Cored Hole:	3.00	in
Ultimate Grout / Rock Interface Bond Strength:	100	psi
Ultimate Grout / Rock Anchor Interface Bond Strength:	400	psi
Overall Rod Embedment Length:	72	in
Rod Exposure Above Lock Off Nut in Foundation:	36	in
Rod Embedment Circle:	137	in
Free Stress Length:	0	in
Soil / Concrete Friction Coefficient:	0.55	
Rock Anchor Design Plastic or Elastic:	Elastic	
Ignore Pullout Weight Resistance (Y/N):	Y	
Weight of Concrete (Buoyancy Effect Considered):	176.4	k
Compressive Bearing Resistance:	4618.1	k
Pullout Weight / Rod:		k - Ignored
Rock / Grout Bond Strength / Rod:	67.9	k
Grout / Rod Bond Strength / Rod:	90.5	k
Factored Nominal Moment Capacity per Leg ($\phi_s M_n$):	4303.6	k
Factored Nominal Uplift Capacity per Leg ($\phi_s T_n$):	1009.4	k
Factored Nominal Compressive Capacity per Leg ($\phi_s P_n$):	3463.6	k
Factored Nominal Shear Capacity per Leg ($\phi_s V_n$):	666.8	k
M_u:	3808.0	k-ft
T_u:	0.0	k
P_u:	74.3	k
V_u:	31.4	k
$T_u/\phi_s T_n + M_u/\phi_s M_n$:	0.88	Result: OK
$P_u/\phi_s P_n$:	0.02	Result: OK

Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	3000	psi
Vertical Steel Rebar Size #:	11	
Vertical Steel Rebar Area:	1.56	in^2
# of Vertical Steel Rebars:	52	Minimum # of vertical rebar met
Vertical Steel Rebar Yield Strength (F_y):	60	ksi
Horizontal Tie / Stirrup Size #:	4	
Horizontal Tie / Stirrup Area:	0.20	in^2
Horizontal Tie / Stirrup Spacing:	12.0	in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	40	ksi
Rod Bearing Plate Diameter:	8.0	in
Rod Bearing Plate Thickness:	1.0	in
Anchor Bearing Plate Yield Strength:	36	ksi
Anchor Rod Nut Diameter:	2.02	in
Rebar Cage Diameter:	160.0	in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90	ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75	ACI318-05 - 9.3.2.3
Strength Compression/Bearing Reduction Factor ($\phi_{P/B}$):	0.65	ACI318-05 - 9.3.2.2
Factored Nominal Moment Capacity ($\phi_B M_n$):	28558.1	k-ft - ACI318-05 - 10.2
$M_u/\phi_B M_n$:	0.13	Result: OK
Design Shear (V_u):	281.5	k
Factored Nominal Shear Capacity ($\phi_V V_n$):	938.6	k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u/\phi_V V_n$:	0.30	Result: OK
Design Tension (T_u):	0.0	k
Factored Nominal Tension Capacity ($\phi_T T_n$):	4380.5	k - ACI318-05 - 10.2
$T_u/\phi_T T_n$:	0.00	Result: OK
Design Compression (P_u):	48.5	k
Factored Nominal Compression Capacity ($\phi_P P_n$):	34454.1	k - ACI318-05 - 10.3.6.2
$P_u/\phi_P P_n$:	0.00	Result: OK

Bearing Plate Design

Plate Bearing Design Load (P_u):	45.0	k
Plate Shear Design Load (V_u):	45.0	k
Factored Rod Bearing Plate Capacity of a Single Anchor ($\phi_B P_n$):	164.0	k
Bearing Plate Pressure:	1.0	ksi
Plate Design Moment (M_u):	13.0	k-in
Critical Length:	6.88	in
Plastic Modulus:	1.72	in^3
Factored Nominal Plate Flexural Resistance ($\phi_B M_n$):	55.7	k-in
Factored Nominal Plate Shear Resistance ($\phi_V V_n$):	123.4	k
Factored Punch Shear Capacity Resisting Plate Load ($\phi_P P_n$):	667.7	k - ACI318-05 - 11.11.2.1
Interaction Equation:	0.37	Result: OK

DISH Wireless L.L.C. SITE ID:

BOBOS00068B

DISH Wireless L.L.C. SITE ADDRESS:

20 MEL ROAD
LISBON, CT 06351

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 SAFETY SWITCH (IF REQUIRED)
- INSTALL (1) PROPOSED CIENA BOX (IF REQUIRED)
- INSTALL (1) PROPOSED METER SOCKET

SITE INFORMATION

PROPERTY OWNER:	STANLEY WILDOWSKY JR
ADDRESS:	20 MEL ROAD JEWETT CITY, CT 06351
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	302503
TOWER APP NUMBER:	13746611_D3
COUNTY:	NEW LONDON
LATITUDE (NAD 83):	41° 35' 26.95" N 41.59083333
LONGITUDE (NAD 83):	72° 01' 00.81" W -72.0169
ZONING JURISDICTION:	CONNECTICUT SITING COUNCIL
ZONING DISTRICT:	COMMERCIAL
PARCEL NUMBER:	TBD
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	EVERSOURCE
TELEPHONE COMPANY:	FRONTIER COMMUNICATIONS

PROJECT DIRECTORY

APPLICANT:	DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801
ENGINEER:	ATC TOWER SERVICES, LLC 3500 REGENCY PARKWAY SUITE 100 CARY, NC 27518
SITE ACQUISITION:	DAVID GOODFELLOW DAVID.GOODFELLOW@DISH.COM
CONSTRUCTION MANAGER:	CHAD WILCOX CHAD.WILCOX@DISH.COM
RF ENGINEER:	DIPESH PARIKH DIPESH.PARIKH@DIS.COM

CONNECTICUT CODE COMPLIANCE

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

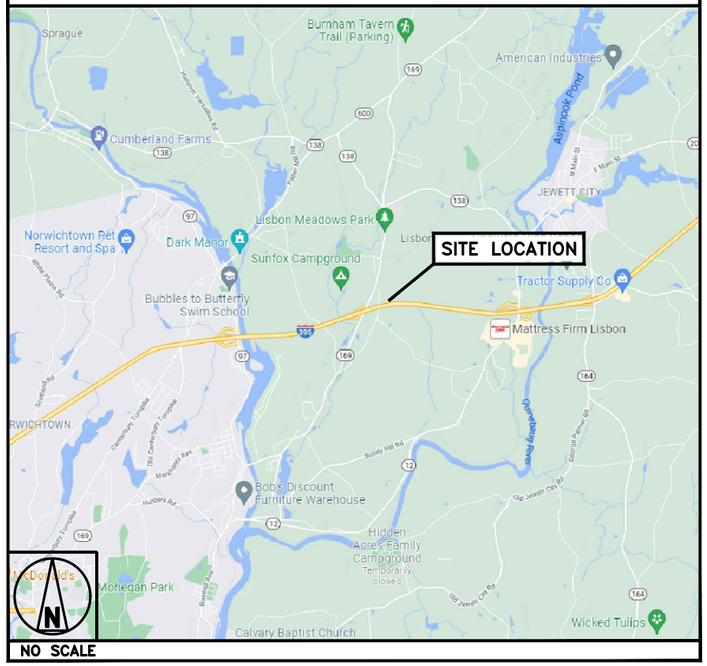
CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

SITE PHOTO

DIRECTIONS

FROM HARTFORD TAKE RT 2 EAST TO I-395 NORTH. TAKE EXIT 83A. AT END OF RAMP TURN LEFT THEN TAKE FIRST RIGHT ONTO MELL ROAD. ACCESS ROAD IS FIRST DRIVEWAY ON LEFT SIDE OF ROAD BEFORE BRIDGE. SBA TOWER IS ON THE LEFT. ATC TOWER STRAIGHT AHEAD

VICINITY MAP



NO SCALE

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
A-0	SURVEY
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	RF SIGNAGE
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES
GN-5	GENERAL NOTES

UNDERGROUND SERVICE ALERT CBYD 811
UTILITY NOTIFICATION CENTER OF CONNECTICUT
(800) 922-4455
WWW.CBYD.COM
CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

811

GENERAL NOTES

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

THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).

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.

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

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
VIJAYAPHA RAHA
33740
LICENSED
PROFESSIONAL ENGINEER

A&E PROJECT NUMBER

302503-13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

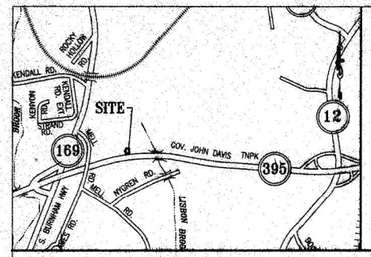
SHEET TITLE

TITLE SHEET

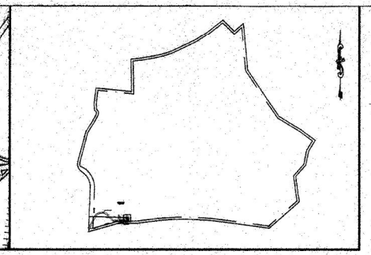
SHEET NUMBER

T-1

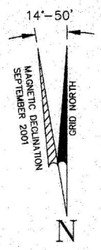
LISBON / CT-0039

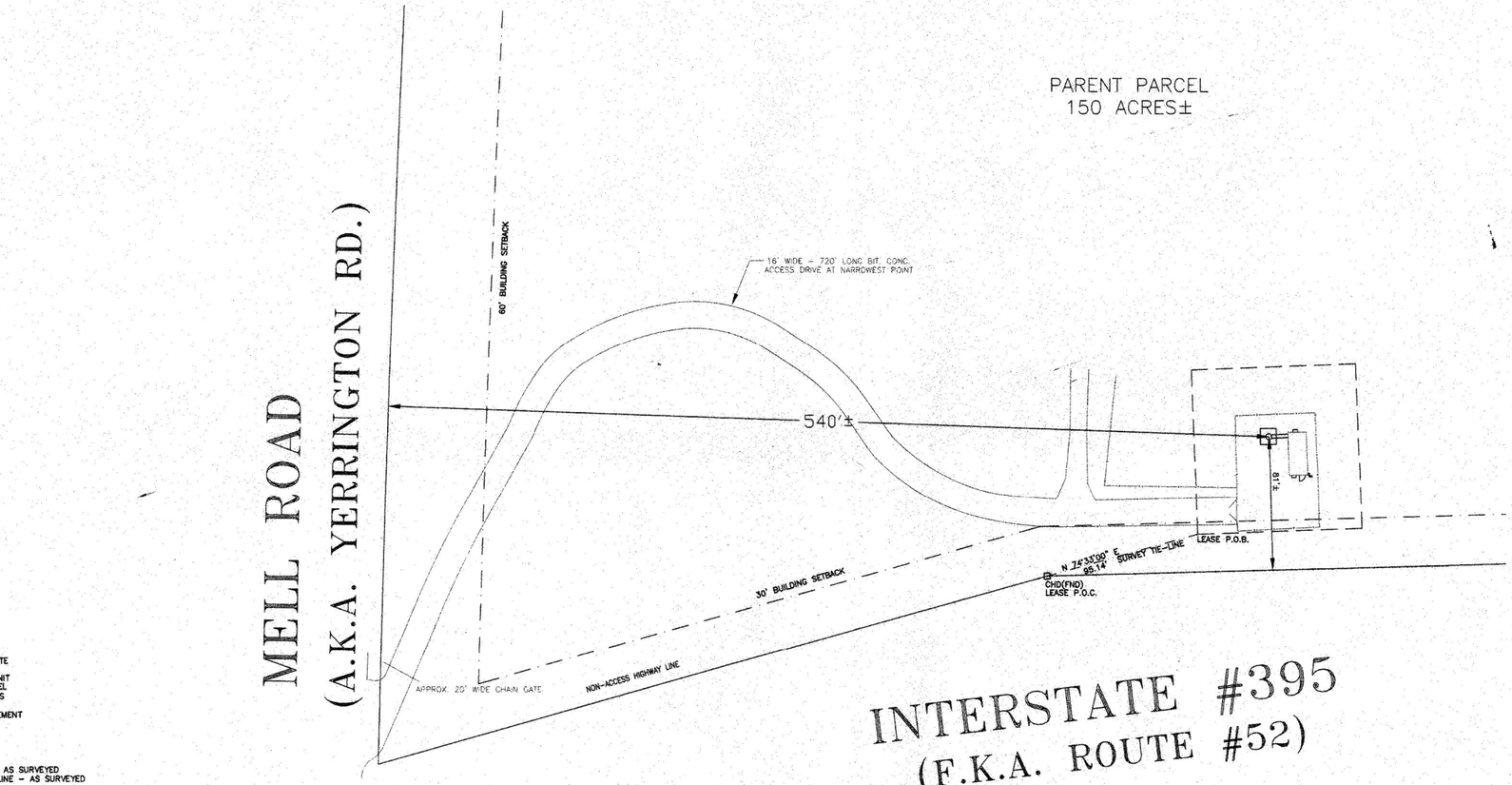


VICINITY MAP
NOT TO SCALE



PARENT TRACT OVERVIEW
NOT TO SCALE





ZONING DATA

ZONE: R-60
USE: RESIDENTIAL
SETBACKS:
FRONT: 60 FEET
REAR: 30 FEET
SIDE: 30 FEET

SURVEY LEGEND

BIT. CONC.	BITUMINOUS CONCRETE
EM	ELECTRIC METER
AC	AIR CONDITIONING UNIT
AGL	ABOVE GROUND LEVEL
F.K.A.	FORMERLY KNOWN AS
A.K.A.	ALSO KNOWN AS
P.O.C.	POINT OF COMMENCEMENT
P.O.B.	POINT OF BEGINNING
CP	CONCRETE PAD
IRF	IRON ROD FOUND
IRS	IRON ROD SET
	BENCHMARK
	LEASE AREA LINE - AS SURVEYED
	ACCESS EASEMENT LINE - AS SURVEYED
	BOUNDARY LINE
	RIGHT-OF-WAY
	CENTER LINE
	EDGE OF PAVEMENT
	GUY WIRE ANCHOR
UP	POWER POLE
	CHAIN LINK FENCE
XX"	DECIDUOUS TREE AND SIZE
XX"	CONIFEROUS TREE AND SIZE
X1000.0	SPOT ELEVATION
	OVERHEAD UTILITY LINE
	EXIST. TREE LINE
	EXIST. STONE WALL

PARENT PARCEL LEGAL DESCRIPTION-AS PROVIDED:

SCHEDULE "A"

FIRST PIECE:

A certain tract or parcel of land with all the buildings thereon, located in said Town of Lisbon, County of Windham, and State of Connecticut and more particularly bounded and described as follow:

Beginning at a point on the northerly line of Yerrington Road at the southwesterly corner of the land conveyed and the southeasterly corner of land now or formerly of Archie Coblentz; thence northerly bounding westerly on said Coblents land and on land now or formerly of Charles Stmad; to land now or formerly of the New York, New Haven and Hartford Railroad Company, formerly known as the Hartford, Providence and Fishkill Railroad or the New York and New England Railroad; thence easterly bounding northerly on land now or formerly of said Railroad to the northwesterly corner of land now or formerly of Royale Slate; thence southerly and easterly bounding easterly and northerly on said Slate land and land now or formerly of John Nygran to land now or formerly of Harold Mell; thence southerly bounding easterly on said Mell land to the northeasterly corner of land now or formerly of Calvin Grey; thence westerly and southerly bounding southerly and easterly on said Grey land to the northerly line of said Yerrington Road; thence westerly along the northerly line of said Yerrington Road to land now or formerly of E. W. Yerrington; thence in a general northwesterly direction bounding southwesterly on said Yerrington land and on land now or formerly of Ed. Thoma to the northwesterly corner of said Thoma land; thence southerly bounding easterly on said Thoma land to the northerly line of said Yerrington Road, and thence westerly along the northerly line of said Yerrington Road to the point of beginning;

SECOND PIECE:

Another tract or parcel of land located in said Town of Lisbon and bounded northerly by road leading from Newent Meeting House to house formerly of John Phillips; easterly by farm formerly known as the "Rockwell Farm", southerly by land formerly of Caleb Griswold, and westerly by land formerly of Daniel M. Brown and land formerly of Caleb Griswold, and the New York, New Haven and Hartford Railroad Co., formerly known as the Hartford, Providence and Fishkill Railroad or the New York and New England Railroad, containing 5 acres more or less.

EXCEPTING THEREFROM the following parcels:

A certain tract or strip of land which was conveyed to the Town of Lisbon by deed recorded in Lisbon Land Records, Book 17, page 201.

A parcel of 15.4 acres conveyed to the State of Connecticut recorded in Volume 19, page 262 of the Lisbon Land Records.

A parcel of .31 of an acre conveyed to the State of Connecticut recorded in Volume 22, page 401 of the Lisbon Land Records.

A parcel of three acres more or less conveyed to the Town of Lisbon recorded on Volume 34, page 574 of the Lisbon Land Records.

A parcel of three acres more or less conveyed to the Town of Lisbon recorded in Volume 37, page 32 of the Lisbon Land Records.

ACCESS NOTE / NARRATIVE:

Access to the subject property is gained by turning easterly off of Mell Road onto a 16' paved drive and proceed in a northeasterly direction for a distance of 40 feet, more or less to a 20' wide chain gate. Continue northeasterly through chain gate for approximately 190 feet to a bend to the right. Proceed about 250 feet in a easterly and then southeasterly direction to a bend to the left, proceed along bend about 100' to straight--away, then proceed about 130 feet to a 14' wide gate in the westerly fence line of compound.

SURVEY NOTES:

1. LEASE AREA LIES WHOLLY WITHIN PARENT PARCEL.
2. MELL ROAD IS A PUBLIC RIGHT OF WAY.

SURVEYOR'S CERTIFICATE:

I, CHARLES T. CAMP, DO HEREBY CERTIFY TO SPECTRASITE COMMUNICATIONS, INC., FIRST AMERICAN TITLE INSURANCE COMPANY, THAT THIS SURVEY WAS MADE ON THE GROUND UNDER MY PERSONAL SUPERVISION AND THAT THIS IS A TRUE, CORRECT REPRESENTATION OF THE FACTS AS FOUND AT THIS TIME OF THE SURVEY, AND MORE SPECIFICALLY, I SO HEREBY CERTIFY THAT THE SURVEY CONFORMS TO THE CONDITIONS AND STIPULATIONS AS CHECKED (X) BELOW (NOTE: ON LEASED PARCELS, "SUBJECT PROPERTY" IS DEFINED AS THE LEASED PREMISES AND ITS APPURTENANT EASEMENTS; AND THIS SURVEY SHALL NOT BE CONSTRUED AS A FULL BOUNDARY SURVEY OF THE PARENT TRACT):

(X) 1. CORRECTLY SHOWS THE LOCATION AND DIMENSION OF ALL ALLEYS, STREETS, ROADS, RIGHTS-OF-WAY, EASEMENTS AND OTHER MATTERS OF RECORD WHICH THE SURVEYOR HAS BEEN ADVISED AFFECTS THE SUBJECT PROPERTY (EACH HAS BEEN IDENTIFIED BY INSTRUMENT VOLUME AND PAGE NUMBER IF AVAILABLE) AS NOTED HEREON.

(X) 2. EXCEPT AS SHOWN THERE ARE NO VISIBLE EASEMENTS, RIGHTS -OF-WAY, PARTY WALLS OR CONFLICTS.

(X) 3. ACCESS IS CONTIGUOUS BETWEEN THE SUBJECT PROPERTY AND A PUBLIC RIGHT-OF-WAY, AS SHOWN.

(X) 4. THE LEGAL DESCRIPTION ON THIS SURVEY HEREON IS THE SAME DEMISED IN THE TITLE COMMITMENT OR CURRENTLY LEASE REFERENCED HEREON.

(X) 5. SURVEY MEETS OR EXCEEDS THE MINIMUM TECHNICAL STANDARDS FOR AS-BUILT LAND SURVEYS SET FORTH IN CONNECTICUT STATE LAW.

CHARLES T. CAMP DATE
PROFESSIONAL SURVEYOR #14650
NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL SEAL OF A CONNECTICUT LICENSED SURVEYOR.

NOTES CORRESPONDING TO SCHEDULE B:

THE COMMITMENT FOR TITLE INSURANCE ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY DATED DECEMBER 28, 2000, AS COMMITMENT NO. 1179250 CONTAINS THE FOLLOWING EXCEPTIONS WHICH ARE SURVEY MATTERS:

g) Right of way in favor of Fanny Mell as contained in the instrument recorded October 29, 1866 in Volume 8, Page 603 of the Lisbon Land Records -INSTRUMENT PROVIDED TO SURVEYOR ILLEGIBLE, UNABLE TO PLOT.

l) Rights in favor of The Connecticut Light and Power Company as set forth in the Warranty Deed from John D. Hall to Stanley Widowsky and Doris G. Widowsky dated October 19, 1943 and recorded in Volume 17, Page 259 of the Lisbon Land Records. - DOCUMENT DOES NOT DISCLOSE LOCATION OF POLE RIGHTS, UNABLE TO PLOT.

o) Easement in favor of the Connecticut Light and Power Company dated June 4, 1990 and recorded June 7, 1990 in Volume 62, Page 672 of the Lisbon Land Records. - CO-LEASE, NOT PLOTTED.

r) Easement in favor of the Connecticut Light and Power Company dated March 15, 1999 and recorded May 11, 1999 in Volume 88, Page 653 of the Lisbon Land Records. - CO-LEASE, NOT PLOTTED.

ALL OTHER ITEMS ARE NON-SURVEY OR NON-EASEMENT RELATED MATTER.

SURVEY PLAN

40 20 0 40 80
SCALE 1" = 40 ft

REFERENCE NOTES

1. THIS MAP AND SURVEY WERE PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THROUGH 20-300b-20, OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT", PREPARED AND ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996. IT IS A 'COMPILATION PLAN' AND CONFORMS TO HORIZONTAL ACCURACY "CLASS D". THIS PLAN WAS PREPARED FROM RECORD RESEARCH. OTHER MAPS, LIMITED FIELD MEASUREMENTS AND OTHER SOURCES. IT IS NOT TO BE CONSTRUED AS A PROPERTY/BOUNDARY OR LIMITED PROPERTY/BOUNDARY SURVEY AND IS SUBJECT TO SUCH FACTS AS SURVEYS MAY DISCLOSE. THE TOPOGRAPHIC INFORMATION SHOWN HEREON WAS FIELD LOCATED AND INTERPOLATED AND CONFORMS TO "CLASS T-2" ACCURACY. ELEVATIONS ARE BASED ON NAVD88 DATUM.

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

CHARLES T. CAMP, L.S. # 14650

Work Coordinated by:
ASC NATIONAL LLC
2364 MAIN STREET
WALTHAM, MA 02451
TELEPHONE 781.895.6477 FAX 781.895.7094

Surveyor:
— PREPARED BY —
CO-OPERATIVE Land Surveyors, LLC
37B Lark Industrial Parkway
Greenville, Rhode Island 02828
Telephone: (401) 949-7394 Facsimile: (401) 949-4681
LICENSED & INSURED LAND SURVEYING
PROPERTY/BOUNDARY • SUBDIVISION • ALTA • FLOOD • GPS

SPECTRASITE CONSTRUCTION
AS-BUILT LAND SURVEY
SCOPE REVISION 1

SHEET 2 of 2

Date	08/17/01
Dwn. By	PAP
Aprvd. By	CTC
Dwg. No.	1734_CT-0039_14
Proj. No.	1734

REVISIONS

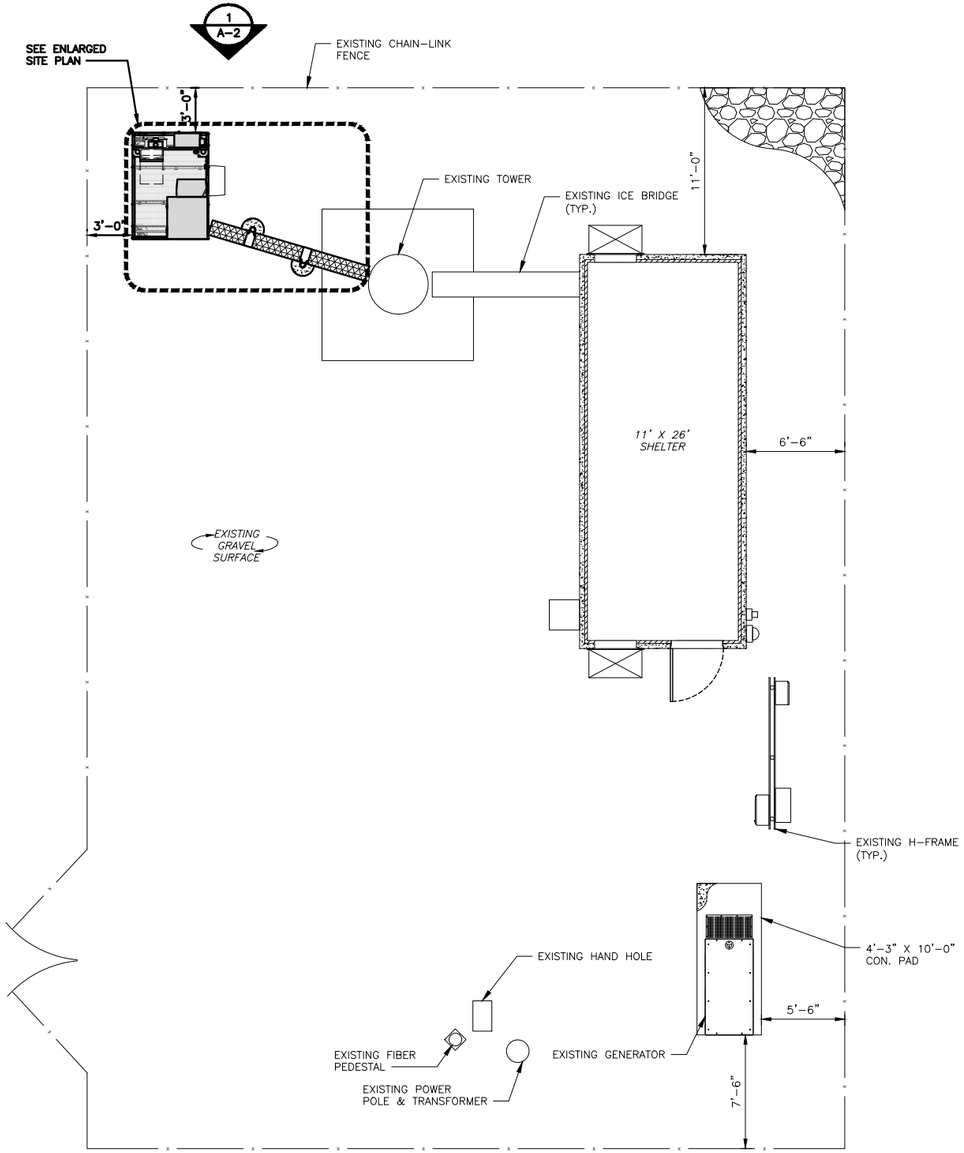
DESCRIPTION:	DATE:
LEASE AREA	2/3/03

Prepared For:
SPECTRASITE COMMUNICATIONS
100 REGENCY FOREST DRIVE, SUITE 400
CARY, NC. 27511

Project Location	LISBON, CT
Project Address	20 MELL ROAD
Site Name	LISBON
SpectraSite Number	CT-0039

NOTES

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



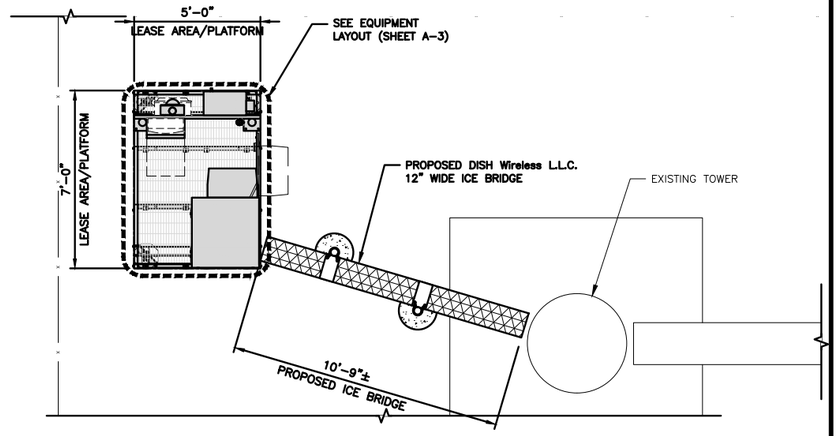
OVERALL SITE PLAN

5' 0 5' 10'
1"=5'

1

NOTES

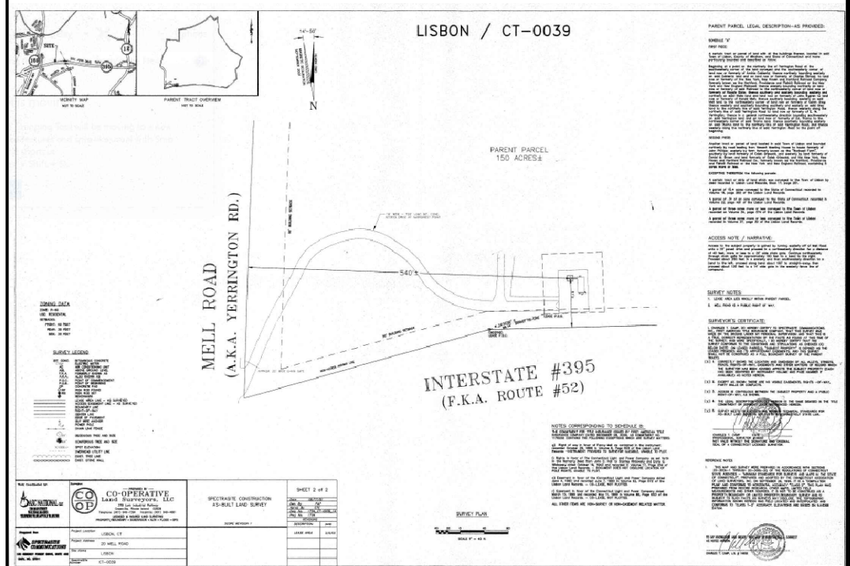
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



ENLARGED SITE PLAN

3' 0 3' 6'
1"=3'

2



EXISTING SURVEY (BY OTHERS)

NO SCALE

3

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

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION

MUSTAPHA RAJHA
CT 33740
LICENSED PROFESSIONAL ENGINEER
STATE OF CONNECTICUT

A&E PROJECT NUMBER
302503-13746611_D3

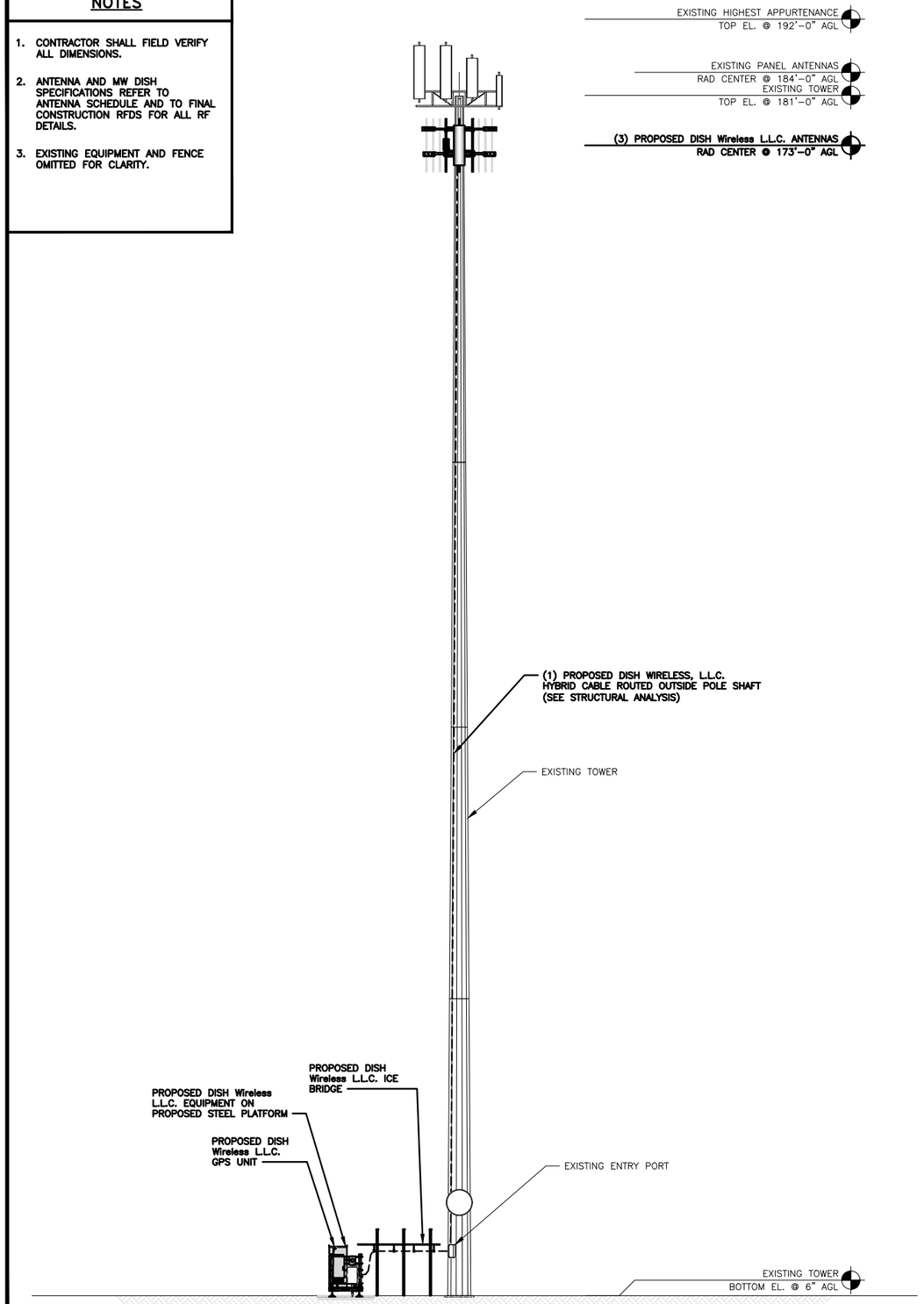
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER
A-1

NOTES

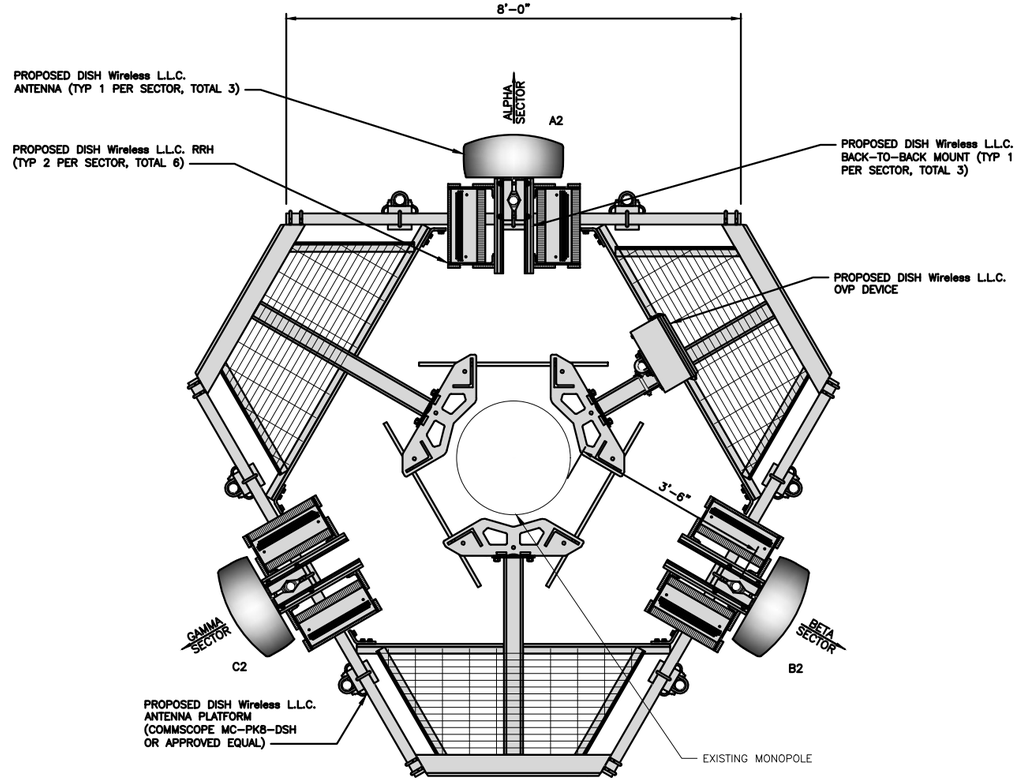
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



PROPOSED NORTH ELEVATION

10' 0 10' 20'
1"=10'

1



N

ANTENNA LAYOUT

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

2

SECTOR POS.	ANTENNA					TRANSMISSION CABLE	RRH			OVP
	EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECH	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH	MANUFACTURER – MODEL NUMBER	TECH	POS.	MANUFACTURER MODEL
A1	--	--	--	--	--	(1) HIGH-CAPACITY HYBRID CABLE (212' LONG)	TA08025-B604	5G	A2	(1) RAYCAP RDIDC-9181-PF-48
A2	PROPOSED	COMMSCOPE-FFVV-65B-R2	5G	0°	173'		TA08025-B605	5G	A2	
A3	--	--	--	--	--		--	--	--	
B1	--	--	--	--	--	SHARED W/ALPHA	TA08025-B604	5G	B2	SHARED W/ALPHA
B2	PROPOSED	COMMSCOPE-FFVV-65B-R2	5G	120°	173'		TA08025-B605	5G	B2	
B3	--	--	--	--	--		--	--	--	
C1	--	--	--	--	--	SHARED W/ALPHA	TA08025-B604	5G	C2	SHARED W/ALPHA
C2	PROPOSED	COMMSCOPE-FFVV-65B-R2	5G	240°	173'		TA08025-B605	5G	C2	
C3	--	--	--	--	--		--	--	--	

NOTES

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

ANTENNA SCHEDULE

NO SCALE

3

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

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION

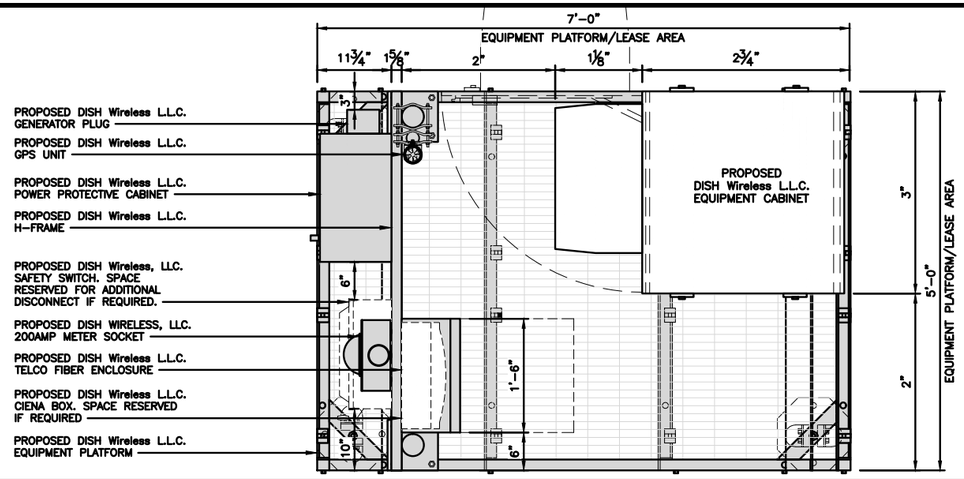
STATE OF CONNECTICUT
MUSTAPHA RAHA
33740
LICENSED
PROFESSIONAL ENGINEER

A&E PROJECT NUMBER
302503-13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-2



PLATFORM EQUIPMENT PLAN

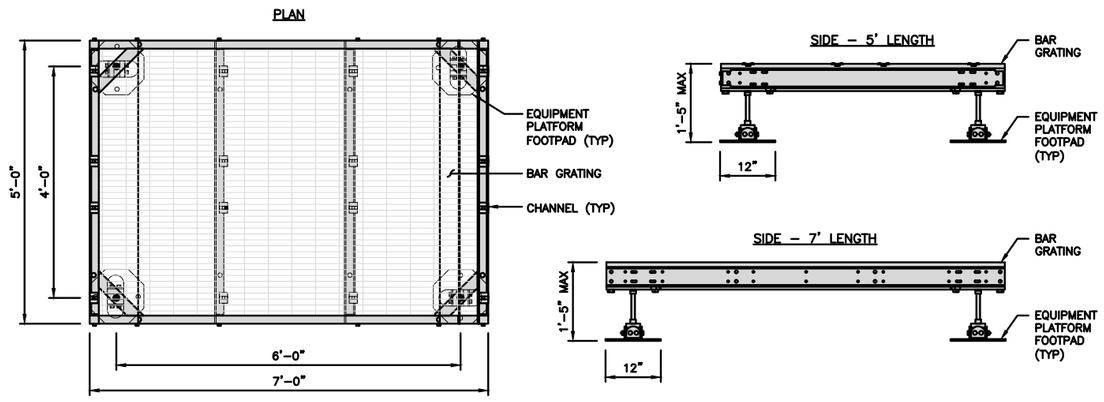
12" 9" 6" 3" 0 1' 2"
1"=1'-0"

1

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

NOTE:

PLATFORM TO BE WITHIN 1° OF LEVEL

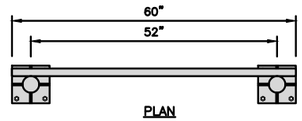


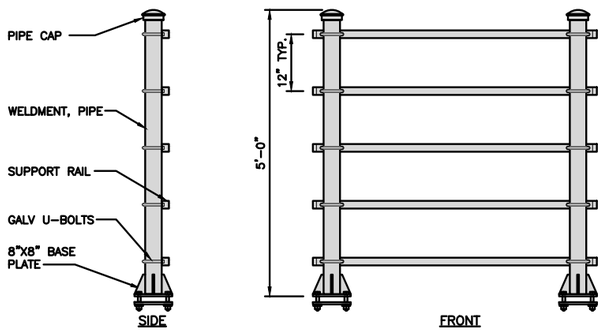
PLATFORM DETAIL

NO SCALE

2

KENWOOD T1701KT5-5S H-FRAME	
UNISTRUT/SUPPORT RAIL	5
WEIGHT/ VOLUME	173.6 LBS





H-FRAME DETAIL

NO SCALE

3

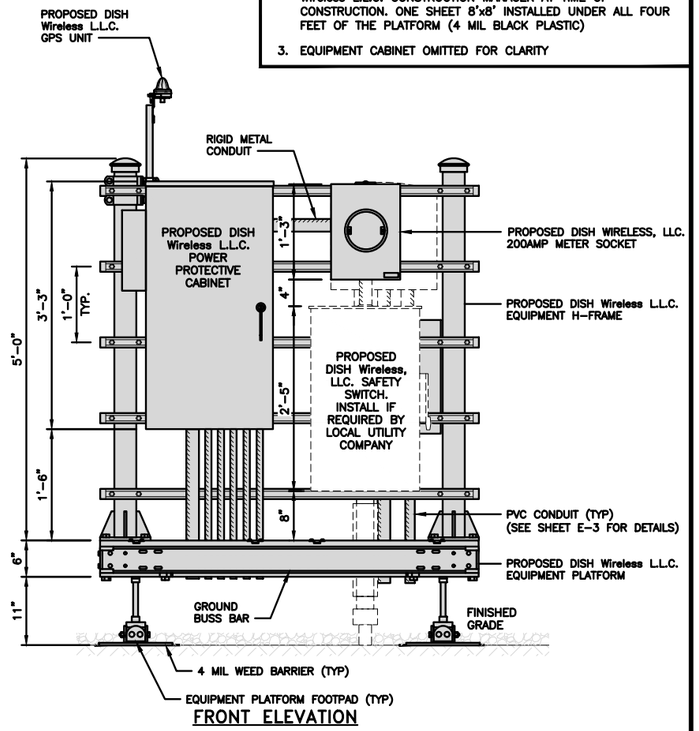
NOT USED

NO SCALE

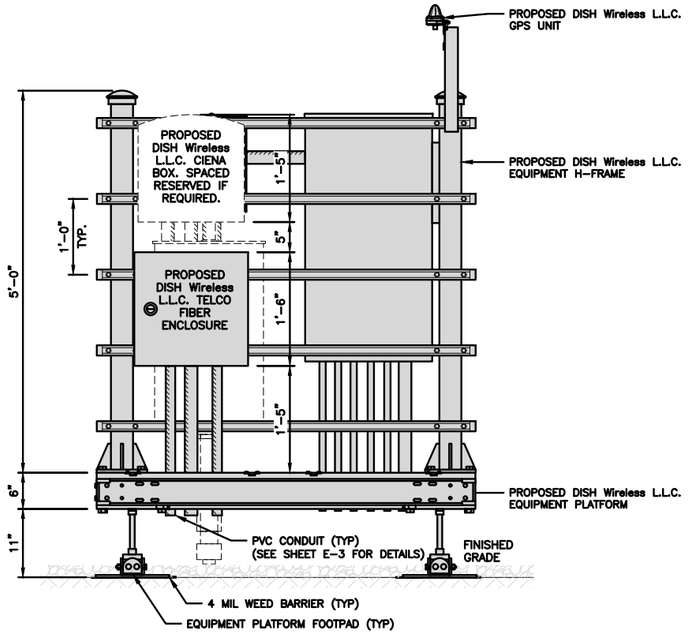
4

NOTES

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



FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION

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

5

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

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
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SUITE 100
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PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION

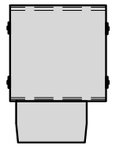
A&E PROJECT NUMBER
302503-13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

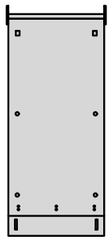
SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER
A-3

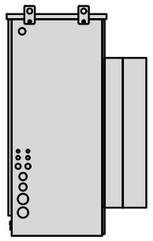
CHARLES INDUSTRY HEX CUBE–PM639155N4	
DIMENSIONS (HxWxD)	74"x32"x32"
POWER PLANT	–48VDC ABB/600W
TOTAL WEIGHT (EMPTY)	408 lbs



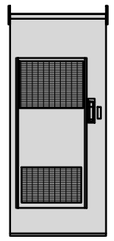
PLAN



BACK



SIDE

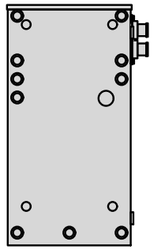


FRONT

CABINET DETAIL | NO SCALE | 1

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

TOP



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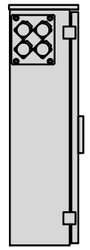
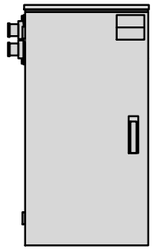
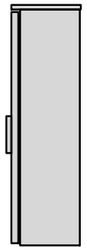


SIDE



FRONT

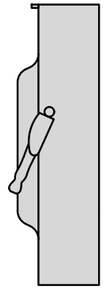


SIDE

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

SQUARE D SAFETY SWITCHES D224NRB	
ENCLOSURE DIM (HxWxD)	29.25"x19.00"x8.50"
ENCLOSURE TYPE	NEMA 3R RAINPROOF
UL LISTED	FILE E–2875

TOP



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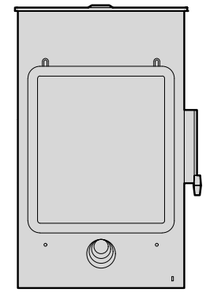
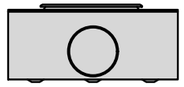


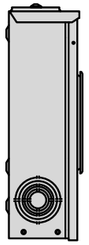
FRONT

SAFETY SWITCH DETAIL | NO SCALE | 3

EATON METER SOCKET UNRRS213BEUSE	
METER SOCKET TYPE	RING
ENCLOSURE DIM (HxWxD)	16"x12"x6"
MAIN AMPERE RATING	200A
WEIGHT	18 LBS



PLAN



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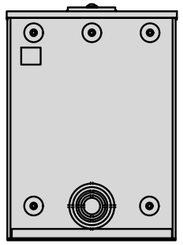

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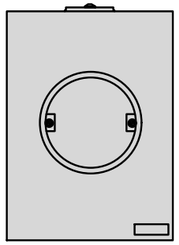
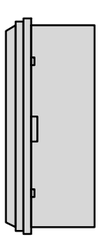


FRONT

METER SOCKET DETAIL | NO SCALE | 4

CIENA 3931 FIBER NID ENCLOSURE	
DIMENSIONS (HxWxD)	17"x16.8"x7"
WEIGHT	28.6 lbs

TOP



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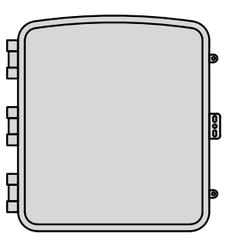
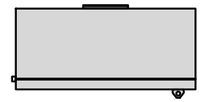


FRONT

FIBER NID ENCLOSURE DETAIL | NO SCALE | 5

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



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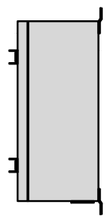

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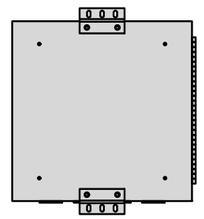

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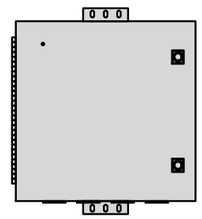
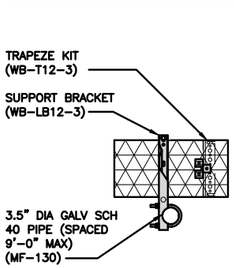


FRONT

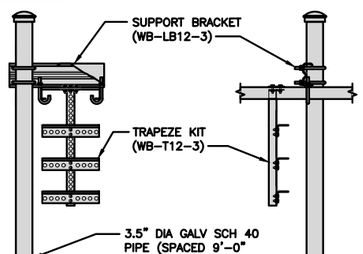
FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

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

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



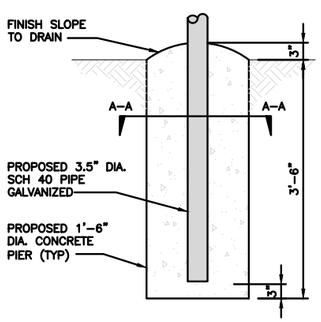
PLAN



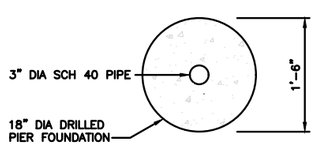
FRONT

SIDE

ICE BRIDGE DETAIL | NO SCALE | 7

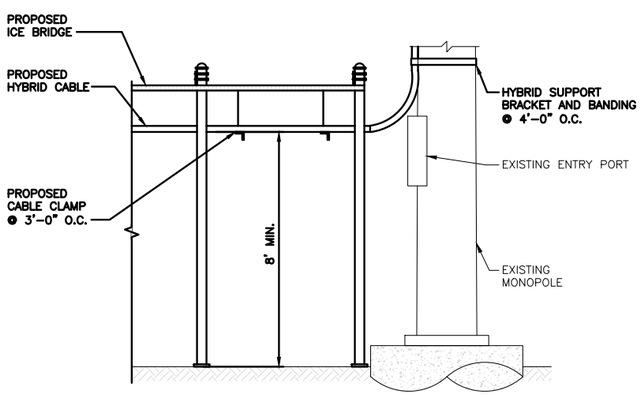


CONCRETE PIER



A–A SECTION

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL | NO SCALE | 8



HYBRID CABLE RUN | NO SCALE | 9

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3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
MUSTAPHA RAHA
33740
LICENSED
PROFESSIONAL ENGINEER

A&E PROJECT NUMBER
302503–13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

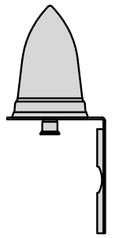
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

GPS DETAIL

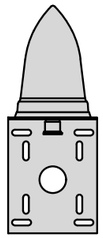
NO SCALE | 1

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



BACK

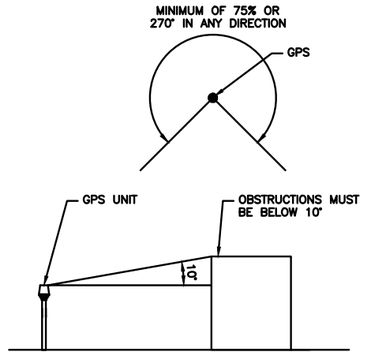
TOP



SIDE

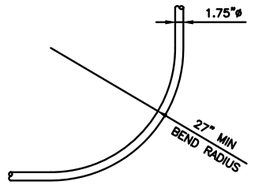
GPS MINIMUM SKY VIEW REQUIREMENTS

NO SCALE | 2

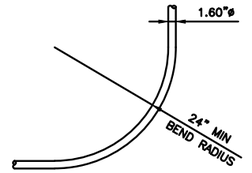


CABLES UNLIMITED HYBRID CABLE MINIMUM BEND RADIUSES

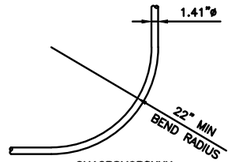
NO SCALE | 3



CU12PSM6P4XXX
(4 AWG CONDUCTORS)



CU12PSM9P6XXX
(6 AWG CONDUCTORS)



CU12PSM9P8XXX
(8 AWG CONDUCTORS)

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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DRAWN BY:	CHECKED BY:	APPROVED BY:
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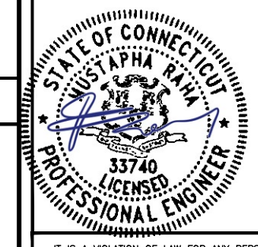
0	01/05/2022	ISSUED FOR CONSTRUCTION



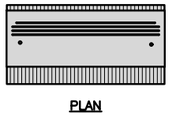
A&E PROJECT NUMBER
302503-13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

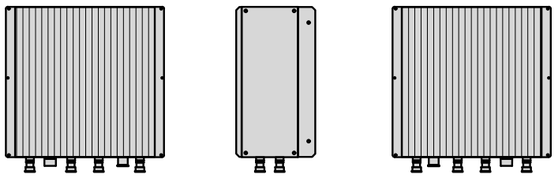
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-5

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



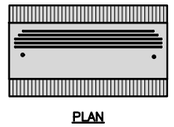
PLAN



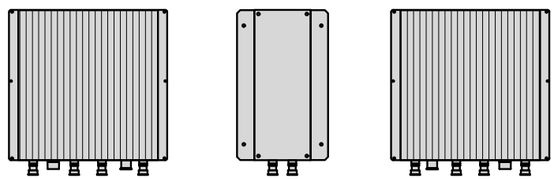
BACK SIDE FRONT

RRH DETAIL | NO SCALE | 1

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



PLAN

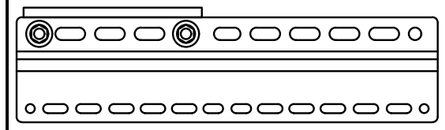


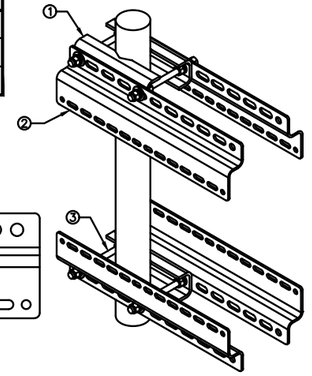
BACK SIDE FRONT

RRH DETAIL | NO SCALE | 2

SABRE DOUBLE Z-BRACKET G10123155	
DIMENSIONS (HxWxD) (1 BRACKET)	5"x20"x1-13/16"
WEIGHT (FULL ASSEMBLY)	35.79 lbs
PACKAGE QUANTITY	4

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

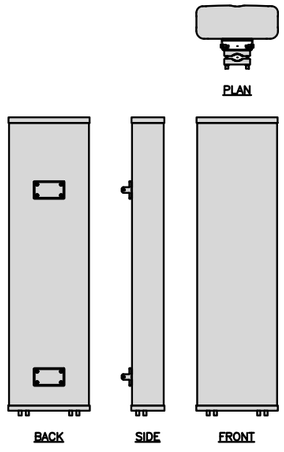




NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

RRH MOUNT DETAIL | NO SCALE | 3

COMMSCOPE FFVV-65B-R2	
DIMENSIONS (HxWxD)(MM/IN)	1828x498x197 72"x19.6"x7.8"
RF CONNECTOR INTERFACE	4.3-10 FEMALE
WEIGHT	70.8 lbs
WEIGHT WITH BRACKETS	98.1 lbs



PLAN

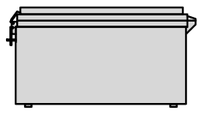
BACK SIDE FRONT

ANTENNA DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

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



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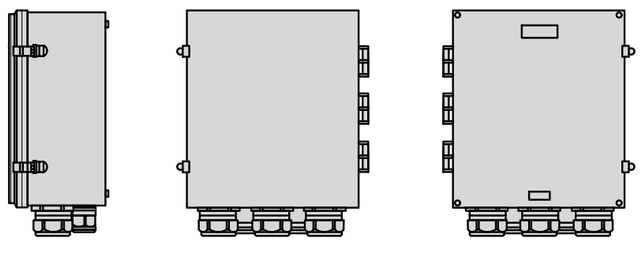
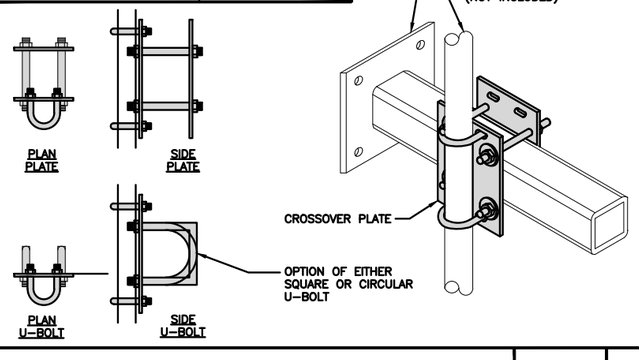


SIDE BACK FRONT

SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

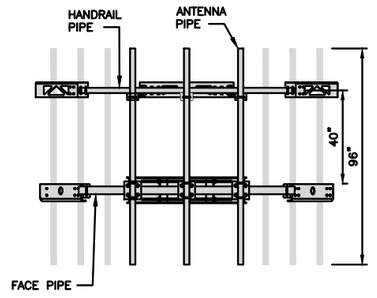
COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11.023 LBS

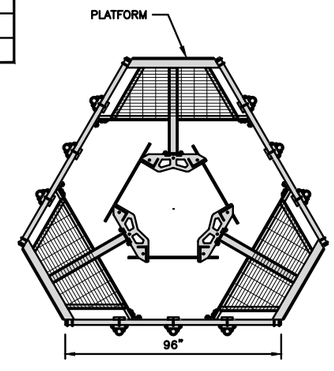


RRH/OVP MOUNT DETAIL | NO SCALE | 8

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

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





ANTENNA PLATFORM DETAIL | NO SCALE | 9

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CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
MUSTAPHA RAHA
33740
LICENSED
PROFESSIONAL ENGINEER

A&E PROJECT NUMBER
302503-13746611_D3

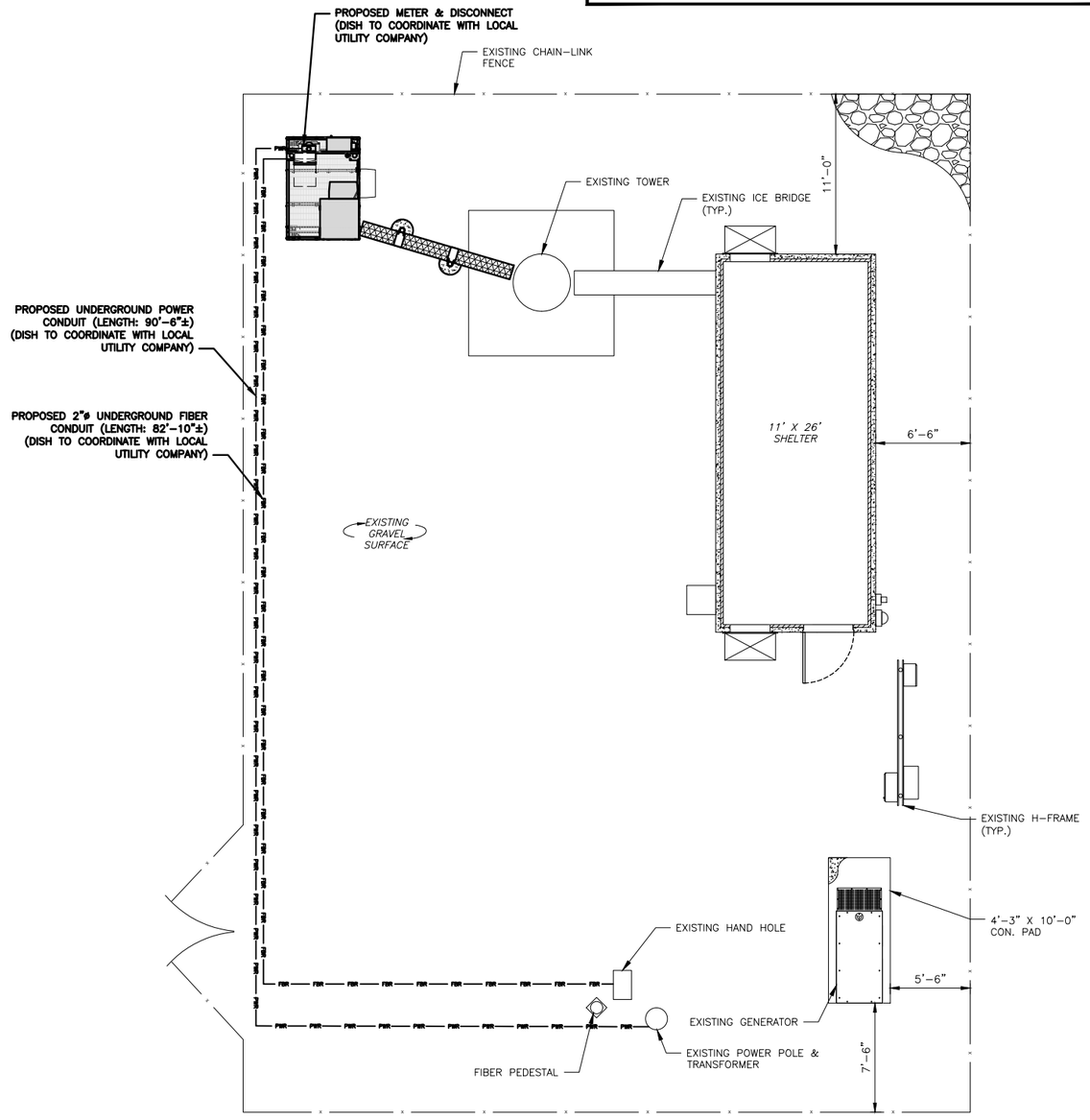
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-6

NOTES

1. CONTRACTOR MUST VERIFY THAT THE PROPOSED UTILITY ROUTES ARE WITHIN AMERICAN TOWER'S EASEMENT.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. GC TO REFER TO FINAL UTILITY COORDINATION DOCUMENT FOR ALL MEET ME POINTS AND ROUTING DETAILS.



UTILITY ROUTE PLAN

5' 0 5' 10'
1"=5'

1

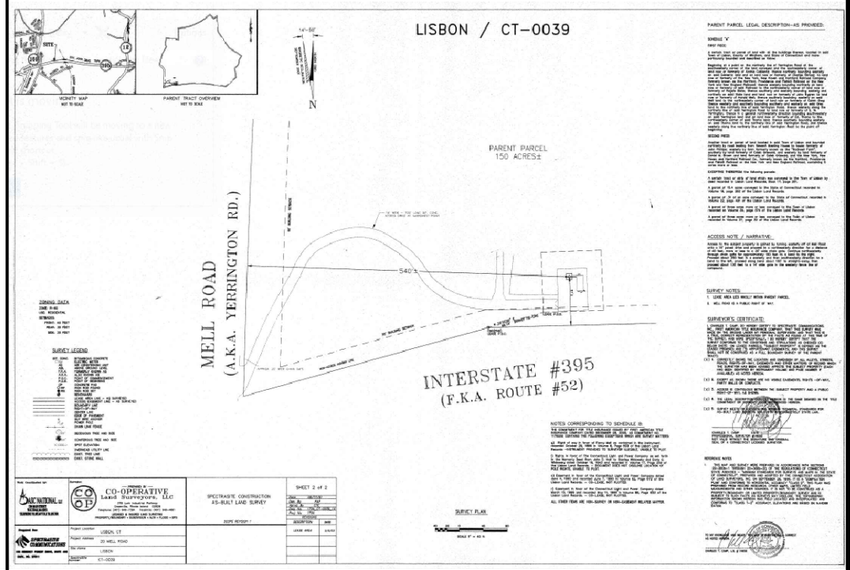
DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND −48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY −48V.

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

ELECTRICAL NOTES

NO SCALE

2



EXISTING SURVEY (BY OTHERS)

NO SCALE

3

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LITTLETON, CO 80120

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CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
MUSTAPHA RAJHA
33740
LICENSED
PROFESSIONAL ENGINEER

A&E PROJECT NUMBER
302503-13746611_D3

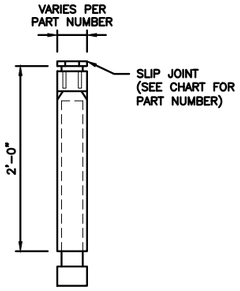
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
ELECTRICAL/FIBER ROUTE PAN AND NOTES

SHEET NUMBER
E-1

CARLON EXPANSION FITTINGS

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

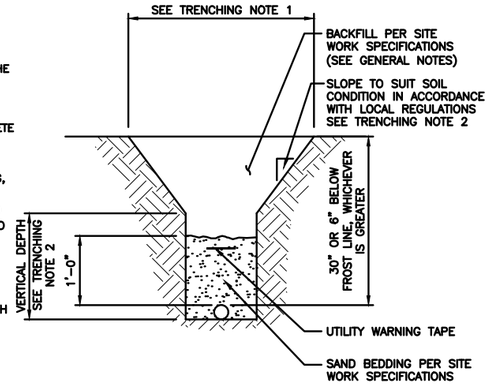


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

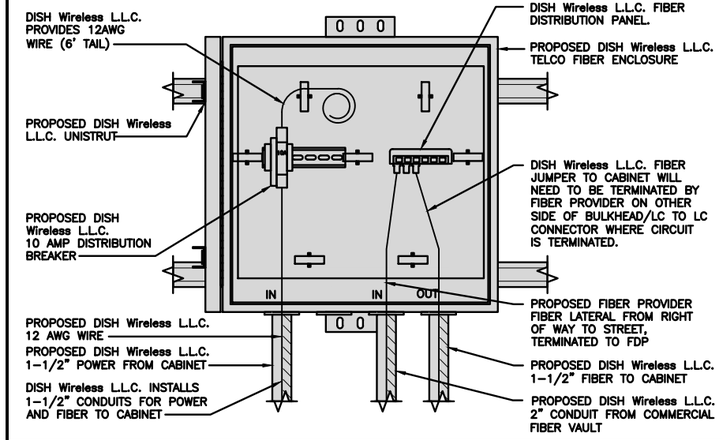
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

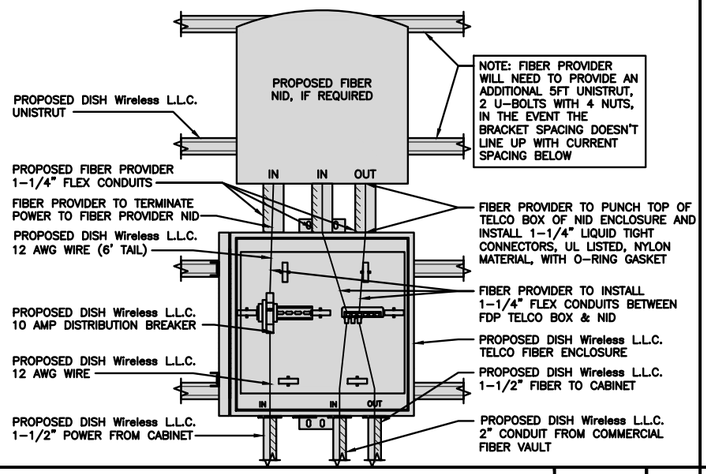
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT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



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



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



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

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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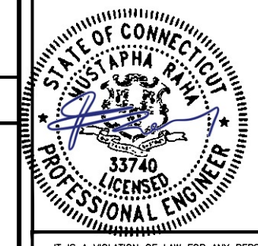
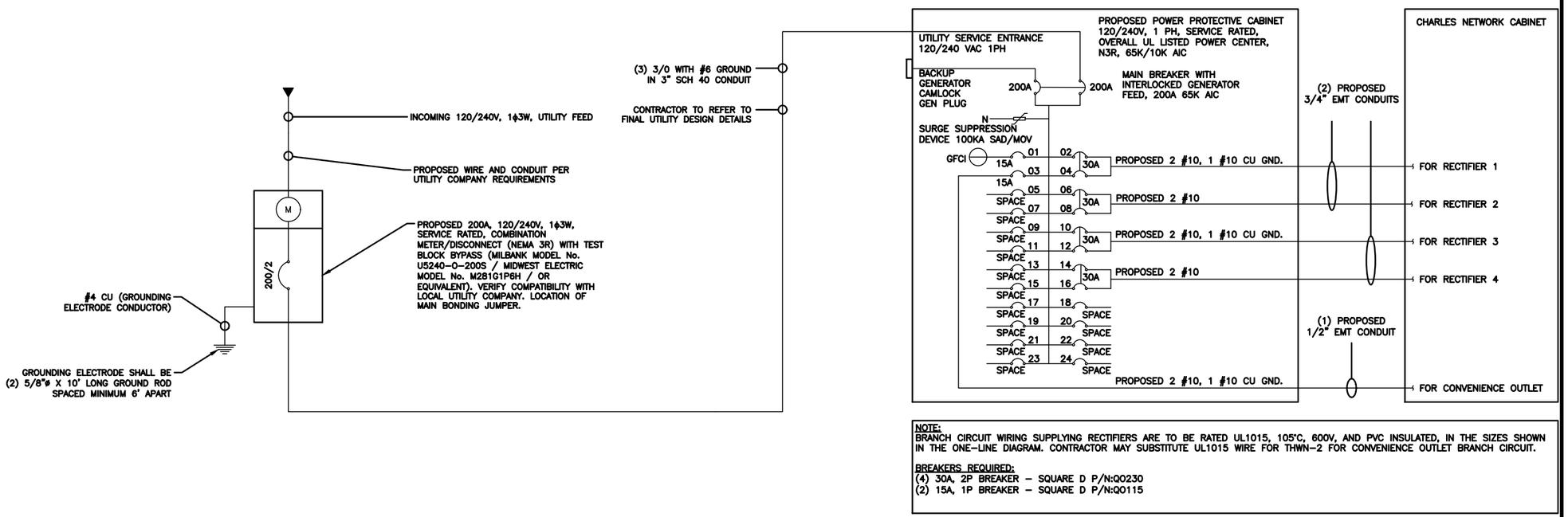


A&E PROJECT NUMBER
302503-13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-2



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

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

PPC ONE-LINE DIAGRAM | NO SCALE | 1

PROPOSED CHARLES PANEL SCHEDULE

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

PANEL SCHEDULE | NO SCALE | 2

NOT USED | NO SCALE | 3

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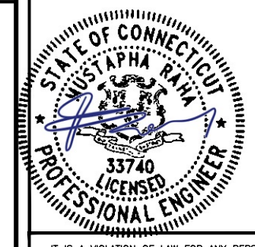
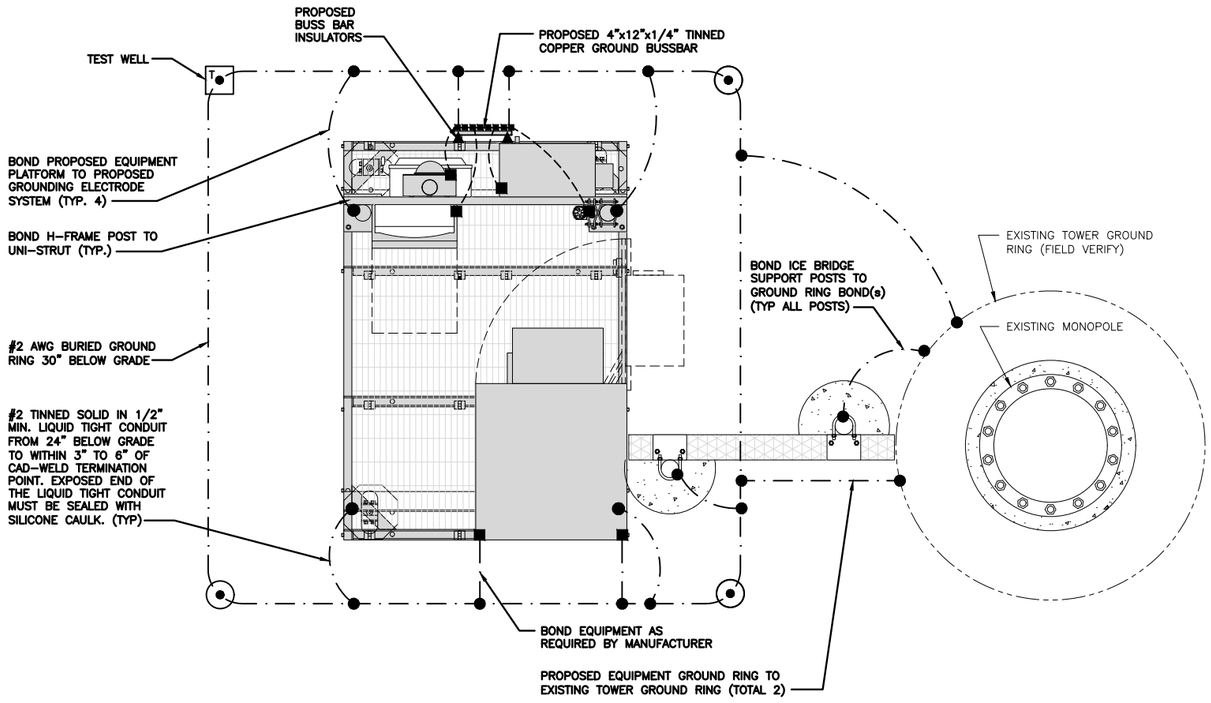


A&E PROJECT NUMBER
302503-13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

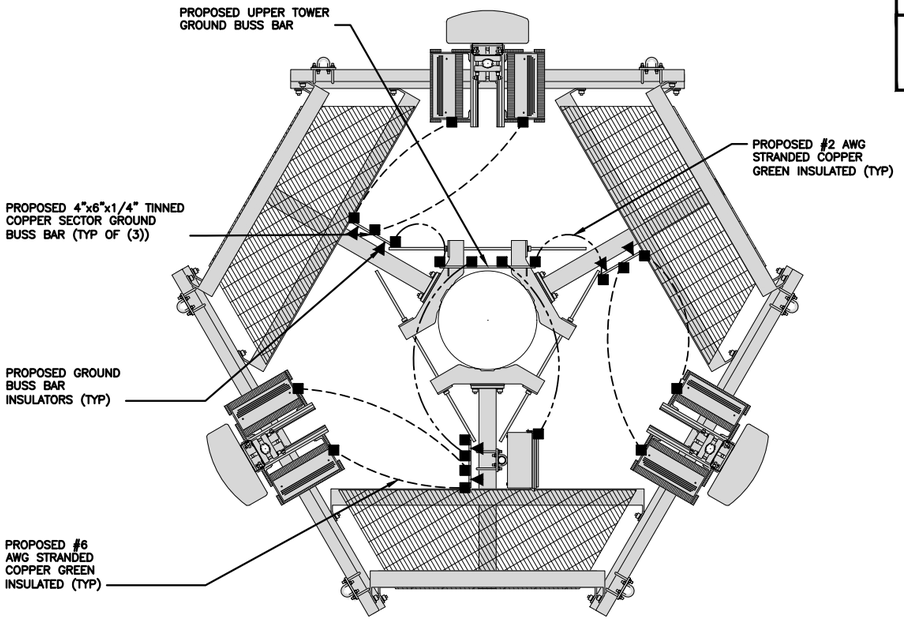
SHEET TITLE
ELECTRICAL ONE-LINE AND PANEL SCHEDULE

SHEET NUMBER
E-3



TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE | 1



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE | 2

NOTES

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

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

GROUNDING LEGEND

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

GROUNDING KEY NOTES

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

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

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

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

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 5/8" 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.

(J) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.

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

(L) 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.

(M) 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.

(N) 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

(P) 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.

(Q) 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

(R) 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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STATE OF CONNECTICUT · MUSTAPHA RAHA · 33740 · LICENSED PROFESSIONAL ENGINEER

A&E PROJECT NUMBER
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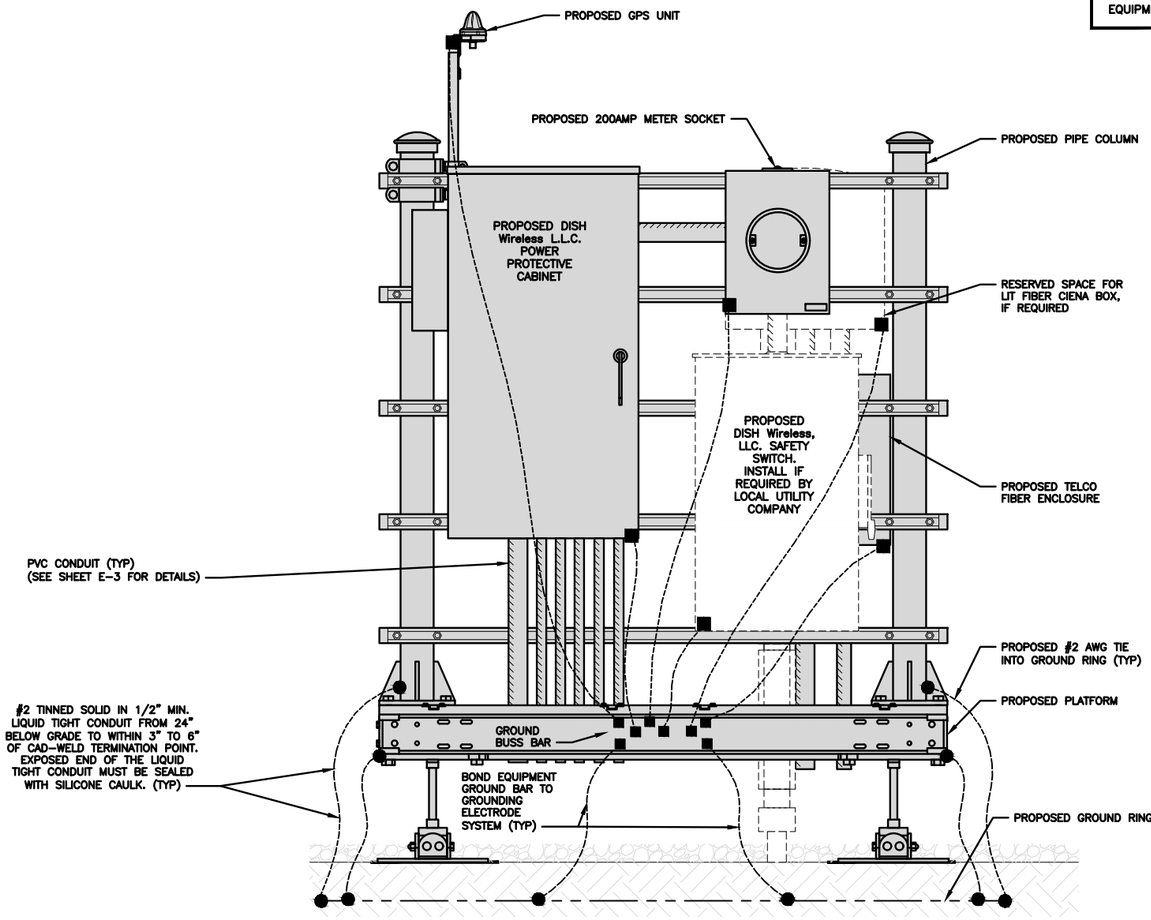
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
GROUNDING PLAN AND NOTES

SHEET NUMBER
G-1

NOTES

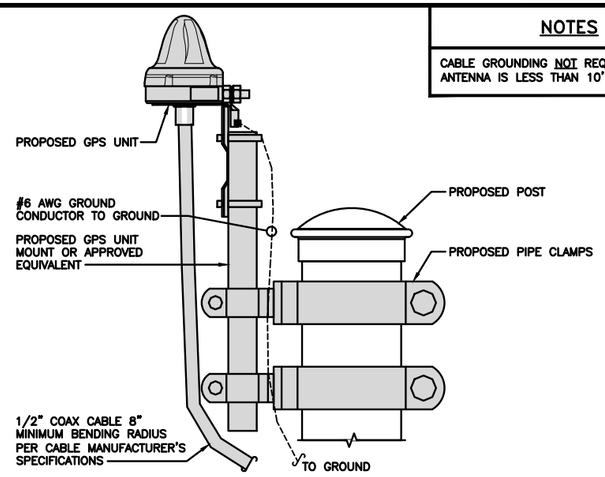
EQUIPMENT CABINET OMITTED FOR CLARITY



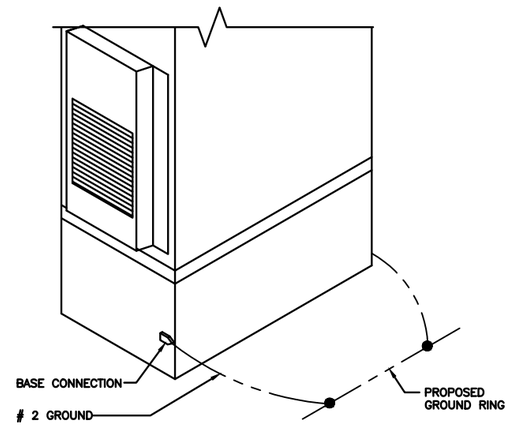
H-FRAME GROUNDING DETAIL | NO SCALE | 1

NOTES

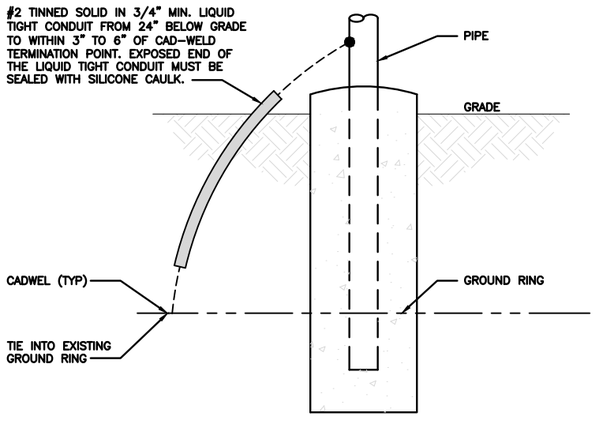
CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



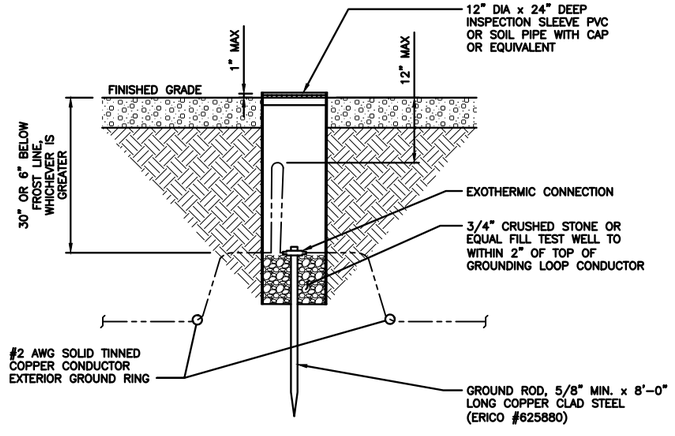
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



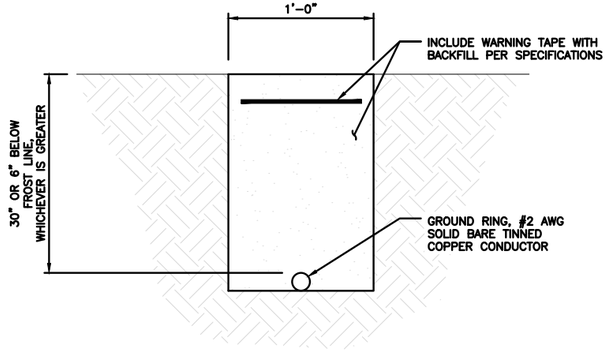
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



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



TYPICAL GROUND RING TRENCH | NO SCALE | 6

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DISH Wireless L.L.C.
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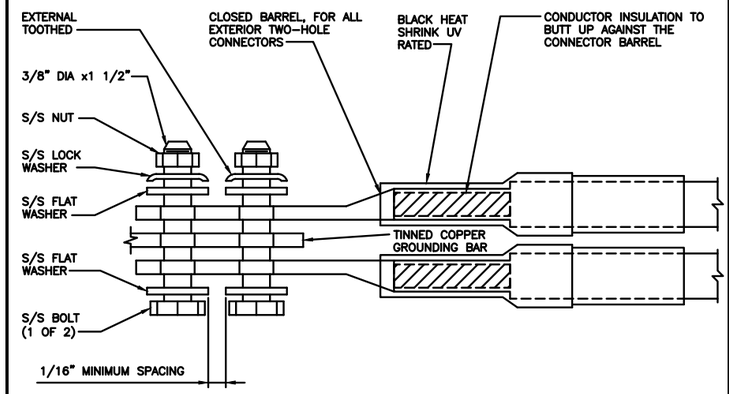
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
GROUNDING DETAILS

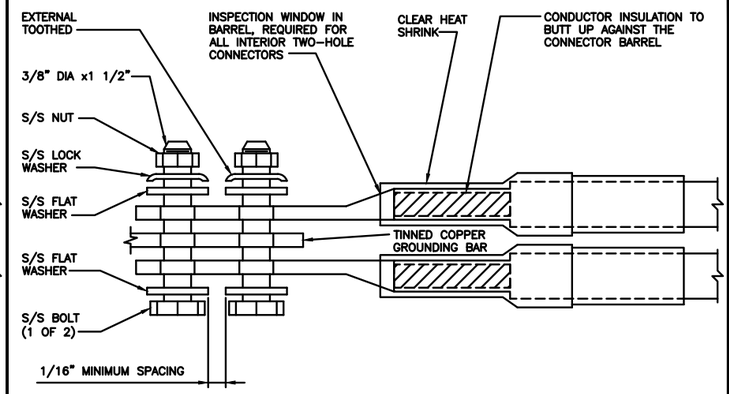
SHEET NUMBER
G-2

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).

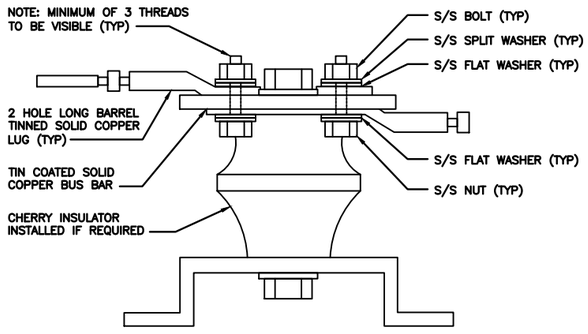
TYPICAL GROUNDING NOTES | NO SCALE | 1



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

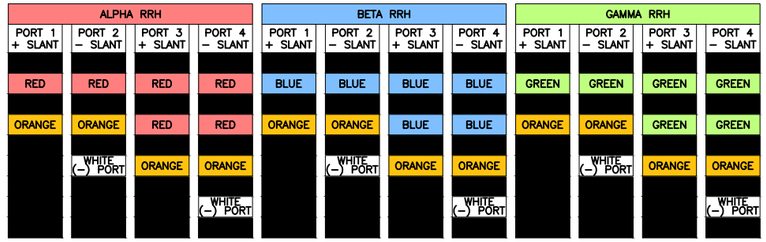
SHEET NUMBER
G-3

HYBRID/DISCREET CABLES

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

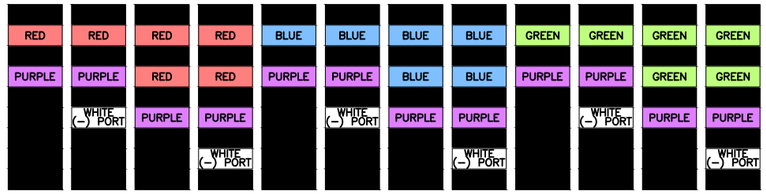
LOW–BAND RRH
(600 MHz N71 BASEBAND) +
(850 MHz N26 BAND) +
(700 MHz N29 BAND) – OPTIONAL PER MARKET

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



MID–BAND RRH
(AWS BANDS N66+N70)

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



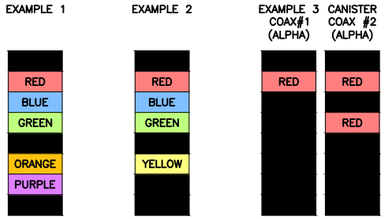
HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS.

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

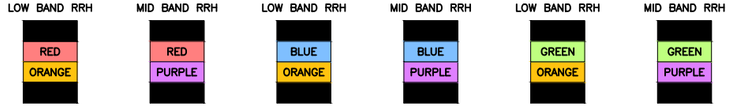
EXAMPLE 2 – HYBRID, OR DISCREET, SUPPORTS CBRS ONLY, ALL SECTORS.

EXAMPLE 3 – MAIN COAX WITH GROUND MOUNTED RRHs.



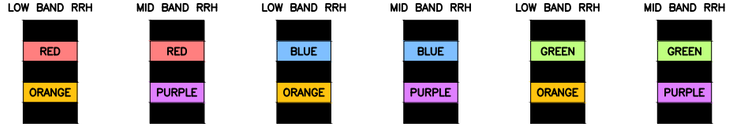
FIBER JUMPERS TO RRHs

LOW–BAND HHR FIBER CABLES HAVE SECTOR STRIPE ONLY.



POWER CABLES TO RRHs

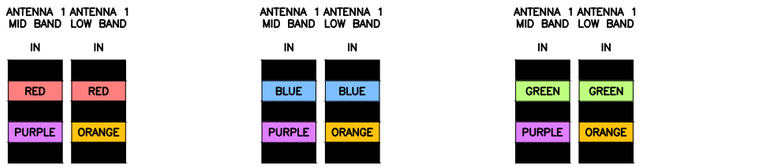
LOW–BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY



RET MOTORS AT ANTENNAS

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

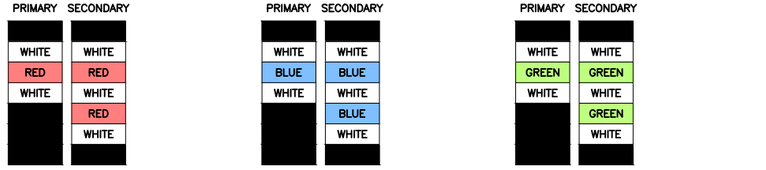
SEPARATE RET CABLES ARE USED WHEN ANTENNA PORTS PROVIDE INPUTS FOR BOTH LOW AND MID BANDS.



MICROWAVE RADIO LINKS

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

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



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

AWS (N66+N70+H–BLOCK): PURPLE

CBRS TECH (3 GHz): YELLOW

NEGATIVE SLANT PORT ON ANT/RRH: WHITE

ALPHA SECTOR: RED

BETA SECTOR: BLUE

GAMMA SECTOR: GREEN

COLOR IDENTIFIER		2
NOT USED		3
RF CABLE COLOR CODES		1
NOT USED		4

dish wireless.
5701 SOUTH SANTA FE DRIVE
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CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
MUSTAPHA RAHA
33740
LICENSED
PROFESSIONAL ENGINEER

A&E PROJECT NUMBER
302503–13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
RF CABLE COLOR CODES

SHEET NUMBER
RF-1

LEGEND

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM — T

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE — T

SINGLE POLE SWITCH — $

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE — GFCI

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

SMOKE DETECTION (DC) — SD

EMERGENCY LIGHTING (DC)

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

CHAIN LINK FENCE — x — x — x — x

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE — W — W — W — W — W

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

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

OVERHEAD POWER — OHP — OHP — OHP — OHP

OVERHEAD TELCO — OHT — OHT — OHT — OHT

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

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

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

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

WORKPOINT — W.P.

SECTION REFERENCE — XX / X–X

DETAIL REFERENCE — XX / X–X

ABBREVIATIONS

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

dish wireless.
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PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT · MUSTAPHA RAHA · 33740 LICENSED PROFESSIONAL ENGINEER

A&E PROJECT NUMBER
302503–13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
LEGEND AND ABBREVIATIONS

SHEET NUMBER
GN-1

⚠ CAUTION

Transmitting Antenna(s)

Radio frequency fields beyond this point MAY *EXCEED* the FCC Occupational exposure limit.

Obey all posted signs and site guidelines for working in radio frequency environments.

Call the Dish NOC at 1-866.624.6874 prior to working beyond this point.

Site ID: _____

dish

NOTICE

Transmitting Antenna(s)

Radio frequency fields beyond this point MAY *EXCEED* the FCC Occupational exposure limit.

Obey all posted signs and site guidelines for working in radio frequency environments.

Call the Dish NOC at 1-866.624.6874 prior to working beyond this point.

Site ID: _____

dish

⚠ WARNING

Transmitting Antenna(s)

Radio frequency fields beyond this point *EXCEED* the FCC Occupational exposure limit.

Obey all posted signs and site guidelines for working in radio frequency environments.

Call the Dish NOC at 1-866.624.6874 prior to working beyond this point.

Site ID: _____

dish

INFORMATION

This is an access point to an area with transmitting antennas.

Obey all signs and barriers beyond this point.
Call the DISH NOC at 1-866-624-6874

Site ID: _____

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

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A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
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DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
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A&E PROJECT NUMBER
302503-13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
RF SIGNAGE

SHEET NUMBER
GN-2

SITE ACTIVITY REQUIREMENTS:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GENERAL NOTES:

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

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH Wireless L.L.C.

TOWER OWNER:TOWER OWNER

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

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

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

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

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

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

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

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

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

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

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

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

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

dish wireless.
5701 SOUTH SANTA FE DRIVE
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AMERICAN TOWER®
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CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
SB	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
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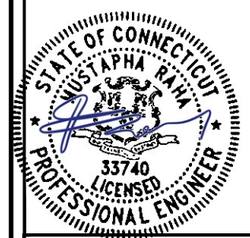

A&E PROJECT NUMBER
302503–13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-3

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

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

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

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

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

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

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

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

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

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

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

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

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

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

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

8. TIE WRAPS ARE NOT ALLOWED.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

dish wireless.
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RFDS REV #: ----

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SUBMITTALS

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0	01/05/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
MUSTAPHA RAHA
33740
LICENSED
PROFESSIONAL ENGINEER

A&E PROJECT NUMBER
302503-13746611_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-4

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.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."

2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:

A. ASTM A-572, GRADE 50 – ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE

B. ASTM A-36 – ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.

C. ASTM A-500, GRADE B – HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)

D. ASTM A-325, TYPE SC OR N – ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS

E. ASTM F-1554 07 – ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE

3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.

4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.

6. CONNECTIONS:

A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.

B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.

C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.

D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.

E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.

F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.

G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.

I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND DISH WIRELESS L.L.C. PROJECT MANAGER IN WRITING

dish wireless.
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A&E PROJECT NUMBER
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DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00068B
20 MEL ROAD
LISBON, CT 06351

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-5

April 29, 2022

Carl Brown, Zoning Enforcement Officer
Town of Lisbon
1 Newent Rd.
Lisbon, CT 06351

Re: Tower Share Application – Dish Site 13746611
Dish Wireless Telecommunications Facility @ 20 Mel Road, Lisbon, CT 06351
AKA 26 Mell Road, Lisbon, CT
AKA 26 Mell Road, Griswold, CT

Dear Mr. Brown:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred and eighty one (181) foot tall monopole tower at the location identified on the Siting Council database as 26 Mell Road, Lisbon, CT 06351 (Latitude: 41.59083333 Longitude: -72.0169) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by Stanley Wildowski. The tower was originally approved by the Connecticut Siting Council in Docket #124, dated March 12, 1990.

Research into prior CSC cases involving this tower reveals that "the address of 26 Mell Road appears on two sub-accounts which appear to be "*tax accounts" for American Tower and SBA judging by the mailing addresses – both list the same primary Parcel ID # and show Mr. Stanley Wildowski as the property owner. The Lisbon Building Inspector, Mr. Carl Brown also confirmed that 26 Mell Road is the address by which the Tower is known and identified locally.*" Accordingly, the correct tower location address is 26 Mell Road and the underlying property address for the property owner is 6 Mell Road.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound and install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at one hundred seventy three (173) feet as more particularly detailed and described on the enclosed Construction Drawings. No height extension or compound expansion are proposed.

This letter is intended to serve as the required notice to the municipal planning agency. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut

Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
443-677-0144

Enclosures

April 29, 2022

Stanley Wildowski
6 Mel Road
Lisbon, CT 06351

Re: Tower Share Application – Dish Site 13746611
Dish Wireless Telecommunications Facility @ 20 Mel Road, Lisbon, CT 06351
AKA **26 Mell Road, Lisbon, CT**
AKA 26 Mell Road, Griswold, CT

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Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

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Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

April 29, 2022

The Honorable Thomas Sparkman
Town of Lisbon
1 Newent Rd.
Lisbon, CT 06351

Re: Tower Share Application – Dish Site 13746611
Dish Wireless Telecommunications Facility @ 20 Mel Road, Lisbon, CT 06351
AKA **26 Mell Road, Lisbon, CT**
AKA 26 Mell Road, Griswold, CT

Dear First Selectman Sparkman:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred and eighty one (181) foot tall monopole tower at the location identified on the Siting Council database as 26 Mell Road, Lisbon, CT 06351 (Latitude: 41.59083333 Longitude: -72.0169) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by Stanley Wildowski. The tower was originally approved by the Connecticut Siting Council in Docket #124, dated March 12, 1990.

Research into prior CSC cases involving this tower reveals that "*the address of 26 Mell Road appears on two sub-accounts which appear to be "tax accounts" for American Tower and SBA judging by the mailing addresses – both list the same primary Parcel ID # and show Mr. Stanley Wildowski as the property owner. The Lisbon Building Inspector, Mr. Carl Brown also confirmed that 26 Mell Road is the address by which the Tower is known and identified locally.*" Accordingly, the correct tower location address is 26 Mell Road and the underlying property address for the property owner is 6 Mell Road.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound and install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at one hundred seventy three (173) feet as more particularly detailed and described on the enclosed Construction Drawings. No height extension or compound expansion are proposed.

This letter is intended to serve as the required notice to the chief elected official of the municipality. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

April 29, 2022

Blake Paynter
Project Manager, Site Development
American Tower Corporation
10 Presidential Way
Woburn, MA 01801

Re: Tower Share Application – Dish Site 13746611
Dish Wireless Telecommunications Facility @ 20 Mel Road, Lisbon, CT 06351
AKA 26 Mell Road, Lisbon, CT
AKA 26 Mell Road, Griswold, CT

Dear Mr. Paynter:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred and eighty one (181) foot tall monopole tower at the location identified on the Siting Council database as 26 Mell Road, Lisbon, CT 06351 (Latitude: 41.59083333 Longitude: -72.0169) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by Stanley Wildowski. The tower was originally approved by the Connecticut Siting Council in Docket #124, dated March 12, 1990.

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This letter is intended to serve as the required notice to both the tower owner and the property owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

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Jewett City, CT

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Call 1-800-275-8777

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