PROJECT NARRATIVE

November 4, 2021

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

Re: Request of DISH Wireless LLC for an Order to Approve the Shared Use of an Existing Tower
77 Springbrook Road Old Saybrook, CT 06475
Latitude: 41'18'49.800" / Longitude: -72' 21' 50.500"

Dear Ms. Bachman:

Pursuant to Connecticut General Statutes ("C.G.S.") §16-50aa, as amended, DISH Wireless LLC ("DISH") hereby requests an order from the Connecticut Siting Council ("Council") to approve the shared use by DISH of an existing telecommunication tower at 77 Springbrook Road in Old Saybrook (the "Property"). The existing 175-foot monopole tower is owned by American Tower Corporation ("ATC"). The underlying property is owned by Crossroads Communications of Old Saybrook. DISH requests that the Council find that the proposed shared use of the ATC tower satisfies the criteria of C.G.S. §16-50aa and issue an order approving the proposed shared use. A copy of this filing is being sent to Carl P. Fortuna, Jr., First Selectman of Town of Old Saybrook, Tom Makowicki, Town of Old Saybrook Building Official and Crossroads Communications of Old Saybrook as the property owner.

Background

The existing ATC facility consists of a 175-foot monopole tower located within an existing leased area. Verizon Wireless currently maintains antennas at the 173-foot level. T-Mobile currently maintains antennas at the 162-foot level. Metro PCS currently maintains antennas at the 152-foot level. Equipment associated with these antennas are located at various positions within the tower and compound.

DISH is licensed by the Federal Communications Commission ("FCC") to provide wireless services throughout the State of Connecticut. DISH and Crown Castle have agreed to the proposed shared use of the 77 Springbrook Road tower pursuant to mutually acceptable terms and conditions. Likewise, DISH and ATC have agreed to the proposed installation of equipment cabinets on the ground on the south side of the tower within the existing compound. ATC has authorized DISH to apply for all necessary permits and approvals that may be required to share the existing tower. (See attached Letter of Authorization)

DISH proposes to install three (3) antennas, (1) Tower platform mount, (6) Remote radio units at the 140-foot level along with, (1) over voltage protection device (OVP) and (1) Hybrid cable. DISH will install an equipment cabinet on a 5'x7' equipment platform. DISH's Construction Drawings provide project specifications for all proposed site improvement locations. The construction drawings also include specifications for DISH's proposed antenna and groundwork.

C.G.S. § 16-50aa(c)(1) provides that, upon written request for approval of a proposed shared use, "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such a shared use." DISH respectfully submits that the shared use of the tower satisfies these criteria.

A. Technical Feasibility. The existing ATC tower is structurally capable of supporting DISH's proposed improvements. The proposed shared use of this tower is, therefore, technically feasible. A Feasibility Structural Analysis Report ("Structural Report") prepared for this project confirms that this tower can support DISH's proposed loading. A copy of the Structural Report has been included in this application.

B. Legal Feasibility. Under C.G.S. § 16-50aa, the Council has been authorized to issue order approving the shared use of an existing tower such as the ATC tower. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. In addition, § 16-50x(a) directs the Council to "give such consideration to the other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the statutory authority vested in the Council, an order by the Council approving the requested shared use would permit the Applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility. The proposed shared use of the ATC tower would have a minimal environmental effect for the following reasons:

1. The proposed installation will have no visual impact on the area of the tower. DISH's equipment cabinet would be installed within the existing facility compound. DISH's shared use of this tower therefore will not cause any significant change or alteration in the physical or environmental characteristics of the existing site.

2. Operation of DISH's antennas at this site would not exceed the RF emissions standard adopted by the Federal Communications Commission ("FCC"). Included in the EME report of this filing are the approximation tables that demonstrate that DISH's proposed facility will operate well within the FCC RF emissions safety standards.

3. Under ordinary operating conditions, the proposed installation would not require the use of any water or sanitary facilities and would not generate air emissions or discharges to water bodies or sanitary facilities. After construction is complete the proposed installations would not generate any increased traffic to the ATC facility other than periodic maintenance. The proposed shared use of the ATC tower, would, therefore, have a minimal environmental effect, and is environmentally feasible.

D. **Economic Feasibility**. As previously mentioned, DISH has entered into an agreement with ATC for the shared use of the existing facility subject to mutually agreeable terms. The proposed tower sharing is, therefore, economically feasible.

E. **Public Safety Concerns**. As discussed above, the tower is structurally capable of supporting DISH's full array of three (3) antennas, (1) Tower platform mount, (6) Remote radio units, (1) over voltage protection device (OVP) and (1) Hybrid cable and all related equipment. DISH is not aware of any public safety concerns relative to the proposed sharing of the existing ATC tower

Conclusion

For the reasons discussed above, the proposed shared use of the existing ATC tower at 77 Springbrook Road satisfies the criteria stated in C.G.S. §16-50aa and advances the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the prosed shared use.

Sincerely,

David Hoogasian

David Hoogasian
Project Manager

LETTER OF AUTHORIZATION

AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION
LICENSEE: DISH WIRELESS L.L.C.

I, Margaret Robinson, Senior Counsel for American Tower*, owner/operator of the tower facility located at the address identified above (the "Tower Facility"), do hereby authorize DISH WIRELESS L.L.C., its successors and assigns, and/or its agent, (collectively, the "Licensee") to act as American Tower's non-exclusive agent for the sole purpose of filing and consummating any land-use or building permit application(s) as may be required by the applicable permitting authorities for Licensee's telecommunications' installation.

We understand that this application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by Licensee only of conditions related to Licensee's installation and any such conditions of approval or modifications will be Licensee's sole responsibility.

*American Tower includes all affiliates and subsidiaries of American Tower Corporation.

Project #	ATC Site #	ATC Site Name	ATC Site Address
13688133	208450	Enfield	1A Ecology Drive, Enfield CT
13700322	209115	Ridgefield 2	320 Old Stagecoach Road, Ridgefield, CT
13688136	209185	Burlington 2	87 Monce Road, Burlington CT
13700320	209271	Brookfield 2	100 Pocono Road, Brookfield CT
13693702	243036	WEST HAVEN & RT 162 CT	668 Jones Hill Road, West Haven CT
13693677	280501	ROXBURY CT	377 Southbury Road, Roxbury CT
13685406	281416	WILLINGTON CT	196 Tolland Turnpike, Willington CT
13709418	281862	BRIDGEWATER CT	111 SECOND HILL RD, Bridgewater CT
13693659	283418	NORTH HAVEN CT	50 Devine Street, North Haven CT
13694329	283419	PINE ORCHARD BRANFORD CT	123 Pine Orchard Road, Branford CT
13694332	283422	SHORT BEACH BRANFORD CT	171 Short Beach Road, Branford CT
13698427	283423	NAUGATUCK CT	880 Andrew Mountain Road, Naugatuck CT
13685464	283563	MANSFIELD CT	343 Daleville Road, Willington CT
13692735	284983	OLD LYME CT	61-1 Buttonball Road, Old Lyme CT
13693120	284984	PAWCATUCK CT	166 Pawcatuck Ave, Pawcatuck CT
13693144	284988	GUILFORD CT	Moose Hill Road, Guilford CT
13694582	302465	Colchester CT 6	355 Route 85, Colchester CT
13683501	302468	Petro Lock	99 Meadow St, Hartford CT
13685427	302469	Bridgeport CT 2	1069 Connecticut Avenue, Bridgeport CT
13683503	302472	Andover-bunker Hill Road	104 Bunker Hill Road, Andover CT
13683507	302473	E H F R - Prestige Park	310 Prestige Park Road, East Hartford CT

AMERICAN TOWER®
CORPORATION

Project #	ATC Site #	ATC Site Name	ATC Site Address
13683510	302474	South Windsor	391 Niederwerfer Road, South Windsor CT
13683513	302483	Brln - Berlin	286 Beckley Road, Berlin CT
13692185	302488	Cntn - Canton	4 Hoffmann Road, Canton CT
13692173	302495	Tolland CT	56 Ruops Road, Tolland CT
13694579	302496	Clch - Colchester	Chestnut Hill Road, Colchester CT
13701212	302501	Plymouth CT 3	297 North Street, Plymouth CT
13685414	302515	SMFR - North	5 High Ridge Park Road, Stamford CT
13702496	302516	Mlfd - Milford	438 Bridgeport Ave, Milford CT
13688395	302518	Newtown CT 3	25 Meridian Ridge Drive, Newton CT
13692174	302529	Vernon CT 6	777 Talcotville Road, Vernon Rockville CT
13693124	311014	NORWICH CT	202 N Wawecus Hill Rd, Norwich CT
13702522	311305	GLFD-GUILFORD REBUILD CT	10 Tanner Marsh Road, Guilford CT
13693127	370623	MONTVILLE CT	139 Sharp Hill Road, Uncasville CT
13681964	370625	Old Saybrook	77 Springbrook Road, Old Saybrook CT
13702535	383660	North Madison Volunteer FD	864 Opening Hill Road, Madison CT
13702538	411180	Good Hill CT	481 GOOD HILL ROAD, Woodbury CT
13693709	411182	Nepaug CT	20 Antolini Road, New Hartford CT
13693131	411183	WATERFORD CT	53 Dayton Rd., Waterford CT
13693135	411184	SALEM CT SQA	399 West Road, Salem CT
13692177	411186	West Granby, CT CT	207 West Granby Road, Granby CT
13692178	411187	Hartford North 2 CT	811 Blue Hills Avenue, Bloomfield CT
13693705	411188	Southbury CT	111 Upper Fishrock Road, Southbury CT
13692179	411256	CANTON CT	14 CANTON SPRINGS ROAD, Canton CT
13681988	411257	Middle Haddam Road-CROWN CT	191 Middle Haddam Rd, Portland CT
13692180	411258	Farmington North 2 CT	199 Town Farm Road, Farmington CT
13692182	411259	CT Collinsville CAC 802816 CT	650 Albany Turnpike, Collinsville CT
13692184	416862	SUFFIELD SW CT CT	106 South Grand St., West Suffield CT
13694578	6260	NORTH STONINGTON CT	118C Wintechog Hill Rd., off of Rt. 2, North Stonington CT
13681397	88013	Killingworth	131 Little City Road, Killingworth CT

Signature:

Print Name: Margaret Robinson
Senior Counsel
American Tower*

AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION
LICENSEE: DISH WIRELESS L.L.C.

NOTARY BLOCK

Commonwealth of MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Senior Counsel for American Tower*, 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 executed the same.

WITNESS my hand and official seal, this 10th day of September 2021.

NOTARY SEAL

MELISSA ANN METZLER
Notary Public
Commonwealth of Massachusetts
My Commission Expires March 14, 2025

Notary Public _____
My Commission Expires: March 14, 2025

ENGINEERING DRAWINGS

DISH WIRELESS, L.L.C. SITE ID:

BOBDL00018A

DISH WIRELESS, L.L.C. SITE ADDRESS:

77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

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 (3) PROPOSED ANTENNA MOUNTS (1 PER SECTOR)
- 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)

SITE INFORMATION

PROPERTY OWNER:	CROSSROADS COMMUNICATIONS OF OLD SAYBROOK
ADDRESS:	77 SPRINGBROOK ROAD OLD SAYBROOK, CT 06475
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	370625
TOWER APP NUMBER:	13681964
COUNTY:	MIDDLESEX
LATITUDE (NAD 83):	41° 18' 49.800" N 41.31383333
LONGITUDE (NAD 83):	72° 21' 50.500" W -72.36402778
ZONING JURISDICTION:	CONNECTICUT SITING COUNCIL
ZONING DISTRICT:	058-017-0001
PARCEL NUMBER:	B2
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	V-B
POWER COMPANY:	NORTHEAST UTILITIES
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:	NB+C ENGINEERING SERVICES, LLC. 8601 SIX FORKS ROAD, SUITE 540 RALEIGH, NC 27615
SITE ACQUISITION:	DAVID TALLEY
CONSTRUCTION MANAGER:	TBD
RF ENGINEER:	TBD

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 DOWNTOWN NEW HAVEN CT START OUT GOING NORTHEAST ON CHURCH ST TOWARD WALL ST. CHURCH ST BECOMES WHITNEY AVE. TURN RIGHT ONTO TRUMBULL ST. TAKE THE I-91 S/I-91 N RAMP. MERGE ONTO I-91 S TOWARD I-95/NEW LONDON/N.Y.CITY. MERGE ONTO I-95 N/GOVERNOR JOHN DAVIS LODGE TPKE N VIA THE EXIT ON THE LEFT TOWARD NEW LONDON. TAKE THE CT-154 EXIT, EXIT 67, TOWARD OLD SAYBROOK. MERGE ONTO MIDDLESEX TURNPIKE/CT-154 TOWARD R R STATION. URN LEFT ONTO BOSTON POST RD/US-1 N. TURN LEFT ONTO SPRINGBROOK RD. 77 SPRINGBROOK RD IS ON THE LEFT.

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
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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
RF-2	RF PLUMBING DIAGRAM
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES

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

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

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.

VICINITY MAP

NO SCALE

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

NB+C TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
8601 SIX FORKS ROAD, SUITE 540
RALEIGH, NC 27615
(919) 657-9131

DRAWN BY:	CHECKED BY:	APPROVED BY:
AMT	BIW	BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	08/04/2021	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT — PEN.0028997 — LICENSED PROFESSIONAL ENGINEER

A&E PROJECT NUMBER

370625-13681964

DISH WIRELESS, L.L.C.
PROJECT INFORMATION

BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE

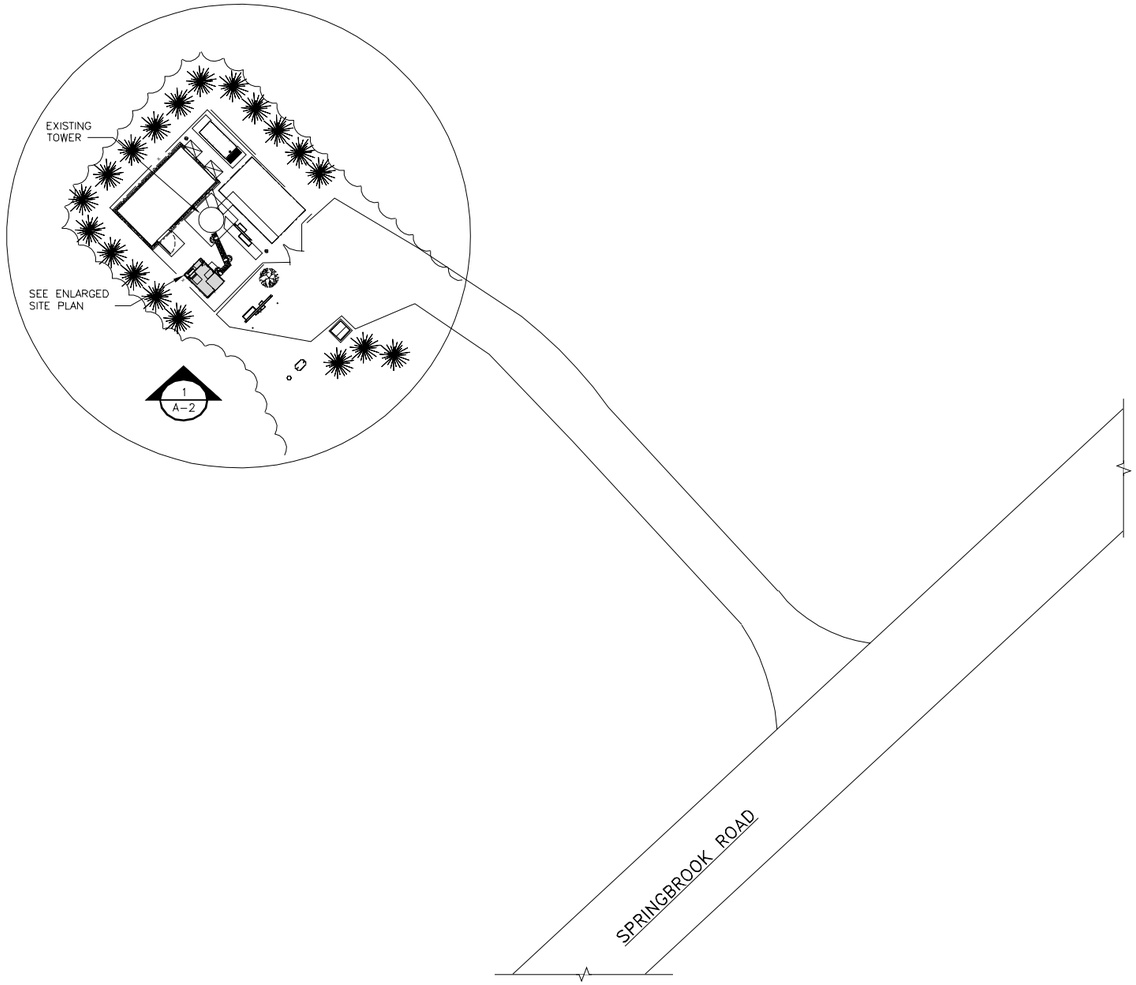
TITLE SHEET

SHEET NUMBER

T-1

NOTES

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



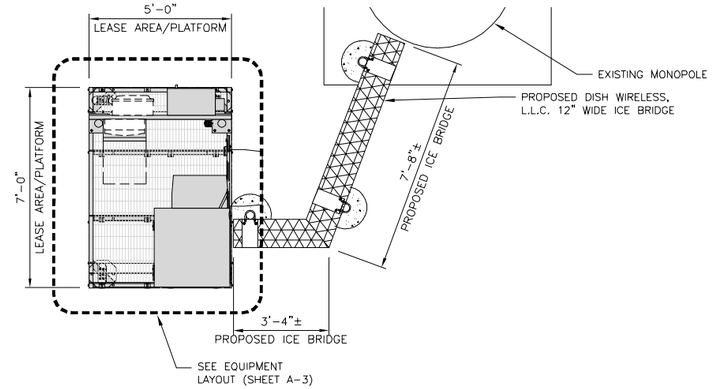
OVERALL SITE PLAN

16' 12' 8' 4' 0 16' 32'
1/16"=1'-0"

1

NOTES

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



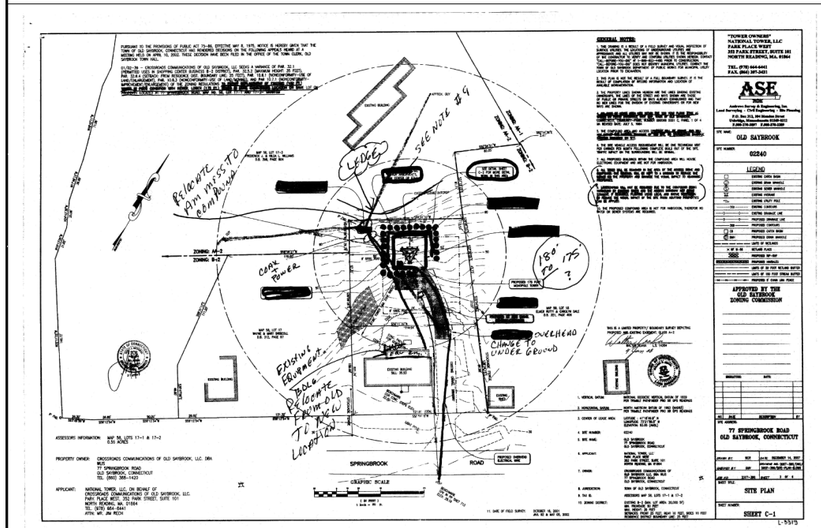
ENLARGED SITE PLAN

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

2

NOTES

1. THE SURVEY PROVIDED ON THIS SHEET IS PROVIDED FOR REFERENCE ONLY. THE UTILITY ROUTE AND EXISTING EASEMENTS MUST BE VERIFIED PRIOR TO CONSTRUCTION.



EXISTING SURVEY (BY OTHERS)

NO SCALE

3

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

NB+C TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
8601 SIX FORKS ROAD, SUITE 540
RALEIGH, NC 27615
(919) 657-9131

DRAWN BY:	CHECKED BY:	APPROVED BY:
AMT	BIW	BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	08/04/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

370625-13681964

DISH WIRELESS, L.L.C.
PROJECT INFORMATION

BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE

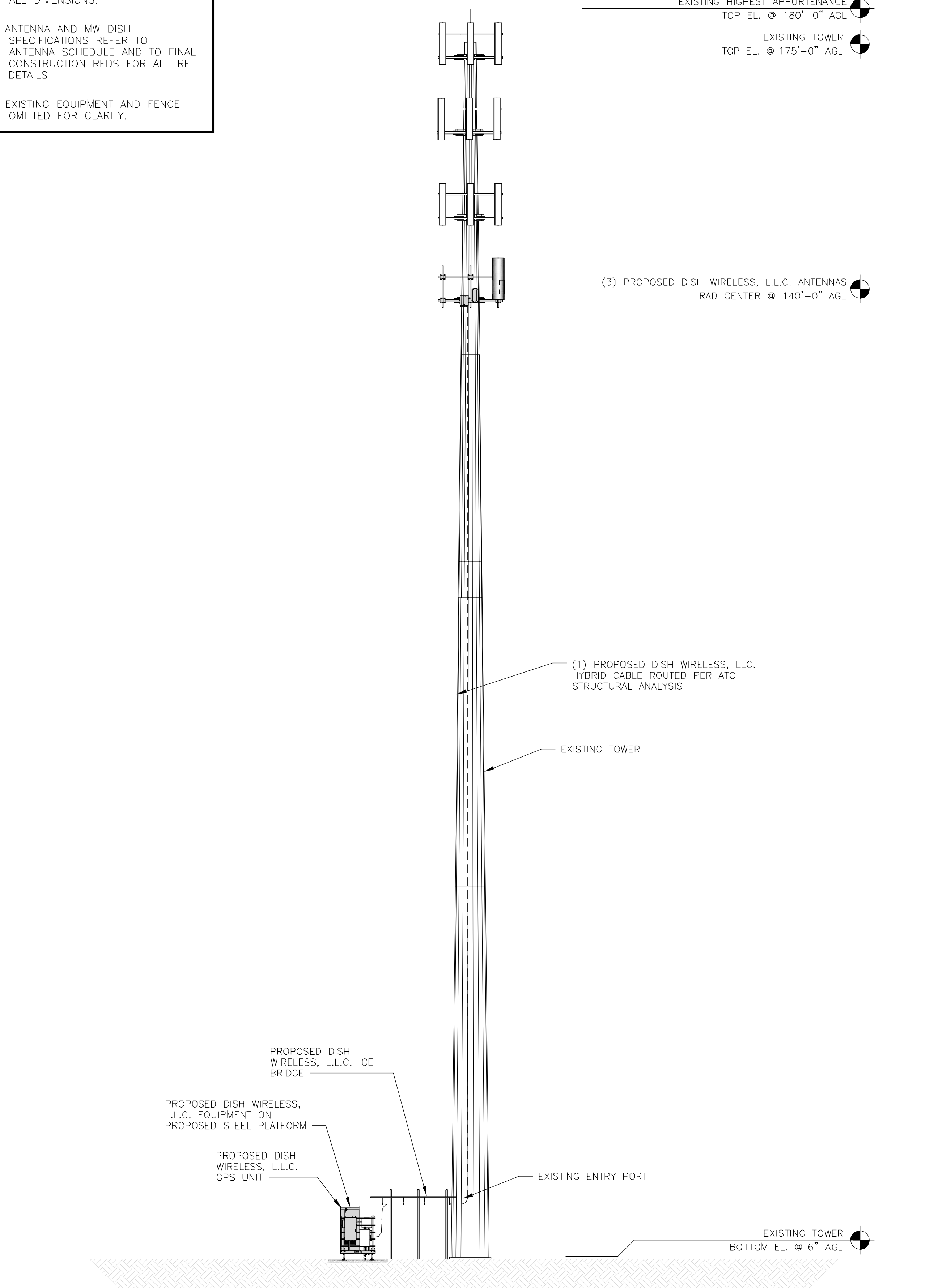
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER

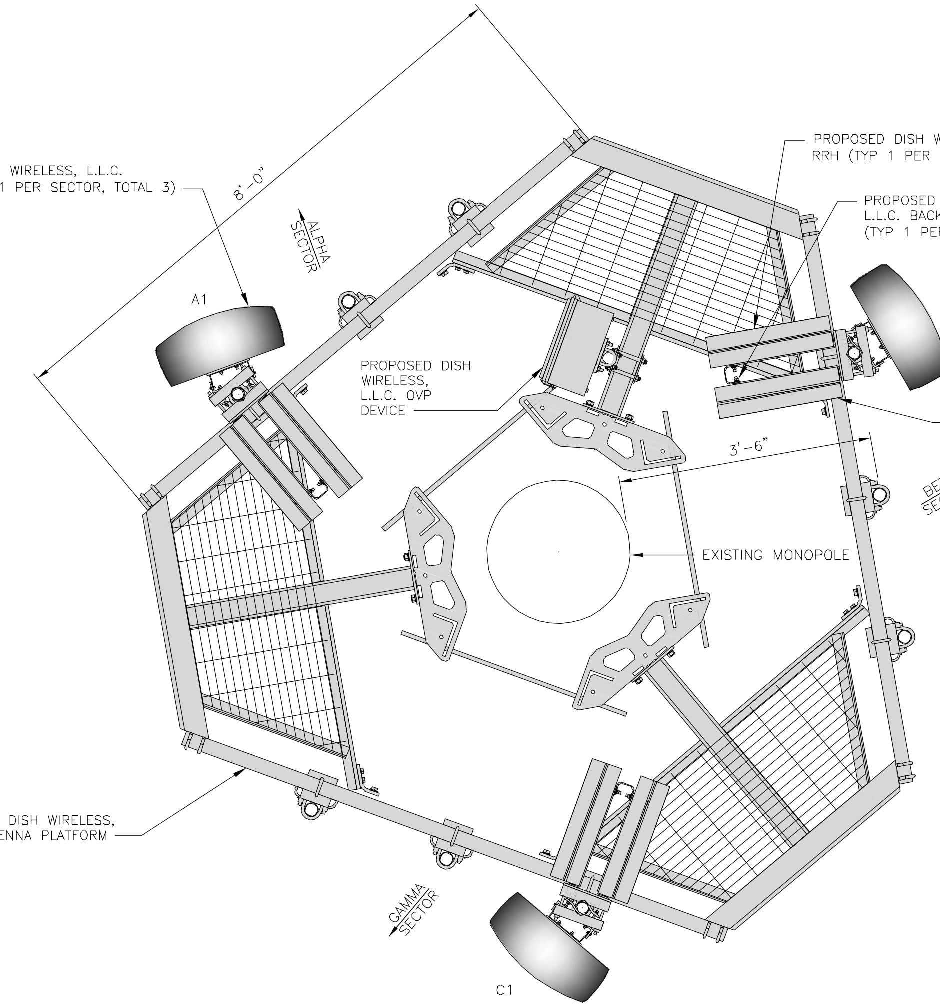
A-1

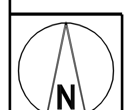
NOTES

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





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

SECTOR	POSITION	ANTENNA: EXISTING OR PROPOSED	ANTENNA: MANUFACTURER – MODEL NUMBER	ANTENNA: TECHNOLOGY	ANTENNA: SIZE (HxW)	ANTENNA: AZIMUTH	ANTENNA: RAD CENTER	TRANSMISSION CABLE: FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA – MX08FRO665-21	5G	72.0" x 20.0"	340°	140'-0"	(1) HIGH-CAPACITY HYBRID CABLE (174' LONG)
BETA	B1	PROPOSED	JMA – MX08FRO665-21	5G	72.0" x 20.0"	60°	140'-0"	
GAMMA	C1	PROPOSED	JMA – MX08FRO665-21	5G	72.0" x 20.0"	220°	140'-0"	

SECTOR	POSITION	RRH: MANUFACTURER – MODEL NUMBER	RRH: TECHNOLOGY
ALPHA	A1	FUJITSU – TA08025-B605	N66,N70
	A1	FUJITSU – TA08025-B604	N29,N71
BETA	B1	FUJITSU – TA08025-B605	N66,N70
	B1	FUJITSU – TA08025-B604	N29,N71
GAMMA	C1	FUJITSU – TA08025-B605	N66,N70
	C1	FUJITSU – TA08025-B604	N29,N71

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

NB+C TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
8601 SIX FORKS ROAD, SUITE 540
RALEIGH, NC 27615
(919) 657-9131

DRAWN BY:	CHECKED BY:	APPROVED BY:
AMT	BIW	BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
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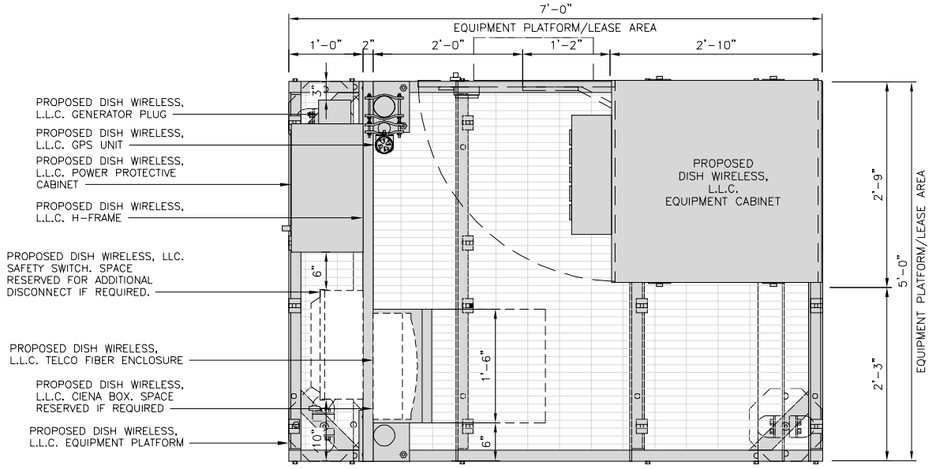
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-2



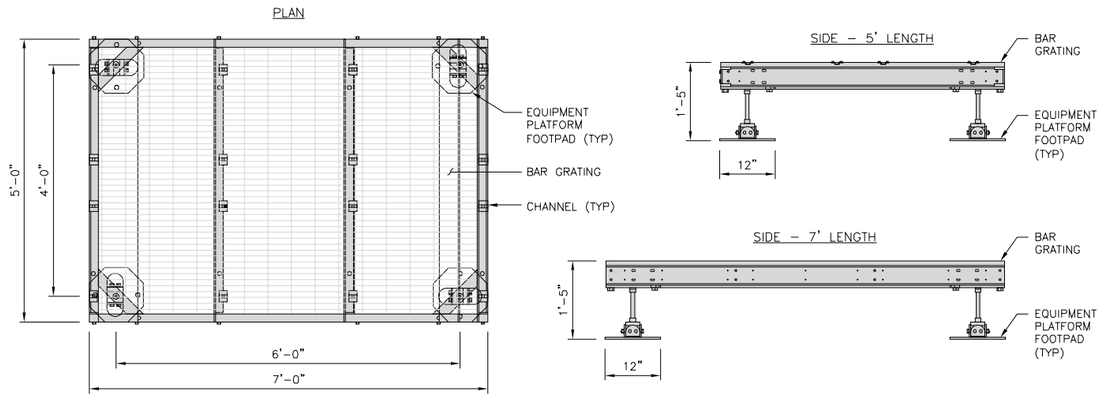
PLATFORM EQUIPMENT PLAN

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

1

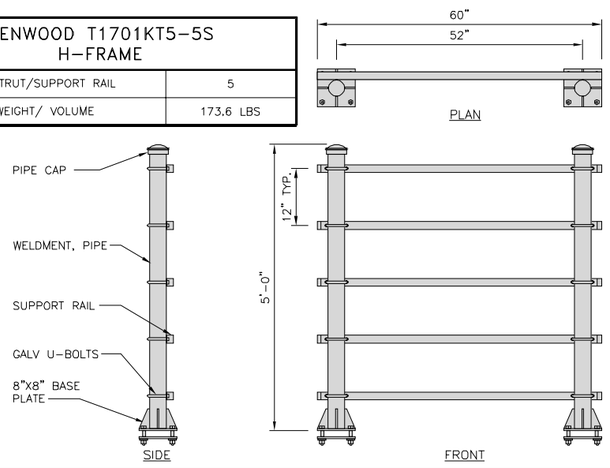
COMMSCOPE MTC4045LP 5X7 PLATFORM	
DIMENSIONS (HxWxD)	16"x84"x60"
TOTAL WEIGHT	423 LBS

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



PLATFORM DETAIL | NO SCALE | 2

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

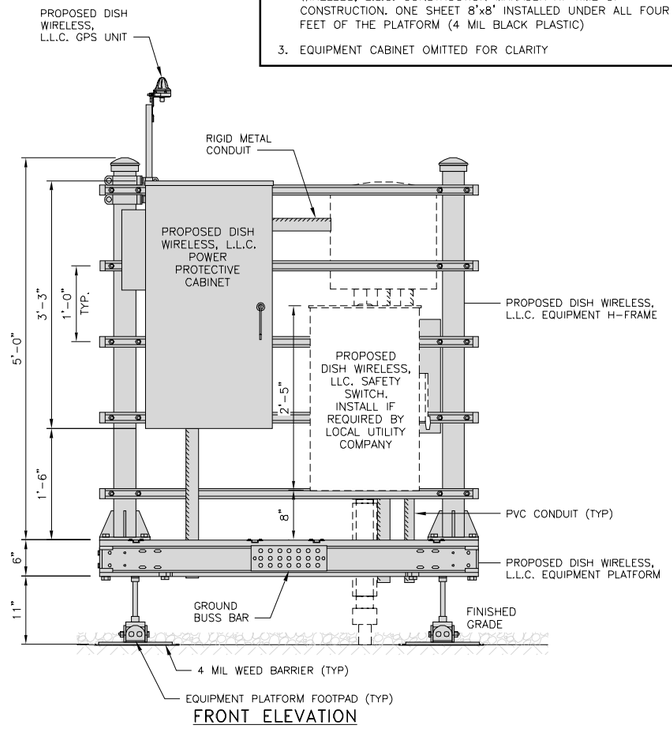


H-FRAME DETAIL | NO SCALE | 3

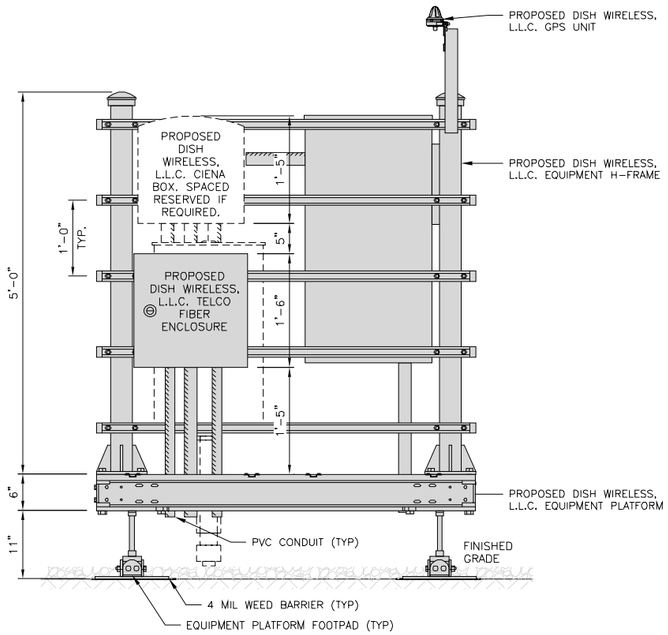
NOT USED | NO SCALE | 4

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

NB+C TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
8601 SIX FORKS ROAD, SUITE 540
RALEIGH, NC 27615
(919) 657-9131

DRAWN BY:	CHECKED BY:	APPROVED BY:
AMT	BIW	BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	08/04/2021	ISSUED FOR CONSTRUCTION

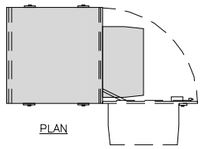
A&E PROJECT NUMBER
370625-13681964

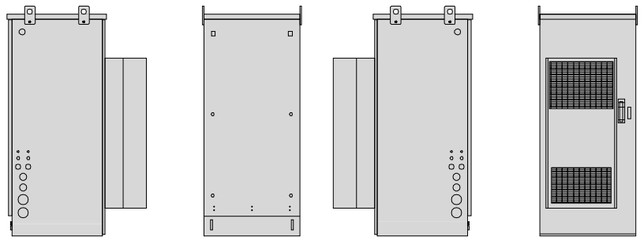
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER
A-3

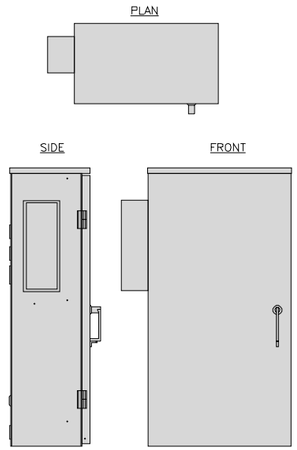
CHARLES INDUSTRY HEX CUBE–PM639155N4	
DIMENSIONS (HxWxD):	74"x32"x32"
POWER PLANT:	–48VDC ABB/600W
TOTAL WEIGHT (EMPTY)	408 LBS





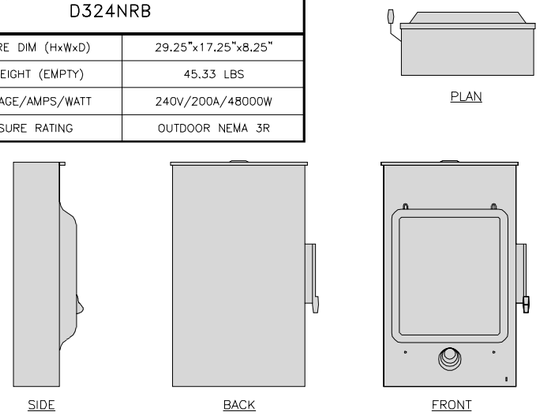
CABINET DETAIL | NO SCALE | 1

RAYCAP RDIAC–6512–P–240–MTS POWER & TELCO PROTECTION CABINET	
DIMENSIONS (HxWxD)	40"x20"x10"
WEIGHT/ VOLUME	124 LBS
MANUAL TRANSFER SWITCH	200A
LOAD CENTER	30 POSITION
MAIN BREAKER	200A, 65kA AIC
GENERATOR RECEPTACLE	CAMLOCK
NEMA RATING	3R POWDER COATED ALUMINUM
SURGE PROTECTION DEVICE	UL 1449 4TH EDITION LISTED



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

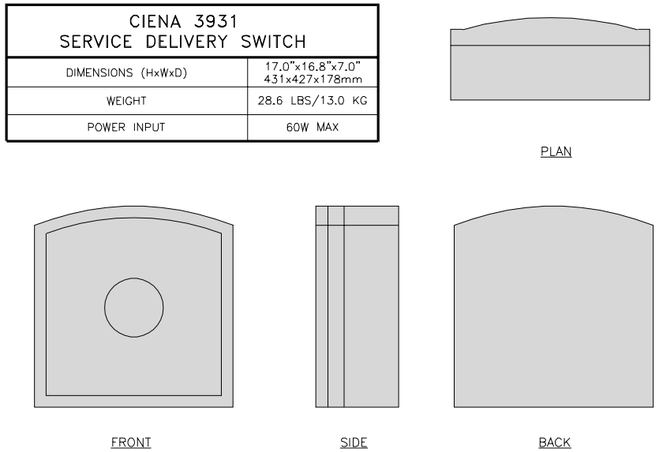
SQUARE D SAFETY SWITCH D324NRB	
ENCLOSURE DIM (HxWxD)	29.25"x17.25"x8.25"
TOTAL WEIGHT (EMPTY)	45.33 LBS
MAX VOLTAGE/AMPS/WATT	240V/200A/48000W
ENCLOSURE RATING	OUTDOOR NEMA 3R



SAFETY SWITCH | NO SCALE | 3

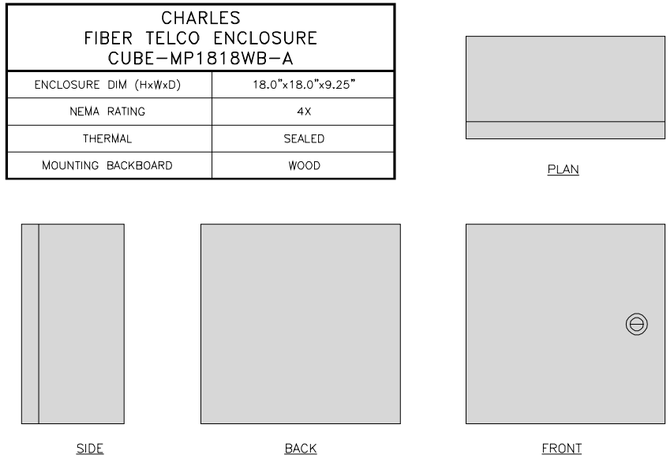
NOT USED | NO SCALE | 4

CIENA 3931 SERVICE DELIVERY SWITCH	
DIMENSIONS (HxWxD)	17.0"x16.8"x7.0" 431x427x178mm
WEIGHT	28.6 LBS/13.0 KG
POWER INPUT	60W MAX



CIENA DETAIL | NO SCALE | 5

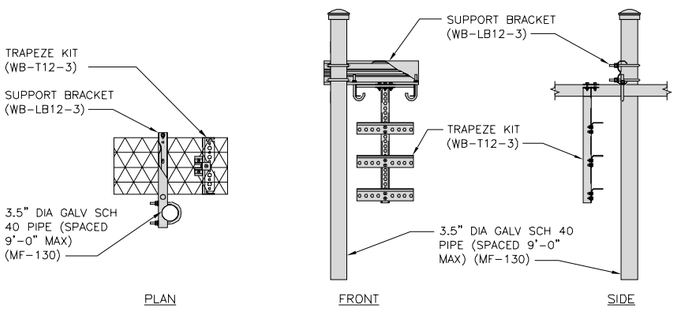
CHARLES FIBER TELCO ENCLOSURE CUBE–MP1818WB–A	
ENCLOSURE DIM (HxWxD)	18.0"x18.0"x9.25"
NEMA RATING	4X
THERMAL	SEALED
MOUNTING BACKBOARD	WOOD



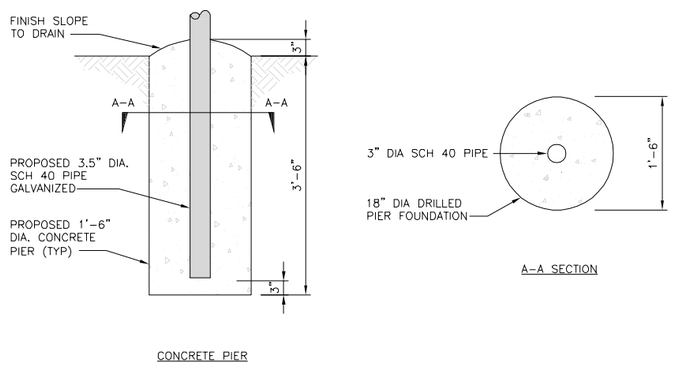
FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

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

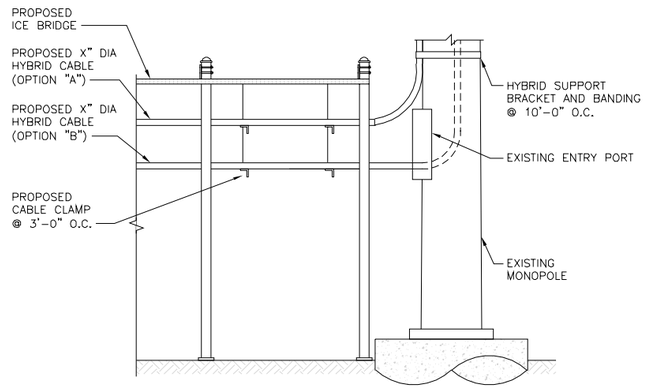
INCLUDED PRODUCTS:	
	WB–T12–3 TRAPEZE KIT, 3 RUNGS
	WB–LB12–3 SUPPORT BRACKET
	MF–130 DIRECT BURIAL PIPE COLUMN, 13'–4"



ICE BRIDGE DETAIL | NO SCALE | 7



TYPICAL ICE BRIDGE CONCRETE PIER DETAIL | NO SCALE | 8



HYBRID CABLE RUN | NO SCALE | 9

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DRAWN BY:	CHECKED BY:	APPROVED BY:
AMT	BIW	BIW

RFDS REV #: 1

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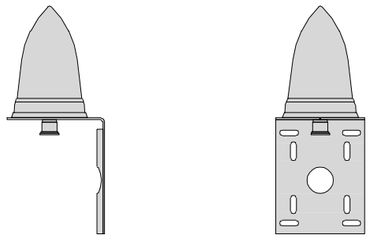
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
EQUIPMENT DETAILS

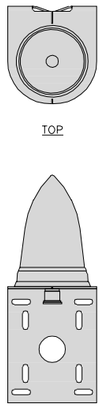
SHEET NUMBER
A-4

1 GPS DETAIL — NO SCALE

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

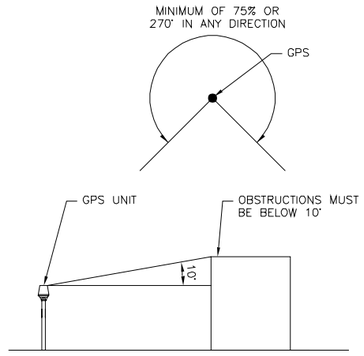


BACK

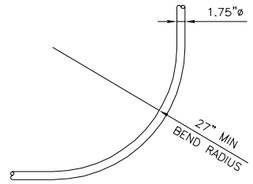


TOP SIDE

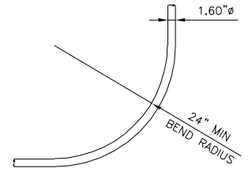
2 GPS MINIMUM SKY VIEW REQUIREMENTS — NO SCALE



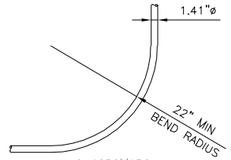
3 CABLES UNLIMITED HYBRID CABLE MINIMUM BEND RADIUSES — NO SCALE



CU12PSM6P4XXX
(4 AWG CONDUCTORS)



CU12PSM9P6XXX
(6 AWG CONDUCTORS)



CU12PSM9P8XXX
(8 AWG CONDUCTORS)

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 NOT USED — NO SCALE

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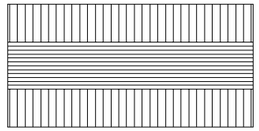
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

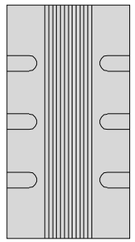
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-5

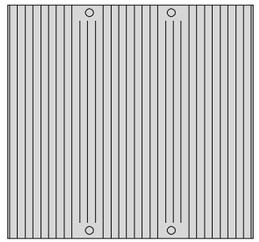
FUJITSU TA08025-B604 RRH	
DIMENSIONS (HxWxD) (KG/IN)	380x400x200/14.9"x15.7"x7.8"
WEIGHT(KG,LB)/ VOLUME	29kg,63.9lb/ 30L
POWER SUPPLY	DC-58~-36V



PLAN



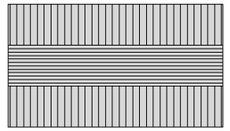
SIDE



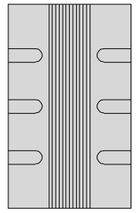
FRONT

REMOTE RADIO HEAD DETAIL | NO SCALE | 1

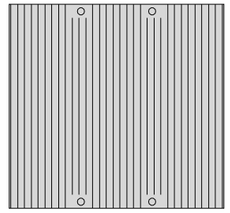
FUJITSU TA08025-B605 RRH	
DIMENSIONS (HxWxD) (KG/IN)	380x400x230/14.9"x15.7"x9.0"
WEIGHT(KG,LB)/ VOLUME	34kg,74.9lb/ 35L
POWER SUPPLY	DC-58~-36V



PLAN



SIDE

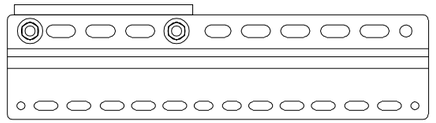


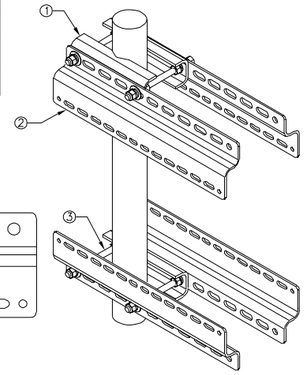
FRONT

REMOTE RADIO HEAD DETAIL | NO SCALE | 2

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

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



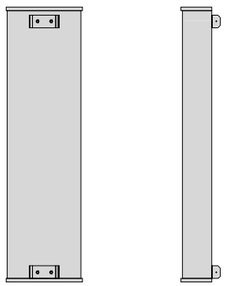


NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

RRH MOUNT DETAIL | NO SCALE | 3

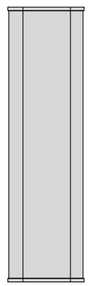
JMA WIRELESS MX08FRO665-21 ANTENNA	
DIMENSIONS (HxWxD)	72.0"x20.0"x8.0"
TOTAL WEIGHT	64.5 LB
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE

PLAN



BACK

SIDE



FRONT

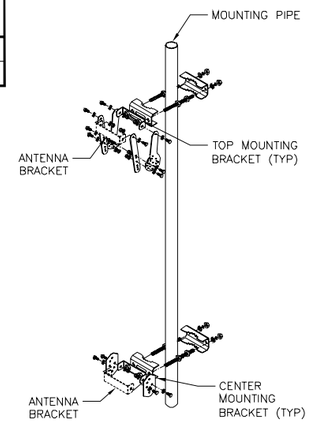
ANTENNA DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

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

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

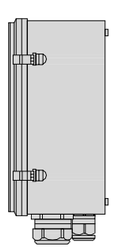
ANTENNA BRACKET NOT PART OF KIT



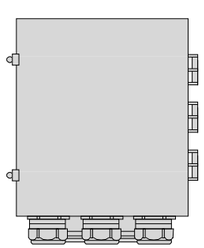
ANTENNA BRACKET DETAIL | NO SCALE | 6

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

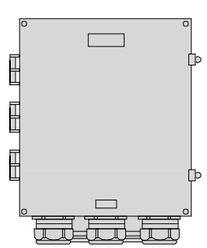
PLAN



SIDE



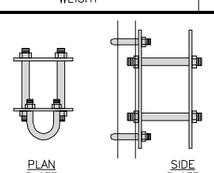
BACK

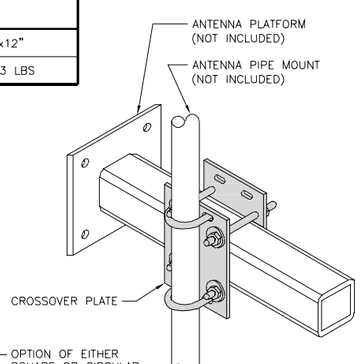


FRONT

SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

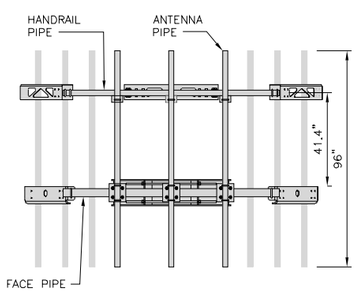
COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11.023 LBS

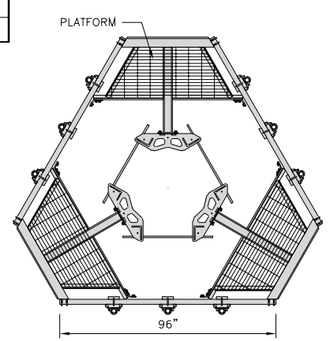




RRH/OVP MOUNT DETAIL | NO SCALE | 8

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





ANTENNA PLATFORM DETAIL | NO SCALE | 9

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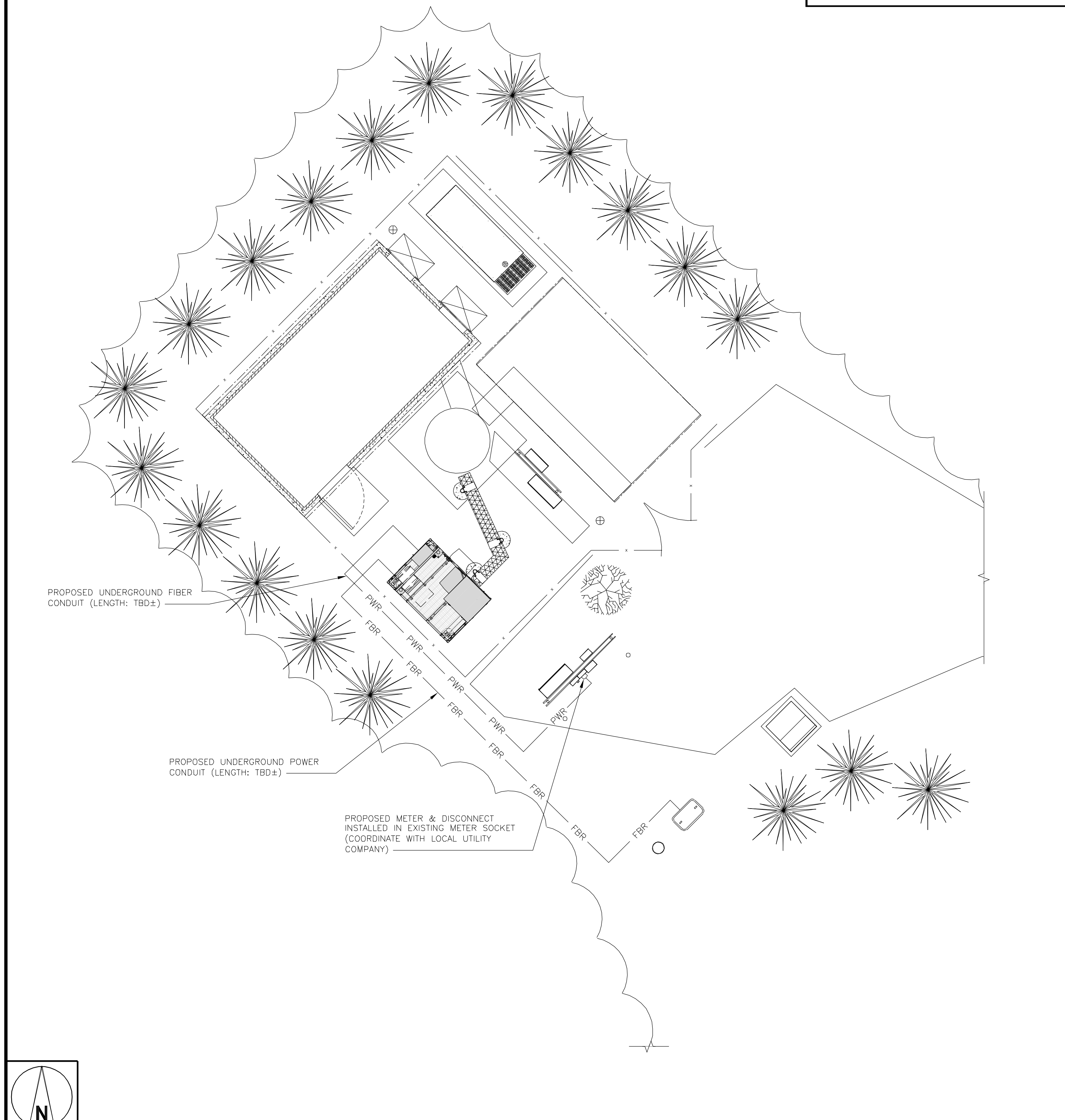
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-6

NOTES

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



UTILITY ROUTE PLAN — 5' 0 5' 10' — 1"=5' — 1

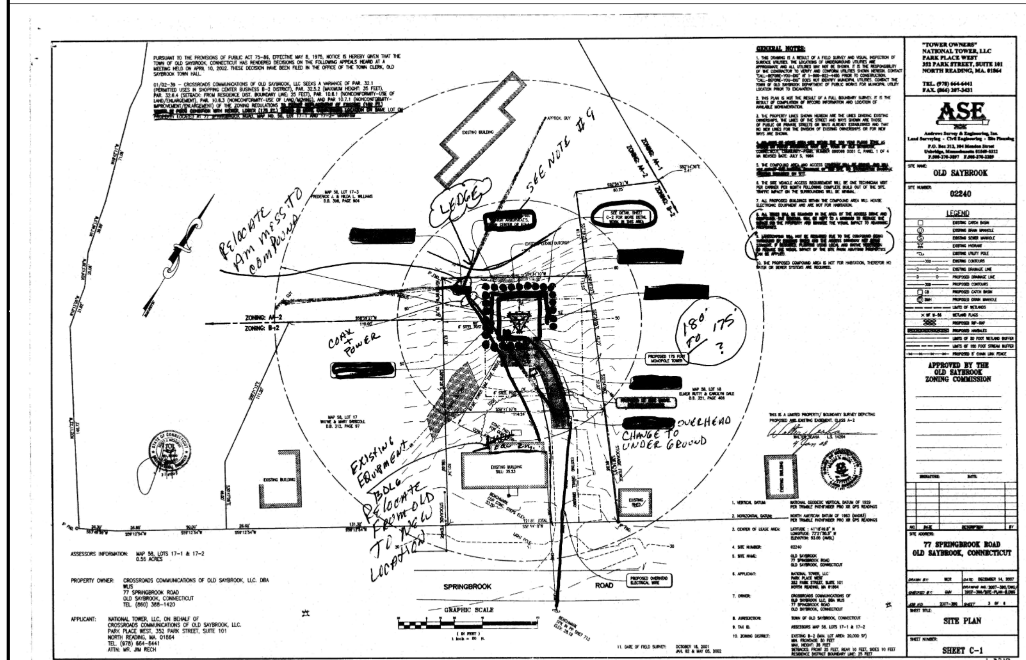
DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND −48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY −48V.

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

NOTES

1. THE SURVEY PROVIDED ON THIS SHEET IS PROVIDED FOR REFERENCE ONLY. THE UTILITY ROUTE AND EXISTING EASEMENTS MUST BE VERIFIED PRIOR TO CONSTRUCTION.



EXISTING SURVEY (BY OTHERS) — NO SCALE — 3

dish wireless

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DRAWN BY:	CHECKED BY:	APPROVED BY:
AMT	BIW	BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	08/04/2021	ISSUED FOR CONSTRUCTION

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

A&E PROJECT NUMBER
370625−13681964

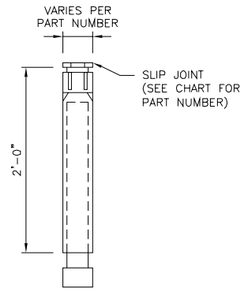
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER
E-1

CARLON EXPANSION FITTINGS

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

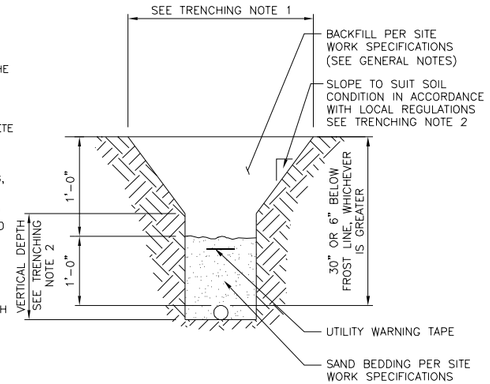


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

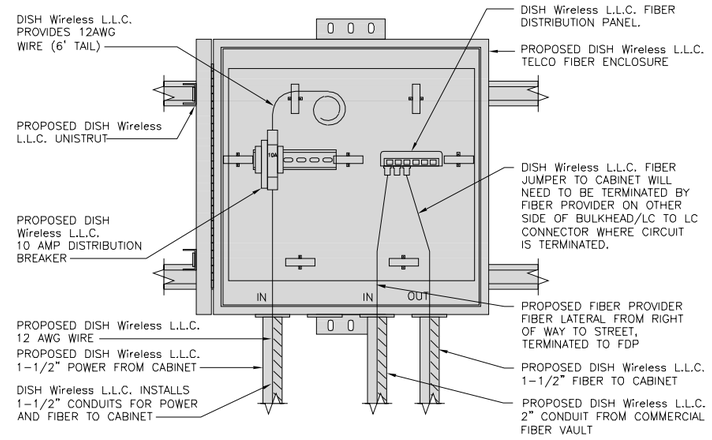
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

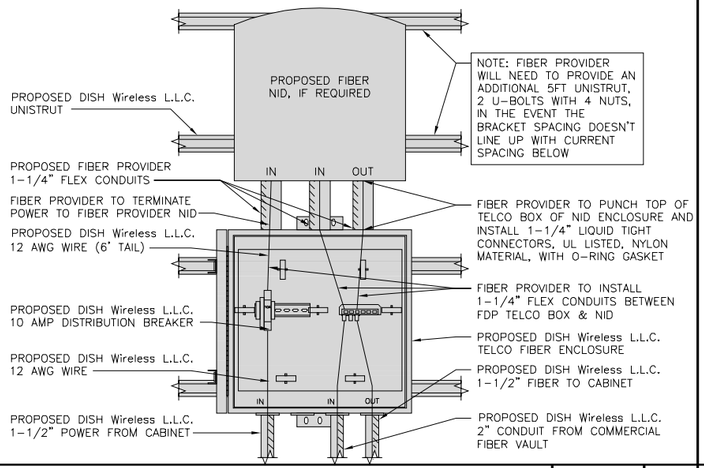
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT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



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



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



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

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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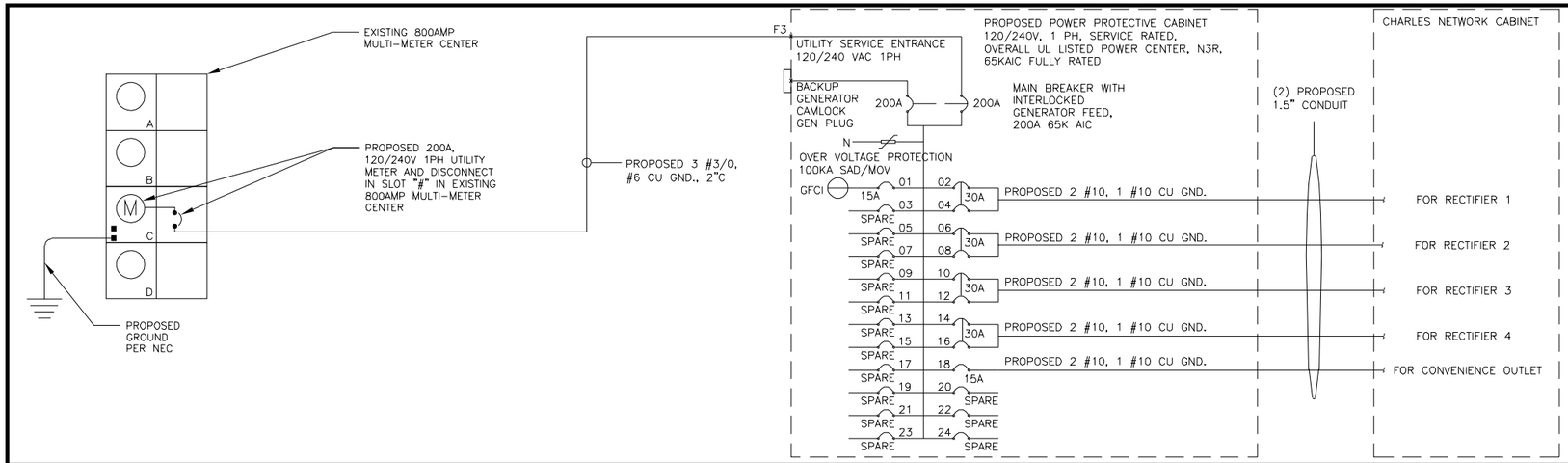
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-2



(CHARLES ABB GE INFINITY DC PLANT) WITH MULTI-METER CENTER 120V240V 1PH SOURCE | NO SCALE | 1

PROPOSED 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
GFCI IN PPC CAB.	1440		15A	1	A	2	30A	2880		ABB/GE INFINITY RECTIFIER 1
-SPARE-				3	B	4			2880	
-SPARE-				5	A	6	30A	2880		ABB/GE INFINITY RECTIFIER 2
-SPARE-				7	B	8			2880	
-SPARE-				9	A	10	30A	2880		ABB/GE INFINITY RECTIFIER 3
-SPARE-				11	B	12			2880	
-SPARE-				13	A	14	30A	2880		ABB/GE INFINITY RECTIFIER 4
-SPARE-				15	B	16			2880	
-SPARE-				17	A	18	15A	1440A		CHARLES GFCI OUTLET
-SPARE-				19	B	20				-SPARE-
-SPARE-				21	A	22				-SPARE-
-SPARE-				23	B	24				-SPARE-
VOLT AMPS	1440							12960A	11520	

200A MCB, 1ϕ, 3W, 120/240V	L1	L2	
MB RATING: 65,000 AIC	14400	11520	VOLT AMPS
	120	96	AMPS
	120		MAX AMPS
	150		MAX 125%

PANEL SCHEDULE
(CHARLES ABB GE INFINITY DC PLANT) WITH MULTI-METER CENTER 120V240V 1PH SOURCE | NO SCALE | 2

NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4

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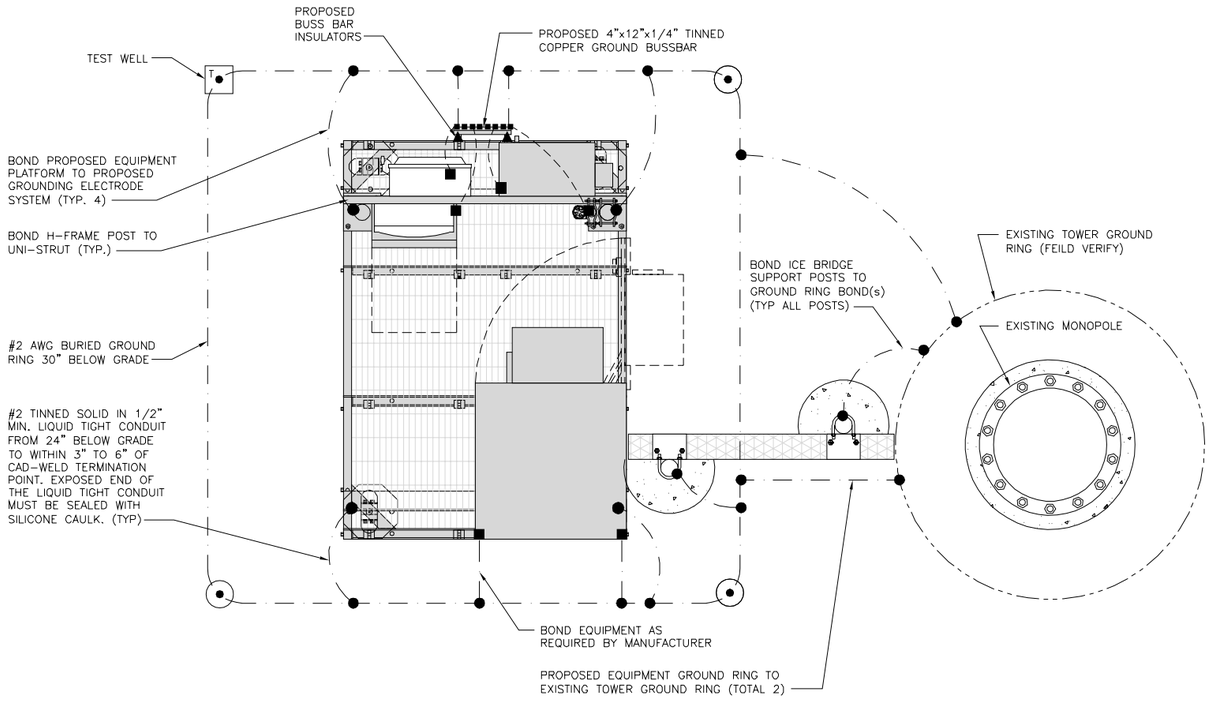
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

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

SHEET NUMBER
E-3

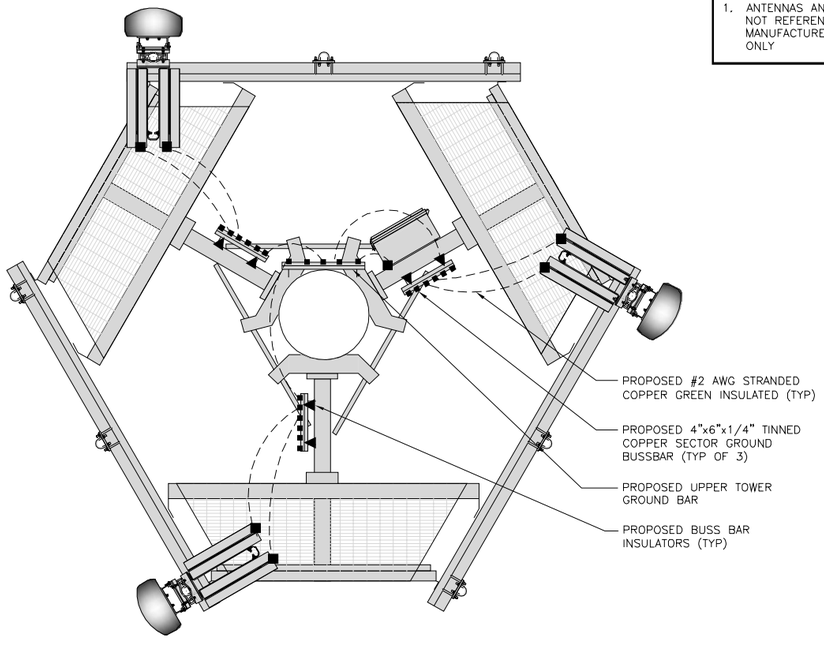


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE | 1

NOTES

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



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE | 2

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

GROUNDING LEGEND

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

GROUNDING KEY NOTES

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

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

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

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

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 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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A&E PROJECT NUMBER
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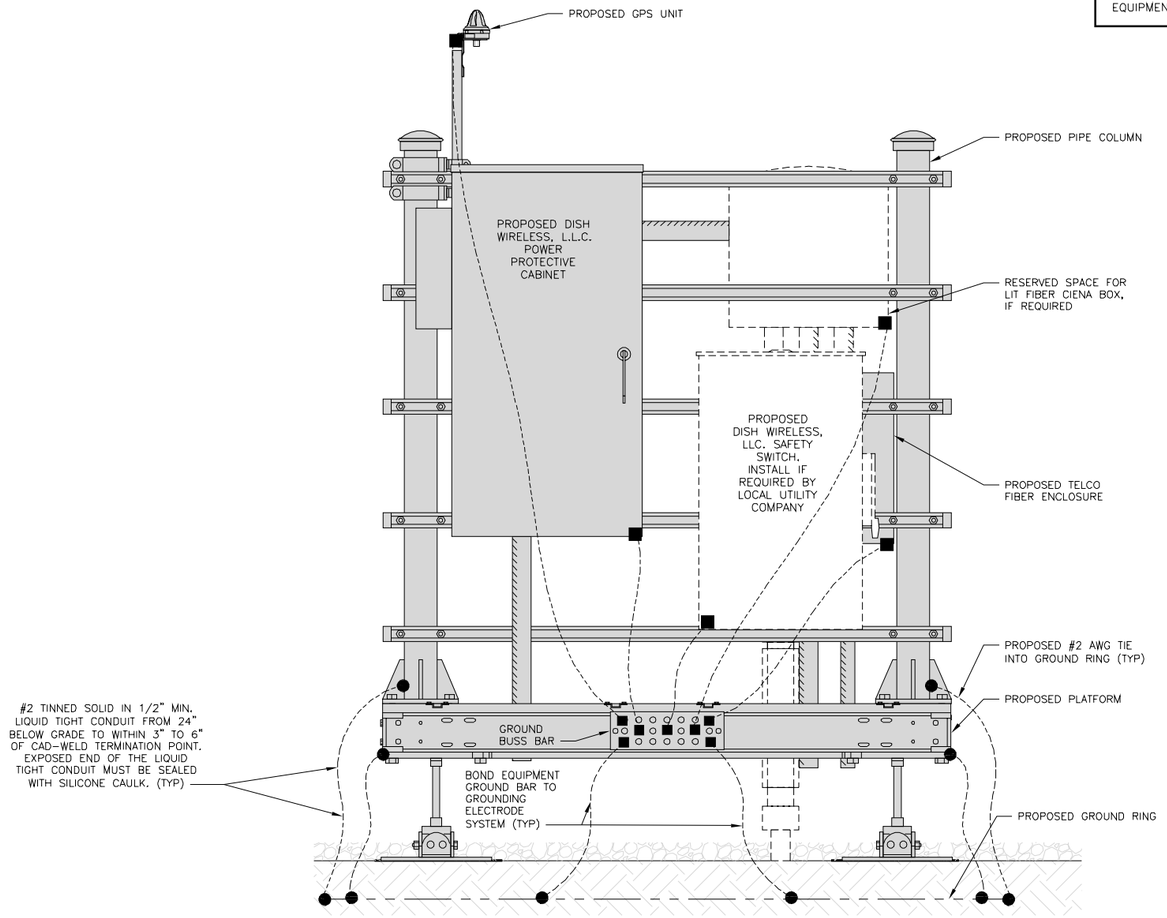
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
GROUNDING PLANS AND NOTES

SHEET NUMBER
G-1

NOTES

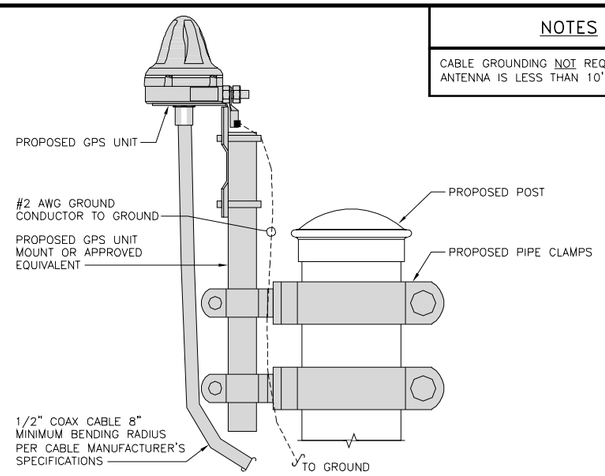
EQUIPMENT CABINET OMITTED FOR CLARITY



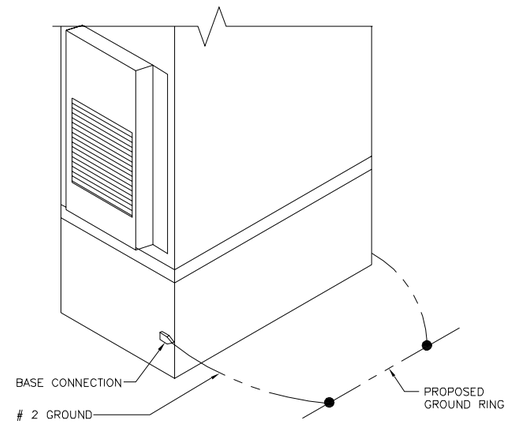
H-FRAME GROUNDING DETAIL | NO SCALE | 1

NOTES

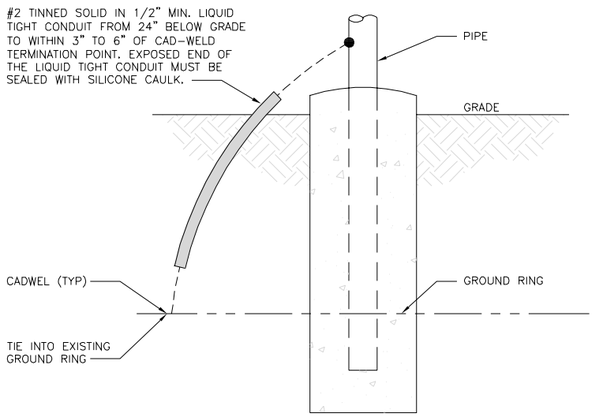
CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



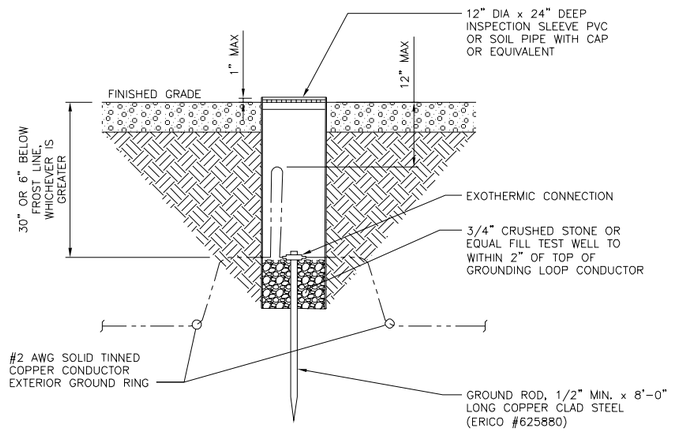
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



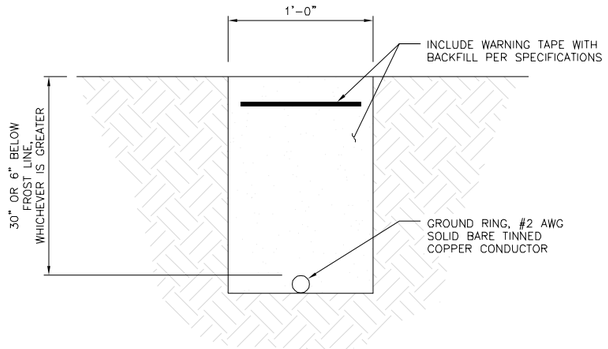
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



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



TYPICAL GROUND RING TRENCH | NO SCALE | 6

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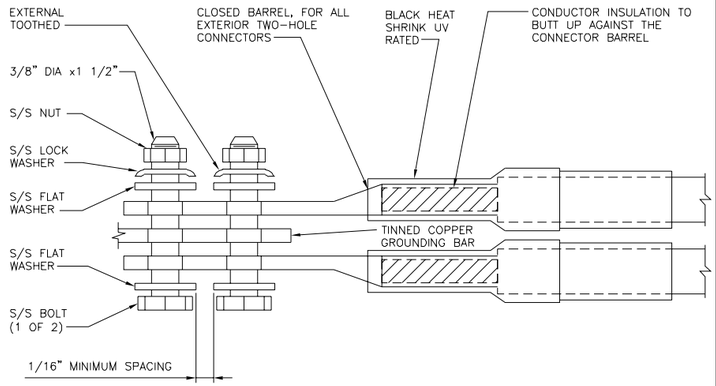
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
GROUNDING DETAILS

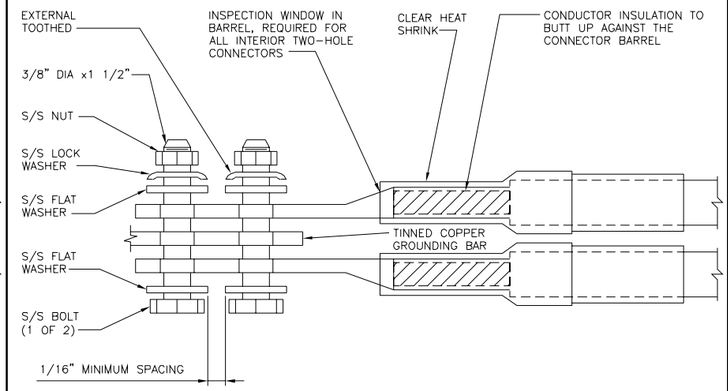
SHEET NUMBER
G-2

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.
9. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).

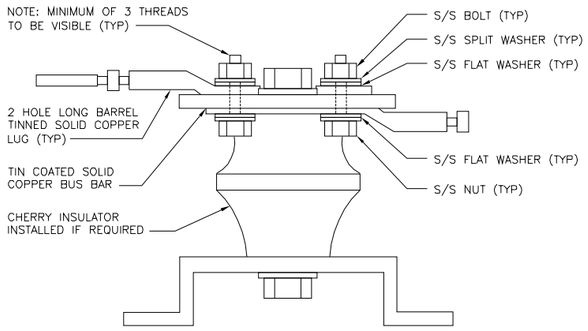
TYPICAL GROUNDING NOTES | NO SCALE | 1



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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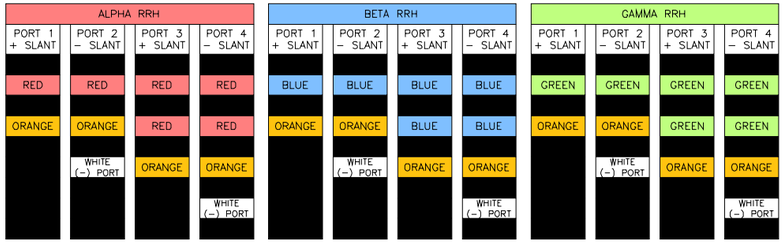
SHEET NUMBER
G-3

RF JUMPER COLOR CODING

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

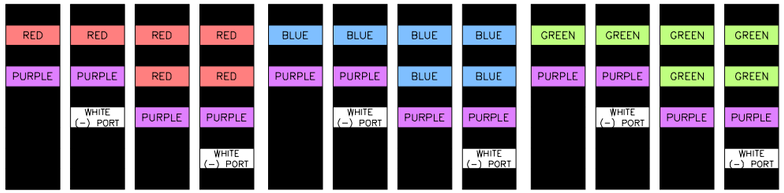
LOW-BAND RRH –
(600MHz N71 BASEBAND) +
(850MHz N26 BAND) +
(700MHz N29 BAND) – OPTIONAL PER MARKET

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



MID-BAND RRH –
(AWS BANDS N66+N70)

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

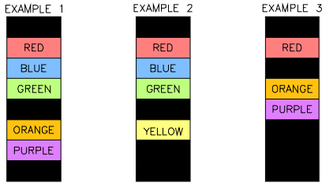


HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED
ALONG WITH FREQUENCY BANDS

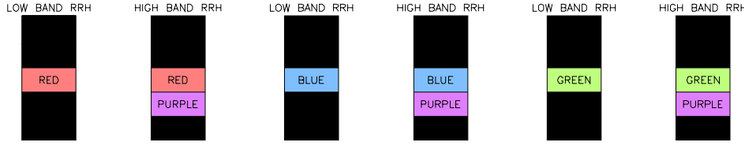
EXAMPLE 1 – HYBRID, OR DISCREET, SUPPORTS
ALL SECTORS, BOTH LOW-BANDS AND MID-BANDS

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



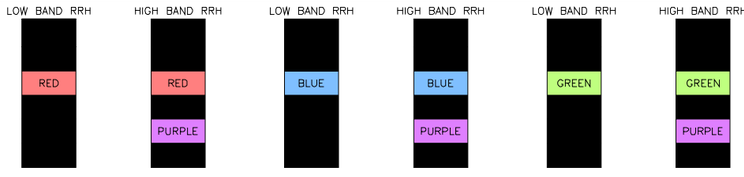
FIBER JUMPERS TO RRHs

LOW-BAND RRH FIBER CABLES HAVE SECTOR
STRIPE ONLY

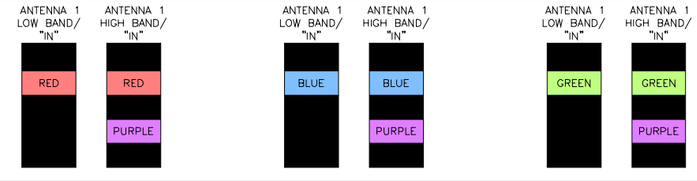


POWER CABLES TO RRHs

LOW-BAND RRH POWER CABLES HAVE SECTOR
STRIPE ONLY



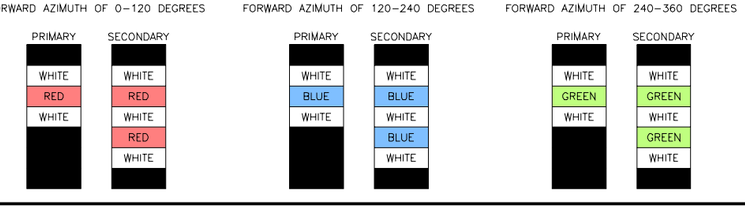
RET MOTORS AT ANTENNAS



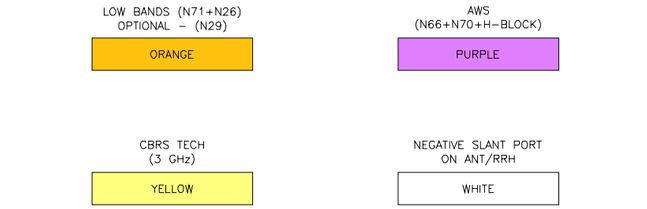
MICROWAVE RADIO LINKS

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

MICROWAVE CABLES WILL REQUIRE P-TOUCH
LABELS INSIDE THE CABINET TO IDENTIFY THE
LOCAL AND REMOTE SITE ID'S



RF CABLE COLOR CODES	NO SCALE	1



COLOR IDENTIFIER	NO SCALE	2

NOT USED	NO SCALE	3

NOT USED	NO SCALE	4

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

NB+C TOTALLY COMMITTED.
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8601 SIX FORKS ROAD, SUITE 540
RALEIGH, NC 27615
(919) 657-9131

DRAWN BY:	CHECKED BY:	APPROVED BY:
AMT	BIW	BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

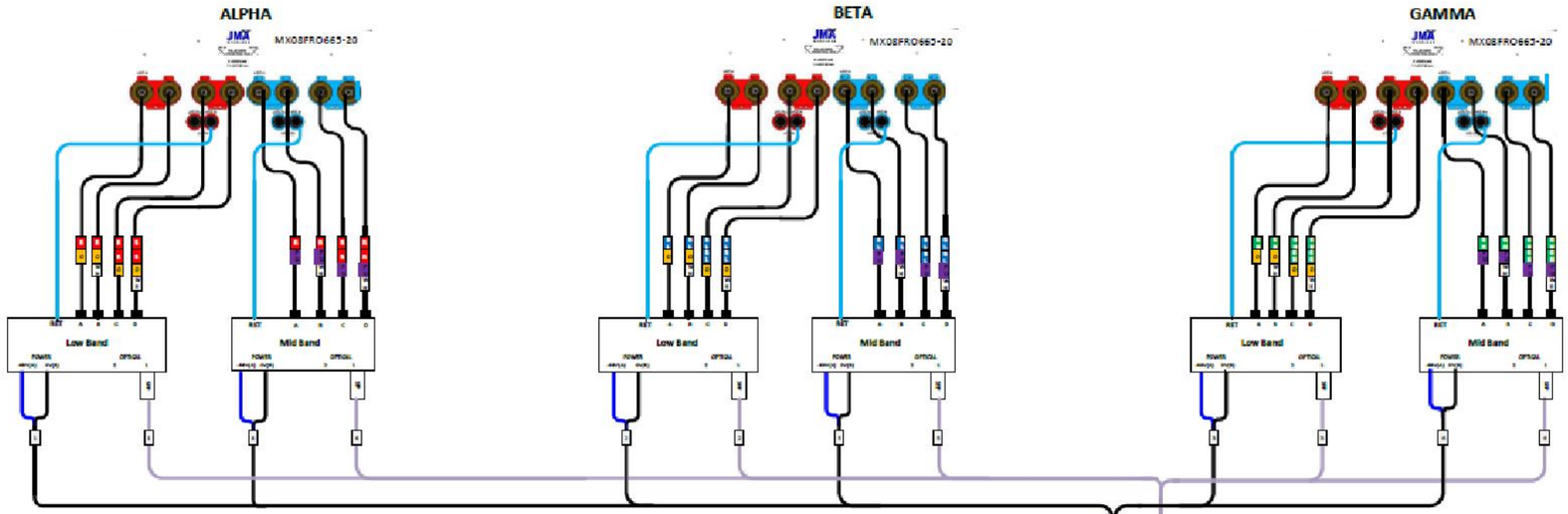
REV	DATE	DESCRIPTION
0	08/04/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
370625-13681964

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

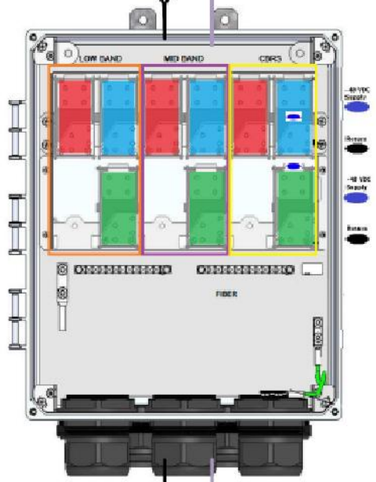
SHEET TITLE
RF
CABLE COLOR CODES

SHEET NUMBER
RF-1



Fiber Patch Panel

Bottom Row	Pair 1	Pair 2	Pair 3	Pair 10	Open	Open
Middle Row	Pair 4	Pair 5	Pair 6	Pair 11	Open	Open
Top Row	Pair 7	Pair 8	Pair 9	Pair 12	Open	Open



CSR NCS540		
Port	Interface	Description
0	Gi0/0/0/0	SiteBoss
1	Gi0/0/0/1	CBRS - Alpha
2	Gi0/0/0/2	CBRS - Beta
3	Gi0/0/0/3	CBRS - Gamma
4	Te0/0/0/4	Fujitsu Low-Band RU - Alpha
5	Te0/0/0/5	Fujitsu Mid-Band RU - Alpha
6	Te0/0/0/6	Fujitsu Low-Band RU - Beta
7	Te0/0/0/7	Fujitsu Mid-Band RU - Beta
8	Te0/0/0/8	Fujitsu Low-Band RU - Gamma
9	Te0/0/0/9	Fujitsu Mid-Band RU - Gamma
10	Te0/0/0/10	Fixed Wifi
11	Te0/0/0/11	Fixed Wifi
12	Te0/0/0/12	Fixed Wifi
13	Te0/0/0/13	Fixed Wifi
14	Te0/0/0/14	CBRS1
15	Te0/0/0/15	CBRS2
16	Te0/0/0/16	CBRS3
17	Gi0/0/0/17	SMI - BMC
18	Gi0/0/0/18	SMI - BMC
19	Te0/0/0/19	SMI - Data 1
20	Te0/0/0/20	SMI - Data 2
21	Te0/0/0/21	SMI - Data 1
22	Te0/0/0/22	SMI - Data 2
23	Te0/0/0/23	Reserved Uplink (EDC, LDC)
24	Te0/0/0/24	Blank/Future
25	Te0/0/0/25	Blank/Future
26	Te0/0/0/26	Fiber NIU
27	Te0/0/0/27	Fiber NIU
28	Te0/0/0/28	Blank/Future
29	Te0/0/0/29	Blank/Future

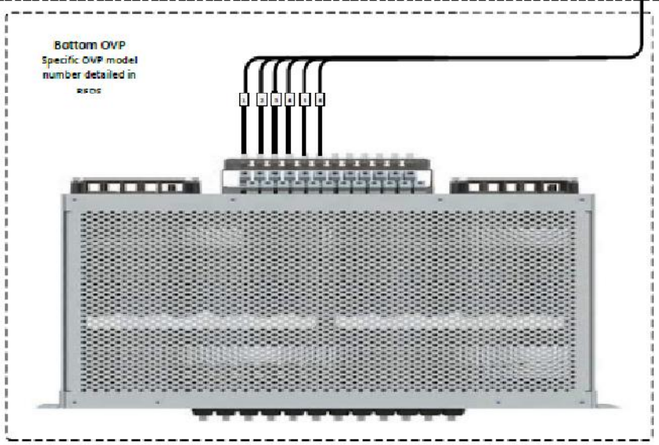
top

bottom

Bottom OVP Layout

Circuit 1	Alpha Low Band
Circuit 2	Beta Low Band
Circuit 3	Gamma Low Band
Circuit 4	Alpha Mid Band
Circuit 5	Beta Mid Band
Circuit 6	Gamma Mid Band
Circuit 7	Alpha CBRS
Circuit 8	Beta CBRS
Circuit 9	Gamma CBRS
Circuit 10	Open
Circuit 11	Open
Circuit 12	Open

Quan Liu	5G plumbing diagram JMA MX08FRO665-20 2-2-2(LB4MB)
5-Jan-2021	SIZE: — FSCM NO: — DWG NO: — REV: 3 SCALE: None SHEET: —



PLUMBING DIAGRAM | NO SCALE | 1

dish wireless.
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370625-13681964

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
RF
PLUMBING DIAGRAM

SHEET NUMBER
RF-2

LEGEND

Description	Symbol
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	UNINTERRUPTIBLE 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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CONSTRUCTION DOCUMENTS

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REV	DATE	DESCRIPTION
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A&E PROJECT NUMBER
370625–13681964

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
LEGEND AND ABBREVIATIONS

SHEET NUMBER
GN-1

SITE ACTIVITY REQUIREMENTS:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GENERAL NOTES:

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

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH WIRELESS, L.L.C.

TOWER OWNER:TOWER OWNER

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

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

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

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

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

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

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

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

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

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

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

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

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

dish wireless.

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RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
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A&E PROJECT NUMBER

370625-13681964

DISH WIRELESS, L.L.C.
PROJECT INFORMATION

BOBDL00018A

77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

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

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

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

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

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

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

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

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

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

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

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

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

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

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

8. TIE WRAPS ARE NOT ALLOWED.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

dish wireless.

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CONSTRUCTION DOCUMENTS

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A&E PROJECT NUMBER

370625-13681964

DISH WIRELESS, L.L.C.
PROJECT INFORMATION

BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-3

GROUNDING NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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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PROJECT INFORMATION
BOBDL00018A
77 SPRINGBROOK ROAD
OLD SAYBROOK, CT 06475

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-4

ENGINEERING:

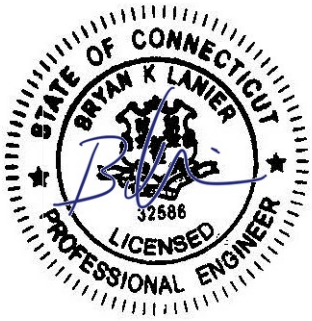
STRUCTURAL ANALYSIS

MOUNT ANALYSIS

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**175 ft Monopole**
ATC Site Name	:	**Old Saybrook, CT**
ATC Asset Number	:	**370625**
Engineering Number	:	**13681964_C3_02**
Proposed Carrier	:	**DISH WIRELESS L.L.C.**
Carrier Site Name	:	**BOBDL00018A**
Carrier Site Number	:	**BOBDL00018A**
Site Location	:	**77 Springbrook Road** **Old Saybrook, CT 06475-0000** **41.313800, -72.364000**
County	:	**Middlesex**
Date	:	**June 11, 2021**
Max Usage	:	**81%**
Result	:	**Pass**



Prepared By:
Lucas Santos
Structural Engineer

Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 175 ft monopole to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	DaVinci, Valmont Job #08242-1120, dated April 17, 2008
Foundation Drawing	DaVinci, Valmont Job #08242-1120, dated April 17, 2008
Geotechnical Report	JGI Project #J2085121, dated March 12, 2008

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:	125 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	Ss = 0.20, S_1 = 0.05
Site Class:	D - Stiff Soil

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
173.0	2	RFS DB-T1-6Z-8AB-0Z	Triangular Platform with Handrails	(18) 1 5/8" Coax (2) 1 5/8" (1.63"-41.3mm) Fiber	VERIZON WIRELESS
	3	Samsung B5/B13 RRH-BR04C			
	3	Antel BXA-80063/4CF			
	3	Samsung MT6407-77A			
	6	Commscope JAHH-65B-R3B			
	3	RFS FDJ85020Q4-S1			
	3	Samsung B2/B66A RRH-BR049			
162.0	3	Ericsson RRUS 4415 B25	Circular Platform with Handrails	(1) 1 1/4" Hybriflex Cable (4) 1 5/8" (1.63"-41.3mm) Fiber	T-MOBILE
	3	Ericsson AIR 21, 1.3M, B4A B2P			
	3	RFS APX16DWV-16DWVS-E-A20			
	3	Ericsson Radio 4449 B71 B85A			
	3	Ericsson RRUS 4415 B66			
	3	RFS APXVAARR24_43-U-NA20			
152.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8" Coax	METRO PCS INC
104.0	1	Generic 7' Omni	Side Arm	(1) 7/8" Coax	OTHER

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
140.0	1	Commscope RDIDC-9181-PF-48	Triangular Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B605			
	3	Fujitsu TA08025-B604			
	3	JMA Wireless MX08FRO665-21			

[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	51%	Pass
Shaft	72%	Pass
Base Plate	49%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Moment (Kips-Ft)	5,400.0	4,362.3	81%
Shear (Kips)	48.0	36.8	77%

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
140.0	Commscope RDIDC-9181-PF-48	DISH WIRELESS L.L.C.	1.253	1.133
	Fujitsu TA08025-B605			
	Fujitsu TA08025-B604			
	JMA Wireless MX08FRO665-21			

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

AMERICAN TOWER®
CORPORATION

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:

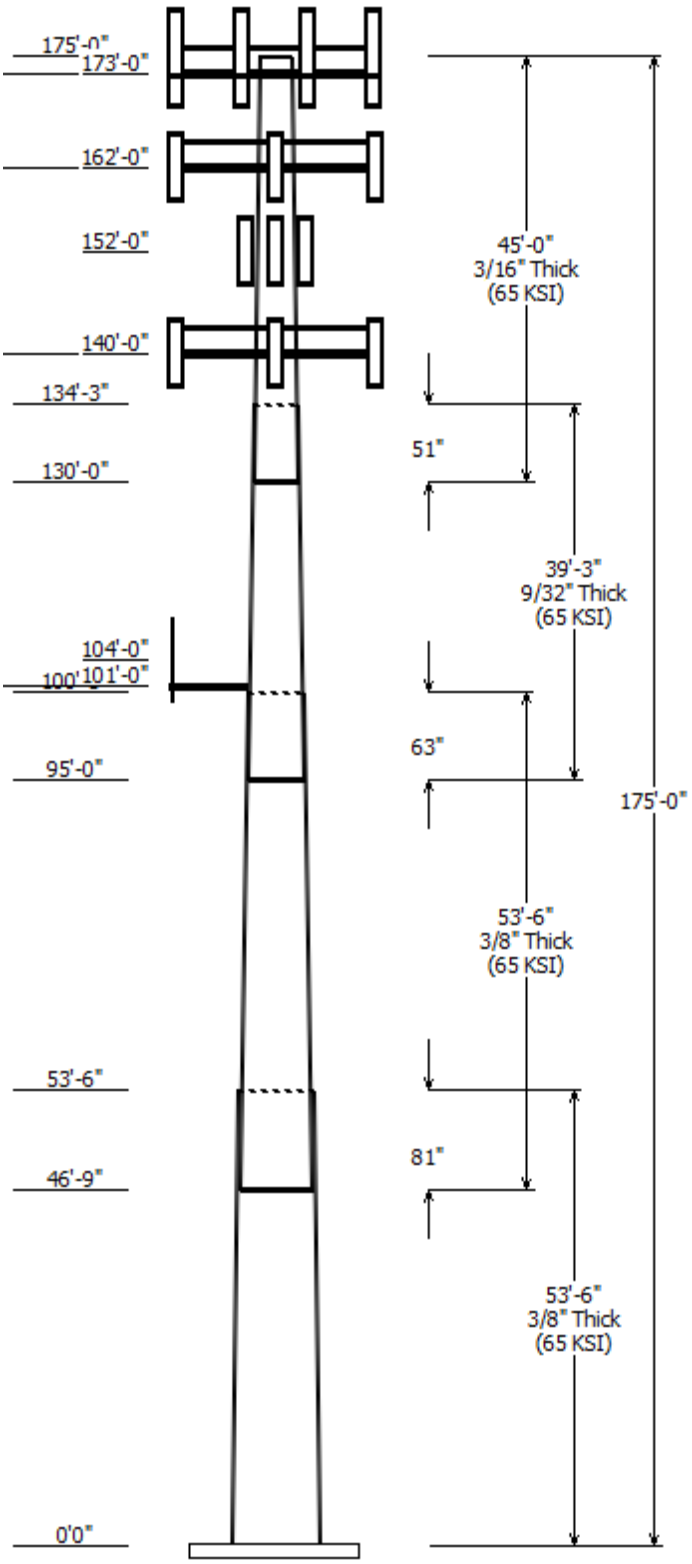
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

Client :	DISH WIRELESS L.L.C.		
Pole :	370625	Code:	ANSI/TIA-222-H
Location :	Old Saybrook, CT		
Description :		Risk Category :	II
Shape :	18 Sides	Exposure :	C
Height :	175.00 (ft)	Topo Method :	Method 1
Base Elev (ft):	0.00	Topographic Category :	1
Taper:	0.265014 (in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	53.500	50.51	64.69	0.375		0.000	18 Sides	65
2	53.500	38.87	53.05	0.375	Slip Joint	81.000	18 Sides	65
3	39.250	30.42	40.82	0.281	Slip Joint	63.000	18 Sides	65
4	45.000	20.00	31.92	0.188	Slip Joint	51.000	18 Sides	65

Discrete Appurtenance

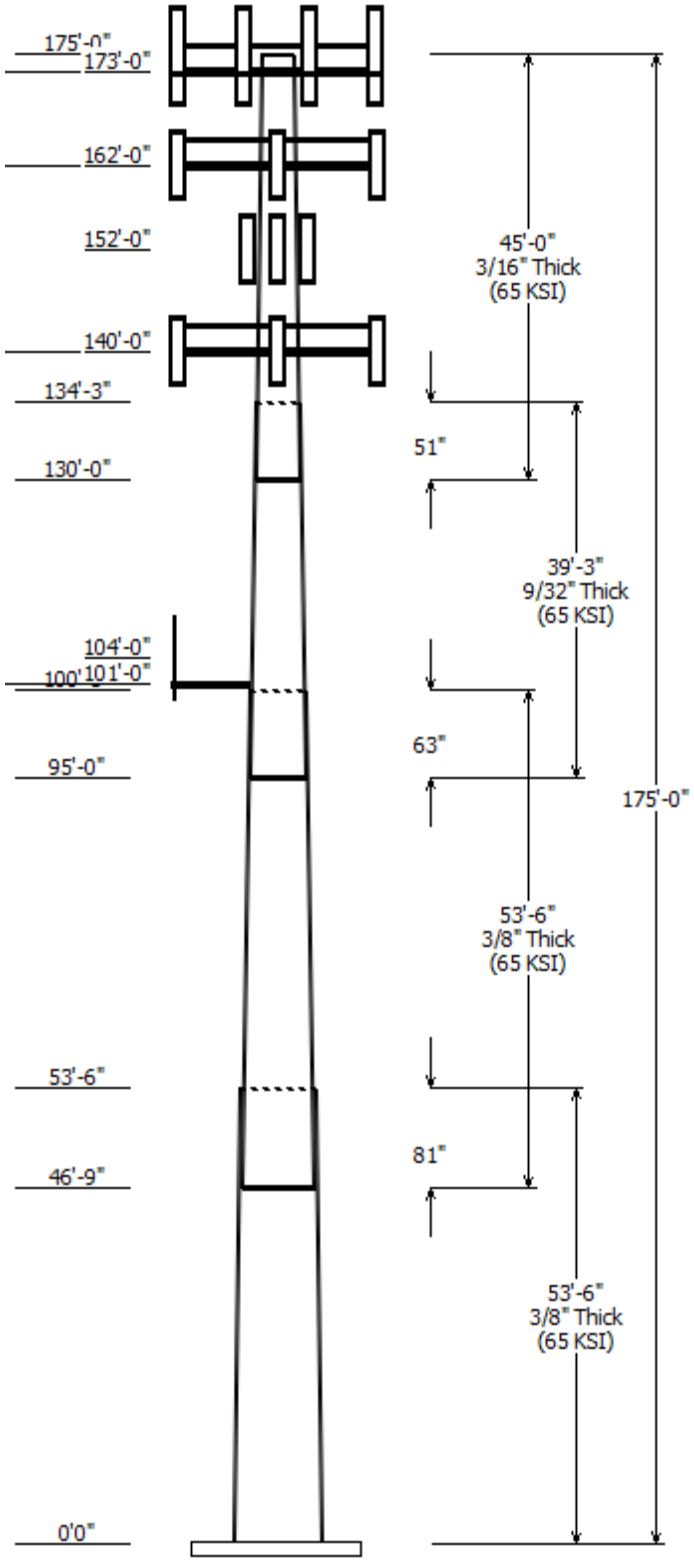
Attach Elev (ft)	Force Elev (ft)	Qty	Description
173.000	173.000	1	Generic Flat Platform with Han
173.000	175.000	6	Commscope JAHH-65B-R3B
173.000	175.000	3	Antel BXA-80063/4CF
173.000	173.000	3	Samsung B5/B13 RRH-BR04C
173.000	175.000	2	RFS DB-T1-6Z-8AB-0Z
173.000	173.000	3	Samsung MT6407-77A
173.000	175.000	3	Samsung B2/B66A RRH-BR049
173.000	175.000	3	RFS FDJ85020Q4-S1
162.000	162.000	1	Generic Circular Platform with
162.000	162.000	3	RFS APXVAARR24_43-U-NA20
162.000	162.000	3	RFS APX16DWV-16DWVS-E-A20
162.000	162.000	3	Ericsson AIR 21, 1.3M, B4A B2P
162.000	162.000	3	Ericsson RRUS 4415 B25
162.000	162.000	3	Ericsson RRUS 4415 B66
162.000	162.000	3	Ericsson Radio 4449 B71 B85A
152.000	152.000	3	RFS APXV18-206517S-C
140.000	140.000	3	JMA Wireless MX08FRO665-21
140.000	140.000	3	Fujitsu TA08025-B604
140.000	140.000	3	Fujitsu TA08025-B605
140.000	140.000	1	Commscope RDIDC-9181-PF-48
140.000	140.000	1	Generic Flat Platform with Han
104.000	104.000	1	Generic 7' Omni
101.000	101.000	1	Generic Round Side Arm

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	104.0	7/8" Coax	Yes
0.000	140.0	1.60" (40.6mm)	Yes
0.000	152.0	1 5/8" Coax	No
0.000	162.0	1 5/8" (1.63"-	No
0.000	164.0	1 1/4" Hybriflex	No
0.000	173.0	1 5/8" (1.63"-	No
0.000	173.0	1 5/8" Coax	No
0.000	175.0	1 5/8" Coax	No

Load Cases

1.2D + 1.0W	125 mph with No Ice
0.9D + 1.0W	125 mph with No Ice (Reduced DL)



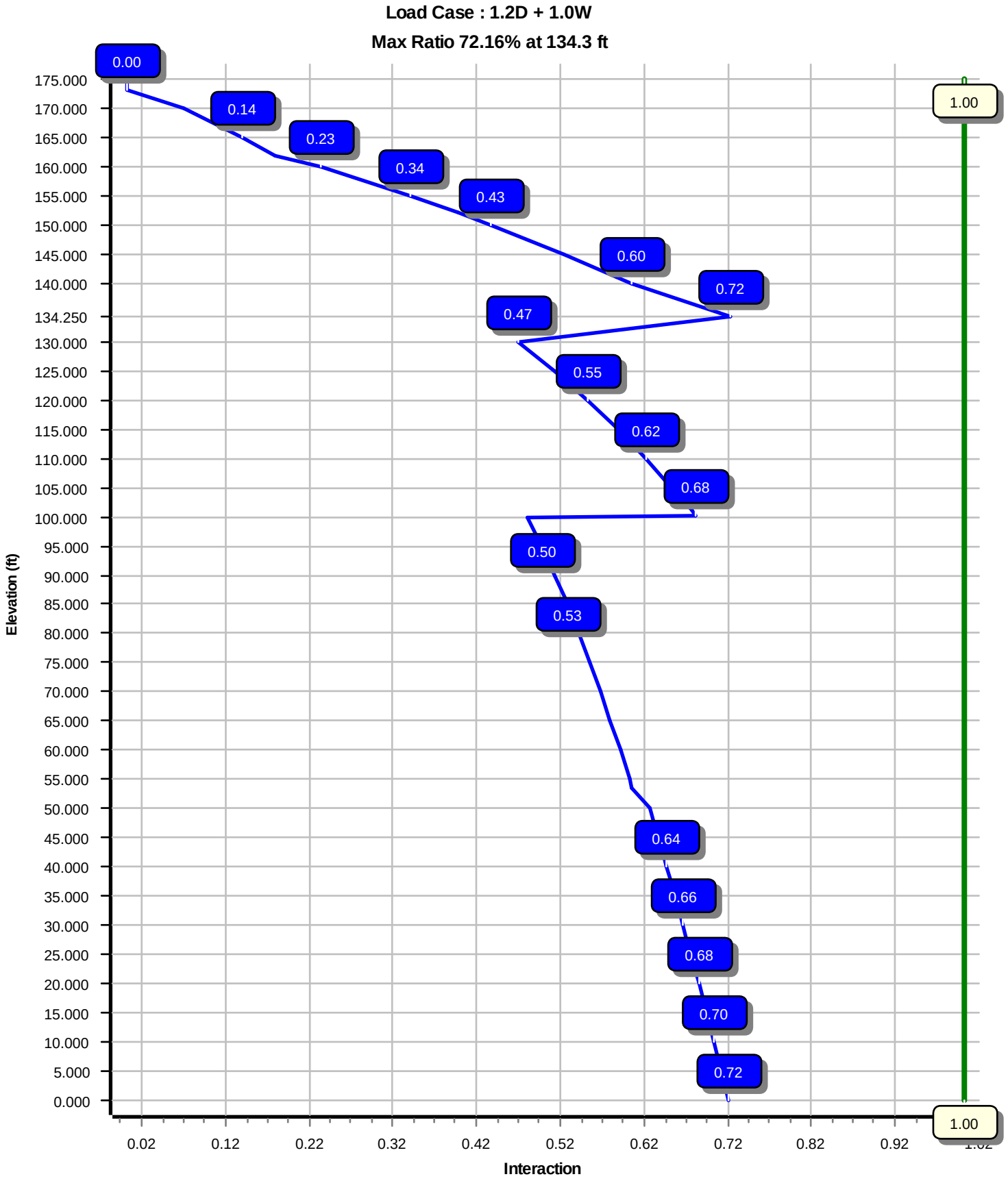
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.0W	4362.29	36.77	54.68
0.9D + 1.0W	4311.27	36.75	41.00
1.2D + 1.0Di + 1.0Wi	1098.30	9.36	71.36
1.2D + 1.0Ev + 1.0Eh	200.25	1.37	54.89
0.9D - 1.0Ev + 1.0Eh	197.18	1.37	37.83
1.0D + 1.0W	893.47	7.58	45.60

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000


Load Case : 1.2D + 1.0W
Max Ratio 72.16% at 134.3 ft
0.00
0.14
0.23
0.34
0.43
0.60
0.72
0.47
0.55
0.62
0.68
0.50
0.53
0.64
0.66
0.68
0.70
0.72
1.00
1.00
175.000
170.000
165.000
160.000
155.000
150.000
145.000
140.000
134.250
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number: 370625 Code: ANSI/TIA-222-H

Site Name: Old Saybrook, CT Engineering Number:13681964_C3_02 6/12/2021 3:32:42 PM

Customer: DISH WIRELESS L.L.C.

Analysis Parameters

Location :	Middlesex County, CT	Height (ft) :	175
Code :	ANSI/TIA-222-H	Base Diameter (in) :	64.69
Shape :	18 Sides	Top Diameter (in) :	20.00
Pole Type :	Taper	Taper (in/ft) :	0.265
Pole Manfacturer :	Valmont	Rotation (deg) :	0.00
Kd (non-service) :	0.95	Ke :	1.00

Ice & Wind Parameters

Exposure Category:	C	Design Wind Speed Without Ice:	125 mph
Risk Category:	II	Design Wind Speed With Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	68.00 ft

Seismic Parameters

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	2.61				
T_L (sec):	6	p:	1	C_s:	0.030
S_s:	0.202	S_1:	0.053	C_s Max:	0.030
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.215	S_{d1}:	0.085		

Load Cases

1.2D + 1.0W	125 mph with No Ice
0.9D + 1.0W	125 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Site Number: 370625 Code: ANSI/TIA-222-H

Site Name: Old Saybrook, CT Engineering Number:13681964_C3_02 6/12/2021 3:32:42 PM

Customer: DISH WIRELESS L.L.C.

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	53.500	0.3750	65		0.00	12,399	64.69	0.00	76.55	40004.8	28.65	172.51	50.51	53.50	59.67	18951.5	21.99	134.70	0.265014
2-18	53.500	0.3750	65	Slip	81.00	9,877	53.05	46.75	62.69	21978.8	23.18	141.47	38.87	100.25	45.82	8579.6	16.51	103.66	0.265014
3-18	39.250	0.2813	65	Slip	63.00	4,214	40.82	95.00	36.19	7517.0	23.83	145.16	30.42	134.25	26.91	3088.9	17.31	108.18	0.265014
4-18	45.000	0.1875	65	Slip	51.00	2,349	31.92	130.00	18.89	2403.8	28.26	170.27	20.00	175.00	11.79	584.7	17.04	106.67	0.265014
				Shaft Weight		28,839													

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
173.00	RFS FDJ85020Q4-S1	3	0.75	2.000	23.60	0.958	0.50	46.16	1.444	0.50
173.00	Samsung B2/B66A RRH-BR049	3	0.75	2.000	84.40	1.875	0.50	127.59	2.486	0.50
173.00	Samsung B5/B13 RRH-BR04C	3	0.75	0.000	70.30	1.875	0.50	109.03	2.486	0.50
173.00	Antel BXA-80063/4CF	3	0.75	2.000	9.90	4.708	0.65	77.80	5.954	0.65
173.00	Samsung MT6407-77A	3	0.75	0.000	81.60	4.709	0.61	150.61	5.737	0.61
173.00	RFS DB-T1-6Z-8AB-0Z	2	0.75	2.000	44.00	4.800	0.67	129.21	5.762	0.67
173.00	Commscope JAHH-65B-R3B	6	0.75	2.000	60.60	9.113	0.69	197.57	10.991	0.69
173.00	Generic Flat Platform with	1	1.00	0.000	2,500.00	42.400	1.00	3,702.75	56.599	1.00
162.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	115.46	2.222	0.50
162.00	Ericsson RRUS 4415 B66	3	0.75	0.000	46.00	1.650	0.50	75.13	2.222	0.50
162.00	Ericsson RRUS 4415 B25	3	0.75	0.000	46.00	1.842	0.50	78.99	2.445	0.50
162.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.75	0.000	81.50	6.092	0.70	179.33	7.548	0.70
162.00	RFS APX16DWV-16DWVS-E-A20	3	0.75	0.000	40.70	6.586	0.60	119.29	8.043	0.60
162.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	392.02	22.738	0.63
162.00	Generic Circular Platform with	1	1.00	0.000	2,900.00	33.900	1.00	4,354.36	77.435	1.00
152.00	RFS APXV18-206517S-C	3	1.00	0.000	26.40	5.160	0.68	88.34	6.741	0.68
140.00	Commscope RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	59.59	2.463	1.00
140.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	116.49	2.571	0.50
140.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	102.52	2.571	0.50
140.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	234.71	14.350	0.64
140.00	Generic Flat Platform with	1	1.00	0.000	2,500.00	42.400	1.00	3,676.47	56.289	1.00
104.00	Generic 7' Omni	1	1.00	0.000	25.00	2.100	1.00	59.44	3.302	1.00
101.00	Generic Round Side Arm	1	1.00	0.000	187.50	5.200	0.67	246.19	6.944	0.67
Totals	Num Loadings:23	59			11,336.10			19,583.07		

Linear Appurtenance Properties

Load Case Azimuth (deg) : 0

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	175.00	2	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	173.00	2	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	173.00	16	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	164.00	1	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	162.00	4	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	152.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	METRO PCS INC
0.00	140.00	1	1.60" (40.6mm) Hybrid	1.60	2.34	N	1	0.00	0.00	270	0.25	Y	DISH WIRELESS
0.00	104.00	1	7/8" Coax	1.09	0.33	N	1	0.00	0.00	90	0.25	Y	OTHER

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)
0.00		0.3750	64.690	76.548	40,004.8	28.65	172.51	67.7	1218.	0.0	0.0
5.00		0.3750	63.365	74.971	37,582.8	28.03	168.97	68.4	1168.	0.0	1,289.0
10.00		0.3750	62.040	73.394	35,260.5	27.41	165.44	69.2	1119.	0.0	1,262.1
15.00		0.3750	60.715	71.817	33,036.0	26.79	161.91	69.9	1071.	0.0	1,235.3
20.00		0.3750	59.390	70.240	30,907.0	26.16	158.37	70.6	1025.	0.0	1,208.5
25.00		0.3750	58.065	68.663	28,871.5	25.54	154.84	71.4	979.4	0.0	1,181.6
30.00		0.3750	56.740	67.086	26,927.4	24.92	151.31	72.1	934.7	0.0	1,154.8
35.00		0.3750	55.415	65.508	25,072.6	24.29	147.77	72.8	891.2	0.0	1,128.0
40.00		0.3750	54.089	63.931	23,305.0	23.67	144.24	73.6	848.6	0.0	1,101.1
45.00		0.3750	52.764	62.354	21,622.4	23.05	140.70	74.3	807.1	0.0	1,074.3
46.75	Bot - Section 2	0.3750	52.301	61.802	21,053.3	22.83	139.47	74.6	792.9	0.0	369.7
50.00		0.3750	51.439	60.777	20,022.9	22.42	137.17	75.0	766.7	0.0	1,365.5
53.50	Top - Section 1	0.3750	51.262	60.566	19,814.8	22.34	136.70	75.1	761.3	0.0	1,445.2
55.00		0.3750	50.864	60.093	19,354.0	22.15	135.64	75.3	749.4	0.0	307.9
60.00		0.3750	49.539	58.516	17,869.9	21.53	132.10	76.1	710.5	0.0	1,009.0
65.00		0.3750	48.214	56.938	16,463.6	20.91	128.57	76.8	672.6	0.0	982.2
70.00		0.3750	46.889	55.361	15,133.1	20.28	125.04	77.5	635.7	0.0	955.3
75.00		0.3750	45.564	53.784	13,876.2	19.66	121.50	78.3	599.8	0.0	928.5
80.00		0.3750	44.239	52.207	12,691.0	19.04	117.97	79.0	565.0	0.0	901.7
85.00		0.3750	42.914	50.630	11,575.3	18.42	114.44	79.7	531.3	0.0	874.8
90.00		0.3750	41.589	49.053	10,526.9	17.79	110.90	80.5	498.5	0.0	848.0
95.00	Bot - Section 3	0.3750	40.264	47.476	9,543.8	17.17	107.37	81.2	466.9	0.0	821.2
100.0		0.3750	38.939	45.899	8,624.0	16.55	103.84	81.9	436.2	0.0	1,400.0
100.2	Top - Section 2	0.2813	39.435	34.951	6,769.4	22.96	140.21	74.4	338.1	0.0	68.8
101.0		0.2813	39.236	34.773	6,666.8	22.84	139.51	74.5	334.7	0.0	89.0
104.0		0.2813	38.441	34.064	6,266.9	22.34	136.68	75.1	321.1	0.0	351.4
105.0		0.2813	38.176	33.827	6,137.3	22.17	135.74	75.3	316.6	0.0	115.5
110.0		0.2813	36.851	32.644	5,515.7	21.34	131.03	76.3	294.8	0.0	565.5
115.0		0.2813	35.526	31.461	4,937.6	20.51	126.31	77.3	273.7	0.0	545.3
120.0		0.2813	34.201	30.278	4,401.4	19.68	121.60	78.3	253.5	0.0	525.2
125.0		0.2813	32.876	29.096	3,905.4	18.85	116.89	79.2	234.0	0.0	505.1
130.0	Bot - Section 4	0.2813	31.551	27.913	3,448.2	18.02	112.18	80.2	215.3	0.0	485.0
134.2	Top - Section 3	0.1875	30.799	18.217	2,156.8	27.20	164.26	69.4	137.9	0.0	664.7
135.0		0.1875	30.601	18.099	2,115.1	27.01	163.20	69.6	136.1	0.0	46.3
140.0		0.1875	29.276	17.310	1,850.5	25.77	156.14	71.1	124.5	0.0	301.2
145.0		0.1875	27.950	16.522	1,608.9	24.52	149.07	72.6	113.4	0.0	287.8
150.0		0.1875	26.625	15.733	1,389.4	23.28	142.00	74.0	102.8	0.0	274.4
152.0		0.1875	26.095	15.418	1,307.5	22.78	139.18	74.6	98.7	0.0	106.0
155.0		0.1875	25.300	14.945	1,190.8	22.03	134.93	75.5	92.7	0.0	155.0
160.0		0.1875	23.975	14.156	1,012.1	20.78	127.87	77.0	83.1	0.0	247.6
162.0		0.1875	23.445	13.841	945.9	20.28	125.04	77.5	79.5	0.0	95.3
165.0		0.1875	22.650	13.368	852.2	19.54	120.80	78.4	74.1	0.0	138.9
170.0		0.1875	21.325	12.579	710.1	18.29	113.73	79.9	65.6	0.0	220.7
173.0		0.1875	20.530	12.106	632.9	17.54	109.49	80.8	60.7	0.0	126.0
175.0		0.1875	20.000	11.790	584.7	17.04	106.67	81.4	57.6	0.0	81.3
											28,839.5

Load Case: 1.2D + 1.0W — 125 mph with No Ice — 25 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.20
Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		350.4	0.0					0.0	0.0	350.4	0.0	0.0	0.0
5.00		693.6	1,546.8					0.0	198.1	693.6	1,744.8	0.0	0.0
10.00		679.1	1,514.6					0.0	198.1	679.1	1,712.6	0.0	0.0
15.00		675.0	1,482.4					0.0	198.1	675.0	1,680.4	0.0	0.0
20.00		688.7	1,450.2					0.0	198.1	688.7	1,648.2	0.0	0.0
25.00		706.1	1,418.0					0.0	198.1	706.1	1,616.0	0.0	0.0
30.00		717.2	1,385.8					0.0	198.1	717.2	1,583.8	0.0	0.0
35.00		723.7	1,353.6					0.0	198.1	723.7	1,551.6	0.0	0.0
40.00		726.6	1,321.4					0.0	198.1	726.6	1,519.4	0.0	0.0
45.00		490.8	1,289.2					0.0	198.1	490.8	1,487.2	0.0	0.0
46.75	Bot - Section 2	366.4	443.6					0.0	69.3	366.4	512.9	0.0	0.0
50.00		496.1	1,638.6					0.0	128.7	496.1	1,767.3	0.0	0.0
53.50	Top - Section 1	366.6	1,734.2					0.0	138.6	366.6	1,872.8	0.0	0.0
55.00		473.9	369.5					0.0	59.4	473.9	428.9	0.0	0.0
60.00		724.9	1,210.8					0.0	198.1	724.9	1,408.9	0.0	0.0
65.00		717.6	1,178.6					0.0	198.1	717.6	1,376.7	0.0	0.0
70.00		708.8	1,146.4					0.0	198.1	708.8	1,344.5	0.0	0.0
75.00		698.9	1,114.2					0.0	198.1	698.9	1,312.3	0.0	0.0
80.00		687.9	1,082.0					0.0	198.1	687.9	1,280.1	0.0	0.0
85.00		675.8	1,049.8					0.0	198.1	675.8	1,247.9	0.0	0.0
90.00		662.9	1,017.6					0.0	198.1	662.9	1,215.7	0.0	0.0
95.00	Bot - Section 3	653.7	985.4					0.0	198.1	653.7	1,183.5	0.0	0.0
100.00		341.7	1,680.1					0.0	198.1	341.7	1,878.1	0.0	0.0
100.25	Top - Section 2	64.2	82.5					0.0	9.9	64.2	92.4	0.0	0.0
101.00	Appurtenance(s)	239.1	106.8	184.2	0.0	0.0	225.0	0.0	29.7	423.3	361.5	0.0	0.0
104.00	Appurtenance(s)	253.9	421.6	111.7	0.0	0.0	30.0	0.0	118.8	365.7	570.5	0.0	0.0
105.00		373.4	138.6					0.0	39.2	373.4	177.8	0.0	0.0
110.00		612.7	678.6					0.0	196.1	612.7	874.6	0.0	0.0
115.00		596.3	654.4					0.0	196.1	596.3	850.5	0.0	0.0
120.00		579.2	630.3					0.0	196.1	579.2	826.3	0.0	0.0
125.00		561.6	606.1					0.0	196.1	561.6	802.2	0.0	0.0
130.00	Bot - Section 4	506.7	582.0					0.0	196.1	506.7	778.0	0.0	0.0
134.25	Top - Section 3	270.3	797.6					0.0	166.7	270.3	964.3	0.0	0.0
135.00		300.9	55.6					0.0	29.4	300.9	85.0	0.0	0.0
140.00	Appurtenance(s)	512.1	361.5	3,749.9	0.0	0.0	3,758.5	0.0	196.1	4,262.1	4,316.1	0.0	0.0
145.00		492.6	345.4					0.0	182.0	492.6	527.4	0.0	0.0
150.00		335.1	329.3					0.0	182.0	335.1	511.3	0.0	0.0
152.00	Appurtenance(s)	231.2	127.2	606.7	0.0	0.0	95.0	0.0	72.8	837.9	295.1	0.0	0.0
155.00		358.5	186.0					0.0	91.5	358.5	277.5	0.0	0.0
160.00		306.4	297.1					0.0	152.5	306.4	449.6	0.0	0.0
162.00	Appurtenance(s)	210.4	114.3	5,074.2	0.0	0.0	4,981.6	0.0	61.0	5,284.6	5,156.9	0.0	0.0
165.00		324.7	166.7					0.0	67.1	324.7	233.8	0.0	0.0
170.00		314.4	264.9					0.0	107.9	314.4	372.8	0.0	0.0
173.00	Appurtenance(s)	188.9	151.2	5,583.4	0.0	5,128.8	4,513.2	0.0	64.7	5,772.2	4,729.1	0.0	0.0
175.00		74.2	97.6					0.0	3.9	74.2	101.5	0.0	0.0
								Totals:		37,043.4	54,727.7	0.00	0.00

Site Number: 370625 Code: ANSI/TIA-222-H

Site Name: Old Saybrook, CT Engineering Number:13681964_C3_02 6/12/2021 3:32:44 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 1.2D + 1.0W 125 mph with No Ice 25 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	-54.68	-36.77	0.00	-4,362.29	0.00	4,362.29	4,663.96	1,343.42	7,803.58	6,184.38	0.00	0.00	0.718
5.00	-52.84	-36.21	0.00	-4,178.46	0.00	4,178.46	4,617.32	1,315.74	7,485.37	5,995.65	0.08	-0.15	0.709
10.00	-51.03	-35.67	0.00	-3,997.40	0.00	3,997.40	4,568.59	1,288.06	7,173.78	5,806.85	0.32	-0.31	0.700
15.00	-49.26	-35.12	0.00	-3,819.08	0.00	3,819.08	4,517.79	1,260.39	6,868.82	5,618.13	0.73	-0.46	0.691
20.00	-47.52	-34.55	0.00	-3,643.50	0.00	3,643.50	4,464.90	1,232.71	6,570.48	5,429.68	1.30	-0.62	0.682
25.00	-45.81	-33.95	0.00	-3,470.77	0.00	3,470.77	4,409.93	1,205.03	6,278.76	5,241.66	2.05	-0.79	0.673
30.00	-44.14	-33.34	0.00	-3,301.01	0.00	3,301.01	4,352.89	1,177.35	5,993.67	5,054.25	2.96	-0.96	0.664
35.00	-42.51	-32.72	0.00	-3,134.31	0.00	3,134.31	4,293.76	1,149.67	5,715.20	4,867.62	4.05	-1.13	0.655
40.00	-40.90	-32.08	0.00	-2,970.72	0.00	2,970.72	4,232.55	1,121.99	5,443.35	4,681.93	5.33	-1.30	0.645
45.00	-39.36	-31.64	0.00	-2,810.31	0.00	2,810.31	4,169.26	1,094.32	5,178.13	4,497.36	6.78	-1.48	0.635
46.75	-38.81	-31.32	0.00	-2,754.94	0.00	2,754.94	4,146.62	1,084.63	5,086.87	4,433.06	7.34	-1.54	0.632
50.00	-36.99	-30.86	0.00	-2,653.15	0.00	2,653.15	4,103.90	1,066.64	4,919.53	4,314.09	8.42	-1.66	0.625
53.50	-35.08	-30.49	0.00	-2,545.16	0.00	2,545.16	4,094.98	1,062.93	4,885.39	4,289.64	9.69	-1.79	0.603
55.00	-34.61	-30.07	0.00	-2,499.42	0.00	2,499.42	4,074.88	1,054.63	4,809.36	4,234.99	10.26	-1.84	0.599
60.00	-33.13	-29.41	0.00	-2,349.05	0.00	2,349.05	4,006.53	1,026.95	4,560.26	4,053.87	12.29	-2.02	0.589
65.00	-31.69	-28.74	0.00	-2,202.02	0.00	2,202.02	3,936.09	999.27	4,317.79	3,874.46	14.50	-2.20	0.577
70.00	-30.28	-28.08	0.00	-2,058.33	0.00	2,058.33	3,863.58	971.59	4,081.94	3,696.92	16.91	-2.39	0.565
75.00	-28.91	-27.42	0.00	-1,917.95	0.00	1,917.95	3,788.99	943.91	3,852.71	3,521.44	19.51	-2.57	0.553
80.00	-27.58	-26.76	0.00	-1,780.88	0.00	1,780.88	3,712.32	916.23	3,630.10	3,348.18	22.31	-2.76	0.540
85.00	-26.28	-26.11	0.00	-1,647.07	0.00	1,647.07	3,633.57	888.56	3,414.12	3,177.31	25.30	-2.96	0.526
90.00	-25.01	-25.47	0.00	-1,516.51	0.00	1,516.51	3,552.73	860.88	3,204.76	3,009.01	28.50	-3.15	0.512
95.00	-23.78	-24.83	0.00	-1,389.16	0.00	1,389.16	3,469.82	833.20	3,002.03	2,843.45	31.90	-3.35	0.496
100.00	-21.88	-24.42	0.00	-1,264.99	0.00	1,264.99	3,384.83	805.52	2,805.92	2,680.80	35.51	-3.54	0.479
100.25	-21.79	-24.36	0.00	-1,258.89	0.00	1,258.89	2,340.16	613.38	2,169.16	1,886.52	35.70	-3.55	0.678
101.00	-21.41	-23.95	0.00	-1,240.62	0.00	1,240.62	2,332.87	610.27	2,147.19	1,871.03	36.26	-3.59	0.674
104.00	-20.82	-23.58	0.00	-1,168.78	0.00	1,168.78	2,303.23	597.81	2,060.45	1,809.28	38.56	-3.74	0.657
105.00	-20.61	-23.25	0.00	-1,145.20	0.00	1,145.20	2,293.18	593.66	2,031.93	1,788.79	39.35	-3.79	0.651
110.00	-19.68	-22.67	0.00	-1,028.93	0.00	1,028.93	2,241.70	572.90	1,892.33	1,687.04	43.46	-4.04	0.620
115.00	-18.78	-22.10	0.00	-915.58	0.00	915.58	2,188.14	552.15	1,757.70	1,586.61	47.83	-4.30	0.587
120.00	-17.91	-21.53	0.00	-805.11	0.00	805.11	2,132.50	531.39	1,628.03	1,487.67	52.45	-4.54	0.551
125.00	-17.07	-20.98	0.00	-697.46	0.00	697.46	2,074.78	510.63	1,503.33	1,390.39	57.34	-4.79	0.512
130.00	-16.26	-20.47	0.00	-592.57	0.00	592.57	2,014.98	489.87	1,383.60	1,294.95	62.48	-5.02	0.467
134.25	-15.28	-20.14	0.00	-505.59	0.00	505.59	1,137.98	319.71	883.94	718.00	67.03	-5.21	0.722
135.00	-15.17	-19.88	0.00	-490.48	0.00	490.48	1,134.17	317.64	872.50	710.92	67.85	-5.25	0.707
140.00	-11.20	-15.29	0.00	-391.09	0.00	391.09	1,107.59	303.80	798.13	663.83	73.50	-5.54	0.602
145.00	-10.65	-14.79	0.00	-314.67	0.00	314.67	1,078.93	289.96	727.08	617.00	79.45	-5.82	0.522
150.00	-10.14	-14.43	0.00	-240.71	0.00	240.71	1,048.18	276.12	659.34	570.62	85.67	-6.06	0.434
152.00	-9.91	-13.59	0.00	-211.85	0.00	211.85	1,035.30	270.58	633.17	552.23	88.22	-6.15	0.396
155.00	-9.64	-13.23	0.00	-171.08	0.00	171.08	1,015.36	262.28	594.91	524.85	92.12	-6.28	0.338
160.00	-9.20	-12.89	0.00	-104.95	0.00	104.95	980.46	248.44	533.79	479.87	98.78	-6.44	0.231
162.00	-4.66	-7.06	0.00	-79.17	0.00	79.17	965.91	242.90	510.27	462.14	101.49	-6.50	0.177
165.00	-4.46	-6.72	0.00	-57.98	0.00	57.98	943.48	234.60	475.99	435.85	105.58	-6.56	0.139
170.00	-4.12	-6.37	0.00	-24.40	0.00	24.40	904.41	220.76	421.49	392.95	112.48	-6.63	0.067

Load Case: 1.2D + 1.0W 125 mph with No Ice 25 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.20
Wind Load Factor :1.00

173.00	-0.09	-0.09	0.00	-0.17	0.00	0.17	879.98	212.46	390.39	367.83	116.64	-6.64	0.001
175.00	0.00	-0.07	0.00	0.00	0.00	0.00	863.27	206.92	370.31	351.36	119.42	-6.64	0.000

Load Case: 0.9D + 1.0W — 125 mph with No Ice (Reduced DL) — 25 Iterations

Gust Response Factor :1.10
Dead Load Factor :0.90
Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		350.4	0.0					0.0	0.0	350.4	0.0	0.0	0.0
5.00		693.6	1,160.1					0.0	148.5	693.6	1,308.6	0.0	0.0
10.00		679.1	1,135.9					0.0	148.5	679.1	1,284.5	0.0	0.0
15.00		675.0	1,111.8					0.0	148.5	675.0	1,260.3	0.0	0.0
20.00		688.7	1,087.6					0.0	148.5	688.7	1,236.2	0.0	0.0
25.00		706.1	1,063.5					0.0	148.5	706.1	1,212.0	0.0	0.0
30.00		717.2	1,039.3					0.0	148.5	717.2	1,187.9	0.0	0.0
35.00		723.7	1,015.2					0.0	148.5	723.7	1,163.7	0.0	0.0
40.00		726.6	991.0					0.0	148.5	726.6	1,139.6	0.0	0.0
45.00		490.8	966.9					0.0	148.5	490.8	1,115.4	0.0	0.0
46.75	Bot - Section 2	366.4	332.7					0.0	52.0	366.4	384.7	0.0	0.0
50.00		496.1	1,228.9					0.0	96.6	496.1	1,325.5	0.0	0.0
53.50	Top - Section 1	366.6	1,300.6					0.0	104.0	366.6	1,404.6	0.0	0.0
55.00		473.9	277.1					0.0	44.6	473.9	321.7	0.0	0.0
60.00		724.9	908.1					0.0	148.5	724.9	1,056.6	0.0	0.0
65.00		717.6	883.9					0.0	148.5	717.6	1,032.5	0.0	0.0
70.00		708.8	859.8					0.0	148.5	708.8	1,008.3	0.0	0.0
75.00		698.9	835.6					0.0	148.5	698.9	984.2	0.0	0.0
80.00		687.9	811.5					0.0	148.5	687.9	960.0	0.0	0.0
85.00		675.8	787.3					0.0	148.5	675.8	935.9	0.0	0.0
90.00		662.9	763.2					0.0	148.5	662.9	911.7	0.0	0.0
95.00	Bot - Section 3	653.7	739.0					0.0	148.5	653.7	887.6	0.0	0.0
100.00		341.7	1,260.0					0.0	148.5	341.7	1,408.6	0.0	0.0
100.25	Top - Section 2	64.2	61.9					0.0	7.4	64.2	69.3	0.0	0.0
101.00	Appurtenance(s)	239.1	80.1	184.2	0.0	0.0	168.8	0.0	22.3	423.3	271.1	0.0	0.0
104.00	Appurtenance(s)	253.9	316.2	111.7	0.0	0.0	22.5	0.0	89.1	365.7	427.8	0.0	0.0
105.00		373.4	104.0					0.0	29.4	373.4	133.4	0.0	0.0
110.00		612.7	508.9					0.0	147.1	612.7	656.0	0.0	0.0
115.00		596.3	490.8					0.0	147.1	596.3	637.9	0.0	0.0
120.00		579.2	472.7					0.0	147.1	579.2	619.8	0.0	0.0
125.00		561.6	454.6					0.0	147.1	561.6	601.6	0.0	0.0
130.00	Bot - Section 4	506.7	436.5					0.0	147.1	506.7	583.5	0.0	0.0
134.25	Top - Section 3	270.3	598.2					0.0	125.0	270.3	723.2	0.0	0.0
135.00		300.9	41.7					0.0	22.1	300.9	63.8	0.0	0.0
140.00	Appurtenance(s)	512.1	271.1	3,749.9	0.0	0.0	2,818.9	0.0	147.1	4,262.1	3,237.1	0.0	0.0
145.00		492.6	259.0					0.0	136.5	492.6	395.6	0.0	0.0
150.00		335.1	247.0					0.0	136.5	335.1	383.5	0.0	0.0
152.00	Appurtenance(s)	231.2	95.4	606.7	0.0	0.0	71.3	0.0	54.6	837.9	221.3	0.0	0.0
155.00		358.5	139.5					0.0	68.6	358.5	208.1	0.0	0.0
160.00		306.4	222.8					0.0	114.4	306.4	337.2	0.0	0.0
162.00	Appurtenance(s)	210.4	85.7	5,074.2	0.0	0.0	3,736.2	0.0	45.8	5,284.6	3,867.7	0.0	0.0
165.00		324.7	125.0					0.0	50.3	324.7	175.3	0.0	0.0
170.00		314.4	198.7					0.0	80.9	314.4	279.6	0.0	0.0
173.00	Appurtenance(s)	188.9	113.4	5,583.4	0.0	5,128.8	3,384.9	0.0	48.5	5,772.2	3,546.8	0.0	0.0
175.00		74.2	73.2					0.0	3.0	74.2	76.1	0.0	0.0
								Totals:		37,043.4	41,045.8	0.00	0.00

Load Case: 0.9D + 1.0W — 125 mph with No Ice (Reduced DL) — 25 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	-41.00	-36.75	0.00	-4,311.27	0.00	4,311.27	4,663.96	1,343.42	7,803.58	6,184.38	0.00	0.00	0.707
5.00	-39.59	-36.16	0.00	-4,127.53	0.00	4,127.53	4,617.32	1,315.74	7,485.37	5,995.65	0.08	-0.15	0.698
10.00	-38.22	-35.58	0.00	-3,946.75	0.00	3,946.75	4,568.59	1,288.06	7,173.78	5,806.85	0.32	-0.30	0.689
15.00	-36.86	-34.99	0.00	-3,768.87	0.00	3,768.87	4,517.79	1,260.39	6,868.82	5,618.13	0.72	-0.46	0.680
20.00	-35.54	-34.39	0.00	-3,593.91	0.00	3,593.91	4,464.90	1,232.71	6,570.48	5,429.68	1.29	-0.62	0.671
25.00	-34.24	-33.77	0.00	-3,421.95	0.00	3,421.95	4,409.93	1,205.03	6,278.76	5,241.66	2.02	-0.78	0.661
30.00	-32.97	-33.13	0.00	-3,253.10	0.00	3,253.10	4,352.89	1,177.35	5,993.67	5,054.25	2.93	-0.94	0.652
35.00	-31.72	-32.48	0.00	-3,087.46	0.00	3,087.46	4,293.76	1,149.67	5,715.20	4,867.62	4.00	-1.11	0.642
40.00	-30.50	-31.82	0.00	-2,925.06	0.00	2,925.06	4,232.55	1,121.99	5,443.35	4,681.93	5.26	-1.28	0.633
45.00	-29.33	-31.36	0.00	-2,765.96	0.00	2,765.96	4,169.26	1,094.32	5,178.13	4,497.36	6.69	-1.45	0.623
46.75	-28.91	-31.03	0.00	-2,711.08	0.00	2,711.08	4,146.62	1,084.63	5,086.87	4,433.06	7.24	-1.52	0.619
50.00	-27.53	-30.56	0.00	-2,610.22	0.00	2,610.22	4,103.90	1,066.64	4,919.53	4,314.09	8.31	-1.63	0.613
53.50	-26.09	-30.19	0.00	-2,503.26	0.00	2,503.26	4,094.98	1,062.93	4,885.39	4,289.64	9.56	-1.76	0.591
55.00	-25.72	-29.76	0.00	-2,457.98	0.00	2,457.98	4,074.88	1,054.63	4,809.36	4,234.99	10.12	-1.82	0.588
60.00	-24.60	-29.08	0.00	-2,309.17	0.00	2,309.17	4,006.53	1,026.95	4,560.26	4,053.87	12.12	-1.99	0.577
65.00	-23.51	-28.40	0.00	-2,163.79	0.00	2,163.79	3,936.09	999.27	4,317.79	3,874.46	14.30	-2.17	0.565
70.00	-22.44	-27.72	0.00	-2,021.80	0.00	2,021.80	3,863.58	971.59	4,081.94	3,696.92	16.67	-2.35	0.554
75.00	-21.40	-27.05	0.00	-1,883.21	0.00	1,883.21	3,788.99	943.91	3,852.71	3,521.44	19.23	-2.54	0.541
80.00	-20.39	-26.38	0.00	-1,747.96	0.00	1,747.96	3,712.32	916.23	3,630.10	3,348.18	21.99	-2.72	0.528
85.00	-19.40	-25.73	0.00	-1,616.04	0.00	1,616.04	3,633.57	888.56	3,414.12	3,177.31	24.94	-2.91	0.515
90.00	-18.44	-25.08	0.00	-1,487.40	0.00	1,487.40	3,552.73	860.88	3,204.76	3,009.01	28.09	-3.10	0.500
95.00	-17.51	-24.44	0.00	-1,362.00	0.00	1,362.00	3,469.82	833.20	3,002.03	2,843.45	31.44	-3.29	0.485
100.00	-16.08	-24.04	0.00	-1,239.82	0.00	1,239.82	3,384.83	805.52	2,805.92	2,680.80	34.99	-3.49	0.468
100.25	-16.01	-23.98	0.00	-1,233.81	0.00	1,233.81	2,340.16	613.38	2,169.16	1,886.52	35.17	-3.50	0.662
101.00	-15.72	-23.56	0.00	-1,215.82	0.00	1,215.82	2,332.87	610.27	2,147.19	1,871.03	35.72	-3.53	0.658
104.00	-15.28	-23.20	0.00	-1,145.13	0.00	1,145.13	2,303.23	597.81	2,060.45	1,809.28	37.99	-3.68	0.641
105.00	-15.11	-22.86	0.00	-1,121.93	0.00	1,121.93	2,293.18	593.66	2,031.93	1,788.79	38.76	-3.73	0.635
110.00	-14.40	-22.26	0.00	-1,007.64	0.00	1,007.64	2,241.70	572.90	1,892.33	1,687.04	42.80	-3.98	0.605
115.00	-13.72	-21.68	0.00	-896.32	0.00	896.32	2,188.14	552.15	1,757.70	1,586.61	47.10	-4.22	0.573
120.00	-13.05	-21.11	0.00	-787.91	0.00	787.91	2,132.50	531.39	1,628.03	1,487.67	51.65	-4.47	0.537
125.00	-12.41	-20.56	0.00	-682.34	0.00	682.34	2,074.78	510.63	1,503.33	1,390.39	56.45	-4.70	0.498
130.00	-11.80	-20.05	0.00	-579.56	0.00	579.56	2,014.98	489.87	1,383.60	1,294.95	61.49	-4.93	0.455
134.25	-11.07	-19.73	0.00	-494.36	0.00	494.36	1,137.98	319.71	883.94	718.00	65.96	-5.12	0.702
135.00	-10.97	-19.46	0.00	-479.56	0.00	479.56	1,134.17	317.64	872.50	710.92	66.77	-5.15	0.688
140.00	-8.07	-14.96	0.00	-382.26	0.00	382.26	1,107.59	303.80	798.13	663.83	72.32	-5.44	0.586
145.00	-7.66	-14.46	0.00	-307.48	0.00	307.48	1,078.93	289.96	727.08	617.00	78.16	-5.71	0.508
150.00	-7.28	-14.11	0.00	-235.17	0.00	235.17	1,048.18	276.12	659.34	570.62	84.26	-5.95	0.422
152.00	-7.12	-13.27	0.00	-206.94	0.00	206.94	1,035.30	270.58	633.17	552.23	86.77	-6.04	0.384
155.00	-6.92	-12.91	0.00	-167.14	0.00	167.14	1,015.36	262.28	594.91	524.85	90.60	-6.16	0.328
160.00	-6.59	-12.58	0.00	-102.61	0.00	102.61	980.46	248.44	533.79	479.87	97.14	-6.32	0.223
162.00	-3.33	-6.90	0.00	-77.46	0.00	77.46	965.91	242.90	510.27	462.14	99.79	-6.37	0.172
165.00	-3.18	-6.56	0.00	-56.76	0.00	56.76	943.48	234.60	475.99	435.85	103.81	-6.43	0.134
170.00	-2.94	-6.22	0.00	-23.95	0.00	23.95	904.41	220.76	421.49	392.95	110.58	-6.50	0.065

Load Case: 0.9D + 1.0W 125 mph with No Ice (Reduced DL) 25 Iterations

Gust Response Factor :1.10
Dead Load Factor :0.90
Wind Load Factor :1.00

173.00	-0.07	-0.08	0.00	-0.16	0.00	0.16	879.98	212.46	390.39	367.83	114.66	-6.52	0.001
175.00	0.00	-0.07	0.00	0.00	0.00	0.00	863.27	206.92	370.31	351.36	117.38	-6.52	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 1.00 in Radial Ice — 24 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

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		94.4	0.0					0.0	0.0	94.4	0.0	0.0	0.0
5.00		187.1	1,857.2					0.0	206.2	187.1	2,063.5	0.0	0.0
10.00		183.6	1,854.4					0.0	207.4	183.6	2,061.8	0.0	0.0
15.00		182.9	1,832.7					0.0	208.0	182.9	2,040.8	0.0	0.0
20.00		186.9	1,804.9					0.0	208.5	186.9	2,013.4	0.0	0.0
25.00		191.8	1,773.9					0.0	208.8	191.8	1,982.7	0.0	0.0
30.00		195.1	1,740.9					0.0	209.1	195.1	1,949.9	0.0	0.0
35.00		197.1	1,706.4					0.0	209.3	197.1	1,915.8	0.0	0.0
40.00		198.2	1,671.0					0.0	209.5	198.2	1,880.5	0.0	0.0
45.00		134.0	1,634.8					0.0	209.7	134.0	1,844.5	0.0	0.0
46.75	Bot - Section 2	100.1	564.5					0.0	73.4	100.1	637.9	0.0	0.0
50.00		135.6	1,863.8					0.0	136.4	135.6	2,000.2	0.0	0.0
53.50	Top - Section 1	100.3	1,974.1					0.0	147.0	100.3	2,121.1	0.0	0.0
55.00		129.8	472.1					0.0	63.0	129.8	535.1	0.0	0.0
60.00		198.7	1,545.9					0.0	210.2	198.7	1,756.0	0.0	0.0
65.00		197.0	1,507.7					0.0	210.3	197.0	1,718.0	0.0	0.0
70.00		194.9	1,469.1					0.0	210.4	194.9	1,679.6	0.0	0.0
75.00		192.4	1,430.3					0.0	210.5	192.4	1,640.9	0.0	0.0
80.00		189.7	1,391.3					0.0	210.6	189.7	1,601.9	0.0	0.0
85.00		186.7	1,351.9					0.0	210.7	186.7	1,562.7	0.0	0.0
90.00		183.5	1,312.4					0.0	210.8	183.5	1,523.2	0.0	0.0
95.00	Bot - Section 3	181.2	1,272.7					0.0	210.9	181.2	1,483.6	0.0	0.0
100.00		94.8	1,963.6					0.0	211.0	94.8	2,174.6	0.0	0.0
100.25	Top - Section 2	17.8	96.7					0.0	10.6	17.8	107.3	0.0	0.0
101.00	Appurtenance(s)	66.4	149.2	39.4	0.0	0.0	270.6	0.0	31.7	105.8	451.4	0.0	0.0
104.00	Appurtenance(s)	70.6	588.2	28.1	0.0	0.0	56.8	0.0	126.7	98.7	771.6	0.0	0.0
105.00		104.0	193.9					0.0	40.7	104.0	234.6	0.0	0.0
110.00		170.9	946.3					0.0	203.5	170.9	1,149.8	0.0	0.0
115.00		166.7	914.0					0.0	203.6	166.7	1,117.5	0.0	0.0
120.00		162.3	881.6					0.0	203.6	162.3	1,085.2	0.0	0.0
125.00		157.8	849.0					0.0	203.6	157.8	1,052.7	0.0	0.0
130.00	Bot - Section 4	142.7	816.4					0.0	203.7	142.7	1,020.1	0.0	0.0
134.25	Top - Section 3	76.2	993.0					0.0	173.2	76.2	1,166.2	0.0	0.0
135.00		85.1	89.9					0.0	30.6	85.1	120.5	0.0	0.0
140.00	Appurtenance(s)	145.2	581.3	766.6	0.0	0.0	5,297.7	0.0	203.7	911.8	6,082.7	0.0	0.0
145.00		140.1	556.4					0.0	182.0	140.1	738.4	0.0	0.0
150.00		95.6	531.4					0.0	182.0	95.6	713.4	0.0	0.0
152.00	Appurtenance(s)	66.2	206.7	126.8	0.0	0.0	241.0	0.0	72.8	193.0	520.5	0.0	0.0
155.00		102.9	301.9					0.0	91.5	102.9	393.5	0.0	0.0
160.00		88.2	481.2					0.0	152.5	88.2	633.7	0.0	0.0
162.00	Appurtenance(s)	60.8	186.6	1,310.0	0.0	0.0	7,407.3	0.0	61.0	1,370.8	7,654.9	0.0	0.0
165.00		94.2	271.7					0.0	67.1	94.2	338.8	0.0	0.0
170.00		91.6	430.6					0.0	107.9	91.6	538.5	0.0	0.0
173.00	Appurtenance(s)	55.3	247.4	1,141.4	0.0	1,007.8	6,813.5	0.0	64.7	1,196.7	7,125.6	0.0	0.0
175.00		21.8	160.2					0.0	3.9	21.8	164.2	0.0	0.0
								Totals:		9,430.70	71,368.2	0.00	0.00

Site Number: 370625 Code: ANSI/TIA-222-H

Site Name: Old Saybrook, CT Engineering Number:13681964_C3_02 6/12/2021 3:32:48 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 24 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	-71.36	-9.36	0.00	-1,098.30	0.00	1,098.30	4,663.96	1,343.42	7,803.58	6,184.38	0.00	0.00	0.193
5.00	-69.30	-9.22	0.00	-1,051.51	0.00	1,051.51	4,617.32	1,315.74	7,485.37	5,995.65	0.02	-0.04	0.190
10.00	-67.23	-9.08	0.00	-1,005.41	0.00	1,005.41	4,568.59	1,288.06	7,173.78	5,806.85	0.08	-0.08	0.188
15.00	-65.18	-8.94	0.00	-960.02	0.00	960.02	4,517.79	1,260.39	6,868.82	5,618.13	0.18	-0.12	0.185
20.00	-63.16	-8.79	0.00	-915.33	0.00	915.33	4,464.90	1,232.71	6,570.48	5,429.68	0.33	-0.16	0.183
25.00	-61.17	-8.64	0.00	-871.37	0.00	871.37	4,409.93	1,205.03	6,278.76	5,241.66	0.51	-0.20	0.180
30.00	-59.22	-8.48	0.00	-828.18	0.00	828.18	4,352.89	1,177.35	5,993.67	5,054.25	0.75	-0.24	0.178
35.00	-57.30	-8.32	0.00	-785.79	0.00	785.79	4,293.76	1,149.67	5,715.20	4,867.62	1.02	-0.28	0.175
40.00	-55.41	-8.15	0.00	-744.21	0.00	744.21	4,232.55	1,121.99	5,443.35	4,681.93	1.34	-0.33	0.172
45.00	-53.56	-8.03	0.00	-703.46	0.00	703.46	4,169.26	1,094.32	5,178.13	4,497.36	1.70	-0.37	0.169
46.75	-52.92	-7.95	0.00	-689.40	0.00	689.40	4,146.62	1,084.63	5,086.87	4,433.06	1.84	-0.39	0.168
50.00	-50.92	-7.83	0.00	-663.56	0.00	663.56	4,103.90	1,066.64	4,919.53	4,314.09	2.12	-0.42	0.166
53.50	-48.80	-7.73	0.00	-636.17	0.00	636.17	4,094.98	1,062.93	4,885.39	4,289.64	2.43	-0.45	0.160
55.00	-48.26	-7.62	0.00	-624.57	0.00	624.57	4,074.88	1,054.63	4,809.36	4,234.99	2.58	-0.46	0.159
60.00	-46.50	-7.45	0.00	-586.46	0.00	586.46	4,006.53	1,026.95	4,560.26	4,053.87	3.09	-0.51	0.156
65.00	-44.78	-7.27	0.00	-549.23	0.00	549.23	3,936.09	999.27	4,317.79	3,874.46	3.64	-0.55	0.153
70.00	-43.09	-7.09	0.00	-512.90	0.00	512.90	3,863.58	971.59	4,081.94	3,696.92	4.24	-0.60	0.150
75.00	-41.45	-6.91	0.00	-477.44	0.00	477.44	3,788.99	943.91	3,852.71	3,521.44	4.90	-0.64	0.147
80.00	-39.84	-6.74	0.00	-442.87	0.00	442.87	3,712.32	916.23	3,630.10	3,348.18	5.60	-0.69	0.143
85.00	-38.28	-6.57	0.00	-409.18	0.00	409.18	3,633.57	888.56	3,414.12	3,177.31	6.35	-0.74	0.139
90.00	-36.75	-6.39	0.00	-376.35	0.00	376.35	3,552.73	860.88	3,204.76	3,009.01	7.15	-0.79	0.135
95.00	-35.27	-6.22	0.00	-344.39	0.00	344.39	3,469.82	833.20	3,002.03	2,843.45	8.00	-0.84	0.131
100.00	-33.09	-6.11	0.00	-313.29	0.00	313.29	3,384.83	805.52	2,805.92	2,680.80	8.90	-0.89	0.127
100.25	-32.98	-6.09	0.00	-311.76	0.00	311.76	2,340.16	613.38	2,169.16	1,886.52	8.95	-0.89	0.179
101.00	-32.53	-5.99	0.00	-307.20	0.00	307.20	2,332.87	610.27	2,147.19	1,871.03	9.09	-0.90	0.178
104.00	-31.76	-5.89	0.00	-289.22	0.00	289.22	2,303.23	597.81	2,060.45	1,809.28	9.66	-0.93	0.174
105.00	-31.52	-5.81	0.00	-283.33	0.00	283.33	2,293.18	593.66	2,031.93	1,788.79	9.86	-0.95	0.172
110.00	-30.37	-5.65	0.00	-254.29	0.00	254.29	2,241.70	572.90	1,892.33	1,687.04	10.89	-1.01	0.164
115.00	-29.25	-5.49	0.00	-226.04	0.00	226.04	2,188.14	552.15	1,757.70	1,586.61	11.98	-1.07	0.156
120.00	-28.16	-5.34	0.00	-198.57	0.00	198.57	2,132.50	531.39	1,628.03	1,487.67	13.13	-1.13	0.147
125.00	-27.11	-5.19	0.00	-171.87	0.00	171.87	2,074.78	510.63	1,503.33	1,390.39	14.35	-1.19	0.137
130.00	-26.08	-5.05	0.00	-145.92	0.00	145.92	2,014.98	489.87	1,383.60	1,294.95	15.63	-1.25	0.126
134.25	-24.92	-4.96	0.00	-124.46	0.00	124.46	1,137.98	319.71	883.94	718.00	16.77	-1.30	0.195
135.00	-24.80	-4.89	0.00	-120.74	0.00	120.74	1,134.17	317.64	872.50	710.92	16.97	-1.31	0.192
140.00	-18.73	-3.86	0.00	-96.29	0.00	96.29	1,107.59	303.80	798.13	663.83	18.38	-1.38	0.162
145.00	-17.99	-3.72	0.00	-77.00	0.00	77.00	1,078.93	289.96	727.08	617.00	19.86	-1.45	0.142
150.00	-17.28	-3.62	0.00	-58.41	0.00	58.41	1,048.18	276.12	659.34	570.62	21.41	-1.51	0.119
152.00	-16.76	-3.42	0.00	-51.17	0.00	51.17	1,035.30	270.58	633.17	552.23	22.05	-1.53	0.109
155.00	-16.37	-3.32	0.00	-40.91	0.00	40.91	1,015.36	262.28	594.91	524.85	23.02	-1.56	0.094
160.00	-15.74	-3.22	0.00	-24.34	0.00	24.34	980.46	248.44	533.79	479.87	24.67	-1.60	0.067
162.00	-8.12	-1.63	0.00	-17.90	0.00	17.90	965.91	242.90	510.27	462.14	25.34	-1.61	0.047
165.00	-7.79	-1.53	0.00	-13.00	0.00	13.00	943.48	234.60	475.99	435.85	26.36	-1.62	0.038
170.00	-7.25	-1.43	0.00	-5.34	0.00	5.34	904.41	220.76	421.49	392.95	28.07	-1.64	0.022

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 24 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

173.00	-0.16	-0.03	0.00	-0.05	0.00	0.05	879.98	212.46	390.39	367.83	29.10	-1.64	0.000
175.00	0.00	-0.02	0.00	0.00	0.00	0.00	863.27	206.92	370.31	351.36	29.78	-1.64	0.000

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		72.2	0.0					0.0	0.0	72.2	0.0	0.0	0.0
5.00		143.0	1,289.0					0.0	165.0	143.0	1,454.0	0.0	0.0
10.00		140.0	1,262.1					0.0	165.0	140.0	1,427.2	0.0	0.0
15.00		139.2	1,235.3					0.0	165.0	139.2	1,400.4	0.0	0.0
20.00		142.0	1,208.5					0.0	165.0	142.0	1,373.5	0.0	0.0
25.00		145.6	1,181.6					0.0	165.0	145.6	1,346.7	0.0	0.0
30.00		147.8	1,154.8					0.0	165.0	147.8	1,319.9	0.0	0.0
35.00		149.2	1,128.0					0.0	165.0	149.2	1,293.0	0.0	0.0
40.00		149.8	1,101.1					0.0	165.0	149.8	1,266.2	0.0	0.0
45.00		101.2	1,074.3					0.0	165.0	101.2	1,239.4	0.0	0.0
46.75	Bot - Section 2	75.5	369.7					0.0	57.8	75.5	427.4	0.0	0.0
50.00		102.3	1,365.5					0.0	107.3	102.3	1,472.8	0.0	0.0
53.50	Top - Section 1	75.6	1,445.2					0.0	115.5	75.6	1,560.7	0.0	0.0
55.00		97.7	307.9					0.0	49.5	97.7	357.4	0.0	0.0
60.00		149.4	1,009.0					0.0	165.0	149.4	1,174.0	0.0	0.0
65.00		147.9	982.2					0.0	165.0	147.9	1,147.2	0.0	0.0
70.00		146.1	955.3					0.0	165.0	146.1	1,120.4	0.0	0.0
75.00		144.1	928.5					0.0	165.0	144.1	1,093.5	0.0	0.0
80.00		141.8	901.7					0.0	165.0	141.8	1,066.7	0.0	0.0
85.00		139.3	874.8					0.0	165.0	139.3	1,039.9	0.0	0.0
90.00		136.7	848.0					0.0	165.0	136.7	1,013.0	0.0	0.0
95.00	Bot - Section 3	134.8	821.2					0.0	165.0	134.8	986.2	0.0	0.0
100.00		70.4	1,400.0					0.0	165.0	70.4	1,565.1	0.0	0.0
100.25	Top - Section 2	13.2	68.8					0.0	8.3	13.2	77.0	0.0	0.0
101.00	Appurtenance(s)	49.3	89.0	38.0	0.0	0.0	187.5	0.0	24.8	87.3	301.2	0.0	0.0
104.00	Appurtenance(s)	52.3	351.4	23.0	0.0	0.0	25.0	0.0	99.0	75.4	475.4	0.0	0.0
105.00		77.0	115.5					0.0	32.7	77.0	148.2	0.0	0.0
110.00		126.3	565.5					0.0	163.4	126.3	728.9	0.0	0.0
115.00		122.9	545.3					0.0	163.4	122.9	708.7	0.0	0.0
120.00		119.4	525.2					0.0	163.4	119.4	688.6	0.0	0.0
125.00		115.8	505.1					0.0	163.4	115.8	668.5	0.0	0.0
130.00	Bot - Section 4	104.5	485.0					0.0	163.4	104.5	648.4	0.0	0.0
134.25	Top - Section 3	55.7	664.7					0.0	138.9	55.7	803.6	0.0	0.0
135.00		62.0	46.3					0.0	24.5	62.0	70.9	0.0	0.0
140.00	Appurtenance(s)	105.6	301.2	773.0	0.0	0.0	3,132.1	0.0	163.4	878.6	3,596.7	0.0	0.0
145.00		101.5	287.8					0.0	151.7	101.5	439.5	0.0	0.0
150.00		69.1	274.4					0.0	151.7	69.1	426.1	0.0	0.0
152.00	Appurtenance(s)	47.7	106.0	125.1	0.0	0.0	79.2	0.0	60.7	172.7	245.9	0.0	0.0
155.00		73.9	155.0					0.0	76.3	73.9	231.2	0.0	0.0
160.00		63.2	247.6					0.0	127.1	63.2	374.7	0.0	0.0
162.00	Appurtenance(s)	43.4	95.3	1,046.0	0.0	0.0	4,151.3	0.0	50.8	1,089.4	4,297.4	0.0	0.0
165.00		66.9	138.9					0.0	55.9	66.9	194.8	0.0	0.0
170.00		64.8	220.7					0.0	89.9	64.8	310.6	0.0	0.0
173.00	Appurtenance(s)	38.9	126.0	1,151.0	0.0	1,057.3	3,761.0	0.0	53.9	1,189.9	3,940.9	0.0	0.0
175.00		15.3	81.3					0.0	3.3	15.3	84.6	0.0	0.0
								Totals:		7,636.41	45,606.4	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 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	-45.60	-7.58	0.00	-893.47	0.00	893.47	4,663.96	1,343.42	7,803.58	6,184.38	0.00	0.00	0.154
5.00	-44.15	-7.46	0.00	-855.58	0.00	855.58	4,617.32	1,315.74	7,485.37	5,995.65	0.02	-0.03	0.152
10.00	-42.72	-7.34	0.00	-818.30	0.00	818.30	4,568.59	1,288.06	7,173.78	5,806.85	0.07	-0.06	0.150
15.00	-41.31	-7.22	0.00	-781.60	0.00	781.60	4,517.79	1,260.39	6,868.82	5,618.13	0.15	-0.10	0.148
20.00	-39.93	-7.10	0.00	-745.49	0.00	745.49	4,464.90	1,232.71	6,570.48	5,429.68	0.27	-0.13	0.146
25.00	-38.58	-6.97	0.00	-709.99	0.00	709.99	4,409.93	1,205.03	6,278.76	5,241.66	0.42	-0.16	0.144
30.00	-37.26	-6.84	0.00	-675.12	0.00	675.12	4,352.89	1,177.35	5,993.67	5,054.25	0.61	-0.20	0.142
35.00	-35.96	-6.71	0.00	-640.89	0.00	640.89	4,293.76	1,149.67	5,715.20	4,867.62	0.83	-0.23	0.140
40.00	-34.69	-6.58	0.00	-607.33	0.00	607.33	4,232.55	1,121.99	5,443.35	4,681.93	1.09	-0.27	0.138
45.00	-33.45	-6.49	0.00	-574.43	0.00	574.43	4,169.26	1,094.32	5,178.13	4,497.36	1.39	-0.30	0.136
46.75	-33.02	-6.42	0.00	-563.08	0.00	563.08	4,146.62	1,084.63	5,086.87	4,433.06	1.50	-0.31	0.135
50.00	-31.55	-6.32	0.00	-542.22	0.00	542.22	4,103.90	1,066.64	4,919.53	4,314.09	1.72	-0.34	0.133
53.50	-29.99	-6.25	0.00	-520.09	0.00	520.09	4,094.98	1,062.93	4,885.39	4,289.64	1.98	-0.37	0.129
55.00	-29.63	-6.16	0.00	-510.72	0.00	510.72	4,074.88	1,054.63	4,809.36	4,234.99	2.10	-0.38	0.128
60.00	-28.45	-6.02	0.00	-479.92	0.00	479.92	4,006.53	1,026.95	4,560.26	4,053.87	2.51	-0.41	0.126
65.00	-27.30	-5.88	0.00	-449.82	0.00	449.82	3,936.09	999.27	4,317.79	3,874.46	2.97	-0.45	0.123
70.00	-26.18	-5.74	0.00	-420.41	0.00	420.41	3,863.58	971.59	4,081.94	3,696.92	3.46	-0.49	0.121
75.00	-25.08	-5.61	0.00	-391.70	0.00	391.70	3,788.99	943.91	3,852.71	3,521.44	3.99	-0.53	0.118
80.00	-24.01	-5.47	0.00	-363.66	0.00	363.66	3,712.32	916.23	3,630.10	3,348.18	4.56	-0.57	0.115
85.00	-22.97	-5.34	0.00	-336.31	0.00	336.31	3,633.57	888.56	3,414.12	3,177.31	5.18	-0.60	0.112
90.00	-21.95	-5.20	0.00	-309.62	0.00	309.62	3,552.73	860.88	3,204.76	3,009.01	5.83	-0.64	0.109
95.00	-20.97	-5.07	0.00	-283.60	0.00	283.60	3,469.82	833.20	3,002.03	2,843.45	6.53	-0.68	0.106
100.00	-19.40	-4.99	0.00	-258.24	0.00	258.24	3,384.83	805.52	2,805.92	2,680.80	7.27	-0.72	0.102
100.25	-19.32	-4.98	0.00	-256.99	0.00	256.99	2,340.16	613.38	2,169.16	1,886.52	7.30	-0.73	0.145
101.00	-19.02	-4.89	0.00	-253.25	0.00	253.25	2,332.87	610.27	2,147.19	1,871.03	7.42	-0.73	0.144
104.00	-18.55	-4.82	0.00	-238.58	0.00	238.58	2,303.23	597.81	2,060.45	1,809.28	7.89	-0.76	0.140
105.00	-18.40	-4.75	0.00	-233.76	0.00	233.76	2,293.18	593.66	2,031.93	1,788.79	8.05	-0.78	0.139
110.00	-17.66	-4.63	0.00	-210.01	0.00	210.01	2,241.70	572.90	1,892.33	1,687.04	8.89	-0.83	0.132
115.00	-16.95	-4.51	0.00	-186.87	0.00	186.87	2,188.14	552.15	1,757.70	1,586.61	9.78	-0.88	0.126
120.00	-16.26	-4.39	0.00	-164.31	0.00	164.31	2,132.50	531.39	1,628.03	1,487.67	10.73	-0.93	0.118
125.00	-15.59	-4.28	0.00	-142.34	0.00	142.34	2,074.78	510.63	1,503.33	1,390.39	11.73	-0.98	0.110
130.00	-14.94	-4.18	0.00	-120.94	0.00	120.94	2,014.98	489.87	1,383.60	1,294.95	12.78	-1.03	0.101
134.25	-14.14	-4.11	0.00	-103.19	0.00	103.19	1,137.98	319.71	883.94	718.00	13.71	-1.07	0.156
135.00	-14.07	-4.06	0.00	-100.11	0.00	100.11	1,134.17	317.64	872.50	710.92	13.88	-1.07	0.153
140.00	-10.48	-3.12	0.00	-79.82	0.00	79.82	1,107.59	303.80	798.13	663.83	15.04	-1.13	0.130
145.00	-10.04	-3.02	0.00	-64.22	0.00	64.22	1,078.93	289.96	727.08	617.00	16.25	-1.19	0.114
150.00	-9.62	-2.95	0.00	-49.13	0.00	49.13	1,048.18	276.12	659.34	570.62	17.52	-1.24	0.095
152.00	-9.38	-2.77	0.00	-43.24	0.00	43.24	1,035.30	270.58	633.17	552.23	18.05	-1.26	0.087
155.00	-9.14	-2.70	0.00	-34.92	0.00	34.92	1,015.36	262.28	594.91	524.85	18.85	-1.28	0.076
160.00	-8.77	-2.63	0.00	-21.43	0.00	21.43	980.46	248.44	533.79	479.87	20.21	-1.32	0.054
162.00	-4.50	-1.44	0.00	-16.18	0.00	16.18	965.91	242.90	510.27	462.14	20.76	-1.33	0.040
165.00	-4.31	-1.37	0.00	-11.85	0.00	11.85	943.48	234.60	475.99	435.85	21.60	-1.34	0.032
170.00	-4.00	-1.30	0.00	-4.99	0.00	4.99	904.41	220.76	421.49	392.95	23.01	-1.35	0.017

Load Case: 1.0D + 1.0W Serviceability 60 mph 24 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.00
Wind Load Factor :1.00

173.00	-0.08	-0.02	0.00	-0.03	0.00	0.03	879.98	212.46	390.39	367.83	23.86	-1.36	0.000
175.00	0.00	-0.02	0.00	0.00	0.00	0.00	863.27	206.92	370.31	351.36	24.43	-1.36	0.000

Equivalent Lateral Forces Method Analysis

Spectral Response Acceleration for Short Period (S_s):	0.20
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coeffiecient F_v:	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.22
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.08
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.61
Redundancy Factor (p):	1.00
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	45.61 k
Seismic Base Shear (E):	1.37 k

Load Case 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)
44	174.00	85	2,561	0.005	7	105
43	171.50	180	5,292	0.010	14	224
42	167.50	311	8,715	0.017	23	386
41	163.50	195	5,208	0.010	14	242
40	161.00	146	3,787	0.007	10	182
39	157.50	375	9,294	0.018	25	466
38	153.50	231	5,448	0.011	15	287
37	151.00	167	3,800	0.007	10	207
36	147.50	426	9,270	0.018	25	530
35	142.50	440	8,925	0.017	24	546
34	137.50	465	8,784	0.017	24	578
33	134.63	71	1,284	0.003	3	88
32	132.13	804	14,028	0.027	38	999
31	127.50	648	10,540	0.021	28	806
30	122.50	668	10,032	0.020	27	831
29	117.50	689	9,507	0.019	25	856
28	112.50	709	8,970	0.018	24	881
27	107.50	729	8,423	0.017	23	906
26	104.50	148	1,618	0.003	4	184
25	102.50	450	4,732	0.009	13	560
24	100.63	114	1,152	0.002	3	141
23	100.13	77	772	0.002	2	96
22	97.50	1,565	14,878	0.029	40	1,946
21	92.50	986	8,438	0.017	23	1,226
20	87.50	1,013	7,756	0.015	21	1,259

19	82.50	1,040	7,078	0.014	19	1,293
18	77.50	1,067	6,407	0.013	17	1,326
17	72.50	1,094	5,748	0.011	15	1,359
16	67.50	1,120	5,105	0.010	14	1,393
15	62.50	1,147	4,481	0.009	12	1,426
14	57.50	1,174	3,882	0.008	10	1,459
13	54.25	357	1,052	0.002	3	444
12	51.75	1,561	4,180	0.008	11	1,940
11	48.38	1,473	3,446	0.007	9	1,831
10	45.88	427	900	0.002	2	531
9	42.50	1,239	2,239	0.004	6	1,541
8	37.50	1,266	1,781	0.003	5	1,574
7	32.50	1,293	1,366	0.003	4	1,607
6	27.50	1,320	998	0.002	3	1,641
5	22.50	1,347	682	0.001	2	1,674
4	17.50	1,374	421	0.001	1	1,707
3	12.50	1,400	219	0.000	1	1,741
2	7.50	1,427	80	0.000	0	1,774
1	2.50	1,454	9	0.000	0	1,807
RFS FDJ85020Q4-S1	173.00	71	2,119	0.004	6	88
Samsung B2/B66A RRH-	173.00	253	7,578	0.015	20	315
Samsung B5/B13 RRH-B	173.00	211	6,312	0.012	17	262
Antel BXA-80063/4CF	173.00	30	889	0.002	2	37
Samsung MT6407-77A	173.00	245	7,327	0.014	20	304
RFS DB-T1-6Z-8AB-0Z	173.00	88	2,634	0.005	7	109
Commscope JAHH-65B-R	173.00	364	10,882	0.021	29	452
Generic Flat Platfor	173.00	2,500	74,823	0.147	201	3,108
Ericsson Radio 4449	162.00	225	5,905	0.012	16	280
Ericsson RRUS 4415 B	162.00	138	3,622	0.007	10	172
Ericsson RRUS 4415 B	162.00	138	3,622	0.007	10	172
Ericsson AIR 21, 1.3	162.00	244	6,417	0.013	17	304
RFS APX16DWV-16DWVS-	162.00	122	3,204	0.006	9	152
RFS APXVAARR24_43-U-	162.00	384	10,070	0.020	27	477
Generic Circular Pla	162.00	2,900	76,108	0.149	204	3,605
RFS APXV18-206517S-C	152.00	79	1,830	0.004	5	98
Commscope RDIDC-9181	140.00	22	429	0.001	1	27
Fujitsu TA08025-B605	140.00	225	4,410	0.009	12	280
Fujitsu TA08025-B604	140.00	192	3,757	0.007	10	238
JMA Wireless MX08FRO	140.00	193	3,793	0.007	10	241
Generic Flat Platfor	140.00	2,500	49,000	0.096	131	3,108
Generic 7' Omni	104.00	25	270	0.001	1	31
Generic Round Side A	101.00	188	1,913	0.004	5	233
		45,606	510,199	1.000	1,368	56,693

Load Case 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)
44	174.00	85	2,561	0.005	7	72
43	171.50	180	5,292	0.010	14	154
42	167.50	311	8,715	0.017	23	266
41	163.50	195	5,208	0.010	14	167
40	161.00	146	3,787	0.007	10	125
39	157.50	375	9,294	0.018	25	321
38	153.50	231	5,448	0.011	15	198
37	151.00	167	3,800	0.007	10	143
36	147.50	426	9,270	0.018	25	365
35	142.50	440	8,925	0.017	24	377
34	137.50	465	8,784	0.017	24	398
33	134.63	71	1,284	0.003	3	61
32	132.13	804	14,028	0.027	38	689

31	127.50	648	10,540	0.021	28	556
30	122.50	668	10,032	0.020	27	573
29	117.50	689	9,507	0.019	25	590
28	112.50	709	8,970	0.018	24	607
27	107.50	729	8,423	0.017	23	625
26	104.50	148	1,618	0.003	4	127
25	102.50	450	4,732	0.009	13	386
24	100.63	114	1,152	0.002	3	97
23	100.13	77	772	0.002	2	66
22	97.50	1,565	14,878	0.029	40	1,341
21	92.50	986	8,438	0.017	23	845
20	87.50	1,013	7,756	0.015	21	868
19	82.50	1,040	7,078	0.014	19	891
18	77.50	1,067	6,407	0.013	17	914
17	72.50	1,094	5,748	0.011	15	937
16	67.50	1,120	5,105	0.010	14	960
15	62.50	1,147	4,481	0.009	12	983
14	57.50	1,174	3,882	0.008	10	1,006
13	54.25	357	1,052	0.002	3	306
12	51.75	1,561	4,180	0.008	11	1,337
11	48.38	1,473	3,446	0.007	9	1,262
10	45.88	427	900	0.002	2	366
9	42.50	1,239	2,239	0.004	6	1,062
8	37.50	1,266	1,781	0.003	5	1,085
7	32.50	1,293	1,366	0.003	4	1,108
6	27.50	1,320	998	0.002	3	1,131
5	22.50	1,347	682	0.001	2	1,154
4	17.50	1,374	421	0.001	1	1,177
3	12.50	1,400	219	0.000	1	1,200
2	7.50	1,427	80	0.000	0	1,223
1	2.50	1,454	9	0.000	0	1,246
RFS FDJ85020Q4-S1	173.00	71	2,119	0.004	6	61
Samsung B2/B66A RRH-	173.00	253	7,578	0.015	20	217
Samsung B5/B13 RRH-B	173.00	211	6,312	0.012	17	181
Antel BXA-80063/4CF	173.00	30	889	0.002	2	25
Samsung MT6407-77A	173.00	245	7,327	0.014	20	210
RFS DB-T1-6Z-8AB-0Z	173.00	88	2,634	0.005	7	75
Commscope JAHH-65B-R	173.00	364	10,882	0.021	29	312
Generic Flat Platfor	173.00	2,500	74,823	0.147	201	2,142
Ericsson Radio 4449	162.00	225	5,905	0.012	16	193
Ericsson RRUS 4415 B	162.00	138	3,622	0.007	10	118
Ericsson RRUS 4415 B	162.00	138	3,622	0.007	10	118
Ericsson AIR 21, 1.3	162.00	244	6,417	0.013	17	210
RFS APX16DWV-16DWVS-	162.00	122	3,204	0.006	9	105
RFS APXVAARR24_43-U-	162.00	384	10,070	0.020	27	329
Generic Circular Pla	162.00	2,900	76,108	0.149	204	2,485
RFS APXV18-206517S-C	152.00	79	1,830	0.004	5	68
Commscope RDIDC-9181	140.00	22	429	0.001	1	19
Fujitsu TA08025-B605	140.00	225	4,410	0.009	12	193
Fujitsu TA08025-B604	140.00	192	3,757	0.007	10	164
JMA Wireless MX08FRO	140.00	193	3,793	0.007	10	166
Generic Flat Platfor	140.00	2,500	49,000	0.096	131	2,142
Generic 7' Omni	104.00	25	270	0.001	1	21
Generic Round Side A	101.00	188	1,913	0.004	5	161
		45,606	510,199	1.000	1,368	39,080

Load Case 1.2D + 1.0Ev + 1.0Eh Seismic

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	-54.89	-1.37	0.00	-200.25	0.00	200.25	4,663.96	1,343.42	7,803.58	6,184.38	0.00	0.00	0.044
5.00	-53.11	-1.38	0.00	-193.40	0.00	193.40	4,617.32	1,315.74	7,485.37	5,995.65	0.00	-0.01	0.044
10.00	-51.37	-1.38	0.00	-186.52	0.00	186.52	4,568.59	1,288.06	7,173.78	5,806.85	0.01	-0.01	0.043
15.00	-49.66	-1.39	0.00	-179.61	0.00	179.61	4,517.79	1,260.39	6,868.82	5,618.13	0.03	-0.02	0.043
20.00	-47.99	-1.39	0.00	-172.68	0.00	172.68	4,464.90	1,232.71	6,570.48	5,429.68	0.06	-0.03	0.043
25.00	-46.35	-1.39	0.00	-165.72	0.00	165.72	4,409.93	1,205.03	6,278.76	5,241.66	0.10	-0.04	0.042
30.00	-44.74	-1.40	0.00	-158.76	0.00	158.76	4,352.89	1,177.35	5,993.67	5,054.25	0.14	-0.04	0.042
35.00	-43.17	-1.40	0.00	-151.78	0.00	151.78	4,293.76	1,149.67	5,715.20	4,867.62	0.19	-0.05	0.041
40.00	-41.62	-1.39	0.00	-144.80	0.00	144.80	4,232.55	1,121.99	5,443.35	4,681.93	0.25	-0.06	0.041
45.00	-41.09	-1.40	0.00	-137.84	0.00	137.84	4,169.26	1,094.32	5,178.13	4,497.36	0.32	-0.07	0.041
46.75	-39.26	-1.39	0.00	-135.39	0.00	135.39	4,146.62	1,084.63	5,086.87	4,433.06	0.35	-0.07	0.040
50.00	-37.32	-1.38	0.00	-130.89	0.00	130.89	4,103.90	1,066.64	4,919.53	4,314.09	0.40	-0.08	0.039
53.50	-36.88	-1.38	0.00	-126.07	0.00	126.07	4,094.98	1,062.93	4,885.39	4,289.64	0.46	-0.09	0.038
55.00	-35.42	-1.37	0.00	-124.01	0.00	124.01	4,074.88	1,054.63	4,809.36	4,234.99	0.49	-0.09	0.038
60.00	-33.99	-1.36	0.00	-117.17	0.00	117.17	4,006.53	1,026.95	4,560.26	4,053.87	0.58	-0.10	0.037
65.00	-32.60	-1.35	0.00	-110.38	0.00	110.38	3,936.09	999.27	4,317.79	3,874.46	0.69	-0.11	0.037
70.00	-31.24	-1.33	0.00	-103.64	0.00	103.64	3,863.58	971.59	4,081.94	3,696.92	0.81	-0.12	0.036
75.00	-29.91	-1.32	0.00	-96.97	0.00	96.97	3,788.99	943.91	3,852.71	3,521.44	0.93	-0.12	0.035
80.00	-28.62	-1.30	0.00	-90.37	0.00	90.37	3,712.32	916.23	3,630.10	3,348.18	1.07	-0.13	0.035
85.00	-27.36	-1.28	0.00	-83.86	0.00	83.86	3,633.57	888.56	3,414.12	3,177.31	1.21	-0.14	0.034
90.00	-26.13	-1.26	0.00	-77.44	0.00	77.44	3,552.73	860.88	3,204.76	3,009.01	1.37	-0.15	0.033
95.00	-24.19	-1.22	0.00	-71.13	0.00	71.13	3,469.82	833.20	3,002.03	2,843.45	1.54	-0.16	0.032
100.00	-24.09	-1.22	0.00	-65.03	0.00	65.03	3,384.83	805.52	2,805.92	2,680.80	1.71	-0.17	0.031
100.25	-23.95	-1.22	0.00	-64.72	0.00	64.72	2,340.16	613.38	2,169.16	1,886.52	1.72	-0.17	0.045
101.00	-23.16	-1.20	0.00	-63.81	0.00	63.81	2,332.87	610.27	2,147.19	1,871.03	1.75	-0.18	0.044
104.00	-22.94	-1.20	0.00	-60.21	0.00	60.21	2,303.23	597.81	2,060.45	1,809.28	1.87	-0.18	0.043
105.00	-22.04	-1.17	0.00	-59.02	0.00	59.02	2,293.18	593.66	2,031.93	1,788.79	1.90	-0.19	0.043
110.00	-21.16	-1.15	0.00	-53.15	0.00	53.15	2,241.70	572.90	1,892.33	1,687.04	2.11	-0.20	0.041
115.00	-20.30	-1.13	0.00	-47.39	0.00	47.39	2,188.14	552.15	1,757.70	1,586.61	2.32	-0.21	0.039
120.00	-19.47	-1.10	0.00	-41.76	0.00	41.76	2,132.50	531.39	1,628.03	1,487.67	2.55	-0.23	0.037
125.00	-18.66	-1.07	0.00	-36.25	0.00	36.25	2,074.78	510.63	1,503.33	1,390.39	2.80	-0.24	0.035
130.00	-17.66	-1.04	0.00	-30.88	0.00	30.88	2,014.98	489.87	1,383.60	1,294.95	3.05	-0.25	0.033
134.25	-17.58	-1.03	0.00	-26.48	0.00	26.48	1,137.98	319.71	883.94	718.00	3.28	-0.26	0.052
135.00	-17.00	-1.01	0.00	-25.70	0.00	25.70	1,134.17	317.64	872.50	710.92	3.32	-0.26	0.051
140.00	-12.56	-0.80	0.00	-20.65	0.00	20.65	1,107.59	303.80	798.13	663.83	3.61	-0.28	0.042
145.00	-12.03	-0.78	0.00	-16.63	0.00	16.63	1,078.93	289.96	727.08	617.00	3.91	-0.29	0.038
150.00	-11.82	-0.77	0.00	-12.73	0.00	12.73	1,048.18	276.12	659.34	570.62	4.22	-0.31	0.034
152.00	-11.44	-0.75	0.00	-11.19	0.00	11.19	1,035.30	270.58	633.17	552.23	4.35	-0.31	0.031
155.00	-10.97	-0.72	0.00	-8.94	0.00	8.94	1,015.36	262.28	594.91	524.85	4.55	-0.32	0.028
160.00	-10.79	-0.71	0.00	-5.33	0.00	5.33	980.46	248.44	533.79	479.87	4.88	-0.33	0.022
162.00	-5.39	-0.38	0.00	-3.90	0.00	3.90	965.91	242.90	510.27	462.14	5.02	-0.33	0.014
165.00	-5.00	-0.35	0.00	-2.77	0.00	2.77	943.48	234.60	475.99	435.85	5.23	-0.33	0.012
170.00	-4.78	-0.34	0.00	-1.01	0.00	1.01	904.41	220.76	421.49	392.95	5.58	-0.33	0.008
173.00	0.00	0.00	0.00	0.00	0.00	0.00	879.98	212.46	390.39	367.83	5.79	-0.33	0.000
175.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	206.92	370.31	351.36	5.93	-0.33	0.000

Load Case 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 (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	-37.83	-1.37	0.00	-197.18	0.00	197.18	4,663.96	1,343.42	7,803.58	6,184.38	0.00	0.00	0.040
5.00	-36.61	-1.37	0.00	-190.33	0.00	190.33	4,617.32	1,315.74	7,485.37	5,995.65	0.00	-0.01	0.040
10.00	-35.41	-1.38	0.00	-183.46	0.00	183.46	4,568.59	1,288.06	7,173.78	5,806.85	0.01	-0.01	0.039
15.00	-34.23	-1.38	0.00	-176.58	0.00	176.58	4,517.79	1,260.39	6,868.82	5,618.13	0.03	-0.02	0.039
20.00	-33.08	-1.38	0.00	-169.68	0.00	169.68	4,464.90	1,232.71	6,570.48	5,429.68	0.06	-0.03	0.039
25.00	-31.95	-1.38	0.00	-162.77	0.00	162.77	4,409.93	1,205.03	6,278.76	5,241.66	0.09	-0.04	0.038
30.00	-30.84	-1.38	0.00	-155.85	0.00	155.85	4,352.89	1,177.35	5,993.67	5,054.25	0.14	-0.04	0.038
35.00	-29.76	-1.38	0.00	-148.94	0.00	148.94	4,293.76	1,149.67	5,715.20	4,867.62	0.19	-0.05	0.038
40.00	-28.69	-1.38	0.00	-142.03	0.00	142.03	4,232.55	1,121.99	5,443.35	4,681.93	0.25	-0.06	0.037
45.00	-28.33	-1.38	0.00	-135.14	0.00	135.14	4,169.26	1,094.32	5,178.13	4,497.36	0.31	-0.07	0.037
46.75	-27.06	-1.37	0.00	-132.73	0.00	132.73	4,146.62	1,084.63	5,086.87	4,433.06	0.34	-0.07	0.036
50.00	-25.73	-1.36	0.00	-128.28	0.00	128.28	4,103.90	1,066.64	4,919.53	4,314.09	0.39	-0.08	0.036
53.50	-25.42	-1.36	0.00	-123.52	0.00	123.52	4,094.98	1,062.93	4,885.39	4,289.64	0.45	-0.08	0.035
55.00	-24.41	-1.35	0.00	-121.48	0.00	121.48	4,074.88	1,054.63	4,809.36	4,234.99	0.48	-0.09	0.035
60.00	-23.43	-1.34	0.00	-114.74	0.00	114.74	4,006.53	1,026.95	4,560.26	4,053.87	0.57	-0.10	0.034
65.00	-22.47	-1.33	0.00	-108.04	0.00	108.04	3,936.09	999.27	4,317.79	3,874.46	0.68	-0.10	0.034
70.00	-21.53	-1.31	0.00	-101.41	0.00	101.41	3,863.58	971.59	4,081.94	3,696.92	0.79	-0.11	0.033
75.00	-20.62	-1.30	0.00	-94.84	0.00	94.84	3,788.99	943.91	3,852.71	3,521.44	0.91	-0.12	0.032
80.00	-19.73	-1.28	0.00	-88.35	0.00	88.35	3,712.32	916.23	3,630.10	3,348.18	1.05	-0.13	0.032
85.00	-18.86	-1.26	0.00	-81.95	0.00	81.95	3,633.57	888.56	3,414.12	3,177.31	1.19	-0.14	0.031
90.00	-18.01	-1.24	0.00	-75.65	0.00	75.65	3,552.73	860.88	3,204.76	3,009.01	1.35	-0.15	0.030
95.00	-16.67	-1.20	0.00	-69.46	0.00	69.46	3,469.82	833.20	3,002.03	2,843.45	1.51	-0.16	0.029
100.00	-16.61	-1.20	0.00	-63.47	0.00	63.47	3,384.83	805.52	2,805.92	2,680.80	1.68	-0.17	0.029
100.25	-16.51	-1.19	0.00	-63.17	0.00	63.17	2,340.16	613.38	2,169.16	1,886.52	1.69	-0.17	0.041
101.00	-15.96	-1.18	0.00	-62.28	0.00	62.28	2,332.87	610.27	2,147.19	1,871.03	1.72	-0.17	0.040
104.00	-15.81	-1.17	0.00	-58.75	0.00	58.75	2,303.23	597.81	2,060.45	1,809.28	1.83	-0.18	0.039
105.00	-15.19	-1.15	0.00	-57.58	0.00	57.58	2,293.18	593.66	2,031.93	1,788.79	1.87	-0.18	0.039
110.00	-14.58	-1.13	0.00	-51.83	0.00	51.83	2,241.70	572.90	1,892.33	1,687.04	2.07	-0.20	0.037
115.00	-13.99	-1.10	0.00	-46.20	0.00	46.20	2,188.14	552.15	1,757.70	1,586.61	2.28	-0.21	0.036
120.00	-13.42	-1.08	0.00	-40.69	0.00	40.69	2,132.50	531.39	1,628.03	1,487.67	2.50	-0.22	0.034
125.00	-12.86	-1.05	0.00	-35.31	0.00	35.31	2,074.78	510.63	1,503.33	1,390.39	2.74	-0.23	0.032
130.00	-12.18	-1.01	0.00	-30.07	0.00	30.07	2,014.98	489.87	1,383.60	1,294.95	2.99	-0.25	0.029
134.25	-12.11	-1.01	0.00	-25.77	0.00	25.77	1,137.98	319.71	883.94	718.00	3.22	-0.26	0.047
135.00	-11.72	-0.98	0.00	-25.02	0.00	25.02	1,134.17	317.64	872.50	710.92	3.26	-0.26	0.046
140.00	-8.66	-0.78	0.00	-20.10	0.00	20.10	1,107.59	303.80	798.13	663.83	3.54	-0.27	0.038
145.00	-8.29	-0.76	0.00	-16.18	0.00	16.18	1,078.93	289.96	727.08	617.00	3.83	-0.29	0.034
150.00	-8.15	-0.75	0.00	-12.39	0.00	12.39	1,048.18	276.12	659.34	570.62	4.13	-0.30	0.029
152.00	-7.88	-0.73	0.00	-10.89	0.00	10.89	1,035.30	270.58	633.17	552.23	4.26	-0.30	0.027
155.00	-7.56	-0.70	0.00	-8.70	0.00	8.70	1,015.36	262.28	594.91	524.85	4.45	-0.31	0.024
160.00	-7.44	-0.69	0.00	-5.18	0.00	5.18	980.46	248.44	533.79	479.87	4.78	-0.32	0.018
162.00	-3.71	-0.37	0.00	-3.79	0.00	3.79	965.91	242.90	510.27	462.14	4.92	-0.32	0.012
165.00	-3.45	-0.34	0.00	-2.69	0.00	2.69	943.48	234.60	475.99	435.85	5.12	-0.32	0.010
170.00	-3.29	-0.33	0.00	-0.98	0.00	0.98	904.41	220.76	421.49	392.95	5.46	-0.33	0.006
173.00	0.00	0.00	0.00	0.00	0.00	0.00	879.98	212.46	390.39	367.83	5.67	-0.33	0.000
175.00	0.00	0.00	0.00	0.00	0.00	0.00	863.27	206.92	370.31	351.36	5.80	-0.33	0.000

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	36.77	0.00	54.68	0.00	0.00	4362.29	134.25	0.72
0.9D + 1.0W	36.75	0.00	41.00	0.00	0.00	4311.27	0.00	0.71
1.2D + 1.0Di + 1.0Wi	9.36	0.00	71.36	0.00	0.00	1098.30	134.25	0.20
1.2D + 1.0Ev + 1.0Eh	1.37	0.00	54.89	0.00	0.00	200.25	134.25	0.05
0.9D - 1.0Ev + 1.0Eh	1.37	0.00	37.83	0.00	0.00	197.18	134.25	0.05
1.0D + 1.0W	7.58	0.00	45.60	0.00	0.00	893.47	134.25	0.16

Base Plate & Anchor Rod Analysis

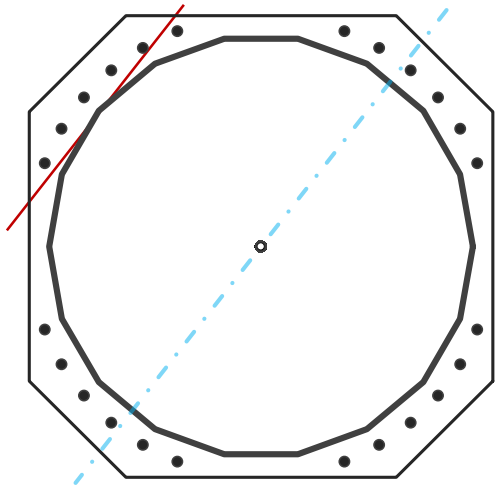
Pole Dimensions		
Number of Sides	18	-
Diameter	64.69	in
Thickness	3/8	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	4,362.3	k-ft
Axial, Pu	54.7	k
Shear, Vu	36.8	k
Neutral Axis	52	°

Report Capacities		
Component	Capacity	Result
Base Plate	49%	Pass
Anchor Rods	51%	Pass
Dwyidag	-	-

Base Plate		
Shape	Square	-
Width	72	in
Thickness	2 3/4	in
Grade	A572-50	
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	15	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	1557.4	k
Bending Stress, ϕMn	3148.6	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	24	-
Diameter, ø	2 1/4	in
Bolt Circle	72	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	123.3	k
Anchor Rods, ϕPn	243.6	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	36.8	4362.3	1.00
Anchor Rod Forces	36.8	4362.3	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
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	75.3852	4.1881	0.1969		38981.66
Bolt	3.9761	3.2477	0.8393	4.5	50528.21
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	72	in
Thickness, t	2.75	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	31.610	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	24	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	72	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	123.3	k
Applied Shear, Vu	0.1	k
Compressive Capacity, ϕPn	243.6	k
Tensile Capacity, ϕRnt	0.506	OK
Interaction Capacity	0.507	OK

External Base Plate		
Chord Length AA	37.008	in
Additional AA	0.000	in
Section Modulus, Z	69.969	in^3
Applied Moment, Mu	1557.4	k-ft
Bending Capacity, ϕMn	3148.6	k-ft
Capacity, Mu/ϕMn	0.495	OK
Chord Length AB	36.009	in
Additional AB	0.000	in
Section Modulus, Z	68.079	in^3
Applied Moment, Mu	1257.5	k-ft
Bending Capacity, ϕMn	3063.5	k-ft
Capacity, Mu/ϕMn	0.410	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in^3
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

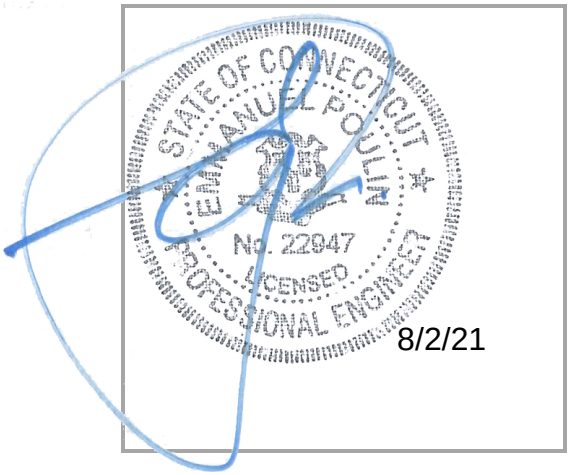
Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

MOUNT ANALYSIS REPORT

August 2, 2021

Dish Wireless Site Name	BOBDL00018A
Dish Wireless Site Number	BOBDL00018A
ATC Site Name	Old Saybrook, CT
ATC Site Number	370625
Infinigy Job Number	1197-F0001-C
Client	ATC
Carrier	Dish Wireless
Site Location	77 Springbrook Road Old Saybrook, CT 06475 Middlesex County 41° 18' 49.7" N NAD83 72° 21' 50.4" W NAD83
Structure Type	Monopole
Structure Height	175.0 ft AGL
Mount Type	8.0 ft Platform
Mount Elevation	140.0 ft AGL
Structural Usage Ratio	47.8%
Overall Result	Pass

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 135 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 8.0 ft 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 19.0.4 analysis software.

2. DESIGN/ANALYSIS PARAMETERS

Wind Speed	135 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1.5" ice
Code / Standard	TIA-222-H
Adopted Code	2018 Connecticut State Building Code (2015 IBC)
Risk Category	II
Exposure Category	C
Topographic Category	1
Calculated Crest Height	0 ft.
Seismic Spectral Response	S_s = 0.164 g / S_1 = 0.059 g

3. PROPOSED LOADING CONFIGURATION - 140.0 ft AGL 8.0 ft Platform

Antenna Centerline (ft)	Qty.	Appurtenance Manufacturers	Appurtenance Models
140.0	1	Commscope	RDIDC-9181-PF-48
	3	Fujitsu	TA08025-B605
	3	Fujitsu	TA08025-B604
	3	JMA Wireless	MX08FRO665-21

4. SUPPORTING DOCUMENTATION

Structural Analysis Report	ATC, Site No.: 370625, dated June 11, 2021
Mount Manufacturer Drawings	Sabre Industries, Drawing No.: C10801018-32788, Rev. 0

5. RESULTS

Components	Capacity	Pass/Fail
Horizontal(s)	47.8%	Pass
Mount Pipe(s)	40.5%	Pass
Standoff(s)	26.3%	Pass
Support Angle(s)	44.7%	Pass
Platform Connection	18.6%	Pass
MOUNT RATING =	47.8%	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 140.0 ft. The installation shall be performed in accordance with the construction documents issued for this site.

If you have any questions, require additional information, or believe the actual conditions differ from those detailed in this report, please contact us immediately.

Luis Mendoza, P.E.
Director of Structural Engineering | INFINIGY

7. ASSUMPTIONS

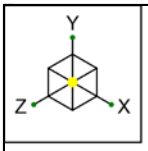
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.	
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.	
All member connections 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, Angle	ASTM A36
Plate	ASTM A572 GR 50
HSS (Rectangular)	ASTM A500-C GR 50
HSS (Circular)	ASTM A500-B GR 42
Pipe	ASTM A53-B GR 35 & A53-C GR 50
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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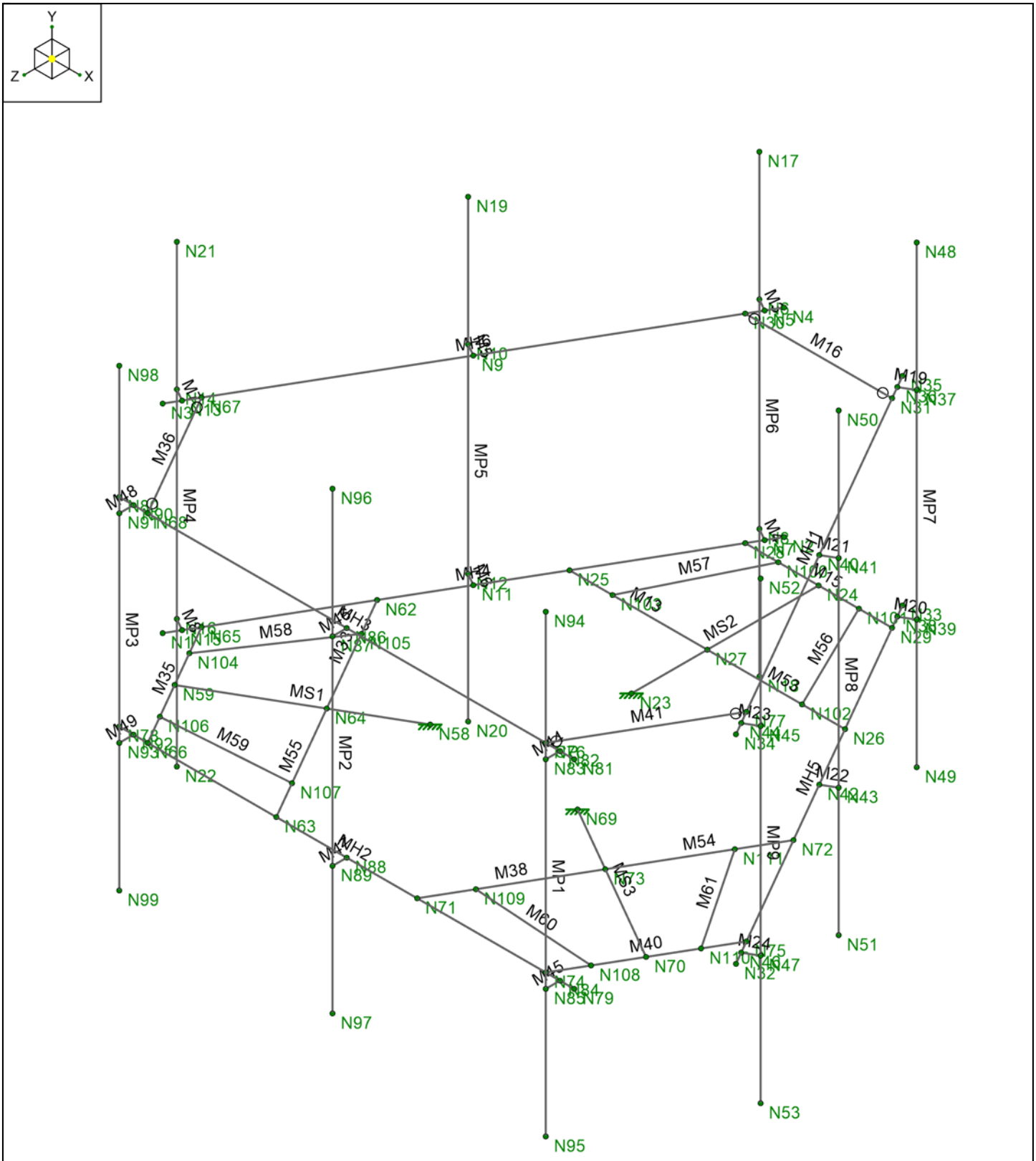

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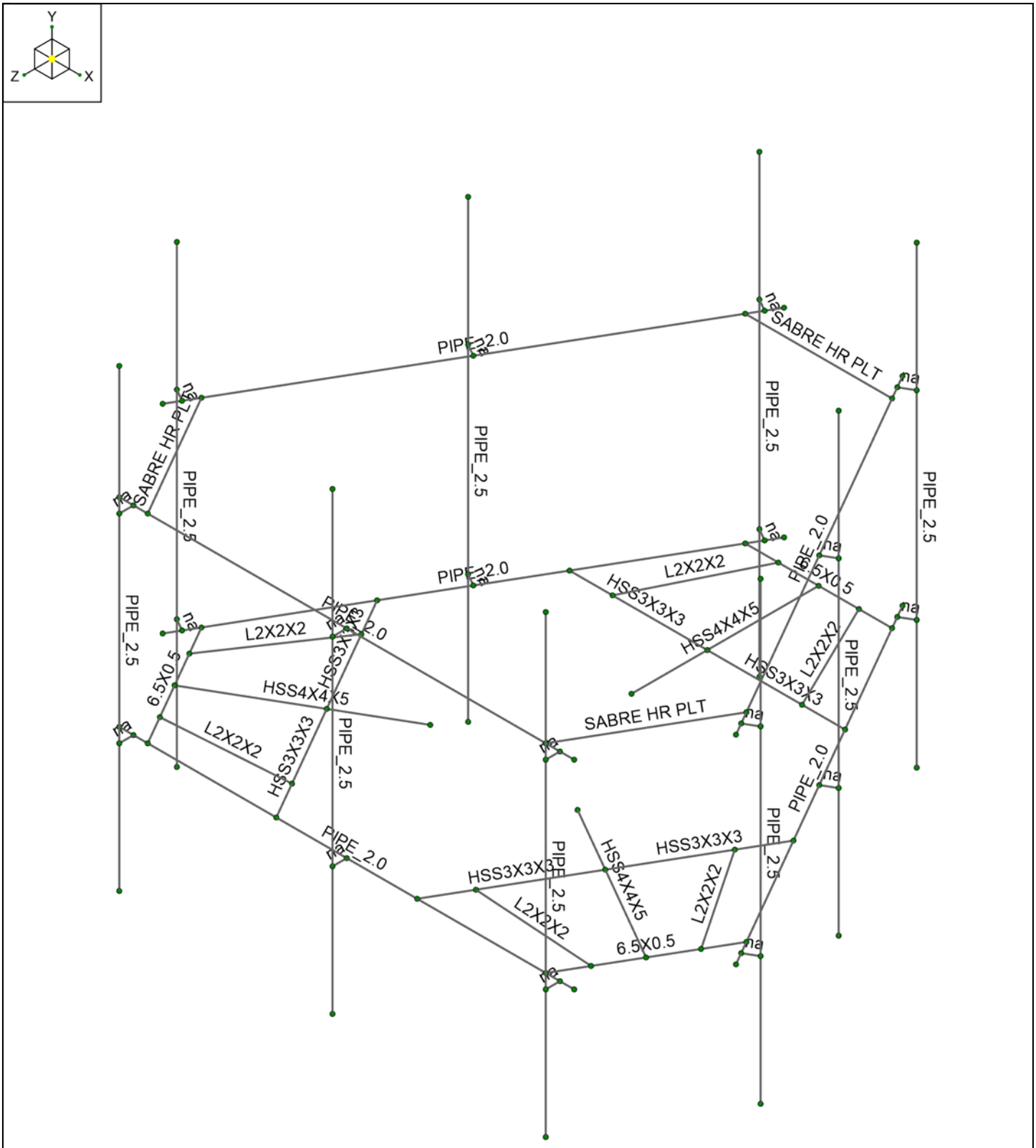

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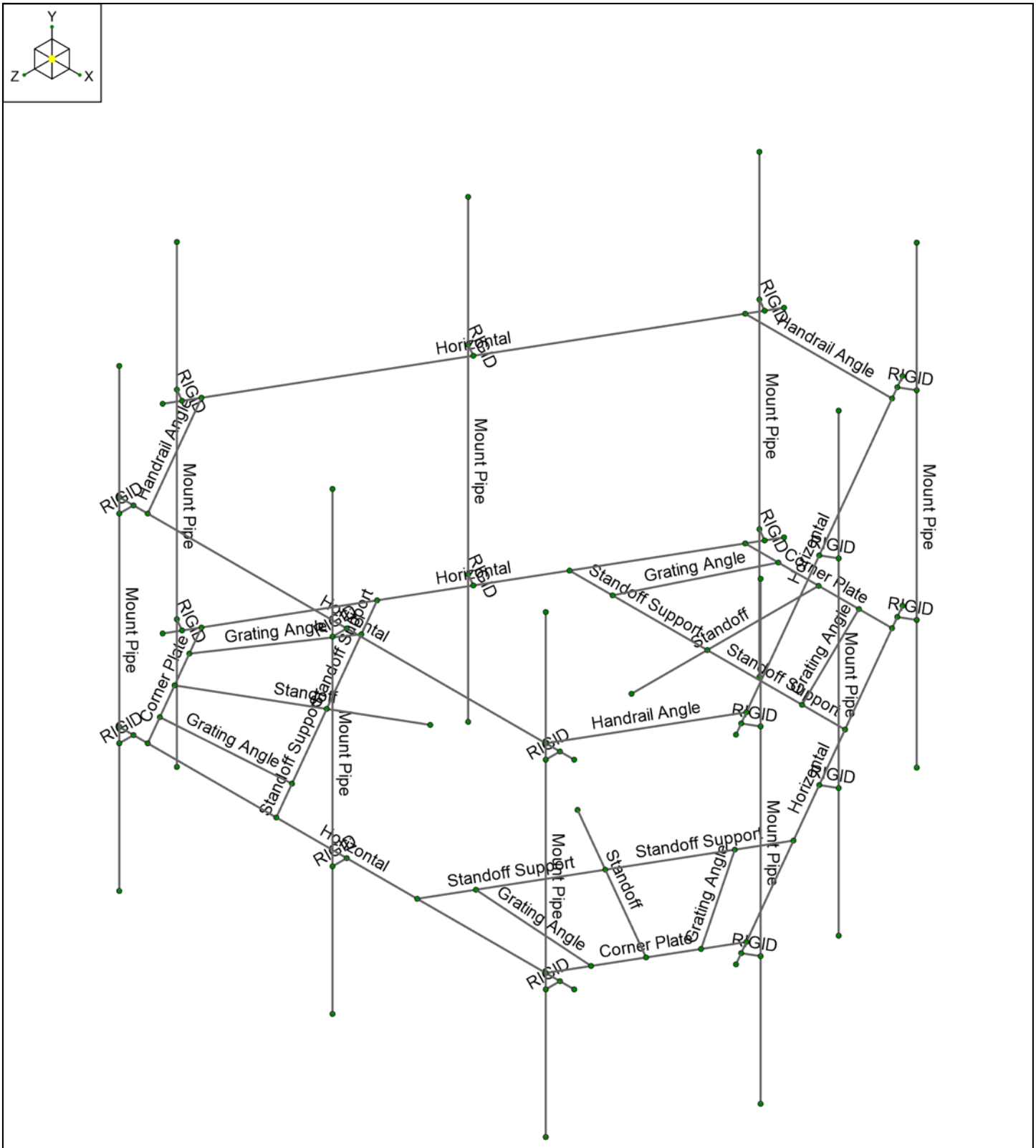

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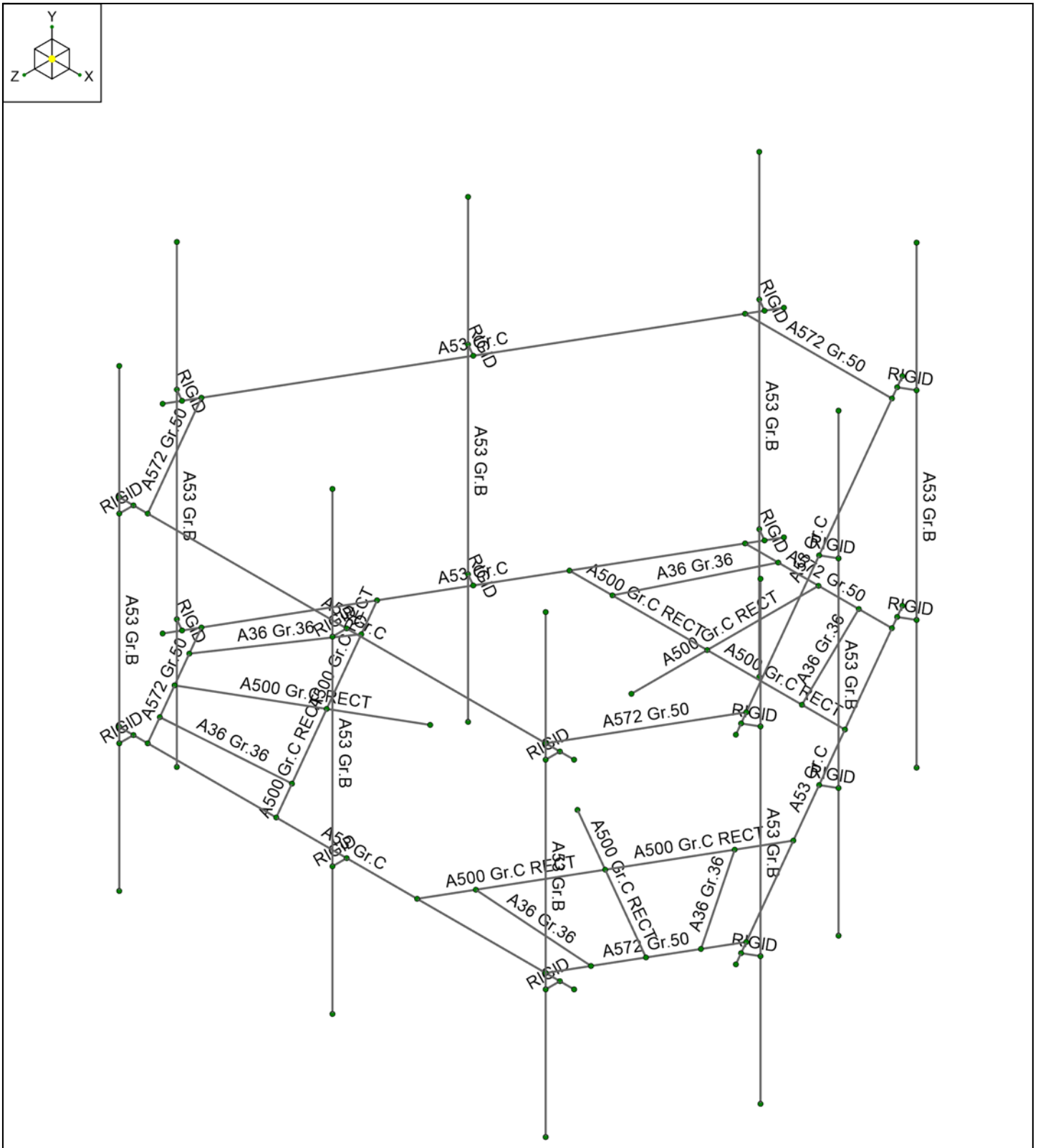

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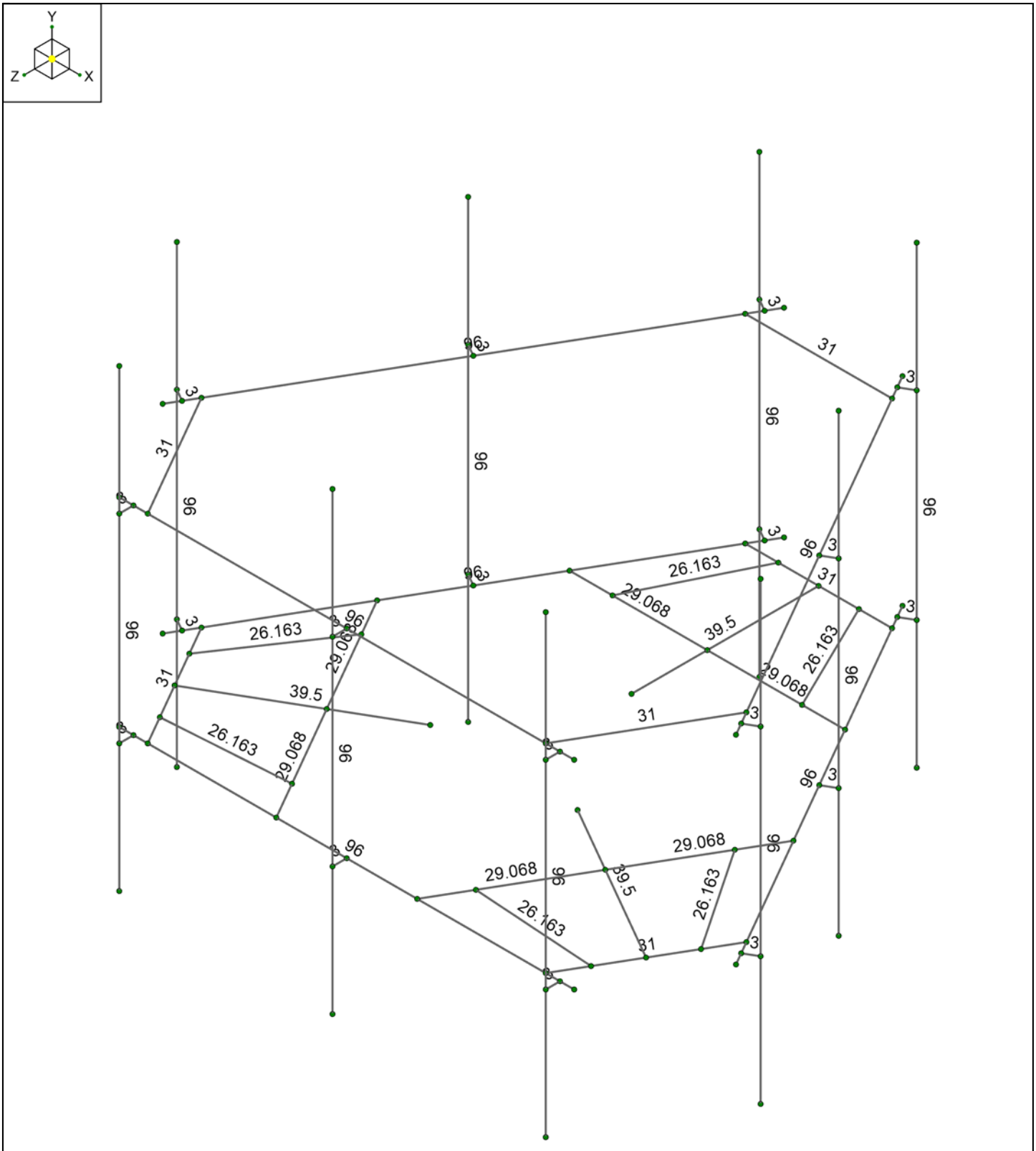

Member Length (in) Displayed

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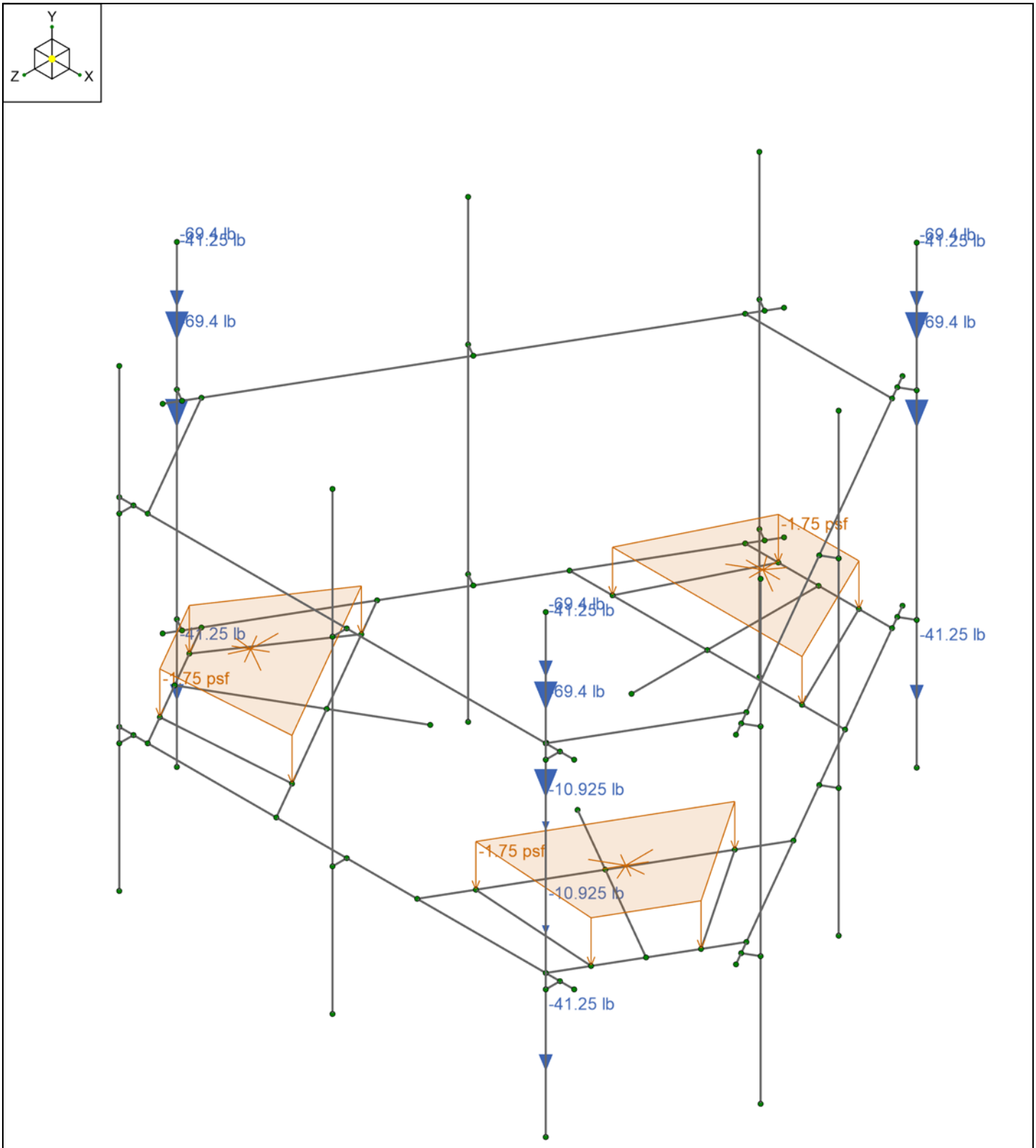

Loads: BLC 1, Self Weight

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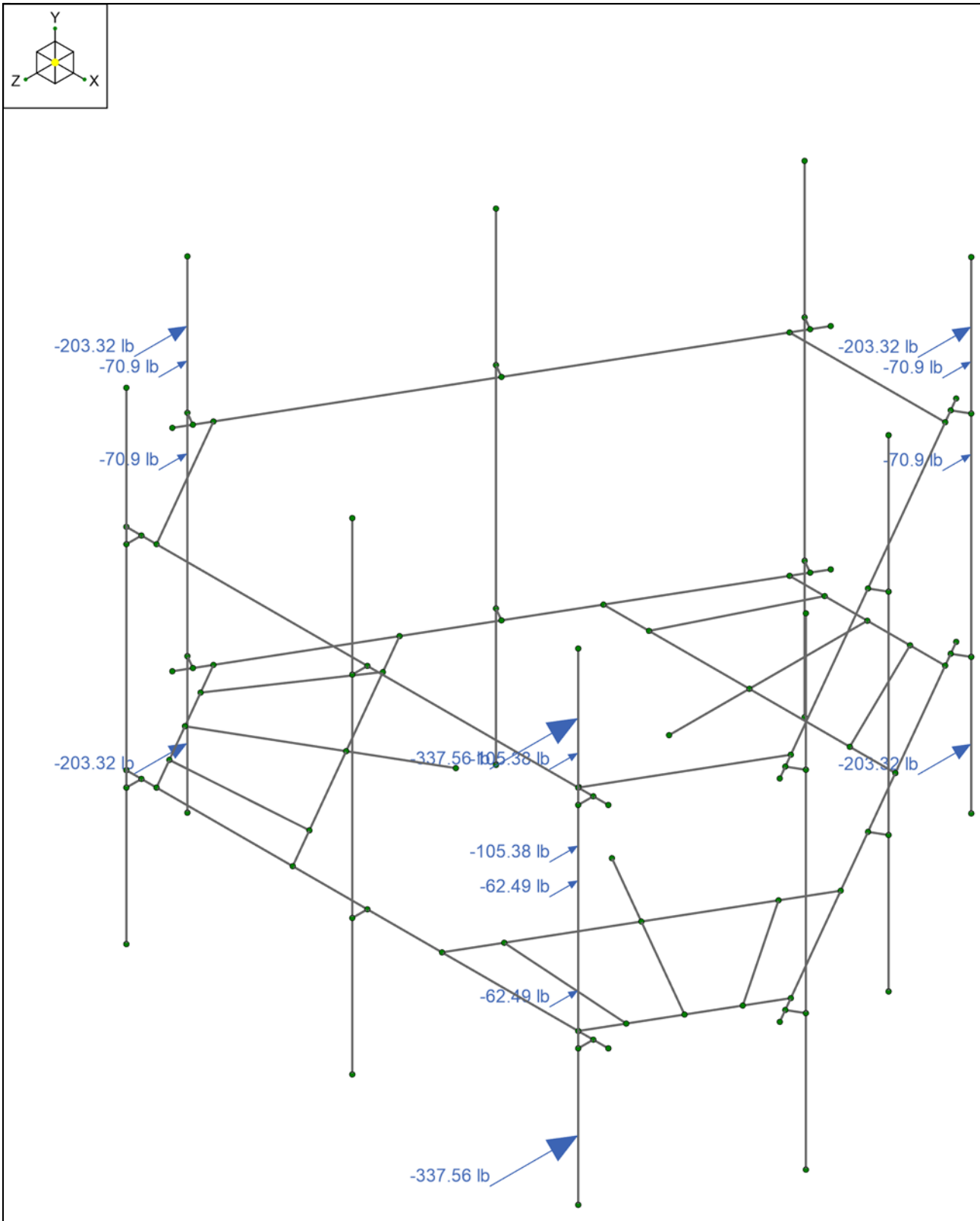

Loads: BLC 2, Wind Load AZI 0

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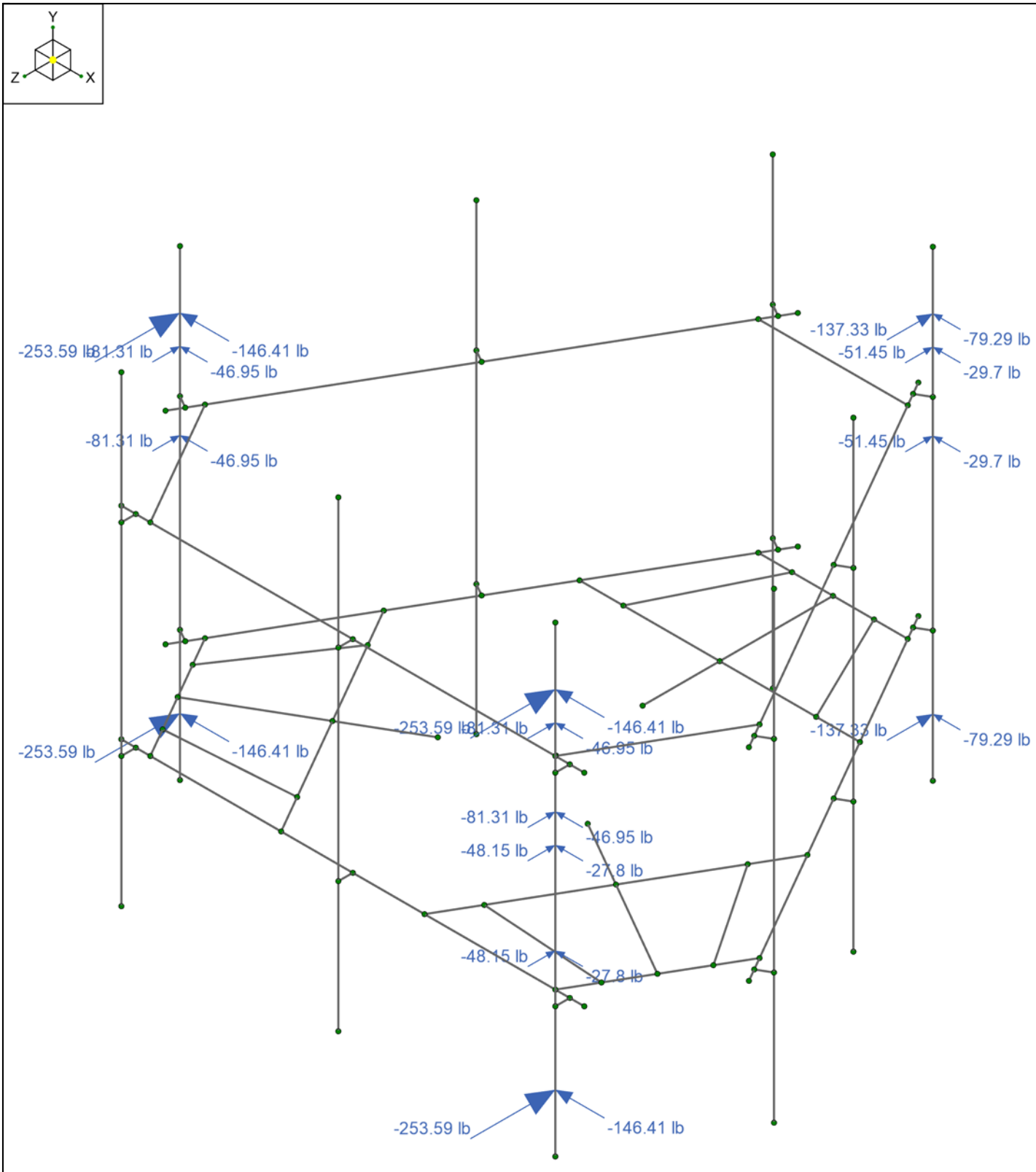

Loads: BLC 3, Wind Load AZI 30

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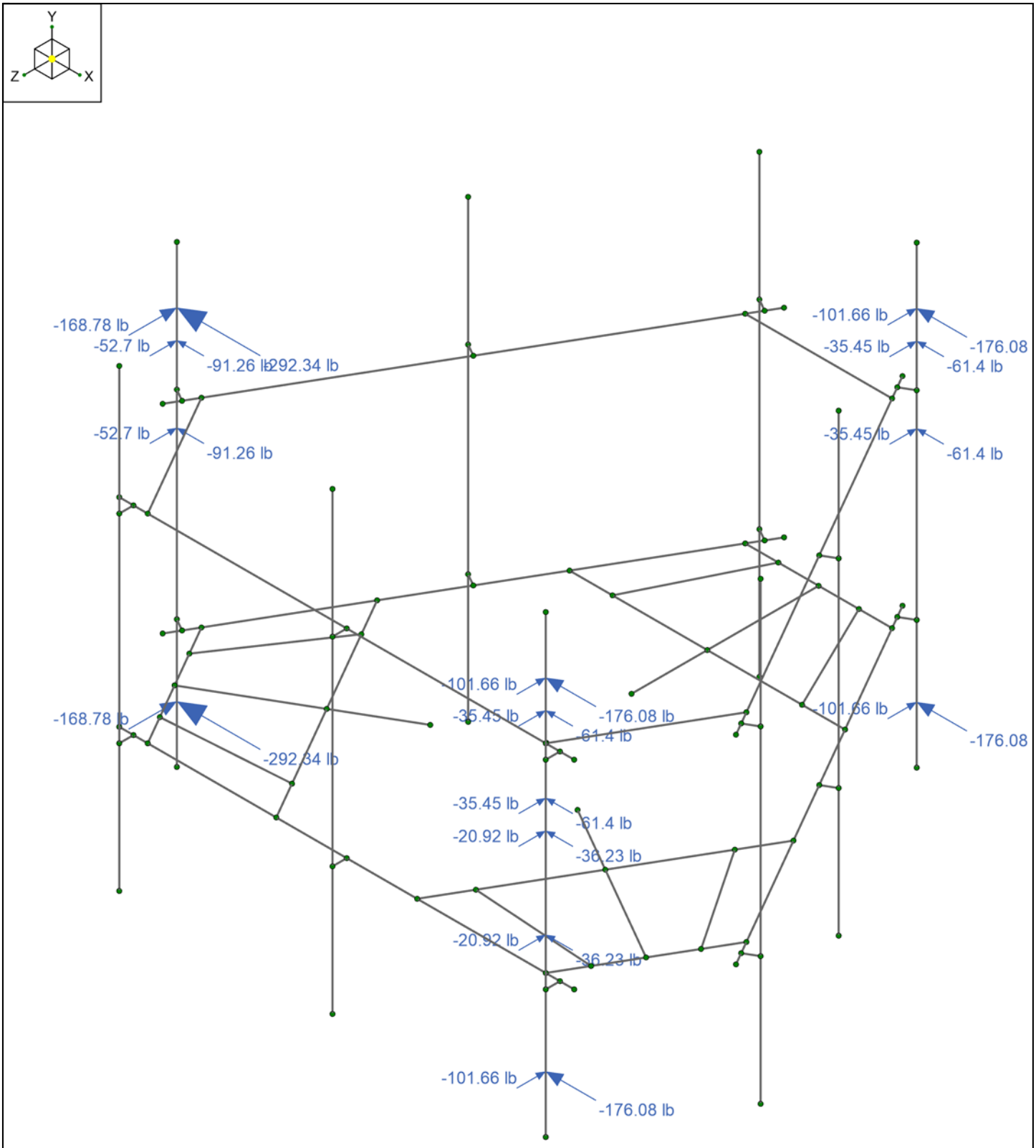

Loads: BLC 4, Wind Load AZI 60

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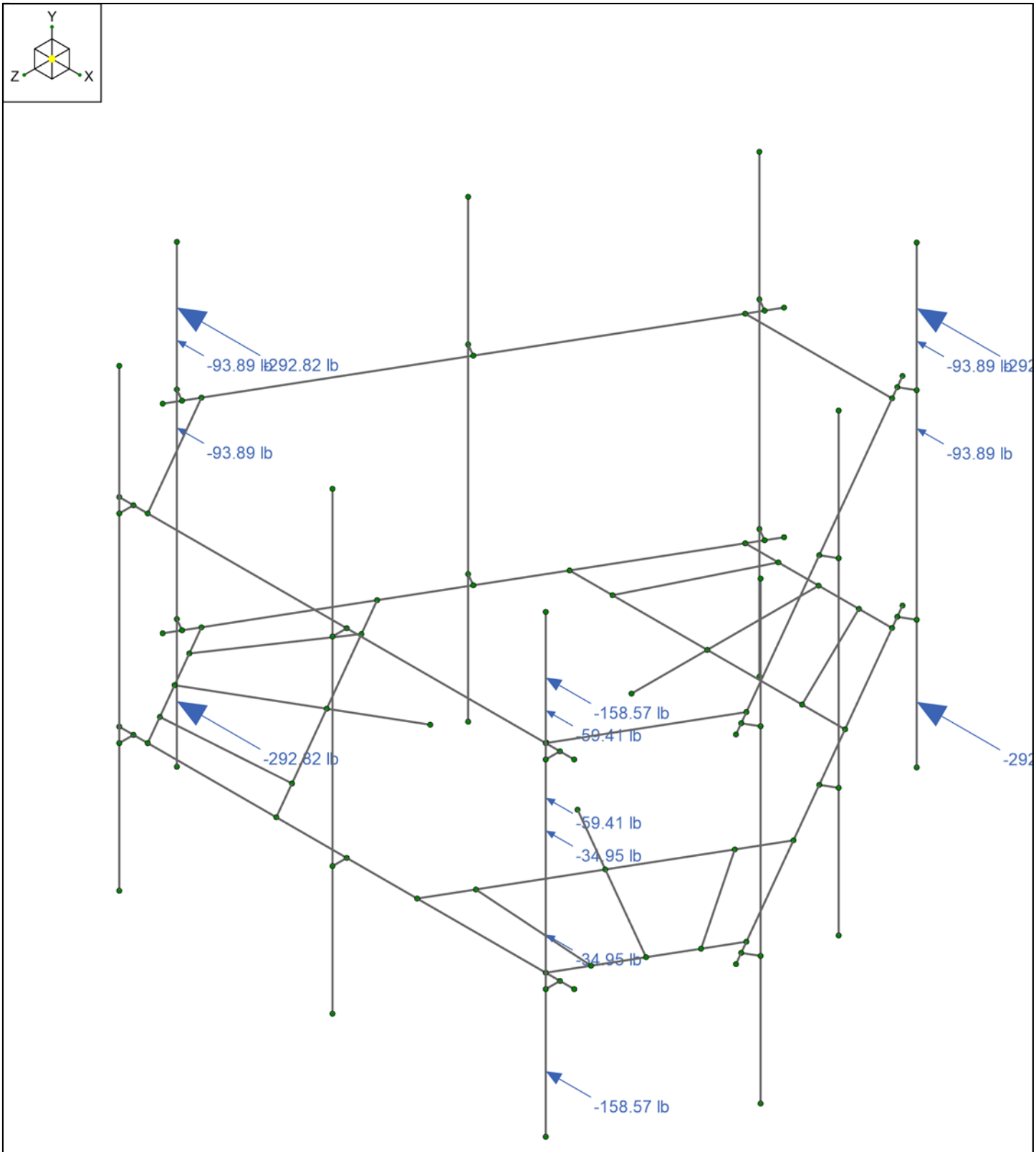

Loads: BLC 5, Wind Load AZI 90

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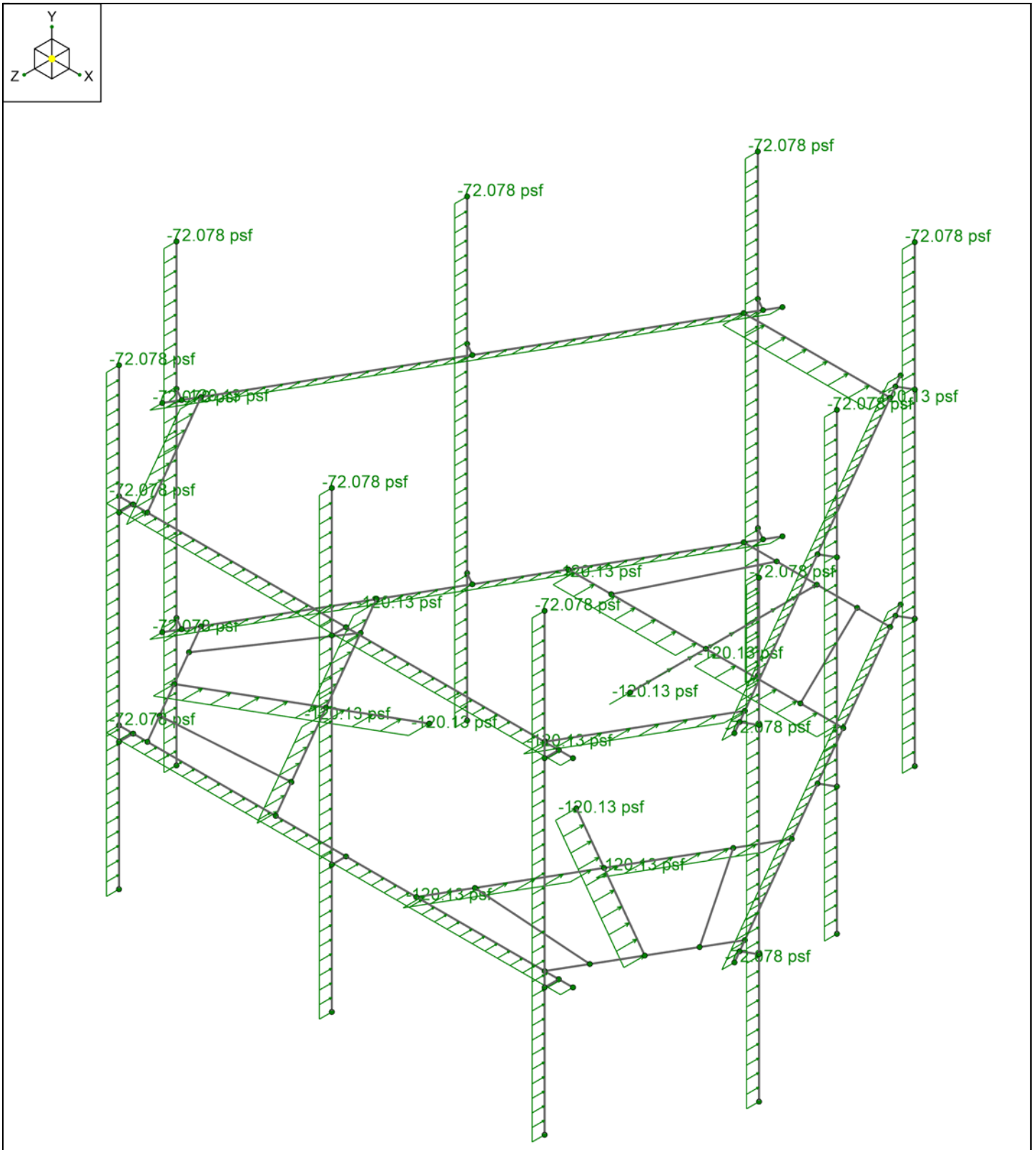

Loads: BLC 14, Distr. Wind Load Z

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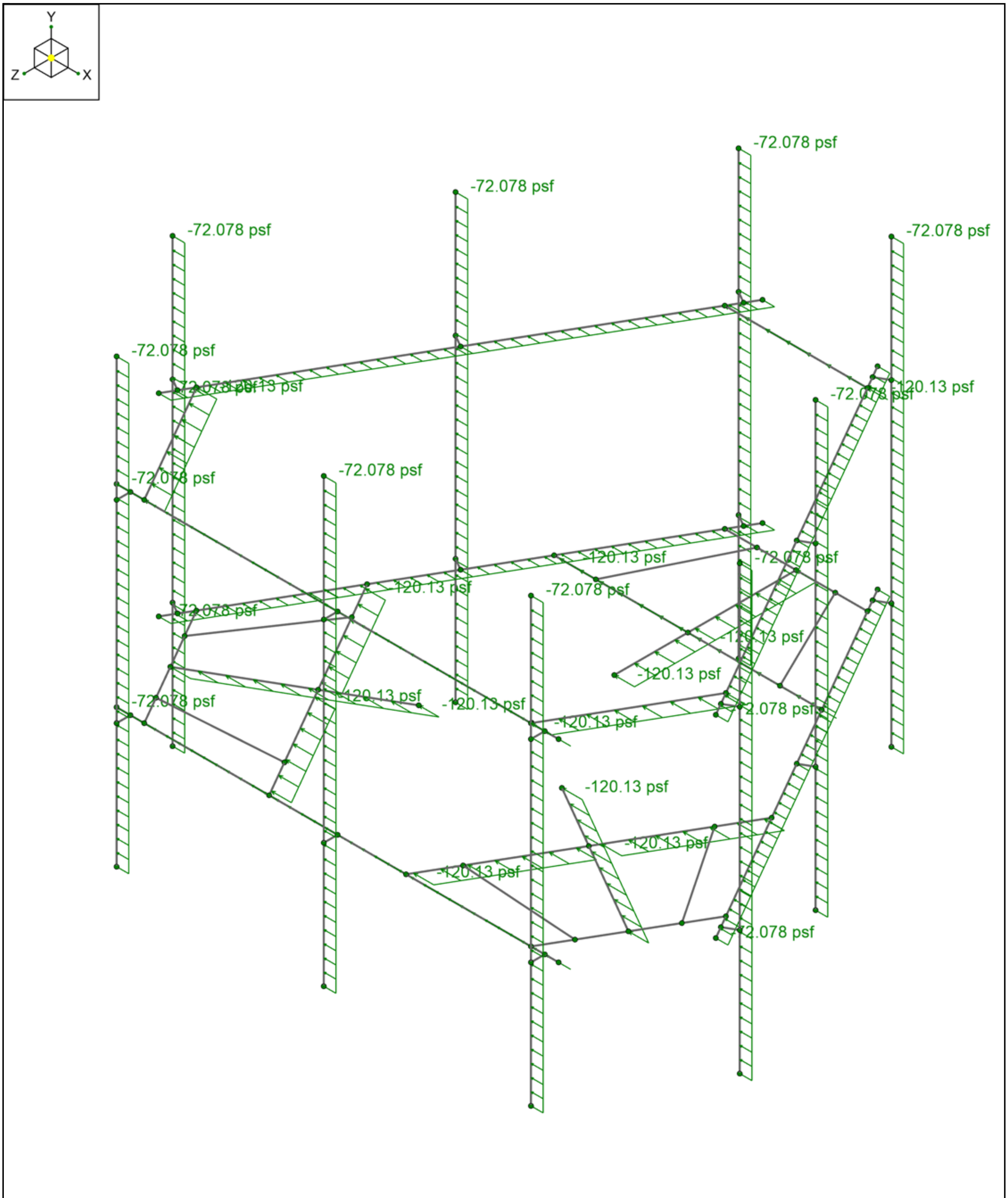

Loads: BLC 15, Distr. Wind Load X

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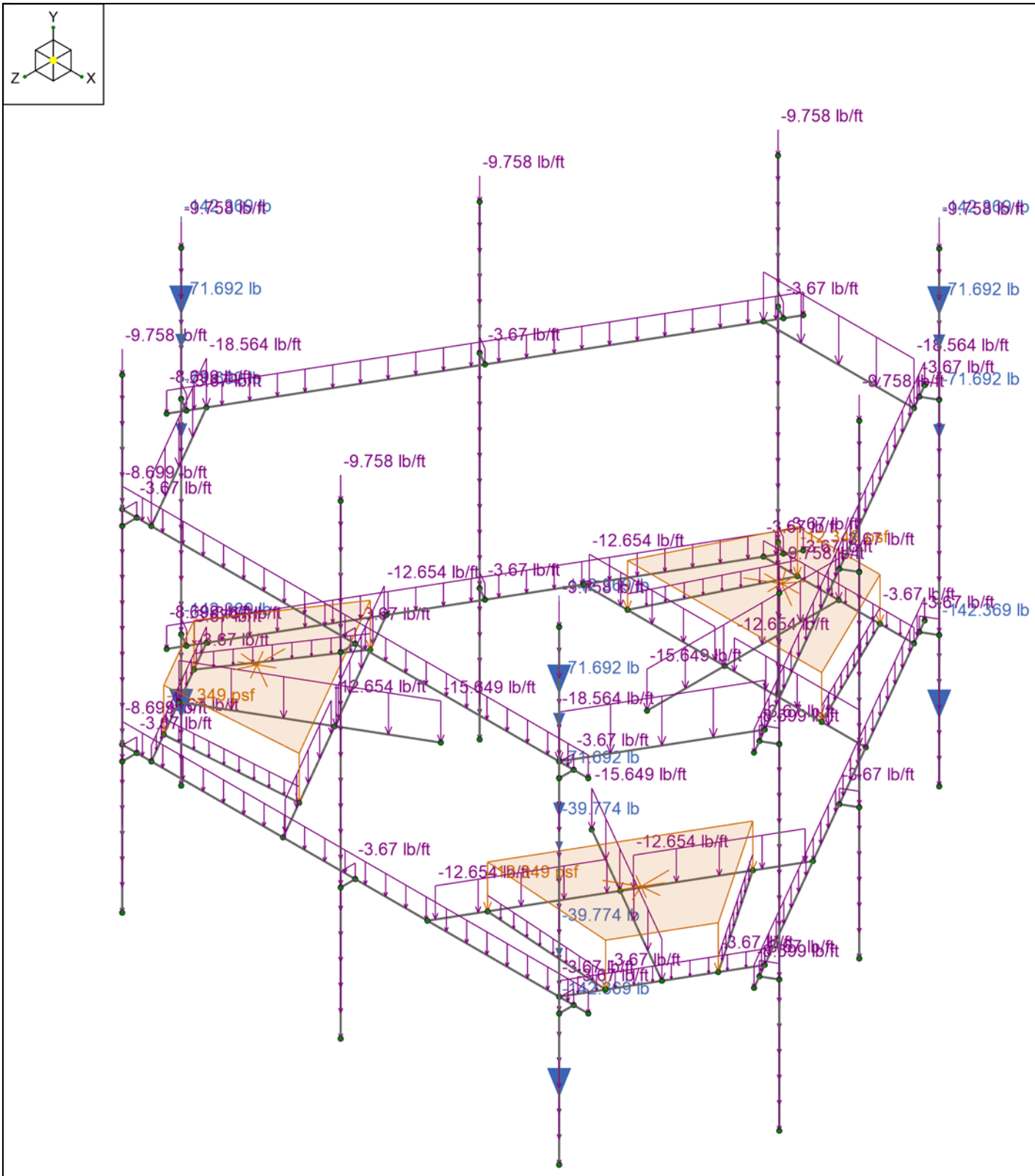

Loads: BLC 16, Ice Weight

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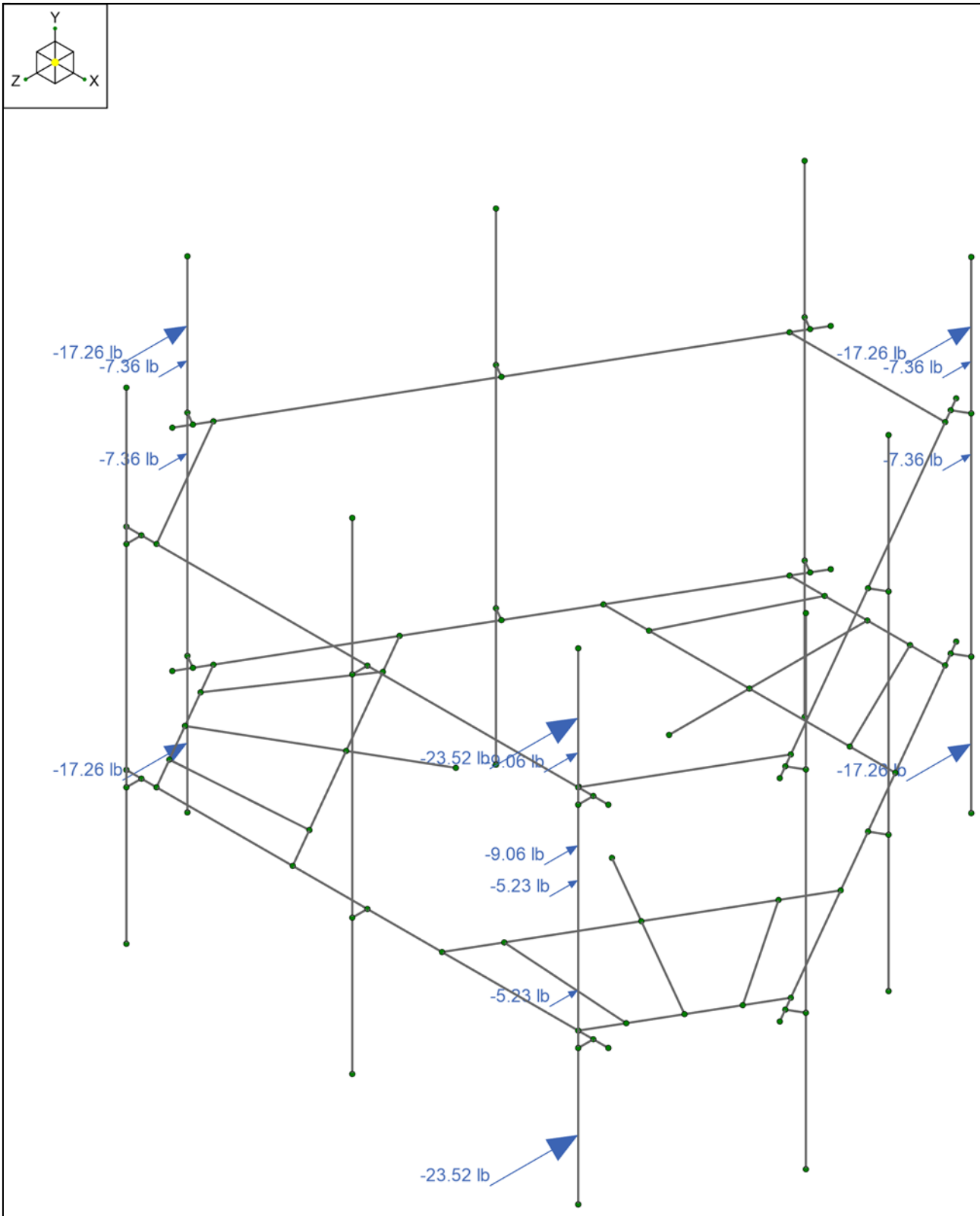

Loads: BLC 17, Ice Wind Load AZI 0

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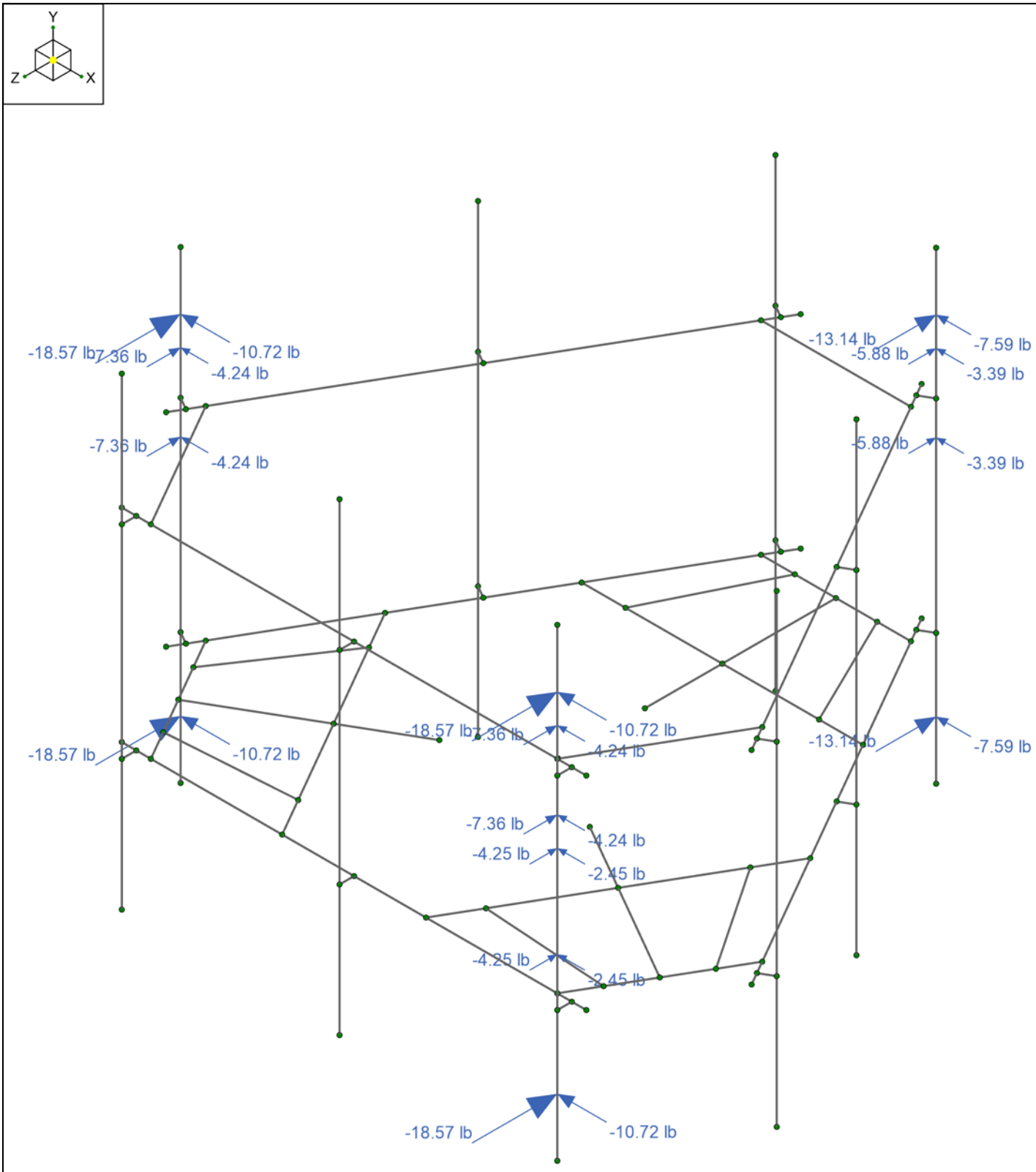

Loads: BLC 18, Ice Wind Load AZI 30

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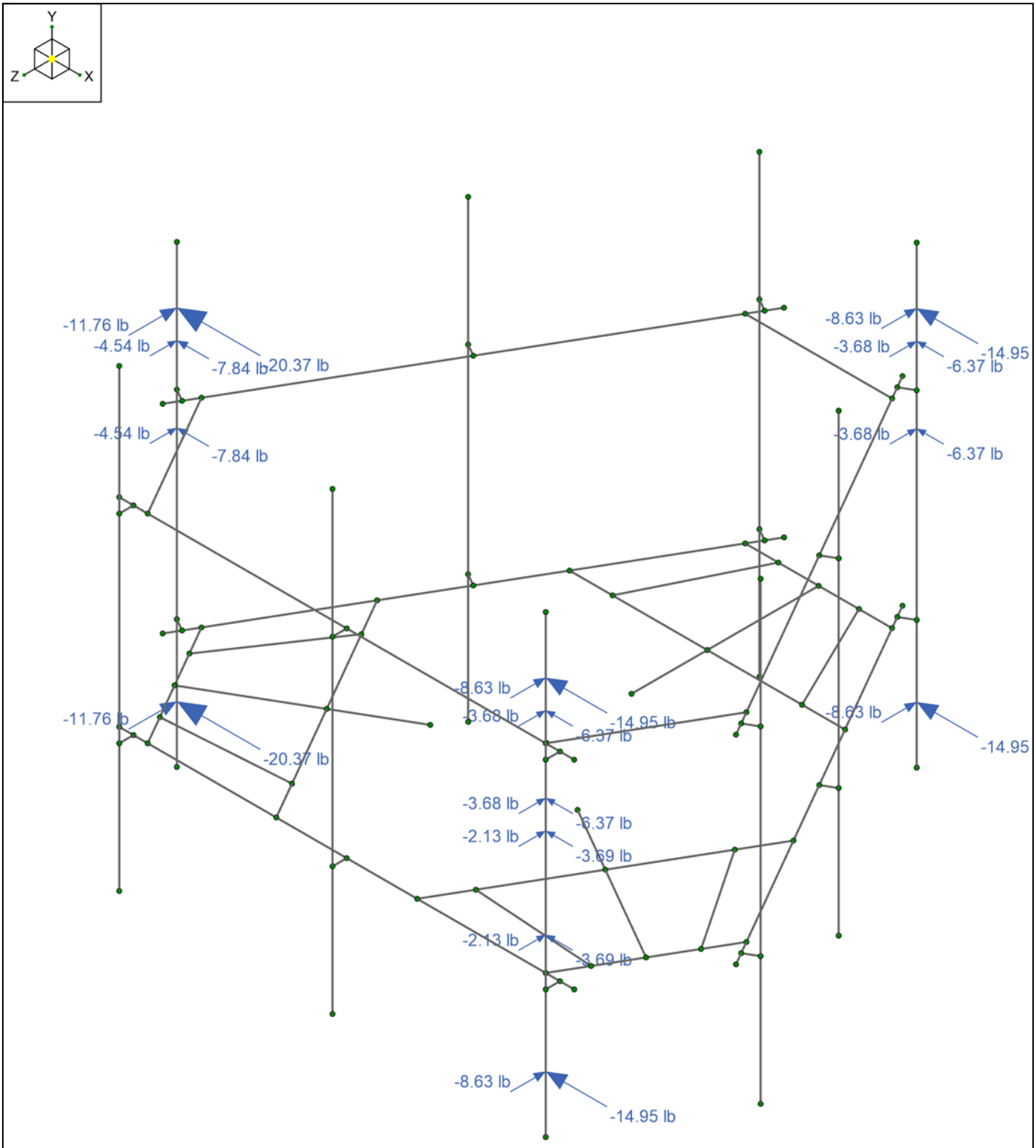

Loads: BLC 19, Ice Wind Load AZI 60

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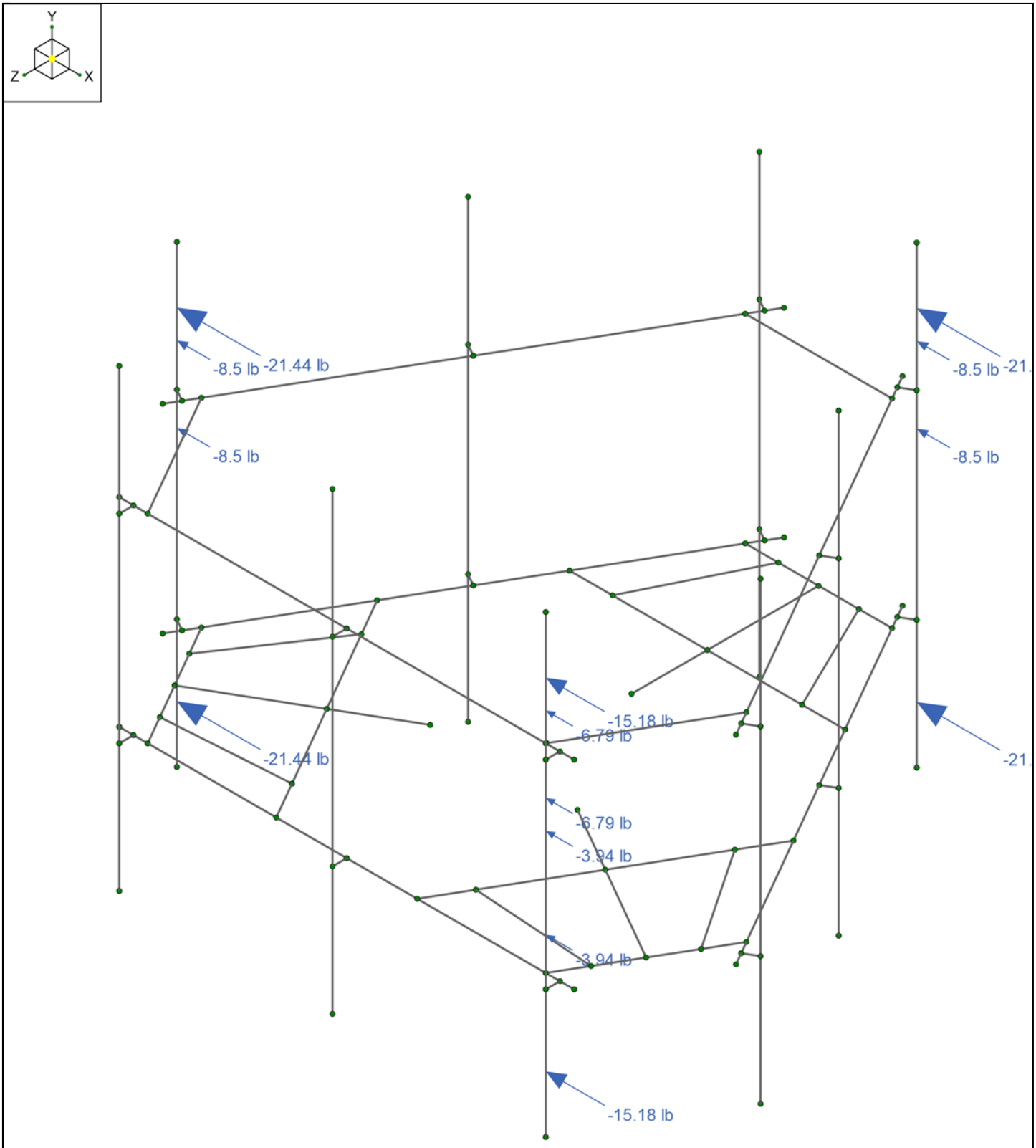

Loads: BLC 20, Ice Wind Load AZI 90

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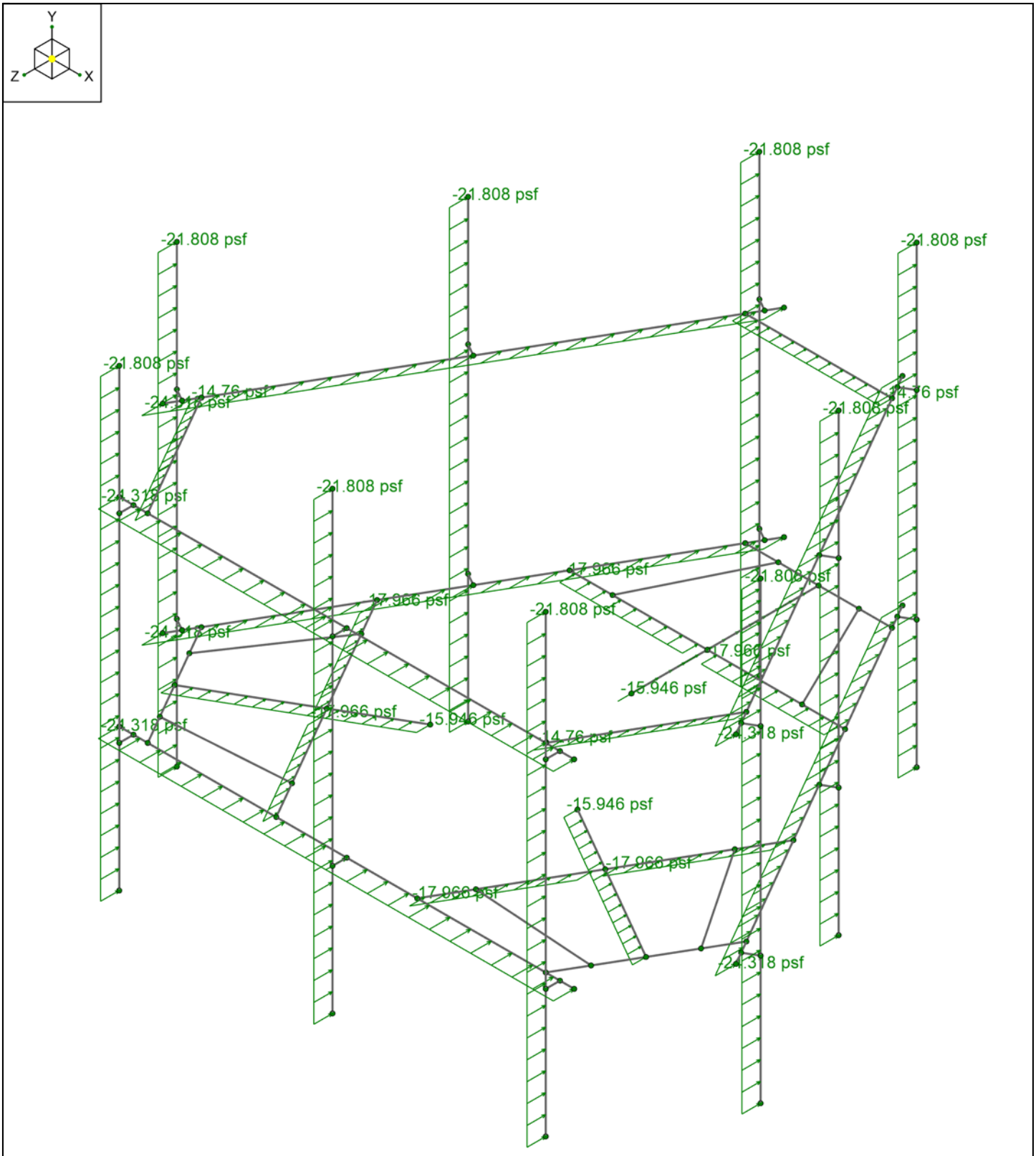

Loads: BLC 29, Distr. Ice Wind Load Z

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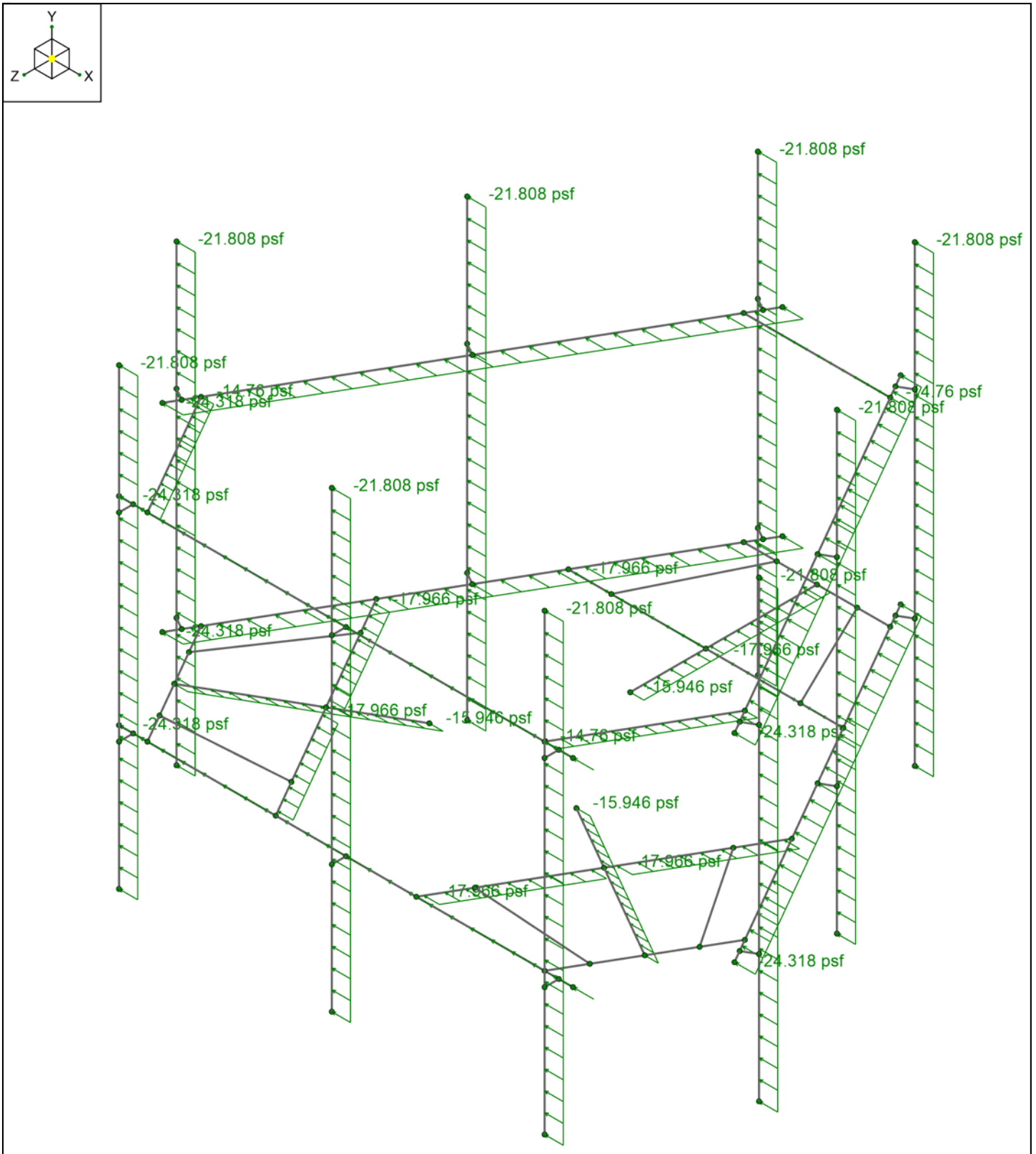
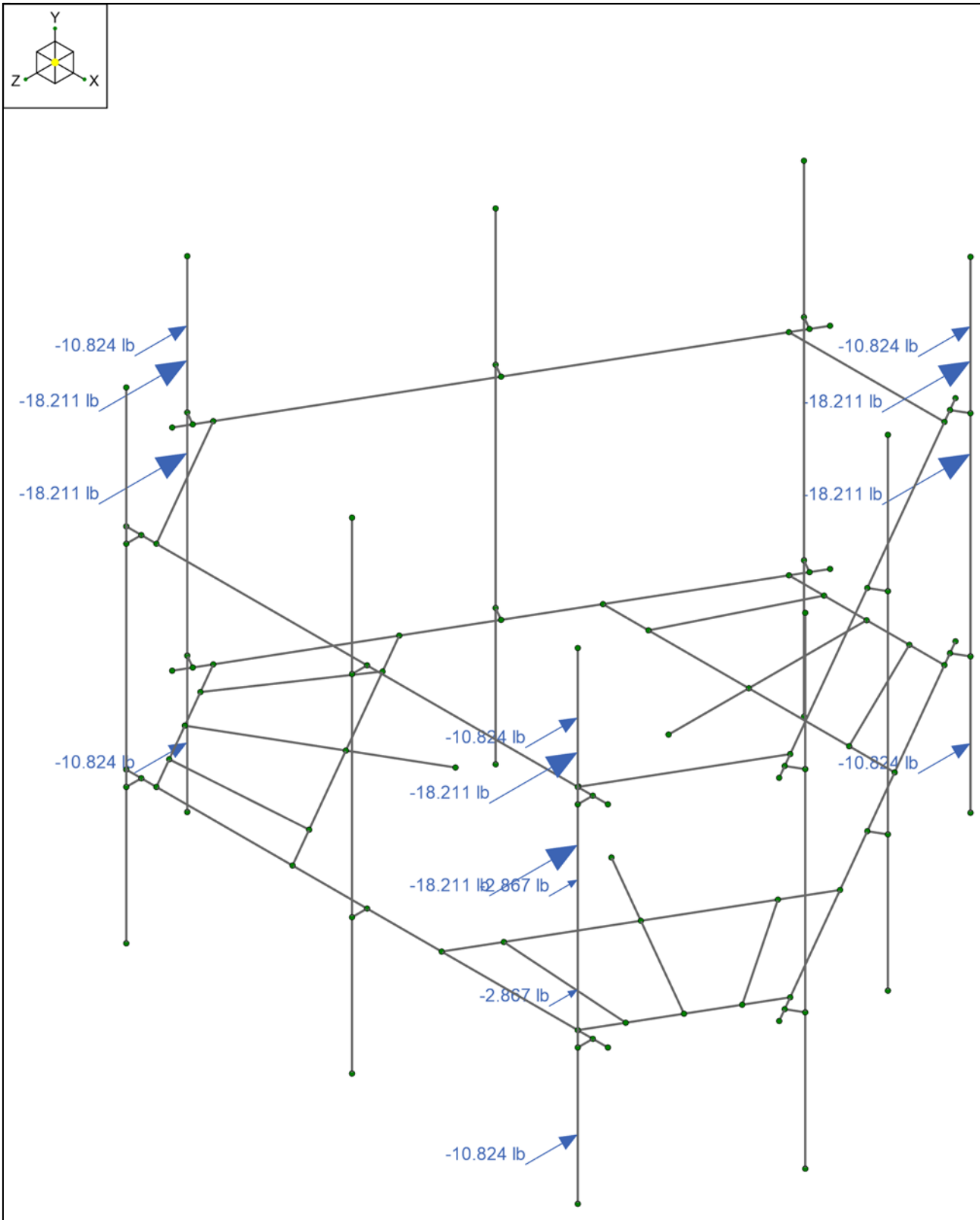


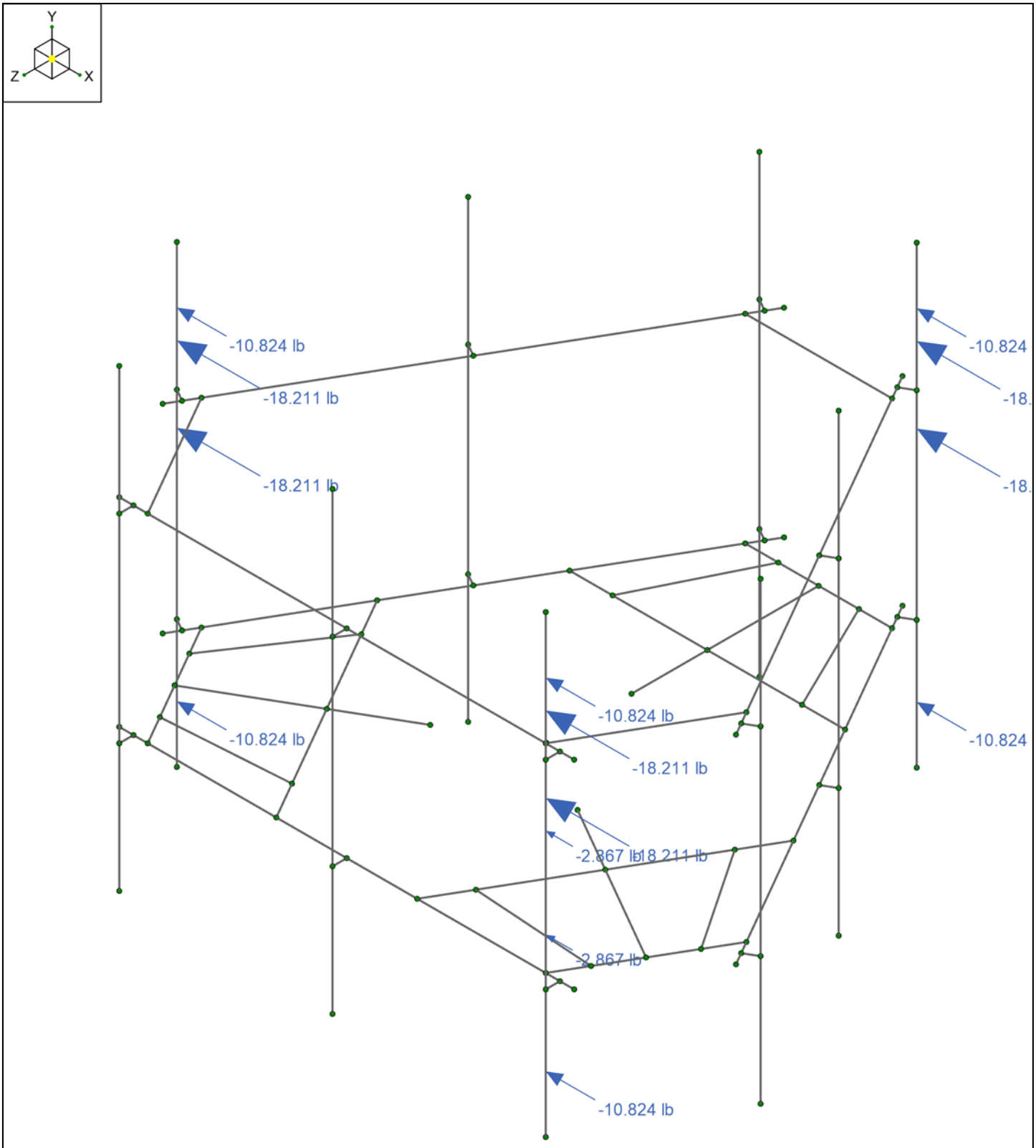
Loads: BLC 30, Distr. Ice Wind Load X

Infinigy Engineering, PLLC	BOBDL00018A	Dist. Ice Wind Loading 90
LM		Aug 02, 2021
6039-Z0001-C		BOBDL00018A_loaded.r3d



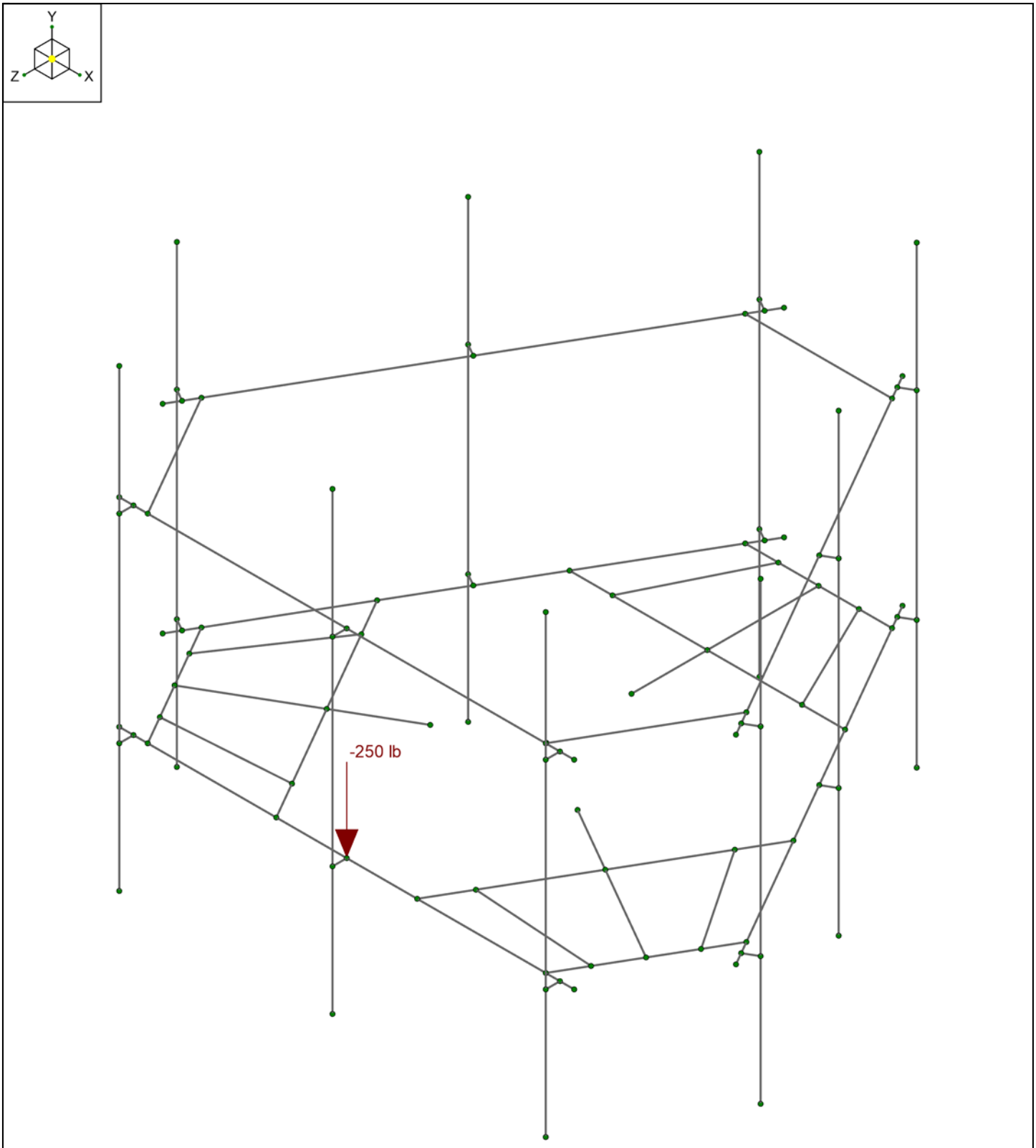
Loads: BLC 31, Seismic Load Z

Infinigy Engineering, PLLC	BOBDL00018A	Seismic Loading 0
LM		Aug 02, 2021
6039-Z0001-C		BOBDL00018A_loaded.r3d



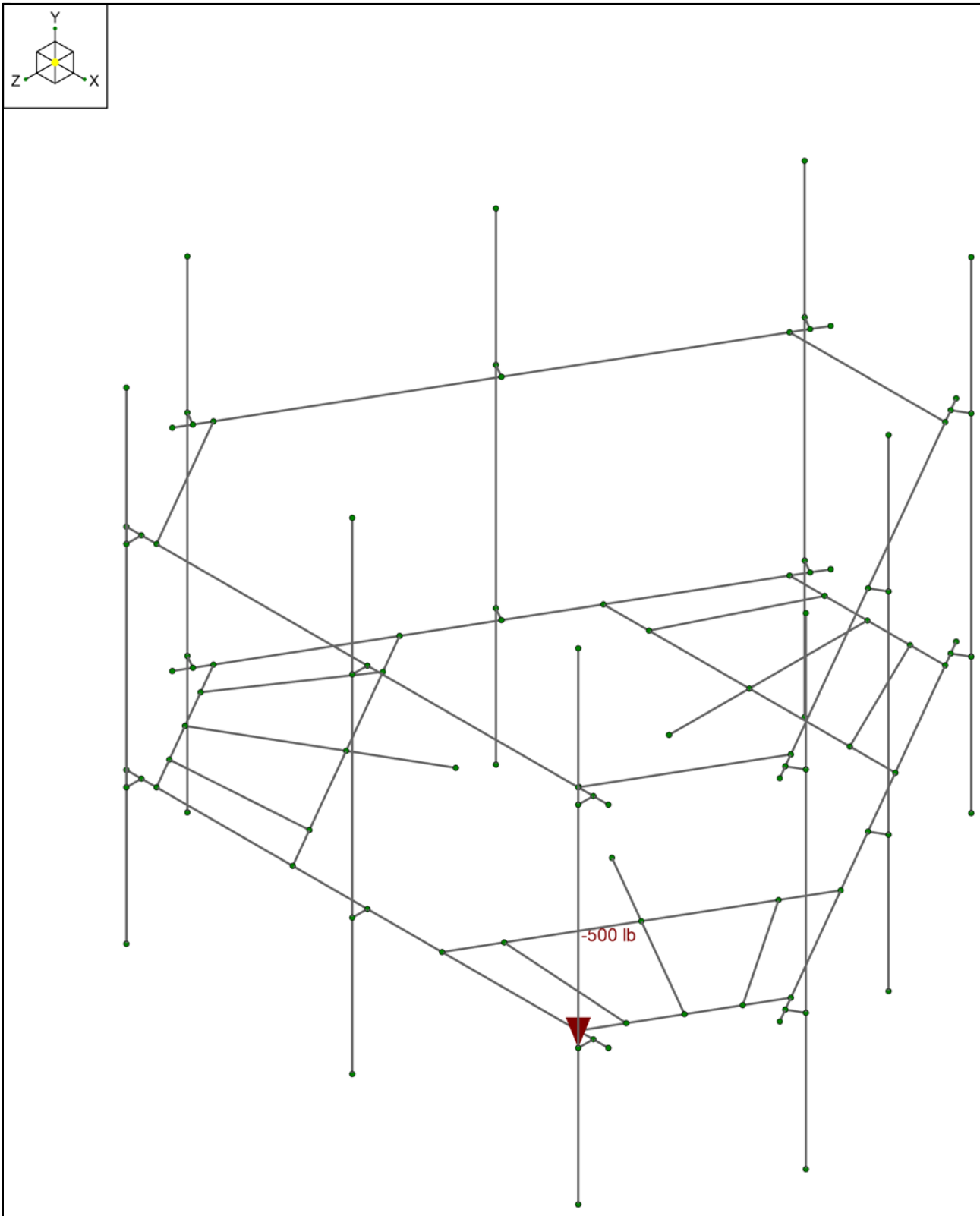
Loads: BLC 32, Seismic Load X

Infinigy Engineering, PLLC	BOBDL00018A	Seismic Loading 90
LM		Aug 02, 2021
6039-Z0001-C		BOBDL00018A_loaded.r3d



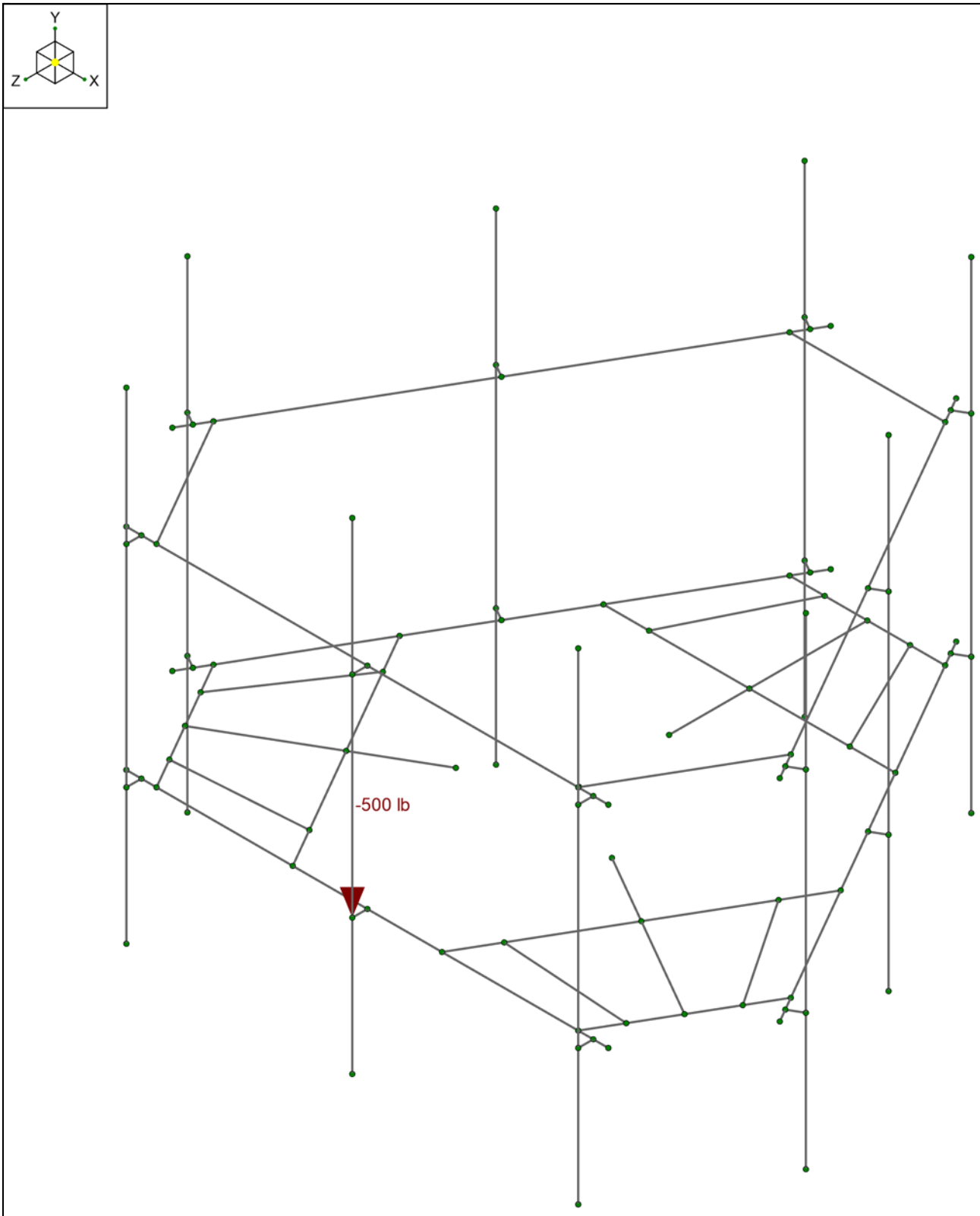
Loads: BLC 33, Service Live Loads

Infinigy Engineering, PLLC	BOBDL00018A	Service Load
LM		Aug 02, 2021
6039-Z0001-C		BOBDL00018A_loaded.r3d



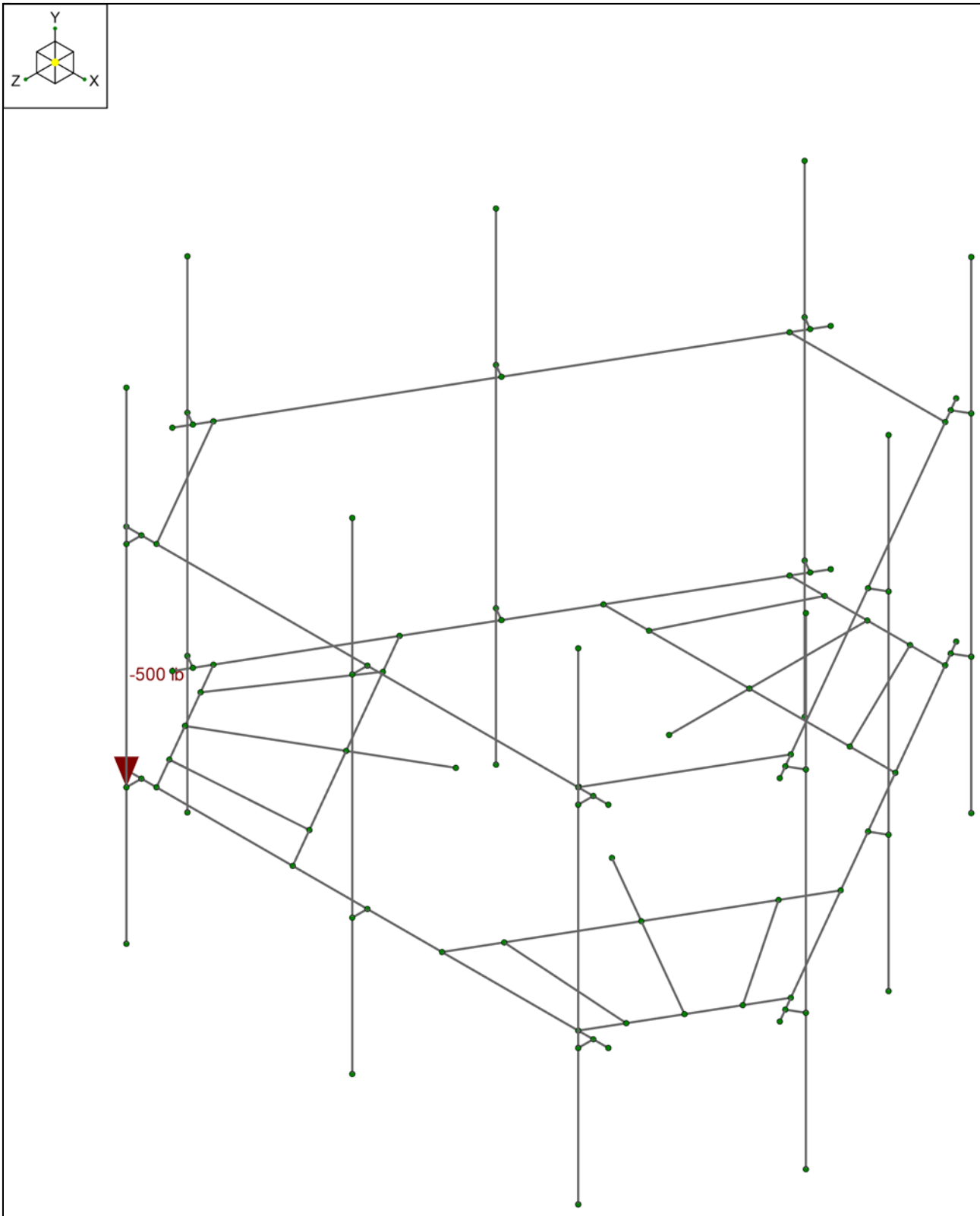
Loads: BLC 40, Maintenance Load 7

Infinigy Engineering, PLLC	BOBDL00018A	Maintenance Load 1
LM		Aug 02, 2021
6039-Z0001-C		BOBDL00018A_loaded.r3d



Loads: BLC 41, Maintenance Load 8

Infinigy Engineering, PLLC	BOBDL00018A	Maintenance Load 2
LM		Aug 02, 2021
6039-Z0001-C		BOBDL00018A_loaded.r3d



Loads: BLC 42, Maintenance Load 9

Infinigy Engineering, PLLC	BOBDL00018A	Maintenance Load 3
LM		Aug 02, 2021
6039-Z0001-C		BOBDL00018A_loaded.r3d

Program Inputs

PROJECT INFORMATION	
Client:	ATC
Carrier:	Dish Wireless
Engineer:	Luis Mendoza, PE

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	C	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	68.49	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	140.00	ft
Tower Height AGL:	175.00	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):	0.998	*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 7-10	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	135	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1.5	in
Flat Pressure:	120.130	psf
Round Pressure:	72.078	psf
Ice Wind Pressure:	9.887	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.164	g
1-Second Accel. (S_1):	0.059	g
Short-Period Design (S_{DS}):	0.175	
1-Second Design (S_{D1}):	0.094	
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

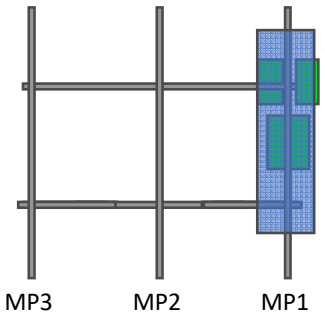
FROM ZERO TO INFINIGY

the solutions are endless

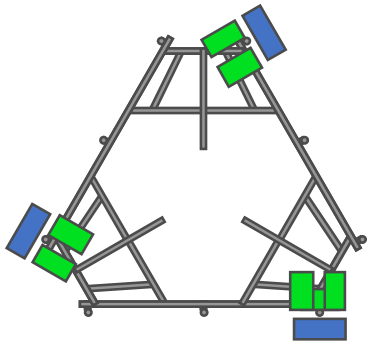
Infinigy Load Calculator V2.1.6

Program Inputs

ELEVATION VIEW



PLAN VIEW



INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.6

APPURTENANCE INFORMATION

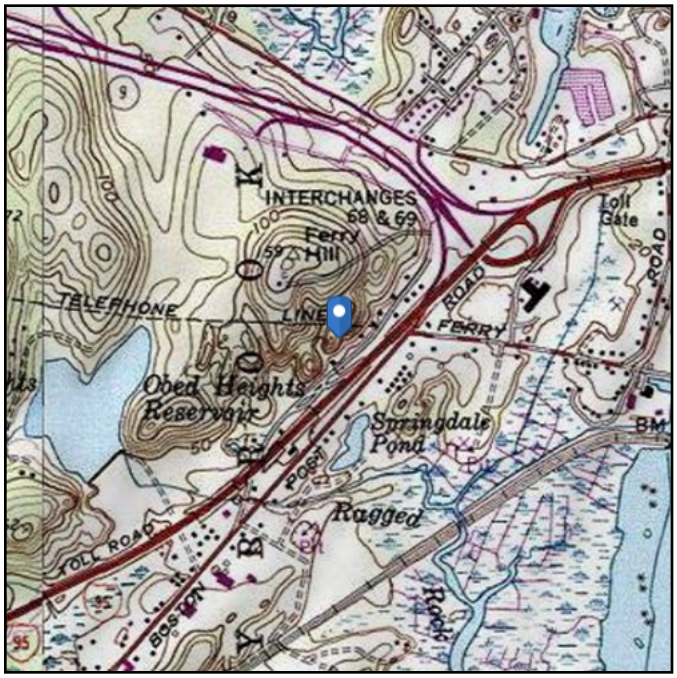
Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
COMMSCOPE RDIDC-9181-PF-48	140.0	1	0.90	60.06	2.31	1.29	124.97	69.90	21.85	5.73	MP1
FUJITSU TA08025-B605	140.0	3	0.90	60.06	1.95	1.18	105.38	63.65	74.90	19.65	MP1
FUJITSU TA08025-B604	140.0	3	0.90	60.06	1.95	1.02	105.38	55.17	63.90	16.77	MP1
JMA WIRELESS MX08FRO665-21	140.0	3	0.90	60.06	12.49	5.87	675.13	317.14	82.50	21.65	MP1

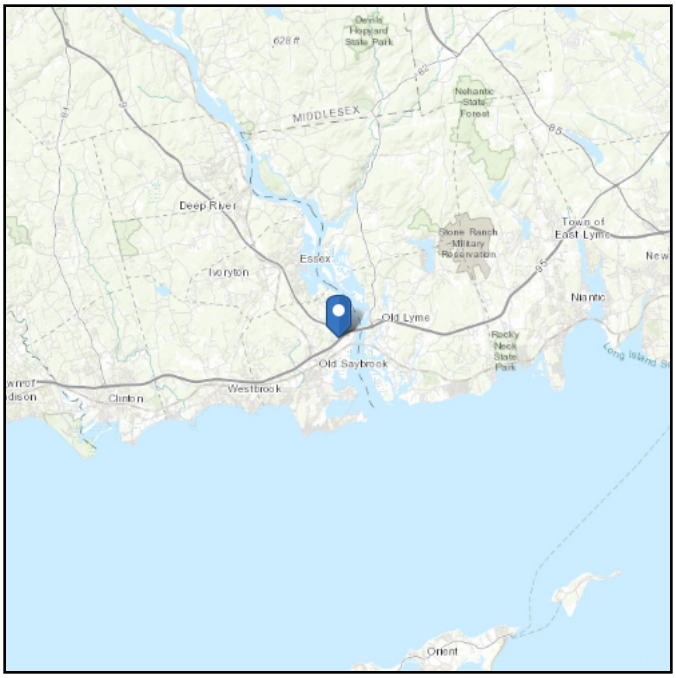
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 68.49 ft (NAVD 88)
Latitude: 41.3138
Longitude: -72.364





Wind

Results:

Wind Speed:	135 Vmph per Old Saybrook City Requirements
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	98 Vmph
100-year MRI	107 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Sun Aug 01 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 7-10 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 7-10 Section 26.2. Glazed openings shall be protected against wind-borne debris as specified in Section 26.10.3.

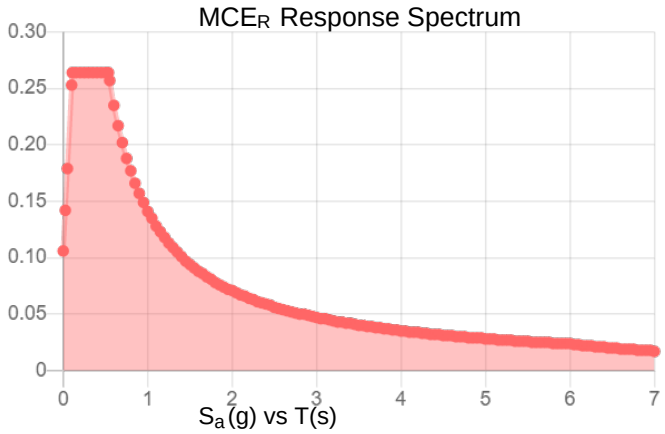
Seismic

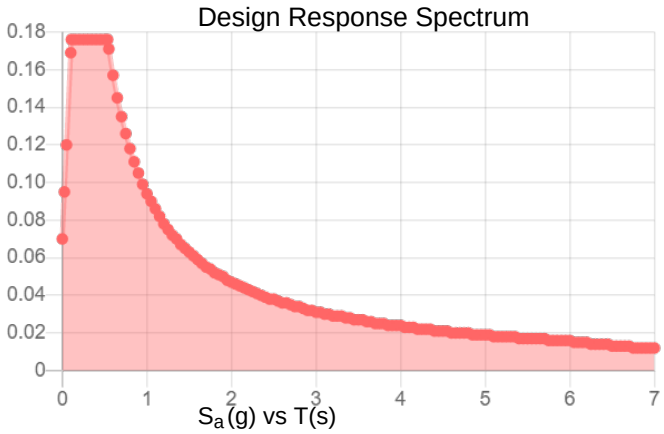
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.164	S_{DS} :	0.176
S_1 :	0.059	S_{D1} :	0.094
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.083
S_{MS} :	0.264	PGA_M :	0.132
S_{M1} :	0.141	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Sun Aug 01 2021

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

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Sun Aug 01 2021

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

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

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	MH4	N1	N2		Horizontal	Beam	Pipe	A53 Gr.C	Typical
2	MH6	N3	N4		Horizontal	Beam	Pipe	A53 Gr.C	Typical
3	M3	N5	N6		RIGID	None	None	RIGID	Typical
4	M4	N7	N8		RIGID	None	None	RIGID	Typical
5	M5	N9	N10		RIGID	None	None	RIGID	Typical
6	M6	N11	N12		RIGID	None	None	RIGID	Typical
7	M7	N13	N14		RIGID	None	None	RIGID	Typical
8	M8	N15	N16		RIGID	None	None	RIGID	Typical
9	MP6	N17	N18		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
10	MP5	N19	N20		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
11	MP4	N21	N22		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
12	MS2	N23	N24		Standoff	Beam	Tube	A500 Gr.C RECT	Typical
13	M13	N25	N27		Standoff Support	Beam	Tube	A500 Gr.C RECT	Typical
14	M15	N28	N29		Corner Plate	Beam	RECT	A572 Gr.50	Typical
15	M16	N31	N30	180	Handrail Angle	Beam	Single Angle	A572 Gr.50	Typical
16	MH5	N32	N33		Horizontal	Beam	Pipe	A53 Gr.C	Typical
17	MH1	N34	N35		Horizontal	Beam	Pipe	A53 Gr.C	Typical
18	M19	N36	N37		RIGID	None	None	RIGID	Typical
19	M20	N38	N39		RIGID	None	None	RIGID	Typical
20	M21	N40	N41		RIGID	None	None	RIGID	Typical
21	M22	N42	N43		RIGID	None	None	RIGID	Typical
22	M23	N44	N45		RIGID	None	None	RIGID	Typical
23	M24	N46	N47		RIGID	None	None	RIGID	Typical
24	MP7	N48	N49		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
25	MP8	N50	N51		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
26	MP9	N52	N53		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
27	MS1	N58	N59		Standoff	Beam	Tube	A500 Gr.C RECT	Typical
28	M33	N62	N64		Standoff Support	Beam	Tube	A500 Gr.C RECT	Typical
29	M35	N65	N66		Corner Plate	Beam	RECT	A572 Gr.50	Typical
30	M36	N67	N68	180	Handrail Angle	Beam	Single Angle	A572 Gr.50	Typical
31	MS3	N69	N70		Standoff	Beam	Tube	A500 Gr.C RECT	Typical
32	M38	N71	N73		Standoff Support	Beam	Tube	A500 Gr.C RECT	Typical
33	M40	N74	N75		Corner Plate	Beam	RECT	A572 Gr.50	Typical
34	M41	N76	N77	180	Handrail Angle	Beam	Single Angle	A572 Gr.50	Typical
35	MH2	N78	N79		Horizontal	Beam	Pipe	A53 Gr.C	Typical
36	MH3	N80	N81		Horizontal	Beam	Pipe	A53 Gr.C	Typical
37	M44	N82	N83		RIGID	None	None	RIGID	Typical
38	M45	N84	N85		RIGID	None	None	RIGID	Typical
39	M46	N86	N87		RIGID	None	None	RIGID	Typical
40	M47	N88	N89		RIGID	None	None	RIGID	Typical
41	M48	N90	N91		RIGID	None	None	RIGID	Typical
42	M49	N92	N93		RIGID	None	None	RIGID	Typical
43	MP1	N94	N95		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
44	MP2	N96	N97		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
45	MP3	N98	N99		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
46	M53	N27	N26		Standoff Support	Beam	Tube	A500 Gr.C RECT	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
47	M54	N73	N72		Standoff Support	Beam	Tube	A500 Gr.C RECT	Typical
48	M55	N64	N63		Standoff Support	Beam	Tube	A500 Gr.C RECT	Typical
49	M56	N101	N102		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
50	M57	N100	N103	270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
51	M58	N104	N105		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
52	M59	N106	N107	270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
53	M60	N108	N109		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
54	M61	N110	N111	270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
1	MH4					Yes	Default	None
2	MH6					Yes	Default	None
3	M3					Yes	** NA **	None
4	M4					Yes	** NA **	None
5	M5					Yes	** NA **	None
6	M6					Yes	** NA **	None
7	M7					Yes	** NA **	None
8	M8					Yes	** NA **	None
9	MP6					Yes	** NA **	None
10	MP5					Yes	** NA **	None
11	MP4					Yes	** NA **	None
12	MS2					Yes	Default	None
13	M13			1.188	2	Yes	Default	None
14	M15					Yes	Default	None
15	M16	BenPIN	BenPIN			Yes	Default	None
16	MH5					Yes	Default	None
17	MH1					Yes	Default	None
18	M19					Yes	** NA **	None
19	M20					Yes	** NA **	None
20	M21					Yes	** NA **	None
21	M22					Yes	** NA **	None
22	M23					Yes	** NA **	None
23	M24					Yes	** NA **	None
24	MP7					Yes	** NA **	None
25	MP8					Yes	** NA **	None
26	MP9					Yes	** NA **	None
27	MS1					Yes	Default	None
28	M33			1.188	2	Yes	Default	None
29	M35					Yes	Default	None
30	M36	BenPIN	BenPIN			Yes	Default	None
31	MS3					Yes	Default	None
32	M38			1.188	2	Yes	Default	None
33	M40					Yes	Default	None
34	M41	BenPIN	BenPIN			Yes	Default	None
35	MH2					Yes	Default	None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
36	MH3					Yes	Default	None
37	M44					Yes	** NA **	None
38	M45					Yes	** NA **	None
39	M46					Yes	** NA **	None
40	M47					Yes	** NA **	None
41	M48					Yes	** NA **	None
42	M49					Yes	** NA **	None
43	MP1					Yes	** NA **	None
44	MP2					Yes	** NA **	None
45	MP3					Yes	** NA **	None
46	M53			2	1.188	Yes	Default	None
47	M54			2	1.188	Yes	Default	None
48	M55			2	1.188	Yes	Default	None
49	M56					Yes	Default	None
50	M57					Yes	Default	None
51	M58					Yes	Default	None
52	M59					Yes	Default	None
53	M60					Yes	Default	None
54	M61					Yes	Default	None

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	N23	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N69	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N58	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Material Take-Off

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General Members				
2	RIGID		18	54	0
3	Total General		18	54	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L2x2x2	6	157	21.856
7	A500 Gr.C RECT	HSS3X3X3	6	155.3	89.505
8	A500 Gr.C RECT	HSS4X4X5	3	118.5	148.173
9	A53 Gr.B	PIPE_2.5	9	864	394.45
10	A53 Gr.C	PIPE_2.0	6	576	166.6
11	A572 Gr.50	6.5x0.5	3	93	85.708
12	A572 Gr.50	SABRE HR PLT	3	93	63.661
13	Total HR Steel		36	2056.8	969.953

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
1	Self Weight	DL		-1			20		3
2	Wind Load AZI 0	WLZ					40		
3	Wind Load AZI 30	None					40		
4	Wind Load AZI 60	None					40		
5	Wind Load AZI 90	WLX					40		
6	Wind Load AZI 120	None					40		
7	Wind Load AZI 150	None					40		
8	Wind Load AZI 180	None					40		
9	Wind Load AZI 210	None					40		
10	Wind Load AZI 240	None					40		
11	Wind Load AZI 270	None					40		
12	Wind Load AZI 300	None					40		
13	Wind Load AZI 330	None					40		
14	Distr. Wind Load Z	WLZ						54	
15	Distr. Wind Load X	WLX						54	
16	Ice Weight	OL1					20	54	3
17	Ice Wind Load AZI 0	OL2					40		
18	Ice Wind Load AZI 30	None					40		
19	Ice Wind Load AZI 60	None					40		
20	Ice Wind Load AZI 90	OL3					40		
21	Ice Wind Load AZI 120	None					40		
22	Ice Wind Load AZI 150	None					40		
23	Ice Wind Load AZI 180	None					40		
24	Ice Wind Load AZI 210	None					40		
25	Ice Wind Load AZI 240	None					40		
26	Ice Wind Load AZI 270	None					40		
27	Ice Wind Load AZI 300	None					40		
28	Ice Wind Load AZI 330	None					40		
29	Distr. Ice Wind Load Z	OL2						54	
30	Distr. Ice Wind Load X	OL3						54	
31	Seismic Load Z	ELZ			-0.262		20		
32	Seismic Load X	ELX	-0.262				20		
33	Service Live Loads	LL				1			
34	Maintenance Load 1	LL				1			
35	Maintenance Load 2	LL				1			
36	Maintenance Load 3	LL				1			
37	Maintenance Load 4	LL				1			
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	BLC 1 Transient Area Loads	None						18	
44	BLC 16 Transient Area Loads	None						18	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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	0.866	15	0.5		
4	1.2DL + 1WL AZI 60	Yes	Y	1	1.2	4	1	14	0.5	15	0.866		
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	-0.5	15	0.866		
7	1.2DL + 1WL AZI 150	Yes	Y	1	1.2	7	1	14	-0.866	15	0.5		
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	-0.866	15	-0.5		
10	1.2DL + 1WL AZI 240	Yes	Y	1	1.2	10	1	14	-0.5	15	-0.866		
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	0.5	15	-0.866		
13	1.2DL + 1WL AZI 330	Yes	Y	1	1.2	13	1	14	0.866	15	-0.5		
14	0.9DL + 1WL AZI 0	Yes	Y	1	0.9	2	1	14	1	15			
15	0.9DL + 1WL AZI 30	Yes	Y	1	0.9	3	1	14	0.866	15	0.5		
16	0.9DL + 1WL AZI 60	Yes	Y	1	0.9	4	1	14	0.5	15	0.866		
17	0.9DL + 1WL AZI 90	Yes	Y	1	0.9	5	1	14		15	1		
18	0.9DL + 1WL AZI 120	Yes	Y	1	0.9	6	1	14	-0.5	15	0.866		
19	0.9DL + 1WL AZI 150	Yes	Y	1	0.9	7	1	14	-0.866	15	0.5		
20	0.9DL + 1WL AZI 180	Yes	Y	1	0.9	8	1	14	-1	15			
21	0.9DL + 1WL AZI 210	Yes	Y	1	0.9	9	1	14	-0.866	15	-0.5		
22	0.9DL + 1WL AZI 240	Yes	Y	1	0.9	10	1	14	-0.5	15	-0.866		
23	0.9DL + 1WL AZI 270	Yes	Y	1	0.9	11	1	14		15	-1		
24	0.9DL + 1WL AZI 300	Yes	Y	1	0.9	12	1	14	0.5	15	-0.866		
25	0.9DL + 1WL AZI 330	Yes	Y	1	0.9	13	1	14	0.866	15	-0.5		
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	0.866	30	0.5
29	1.2D + 1.0Di +1.0Wi AZI 60	Yes	Y	1	1.2	16	1	19	1	29	0.5	30	0.866
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	-0.5	30	0.866
32	1.2D + 1.0Di +1.0Wi AZI 150	Yes	Y	1	1.2	16	1	22	1	29	-0.866	30	0.5
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	-0.866	30	-0.5
35	1.2D + 1.0Di +1.0Wi AZI 240	Yes	Y	1	1.2	16	1	25	1	29	-0.5	30	-0.866
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	0.5	30	-0.866
38	1.2D + 1.0Di +1.0Wi AZI 330	Yes	Y	1	1.2	16	1	28	1	29	0.866	30	-0.5
39	(1.2 + 0.2Sds)DL + 1.0E AZI 0	Yes	Y	1	1.235	31	1	32					
40	(1.2 + 0.2Sds)DL + 1.0E AZI 30	Yes	Y	1	1.235	31	0.866	32	0.5				
41	(1.2 + 0.2Sds)DL + 1.0E AZI 60	Yes	Y	1	1.235	31	0.5	32	0.866				
42	(1.2 + 0.2Sds)DL + 1.0E AZI 90	Yes	Y	1	1.235	31		32	1				
43	(1.2 + 0.2Sds)DL + 1.0E AZI 120	Yes	Y	1	1.235	31	-0.5	32	0.866				
44	(1.2 + 0.2Sds)DL + 1.0E AZI 150	Yes	Y	1	1.235	31	-0.866	32	0.5				
45	(1.2 + 0.2Sds)DL + 1.0E AZI 180	Yes	Y	1	1.235	31	-1	32					
46	(1.2 + 0.2Sds)DL + 1.0E AZI 210	Yes	Y	1	1.235	31	-0.866	32	-0.5				

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
47	(1.2 + 0.2Sds)DL + 1.0E AZI 240	Yes	Y	1	1.235	31	-0.5	32	-0.866				
48	(1.2 + 0.2Sds)DL + 1.0E AZI 270	Yes	Y	1	1.235	31		32	-1				
49	(1.2 + 0.2Sds)DL + 1.0E AZI 300	Yes	Y	1	1.235	31	0.5	32	-0.866				
50	(1.2 + 0.2Sds)DL + 1.0E AZI 330	Yes	Y	1	1.235	31	0.866	32	-0.5				
51	(0.9 - 0.2Sds)DL + 1.0E AZI 0	Yes	Y	1	0.865	31	1	32					
52	(0.9 - 0.2Sds)DL + 1.0E AZI 30	Yes	Y	1	0.865	31	0.866	32	0.5				
53	(0.9 - 0.2Sds)DL + 1.0E AZI 60	Yes	Y	1	0.865	31	0.5	32	0.866				
54	(0.9 - 0.2Sds)DL + 1.0E AZI 90	Yes	Y	1	0.865	31		32	1				
55	(0.9 - 0.2Sds)DL + 1.0E AZI 120	Yes	Y	1	0.865	31	-0.5	32	0.866				
56	(0.9 - 0.2Sds)DL + 1.0E AZI 150	Yes	Y	1	0.865	31	-0.866	32	0.5				
57	(0.9 - 0.2Sds)DL + 1.0E AZI 180	Yes	Y	1	0.865	31	-1	32					
58	(0.9 - 0.2Sds)DL + 1.0E AZI 210	Yes	Y	1	0.865	31	-0.866	32	-0.5				
59	(0.9 - 0.2Sds)DL + 1.0E AZI 240	Yes	Y	1	0.865	31	-0.5	32	-0.866				
60	(0.9 - 0.2Sds)DL + 1.0E AZI 270	Yes	Y	1	0.865	31		32	-1				
61	(0.9 - 0.2Sds)DL + 1.0E AZI 300	Yes	Y	1	0.865	31	0.5	32	-0.866				
62	(0.9 - 0.2Sds)DL + 1.0E AZI 330	Yes	Y	1	0.865	31	0.866	32	-0.5				
63	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 0	Yes	Y	1	1	2	0.198	14	0.198	15		33	1.5
64	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 30	Yes	Y	1	1	3	0.198	14	0.171	15	0.099	33	1.5
65	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 60	Yes	Y	1	1	4	0.198	14	0.099	15	0.171	33	1.5
66	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 90	Yes	Y	1	1	5	0.198	14		15	0.198	33	1.5
67	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 120	Yes	Y	1	1	6	0.198	14	-0.099	15	0.171	33	1.5
68	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 150	Yes	Y	1	1	7	0.198	14	-0.171	15	0.099	33	1.5
69	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 180	Yes	Y	1	1	8	0.198	14	-0.198	15		33	1.5
70	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 210	Yes	Y	1	1	9	0.198	14	-0.171	15	-0.099	33	1.5
71	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 240	Yes	Y	1	1	10	0.198	14	-0.099	15	-0.171	33	1.5
72	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 270	Yes	Y	1	1	11	0.198	14		15	-0.198	33	1.5
73	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 300	Yes	Y	1	1	12	0.198	14	0.099	15	-0.171	33	1.5
74	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 330	Yes	Y	1	1	13	0.198	14	0.171	15	-0.099	33	1.5
75	1.2DL + 1.5LL	Yes	Y	1	1.2	33	1.5						
76	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	34	1.5	2	0.049	14	0.049	15	
77	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	34	1.5	3	0.049	14	0.043	15	0.025
78	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	34	1.5	4	0.049	14	0.025	15	0.043
79	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	34	1.5	5	0.049	14		15	0.049
80	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	34	1.5	6	0.049	14	-0.025	15	0.043
81	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	34	1.5	7	0.049	14	-0.043	15	0.025
82	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	34	1.5	8	0.049	14	-0.049	15	
83	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	34	1.5	9	0.049	14	-0.043	15	-0.025
84	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	34	1.5	10	0.049	14	-0.025	15	-0.043
85	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	34	1.5	11	0.049	14		15	-0.049
86	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	34	1.5	12	0.049	14	0.025	15	-0.043
87	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	34	1.5	13	0.049	14	0.043	15	-0.025
88	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	35	1.5	2	0.049	14	0.049	15	
89	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	35	1.5	3	0.049	14	0.043	15	0.025
90	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	35	1.5	4	0.049	14	0.025	15	0.043
91	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	35	1.5	5	0.049	14		15	0.049
92	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	35	1.5	6	0.049	14	-0.025	15	0.043

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
93	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	35	1.5	7	0.049	14	-0.043	15	0.025
94	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	35	1.5	8	0.049	14	-0.049	15	
95	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	35	1.5	9	0.049	14	-0.043	15	-0.025
96	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	35	1.5	10	0.049	14	-0.025	15	-0.043
97	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	35	1.5	11	0.049	14		15	-0.049
98	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	35	1.5	12	0.049	14	0.025	15	-0.043
99	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	35	1.5	13	0.049	14	0.043	15	-0.025
100	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	36	1.5	2	0.049	14	0.049	15	
101	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	36	1.5	3	0.049	14	0.043	15	0.025
102	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	36	1.5	4	0.049	14	0.025	15	0.043
103	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	36	1.5	5	0.049	14		15	0.049
104	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	36	1.5	6	0.049	14	-0.025	15	0.043
105	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	36	1.5	7	0.049	14	-0.043	15	0.025
106	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	36	1.5	8	0.049	14	-0.049	15	
107	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	36	1.5	9	0.049	14	-0.043	15	-0.025
108	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	36	1.5	10	0.049	14	-0.025	15	-0.043
109	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	36	1.5	11	0.049	14		15	-0.049
110	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	36	1.5	12	0.049	14	0.025	15	-0.043
111	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	36	1.5	13	0.049	14	0.043	15	-0.025
112	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	37	1.5	2	0.049	14	0.049	15	
113	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	37	1.5	3	0.049	14	0.043	15	0.025
114	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	37	1.5	4	0.049	14	0.025	15	0.043
115	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	37	1.5	5	0.049	14		15	0.049
116	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	37	1.5	6	0.049	14	-0.025	15	0.043
117	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	37	1.5	7	0.049	14	-0.043	15	0.025
118	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	37	1.5	8	0.049	14	-0.049	15	
119	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	37	1.5	9	0.049	14	-0.043	15	-0.025
120	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	37	1.5	10	0.049	14	-0.025	15	-0.043
121	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	37	1.5	11	0.049	14		15	-0.049
122	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	37	1.5	12	0.049	14	0.025	15	-0.043
123	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	37	1.5	13	0.049	14	0.043	15	-0.025
124	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	38	1.5	2	0.049	14	0.049	15	
125	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	38	1.5	3	0.049	14	0.043	15	0.025
126	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	38	1.5	4	0.049	14	0.025	15	0.043
127	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	38	1.5	5	0.049	14		15	0.049
128	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	38	1.5	6	0.049	14	-0.025	15	0.043
129	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	38	1.5	7	0.049	14	-0.043	15	0.025
130	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	38	1.5	8	0.049	14	-0.049	15	
131	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	38	1.5	9	0.049	14	-0.043	15	-0.025
132	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	38	1.5	10	0.049	14	-0.025	15	-0.043
133	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	38	1.5	11	0.049	14		15	-0.049
134	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	38	1.5	12	0.049	14	0.025	15	-0.043
135	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	38	1.5	13	0.049	14	0.043	15	-0.025
136	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	39	1.5	2	0.049	14	0.049	15	
137	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	39	1.5	3	0.049	14	0.043	15	0.025
138	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	39	1.5	4	0.049	14	0.025	15	0.043

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
139	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	39	1.5	5	0.049	14		15	0.049
140	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	39	1.5	6	0.049	14	-0.025	15	0.043
141	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	39	1.5	7	0.049	14	-0.043	15	0.025
142	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	39	1.5	8	0.049	14	-0.049	15	
143	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	39	1.5	9	0.049	14	-0.043	15	-0.025
144	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	39	1.5	10	0.049	14	-0.025	15	-0.043
145	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	39	1.5	11	0.049	14		15	-0.049
146	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	39	1.5	12	0.049	14	0.025	15	-0.043
147	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	39	1.5	13	0.049	14	0.043	15	-0.025
148	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	40	1.5	2	0.049	14	0.049	15	
149	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	40	1.5	3	0.049	14	0.043	15	0.025
150	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	40	1.5	4	0.049	14	0.025	15	0.043
151	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	40	1.5	5	0.049	14		15	0.049
152	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	40	1.5	6	0.049	14	-0.025	15	0.043
153	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	40	1.5	7	0.049	14	-0.043	15	0.025
154	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	40	1.5	8	0.049	14	-0.049	15	
155	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	40	1.5	9	0.049	14	-0.043	15	-0.025
156	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	40	1.5	10	0.049	14	-0.025	15	-0.043
157	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	40	1.5	11	0.049	14		15	-0.049
158	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	40	1.5	12	0.049	14	0.025	15	-0.043
159	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	40	1.5	13	0.049	14	0.043	15	-0.025
160	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	41	1.5	2	0.049	14	0.049	15	
161	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	41	1.5	3	0.049	14	0.043	15	0.025
162	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	41	1.5	4	0.049	14	0.025	15	0.043
163	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	41	1.5	5	0.049	14		15	0.049
164	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	41	1.5	6	0.049	14	-0.025	15	0.043
165	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	41	1.5	7	0.049	14	-0.043	15	0.025
166	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	41	1.5	8	0.049	14	-0.049	15	
167	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	41	1.5	9	0.049	14	-0.043	15	-0.025
168	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	41	1.5	10	0.049	14	-0.025	15	-0.043
169	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	41	1.5	11	0.049	14		15	-0.049
170	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	41	1.5	12	0.049	14	0.025	15	-0.043
171	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	41	1.5	13	0.049	14	0.043	15	-0.025
172	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	42	1.5	2	0.049	14	0.049	15	
173	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	42	1.5	3	0.049	14	0.043	15	0.025
174	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	42	1.5	4	0.049	14	0.025	15	0.043
175	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	42	1.5	5	0.049	14		15	0.049
176	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	42	1.5	6	0.049	14	-0.025	15	0.043
177	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	42	1.5	7	0.049	14	-0.043	15	0.025
178	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	42	1.5	8	0.049	14	-0.049	15	
179	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	42	1.5	9	0.049	14	-0.043	15	-0.025
180	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	42	1.5	10	0.049	14	-0.025	15	-0.043
181	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	42	1.5	11	0.049	14		15	-0.049
182	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	42	1.5	12	0.049	14	0.025	15	-0.043

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	Y	-10.925	40
2	MP1	Y	-10.925	59
3	MP1	Y	-37.45	18
4	MP1	Y	-37.45	34
5	MP1	Y	-31.95	18
6	MP1	Y	-31.95	34
7	MP1	Y	-41.25	12
8	MP1	Y	-41.25	84
9	MP4	Y	-37.45	18
10	MP4	Y	-37.45	34
11	MP4	Y	-31.95	18
12	MP4	Y	-31.95	34
13	MP4	Y	-41.25	12
14	MP4	Y	-41.25	84
15	MP7	Y	-37.45	18
16	MP7	Y	-37.45	34
17	MP7	Y	-31.95	18
18	MP7	Y	-31.95	34
19	MP7	Y	-41.25	12
20	MP7	Y	-41.25	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	0	40
2	MP1	Z	-62.49	40
3	MP1	X	0	59
4	MP1	Z	-62.49	59
5	MP1	X	0	18
6	MP1	Z	-52.69	18
7	MP1	X	0	34
8	MP1	Z	-52.69	34
9	MP1	X	0	18
10	MP1	Z	-52.69	18
11	MP1	X	0	34
12	MP1	Z	-52.69	34
13	MP1	X	0	12
14	MP1	Z	-337.56	12
15	MP1	X	0	84
16	MP1	Z	-337.56	84
17	MP4	X	0	18
18	MP4	Z	-37.04	18
19	MP4	X	0	34
20	MP4	Z	-37.04	34
21	MP4	X	0	18
22	MP4	Z	-33.86	18

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
23	MP4	X	0	34
24	MP4	Z	-33.86	34
25	MP4	X	0	12
26	MP4	Z	-203.32	12
27	MP4	X	0	84
28	MP4	Z	-203.32	84
29	MP7	X	0	18
30	MP7	Z	-37.04	18
31	MP7	X	0	34
32	MP7	Z	-37.04	34
33	MP7	X	0	18
34	MP7	Z	-33.86	18
35	MP7	X	0	34
36	MP7	Z	-33.86	34
37	MP7	X	0	12
38	MP7	Z	-203.32	12
39	MP7	X	0	84
40	MP7	Z	-203.32	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-27.8	40
2	MP1	Z	-48.15	40
3	MP1	X	-27.8	59
4	MP1	Z	-48.15	59
5	MP1	X	-23.74	18
6	MP1	Z	-41.11	18
7	MP1	X	-23.74	34
8	MP1	Z	-41.11	34
9	MP1	X	-23.21	18
10	MP1	Z	-40.2	18
11	MP1	X	-23.21	34
12	MP1	Z	-40.2	34
13	MP1	X	-146.41	12
14	MP1	Z	-253.59	12
15	MP1	X	-146.41	84
16	MP1	Z	-253.59	84
17	MP4	X	-23.74	18
18	MP4	Z	-41.11	18
19	MP4	X	-23.74	34
20	MP4	Z	-41.11	34
21	MP4	X	-23.21	18
22	MP4	Z	-40.2	18
23	MP4	X	-23.21	34
24	MP4	Z	-40.2	34
25	MP4	X	-146.41	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
26	MP4	Z	-253.59	12
27	MP4	X	-146.41	84
28	MP4	Z	-253.59	84
29	MP7	X	-15.91	18
30	MP7	Z	-27.56	18
31	MP7	X	-15.91	34
32	MP7	Z	-27.56	34
33	MP7	X	-13.79	18
34	MP7	Z	-23.89	18
35	MP7	X	-13.79	34
36	MP7	Z	-23.89	34
37	MP7	X	-79.29	12
38	MP7	Z	-137.33	12
39	MP7	X	-79.29	84
40	MP7	Z	-137.33	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-36.23	40
2	MP1	Z	-20.92	40
3	MP1	X	-36.23	59
4	MP1	Z	-20.92	59
5	MP1	X	-32.08	18
6	MP1	Z	-18.52	18
7	MP1	X	-32.08	34
8	MP1	Z	-18.52	34
9	MP1	X	-29.32	18
10	MP1	Z	-16.93	18
11	MP1	X	-29.32	34
12	MP1	Z	-16.93	34
13	MP1	X	-176.08	12
14	MP1	Z	-101.66	12
15	MP1	X	-176.08	84
16	MP1	Z	-101.66	84
17	MP4	X	-45.63	18
18	MP4	Z	-26.35	18
19	MP4	X	-45.63	34
20	MP4	Z	-26.35	34
21	MP4	X	-45.63	18
22	MP4	Z	-26.35	18
23	MP4	X	-45.63	34
24	MP4	Z	-26.35	34
25	MP4	X	-292.34	12
26	MP4	Z	-168.78	12
27	MP4	X	-292.34	84
28	MP4	Z	-168.78	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
29	MP7	X	-32.08	18
30	MP7	Z	-18.52	18
31	MP7	X	-32.08	34
32	MP7	Z	-18.52	34
33	MP7	X	-29.32	18
34	MP7	Z	-16.93	18
35	MP7	X	-29.32	34
36	MP7	Z	-16.93	34
37	MP7	X	-176.08	12
38	MP7	Z	-101.66	12
39	MP7	X	-176.08	84
40	MP7	Z	-101.66	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-34.95	40
2	MP1	Z	0	40
3	MP1	X	-34.95	59
4	MP1	Z	0	59
5	MP1	X	-31.83	18
6	MP1	Z	0	18
7	MP1	X	-31.83	34
8	MP1	Z	0	34
9	MP1	X	-27.58	18
10	MP1	Z	0	18
11	MP1	X	-27.58	34
12	MP1	Z	0	34
13	MP1	X	-158.57	12
14	MP1	Z	0	12
15	MP1	X	-158.57	84
16	MP1	Z	0	84
17	MP4	X	-47.48	18
18	MP4	Z	0	18
19	MP4	X	-47.48	34
20	MP4	Z	0	34
21	MP4	X	-46.41	18
22	MP4	Z	0	18
23	MP4	X	-46.41	34
24	MP4	Z	0	34
25	MP4	X	-292.82	12
26	MP4	Z	0	12
27	MP4	X	-292.82	84
28	MP4	Z	0	84
29	MP7	X	-47.48	18
30	MP7	Z	0	18
31	MP7	X	-47.48	34

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
32	MP7	Z	0	34
33	MP7	X	-46.41	18
34	MP7	Z	0	18
35	MP7	X	-46.41	34
36	MP7	Z	0	34
37	MP7	X	-292.82	12
38	MP7	Z	0	12
39	MP7	X	-292.82	84
40	MP7	Z	0	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-36.23	40
2	MP1	Z	20.92	40
3	MP1	X	-36.23	59
4	MP1	Z	20.92	59
5	MP1	X	-32.08	18
6	MP1	Z	18.52	18
7	MP1	X	-32.08	34
8	MP1	Z	18.52	34
9	MP1	X	-29.32	18
10	MP1	Z	16.93	18
11	MP1	X	-29.32	34
12	MP1	Z	16.93	34
13	MP1	X	-176.08	12
14	MP1	Z	101.66	12
15	MP1	X	-176.08	84
16	MP1	Z	101.66	84
17	MP4	X	-32.08	18
18	MP4	Z	18.52	18
19	MP4	X	-32.08	34
20	MP4	Z	18.52	34
21	MP4	X	-29.32	18
22	MP4	Z	16.93	18
23	MP4	X	-29.32	34
24	MP4	Z	16.93	34
25	MP4	X	-176.08	12
26	MP4	Z	101.66	12
27	MP4	X	-176.08	84
28	MP4	Z	101.66	84
29	MP7	X	-45.63	18
30	MP7	Z	26.35	18
31	MP7	X	-45.63	34
32	MP7	Z	26.35	34
33	MP7	X	-45.63	18
34	MP7	Z	26.35	18

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
35	MP7	X	-45.63	34
36	MP7	Z	26.35	34
37	MP7	X	-292.34	12
38	MP7	Z	168.78	12
39	MP7	X	-292.34	84
40	MP7	Z	168.78	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-27.8	40
2	MP1	Z	48.15	40
3	MP1	X	-27.8	59
4	MP1	Z	48.15	59
5	MP1	X	-23.74	18
6	MP1	Z	41.11	18
7	MP1	X	-23.74	34
8	MP1	Z	41.11	34
9	MP1	X	-23.21	18
10	MP1	Z	40.2	18
11	MP1	X	-23.21	34
12	MP1	Z	40.2	34
13	MP1	X	-146.41	12
14	MP1	Z	253.59	12
15	MP1	X	-146.41	84
16	MP1	Z	253.59	84
17	MP4	X	-15.91	18
18	MP4	Z	27.56	18
19	MP4	X	-15.91	34
20	MP4	Z	27.56	34
21	MP4	X	-13.79	18
22	MP4	Z	23.89	18
23	MP4	X	-13.79	34
24	MP4	Z	23.89	34
25	MP4	X	-79.29	12
26	MP4	Z	137.33	12
27	MP4	X	-79.29	84
28	MP4	Z	137.33	84
29	MP7	X	-23.74	18
30	MP7	Z	41.11	18
31	MP7	X	-23.74	34
32	MP7	Z	41.11	34
33	MP7	X	-23.21	18
34	MP7	Z	40.2	18
35	MP7	X	-23.21	34
36	MP7	Z	40.2	34
37	MP7	X	-146.41	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
38	MP7	Z	253.59	12
39	MP7	X	-146.41	84
40	MP7	Z	253.59	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	0	40
2	MP1	Z	62.49	40
3	MP1	X	0	59
4	MP1	Z	62.49	59
5	MP1	X	0	18
6	MP1	Z	52.69	18
7	MP1	X	0	34
8	MP1	Z	52.69	34
9	MP1	X	0	18
10	MP1	Z	52.69	18
11	MP1	X	0	34
12	MP1	Z	52.69	34
13	MP1	X	0	12
14	MP1	Z	337.56	12
15	MP1	X	0	84
16	MP1	Z	337.56	84
17	MP4	X	0	18
18	MP4	Z	37.04	18
19	MP4	X	0	34
20	MP4	Z	37.04	34
21	MP4	X	0	18
22	MP4	Z	33.86	18
23	MP4	X	0	34
24	MP4	Z	33.86	34
25	MP4	X	0	12
26	MP4	Z	203.32	12
27	MP4	X	0	84
28	MP4	Z	203.32	84
29	MP7	X	0	18
30	MP7	Z	37.04	18
31	MP7	X	0	34
32	MP7	Z	37.04	34
33	MP7	X	0	18
34	MP7	Z	33.86	18
35	MP7	X	0	34
36	MP7	Z	33.86	34
37	MP7	X	0	12
38	MP7	Z	203.32	12
39	MP7	X	0	84
40	MP7	Z	203.32	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	27.8	40
2	MP1	Z	48.15	40
3	MP1	X	27.8	59
4	MP1	Z	48.15	59
5	MP1	X	23.74	18
6	MP1	Z	41.11	18
7	MP1	X	23.74	34
8	MP1	Z	41.11	34
9	MP1	X	23.21	18
10	MP1	Z	40.2	18
11	MP1	X	23.21	34
12	MP1	Z	40.2	34
13	MP1	X	146.41	12
14	MP1	Z	253.59	12
15	MP1	X	146.41	84
16	MP1	Z	253.59	84
17	MP4	X	23.74	18
18	MP4	Z	41.11	18
19	MP4	X	23.74	34
20	MP4	Z	41.11	34
21	MP4	X	23.21	18
22	MP4	Z	40.2	18
23	MP4	X	23.21	34
24	MP4	Z	40.2	34
25	MP4	X	146.41	12
26	MP4	Z	253.59	12
27	MP4	X	146.41	84
28	MP4	Z	253.59	84
29	MP7	X	15.91	18
30	MP7	Z	27.56	18
31	MP7	X	15.91	34
32	MP7	Z	27.56	34
33	MP7	X	13.79	18
34	MP7	Z	23.89	18
35	MP7	X	13.79	34
36	MP7	Z	23.89	34
37	MP7	X	79.29	12
38	MP7	Z	137.33	12
39	MP7	X	79.29	84
40	MP7	Z	137.33	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	36.23	40
2	MP1	Z	20.92	40

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
3	MP1	X	36.23	59
4	MP1	Z	20.92	59
5	MP1	X	32.08	18
6	MP1	Z	18.52	18
7	MP1	X	32.08	34
8	MP1	Z	18.52	34
9	MP1	X	29.32	18
10	MP1	Z	16.93	18
11	MP1	X	29.32	34
12	MP1	Z	16.93	34
13	MP1	X	176.08	12
14	MP1	Z	101.66	12
15	MP1	X	176.08	84
16	MP1	Z	101.66	84
17	MP4	X	45.63	18
18	MP4	Z	26.35	18
19	MP4	X	45.63	34
20	MP4	Z	26.35	34
21	MP4	X	45.63	18
22	MP4	Z	26.35	18
23	MP4	X	45.63	34
24	MP4	Z	26.35	34
25	MP4	X	292.34	12
26	MP4	Z	168.78	12
27	MP4	X	292.34	84
28	MP4	Z	168.78	84
29	MP7	X	32.08	18
30	MP7	Z	18.52	18
31	MP7	X	32.08	34
32	MP7	Z	18.52	34
33	MP7	X	29.32	18
34	MP7	Z	16.93	18
35	MP7	X	29.32	34
36	MP7	Z	16.93	34
37	MP7	X	176.08	12
38	MP7	Z	101.66	12
39	MP7	X	176.08	84
40	MP7	Z	101.66	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	34.95	40
2	MP1	Z	0	40
3	MP1	X	34.95	59
4	MP1	Z	0	59
5	MP1	X	31.83	18

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
6	MP1	Z	0	18
7	MP1	X	31.83	34
8	MP1	Z	0	34
9	MP1	X	27.58	18
10	MP1	Z	0	18
11	MP1	X	27.58	34
12	MP1	Z	0	34
13	MP1	X	158.57	12
14	MP1	Z	0	12
15	MP1	X	158.57	84
16	MP1	Z	0	84
17	MP4	X	47.48	18
18	MP4	Z	0	18
19	MP4	X	47.48	34
20	MP4	Z	0	34
21	MP4	X	46.41	18
22	MP4	Z	0	18
23	MP4	X	46.41	34
24	MP4	Z	0	34
25	MP4	X	292.82	12
26	MP4	Z	0	12
27	MP4	X	292.82	84
28	MP4	Z	0	84
29	MP7	X	47.48	18
30	MP7	Z	0	18
31	MP7	X	47.48	34
32	MP7	Z	0	34
33	MP7	X	46.41	18
34	MP7	Z	0	18
35	MP7	X	46.41	34
36	MP7	Z	0	34
37	MP7	X	292.82	12
38	MP7	Z	0	12
39	MP7	X	292.82	84
40	MP7	Z	0	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	36.23	40
2	MP1	Z	-20.92	40
3	MP1	X	36.23	59
4	MP1	Z	-20.92	59
5	MP1	X	32.08	18
6	MP1	Z	-18.52	18
7	MP1	X	32.08	34
8	MP1	Z	-18.52	34

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
9	MP1	X	29.32	18
10	MP1	Z	-16.93	18
11	MP1	X	29.32	34
12	MP1	Z	-16.93	34
13	MP1	X	176.08	12
14	MP1	Z	-101.66	12
15	MP1	X	176.08	84
16	MP1	Z	-101.66	84
17	MP4	X	32.08	18
18	MP4	Z	-18.52	18
19	MP4	X	32.08	34
20	MP4	Z	-18.52	34
21	MP4	X	29.32	18
22	MP4	Z	-16.93	18
23	MP4	X	29.32	34
24	MP4	Z	-16.93	34
25	MP4	X	176.08	12
26	MP4	Z	-101.66	12
27	MP4	X	176.08	84
28	MP4	Z	-101.66	84
29	MP7	X	45.63	18
30	MP7	Z	-26.35	18
31	MP7	X	45.63	34
32	MP7	Z	-26.35	34
33	MP7	X	45.63	18
34	MP7	Z	-26.35	18
35	MP7	X	45.63	34
36	MP7	Z	-26.35	34
37	MP7	X	292.34	12
38	MP7	Z	-168.78	12
39	MP7	X	292.34	84
40	MP7	Z	-168.78	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	27.8	40
2	MP1	Z	-48.15	40
3	MP1	X	27.8	59
4	MP1	Z	-48.15	59
5	MP1	X	23.74	18
6	MP1	Z	-41.11	18
7	MP1	X	23.74	34
8	MP1	Z	-41.11	34
9	MP1	X	23.21	18
10	MP1	Z	-40.2	18
11	MP1	X	23.21	34

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
12	MP1	Z	-40.2	34
13	MP1	X	146.41	12
14	MP1	Z	-253.59	12
15	MP1	X	146.41	84
16	MP1	Z	-253.59	84
17	MP4	X	15.91	18
18	MP4	Z	-27.56	18
19	MP4	X	15.91	34
20	MP4	Z	-27.56	34
21	MP4	X	13.79	18
22	MP4	Z	-23.89	18
23	MP4	X	13.79	34
24	MP4	Z	-23.89	34
25	MP4	X	79.29	12
26	MP4	Z	-137.33	12
27	MP4	X	79.29	84
28	MP4	Z	-137.33	84
29	MP7	X	23.74	18
30	MP7	Z	-41.11	18
31	MP7	X	23.74	34
32	MP7	Z	-41.11	34
33	MP7	X	23.21	18
34	MP7	Z	-40.2	18
35	MP7	X	23.21	34
36	MP7	Z	-40.2	34
37	MP7	X	146.41	12
38	MP7	Z	-253.59	12
39	MP7	X	146.41	84
40	MP7	Z	-253.59	84

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	Y	-39.774	40
2	MP1	Y	-39.774	59
3	MP1	Y	-36.994	18
4	MP1	Y	-36.994	34
5	MP1	Y	-34.698	18
6	MP1	Y	-34.698	34
7	MP1	Y	-142.369	12
8	MP1	Y	-142.369	84
9	MP4	Y	-36.994	18
10	MP4	Y	-36.994	34
11	MP4	Y	-34.698	18
12	MP4	Y	-34.698	34
13	MP4	Y	-142.369	12
14	MP4	Y	-142.369	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
15	MP7	Y	-36.994	18
16	MP7	Y	-36.994	34
17	MP7	Y	-34.698	18
18	MP7	Y	-34.698	34
19	MP7	Y	-142.369	12
20	MP7	Y	-142.369	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	0	40
2	MP1	Z	-5.23	40
3	MP1	X	0	59
4	MP1	Z	-5.23	59
5	MP1	X	0	18
6	MP1	Z	-4.53	18
7	MP1	X	0	34
8	MP1	Z	-4.53	34
9	MP1	X	0	18
10	MP1	Z	-4.53	18
11	MP1	X	0	34
12	MP1	Z	-4.53	34
13	MP1	X	0	12
14	MP1	Z	-23.52	12
15	MP1	X	0	84
16	MP1	Z	-23.52	84
17	MP4	X	0	18
18	MP4	Z	-3.75	18
19	MP4	X	0	34
20	MP4	Z	-3.75	34
21	MP4	X	0	18
22	MP4	Z	-3.61	18
23	MP4	X	0	34
24	MP4	Z	-3.61	34
25	MP4	X	0	12
26	MP4	Z	-17.26	12
27	MP4	X	0	84
28	MP4	Z	-17.26	84
29	MP7	X	0	18
30	MP7	Z	-3.75	18
31	MP7	X	0	34
32	MP7	Z	-3.75	34
33	MP7	X	0	18
34	MP7	Z	-3.61	18
35	MP7	X	0	34
36	MP7	Z	-3.61	34
37	MP7	X	0	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
38	MP7	Z	-17.26	12
39	MP7	X	0	84
40	MP7	Z	-17.26	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-2.45	40
2	MP1	Z	-4.25	40
3	MP1	X	-2.45	59
4	MP1	Z	-4.25	59
5	MP1	X	-2.13	18
6	MP1	Z	-3.7	18
7	MP1	X	-2.13	34
8	MP1	Z	-3.7	34
9	MP1	X	-2.11	18
10	MP1	Z	-3.66	18
11	MP1	X	-2.11	34
12	MP1	Z	-3.66	34
13	MP1	X	-10.72	12
14	MP1	Z	-18.57	12
15	MP1	X	-10.72	84
16	MP1	Z	-18.57	84
17	MP4	X	-2.13	18
18	MP4	Z	-3.7	18
19	MP4	X	-2.13	34
20	MP4	Z	-3.7	34
21	MP4	X	-2.11	18
22	MP4	Z	-3.66	18
23	MP4	X	-2.11	34
24	MP4	Z	-3.66	34
25	MP4	X	-10.72	12
26	MP4	Z	-18.57	12
27	MP4	X	-10.72	84
28	MP4	Z	-18.57	84
29	MP7	X	-1.74	18
30	MP7	Z	-3.02	18
31	MP7	X	-1.74	34
32	MP7	Z	-3.02	34
33	MP7	X	-1.65	18
34	MP7	Z	-2.86	18
35	MP7	X	-1.65	34
36	MP7	Z	-2.86	34
37	MP7	X	-7.59	12
38	MP7	Z	-13.14	12
39	MP7	X	-7.59	84
40	MP7	Z	-13.14	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-3.69	40
2	MP1	Z	-2.13	40
3	MP1	X	-3.69	59
4	MP1	Z	-2.13	59
5	MP1	X	-3.24	18
6	MP1	Z	-1.87	18
7	MP1	X	-3.24	34
8	MP1	Z	-1.87	34
9	MP1	X	-3.13	18
10	MP1	Z	-1.81	18
11	MP1	X	-3.13	34
12	MP1	Z	-1.81	34
13	MP1	X	-14.95	12
14	MP1	Z	-8.63	12
15	MP1	X	-14.95	84
16	MP1	Z	-8.63	84
17	MP4	X	-3.92	18
18	MP4	Z	-2.27	18
19	MP4	X	-3.92	34
20	MP4	Z	-2.27	34
21	MP4	X	-3.92	18
22	MP4	Z	-2.27	18
23	MP4	X	-3.92	34
24	MP4	Z	-2.27	34
25	MP4	X	-20.37	12
26	MP4	Z	-11.76	12
27	MP4	X	-20.37	84
28	MP4	Z	-11.76	84
29	MP7	X	-3.24	18
30	MP7	Z	-1.87	18
31	MP7	X	-3.24	34
32	MP7	Z	-1.87	34
33	MP7	X	-3.13	18
34	MP7	Z	-1.81	18
35	MP7	X	-3.13	34
36	MP7	Z	-1.81	34
37	MP7	X	-14.95	12
38	MP7	Z	-8.63	12
39	MP7	X	-14.95	84
40	MP7	Z	-8.63	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-3.94	40
2	MP1	Z	0	40

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
3	MP1	X	-3.94	59
4	MP1	Z	0	59
5	MP1	X	-3.48	18
6	MP1	Z	0	18
7	MP1	X	-3.48	34
8	MP1	Z	0	34
9	MP1	X	-3.31	18
10	MP1	Z	0	18
11	MP1	X	-3.31	34
12	MP1	Z	0	34
13	MP1	X	-15.18	12
14	MP1	Z	0	12
15	MP1	X	-15.18	84
16	MP1	Z	0	84
17	MP4	X	-4.27	18
18	MP4	Z	0	18
19	MP4	X	-4.27	34
20	MP4	Z	0	34
21	MP4	X	-4.23	18
22	MP4	Z	0	18
23	MP4	X	-4.23	34
24	MP4	Z	0	34
25	MP4	X	-21.44	12
26	MP4	Z	0	12
27	MP4	X	-21.44	84
28	MP4	Z	0	84
29	MP7	X	-4.27	18
30	MP7	Z	0	18
31	MP7	X	-4.27	34
32	MP7	Z	0	34
33	MP7	X	-4.23	18
34	MP7	Z	0	18
35	MP7	X	-4.23	34
36	MP7	Z	0	34
37	MP7	X	-21.44	12
38	MP7	Z	0	12
39	MP7	X	-21.44	84
40	MP7	Z	0	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-3.69	40
2	MP1	Z	2.13	40
3	MP1	X	-3.69	59
4	MP1	Z	2.13	59
5	MP1	X	-3.24	18

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
6	MP1	Z	1.87	18
7	MP1	X	-3.24	34
8	MP1	Z	1.87	34
9	MP1	X	-3.13	18
10	MP1	Z	1.81	18
11	MP1	X	-3.13	34
12	MP1	Z	1.81	34
13	MP1	X	-14.95	12
14	MP1	Z	8.63	12
15	MP1	X	-14.95	84
16	MP1	Z	8.63	84
17	MP4	X	-3.24	18
18	MP4	Z	1.87	18
19	MP4	X	-3.24	34
20	MP4	Z	1.87	34
21	MP4	X	-3.13	18
22	MP4	Z	1.81	18
23	MP4	X	-3.13	34
24	MP4	Z	1.81	34
25	MP4	X	-14.95	12
26	MP4	Z	8.63	12
27	MP4	X	-14.95	84
28	MP4	Z	8.63	84
29	MP7	X	-3.92	18
30	MP7	Z	2.27	18
31	MP7	X	-3.92	34
32	MP7	Z	2.27	34
33	MP7	X	-3.92	18
34	MP7	Z	2.27	18
35	MP7	X	-3.92	34
36	MP7	Z	2.27	34
37	MP7	X	-20.37	12
38	MP7	Z	11.76	12
39	MP7	X	-20.37	84
40	MP7	Z	11.76	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-2.45	40
2	MP1	Z	4.25	40
3	MP1	X	-2.45	59
4	MP1	Z	4.25	59
5	MP1	X	-2.13	18
6	MP1	Z	3.7	18
7	MP1	X	-2.13	34
8	MP1	Z	3.7	34

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
9	MP1	X	-2.11	18
10	MP1	Z	3.66	18
11	MP1	X	-2.11	34
12	MP1	Z	3.66	34
13	MP1	X	-10.72	12
14	MP1	Z	18.57	12
15	MP1	X	-10.72	84
16	MP1	Z	18.57	84
17	MP4	X	-1.74	18
18	MP4	Z	3.02	18
19	MP4	X	-1.74	34
20	MP4	Z	3.02	34
21	MP4	X	-1.65	18
22	MP4	Z	2.86	18
23	MP4	X	-1.65	34
24	MP4	Z	2.86	34
25	MP4	X	-7.59	12
26	MP4	Z	13.14	12
27	MP4	X	-7.59	84
28	MP4	Z	13.14	84
29	MP7	X	-2.13	18
30	MP7	Z	3.7	18
31	MP7	X	-2.13	34
32	MP7	Z	3.7	34
33	MP7	X	-2.11	18
34	MP7	Z	3.66	18
35	MP7	X	-2.11	34
36	MP7	Z	3.66	34
37	MP7	X	-10.72	12
38	MP7	Z	18.57	12
39	MP7	X	-10.72	84
40	MP7	Z	18.57	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	0	40
2	MP1	Z	5.23	40
3	MP1	X	0	59
4	MP1	Z	5.23	59
5	MP1	X	0	18
6	MP1	Z	4.53	18
7	MP1	X	0	34
8	MP1	Z	4.53	34
9	MP1	X	0	18
10	MP1	Z	4.53	18
11	MP1	X	0	34

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
12	MP1	Z	4.53	34
13	MP1	X	0	12
14	MP1	Z	23.52	12
15	MP1	X	0	84
16	MP1	Z	23.52	84
17	MP4	X	0	18
18	MP4	Z	3.75	18
19	MP4	X	0	34
20	MP4	Z	3.75	34
21	MP4	X	0	18
22	MP4	Z	3.61	18
23	MP4	X	0	34
24	MP4	Z	3.61	34
25	MP4	X	0	12
26	MP4	Z	17.26	12
27	MP4	X	0	84
28	MP4	Z	17.26	84
29	MP7	X	0	18
30	MP7	Z	3.75	18
31	MP7	X	0	34
32	MP7	Z	3.75	34
33	MP7	X	0	18
34	MP7	Z	3.61	18
35	MP7	X	0	34
36	MP7	Z	3.61	34
37	MP7	X	0	12
38	MP7	Z	17.26	12
39	MP7	X	0	84
40	MP7	Z	17.26	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	2.45	40
2	MP1	Z	4.25	40
3	MP1	X	2.45	59
4	MP1	Z	4.25	59
5	MP1	X	2.13	18
6	MP1	Z	3.7	18
7	MP1	X	2.13	34
8	MP1	Z	3.7	34
9	MP1	X	2.11	18
10	MP1	Z	3.66	18
11	MP1	X	2.11	34
12	MP1	Z	3.66	34
13	MP1	X	10.72	12
14	MP1	Z	18.57	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
15	MP1	X	10.72	84
16	MP1	Z	18.57	84
17	MP4	X	2.13	18
18	MP4	Z	3.7	18
19	MP4	X	2.13	34
20	MP4	Z	3.7	34
21	MP4	X	2.11	18
22	MP4	Z	3.66	18
23	MP4	X	2.11	34
24	MP4	Z	3.66	34
25	MP4	X	10.72	12
26	MP4	Z	18.57	12
27	MP4	X	10.72	84
28	MP4	Z	18.57	84
29	MP7	X	1.74	18
30	MP7	Z	3.02	18
31	MP7	X	1.74	34
32	MP7	Z	3.02	34
33	MP7	X	1.65	18
34	MP7	Z	2.86	18
35	MP7	X	1.65	34
36	MP7	Z	2.86	34
37	MP7	X	7.59	12
38	MP7	Z	13.14	12
39	MP7	X	7.59	84
40	MP7	Z	13.14	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	3.69	40
2	MP1	Z	2.13	40
3	MP1	X	3.69	59
4	MP1	Z	2.13	59
5	MP1	X	3.24	18
6	MP1	Z	1.87	18
7	MP1	X	3.24	34
8	MP1	Z	1.87	34
9	MP1	X	3.13	18
10	MP1	Z	1.81	18
11	MP1	X	3.13	34
12	MP1	Z	1.81	34
13	MP1	X	14.95	12
14	MP1	Z	8.63	12
15	MP1	X	14.95	84
16	MP1	Z	8.63	84
17	MP4	X	3.92	18

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
18	MP4	Z	2.27	18
19	MP4	X	3.92	34
20	MP4	Z	2.27	34
21	MP4	X	3.92	18
22	MP4	Z	2.27	18
23	MP4	X	3.92	34
24	MP4	Z	2.27	34
25	MP4	X	20.37	12
26	MP4	Z	11.76	12
27	MP4	X	20.37	84
28	MP4	Z	11.76	84
29	MP7	X	3.24	18
30	MP7	Z	1.87	18
31	MP7	X	3.24	34
32	MP7	Z	1.87	34
33	MP7	X	3.13	18
34	MP7	Z	1.81	18
35	MP7	X	3.13	34
36	MP7	Z	1.81	34
37	MP7	X	14.95	12
38	MP7	Z	8.63	12
39	MP7	X	14.95	84
40	MP7	Z	8.63	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	3.94	40
2	MP1	Z	0	40
3	MP1	X	3.94	59
4	MP1	Z	0	59
5	MP1	X	3.48	18
6	MP1	Z	0	18
7	MP1	X	3.48	34
8	MP1	Z	0	34
9	MP1	X	3.31	18
10	MP1	Z	0	18
11	MP1	X	3.31	34
12	MP1	Z	0	34
13	MP1	X	15.18	12
14	MP1	Z	0	12
15	MP1	X	15.18	84
16	MP1	Z	0	84
17	MP4	X	4.27	18
18	MP4	Z	0	18
19	MP4	X	4.27	34
20	MP4	Z	0	34

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
21	MP4	X	4.23	18
22	MP4	Z	0	18
23	MP4	X	4.23	34
24	MP4	Z	0	34
25	MP4	X	21.44	12
26	MP4	Z	0	12
27	MP4	X	21.44	84
28	MP4	Z	0	84
29	MP7	X	4.27	18
30	MP7	Z	0	18
31	MP7	X	4.27	34
32	MP7	Z	0	34
33	MP7	X	4.23	18
34	MP7	Z	0	18
35	MP7	X	4.23	34
36	MP7	Z	0	34
37	MP7	X	21.44	12
38	MP7	Z	0	12
39	MP7	X	21.44	84
40	MP7	Z	0	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	3.69	40
2	MP1	Z	-2.13	40
3	MP1	X	3.69	59
4	MP1	Z	-2.13	59
5	MP1	X	3.24	18
6	MP1	Z	-1.87	18
7	MP1	X	3.24	34
8	MP1	Z	-1.87	34
9	MP1	X	3.13	18
10	MP1	Z	-1.81	18
11	MP1	X	3.13	34
12	MP1	Z	-1.81	34
13	MP1	X	14.95	12
14	MP1	Z	-8.63	12
15	MP1	X	14.95	84
16	MP1	Z	-8.63	84
17	MP4	X	3.24	18
18	MP4	Z	-1.87	18
19	MP4	X	3.24	34
20	MP4	Z	-1.87	34
21	MP4	X	3.13	18
22	MP4	Z	-1.81	18
23	MP4	X	3.13	34

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
24	MP4	Z	-1.81	34
25	MP4	X	14.95	12
26	MP4	Z	-8.63	12
27	MP4	X	14.95	84
28	MP4	Z	-8.63	84
29	MP7	X	3.92	18
30	MP7	Z	-2.27	18
31	MP7	X	3.92	34
32	MP7	Z	-2.27	34
33	MP7	X	3.92	18
34	MP7	Z	-2.27	18
35	MP7	X	3.92	34
36	MP7	Z	-2.27	34
37	MP7	X	20.37	12
38	MP7	Z	-11.76	12
39	MP7	X	20.37	84
40	MP7	Z	-11.76	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	2.45	40
2	MP1	Z	-4.25	40
3	MP1	X	2.45	59
4	MP1	Z	-4.25	59
5	MP1	X	2.13	18
6	MP1	Z	-3.7	18
7	MP1	X	2.13	34
8	MP1	Z	-3.7	34
9	MP1	X	2.11	18
10	MP1	Z	-3.66	18
11	MP1	X	2.11	34
12	MP1	Z	-3.66	34
13	MP1	X	10.72	12
14	MP1	Z	-18.57	12
15	MP1	X	10.72	84
16	MP1	Z	-18.57	84
17	MP4	X	1.74	18
18	MP4	Z	-3.02	18
19	MP4	X	1.74	34
20	MP4	Z	-3.02	34
21	MP4	X	1.65	18
22	MP4	Z	-2.86	18
23	MP4	X	1.65	34
24	MP4	Z	-2.86	34
25	MP4	X	7.59	12
26	MP4	Z	-13.14	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
27	MP4	X	7.59	84
28	MP4	Z	-13.14	84
29	MP7	X	2.13	18
30	MP7	Z	-3.7	18
31	MP7	X	2.13	34
32	MP7	Z	-3.7	34
33	MP7	X	2.11	18
34	MP7	Z	-3.66	18
35	MP7	X	2.11	34
36	MP7	Z	-3.66	34
37	MP7	X	10.72	12
38	MP7	Z	-18.57	12
39	MP7	X	10.72	84
40	MP7	Z	-18.57	84

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	Z	-2.867	40
2	MP1	Z	-2.867	59
3	MP1	Z	-9.827	18
4	MP1	Z	-9.827	34
5	MP1	Z	-8.384	18
6	MP1	Z	-8.384	34
7	MP1	Z	-10.824	12
8	MP1	Z	-10.824	84
9	MP4	Z	-9.827	18
10	MP4	Z	-9.827	34
11	MP4	Z	-8.384	18
12	MP4	Z	-8.384	34
13	MP4	Z	-10.824	12
14	MP4	Z	-10.824	84
15	MP7	Z	-9.827	18
16	MP7	Z	-9.827	34
17	MP7	Z	-8.384	18
18	MP7	Z	-8.384	34
19	MP7	Z	-10.824	12
20	MP7	Z	-10.824	84

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-2.867	40
2	MP1	X	-2.867	59
3	MP1	X	-9.827	18
4	MP1	X	-9.827	34

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
5	MP1	X	-8.384	18
6	MP1	X	-8.384	34
7	MP1	X	-10.824	12
8	MP1	X	-10.824	84
9	MP4	X	-9.827	18
10	MP4	X	-9.827	34
11	MP4	X	-8.384	18
12	MP4	X	-8.384	34
13	MP4	X	-10.824	12
14	MP4	X	-10.824	84
15	MP7	X	-9.827	18
16	MP7	X	-9.827	34
17	MP7	X	-8.384	18
18	MP7	X	-8.384	34
19	MP7	X	-10.824	12
20	MP7	X	-10.824	84

Member Area Loads (BLC 1 : Self Weight)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [psf]
1	N100	N103	N102	N101	Y	Two Way	-1.75
2	N106	N104	N105	N107	Y	Two Way	-1.75
3	N109	N111	N110	N108	Y	Two Way	-1.75

Member Area Loads (BLC 16 : Ice Weight)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [psf]
1	N100	N103	N102	N101	Y	Two Way	-12.349
2	N106	N104	N105	N107	Y	Two Way	-12.349
3	N109	N111	N110	N108	Y	Two Way	-12.349

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

	Node Label	L, D, M	Direction	Magnitude [(lb, lb-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N88	L	Y	-250

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

	Node Label	L, D, M	Direction	Magnitude [(lb, lb-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N8	L	Y	-500

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

	Node Label	L, D, M	Direction	Magnitude [(lb, lb-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N12	L	Y	-500

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

	Node Label	L, D, M	Direction	Magnitude [(lb, lb-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N16	L	Y	-500

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

	Node Label	L, D, M	Direction	Magnitude [(lb, lb-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N39	L	Y	-500

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

	Node Label	L, D, M	Direction	Magnitude [(lb, lb-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N43	L	Y	-500

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

	Node Label	L, D, M	Direction	Magnitude [(lb, lb-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N47	L	Y	-500

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

	Node Label	L, D, M	Direction	Magnitude [(lb, lb-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N85	L	Y	-500

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

	Node Label	L, D, M	Direction	Magnitude [(lb, lb-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N89	L	Y	-500

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

	Node Label	L, D, M	Direction	Magnitude [(lb, lb-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N93	L	Y	-500

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N23	max	1509.693	17	1878.104	27	1491.512	14	4216.653	2	2071.265	23	1485.74	12
2		min	-1519.618	11	-606.967	20	-1522.07	8	-1695.84	20	-2076.257	5	-1236.317	18

Envelope Node Reactions (Continued)

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
3	N69	max	1307.749	4	2005.521	35	1898.214	2	1695.519	15	2300.058	19	3655.292	35
4		min	-1274.562	22	-561.819	16	-1891.27	20	-3297.041	9	-2304.371	13	-1181.304	16
5	N58	max	1627.962	17	1890.844	31	1287.848	3	763.798	25	2150.582	15	1805.675	23
6		min	-1649.628	11	-578.164	24	-1266.167	21	-2371.044	177	-2155.422	9	-4125.797	5
7	Totals:	max	4421.527	5	5227.64	33	4574.458	14						
8		min	-4421.522	23	1453.33	51	-4574.459	8						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	MH5	PIPE_2.0	0.478	5.053	2	0.455	5.053		8	15369.683	45900	2673.75	2673.75	2.346	H3-6
2	MH2	PIPE_2.0	0.46	5.053	10	0.452	90.947		2	15369.683	45900	2673.75	2673.75	2.329	H3-6
3	M60	L2x2x2	0.447	0	2	0.039	26.163	z	2	11464.432	15908.4	402.563	829.979	1.5	H2-1
4	MH4	PIPE_2.0	0.436	90.947	6	0.42	5.053		10	15369.683	45900	2673.75	2673.75	2.269	H3-6
5	M58	L2x2x2	0.419	0	10	0.037	26.163	z	10	11464.432	15908.4	402.563	829.979	1.5	H2-1
6	MP1	PIPE_2.5	0.405	68.211	2	0.078	68.211		7	30038.461	50715	3596.25	3596.25	2.3	H1-1b
7	M56	L2x2x2	0.404	0	6	0.035	26.163	z	6	11464.432	15908.4	402.563	829.979	1.5	H2-1
8	MP4	PIPE_2.5	0.388	68.211	10	0.072	68.211		3	30038.461	50715	3596.25	3596.25	1.899	H1-1b
9	MP7	PIPE_2.5	0.37	68.211	6	0.063	68.211		11	30038.461	50715	3596.25	3596.25	1.835	H1-1b
10	MP9	PIPE_2.5	0.349	68.211	2	0.063	68.211		12	30038.461	50715	3596.25	3596.25	2.341	H1-1b
11	MP3	PIPE_2.5	0.34	68.211	10	0.072	68.211		8	30038.461	50715	3596.25	3596.25	3	H1-1b
12	MP6	PIPE_2.5	0.325	68.211	6	0.07	68.211		4	30038.461	50715	3596.25	3596.25	2.958	H1-1b
13	MP8	PIPE_2.5	0.294	68.211	8	0.109	68.211		9	30038.461	50715	3596.25	3596.25	2.567	H1-1b
14	MP2	PIPE_2.5	0.289	68.211	4	0.111	68.211		5	30038.461	50715	3596.25	3596.25	3	H1-1b
15	MP5	PIPE_2.5	0.286	68.211	12	0.105	68.211		13	30038.461	50715	3596.25	3596.25	3	H1-1b
16	MS3	HSS4X4X5	0.263	0	8	0.126	0	z	8	175295.86	184500	20962.5	20962.5	1.84	H1-1b
17	MS1	HSS4X4X5	0.249	0	4	0.117	0	z	4	175295.86	184500	20962.5	20962.5	1.844	H1-1b
18	MS2	HSS4X4X5	0.245	0	12	0.112	0	z	12	175295.86	184500	20962.5	20962.5	1.847	H1-1b
19	M61	L2x2x2	0.233	0	6	0.024	26.163	y	7	11464.432	15908.4	402.563	829.979	1.5	H2-1
20	M40	6.5x0.5	0.233	0	14	0.091	6.526	y	2	15916.825	146250	1523.438	18602.333	1.237	H1-1b
21	M38	HSS3X3X3	0.225	25.88	9	0.06	7.492	z	9	81909.4	85050	7387.5	7387.5	1.278	H1-1b
22	M53	HSS3X3X3	0.224	0	13	0.057	18.389	z	7	81909.4	85050	7387.5	7387.5	1.286	H1-1b
23	M59	L2x2x2	0.221	0	2	0.021	26.163	y	3	11464.432	15908.4	402.563	829.979	1.5	H2-1
24	MH1	PIPE_2.0	0.218	48	8	0.098	90.947		12	15369.683	45900	2673.75	2673.75	1.791	H1-1b
25	M33	HSS3X3X3	0.218	25.88	5	0.058	7.492	z	11	81909.4	85050	7387.5	7387.5	1.289	H1-1b
26	M35	6.5x0.5	0.216	0	22	0.086	6.526	y	10	15916.825	146250	1523.438	19103.118	1.27	H1-1b
27	M57	L2x2x2	0.216	0	9	0.02	26.163	y	11	11464.432	15908.4	402.563	829.979	1.5	H2-1
28	MH3	PIPE_2.0	0.211	48	5	0.108	90.947		8	15369.683	45900	2673.75	2673.75	1.779	H1-1b
29	MH6	PIPE_2.0	0.21	48	13	0.106	5.053		4	15369.683	45900	2673.75	2673.75	1.757	H1-1b
30	M15	6.5x0.5	0.203	31	18	0.08	24.474	y	6	15916.825	146250	1523.438	19310.173	1.284	H1-1b
31	M55	HSS3X3X3	0.198	0	7	0.068	18.389	y	4	81909.4	85050	7387.5	7387.5	1.403	H1-1b
32	M13	HSS3X3X3	0.196	25.88	3	0.065	7.492	y	12	81909.4	85050	7387.5	7387.5	1.435	H1-1b
33	M54	HSS3X3X3	0.194	0	11	0.071	18.389	y	8	81909.4	85050	7387.5	7387.5	1.411	H1-1b
34	M16	SABRE HR PLT	0.019	15.5	19	0.039	31	z	12	42815.616	108630	6180.677	8429.04	1.137	H2-1
35	M36	SABRE HR PLT	0.017	16.316	23	0.041	31	z	4	42815.616	108630	6180.677	8429.04	1.137	H2-1
36	M41	SABRE HR PLT	0.016	15.5	15	0.042	31	z	8	42815.616	108630	6180.677	8429.04	1.137	H2-1

INFINIGY

FROM ZERO TO INFINIGY

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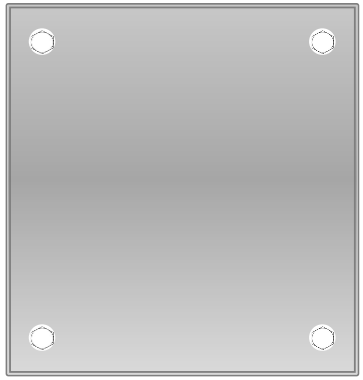
Bolt Calculation Tool, V1.4

PROJECT DATA	
Site Name:	BOBDL00018A
Site Number:	BOBDL00018A
Job Code:	6039-Z0001-C
Connection Description:	Standoff to Collar

APPLIED LOADS		
Bolt Tension:	3787.41	lbs
Bolt Shear:	1290.95	lbs

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

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Tensile Usage	18.6%	
Shear Usage	9.4%	
Interaction Check	0.04	***≤1.05***
Result	Pass	



POWER DENSITY STUDY

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: BOBDL00018A

BOBDL00018A
77 Springbrook Road
Old Saybrook, Connecticut 06475

October 22, 2021

EBI Project Number: 6221003976

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**5.66%**

October 22, 2021

Dish Wireless

Emissions Analysis for Site: BOBDL00018A - BOBDL00018A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **77 Springbrook Road** in **Old Saybrook, 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 77 Springbrook Road in Old Saybrook, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since Dish Wireless is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

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

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

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

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

6) The antennas used in this modeling are the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antenna mounting height centerline of the proposed antennas is 140 feet above ground level (AGL).

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

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

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21
Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz
Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd
Height (AGL):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts
ERP (W):	5,236.31	ERP (W):	5,236.31	ERP (W):	5,236.31
Antenna A1 MPE %:	**1.32%**	Antenna B1 MPE %:	**1.32%**	Antenna C1 MPE %:	**1.32%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	1.32%
Verizon	1.9%
T-Mobile	2.44%
Site Total MPE % :	5.66%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	1.32%
Dish Wireless Sector B Total:	1.32%
Dish Wireless Sector C Total:	1.32%
Site Total MPE % :	5.66%

Dish Wireless Maximum MPE Power Values (Sector A)

Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
Dish Wireless 600 MHz n71	4	223.68	140.0	1.79	600 MHz n71	400	0.45%
Dish Wireless 1900 MHz n70	4	542.70	140.0	4.35	1900 MHz n70	1000	0.43%
Dish Wireless 2190 MHz n66	4	542.70	140.0	4.35	2190 MHz n66	1000	0.43%
						Total:	**1.32%**

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

Summary

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

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

Dish Wireless Sector	Power Density Value (%)
Sector A:	1.32%
Sector B:	1.32%
Sector C:	1.32%
Dish Wireless Maximum MPE % (Sector A):	1.32%
Site Total:	5.66%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **5.66%** 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.

November 09, 2021

Dear Customer,

The following is the proof-of-delivery for tracking number: 775122322019

Delivery Information:

Status:	Delivered	**Delivered To:**	Receptionist/Front Desk
Signed for by:	S.SUE	**Delivery Location:**	302 MAIN ST
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday		OLD SAYBROOK, CT, 06475
		Delivery date:	Nov 9, 2021 10:32

Shipping Information:

Tracking number:	775122322019	**Ship Date:**	Nov 5, 2021
		Weight:	1.0 LB/0.45 KG

Recipient:
Tom Makowicki - Building Official,
302 Main Street
OLD SAYBROOK, CT, US, 06475

Shipper:
Corey Milan, NB+C
100 Apollo Dr.
Suite 303
CHELMSFORD, MA, US, 01824

Reference 100814

Thank you for choosing FedEx

November 10, 2021

Dear Customer,

The following is the proof-of-delivery for tracking number: 775122369716

Delivery Information:

Status:	Delivered	**Delivered To:**	Residence
Signed for by:	Signature not required	**Delivery Location:**	157 N SEIR HILL RD
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday; Residential Delivery		NORWALK, CT, 06850
		Delivery date:	Nov 9, 2021 17:44

Shipping Information:

Tracking number:	775122369716	**Ship Date:**	Nov 5, 2021
		Weight:	1.0 LB/0.45 KG

Recipient:
Crossroads Communications,
157 North Seir Hill Road
NORWALK, CT, US, 06850

Shipper:
Corey Milan, NB+C
100 Apollo Dr.
Suite 303
CHELMSFORD, MA, US, 01824

Reference 100814

Proof-of-delivery details appear below; however, no signature is available for this FedEx Express shipment because a signature was not required.

Thank you for choosing FedEx

November 09, 2021

Dear Customer,

The following is the proof-of-delivery for tracking number: 775122293501

Delivery Information:

Status:	Delivered	**Delivered To:**	Receptionist/Front Desk
Signed for by:	K.JENNIFER	**Delivery Location:**	302 MAIN ST
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday		OLD SAYBROOK, CT, 06475
		Delivery date:	Nov 9, 2021 10:31

Shipping Information:

Tracking number:	775122293501	**Ship Date:**	Nov 5, 2021
		Weight:	1.0 LB/0.45 KG

Recipient:
Carl P. Fortuna - First Selectman,
302 Main Street
OLD SAYBROOK, CT, US, 06475

Shipper:
Corey Milan, NB+C
100 Apollo Dr.
Suite 303
CHELMSFORD, MA, US, 01824

Reference 100814

Thank you for choosing FedEx