

PROJECT NARRATIVE

April 27, 2022

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
401 Wakelee Avenue, Ansonia, CT 06401
Latitude: 41°21'22.254" / Longitude: -73°5'30.744"

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 401 Wakelee Avenue in Ansonia (the "Property"). The existing 196-foot self-support tower is owned by American Tower Corporation ("ATC"). The underlying property is owned by the City of Ansonia. 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 David S. Casseti, Mayor for the City of Ansonia as well as for the property owner and David Blackwell Sr., City of Ansonia Zoning Enforcement Officer.

Background

This facility was originally approved by the City of Ansonia on September 9, 1999. A copy of this decision is included in this filing. The existing ATC facility consists of a 196-foot self-support tower located within an existing leased area. City of Ansonia currently maintains antennas at the 195, 125, and 85-foot levels. Sprint Nextel currently maintains antennas at the 185 and 76-foot levels. Verizon Wireless currently maintains antennas at the 177-foot level. AT&T Wireless maintains antennas at the 167-foot level. Metro PCS currently maintains antennas at the 157-foot level. T-Mobile currently maintains antennas at the 148-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 ATC have agreed to the proposed shared use of the 401 Wakelee Avenue tower pursuant to mutually acceptable terms and conditions. Likewise, DISH and ATC have agreed to the proposed installation of equipment cabinets on the ground 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 mount, (6) Remote radio units at the 115-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 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 401 Wakelee Avenue 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 proposed shared use.

Sincerely,

Margie Weber

Margie Weber
Program Manager

LETTER OF AUTHORIZATION

ORIGINAL FACILITY APPROVAL

CITY OF ANSONIA, CONN.

BUILDING PERMIT #

2076

Estimate Cost (Structural) - \$ 100,000

Fee - \$ 844.00

9/9

19 99

Permission is hereby granted to
to erect a

Tim Bonanno Gen. Contractor

Tower

Address 407 Wakelee Ave.

as follows: - Size _____ ft. long _____ ft. wide _____ stories high;

supported on _____ roof covered with _____

walls to be (EXTERIOR) _____ (INTERIOR) _____ No. of house-keeping units _____

distance from street line _____ feet; distance from each side of lot line;

N _____ feet; E _____ feet; S _____ feet; W _____ feet.

Owner City of Ansonia

BUILDING DEPARTMENT, CITY OF ANSONIA, CONN.

W. Behun

Building Inspector

SCANNED

FAXED
9999



City of Ansonia

253 Main Street
Ansonia, Connecticut 06401

Date Filed: 9 Sept 99
Receipt No. 10989
Fee: \$ 25 + 25 + 10 Incl. CZU

#401

Instructions: Fill out this application in ball point pen. A scaled plot plan in duplicate, when a certified surveyor's plot plan must be submitted with this application showing proposed existing lot and building dimensions and the location of all buildings in relation to the street lines, side lot lines and rear lot lines.

ADDRESS OF PROPERTY Wakelee Ave ZONE A

MAP _____ BLOCK _____ PARCEL _____ LOT NO. _____ ADDRESS MAP NO. _____ LOT SIZE _____

Width of street right of way less than 50 ft.? YES _____ NO _____ Corner lot? YES _____ NO _____

Is any portion of the lot below regulatory flood elevation? YES _____ NO _____

City water _____ Private well* _____ Sewer** _____ Septic*** _____ Eng.O.S. Permit No. _____

OWNER City of Ansonia

ADDRESS OF OWNER _____

PRESENT USE OF PROPERTY Nolan Field Amherst Field Street _____ City _____ State _____

PROPOSED CONSTRUCTION: New _____ Addition _____ Alteration _____ Repair ^{tall} _____

SIZE/USE OF PROPOSED CONSTRUCTION 10' x 20' 1 story x 10' 4" equipment shed
200' lattice tower for cell phone communications with
100' 8" x 14" pad with 6 1/2' tall chain link fence surround

NO. OF STORIES _____ HEIGHT _____ REQUIRED PARKING SPACES _____ LOT COVERAGE _____

DATE OF: ZBA APPROVAL _____ SPECIAL EXEMPTION _____

SITE PLAN APPROVAL _____ SPECIAL PERMIT APPROVAL _____ SUBD. REQU. YES _____ NO _____

Certification: (Warning) I hereby certify that I am making this application on behalf of and with full authority of the owner of the property and that I am aware of the Zoning Regulations pertinent in this case and that the statements made herein are true and correct APPROVAL SHALL BE VALID FOR PLANS AS SUBMITTED.

THE OCCUPANCY AND USE OF LAND AND BUILDINGS OR STRUCTURES PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY IS PROHIBITED.

Approved by: _____ Applicant's Name Tim Bonanno G.C. LLC (Please print)

Peter W. Caltee Applicant's Signature Tim Bonanno

Zoning Enforcement Officer Address: Street 57011 WICKFELD RD

Date Issued 9 Sept 99 City Quaker Hill State CT

Tel. No. 860-444-1087

*Permit required from State Health Dept. for apartments, subdivisions, trailer parks, shopping centers and public buildings.
**Permits for sewer connections are granted by Water Pollution Control Authority.
***Septic system approvals are granted by Valley Health Department, 470 Howe Ave. Shelton.

ENGINEERING DRAWINGS



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

BOHVN00141A

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

**401 WAKELEE AVE
ANSONIA, CT 06401**

CONNECTICUT CODE COMPLIANCE

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

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

SHEET INDEX

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

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 SECTOR FRAME MOUNTS (1 PER SECTOR)
 - INSTALL PROPOSED JUMPERS
 - INSTALL (6) PROPOSED RRRHs (2 PER SECTOR)
 - INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
 - INSTALL (1) PROPOSED HYBRID CABLE

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

SITE PHOTO



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.

SITE INFORMATION

PROPERTY OWNER: CITY OF ANSONIA
ADDRESS: 401 WAKELEE AVE
ANSONIA, CT 06401

TOWER TYPE: SELF SUPPORT TOWER

TOWER CO SITE ID: 302470

TOWER APP NUMBER: 13701209

COUNTY: NEW HAVEN

LATITUDE (NAD 83): 41° 21' 22.254" N
41.35606944

LONGITUDE (NAD 83): 73° 5' 30.744" W
-73.092

ZONING JURISDICTION: CONNECTICUT SITING COUNCIL

ZONING DISTRICT: A

PARCEL NUMBER: 01900030000

OCCUPANCY GROUP: U

CONSTRUCTION TYPE: II-B

POWER COMPANY: UNITED ILLUMINATING

TELEPHONE COMPANY: FRONTIER COMMUNICATIONS

PROJECT DIRECTORY

APPLICANT: DISH WIRELESS, L.L.C.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120
(303) 706-5008

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: JEAN COTTRELL
JEAN.COTTRELL@DISH.COM

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

RF ENGINEER: SYED ZAIDI
SYED.ZAIDI@DISH.COM

DIRECTIONS

DIRECTIONS TO SITE: FROM HARTFORD TAKE I-91 SOUTH TO MERRITT PKWY SOUTH. TAKE RT 8 N TO EXIT 19. TAKE A RIGHT OFF THE EXIT. TOWER IS IMMEDIATELY ON RIGHT.

VICINITY MAP



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



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

DRAWN BY:	CHECKED BY:	APPROVED BY:
PAT	BIW	BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	08/16/2021	ISSUED FOR REVIEW
D	10/21/2021	ISSUED FOR CONSTRUCTION



10/21/21

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A&E PROJECT NUMBER
302470-13701209

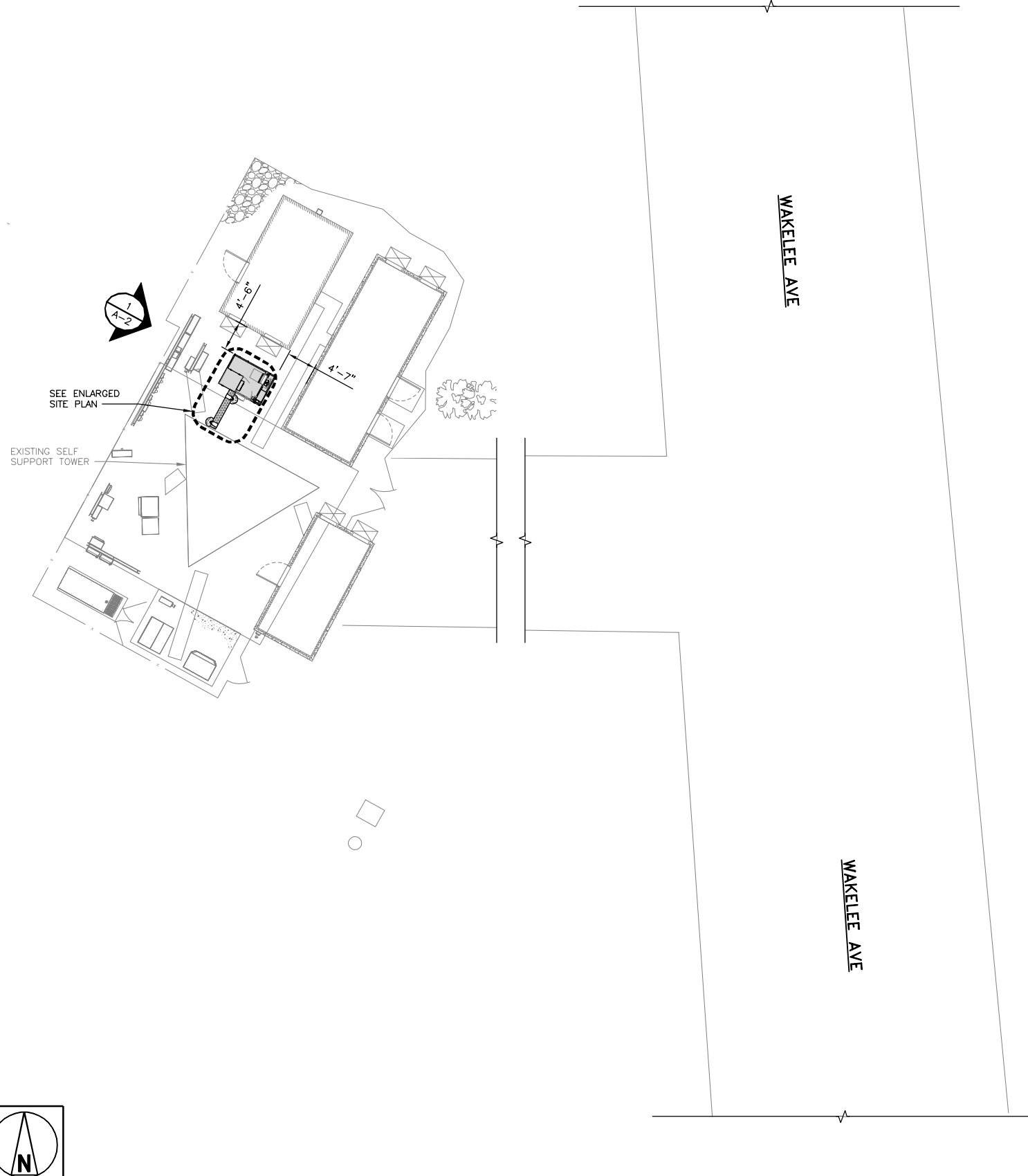
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401 WAKELEE AVE
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SHEET TITLE
TITLE SHEET

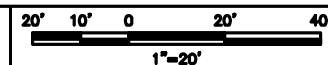
SHEET NUMBER
T-1

NOTES

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



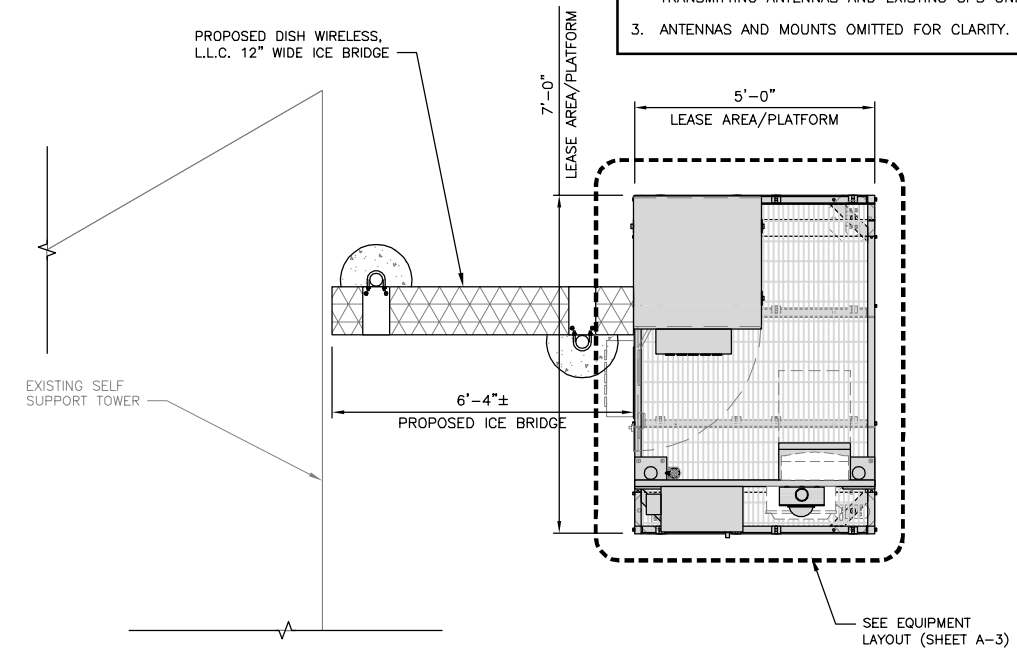
OVERALL SITE PLAN



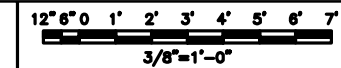
1

NOTES

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



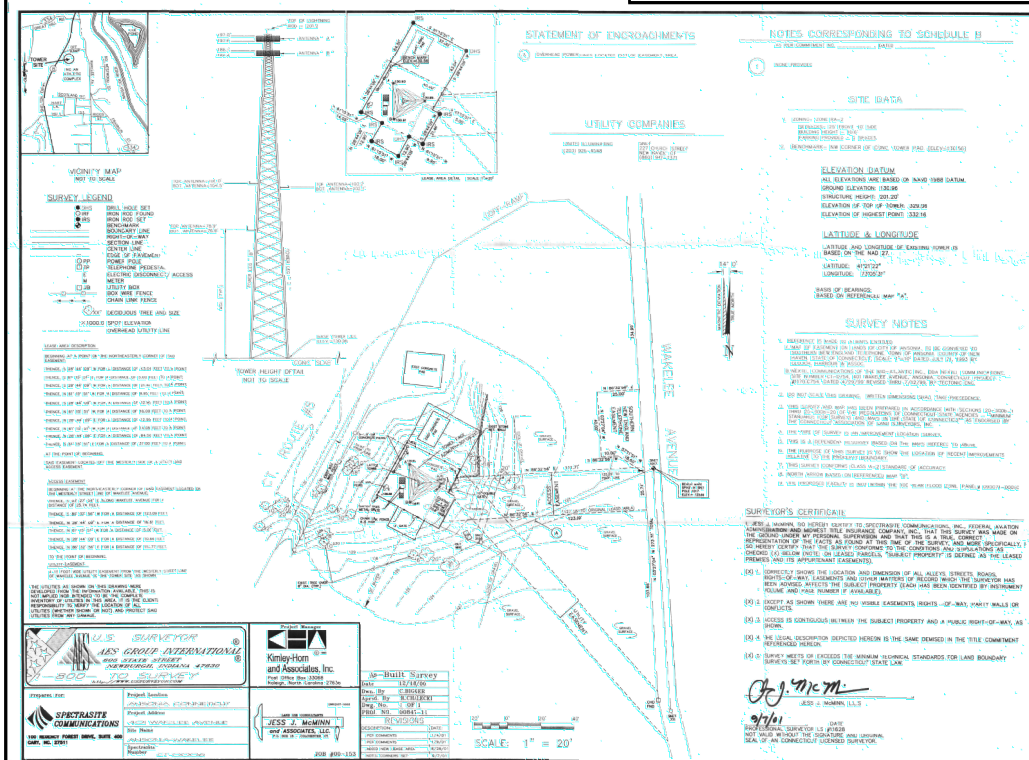
ENLARGED SITE PLAN



2

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



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



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

DRAWN BY:	CHECKED BY:	APPROVED BY:
PAT	BIW	BIW

RFDS REV #: 1

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302470-13701209

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
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401 WAKELEE AVE
ANSONIA, CT 06401

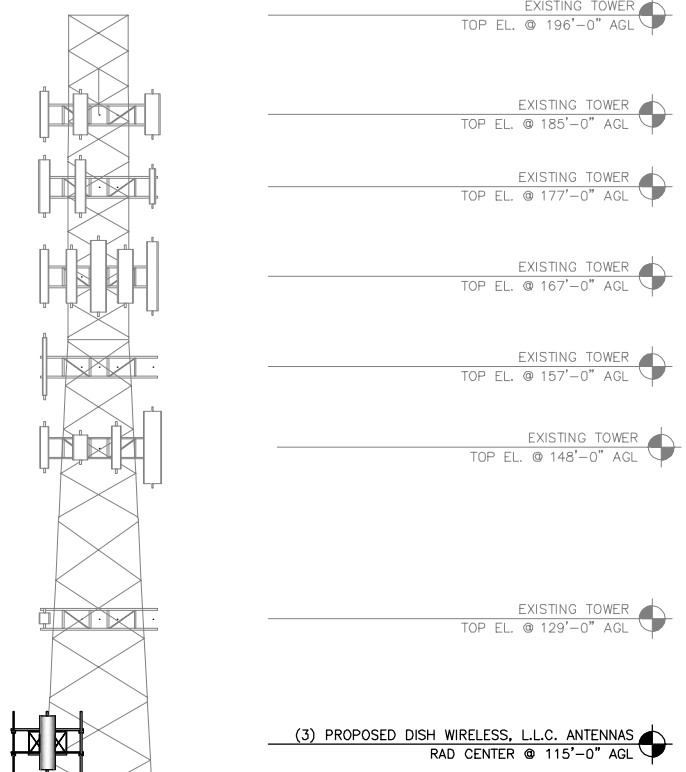
SHEET TITLE
OVERALL AND ENLARGED
SITE PLAN

SHEET NUMBER

A-1

NOTES

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



(1) PROPOSED DISH WIRELESS, LLC. HYBRID CABLE ROUTED PER ATC STRUCTURAL ANALYSIS ON PROPOSED WAVEGUIDE LADDER

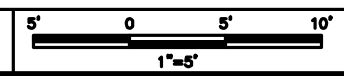
EXISTING SELF SUPPORT TOWER

PROPOSED DISH WIRELESS, L.L.C. ICE BRIDGE

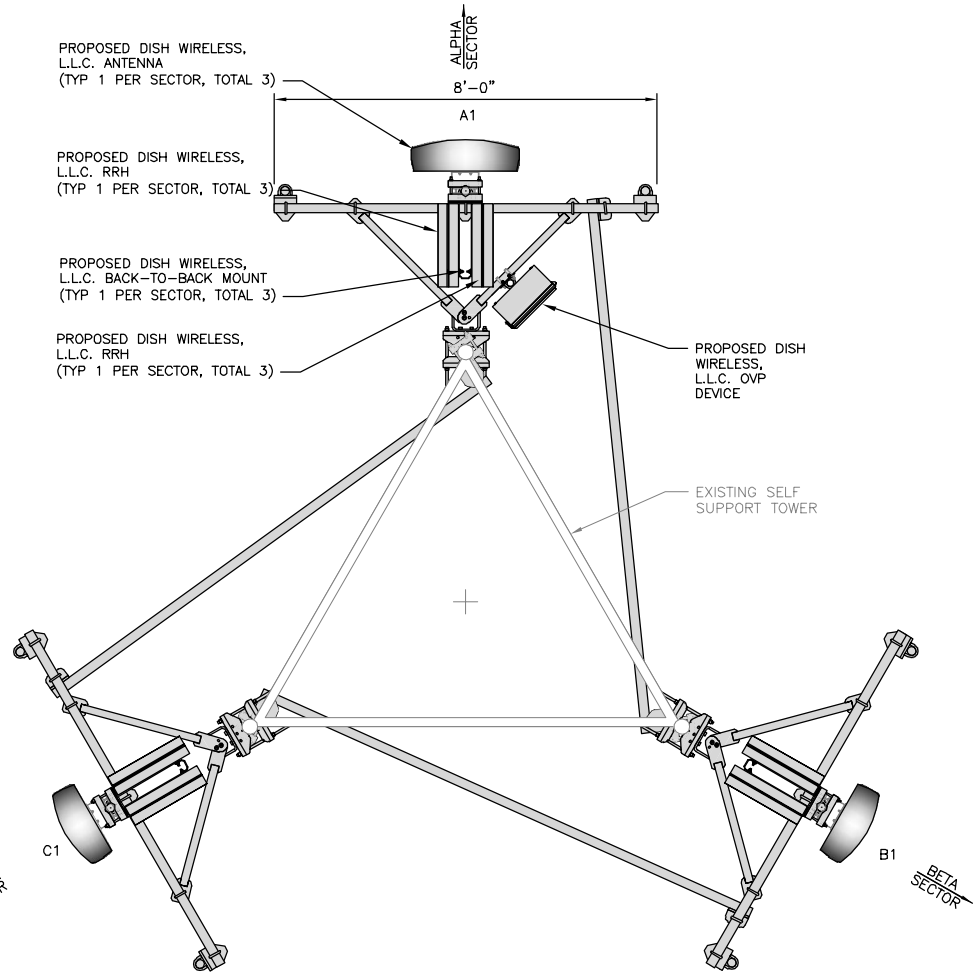
PROPOSED DISH WIRELESS, L.L.C. GPS UNIT

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

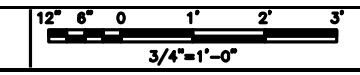
PROPOSED NORTHWEST ELEVATION



1



ANTENNA LAYOUT



2

SECTOR	POSITION	ANTENNA					TRANSMISSION CABLE	
		EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA - MX09FRO665-21	5G	72.0" x 20.0"	0'	115'-0"	(1) HIGH-CAPACITY HYBRID CABLE (141' LONG)
BETA	B1	PROPOSED	JMA - MX09FRO665-21	5G	72.0" x 20.0"	120'	115'-0"	
GAMMA	C1	PROPOSED	JMA - MX09FRO665-21	5G	72.0" x 20.0"	240'	115'-0"	
SECTOR	POSITION	RRH		NOTES				
		MANUFACTURER - MODEL NUMBER	TECHNOLOGY		1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.			
ALPHA	A1	FUJITSU - TA08025-B605	N66, N70	2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.				
	A1	FUJITSU - TA08025-B604	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					
SECTOR	POSITION	OVP		NOTES				
		MANUFACTURER - MODEL NUMBER	TECHNOLOGY					
ALPHA	-	RAYCAP - RDIDC-9181-PF-48	-					

ANTENNA SCHEDULE

NO SCALE

3



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



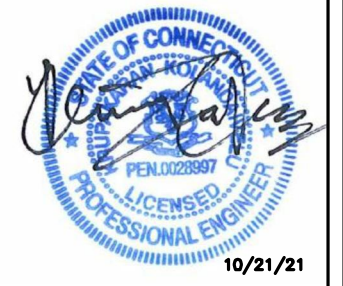
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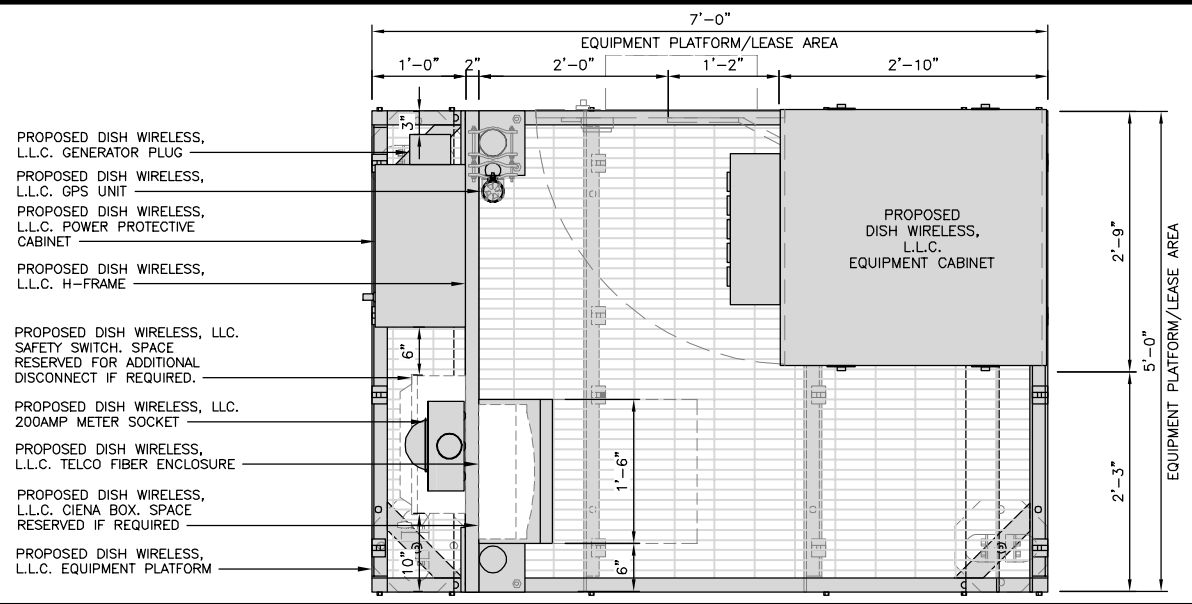
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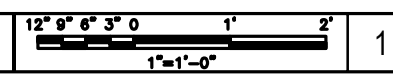
DISH WIRELESS, L.L.C. PROJECT INFORMATION
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SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-2



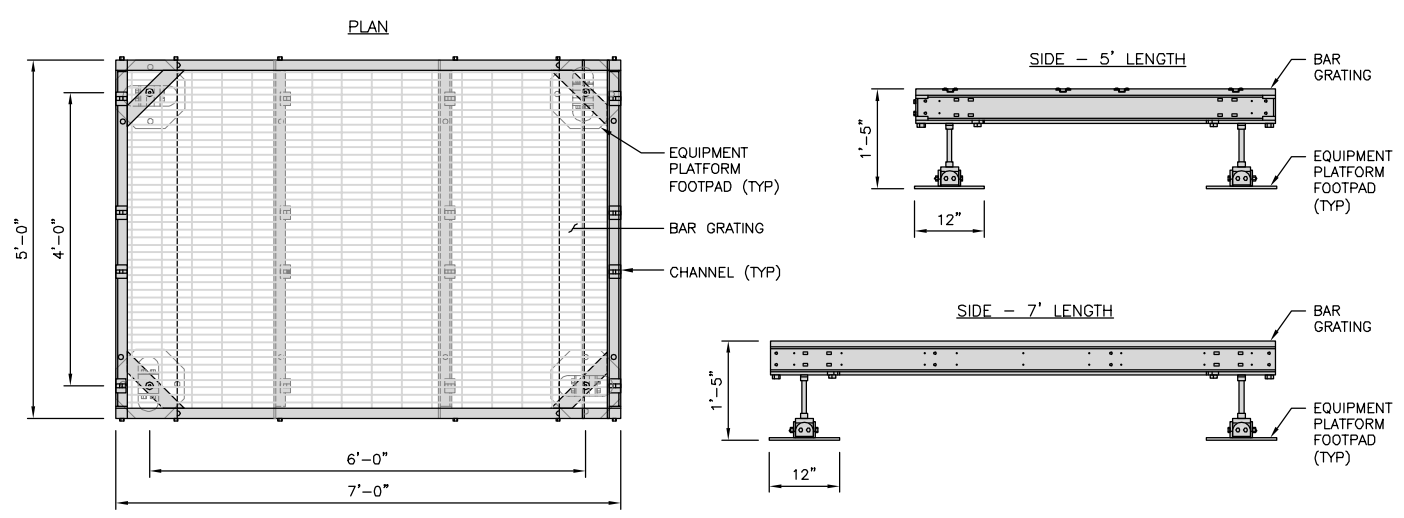
PLATFORM EQUIPMENT PLAN



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"

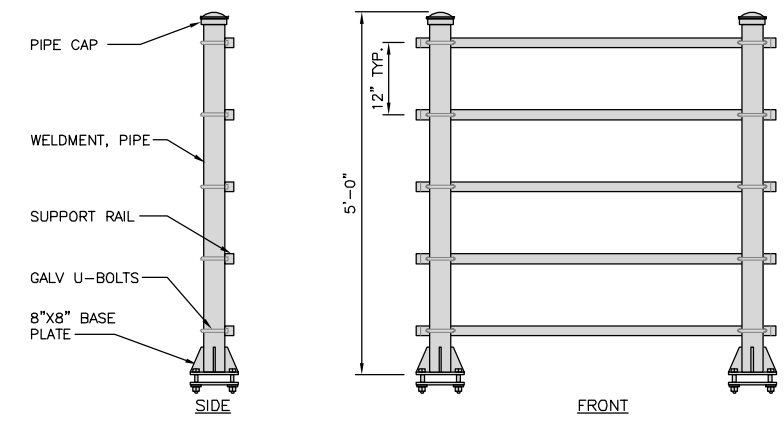
NOTE:
PLATFORM MUST BE LEVEL WITHIN 1 DEGREE



PLATFORM DETAIL

NO SCALE 2

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



H-FRAME DETAIL

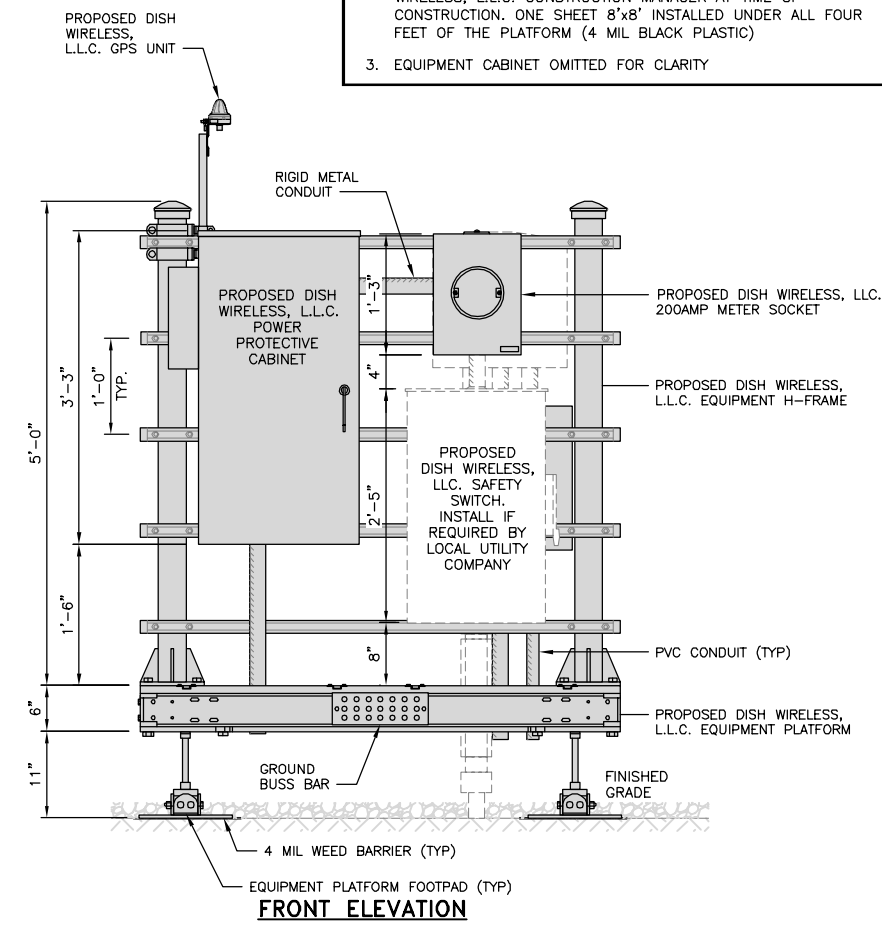
NO SCALE 3

NOT USED

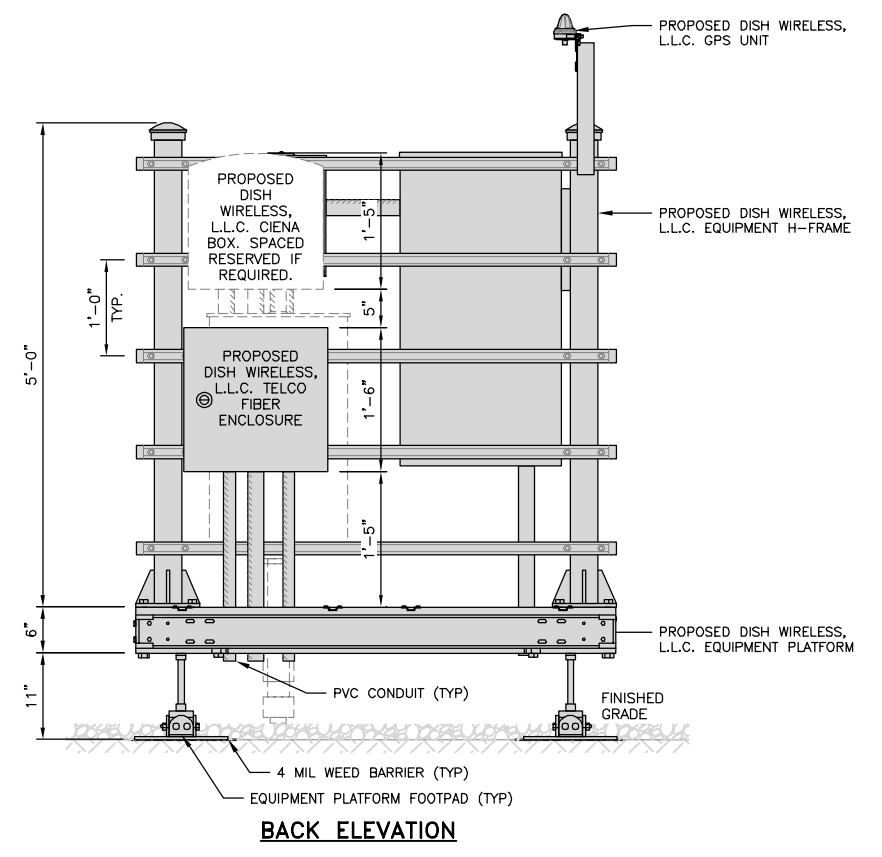
NO SCALE 4

NOTES

- CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
- 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)
- EQUIPMENT CABINET OMITTED FOR CLARITY

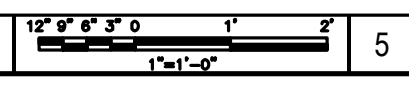


FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION



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PAT	BIW	BIW
RFDS REV #:		1

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	08/16/2021	ISSUED FOR REVIEW
D	10/21/2021	ISSUED FOR CONSTRUCTION



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A&E PROJECT NUMBER
302470-13701209

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00141A
401 WAKELEE AVE
ANSONIA, CT 06401

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

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

METER SOCKET DETAIL 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

FINISH SLOPE TO DRAIN

PROPOSED 3.5" DIA. SCH 40 PIPE GALVANIZED

PROPOSED 1'-6" DIA. CONCRETE PIER (TYP)

CONCRETE PIER

3" DIA SCH 40 PIPE

18" DIA DRILLED PIER FOUNDATION

A-A SECTION

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL NO SCALE 8

PROPOSED ICE BRIDGE

PROPOSED X" DIA HYBRID CABLE

PROPOSED CABLE CLAMP @ 3'-0" O.C.

EXISTING SELF SUPPORT TOWER

HYBRID CABLE RUN NO SCALE 9

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

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

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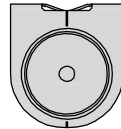
A&E PROJECT NUMBER
302470-13701209

DISH WIRELESS, LLC. PROJECT INFORMATION
BOHVN00141A
401 WAKELEE AVE
ANSONIA, CT 06401

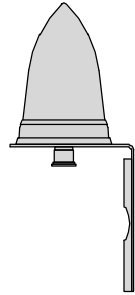
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

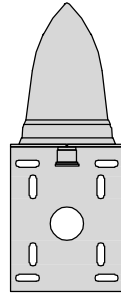
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



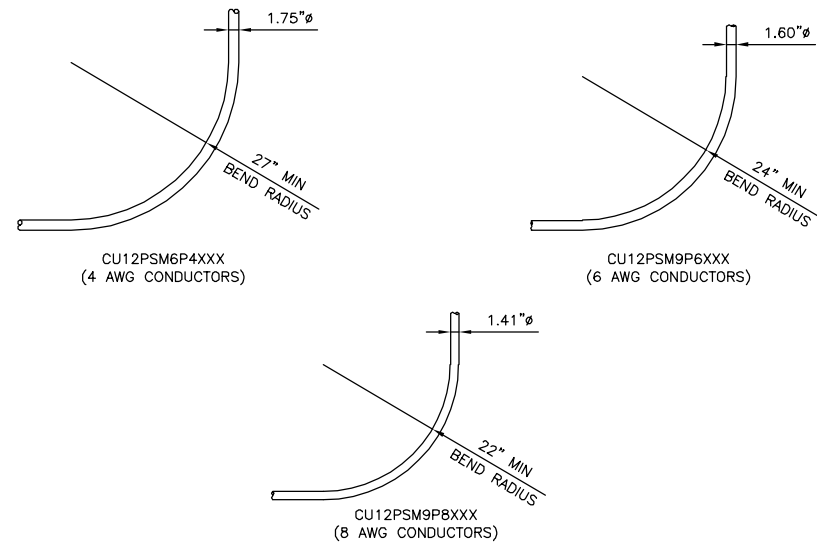
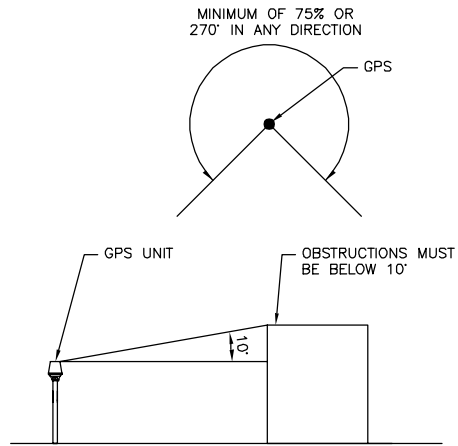
TOP



BACK



SIDE



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

GPS DETAIL

NO SCALE

1

GPS MINIMUM SKY VIEW REQUIREMENTS

NO SCALE

2

CABLES UNLIMITED HYBRID CABLE
MINIMUM BEND RADIUSES

NO SCALE

3

NOT USED

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9

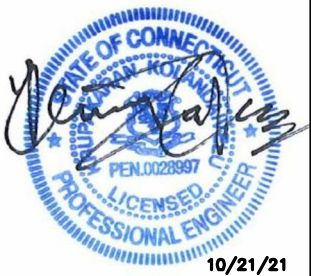
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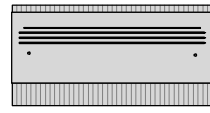
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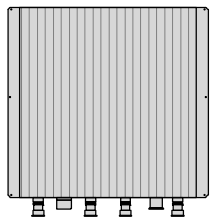
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-5

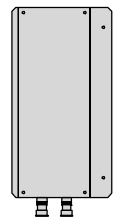
FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



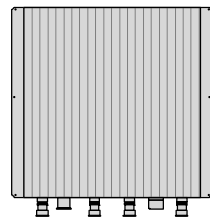
PLAN



BACK

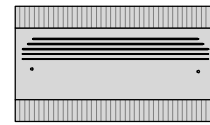


SIDE

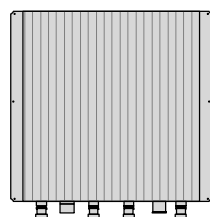


FRONT

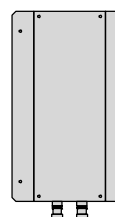
FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



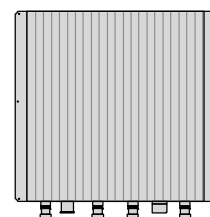
PLAN



BACK



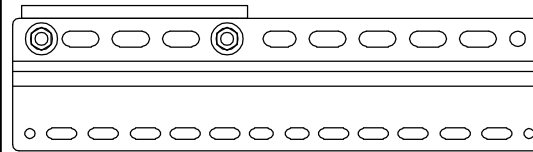
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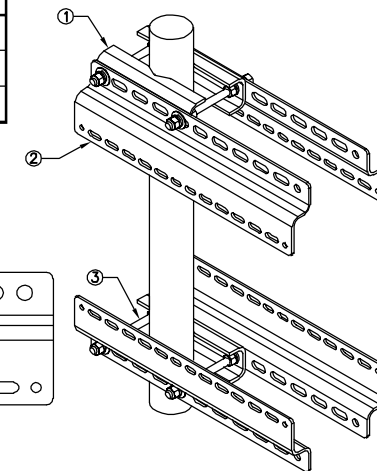
FRONT

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 DETAIL

NO SCALE

1

RRH DETAIL

NO SCALE

2

RRH MOUNT DETAIL

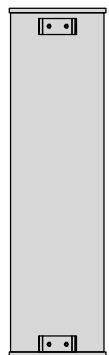
NO SCALE

3

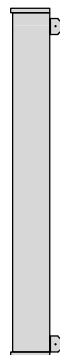
JMA WIRELESS MX08FRO665-21 ANTENNA	
DIMENSIONS (HxWxD)	72.0"x20.0"x8.0"
TOTAL WEIGHT	64.5 LB
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE



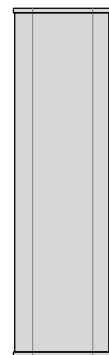
PLAN



BACK



SIDE



FRONT

ANTENNA DETAIL

NO SCALE

4

NOT USED

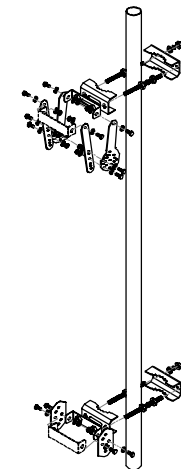
NO SCALE

5

JMA ANTENNA MOUNT BRACKET
#91900318

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

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



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

ANTENNA BRACKET DETAIL

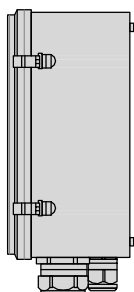
NO SCALE

6

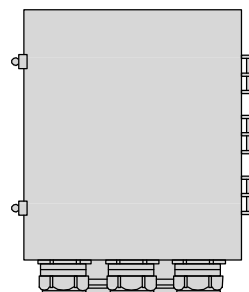
RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



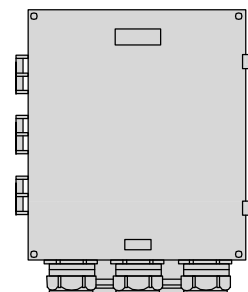
PLAN



SIDE



BACK



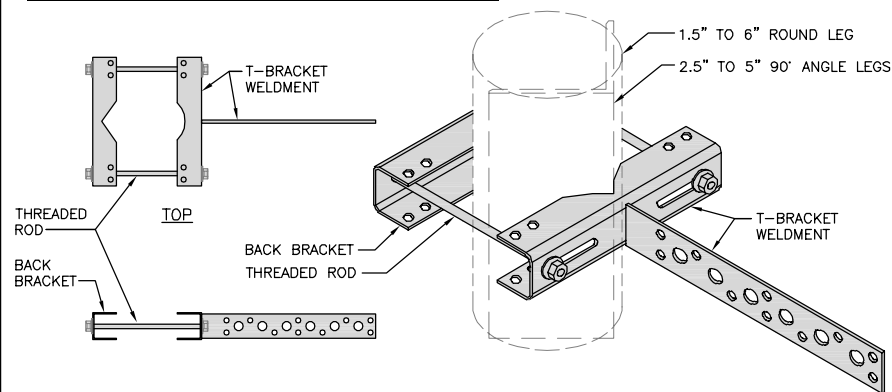
FRONT

SURGE SUPPRESSION DETAIL (OVP)

NO SCALE

7

SITEPRO1 T600 UNIVERSAL T-BRACKET	
DIMENSIONS (HxWxL)	2.25"x10.0"x15.25"
WEIGHT/ VOLUME	5.60 LBS



SIDE

ISOMETRIC

VERTICAL CABLE SUPPORT DETAIL

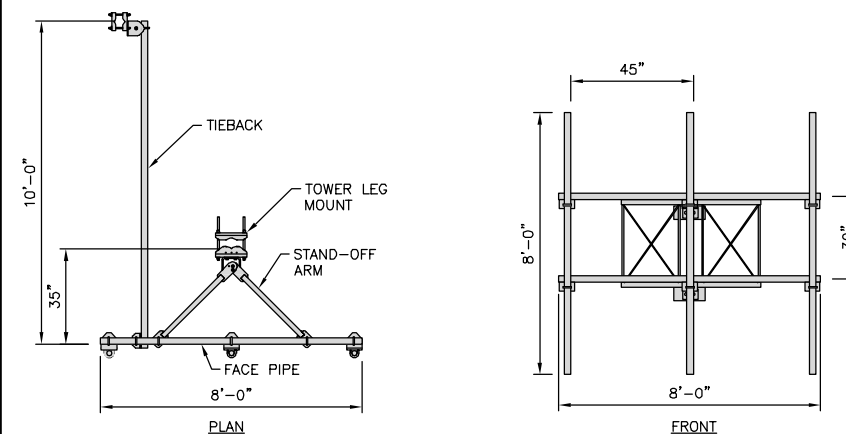
NO SCALE

8

COMMSCOPE V-FRAME
MTC3975083

FACE SIZE	8'-0"
WEIGHT	352.136 lbs

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



ANTENNA FRAME DETAIL

NO SCALE

9

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:

PAT BIW BIW

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PROJECT INFORMATION
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401 WAKELEE AVE
ANSONIA, CT 06401

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER

A-6

NOTES

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

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

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

PROPOSED METER & DISCONNECT
(COORDINATE WITH LOCAL UTILITY COMPANY)

EXISTING SELF SUPPORT TOWER

PROPOSED UNDERGROUND POWER CONDUIT (LENGTH: 85'±)
(COORDINATE WITH LOCAL UTILITY COMPANY)

PROPOSED UNDERGROUND FIBER CONDUIT (LENGTH: 90'±)
(COORDINATE WITH LOCAL UTILITY COMPANY)

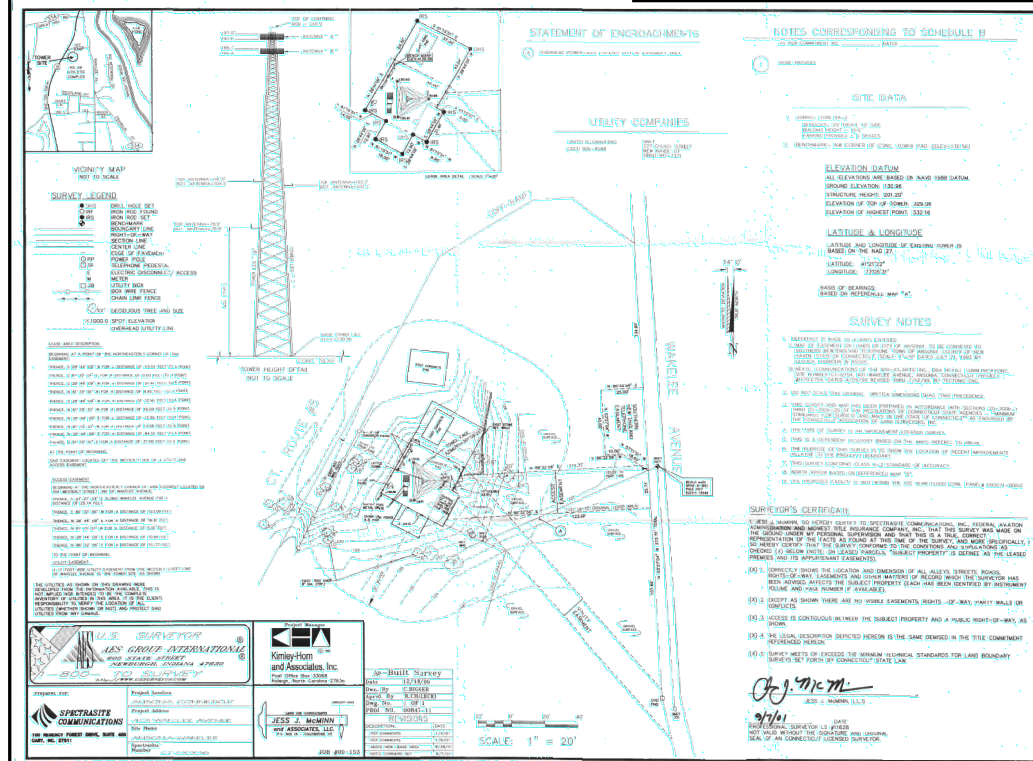
ELECTRICAL NOTES

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.

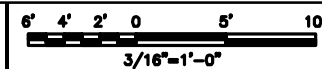


EXISTING SURVEY (BY OTHERS)

NO SCALE

3

UTILITY ROUTE PLAN



1



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



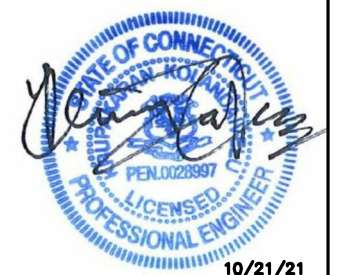
NB+C ENGINEERING SERVICES, LLC.
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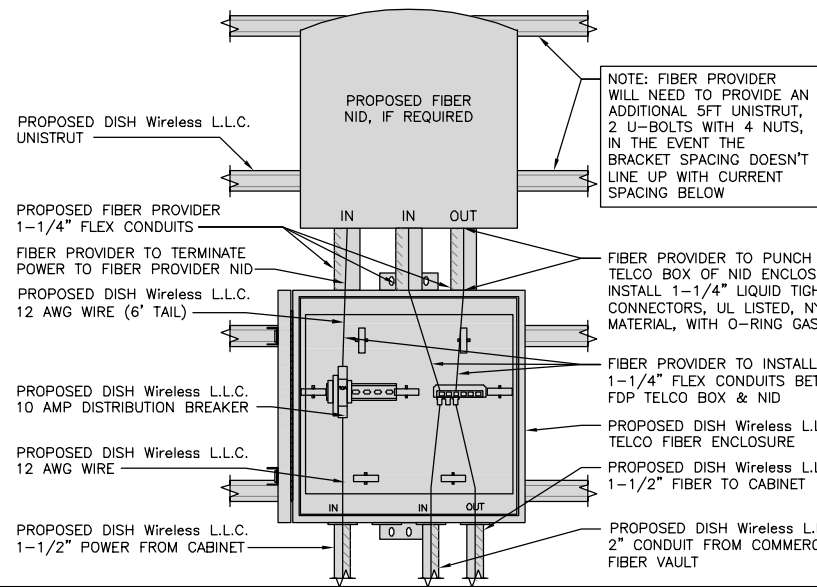
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SHEET TITLE
ELECTRICAL/FIBER ROUTE
PLAN AND NOTES

SHEET NUMBER

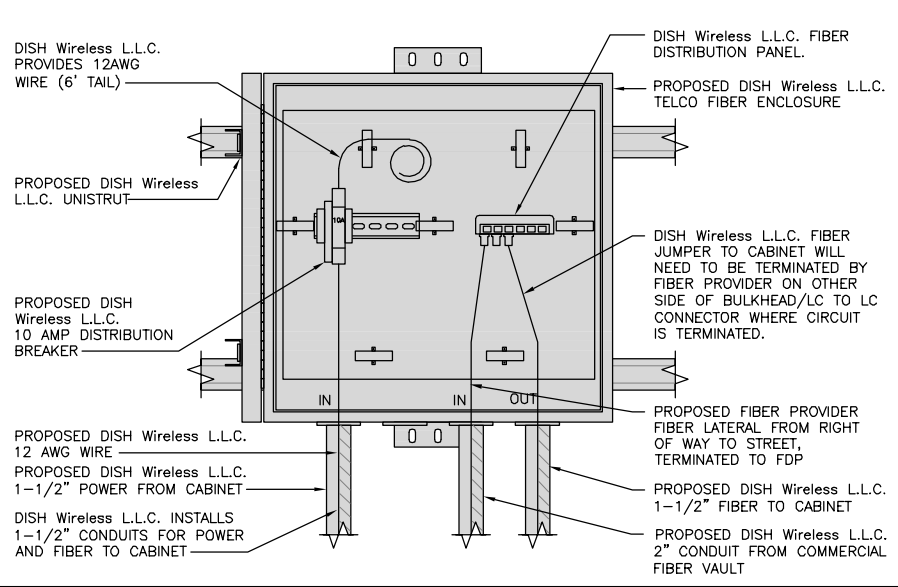
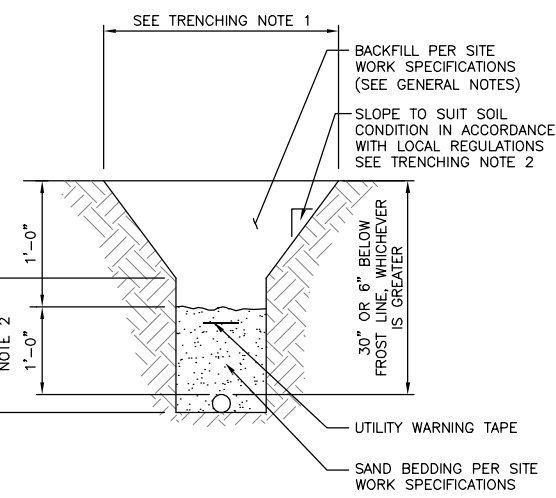
E-1



NOTE: FIBER PROVIDER WILL NEED TO PROVIDE AN ADDITIONAL 5FT UNISTRUT, 2 U-BOLTS WITH 4 NUTS, IN THE EVENT THE BRACKET SPACING DOESN'T LINE UP WITH CURRENT SPACING BELOW

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.



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL)

NO SCALE 1

TYPICAL UNDERGROUND TRENCH DETAIL

NO SCALE 2

DARK TELCO BOX – INTERIOR WIRING LAYOUT

NO SCALE 3

NOT USED

NO SCALE 4

NOT USED

NO SCALE 5

NOT USED

NO SCALE 6

NOT USED

NO SCALE 7

NOT USED

NO SCALE 8

NOT USED

NO SCALE 9



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



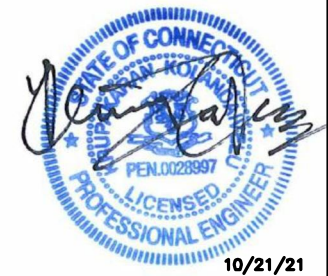
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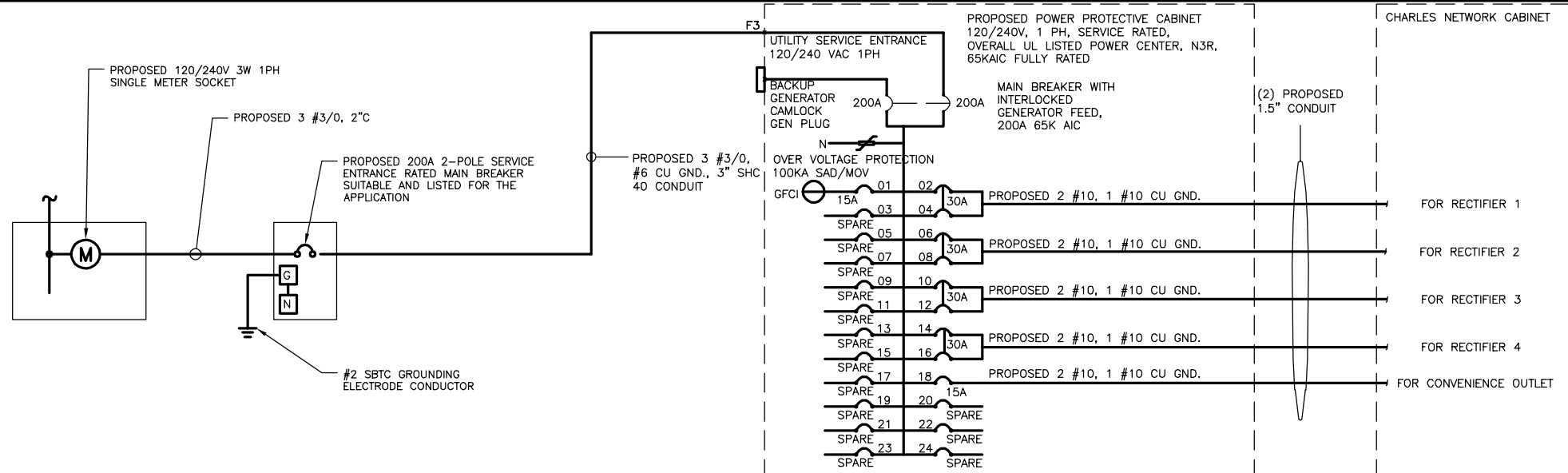
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ANSONIA, CT 06401

SHEET TITLE
ELECTRICAL
DETAILS

SHEET NUMBER
E-2



(CHARLES ABB GE INFINITY) WITH STAND ALONE METER 120V240V 1PH SOURCE

NO SCALE 1

PROPOSED PANEL SCHEDULE										
LOAD SERVED	VOLT AMPS (WATTS)		TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS)		LOAD SERVED
	L1	L2						L1	L2	
GFCI IN PPC CAB.	1440A		15A	1	A	2		2880	2880	ABB/GE INFINITY RECTIFIER 1
-SPARE-				3	B	4	30A			
-SPARE-				5	A	6		2880	2880	ABB/GE INFINITY RECTIFIER 2
-SPARE-				7	B	8	30A			
-SPARE-				9	A	10		2880	2880	ABB/GE INFINITY RECTIFIER 3
-SPARE-				11	B	12	30A			
-SPARE-				13	A	14		2880	2880	ABB/GE INFINITY RECTIFIER 4
-SPARE-				15	B	16	30A			
-SPARE-				17	A	18	15A	1920		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		
								MAX AMPS		
								MAX 125%		

PANEL SCHEDULE

(CHARLES ABB GE INFINITY) WITH STAND ALONE METER 120V240V 1PH SOURCE

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
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NB+C ENGINEERING SERVICES, LLC.
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RALEIGH, NC 27615
(919) 657-9131

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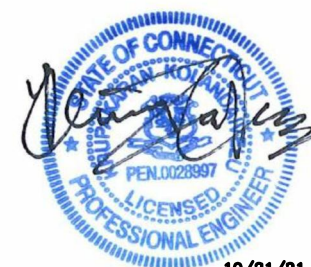
PAT BIW BIW

RFDS REV #: 1

CONSTRUCTION
DOCUMENTS

SUBMITTALS

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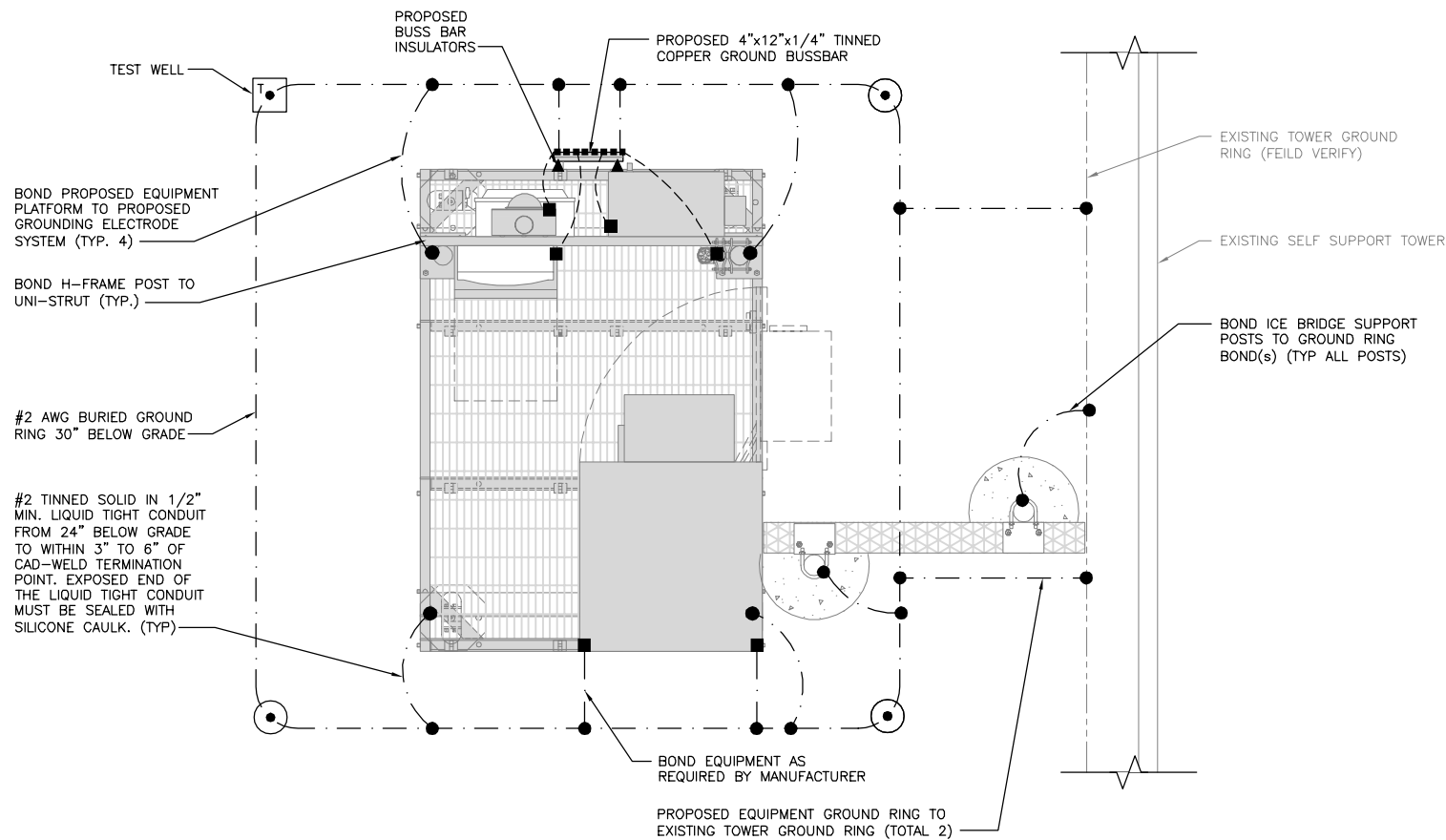
A&E PROJECT NUMBER
302470-13701209

DISH WIRELESS, LLC.
PROJECT INFORMATION
BOHVN00141A
401 WAKELEE AVE
ANSONIA, CT 06401

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

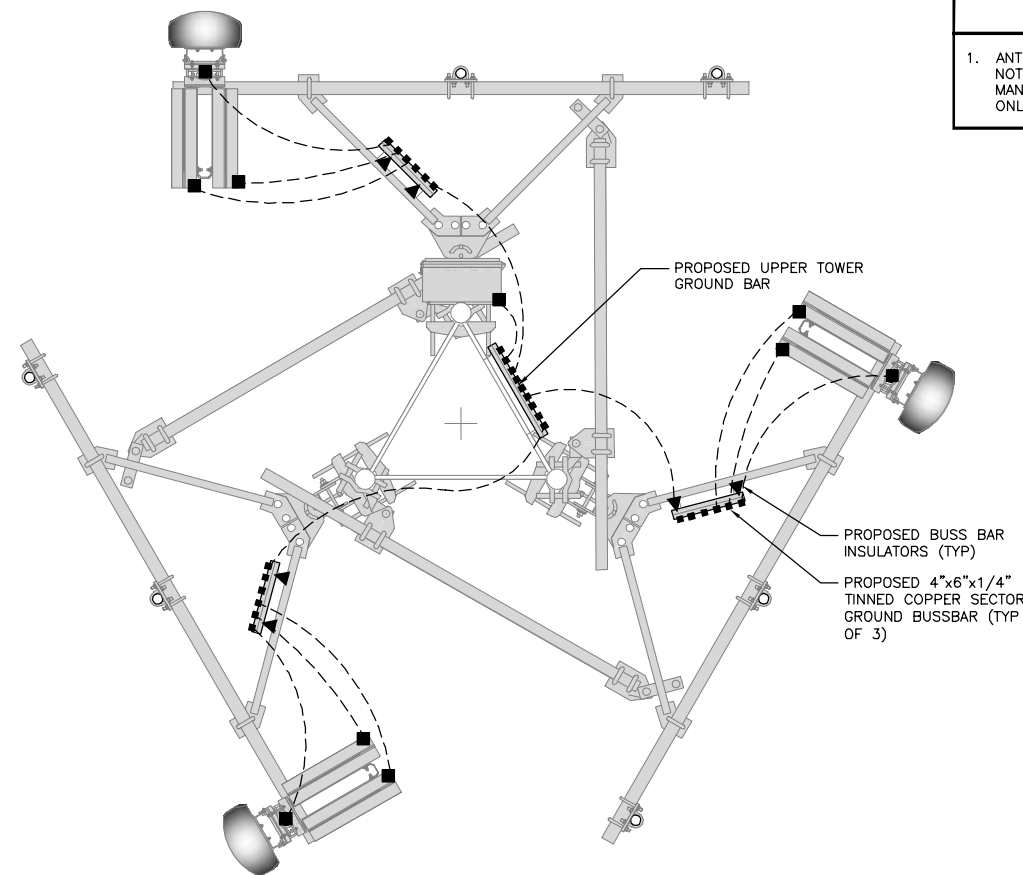
SHEET NUMBER

E-3



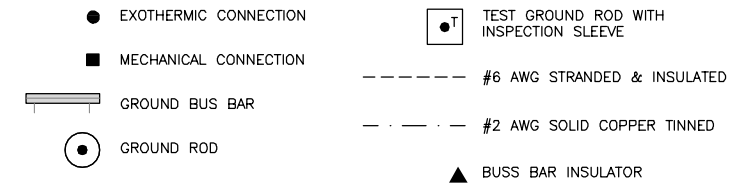
TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2



GROUNDING LEGEND

- GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
- 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.
- 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



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



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PAT	BIW	BIW

RFDS REV #: 1

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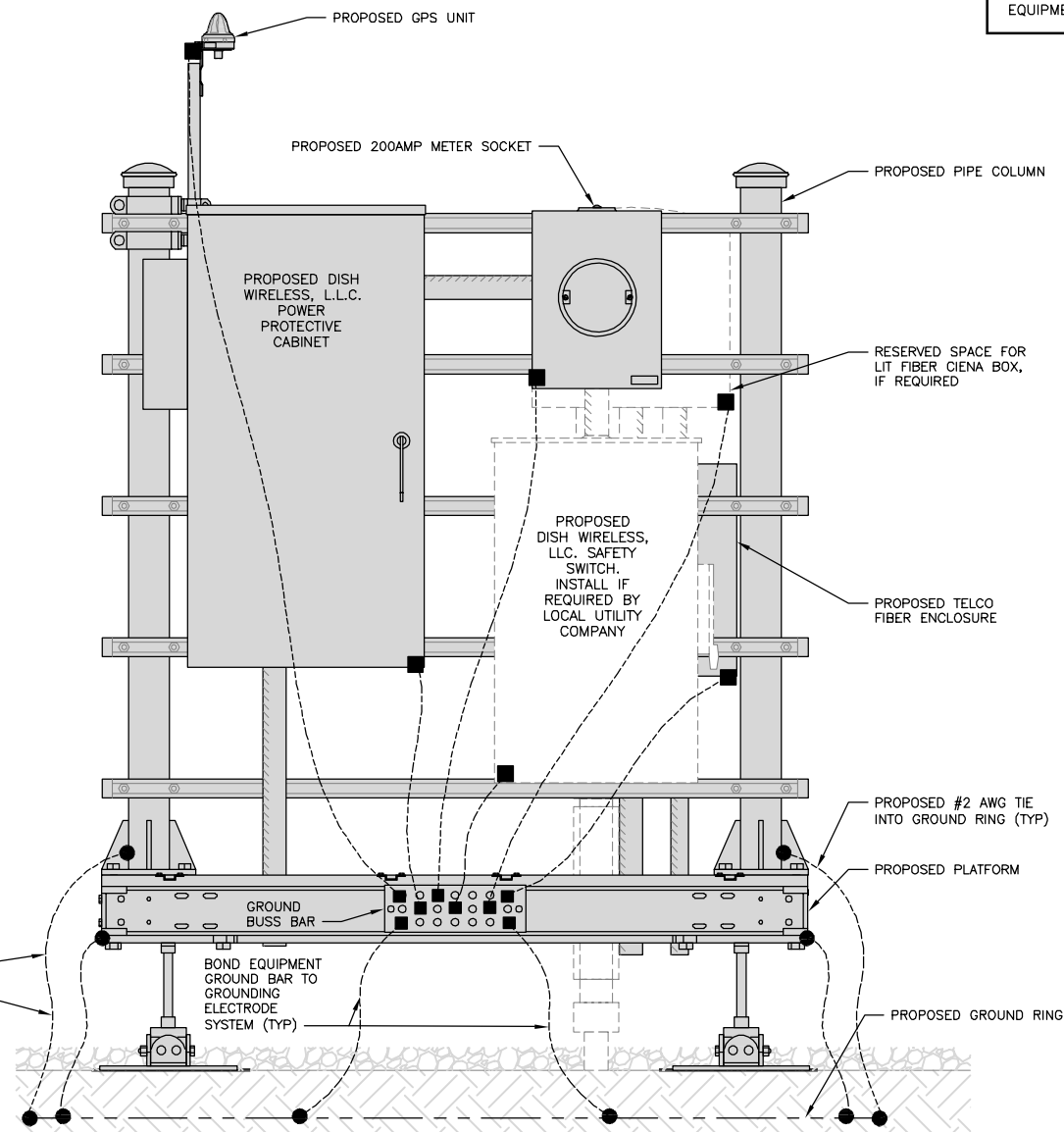
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00141A
401 WAKELEE AVE
ANSONIA, CT 06401

SHEET TITLE
GROUNDING PLANS
AND NOTES

SHEET NUMBER
G-1

NOTES

EQUIPMENT CABINET OMITTED FOR CLARITY

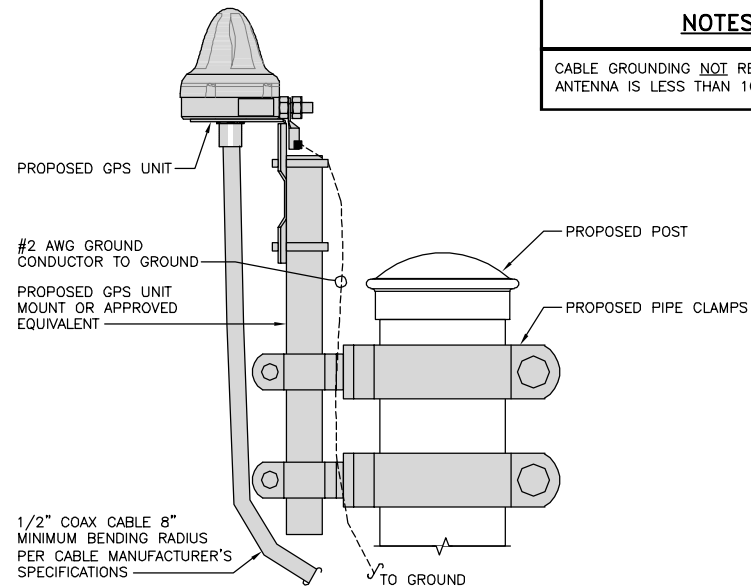


H-FRAME GROUNDING DETAIL

NO SCALE 1

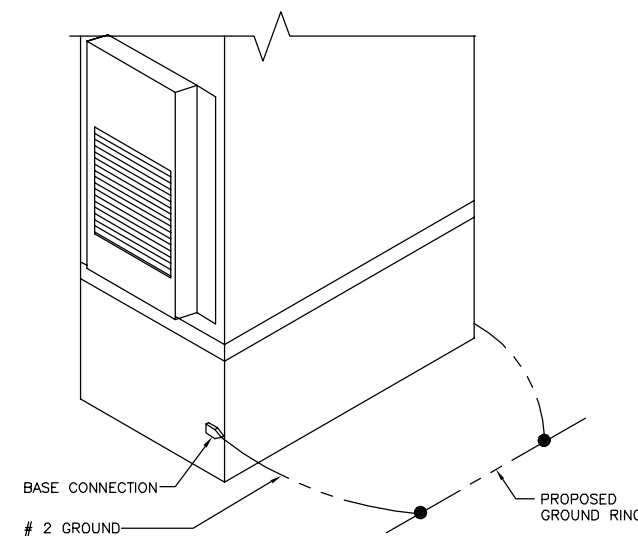
NOTES

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



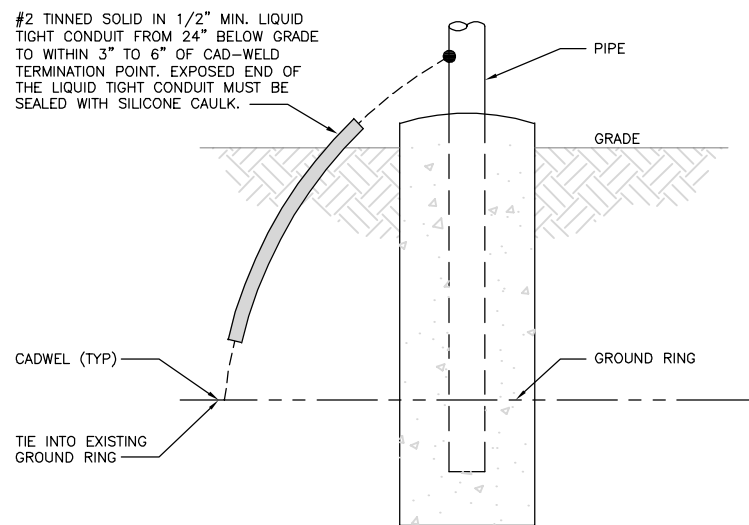
TYPICAL GPS UNIT GROUNDING

NO SCALE 2



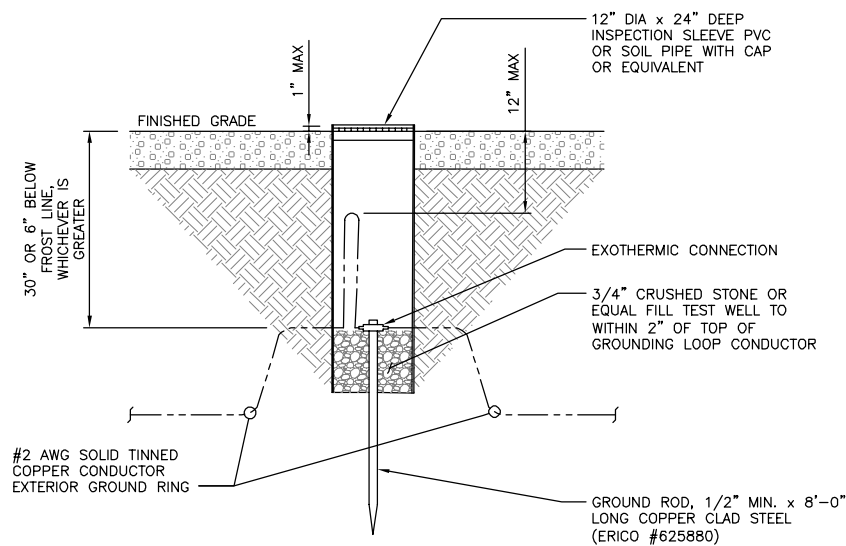
OUTDOOR CABINET GROUNDING

NO SCALE 3



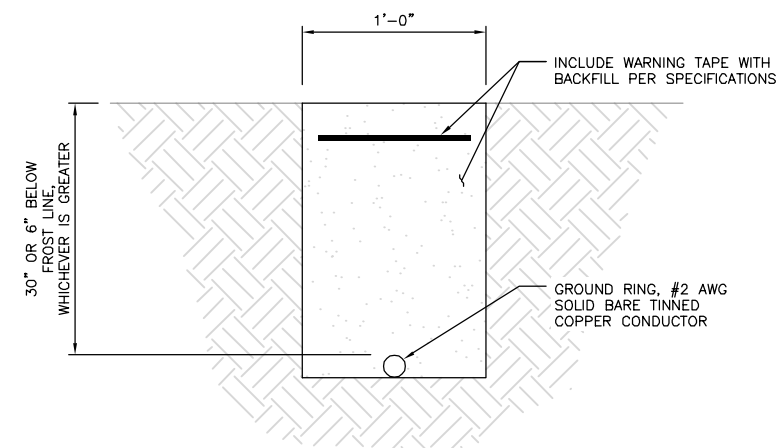
TRANSITIONING GROUND DETAIL

NO SCALE 4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE

NO SCALE 5



TYPICAL GROUND RING TRENCH

NO SCALE 6

dish wireless.

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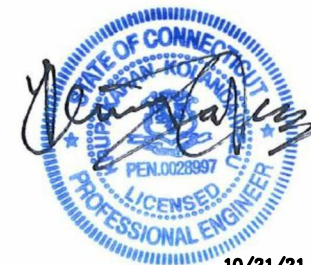
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CHECKED BY: BIW
APPROVED BY: BIW

RFDS REV #: 1

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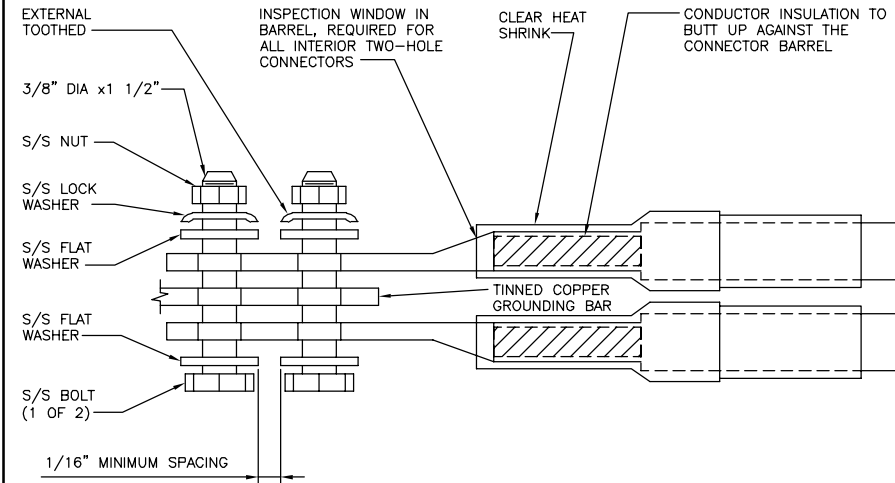
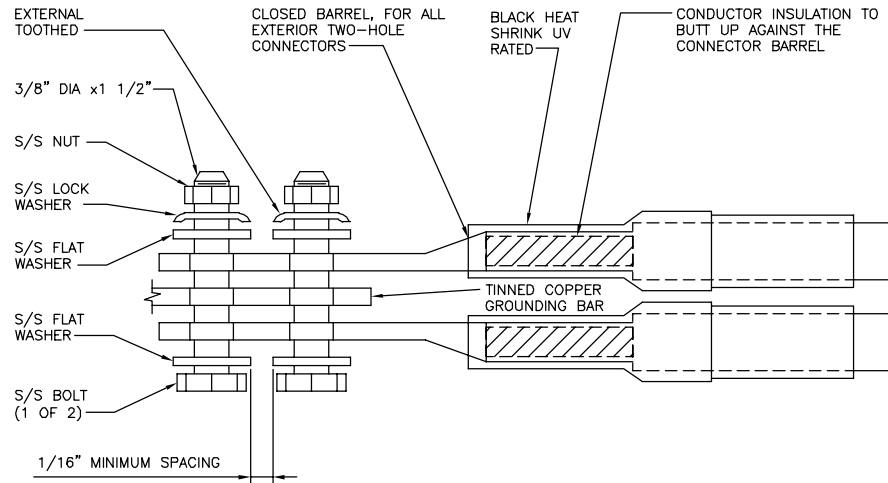
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00141A
401 WAKELEE AVE
ANSONIA, CT 06401

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

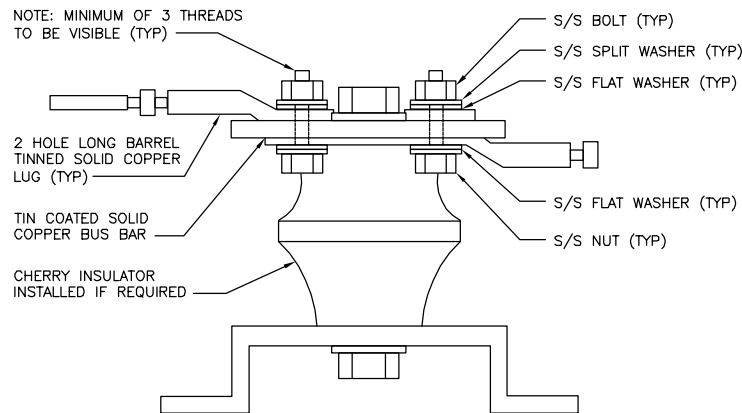
NO SCALE

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

dish
wireless.

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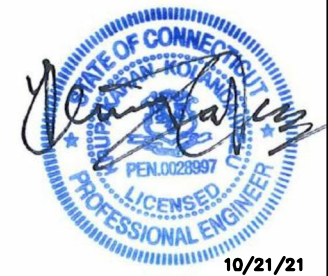
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DISH WIRELESS, LLC.
PROJECT INFORMATION
BOHVN00141A
401 WAKELEE AVE
ANSONIA, CT 06401

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-3

RF JUMPER COLOR CODING

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

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

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

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

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

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

PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT
RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
PURPLE	PURPLE	RED	RED	PURPLE	PURPLE	BLUE	BLUE	PURPLE	PURPLE	GREEN	GREEN
	WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE
			WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT

HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS

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

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

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

FIBER JUMPERS TO RRHs

LOW-BAND RRH FIBER CABLES HAVE SECTOR STRIPE ONLY

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

POWER CABLES TO RRHs

LOW-BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY

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

RET MOTORS AT ANTENNAS

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

MICROWAVE RADIO LINKS

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

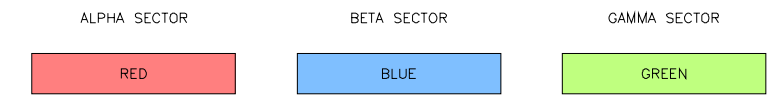
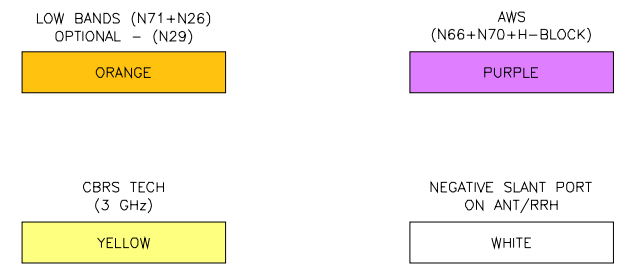
MICROWAVE CABLES WILL REQUIRE P-TOUCH LABELS INSIDE THE CABINET TO IDENTIFY THE LOCAL AND REMOTE SITE ID'S

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

RF CABLE COLOR CODES

NO SCALE

1



COLOR IDENTIFIER

NO SCALE

2

NOT USED

NO SCALE

3

NOT USED

NO SCALE

4



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LITTLETON, CO 80120



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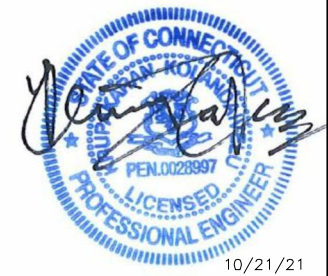
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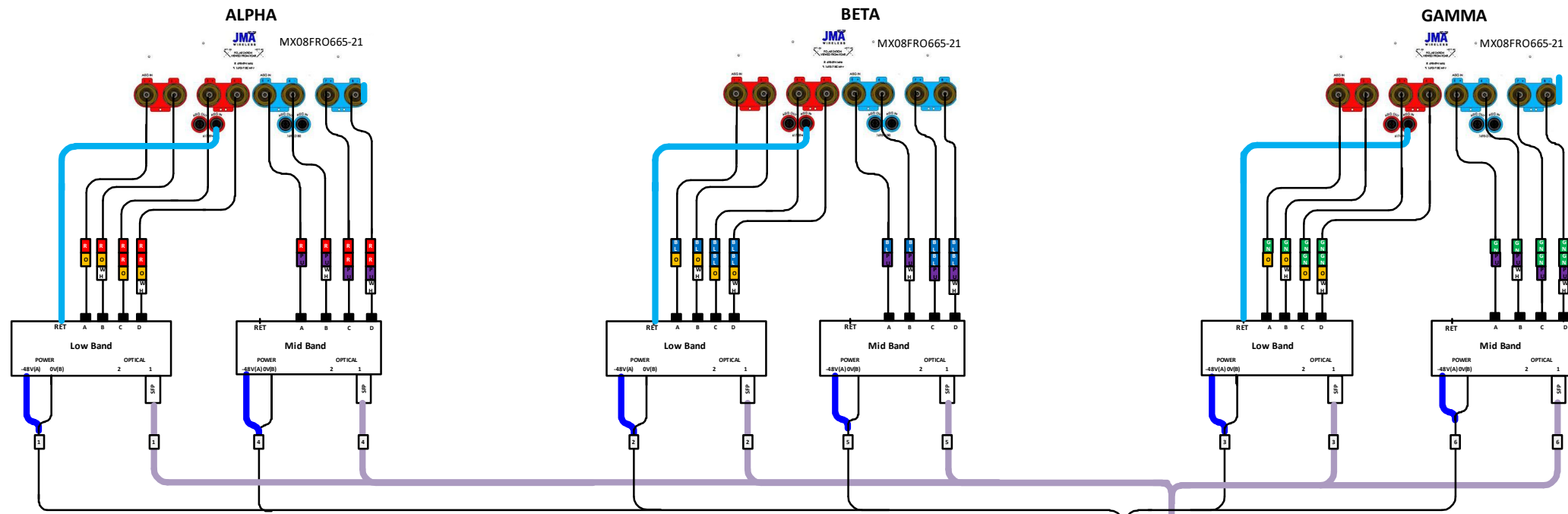
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PROJECT INFORMATION
BOHVN00141A
401 WAKELEE AVE
ANSONIA, CT 06401

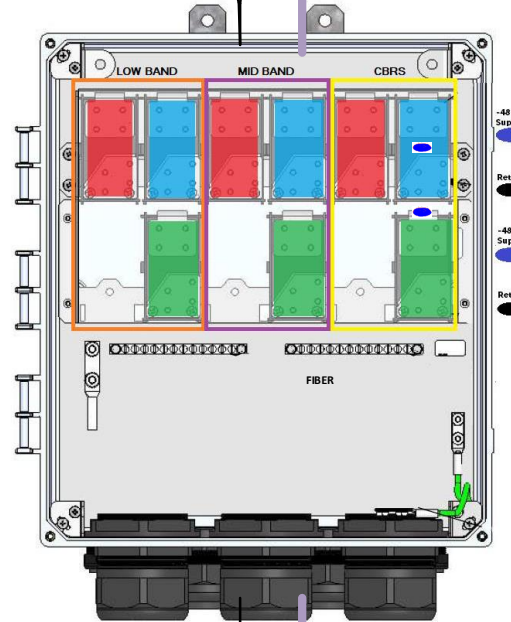
SHEET TITLE
RF
CABLE COLOR CODES

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	SM1 - BMC
18	Gi0/0/0/18	SM2 - BMC
19	Te0/0/0/19	SM1 - Data 1
20	Te0/0/0/20	SM1 - Data 2
21	Te0/0/0/21	SM2 - Data 1
22	Te0/0/0/22	SM2 - 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

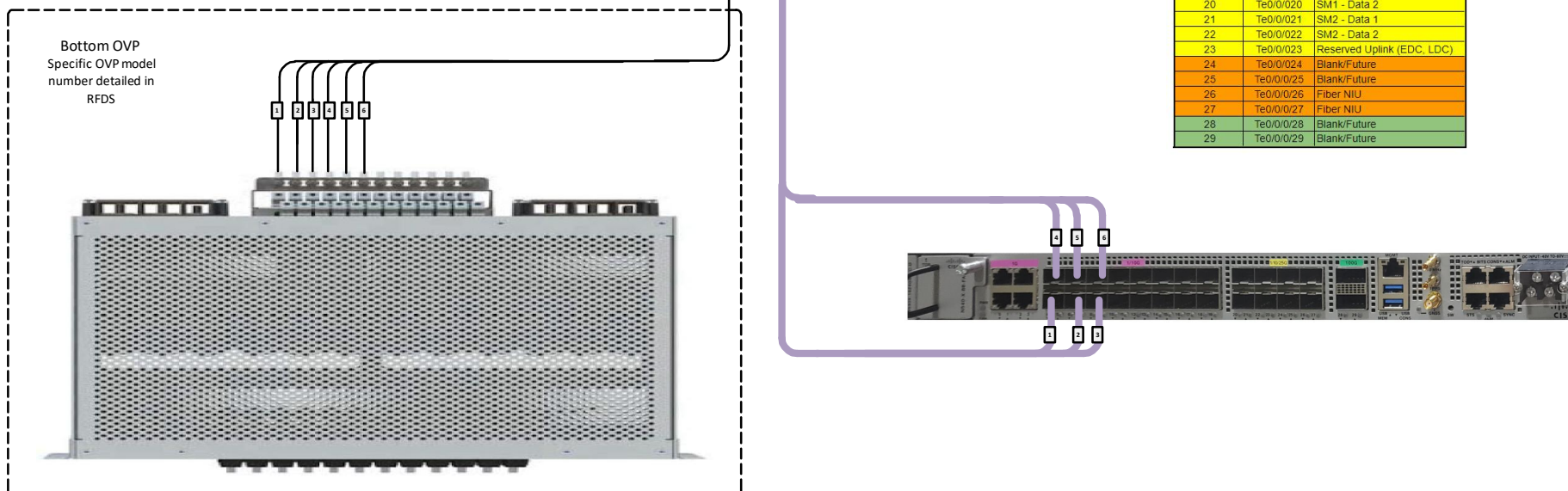
top

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

Bottom OVP
Specific OVP model
number detailed in
RFDS



	5G plumbing diagram JMA MX08FRO665-21 2-2-2(LB+MB)			
	SIZE	PSCM NO	DWG NO	REV
Quan Liu				3
5-Jan-2021	SCALE: None		SHEET	

PLUMBING DIAGRAM

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: PAT CHECKED BY: BIW APPROVED BY: BIW

RFDS REV #: 1

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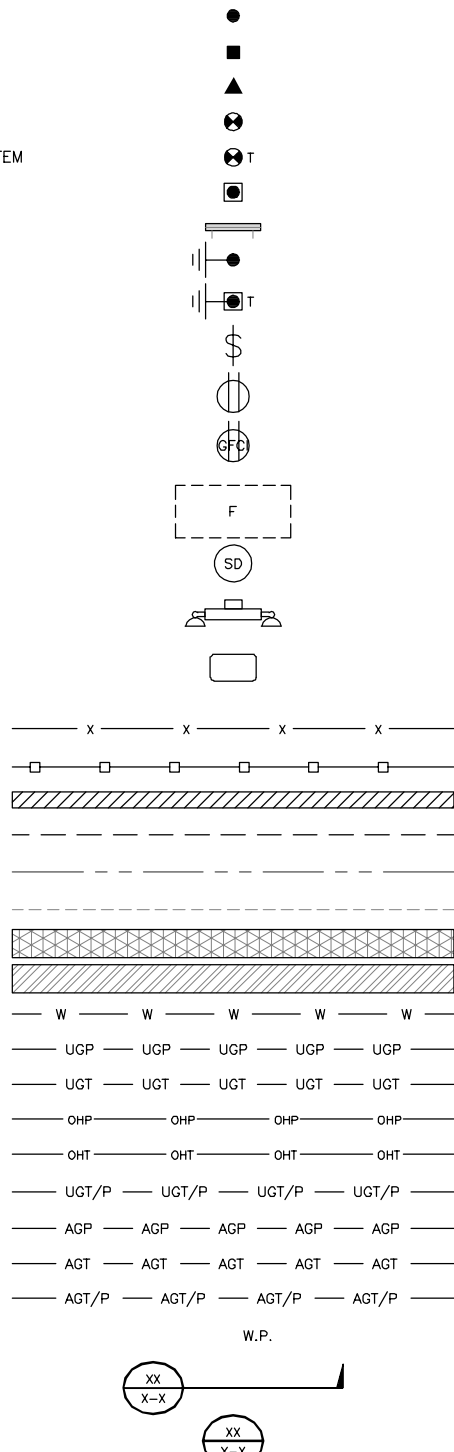
A&E PROJECT NUMBER
302470-13701209

DISH WIRELESS, LLC.
PROJECT INFORMATION
BOHVN00141A
401 WAKELEE AVE
ANSONIA, CT 06401

SHEET TITLE
RF
PLUMBING DIAGRAM

SHEET NUMBER
RF-2

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



LEGEND

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

ABBREVIATIONS



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ANSONIA, CT 06401

SHEET TITLE
LEGEND AND ABBREVIATIONS

SHEET NUMBER
GN-1

SITE ACTIVITY REQUIREMENTS:

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

GENERAL NOTES:

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



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PROJECT INFORMATION
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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 SPECIMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH WIRELESS, L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH WIRELESS, L.L.C."
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.



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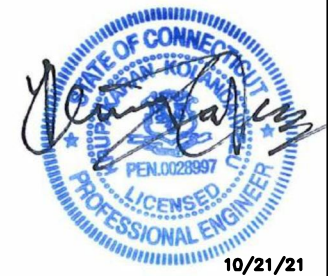
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DRAWN BY:	CHECKED BY:	APPROVED BY:
PAT	BIW	BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	08/16/2021	ISSUED FOR REVIEW
D	10/21/2021	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
302470-13701209

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00141A
401 WAKELEE AVE
ANSONIA, CT 06401

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 GROUND 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 1/2" 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



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A&E PROJECT NUMBER
302470-13701209

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00141A
401 WAKELEE AVE
ANSONIA, CT 06401

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-4

ENGINEERING:
STRUCTURAL ANALYSIS
MOUNT ANALYSIS



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 196 ft Self Supported Tower
ATC Site Name : Ansonia Wakelee, CT
ATC Asset Number : 302470
Engineering Number : 13701209_C3_03
Proposed Carrier : DISH WIRELESS L.L.C.
Carrier Site Name : BOHVN00141A
Carrier Site Number : BOHVN00141A
Site Location : 401 Wakelee Ave
Ansonia, CT 06401-1226
41.356100,-73.092000
County : New Haven
Date : August 3, 2021
Max Usage : 93%
Result : Pass

Prepared By:
Brian Davies, E.I.
Structural Engineer II

Reviewed By:



COA: PEC.0001553



Table of Contents

Introduction 1

Supporting Documents..... 1

Analysis..... 1

Conclusion..... 1

Existing and Reserved Equipment..... 2

Equipment to be Removed 3

Proposed Equipment..... 3

Structure Usages.....4

Foundations4

Deflection, Twist, and Sway4

Standard Conditions5

Calculations..... Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 196 ft self supported tower to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	Rohn Drawing #A991899, dated July 7, 1999
Foundation Drawing	Rohn Drawing #A992523-1, dated September 22, 1999
Geotechnical Report	Tectonic Engineering Consultants W.O. #1170.C754, dated May 20, 1999
Modifications	Infinigy #1009-Z0003-B, dated July 20, 2020

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:	118 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
Spectral Response:	$S_s = 0.20$, $S_1 = 0.05$
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
195.0	2	Radio Waves HPD2-4.7NS	Side Arm	(4) 5/8" Coax	CITY OF ANSONIA, CT
185.0	3	Alcatel-Lucent 1900 MHz 4X45 RRH	Sector Frame	(4) 1 1/4" Hybriflex Cable	SPRINT NEXTEL
	3	Alcatel-Lucent 800MHz RRH and Type 1 Notch Filter			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	Alcatel-Lucent 800 MHz RRH			
	1	Powerwave Allgon P40-16-XLPP-RRR			
	2	Powerwave Allgon P40-16-XLPP-RRR			
	1	RFS APXVSP18-C-A20			
	3	KMW ET-X-WM-18-65-8P			
177.0	3	Samsung Outdoor CBRS 20W RRH	Sector Frame	(12) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Samsung B2/B66A RRH-BR049			
	2	RFS DB-T1-6Z-8AB-OZ			
	3	Samsung MT6407-77A			
	3	Amphenol Antel BX A-80080-4CF-EDIN-X			
	6	Samsung B5/B13 RRH-BR04C			
	6	JMA Wireless MX10FRO660-xx			
167.0	3	Ericsson RRUS 4478 B5	Sector Frame	(2) 0.39" (10mm) Fiber Trunk (8) 0.78" (19.7mm) 8 AWG 6 (12) 1 1/4" Coax (1) 2" conduit	AT&T MOBILITY
	1	Raycap DC6-48-60-0-8F (24" Height)			
	3	Raycap DC6-48-60-18-8F ("Squid")			
	6	Kaelus DBCT108F1V92-1			
	6	Powerwave Allgon TT19-08BP111-001			
	3	Ericsson Radio 8843 - B2 + B66A (w/ protruding items)			
	1	CCI TPA65R-BU8D			
	1	CCI OPA-65R-LCUU-H8			
	2	CCI TPA65R-BU6D			
	1	CCI OPA65R-BU8B			
	2	CCI OPA-65R-LCUU-H6			
	2	CCI OPA65R-BU6A			
	3	Ericsson RRUS-32 (77 lbs)			
	3	Ericsson RRUS E2 B29			
	3	Ericsson RRUS 11 (Band 12) (55 lb)			
3	Ericsson RRUS 4478 B14				
157.0	3	Kathrein Scala 742 213	Leg	(6) 1 5/8" Coax	METRO PCS INC
148.0	3	Ericsson Air6449 B41	Sector Frame	(3) 1 1/4" (1.25"-31.8mm) Fiber (3) 1 5/8" (1.63"-41.3mm) Fiber (6) 1 5/8" Coax	T-MOBILE
	3	Ericsson KRY 112 144/1			
	3	Ericsson Radio 4449 B71 B85A			
	3	RFS APXVAARR24_43-U-NA20			
	3	Ericsson AIR-32 B2A/B66Aa			
	3	Ericsson AIR 21, 1.3 M, B2A B4P			
	3	Ericsson RRUS 4415 B25			
125.0	1	Commander 620-3AN	Leg/Flush	(1) 7/8" Coax	CITY OF ANSONIA, CT
85.0	1	Generic 10' Dipole	Stand-Off	(1) 1/2" Coax	
76.0	1	PCTEL GPS-TMG-HR-26N	Stand-Off	(1) 1/2" Coax	



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
115.0	1	Commscope RDIDC-9181-PF-48	Sector Frame	(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 on the tower face with the least amount of existing lines.

Install proposed coax anywhere on tower.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	89%	Pass
Diagonals	90%	Pass
Horizontals	11%	Pass
Anchor Bolts	64%	Pass
Leg Bolts	72%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	301.1	406.5	344.8	85%
Axial (Kips)	343.0	463.1	395.4	85%
Shear (Kips)	54.4	73.4	68.1	93%

* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.6.2

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, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
195.0	Radio Waves HPD2-4.7NS	CITY OF ANSONIA, CT	0.516	0.011	0.268
115.0	Commscope RDIDC-9181-PF-48	DISH WIRELESS L.L.C.	0.171	0.009	0.178
	Fujitsu TA08025-B604				
	Fujitsu TA08025-B605				
	JMA Wireless MX08FRO665-21				

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



Standard Conditions

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

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

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

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

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

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

Quadrant 1

196.00

Sect 10

180.00

Sect 9

160.00

Sect 8

140.00

Sect 7

120.00

Sect 6

100.00

Sect 5

80.00

Sect 4

60.00

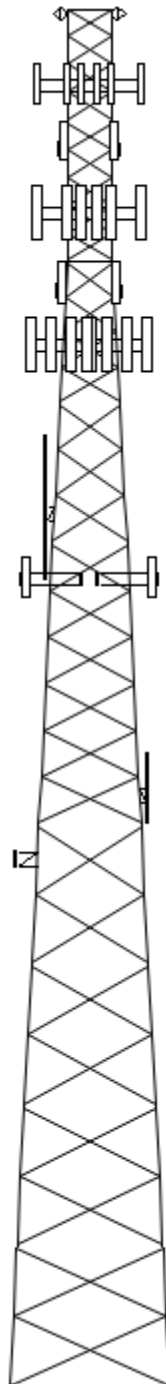
Sect 3

40.00

Sect 2

20.00

Sect 1



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Loads: 118 mph no ice
50 mph w/ 1" radial ice
Site Class: D Ss: 0.20 S1: 0.05
60 mph Serviceability

Job Information

Client : DISH WIRELESS L.L.C.

Tower : 302470

Location : Ansonia

Base Width : 23.00 ft

Code : ANSI/TIA-222-H

Topo Method: Method 1

Top Width : 6.65 ft

Risk Cat : II

Topo: 1

Tower Ht : 196.00 ft

Exposure : C

Shape : Triangle

Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1	PX 50 ksi 8" DIA PIPE	SAE 50 ksi 4X4X0.25	(n ksi DEL_BLANK
2	PSP 50 ksi ROHN 8 EHS	SAE 50 ksi 4X4X0.25	(n ksi DEL_BLANK
3	PSP 50 ksi ROHN 8 EHS	SAE 50 ksi 3.5X3.5X0.25	(n ksi DEL_BLANK
4	PX 50 ksi 6" DIA PIPE	SAE 50 ksi 3.5X3.5X0.25	(n ksi DEL_BLANK
5	PSP 50 ksi ROHN 6 EHS	SAE 50 ksi 3X3X0.25	(n ksi DEL_BLANK
6 - 7	PX 50 ksi 5" DIA PIPE	SAE 36 ksi 2.5X2.5X0.25	(n ksi DEL_BLANK
8	PX 50 ksi 4" DIA PIPE	SAE 36 ksi 2X2X0.25	SAE 36 ksi 2X2X0.125
9	PX 50 ksi 3" DIA PIPE	SAE 36 ksi 2X2X0.1875	(n ksi DEL_BLANK
10	PST 50 ksi 2-1/2" DIA PIPE	SAE 36 ksi 1.75X1.75X0.1875	SAE 36 ksi 2X2X0.125

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
195.00	Dish	2	Radio Waves HPD2-4.7NS
192.00		3	Alcatel-Lucent 1900 MHz 4X45 R
188.00		3	Alcatel-Lucent 800MHz RRH and
185.00	Mounting Frame	3	Round Sector Frames
185.00	Panel	1	Powerwave Allgon P40-16-XLPP-R
185.00	Panel	2	Powerwave Allgon P40-16-XLPP-R
185.00	Panel	1	RFS APXVSP18-C-A20
185.00	Panel	3	KMW ET-X-WM-18-65-8P
185.00		3	Alcatel-Lucent TD-RRHx20-25 w
185.00		3	Alcatel-Lucent 800 MHz RRH
178.00	Mounting Frame	3	Flat Light Sector Frames
177.00	Panel	6	JMA Wireless MX10FRO660-xx
177.00		2	RFS DB-T1-6Z-8AB-0Z
177.00	Panel	3	Samsung MT6407-77A
177.00	Panel	3	Amphenol Antel BXA-80080-4CF-E
177.00		6	Samsung B5/B13 RRH-BR04C
177.00		3	Samsung B2/B66A RRH-BR049
177.00		3	Samsung Outdoor CBRS 20W
167.00	Mounting Frame	3	Round Sector Frames
167.00	Panel	1	CCI TPA65R-BU8D
167.00	Panel	1	CCI OPA-65R-LCUU-H8
167.00	Panel	2	CCI TPA65R-BU6D
167.00	Panel	1	CCI OPA65R-BU8B
167.00	Panel	2	CCI OPA-65R-LCUU-H6
167.00	Panel	2	CCI OPA65R-BU6A
167.00		3	Ericsson RRUS-32 (77 lbs)
167.00		3	Ericsson RRUS E2 B29
167.00		3	Ericsson RRUS 11 (Band 12) (55
167.00		3	Ericsson RRUS 4478 B14
167.00		3	Ericsson Radio 8843 - B2 + B66
167.00		3	Ericsson RRUS 4478 B5
167.00		1	Raycap DC6-48-60-0-8F (24" Hei
167.00		3	Raycap DC6-48-60-18-8F ("Squid
167.00		6	Kaelus DBCT108F1V92-1
167.00		6	Powerwave Allgon TT19-08BP111-
157.00	Panel	3	Kathrein Scala 742 213
148.00	Mounting Frame	3	Round Sector Frame
148.00	Panel	3	RFS APXVAARR24_43-U-NA20
148.00	Panel	3	Ericsson AIR-32 B2A/B66Aa
148.00	Panel	3	Ericsson AIR 21, 1.3 M, B2A B4
148.00	Panel	3	Ericsson Air6449 B41
148.00		3	Ericsson RRUS 4415 B25
148.00		3	Ericsson Radio 4449 B71 B85A
148.00		3	Ericsson KRY 112 144/1

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Job Information		
Client : DISH WIRELESS L.L.C.		
Tower : 302470	Location : Ansonia	Base Width : 23.00 ft
Code : ANSI/TIA-222-H	Topo Method: Method 1	Top Width : 6.65 ft
Risk Cat : II	Topo: 1	Tower Ht : 196.00 ft
	Exposure : C	Shape : Triangle

125.00 Whip	1	Commander 620-3AN
115.00 Mounting Frame	3	Generic Flat Light Sector Fram
115.00 Panel	3	JMA Wireless MX08FRO665-21
115.00	3	Fujitsu TA08025-B604
115.00	3	Fujitsu TA08025-B605
115.00	1	Commscope RDIDC-9181-PF-48
102.00 Straight Arm	2	Standoffs
85.00 Whip	1	Generic 10' Dipole
80.00 Straight Arm	1	Standoffs
76.00 Straight Arm	1	Standoffs
76.00 Whip	1	PCTEL GPS-TMG-HR-26N

Linear Appurtenance			
Elev (ft)			
From	To	Qty	Description
0.00	195.00	4	5/8" Coax
8.00	194.00	1	Wave Guide
8.00	185.00	1	Wave Guide
8.00	185.00	1	1 1/4" Hybriflex Cab
8.00	185.00	3	1 1/4" Hybriflex Cab
8.00	177.00	2	1 5/8" Hybriflex
8.00	177.00	12	1 5/8" Coax
8.00	167.00	1	Wave Guide
8.00	167.00	1	2" conduit
8.00	167.00	12	1 1/4" Coax
8.00	167.00	8	0.78" (19.7mm) 8 AWG
8.00	167.00	2	0.39" (10mm) Fiber T
8.00	157.00	1	Waveguide
8.00	157.00	6	1 5/8" Coax
8.00	148.00	1	Wave Guide
0.00	148.00	6	1 5/8" Coax
0.00	148.00	3	1 5/8" (1.63"-41.3mm
0.00	148.00	3	1 1/4" (1.25"- 31.8m
0.00	125.00	1	7/8" Coax
0.00	115.00	1	Waveguide
0.00	115.00	1	1.60" (40.6mm) Hybri
8.00	85.00	1	1/2" Coax
8.00	76.00	1	1/2" Coax

Global Base Foundation Design Loads			
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	7,468.14	61.53	68.07
DL + WL + IL	2,561.18	132.79	24.29

Individual Base Foundation Design Loads		
Vertical (kip)	Uplift (kip)	Horizontal (kip)
395.44	344.80	41.27

Site Number: 302470

Code:

ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Analysis Parameters

Location:	New Haven County, CT	Height (ft):	196
Code:	ANSI/TIA-222-H	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	23.00
Tower Manufacturer:	Rohn	Top Face Width (ft):	6.65
Tower Type:	Self Support	Anchor Bolt Detail Type	d
Kd:	0.85		
Ke:	1.00		

Ice & Wind Parameters

Exposure Category:	C	Design Windspeed Without Ice:	118 mph
Risk Category:	II	Design Windspeed With Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	129.30 ft

Seismic Parameters

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	0.99		
T _L (sec):	6	p:	1.3
S _S :	0.202	S ₁ :	0.054
F _a :	1.600	F _V :	2.400
S _{ds} :	0.215	S _{d1} :	0.086
		C _S :	0.030
		C _S , Max:	0.030
		C _S , Min:	0.030

Load Cases

1.2D + 1.0W Normal	118 mph Normal with No Ice
1.2D + 1.0W 60 deg	118 mph 60 degree with No Ice
1.2D + 1.0W 90 deg	118 mph 90 degree with No Ice
0.9D + 1.0W Normal	118 mph Normal with No Ice (Reduced DL)
0.9D + 1.0W 60 deg	118 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.0W 90 deg	118 mph 90 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 1.00 in Radial Ice
1.2D + 1.0Di + 1.0Wi 60 deg	50 mph 60 deg with 1.00 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic Normal
1.2D + 1.0Ev + 1.0Eh 60 deg	Seismic 60 deg
1.2D + 1.0Ev + 1.0Eh 90 deg	Seismic 90 deg
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL) Normal
0.9D - 1.0Ev + 1.0Eh 60 deg	Seismic (Reduced DL) 60 deg
0.9D - 1.0Ev + 1.0Eh 90 deg	Seismic (Reduced DL) 90 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Tower Loading

Discrete Appurtenance Properties 1.2D + 1.0W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
195.0	Radio Waves HPD2-	2	27	4.0	2.0	24.0	0.0	1.00	1.00	0.0	0.0	43.93	296	65
192.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.50	0.0	0.0	43.79	104	216
188.0	Alcatel-Lucent	3	64	1.8	1.3	13.8	13.0	0.80	0.50	0.0	0.0	43.59	80	230
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	43.44	95	191
185.0	Alcatel-Lucent TD-	3	70	4.0	2.2	18.6	6.7	0.80	0.61	0.0	0.0	43.44	219	252
185.0	KMW ET-X-WM-18-	3	36	6.7	5.1	12.0	4.3	0.80	0.63	0.0	0.0	43.44	373	131
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	43.44	536	154
185.0	Powerwave Allgon	1	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	43.44	268	77
185.0	RFS APXVSP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	43.44	237	68
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	43.44	897	1080
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	43.09	988	1440
177.0	Amphenol Antel BXA-	3	12	3.6	4.0	8.0	5.9	0.80	0.72	0.0	0.0	43.04	226	43
177.0	JMA Wireless	6	57	9.6	5.9	15.0	7.4	0.80	0.66	0.0	0.0	43.04	1112	413
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	202.5	43.09	203	106
177.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	43.04	82	304
177.0	Samsung B5/B13	6	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	43.04	165	506
177.0	Samsung MT6407-	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.0	43.04	252	294
177.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	43.04	38	67
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	42.52	419	175
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	42.52	375	106
167.0	CCI OPA65R-BU6A	2	58	7.9	5.9	11.7	8.4	0.80	0.79	0.0	0.0	42.52	359	138
167.0	CCI OPA65R-BU8B	1	69	11.2	8.0	11.7	8.4	0.80	1.00	0.0	0.0	42.52	324	83
167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	42.52	536	162
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	42.52	523	99
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	42.52	86	270
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	42.52	109	198
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	42.52	88	214
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	42.52	80	216
167.0	Ericsson RRUS E2	3	60	3.1	1.7	18.5	7.5	0.80	0.50	0.0	0.0	42.52	136	216
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	42.52	144	277
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	42.52	55	100
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	42.52	48	115
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	0.50	0.0	0.0	42.52	21	39
167.0	Raycap DC6-48-60-	3	32	1.5	2.0	11.0	11.0	0.80	0.50	0.0	0.0	42.52	64	114
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	42.52	785	1080
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	41.97	368	79
148.0	Ericsson AIR 21, 1.3	3	83	6.0	4.7	12.0	8.0	0.80	0.71	0.0	0.0	41.45	363	299
148.0	Ericsson AIR-32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	41.45	391	476
148.0	Ericsson Air6449	3	104	5.7	2.8	20.6	8.6	0.80	0.63	0.0	0.0	41.45	303	374
148.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	41.45	15	40
148.0	Ericsson Radio 4449	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.0	41.45	70	270
148.0	Ericsson RRUS 4415	3	46	1.8	1.4	13.4	5.9	0.80	0.50	0.0	0.0	41.45	78	166
148.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	41.45	1078	460
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	41.45	765	1080
125.0	Commander 620-3AN	1	53	2.5	20.7	1.2	1.2	1.00	1.00	0.0	0.0	40.00	84	64
115.0	Commscope RDIDC-	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.0	39.31	50	26
115.0	Fujitsu TA08025-	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.0	39.31	79	230
115.0	Fujitsu TA08025-	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.0	39.31	79	270
115.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	39.31	1009	1440
115.0	JMA Wireless	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.0	39.31	641	232
102.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	38.33	147	180
85.00	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	36.88	118	36
80.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	36.42	77	90
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	36.02	3	1

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Tower Loading

76.00 Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	36.02	77	90
Totals	146	12618	812.9									16114	15141

Discrete Appurtenance Properties 0.9D + 1.0W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
195.0	Radio Waves HPD2-	2	27	4.0	2.0	24.0	0.0	1.00	1.00	0.0	0.0	43.93	296	49
192.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.50	0.0	0.0	43.79	104	162
188.0	Alcatel-Lucent	3	64	1.8	1.3	13.8	13.0	0.80	0.50	0.0	0.0	43.59	80	173
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	43.44	95	143
185.0	Alcatel-Lucent TD-	3	70	4.0	2.2	18.6	6.7	0.80	0.61	0.0	0.0	43.44	219	189
185.0	KMW ET-X-WM-18-	3	36	6.7	5.1	12.0	4.3	0.80	0.63	0.0	0.0	43.44	373	98
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	43.44	536	115
185.0	Powerwave Allgon	1	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	43.44	268	58
185.0	RFS APXVSP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	43.44	237	51
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	43.44	897	810
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	43.09	988	1080
177.0	Amphenol Antel BXA-	3	12	3.6	4.0	8.0	5.9	0.80	0.72	0.0	0.0	43.04	226	32
177.0	JMA Wireless	6	57	9.6	5.9	15.0	7.4	0.80	0.66	0.0	0.0	43.04	1112	309
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	202.5	43.09	203	79
177.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	43.04	82	228
177.0	Samsung B5/B13	6	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	43.04	165	380
177.0	Samsung MT6407-	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.0	43.04	252	220
177.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	43.04	38	50
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	42.52	419	131
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	42.52	375	79
167.0	CCI OPA65R-BU6A	2	58	7.9	5.9	11.7	8.4	0.80	0.79	0.0	0.0	42.52	359	104
167.0	CCI OPA65R-BU8B	1	69	11.2	8.0	11.7	8.4	0.80	1.00	0.0	0.0	42.52	324	62
167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	42.52	536	122
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	42.52	523	74
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	42.52	86	203
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	42.52	109	149
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	42.52	88	160
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	42.52	80	162
167.0	Ericsson RRUS E2	3	60	3.1	1.7	18.5	7.5	0.80	0.50	0.0	0.0	42.52	136	162
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	42.52	144	208
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	42.52	55	75
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	42.52	48	86
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	0.50	0.0	0.0	42.52	21	30
167.0	Raycap DC6-48-60-	3	32	1.5	2.0	11.0	11.0	0.80	0.50	0.0	0.0	42.52	64	86
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	42.52	785	810
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	41.97	368	59
148.0	Ericsson AIR 21, 1.3	3	83	6.0	4.7	12.0	8.0	0.80	0.71	0.0	0.0	41.45	363	224
148.0	Ericsson Air-32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	41.45	391	357
148.0	Ericsson Air6449	3	104	5.7	2.8	20.6	8.6	0.80	0.63	0.0	0.0	41.45	303	281
148.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	41.45	15	30
148.0	Ericsson Radio 4449	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.0	41.45	70	203
148.0	Ericsson RRUS 4415	3	46	1.8	1.4	13.4	5.9	0.80	0.50	0.0	0.0	41.45	78	124
148.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	41.45	1078	345
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	41.45	765	810
125.0	Commander 620-3AN	1	53	2.5	20.7	1.2	1.2	1.00	1.00	0.0	0.0	40.00	84	48
115.0	Commscope RDIDC-	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.0	39.31	50	20
115.0	Fujitsu TA08025-	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.0	39.31	79	173
115.0	Fujitsu TA08025-	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.0	39.31	79	203
115.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	39.31	1009	1080

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Tower Loading

115.0	JMA Wireless	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.0	39.31	641	174
102.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	38.33	147	135
85.00	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	36.88	118	27
80.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	36.42	77	68
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	36.02	3	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	36.02	77	68
Totals		146	12618	812.9									16114	11356

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
195.0	Radio Waves HPD2-	2	84	4.8	2.0	24.0	0.0	1.00	1.00	0.0	0.0	7.89	64	178
192.0	Alcatel-Lucent 1900	3	115	3.1	2.1	11.1	10.7	0.80	0.50	0.0	0.0	7.86	25	381
188.0	Alcatel-Lucent	3	114	2.4	1.3	13.8	13.0	0.80	0.50	0.0	0.0	7.83	19	379
185.0	Alcatel-Lucent 800	3	103	2.8	1.6	13.0	10.8	0.80	0.50	0.0	0.0	7.80	22	342
185.0	Alcatel-Lucent TD-	3	135	5.0	2.2	18.6	6.7	0.80	0.61	0.0	0.0	7.80	48	446
185.0	KMW ET-X-WM-18-	3	123	8.3	5.1	12.0	4.3	0.80	0.63	0.0	0.0	7.80	83	391
185.0	Powerwave Allgon	2	191	10.6	4.5	20.0	6.5	0.80	1.00	0.0	0.0	7.80	112	407
185.0	Powerwave Allgon	1	191	10.6	4.5	20.0	6.5	0.80	1.00	0.0	0.0	7.80	56	204
185.0	RFS APXVSP18-C-	1	175	9.9	6.0	11.8	7.0	0.80	1.00	0.0	0.0	7.80	53	186
185.0	Round Sector	3	514	21.3	0.0	0.0	0.0	0.75	0.75	0.0	0.0	7.80	238	1723
178.0	Flat Light Sector	3	604	28.1	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.74	279	2051
177.0	Amphenol Antel BXA-	3	72	4.8	4.0	8.0	5.9	0.80	0.72	0.0	0.0	7.73	55	222
177.0	JMA Wireless	6	194	11.4	5.9	15.0	7.4	0.80	0.66	0.0	0.0	7.73	238	1234
177.0	RFS DB-T1-6Z-8AB-	2	129	5.8	2.0	24.0	10.0	0.80	0.72	1.0	43.7	7.74	44	276
177.0	Samsung B2/B66A	3	128	2.5	1.3	15.0	10.0	0.80	0.50	0.0	0.0	7.73	20	433
177.0	Samsung B5/B13	6	109	2.5	1.3	15.0	8.1	0.80	0.50	0.0	0.0	7.73	39	738
177.0	Samsung MT6407-	3	151	5.7	2.9	16.1	5.5	0.80	0.61	0.0	0.0	7.73	55	501
177.0	Samsung Outdoor	3	35	1.3	1.0	8.5	4.1	0.80	0.50	0.0	0.0	7.73	10	116
167.0	CCI OPA-65R-LCUU-	2	211	11.5	6.0	14.8	7.4	0.80	0.75	0.0	0.0	7.63	90	451
167.0	CCI OPA-65R-LCUU-	1	262	15.4	7.7	14.8	7.4	0.80	1.00	0.0	0.0	7.63	80	279
167.0	CCI OPA65R-BU6A	2	181	9.7	5.9	11.7	8.4	0.80	0.79	0.0	0.0	7.63	80	385
167.0	CCI OPA65R-BU8B	1	233	13.4	8.0	11.7	8.4	0.80	1.00	0.0	0.0	7.63	70	246
167.0	CCI TPA65R-BU6D	2	244	14.8	5.9	21.0	7.8	0.80	0.72	0.0	0.0	7.63	110	516
167.0	CCI TPA65R-BU8D	1	316	20.6	8.0	21.0	7.8	0.80	1.00	0.0	0.0	7.63	107	332
167.0	Ericsson Radio 8843	3	123	2.6	1.5	13.2	11.3	0.80	0.50	0.0	0.0	7.63	20	415
167.0	Ericsson RRUS 11	3	101	3.2	1.5	17.0	7.2	0.80	0.50	0.0	0.0	7.63	25	335
167.0	Ericsson RRUS 4478	3	101	2.7	1.5	13.4	8.3	0.80	0.50	0.0	0.0	7.63	21	338
167.0	Ericsson RRUS 4478	3	97	2.4	1.4	13.4	7.7	0.80	0.50	0.0	0.0	7.63	19	328
167.0	Ericsson RRUS E2	3	115	3.9	1.7	18.5	7.5	0.80	0.50	0.0	0.0	7.63	31	380
167.0	Ericsson RRUS-32	3	143	4.2	2.5	13.3	9.5	0.80	0.50	0.0	0.0	7.63	33	475
167.0	Kaelus	6	31	1.0	0.9	7.1	6.8	0.80	0.50	0.0	0.0	7.63	16	202
167.0	Powerwave Allgon	6	30	0.9	0.8	6.7	5.4	0.80	0.50	0.0	0.0	7.63	14	197
167.0	Raycap DC6-48-60-0-	1	105	1.9	2.0	11.0	11.0	0.80	0.50	0.0	0.0	7.63	5	112
167.0	Raycap DC6-48-60-	3	74	1.9	2.0	11.0	11.0	0.80	0.50	0.0	0.0	7.63	15	240
167.0	Round Sector	3	512	21.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.63	207	1716
157.0	Kathrein Scala 742	3	89	6.0	6.4	6.1	2.7	1.00	0.67	0.0	0.0	7.54	77	281
148.0	Ericsson AIR 21, 1.3	3	180	7.5	4.7	12.0	8.0	0.80	0.71	0.0	0.0	7.44	81	591
148.0	Ericsson AIR-32	3	239	8.0	4.7	12.9	8.7	0.80	0.71	0.0	0.0	7.44	86	796
148.0	Ericsson Air6449	3	195	6.7	2.8	20.6	8.6	0.80	0.63	0.0	0.0	7.44	64	648
148.0	Ericsson KRY 112	3	18	0.6	0.6	6.1	2.7	0.80	0.50	0.0	0.0	7.44	5	61
148.0	Ericsson Radio 4449	3	115	2.2	1.3	13.2	10.5	0.80	0.50	0.0	0.0	7.44	17	391
148.0	Ericsson RRUS 4415	3	79	2.4	1.4	13.4	5.9	0.80	0.50	0.0	0.0	7.44	19	264
148.0	RFS	3	390	22.7	8.0	24.0	8.7	0.80	0.63	0.0	0.0	7.44	217	1247
148.0	Round Sector Frame	3	546	25.5	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.44	243	1817

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Tower Loading

125.0	Commander 620-3AN	1	103	7.3	20.7	1.2	1.2	1.00	1.00	0.0	0.0	7.18	44	113
115.0	Commscope RDIDC-	1	59	2.4	1.3	14.0	8.0	0.80	1.00	0.0	0.0	7.06	12	63
115.0	Fujitsu TA08025-	3	102	2.6	1.3	15.0	7.9	0.80	0.50	0.0	0.0	7.06	18	343
115.0	Fujitsu TA08025-	3	116	2.6	1.3	15.0	9.1	0.80	0.50	0.0	0.0	7.06	18	392
115.0	Generic Flat Light	3	595	27.7	0.0	0.0	0.0	0.75	0.75	0.0	0.0	7.06	280	2025
115.0	JMA Wireless	3	231	14.3	6.0	20.0	8.0	0.80	0.64	0.0	0.0	7.06	132	732
102.0	Standoffs	2	92	2.7	0.0	0.0	0.0	1.00	0.90	0.0	0.0	6.88	29	214
85.00	Generic 10' Dipole	1	101	7.6	10.0	3.0	3.0	1.00	1.00	0.0	0.0	6.62	43	107
80.00	Standoffs	1	91	2.7	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.54	15	106
76.00	PCTEL GPS-TMG-HR-	1	4	0.2	0.4	3.2	3.2	1.00	1.00	0.0	0.0	6.47	1	4
76.00	Standoffs	1	91	2.7	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.47	15	106
Totals		146	24932	1077.7									3816	27456

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
195.0	Radio Waves HPD2-	2	27	4.0	2.0	24.0	0.0	1.00	1.00	0.0	0.0	11.36	76	54
192.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.50	0.0	0.0	11.32	27	180
188.0	Alcatel-Lucent	3	64	1.8	1.3	13.8	13.0	0.80	0.50	0.0	0.0	11.27	21	192
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	11.23	24	159
185.0	Alcatel-Lucent TD-	3	70	4.0	2.2	18.6	6.7	0.80	0.61	0.0	0.0	11.23	57	210
185.0	KMW ET-X-WM-18-	3	36	6.7	5.1	12.0	4.3	0.80	0.63	0.0	0.0	11.23	96	109
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	11.23	139	128
185.0	Powerwave Allgon	1	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	11.23	69	64
185.0	RFS APXVSP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	11.23	61	57
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	11.23	232	900
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.14	256	1200
177.0	Amphenol Antel BXA-	3	12	3.6	4.0	8.0	5.9	0.80	0.72	0.0	0.0	11.13	58	36
177.0	JMA Wireless	6	57	9.6	5.9	15.0	7.4	0.80	0.66	0.0	0.0	11.13	287	344
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	52.4	11.14	52	88
177.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	11.13	21	253
177.0	Samsung B5/B13	6	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	11.13	43	422
177.0	Samsung MT6407-	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.0	11.13	65	245
177.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	11.13	10	56
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	10.99	108	146
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	10.99	97	88
167.0	CCI OPA65R-BU6A	2	58	7.9	5.9	11.7	8.4	0.80	0.79	0.0	0.0	10.99	93	115
167.0	CCI OPA65R-BU8B	1	69	11.2	8.0	11.7	8.4	0.80	1.00	0.0	0.0	10.99	84	69
167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	10.99	139	135
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	10.99	135	83
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	10.99	22	225
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	10.99	28	165
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	10.99	23	178
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	10.99	21	180
167.0	Ericsson RRUS E2	3	60	3.1	1.7	18.5	7.5	0.80	0.50	0.0	0.0	10.99	35	180
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	10.99	37	231
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	10.99	14	83
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	10.99	12	96
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	0.50	0.0	0.0	10.99	5	33
167.0	Raycap DC6-48-60-	3	32	1.5	2.0	11.0	11.0	0.80	0.50	0.0	0.0	10.99	16	95
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	10.99	203	900
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	10.85	95	66
148.0	Ericsson AIR 21, 1.3	3	83	6.0	4.7	12.0	8.0	0.80	0.71	0.0	0.0	10.72	94	249
148.0	Ericsson AIR-32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	10.72	101	397
148.0	Ericsson Air6449	3	104	5.7	2.8	20.6	8.6	0.80	0.63	0.0	0.0	10.72	78	312

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Tower Loading

148.0 Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	10.72	4	33
148.0 Ericsson Radio 4449	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.0	10.72	18	225
148.0 Ericsson RRUS 4415	3	46	1.8	1.4	13.4	5.9	0.80	0.50	0.0	0.0	10.72	20	138
148.0 RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	10.72	279	384
148.0 Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	10.72	198	900
125.0 Commander 620-3AN	1	53	2.5	20.7	1.2	1.2	1.00	1.00	0.0	0.0	10.34	22	53
115.0 Commscope RDIDC-	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.0	10.16	13	22
115.0 Fujitsu TA08025-	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.0	10.16	20	192
115.0 Fujitsu TA08025-	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.0	10.16	20	225
115.0 Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	10.16	261	1200
115.0 JMA Wireless	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.0	10.16	166	194
102.0 Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	9.91	38	150
85.00 Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	9.54	30	30
80.00 Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.42	20	75
76.00 PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	9.31	1	1
76.00 Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.31	20	75
Totals	146	12618	812.9									4166	12618

Site Number: 302470

Code:

ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	195.0	5/8" Coax	4	0.86	0.15	100	None	Individual	0.00	N	1.00	1.00	0.00
8.00	194.0	Wave Guide	1	1.25	5.00	100	3	Individual	0.00	N	1.00	1.00	0.00
8.00	185.0	1 1/4" Hybriflex	3	1.54	1.00	100	2	Individual	0.00	N	1.00	1.00	0.00
8.00	185.0	1 1/4" Hybriflex	1	1.54	1.00	100	2	Individual	0.00	N	1.00	1.00	0.00
8.00	185.0	Wave Guide	1	1.25	5.00	100	2	Individual	0.00	N	1.00	1.00	0.00
8.00	177.0	1 5/8" Coax	12	1.98	0.82	100	3	Individual	0.00	N	1.00	1.00	0.00
8.00	177.0	1 5/8" Hybriflex	2	1.98	1.30	100	3	Individual	0.00	N	1.00	1.00	0.00
8.00	167.0	0.39" (10mm) Fiber	2	0.39	0.06	100	1	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	0.78" (19.7mm) 8	8	0.78	0.59	100	1	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	1 1/4" Coax	12	1.55	0.63	100	1	Individual	0.00	N	1.00	1.00	0.00
8.00	167.0	2" conduit	1	2.38	3.65	100	1	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	Wave Guide	1	1.25	5.00	100	1	Individual	0.00	N	1.00	1.00	0.00
8.00	157.0	1 5/8" Coax	6	1.98	0.82	100	1	Individual	0.00	N	1.00	1.00	0.00
8.00	157.0	Waveguide	1	1.50	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.00	148.0	1 1/4" (1.25"-	3	1.25	1.05	100	3	Individual	0.00	N	1.00	1.00	0.01
0.00	148.0	1 5/8" (1.63"-	3	1.63	1.61	100	3	Individual	0.00	N	1.00	1.00	0.01
0.00	148.0	1 5/8" Coax	6	1.98	0.82	100	3	Individual	0.00	N	1.00	1.00	0.00
8.00	148.0	Wave Guide	1	1.25	5.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.00	125.0	7/8" Coax	1	1.09	0.33	100	None	Individual	0.00	N	1.00	1.00	0.00
0.00	115.0	1.60" (40.6mm)	1	1.60	2.34	100	None	Individual	0.00	N	1.00	1.00	0.00
0.00	115.0	Waveguide	1	2.00	6.00	100	None	Individual	0.00	N	1.00	1.00	0.00
8.00	85.00	1/2" Coax	1	0.63	0.15	100	1	Individual	0.00	N	1.00	1.00	0.00
8.00	76.00	1/2" Coax	1	0.63	0.15	100	2	Individual	0.00	N	1.00	1.00	0.00

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Equivalent Lateral Force Method

Spectral Response Acceleration for Short Period (S_s):	0.20
Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.05
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_p):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.22
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
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):	0.99
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.24
Total Unfactored Dead Load:	51.27 k
Seismic Base Shear (E):	2.00 k

LoadCase 1.2D + 1.0Ev + 1.0Eh

Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	829	556,891	0.034	69	1,030
9	170.00	1,835	1,087,87	0.067	134	2,281
8	150.00	2,929	1,486,28	0.092	184	3,641
7	130.00	3,659	1,554,12	0.096	192	4,549
6	110.00	3,918	1,352,15	0.084	167	4,871
5	90.00	4,437	1,193,12	0.074	147	5,516
4	70.00	4,730	930,627	0.057	115	5,880
3	50.00	5,127	663,827	0.041	82	6,373
2	30.00	5,468	375,140	0.023	46	6,797
1	10.00	5,722	100,174	0.006	12	7,113
Radio Waves HPD2-4.7NS	195.00	54	37,970	0.002	5	67
Alcatel-Lucent 1900 MHz 4X45 RRH	192.00	180	124,149	0.008	15	224
Alcatel-Lucent 800MHz RRH and Type 1	188.00	192	129,004	0.008	16	239
Alcatel-Lucent 800 MHz RRH	185.00	159	104,717	0.006	13	198
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	185.00	210	138,305	0.009	17	261
KMW ET-X-WM-18-65-8P	185.00	109	71,919	0.004	9	136
Powerwave Allgon P40-16-XLPP-RRR	185.00	128	84,300	0.005	10	159
Powerwave Allgon P40-16-XLPP-RRR	185.00	64	42,150	0.003	5	80
RFS APXVSP18-C-A20	185.00	57	37,540	0.002	5	71
Round Sector Frames	185.00	900	592,735	0.037	73	1,119
Flat Light Sector Frames	178.00	1,200	753,309	0.047	93	1,492
Amphenol Antel BXA-80080-4CF-EDIN-X	177.00	36	22,442	0.001	3	45
JMA Wireless MX10FRO660-xx	177.00	344	214,317	0.013	26	427
RFS DB-T1-6Z-8AB-0Z	177.00	88	54,857	0.003	7	109
Samsung B2/B66A RRH-BR049	177.00	253	157,839	0.010	19	315

Site Number: 302470

Code:

ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Equivalent Lateral Force Method

Samsung B5/B13 RRH-BR04C	177.00	422	262,940	0.016	32	524
Samsung MT6407-77A	177.00	245	152,602	0.009	19	304
Samsung Outdoor CBRS 20W RRH	177.00	56	34,784	0.002	4	69
CCI OPA-65R-LCUU-H6	167.00	146	84,665	0.005	10	181
CCI OPA-65R-LCUU-H8	167.00	88	51,031	0.003	6	109
CCI OPA65R-BU6A	167.00	115	66,688	0.004	8	143
CCI OPA65R-BU8B	167.00	69	40,013	0.002	5	86
CCI TPA65R-BU6D	167.00	135	78,286	0.005	10	168
CCI TPA65R-BU8D	167.00	83	47,841	0.003	6	103
Ericsson Radio 8843 - B2 + B66A (w/ prot	167.00	225	130,477	0.008	16	280
Ericsson RRUS 11 (Band 12) (55 lb)	167.00	165	95,683	0.006	12	205
Ericsson RRUS 4478 B14	167.00	178	103,337	0.006	13	222
Ericsson RRUS 4478 B5	167.00	180	104,207	0.006	13	223
Ericsson RRUS E2 B29	167.00	180	104,381	0.006	13	224
Ericsson RRUS-32 (77 lbs)	167.00	231	133,956	0.008	17	287
Kaelus DBCT108F1V92-1	167.00	83	48,363	0.003	6	104
Powerwave Allgon TT19-08BP111-001	167.00	96	55,670	0.003	7	119
Raycap DC6-48-60-0-8F (24" Height)	167.00	33	19,021	0.001	2	41
Raycap DC6-48-60-18-8F ("Squid")	167.00	95	55,322	0.003	7	119
Round Sector Frames	167.00	900	521,906	0.032	64	1,119
Kathrein Scala 742 213	157.00	66	35,445	0.002	4	82
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	124,261	0.008	15	310
Ericsson AIR-32 B2A/B66Aa	148.00	397	197,920	0.012	24	493
Ericsson Air6449 B41	148.00	312	155,701	0.010	19	388
Ericsson KRY 112 144/1	148.00	33	16,468	0.001	2	41
Ericsson Radio 4449 B71 B85A	148.00	225	112,284	0.007	14	280
Ericsson RRUS 4415 B25	148.00	138	68,868	0.004	9	172
RFS APXVAARR24_43-U-NA20	148.00	384	191,482	0.012	24	477
Round Sector Frame	148.00	900	449,137	0.028	55	1,119
Commander 620-3AN	125.00	53	21,440	0.001	3	66
Commscope RDIDC-9181-PF-48	115.00	22	7,987	0.000	1	27
Fujitsu TA08025-B604	115.00	192	69,911	0.004	9	238
Fujitsu TA08025-B605	115.00	225	82,055	0.005	10	280
Generic Flat Light Sector Frame	115.00	1,200	437,627	0.027	54	1,492
JMA Wireless MX08FRO665-21	115.00	193	70,567	0.004	9	241
Standoffs	102.00	150	47,124	0.003	6	186
Generic 10' Dipole	85.00	30	7,513	0.000	1	37
Standoffs	80.00	75	17,420	0.001	2	93
PCTEL GPS-TMG-HR-26N	76.00	1	131	0.000	0	1
Standoffs	76.00	75	16,344	0.001	2	93
		51,271	16,186,636	1.000	2,000	63,735

LoadCase 0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	829	556,891	0.034	69	710
9	170.00	1,835	1,087,87	0.067	134	1,572
8	150.00	2,929	1,486,28	0.092	184	2,510
7	130.00	3,659	1,554,12	0.096	192	3,135
6	110.00	3,918	1,352,15	0.084	167	3,358
5	90.00	4,437	1,193,12	0.074	147	3,802
4	70.00	4,730	930,627	0.057	115	4,053
3	50.00	5,127	663,827	0.041	82	4,393

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Equivalent Lateral Force Method

2	30.00	5,468	375,140	0.023	46	4,685
1	10.00	5,722	100,174	0.006	12	4,903
Radio Waves HPD2-4.7NS	195.00	54	37,970	0.002	5	46
Alcatel-Lucent 1900 MHz 4X45 RRH	192.00	180	124,149	0.008	15	154
Alcatel-Lucent 800MHz RRH and Type 1	188.00	192	129,004	0.008	16	165
Alcatel-Lucent 800 MHz RRH	185.00	159	104,717	0.006	13	136
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	185.00	210	138,305	0.009	17	180
KMW ET-X-WM-18-65-8P	185.00	109	71,919	0.004	9	94
Powerwave Allgon P40-16-XLPP-RRR	185.00	128	84,300	0.005	10	110
Powerwave Allgon P40-16-XLPP-RRR	185.00	64	42,150	0.003	5	55
RFS APXVSP18-C-A20	185.00	57	37,540	0.002	5	49
Round Sector Frames	185.00	900	592,735	0.037	73	771
Flat Light Sector Frames	178.00	1,200	753,309	0.047	93	1,028
Amphenol Antel BXA-80080-4CF-EDIN-X	177.00	36	22,442	0.001	3	31
JMA Wireless MX10FRO660-xx	177.00	344	214,317	0.013	26	295
RFS DB-T1-6Z-8AB-0Z	177.00	88	54,857	0.003	7	75
Samsung B2/B66A RRH-BR049	177.00	253	157,839	0.010	19	217
Samsung B5/B13 RRH-BR04C	177.00	422	262,940	0.016	32	361
Samsung MT6407-77A	177.00	245	152,602	0.009	19	210
Samsung Outdoor CBRS 20W RRH	177.00	56	34,784	0.002	4	48
CCI OPA-65R-LCUU-H6	167.00	146	84,665	0.005	10	125
CCI OPA-65R-LCUU-H8	167.00	88	51,031	0.003	6	75
CCI OPA65R-BU6A	167.00	115	66,688	0.004	8	99
CCI OPA65R-BU8B	167.00	69	40,013	0.002	5	59
CCI TPA65R-BU6D	167.00	135	78,286	0.005	10	116
CCI TPA65R-BU8D	167.00	83	47,841	0.003	6	71
Ericsson Radio 8843 - B2 + B66A (w/ prot	167.00	225	130,477	0.008	16	193
Ericsson RRUS 11 (Band 12) (55 lb)	167.00	165	95,683	0.006	12	141
Ericsson RRUS 4478 B14	167.00	178	103,337	0.006	13	153
Ericsson RRUS 4478 B5	167.00	180	104,207	0.006	13	154
Ericsson RRUS E2 B29	167.00	180	104,381	0.006	13	154
Ericsson RRUS-32 (77 lbs)	167.00	231	133,956	0.008	17	198
Kaelus DBCT108F1V92-1	167.00	83	48,363	0.003	6	71
Powerwave Allgon TT19-08BP111-001	167.00	96	55,670	0.003	7	82
Raycap DC6-48-60-0-8F (24" Height)	167.00	33	19,021	0.001	2	28
Raycap DC6-48-60-18-8F ("Squid")	167.00	95	55,322	0.003	7	82
Round Sector Frames	167.00	900	521,906	0.032	64	771
Kathrein Scala 742 213	157.00	66	35,445	0.002	4	57
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	124,261	0.008	15	213
Ericsson AIR-32 B2A/B66Aa	148.00	397	197,920	0.012	24	340
Ericsson Air6449 B41	148.00	312	155,701	0.010	19	267
Ericsson KRY 112 144/1	148.00	33	16,468	0.001	2	28
Ericsson Radio 4449 B71 B85A	148.00	225	112,284	0.007	14	193
Ericsson RRUS 4415 B25	148.00	138	68,868	0.004	9	118
RFS APXVAARR24_43-U-NA20	148.00	384	191,482	0.012	24	329
Round Sector Frame	148.00	900	449,137	0.028	55	771
Commander 620-3AN	125.00	53	21,440	0.001	3	45
Commscope RDIDC-9181-PF-48	115.00	22	7,987	0.000	1	19
Fujitsu TA08025-B604	115.00	192	69,911	0.004	9	164
Fujitsu TA08025-B605	115.00	225	82,055	0.005	10	193
Generic Flat Light Sector Frame	115.00	1,200	437,627	0.027	54	1,028
JMA Wireless MX08FRO665-21	115.00	193	70,567	0.004	9	166
Standoffs	102.00	150	47,124	0.003	6	129
Generic 10' Dipole	85.00	30	7,513	0.000	1	26
Standoffs	80.00	75	17,420	0.001	2	64

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Equivalent Lateral Force Method

PCTEL GPS-TMG-HR-26N	76.00	1	131	0.000	0	1
Standoffs	76.00	75	16,344	0.001	2	64
		51,271	16,186,636	1.000	2,000	43,935

Site Number: 302470

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Force/Stress Summary

Section: 1		15N25		Bot Elev (ft): 0.00				Height (ft): 20.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member															
LEG	PX - 8" DIA PIPE	-386.26	1.2D + 1.0W Normal	9.77	100	100	100	40.7	50.0	510.32	0	0	0.00	0.00	75 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 4X4X0.25	-12.97	1.2D + 1.0W 90 deg	23.62	50	50	50	178.3	43.5	17.47	1	1	19.88	23.40	74 Member Z
Max Tension Member															
		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls		
LEG	PX - 8" DIA PIPE	346.72	0.9D + 1.0W 60 deg	50	65	576.00	0	0	0.00	0.00			60	Member	
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00		0		
DIAG	SAE - 4X4X0.25	12.75	1.2D + 1.0W 90 deg	50	65	63.50	1	1	19.88	14.14	17.98		90	Bolt Bear	
Max Splice Forces															
		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		313.76	0.9D + 1.0W 60 deg	0.00	0	0									
Top Compression		359.32	1.2D + 1.0W Normal	0.00	0										
Bot Tension		346.72	0.9D + 1.0W 60 deg	567.89	38	10	1" A354-BC								
Bot Compression		396.70	1.2D + 1.0W Normal	660.26	64	10	1" A354-BC								

Section: 2		14N46		Bot Elev (ft): 20.00				Height (ft): 20.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member															
LEG	PSP - ROHN 8 EHS	-347.39	1.2D + 1.0W Normal	9.77	100	100	100	40.1	50.0	388.80	0	0	0.00	0.00	89 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 4X4X0.25	-12.51	1.2D + 1.0W 90 deg	22.69	50	50	50	171.3	43.5	18.93	1	1	19.88	23.40	66 Member Z
Max Tension Member															
		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls		
LEG	PSP - ROHN 8 EHS	314.09	0.9D + 1.0W 60 deg	50	65	437.40	0	0	0.00	0.00			71	Member	
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00		0		
DIAG	SAE - 4X4X0.25	12.32	1.2D + 1.0W 90 deg	50	65	63.50	1	1	19.88	14.14	17.98		87	Bolt Bear	
Max Splice Forces															
		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		278.01	0.9D + 1.0W 60 deg	0.00	0	0									
Top Compression		317.93	1.2D + 1.0W Normal	0.00	0										
Bot Tension		313.76	0.9D + 1.0W 60 deg	436.14	72	8	1 A325								
Bot Compression		0.00		0.00	0										

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Force/Stress Summary

Section: 3		13N88		Bot Elev (ft): 40.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PSP - ROHN 8 EHS	-306.53	1.2D + 1.0W Normal	9.77	100	100	100	40.1	50.0	388.78	0	0	0.00	0.00	78 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3.5X3.5X0.25	-11.30	1.2D + 1.0W 90 deg	20.87	50	50	50	182.0	50.0	14.60	1	1	19.88	23.40	77 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PSP - ROHN 8 EHS	278.44	0.9D + 1.0W 60 deg	50	65	437.40	0	0	0.00	0.00			63 Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00		0
DIAG	SAE - 3.5X3.5X0.25	11.18	1.2D + 1.0W 90 deg	50	65	54.36	1	1	19.88	14.14	17.98		79 Bolt Bear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		242.63	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		277.11	1.2D + 1.0W Normal	0.00	0		
Bot Tension		278.01	0.9D + 1.0W 60 deg	436.14	64	8	1 A325
Bot Compression		0.00		0.00	0		

Section: 4		12N50		Bot Elev (ft): 60.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 6" DIA PIPE	-265.13	1.2D + 1.0W Normal	9.77	100	100	100	53.4	50.0	306.88	0	0	0.00	0.00	86 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3.5X3.5X0.25	-11.01	1.2D + 1.0W 90 deg	19.04	50	50	50	166.1	50.0	17.54	1	1	19.88	23.40	62 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PX - 6" DIA PIPE	242.94	0.9D + 1.0W 60 deg	50	65	378.00	0	0	0.00	0.00			64 Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00		0
DIAG	SAE - 3.5X3.5X0.25	11.02	1.2D + 1.0W 90 deg	50	65	54.36	1	1	19.88	14.14	17.98		77 Bolt Bear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		204.27	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		233.54	1.2D + 1.0W Normal	0.00	0		
Bot Tension		242.63	0.9D + 1.0W 60 deg	436.14	56	8	1 A325
Bot Compression		0.00		0.00	0		

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

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Customer: DISH WIRELESS L.L.C.

Force/Stress Summary

Section: 5		11N223		Bot Elev (ft): 80.00				Height (ft): 20.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member															
LEG	PSP - ROHN 6 EHS	-224.37	1.2D + 1.0W Normal	6.51	100	100	100	35.1	50.0	275.92	0	0	0.00	0.00	81 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.25	-10.06	1.2D + 1.0W 90 deg	15.90	50	50	50	161.2	50.0	15.87	1	1	19.88	23.40	63 Member Z
Max Tension Member															
LEG	PSP - ROHN 6 EHS	204.59	0.9D + 1.0W 60 deg	50	65	301.95	0	0	0.00	0.00	0	0	0.00	0.00	67 Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.25	9.90	1.2D + 1.0W 90 deg	50	65	45.22	1	1	19.88	14.14	1	1	14.93	14.93	70 Bolt Bear
Max Splice Forces															
		Pu (kip)	Load Case			phiRnt (kip)	Use %	Num Bolts	Bolt Type						
	Top Tension	163.10	0.9D + 1.0W 60 deg			0.00	0	0							
	Top Compression	187.25	1.2D + 1.0W Normal			0.00	0	0							
	Bot Tension	204.27	0.9D + 1.0W 60 deg			327.10	62	6	1 A325						
	Bot Compression	0.00				0.00	0								

Section: 6		10N152		Bot Elev (ft): 100.0				Height (ft): 20.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member															
LEG	PX - 5" DIA PIPE	-178.72	1.2D + 1.0W Normal	6.51	100	100	100	42.5	50.0	240.59	0	0	0.00	0.00	74 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 2.5X2.5X0.25	-8.63	1.2D + 1.0W 90 deg	14.13	50	50	50	172.8	36.0	11.41	1	1	13.81	17.40	75 Member Z
Max Tension Member															
LEG	PX - 5" DIA PIPE	163.39	0.9D + 1.0W 60 deg	50	65	274.50	0	0	0.00	0.00	0	0	0.00	0.00	59 Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0	0	0.00	0.00	0
DIAG	SAE - 2.5X2.5X0.25	8.53	1.2D + 1.0W 90 deg	36	58	33.22	1	1	13.81	10.44	1	1	11.83	11.83	81 Bolt Bear
Max Splice Forces															
		Pu (kip)	Load Case			phiRnt (kip)	Use %	Num Bolts	Bolt Type						
	Top Tension	123.71	0.9D + 1.0W 60 deg			0.00	0	0							
	Top Compression	142.20	1.2D + 1.0W Normal			0.00	0	0							
	Bot Tension	163.10	0.9D + 1.0W 60 deg			327.10	50	6	1 A325						
	Bot Compression	0.00				0.00	0								

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

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Customer: DISH WIRELESS L.L.C.

Force/Stress Summary

Section: 7		9N216		Bot Elev (ft): 120.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	-133.64	1.2D + 1.0W Normal	6.51	100	100	100	42.5	50.0	240.60	0	0	0.00	0.00	55 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 2.5X2.5X0.25	-8.03	1.2D + 1.0W 90 deg	11.25	50	50	50	137.5	36.0	18.01	1	1	13.81	17.40	58 Bolt Shear

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	123.89	0.9D + 1.0W 60 deg	50	65	274.50	0	0	0.00	0.00			45 Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00		0
DIAG	SAE - 2.5X2.5X0.25	7.87	1.2D + 1.0W 90 deg	36	58	33.22	1	1	13.81	10.44	11.83		75 Bolt Bear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		81.66	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		96.08	1.2D + 1.0W Normal	0.00	0		
Bot Tension		123.71	0.9D + 1.0W 60 deg	218.07	57	4	1 A325
Bot Compression		0.00		0.00	0		

Section: 8		A780252		Bot Elev (ft): 140.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 4" DIA PIPE	-89.41	1.2D + 1.0W Normal	4.88	100	100	100	39.6	50.0	176.95	0	0	0.00	0.00	50 Member X
HORIZ	SAE - 2X2X0.125	-0.39	1.2D + 1.0W 60 deg	6.760	100	100	100	203.8	36.0	3.31	1	1	13.81	8.70	11 Member Z
DIAG	SAE - 2X2X0.25	-6.55	1.2D + 1.0W 90 deg	9.848	50	50	50	151.1	36.0	11.78	1	1	13.81	17.40	55 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PX - 4" DIA PIPE	81.86	0.9D + 1.0W 60 deg	50	65	198.45	0	0	0.00	0.00			41 Member
HORIZ	SAE - 2X2X0.125	0.29	1.2D + 1.0W Normal	36	58	12.86	1	1	13.81	5.22	4.55		6 Blk Shear
DIAG	SAE - 2X2X0.25	6.56	1.2D + 1.0W 90 deg	36	58	25.06	1	1	13.81	10.44	9.11		72 Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		39.90	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		48.95	1.2D + 1.0W Normal	0.00	0		
Bot Tension		81.66	0.9D + 1.0W 60 deg	218.07	37	4	1 A325
Bot Compression		0.00		0.00	0		

Site Number: 302470

Code: ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

Force/Stress Summary

Section: 9		A780178		Bot Elev (ft): 160.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 3" DIA PIPE	-48.31	1.2D + 1.0W Normal	0.25	100	100	100	2.6	50.0	135.83	0	0	0.00	0.00	35 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 2X2X0.1875	-6.16	1.2D + 1.0W 90 deg	7.798	50	50	50	119.1	36.0	14.27	2	1	27.61	26.10	43 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PX - 3" DIA PIPE	39.63	0.9D + 1.0W 60 deg	50	65	135.90	0	0	0.00	0.00			29 Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00		0
DIAG	SAE - 2X2X0.1875	6.07	1.2D + 1.0W 90 deg	36	58	19.12	2	1	27.61	20.88	12.34		49 Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		4.21	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		6.64	1.2D + 1.0W Normal	0.00	0		
Bot Tension		39.90	0.9D + 1.0W 60 deg	166.22	24	4	0.875" A325
Bot Compression		0.00		0.00	0		

Section: 10		A780178		Bot Elev (ft): 180.0				Height (ft): 16.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 2-1/2" DIA PIP	-6.53	1.2D + 1.0W Normal	0.25	100	100	100	3.2	50.0	76.62	0	0	0.00	0.00	8 Member X
HORIZ	SAE - 2X2X0.125	-0.03	1.2D + 1.0W Normal	6.647	100	100	100	200.4	36.0	3.42	1	1	13.81	8.70	0 Member Z
DIAG	SAE - 1.75X1.75X0.18	-1.78	1.2D + 1.0W 90 deg	7.758	50	50	50	135.7	36.0	9.65	1	1	13.81	13.05	18 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PST - 2-1/2" DIA PIP	4.02	1.2D + 1.0W 60 deg	50	65	76.68	0	0	0.00	0.00			5 Member
HORIZ	SAE - 2X2X0.125	0.01	1.2D + 1.0W Normal	36	58	12.86	1	1	13.81	5.22	4.55		0 Blk Shear
DIAG	SAE - 1.75X1.75X0.18	1.77	1.2D + 1.0W 90 deg	36	58	16.05	1	1	13.81	7.83	5.81		30 Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		0.24	1.2D + 1.0Ev + 1.0Eh	0.00	0		
Bot Tension		4.21	0.9D + 1.0W 60 deg	120.41	3	4	0.75" A325
Bot Compression		0.00		0.00	0		

Site Number: 302470

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

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Customer: DISH WIRELESS L.L.C.

Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.0W Normal	13.28	00.00	0	1	0.00	395.44	-41.27	
	13.28	00.00	120	1a	14.07	-166.96	-13.40	
	13.28	00.00	240	1b	-14.07	-166.96	-13.40	
1.2D + 1.0W 60 deg	13.28	00.00	0	1	-4.17	200.86	-20.41	
	13.28	00.00	120	1a	-19.75	200.85	6.60	
	13.28	00.00	240	1b	-32.30	-340.18	-18.65	
1.2D + 1.0W 90 deg	13.28	00.00	0	1	-4.96	20.52	-1.25	
	13.28	00.00	120	1a	-31.32	335.94	15.29	
	13.28	00.00	240	1b	-29.42	-294.93	-14.05	
0.9D + 1.0W Normal	13.28	00.00	0	1	0.00	389.79	-40.93	
	13.28	00.00	120	1a	14.35	-171.82	-13.57	
	13.28	00.00	240	1b	-14.35	-171.82	-13.57	
0.9D + 1.0W 60 deg	13.28	00.00	0	1	-4.17	195.48	-20.08	
	13.28	00.00	120	1a	-19.47	195.46	6.42	
	13.28	00.00	240	1b	-32.57	-344.80	-18.81	
0.9D + 1.0W 90 deg	13.28	00.00	0	1	-4.97	15.39	-0.92	
	13.28	00.00	120	1a	-31.03	330.37	15.12	
	13.28	00.00	240	1b	-29.70	-299.62	-14.20	
1.2D + 1.0Di + 1.0Wi Normal	13.28	00.00	0	1	0.00	172.84	-13.58	
	13.28	00.00	120	1a	5.92	-20.03	-5.36	
	13.28	00.00	240	1b	-5.92	-20.03	-5.36	
1.2D + 1.0Di + 1.0Wi 60 deg	13.28	00.00	0	1	-1.62	107.48	-6.32	
	13.28	00.00	120	1a	-6.29	107.47	1.76	
	13.28	00.00	240	1b	-12.70	-82.16	-7.33	
1.2D + 1.0Di + 1.0Wi 90 deg	13.28	00.00	0	1	-1.89	44.26	0.66	
	13.28	00.00	120	1a	-10.42	154.21	4.93	
	13.28	00.00	240	1b	-11.61	-65.69	-5.60	
1.2D + 1.0Ev + 1.0Eh Normal M1	13.28	00.00	0	1	0.00	34.30	-2.57	
	13.28	00.00	120	1a	-0.69	14.01	0.31	
	13.28	00.00	240	1b	0.69	14.01	0.31	
1.2D + 1.0Ev + 1.0Eh 60 deg M1	13.28	00.00	0	1	-0.08	27.53	-1.97	
	13.28	00.00	120	1a	-1.74	27.53	0.92	
	13.28	00.00	240	1b	0.13	7.24	0.07	
1.2D + 1.0Ev + 1.0Eh 90 deg M1	13.28	00.00	0	1	-0.09	20.77	-1.36	
	13.28	00.00	120	1a	-2.11	32.48	1.17	
	13.28	00.00	240	1b	0.25	9.06	0.19	
0.9D - 1.0Ev + 1.0Eh Normal M1	13.28	00.00	0	1	0.00	27.82	-2.15	
	13.28	00.00	120	1a	-0.33	7.57	0.10	
	13.28	00.00	240	1b	0.33	7.57	0.10	
0.9D - 1.0Ev + 1.0Eh 60 deg M1	13.28	00.00	0	1	-0.08	21.07	-1.54	
	13.28	00.00	120	1a	-1.38	21.07	0.71	
	13.28	00.00	240	1b	-0.24	0.82	-0.14	
0.9D - 1.0Ev + 1.0Eh 90 deg M1	13.28	00.00	0	1	-0.09	14.32	-0.94	
	13.28	00.00	120	1a	-1.74	26.01	0.96	

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8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

	13.28	00.00	240	1b	-0.12	2.63	-0.02
1.0D + 1.0W Service Normal	13.28	00.00	0	1	0.00	115.34	-11.70
	13.28	00.00	120	1a	3.05	-32.03	-3.16
	13.28	00.00	240	1b	-3.05	-32.03	-3.16
1.0D + 1.0W Service 60 deg	13.28	00.00	0	1	-1.13	64.38	-6.16
	13.28	00.00	120	1a	-5.91	64.37	2.10
	13.28	00.00	240	1b	-7.86	-77.48	-4.54
1.0D + 1.0W Service 90 deg	13.28	00.00	0	1	-1.34	17.09	-1.09
	13.28	00.00	120	1a	-8.97	99.81	4.41
	13.28	00.00	240	1b	-7.10	-65.63	-3.32

Max Uplift:	344.80(kip)	Moment Ice:	2,561.18 (kip-ft)	Moment:	7,468.14 (kip-ft)	1.2D + 1.0W Normal
Max Down:	395.44(kip)	Total Down Ice:	132.79 (kip)	Total Down:	61.53 (kip)	
Max Shear:	41.27(kip)	Total Shear Ice:	24.29 (kip)	Total Shear:	68.07 (kip)	

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Customer: DISH WIRELESS L.L.C.

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
118 mph Normal with No Ice	79.75	0.320	0.0221	0.5107	0.5107
118 mph Normal with No Ice	80.00	0.322	0.0221	0.5151	0.5151
118 mph Normal with No Ice	86.75	0.379	0.0223	0.4949	0.4954
118 mph Normal with No Ice	100.25	0.510	0.0273	0.6537	0.6537
118 mph Normal with No Ice	113.25	0.656	0.0293	0.6819	0.6825
118 mph Normal with No Ice	126.75	0.828	0.0317	0.7626	0.7633
118 mph Normal with No Ice	150.00	1.173	0.0353	0.9303	0.9303
118 mph Normal with No Ice	154.88	1.252	0.0352	0.9308	0.9315
118 mph Normal with No Ice	168.05	1.481	0.0382	1.0278	1.0285
118 mph Normal with No Ice	175.85	1.621	0.0384	1.0344	1.0351
118 mph Normal with No Ice	179.75	1.691	0.0378	1.1130	1.1130
118 mph Normal with No Ice	184.19	1.773	0.0384	1.0250	1.0257
118 mph Normal with No Ice	188.13	1.843	0.0381	1.0380	1.0380
118 mph Normal with No Ice	192.06	1.914	0.0383	1.0346	1.0353
118 mph Normal with No Ice	196.00	1.985	0.0381	1.0332	1.0332
118 mph 60 degree with No Ice	79.75	0.308	0.0226	0.4929	0.4929
118 mph 60 degree with No Ice	80.00	0.311	0.0227	0.4969	0.4969
118 mph 60 degree with No Ice	86.75	0.366	0.0227	0.4782	0.4787
118 mph 60 degree with No Ice	100.25	0.492	0.0281	0.6307	0.6307
118 mph 60 degree with No Ice	113.25	0.634	0.0300	0.6595	0.6601
118 mph 60 degree with No Ice	126.75	0.801	0.0328	0.7382	0.7388
118 mph 60 degree with No Ice	150.00	1.134	0.0372	0.9005	0.9005
118 mph 60 degree with No Ice	154.88	1.211	0.0368	0.9008	0.9014
118 mph 60 degree with No Ice	168.05	1.432	0.0411	0.9954	0.9954
118 mph 60 degree with No Ice	175.85	1.568	0.0415	0.9965	0.9974
118 mph 60 degree with No Ice	179.75	1.636	0.0421	1.0768	1.0768
118 mph 60 degree with No Ice	184.19	1.714	0.0415	0.9912	0.9920
118 mph 60 degree with No Ice	188.13	1.783	0.0417	1.0042	1.0042
118 mph 60 degree with No Ice	192.06	1.851	0.0415	1.0011	1.0019
118 mph 60 degree with No Ice	196.00	1.920	0.0417	1.0000	1.0000
118 mph 90 degree with No Ice	79.75	0.311	-0.0256	0.4917	0.4919
118 mph 90 degree with No Ice	80.00	0.313	-0.0257	0.4954	0.4955
118 mph 90 degree with No Ice	86.75	0.369	-0.0258	0.4836	0.4842
118 mph 90 degree with No Ice	100.25	0.496	-0.0317	0.6288	0.6290
118 mph 90 degree with No Ice	113.25	0.639	-0.0339	0.6679	0.6687
118 mph 90 degree with No Ice	126.75	0.807	-0.0368	0.7450	0.7459
118 mph 90 degree with No Ice	150.00	1.143	-0.0411	0.9049	0.9052
118 mph 90 degree with No Ice	154.88	1.221	-0.0407	0.9125	0.9134
118 mph 90 degree with No Ice	168.05	1.444	-0.0446	1.0030	1.0032
118 mph 90 degree with No Ice	175.85	1.580	-0.0447	1.0082	1.0092
118 mph 90 degree with No Ice	179.75	1.649	-0.0447	1.0740	1.0742
118 mph 90 degree with No Ice	184.19	1.728	-0.0446	1.0036	1.0046
118 mph 90 degree with No Ice	188.13	1.797	-0.0446	1.0093	1.0096
118 mph 90 degree with No Ice	192.06	1.866	-0.0447	1.0116	1.0125
118 mph 90 degree with No Ice	196.00	1.935	-0.0446	1.0054	1.0056
118 mph Normal with No Ice (Reduced DL)	79.75	0.319	0.0220	0.5100	0.5100
118 mph Normal with No Ice (Reduced DL)	80.00	0.321	0.0221	0.5144	0.5144
118 mph Normal with No Ice (Reduced DL)	86.75	0.379	0.0223	0.4940	0.4945
118 mph Normal with No Ice (Reduced DL)	100.25	0.509	0.0272	0.6524	0.6524
118 mph Normal with No Ice (Reduced DL)	113.25	0.654	0.0292	0.6803	0.6810
118 mph Normal with No Ice (Reduced DL)	126.75	0.827	0.0316	0.7608	0.7615
118 mph Normal with No Ice (Reduced DL)	150.00	1.170	0.0352	0.9280	0.9280
118 mph Normal with No Ice (Reduced DL)	154.88	1.249	0.0351	0.9284	0.9291
118 mph Normal with No Ice (Reduced DL)	168.05	1.478	0.0381	1.0250	1.0257
118 mph Normal with No Ice (Reduced DL)	175.85	1.617	0.0382	1.0317	1.0324

Site Number: 302470

Code:

ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:32 PM

Customer: DISH WIRELESS L.L.C.

118 mph Normal with No Ice (Reduced DL)	179.75	1.688	0.0377	1.1099	1.1099
118 mph Normal with No Ice (Reduced DL)	184.19	1.769	0.0383	1.0223	1.0230
118 mph Normal with No Ice (Reduced DL)	188.13	1.839	0.0380	1.0353	1.0353
118 mph Normal with No Ice (Reduced DL)	192.06	1.910	0.0382	1.0319	1.0326
118 mph Normal with No Ice (Reduced DL)	196.00	1.980	0.0380	1.0305	1.0305
118 mph 60 deg with No Ice (Reduced DL)	79.75	0.308	0.0225	0.4917	0.4917
118 mph 60 deg with No Ice (Reduced DL)	80.00	0.310	0.0226	0.4958	0.4958
118 mph 60 deg with No Ice (Reduced DL)	86.75	0.365	0.0226	0.4772	0.4777
118 mph 60 deg with No Ice (Reduced DL)	100.25	0.491	0.0281	0.6293	0.6293
118 mph 60 deg with No Ice (Reduced DL)	113.25	0.632	0.0299	0.6580	0.6586
118 mph 60 deg with No Ice (Reduced DL)	126.75	0.799	0.0327	0.7364	0.7371
118 mph 60 deg with No Ice (Reduced DL)	150.00	1.131	0.0370	0.8983	0.8983
118 mph 60 deg with No Ice (Reduced DL)	154.88	1.208	0.0367	0.8986	0.8992
118 mph 60 deg with No Ice (Reduced DL)	168.05	1.429	0.0410	0.9926	0.9926
118 mph 60 deg with No Ice (Reduced DL)	175.85	1.564	0.0414	0.9939	0.9948
118 mph 60 deg with No Ice (Reduced DL)	179.75	1.632	0.0420	1.0740	1.0741
118 mph 60 deg with No Ice (Reduced DL)	184.19	1.710	0.0413	0.9887	0.9895
118 mph 60 deg with No Ice (Reduced DL)	188.13	1.779	0.0416	1.0016	1.0016
118 mph 60 deg with No Ice (Reduced DL)	192.06	1.847	0.0414	0.9985	0.9993
118 mph 60 deg with No Ice (Reduced DL)	196.00	1.915	0.0415	0.9973	0.9973
118 mph 90 deg with No Ice (Reduced DL)	79.75	0.310	-0.0256	0.4910	0.4912
118 mph 90 deg with No Ice (Reduced DL)	80.00	0.313	-0.0257	0.4947	0.4948
118 mph 90 deg with No Ice (Reduced DL)	86.75	0.368	-0.0258	0.4826	0.4833
118 mph 90 deg with No Ice (Reduced DL)	100.25	0.495	-0.0316	0.6275	0.6277
118 mph 90 deg with No Ice (Reduced DL)	113.25	0.638	-0.0338	0.6664	0.6672
118 mph 90 deg with No Ice (Reduced DL)	126.75	0.806	-0.0367	0.7433	0.7442
118 mph 90 deg with No Ice (Reduced DL)	150.00	1.141	-0.0410	0.9026	0.9029
118 mph 90 deg with No Ice (Reduced DL)	154.88	1.218	-0.0406	0.9102	0.9111
118 mph 90 deg with No Ice (Reduced DL)	168.05	1.441	-0.0445	1.0002	1.0005
118 mph 90 deg with No Ice (Reduced DL)	175.85	1.577	-0.0445	1.0056	1.0066
118 mph 90 deg with No Ice (Reduced DL)	179.75	1.646	-0.0446	1.0710	1.0713
118 mph 90 deg with No Ice (Reduced DL)	184.19	1.724	-0.0445	1.0010	1.0019
118 mph 90 deg with No Ice (Reduced DL)	188.13	1.793	-0.0445	1.0067	1.0069
118 mph 90 deg with No Ice (Reduced DL)	192.06	1.862	-0.0445	1.0089	1.0099
118 mph 90 deg with No Ice (Reduced DL)	196.00	1.931	-0.0445	1.0028	1.0030
50 mph Normal with 1.00 in Radial Ice	79.75	0.110	0.0077	0.1708	0.1708
50 mph Normal with 1.00 in Radial Ice	80.00	0.110	0.0077	0.1724	0.1724
50 mph Normal with 1.00 in Radial Ice	86.75	0.129	0.0077	0.1645	0.1646
50 mph Normal with 1.00 in Radial Ice	100.25	0.173	0.0094	0.2167	0.2167
50 mph Normal with 1.00 in Radial Ice	113.25	0.220	0.0100	0.2231	0.2233
50 mph Normal with 1.00 in Radial Ice	126.75	0.277	0.0107	0.2456	0.2458
50 mph Normal with 1.00 in Radial Ice	150.00	0.387	0.0118	0.2940	0.2940
50 mph Normal with 1.00 in Radial Ice	154.88	0.411	0.0118	0.2939	0.2942
50 mph Normal with 1.00 in Radial Ice	168.05	0.483	0.0126	0.3210	0.3212
50 mph Normal with 1.00 in Radial Ice	175.85	0.527	0.0126	0.3221	0.3224
50 mph Normal with 1.00 in Radial Ice	179.75	0.549	0.0125	0.3433	0.3433
50 mph Normal with 1.00 in Radial Ice	184.19	0.574	0.0125	0.3191	0.3194
50 mph Normal with 1.00 in Radial Ice	188.13	0.596	0.0125	0.3224	0.3224
50 mph Normal with 1.00 in Radial Ice	192.06	0.618	0.0125	0.3214	0.3216
50 mph Normal with 1.00 in Radial Ice	196.00	0.640	0.0125	0.3208	0.3208
50 mph 60 deg with 1.00 in Radial Ice	79.75	0.109	0.0078	0.1726	0.1726
50 mph 60 deg with 1.00 in Radial Ice	80.00	0.110	0.0078	0.1739	0.1739
50 mph 60 deg with 1.00 in Radial Ice	86.75	0.128	0.0078	0.1620	0.1622
50 mph 60 deg with 1.00 in Radial Ice	100.25	0.171	0.0096	0.2140	0.2140
50 mph 60 deg with 1.00 in Radial Ice	113.25	0.218	0.0101	0.2192	0.2194
50 mph 60 deg with 1.00 in Radial Ice	126.75	0.273	0.0109	0.2422	0.2424
50 mph 60 deg with 1.00 in Radial Ice	150.00	0.381	0.0121	0.2894	0.2894
50 mph 60 deg with 1.00 in Radial Ice	154.88	0.406	0.0120	0.2891	0.2894
50 mph 60 deg with 1.00 in Radial Ice	168.05	0.476	0.0129	0.3170	0.3170
50 mph 60 deg with 1.00 in Radial Ice	175.85	0.519	0.0129	0.3156	0.3159
50 mph 60 deg with 1.00 in Radial Ice	179.75	0.541	0.0129	0.3368	0.3368
50 mph 60 deg with 1.00 in Radial Ice	184.19	0.566	0.0128	0.3135	0.3138

Site Number: 302470

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ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:33 PM

Customer: DISH WIRELESS L.L.C.

50 mph 60 deg with 1.00 in Radial Ice	188.13	0.587	0.0128	0.3178	0.3178
50 mph 60 deg with 1.00 in Radial Ice	192.06	0.609	0.0128	0.3167	0.3169
50 mph 60 deg with 1.00 in Radial Ice	196.00	0.631	0.0128	0.3169	0.3169
50 mph 90 deg with 1.00 in Radial Ice	79.75	0.109	-0.0090	0.1707	0.1708
50 mph 90 deg with 1.00 in Radial Ice	80.00	0.110	-0.0090	0.1719	0.1719
50 mph 90 deg with 1.00 in Radial Ice	86.75	0.129	-0.0090	0.1630	0.1632
50 mph 90 deg with 1.00 in Radial Ice	100.25	0.171	-0.0110	0.2118	0.2118
50 mph 90 deg with 1.00 in Radial Ice	113.25	0.219	-0.0117	0.2214	0.2217
50 mph 90 deg with 1.00 in Radial Ice	126.75	0.274	-0.0125	0.2432	0.2436
50 mph 90 deg with 1.00 in Radial Ice	150.00	0.382	-0.0138	0.2899	0.2900
50 mph 90 deg with 1.00 in Radial Ice	154.88	0.407	-0.0137	0.2917	0.2920
50 mph 90 deg with 1.00 in Radial Ice	168.05	0.478	-0.0148	0.3179	0.3180
50 mph 90 deg with 1.00 in Radial Ice	175.85	0.521	-0.0147	0.3183	0.3186
50 mph 90 deg with 1.00 in Radial Ice	179.75	0.543	-0.0147	0.3364	0.3365
50 mph 90 deg with 1.00 in Radial Ice	184.19	0.568	-0.0147	0.3161	0.3165
50 mph 90 deg with 1.00 in Radial Ice	188.13	0.589	-0.0146	0.3183	0.3184
50 mph 90 deg with 1.00 in Radial Ice	192.06	0.611	-0.0146	0.3183	0.3187
50 mph 90 deg with 1.00 in Radial Ice	196.00	0.633	-0.0146	0.3174	0.3175
Seismic Normal M1	79.75	0.012	0.0008	0.0197	0.0197
Seismic Normal M1	80.00	0.012	0.0008	0.0197	0.0197
Seismic Normal M1	86.75	0.014	0.0008	0.0196	0.0197
Seismic Normal M1	100.25	0.019	0.0010	0.0259	0.0259
Seismic Normal M1	113.25	0.025	0.0010	0.0280	0.0281
Seismic Normal M1	126.75	0.033	0.0011	0.0318	0.0318
Seismic Normal M1	150.00	0.047	0.0011	0.0401	0.0401
Seismic Normal M1	154.88	0.050	0.0011	0.0403	0.0403
Seismic Normal M1	168.05	0.060	0.0011	0.0451	0.0451
Seismic Normal M1	175.85	0.066	0.0011	0.0451	0.0451
Seismic Normal M1	179.75	0.069	0.0011	0.0490	0.0490
Seismic Normal M1	184.19	0.073	0.0010	0.0446	0.0446
Seismic Normal M1	188.13	0.076	0.0010	0.0456	0.0456
Seismic Normal M1	192.06	0.079	0.0010	0.0452	0.0452
Seismic Normal M1	196.00	0.082	0.0010	0.0453	0.0453
Seismic 60 deg M1	79.75	0.012	0.0008	0.0207	0.0207
Seismic 60 deg M1	80.00	0.012	0.0008	0.0207	0.0207
Seismic 60 deg M1	86.75	0.014	0.0008	0.0197	0.0197
Seismic 60 deg M1	100.25	0.019	0.0010	0.0262	0.0262
Seismic 60 deg M1	113.25	0.025	0.0010	0.0278	0.0278
Seismic 60 deg M1	126.75	0.032	0.0011	0.0318	0.0318
Seismic 60 deg M1	150.00	0.047	0.0011	0.0395	0.0395
Seismic 60 deg M1	154.88	0.050	0.0011	0.0399	0.0399
Seismic 60 deg M1	168.05	0.060	0.0011	0.0452	0.0452
Seismic 60 deg M1	175.85	0.066	0.0011	0.0447	0.0447
Seismic 60 deg M1	179.75	0.069	-0.0011	0.0488	0.0488
Seismic 60 deg M1	184.19	0.073	-0.0010	0.0444	0.0444
Seismic 60 deg M1	188.13	0.076	-0.0010	0.0455	0.0456
Seismic 60 deg M1	192.06	0.079	-0.0010	0.0453	0.0453
Seismic 60 deg M1	196.00	0.082	-0.0010	0.0453	0.0453
Seismic 90 deg M1	79.75	0.012	-0.0009	0.0204	0.0204
Seismic 90 deg M1	80.00	0.012	-0.0009	0.0204	0.0204
Seismic 90 deg M1	86.75	0.014	-0.0009	0.0197	0.0198
Seismic 90 deg M1	100.25	0.019	-0.0011	0.0259	0.0259
Seismic 90 deg M1	113.25	0.025	-0.0012	0.0280	0.0281
Seismic 90 deg M1	126.75	0.032	-0.0013	0.0318	0.0318
Seismic 90 deg M1	150.00	0.047	-0.0013	0.0399	0.0399
Seismic 90 deg M1	154.88	0.050	-0.0013	0.0404	0.0404
Seismic 90 deg M1	168.05	0.060	-0.0013	0.0452	0.0452
Seismic 90 deg M1	175.85	0.066	-0.0013	0.0451	0.0451
Seismic 90 deg M1	179.75	0.069	-0.0012	0.0486	0.0486
Seismic 90 deg M1	184.19	0.073	-0.0012	0.0446	0.0446
Seismic 90 deg M1	188.13	0.076	-0.0012	0.0456	0.0456
Seismic 90 deg M1	192.06	0.079	-0.0011	0.0453	0.0453

Site Number: 302470

Code:

ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:33 PM

Customer: DISH WIRELESS L.L.C.

Seismic 90 deg M1	196.00	0.082	-0.0011	0.0453	0.0453
Seismic (Reduced DL) Normal M1	79.75	0.012	0.0008	0.0194	0.0194
Seismic (Reduced DL) Normal M1	80.00	0.012	0.0008	0.0195	0.0195
Seismic (Reduced DL) Normal M1	86.75	0.014	0.0008	0.0196	0.0196
Seismic (Reduced DL) Normal M1	100.25	0.019	0.0010	0.0259	0.0259
Seismic (Reduced DL) Normal M1	113.25	0.025	0.0010	0.0279	0.0279
Seismic (Reduced DL) Normal M1	126.75	0.032	0.0011	0.0316	0.0316
Seismic (Reduced DL) Normal M1	150.00	0.047	0.0011	0.0398	0.0398
Seismic (Reduced DL) Normal M1	154.88	0.050	0.0011	0.0401	0.0401
Seismic (Reduced DL) Normal M1	168.05	0.060	0.0011	0.0448	0.0448
Seismic (Reduced DL) Normal M1	175.85	0.066	0.0011	0.0449	0.0449
Seismic (Reduced DL) Normal M1	179.75	0.069	0.0011	0.0488	0.0488
Seismic (Reduced DL) Normal M1	184.19	0.073	0.0010	0.0444	0.0444
Seismic (Reduced DL) Normal M1	188.13	0.076	0.0010	0.0454	0.0454
Seismic (Reduced DL) Normal M1	192.06	0.079	0.0010	0.0450	0.0450
Seismic (Reduced DL) Normal M1	196.00	0.082	0.0010	0.0452	0.0452
Seismic (Reduced DL) 60 deg M1	79.75	0.012	0.0008	0.0203	0.0203
Seismic (Reduced DL) 60 deg M1	80.00	0.012	0.0008	0.0204	0.0204
Seismic (Reduced DL) 60 deg M1	86.75	0.014	0.0008	0.0196	0.0197
Seismic (Reduced DL) 60 deg M1	100.25	0.019	0.0010	0.0261	0.0261
Seismic (Reduced DL) 60 deg M1	113.25	0.025	0.0010	0.0278	0.0278
Seismic (Reduced DL) 60 deg M1	126.75	0.032	0.0011	0.0317	0.0317
Seismic (Reduced DL) 60 deg M1	150.00	0.047	0.0011	0.0394	0.0394
Seismic (Reduced DL) 60 deg M1	154.88	0.050	0.0011	0.0398	0.0398
Seismic (Reduced DL) 60 deg M1	168.05	0.060	0.0011	0.0448	0.0448
Seismic (Reduced DL) 60 deg M1	175.85	0.066	-0.0011	0.0446	0.0446
Seismic (Reduced DL) 60 deg M1	179.75	0.069	-0.0011	0.0487	0.0487
Seismic (Reduced DL) 60 deg M1	184.19	0.073	-0.0010	0.0443	0.0443
Seismic (Reduced DL) 60 deg M1	188.13	0.076	-0.0010	0.0454	0.0454
Seismic (Reduced DL) 60 deg M1	192.06	0.079	-0.0010	0.0451	0.0451
Seismic (Reduced DL) 60 deg M1	196.00	0.082	-0.0010	0.0451	0.0451
Seismic (Reduced DL) 90 deg M1	79.75	0.012	-0.0009	0.0200	0.0200
Seismic (Reduced DL) 90 deg M1	80.00	0.012	-0.0009	0.0201	0.0201
Seismic (Reduced DL) 90 deg M1	86.75	0.014	-0.0009	0.0197	0.0197
Seismic (Reduced DL) 90 deg M1	100.25	0.019	-0.0011	0.0258	0.0258
Seismic (Reduced DL) 90 deg M1	113.25	0.025	-0.0012	0.0280	0.0280
Seismic (Reduced DL) 90 deg M1	126.75	0.032	-0.0013	0.0317	0.0317
Seismic (Reduced DL) 90 deg M1	150.00	0.047	-0.0013	0.0397	0.0397
Seismic (Reduced DL) 90 deg M1	154.88	0.050	-0.0013	0.0402	0.0403
Seismic (Reduced DL) 90 deg M1	168.05	0.060	-0.0013	0.0448	0.0448
Seismic (Reduced DL) 90 deg M1	175.85	0.066	-0.0013	0.0450	0.0450
Seismic (Reduced DL) 90 deg M1	179.75	0.069	-0.0012	0.0484	0.0484
Seismic (Reduced DL) 90 deg M1	184.19	0.073	-0.0012	0.0445	0.0445
Seismic (Reduced DL) 90 deg M1	188.13	0.076	-0.0012	0.0454	0.0454
Seismic (Reduced DL) 90 deg M1	192.06	0.079	-0.0011	0.0451	0.0451
Seismic (Reduced DL) 90 deg M1	196.00	0.082	-0.0011	0.0451	0.0452
Serviceability - 60 mph Wind Normal	79.75	0.084	0.0057	0.1326	0.1326
Serviceability - 60 mph Wind Normal	80.00	0.084	0.0058	0.1338	0.1338
Serviceability - 60 mph Wind Normal	86.75	0.099	0.0057	0.1290	0.1291
Serviceability - 60 mph Wind Normal	100.25	0.133	0.0070	0.1701	0.1701
Serviceability - 60 mph Wind Normal	113.25	0.171	0.0075	0.1776	0.1778
Serviceability - 60 mph Wind Normal	126.75	0.216	0.0081	0.1983	0.1985
Serviceability - 60 mph Wind Normal	150.00	0.306	0.0089	0.2416	0.2416
Serviceability - 60 mph Wind Normal	154.88	0.326	0.0088	0.2418	0.2420
Serviceability - 60 mph Wind Normal	168.05	0.386	0.0095	0.2670	0.2672
Serviceability - 60 mph Wind Normal	175.85	0.422	0.0095	0.2686	0.2687
Serviceability - 60 mph Wind Normal	179.75	0.440	0.0094	0.2889	0.2889
Serviceability - 60 mph Wind Normal	184.19	0.461	0.0094	0.2661	0.2663
Serviceability - 60 mph Wind Normal	188.13	0.480	0.0093	0.2693	0.2693
Serviceability - 60 mph Wind Normal	192.06	0.498	0.0093	0.2685	0.2686
Serviceability - 60 mph Wind Normal	196.00	0.516	0.0093	0.2680	0.2680
Serviceability - 60 mph Wind 60 deg	79.75	0.081	0.0057	0.1296	0.1296

Site Number: 302470

Code:

ANSI/TIA-222-H

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Site Name: Ansonia Wakelee, CT

Engineering Number: 13701209_C3_03

8/3/2021 2:04:33 PM

Customer: DISH WIRELESS L.L.C.

Serviceability - 60 mph Wind 60 deg	80.00	0.081	0.0057	0.1306	0.1306
Serviceability - 60 mph Wind 60 deg	86.75	0.096	0.0057	0.1247	0.1248
Serviceability - 60 mph Wind 60 deg	100.25	0.128	0.0070	0.1646	0.1646
Serviceability - 60 mph Wind 60 deg	113.25	0.165	0.0075	0.1716	0.1717
Serviceability - 60 mph Wind 60 deg	126.75	0.209	0.0081	0.1920	0.1921
Serviceability - 60 mph Wind 60 deg	150.00	0.295	0.0090	0.2338	0.2338
Serviceability - 60 mph Wind 60 deg	154.88	0.315	0.0088	0.2338	0.2340
Serviceability - 60 mph Wind 60 deg	168.05	0.373	0.0096	0.2587	0.2587
Serviceability - 60 mph Wind 60 deg	175.85	0.408	0.0095	0.2584	0.2586
Serviceability - 60 mph Wind 60 deg	179.75	0.426	0.0095	0.2790	0.2790
Serviceability - 60 mph Wind 60 deg	184.19	0.446	0.0094	0.2570	0.2572
Serviceability - 60 mph Wind 60 deg	188.13	0.464	0.0094	0.2605	0.2605
Serviceability - 60 mph Wind 60 deg	192.06	0.482	0.0094	0.2597	0.2599
Serviceability - 60 mph Wind 60 deg	196.00	0.499	0.0093	0.2595	0.2595
Serviceability - 60 mph Wind 90 deg	79.75	0.081	-0.0066	0.1292	0.1292
Serviceability - 60 mph Wind 90 deg	80.00	0.082	-0.0067	0.1300	0.1301
Serviceability - 60 mph Wind 90 deg	86.75	0.097	-0.0067	0.1261	0.1263
Serviceability - 60 mph Wind 90 deg	100.25	0.130	-0.0082	0.1639	0.1639
Serviceability - 60 mph Wind 90 deg	113.25	0.167	-0.0087	0.1739	0.1742
Serviceability - 60 mph Wind 90 deg	126.75	0.211	-0.0094	0.1938	0.1941
Serviceability - 60 mph Wind 90 deg	150.00	0.298	-0.0104	0.2352	0.2352
Serviceability - 60 mph Wind 90 deg	154.88	0.318	-0.0103	0.2371	0.2373
Serviceability - 60 mph Wind 90 deg	168.05	0.376	-0.0112	0.2608	0.2609
Serviceability - 60 mph Wind 90 deg	175.85	0.412	-0.0112	0.2618	0.2620
Serviceability - 60 mph Wind 90 deg	179.75	0.429	-0.0112	0.2789	0.2790
Serviceability - 60 mph Wind 90 deg	184.19	0.450	-0.0111	0.2605	0.2608
Serviceability - 60 mph Wind 90 deg	188.13	0.468	-0.0111	0.2620	0.2621
Serviceability - 60 mph Wind 90 deg	192.06	0.486	-0.0110	0.2626	0.2628
Serviceability - 60 mph Wind 90 deg	196.00	0.504	-0.0110	0.2611	0.2612

Maximum Reactions Summary

Anchor Group	Vertical (kip)				Horizontal (kip)		Moment (kip-ft)	
	DL+WL	DL+WL+IL	UpLift	Shear	DL+WL	DL+WL+IL	DL+WL	DL+WL+IL
Base	61.53	132.79	395.44	41.27	68.07	24.29	7468.14	2561.18

INFINIGY

MOUNT ANALYSIS REPORT

September 14, 2021

Dish Wireless Site Name	BOHVN00141A
Dish Wireless Site Number	BOHVN00141A
ATC Site Name	Ansonia Wakelee, CT
ATC Site Number	302470
Infinigy Job Number	1197-F0001-B
Client	ATC
Carrier	Dish Wireless
Site Location	401 Wakelee Ave Ansonia, CT 06401 New Haven County 41.356069 N NAD83 73.092000 W NAD83
Mount Type	8.0 ft Sector Frames
Mount Elevation	109.0 ft AGL
Structural Usage Ratio	40.1%
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 118 mph. The evaluation criteria and applicable codes are presented in the next section of this report.



CONTENTS

1. Introduction
2. Design/Analysis Parameters
3. Proposed Loading Configuration
4. Supporting Documentation
5. Results
6. Recommendations
7. Assumptions
8. Liability Waiver and Limitations
9. Calculations

1. INTRODUCTION

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

2. DESIGN/ANALYSIS PARAMETERS

Wind Speed	118 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1.0" 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	$S_s = 0.202 \text{ g} / S_1 = 0.054 \text{ g}$
Live Load Wind Speed	60 mph
Man Live Load at Mid/End Points	250 lbs
Man Live Load at Mount Pipes	500 lbs

3. PROPOSED LOADING CONFIGURATION - 109.0 ft. AGL Sector Frames

Antenna Centerline (ft)	Qty.	Appurtenance Manufacturers	Appurtenance Models
109.0	3	JMA WIRELESS	MX08FRO665-21
	3	FUJITSU	TA08025-B605
	3	FUJITSU	TA08025-B604
	1	RAYCAP	RDIDC-9181-PF-48

4. SUPPORTING DOCUMENTATION

Proposed Loading	Dish Wireless Asset ID CT-ATC-T-302470 Rev 1, Site #BOHVN00141A, dated July 09, 2021
Mount Manufacturer Drawings	Commscope Document # MTC3975083, dated March 17, 2021
Structural Analysis Report	American Tower Corporation, Site #302470, dated August 03, 2021

5. RESULTS

Components	Capacity	Pass/Fail
Mount Pipes	24.5%	Pass
Horizontals	13.0%	Pass
Standoffs	40.1%	Pass
Connections	10.3%	Pass
MOUNT RATING =	40.1%	Pass

Notes:

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

6. RECOMMENDATIONS

Infinigy recommends installing Dish Wireless's proposed equipment loading configuration on the mount at 109.0 ft. The installation shall be performed in accordance with the construction documents issued for this site.

Pradin Suinyal Magar
Project Engineer II | **INFINIGY**

7. ASSUMPTIONS

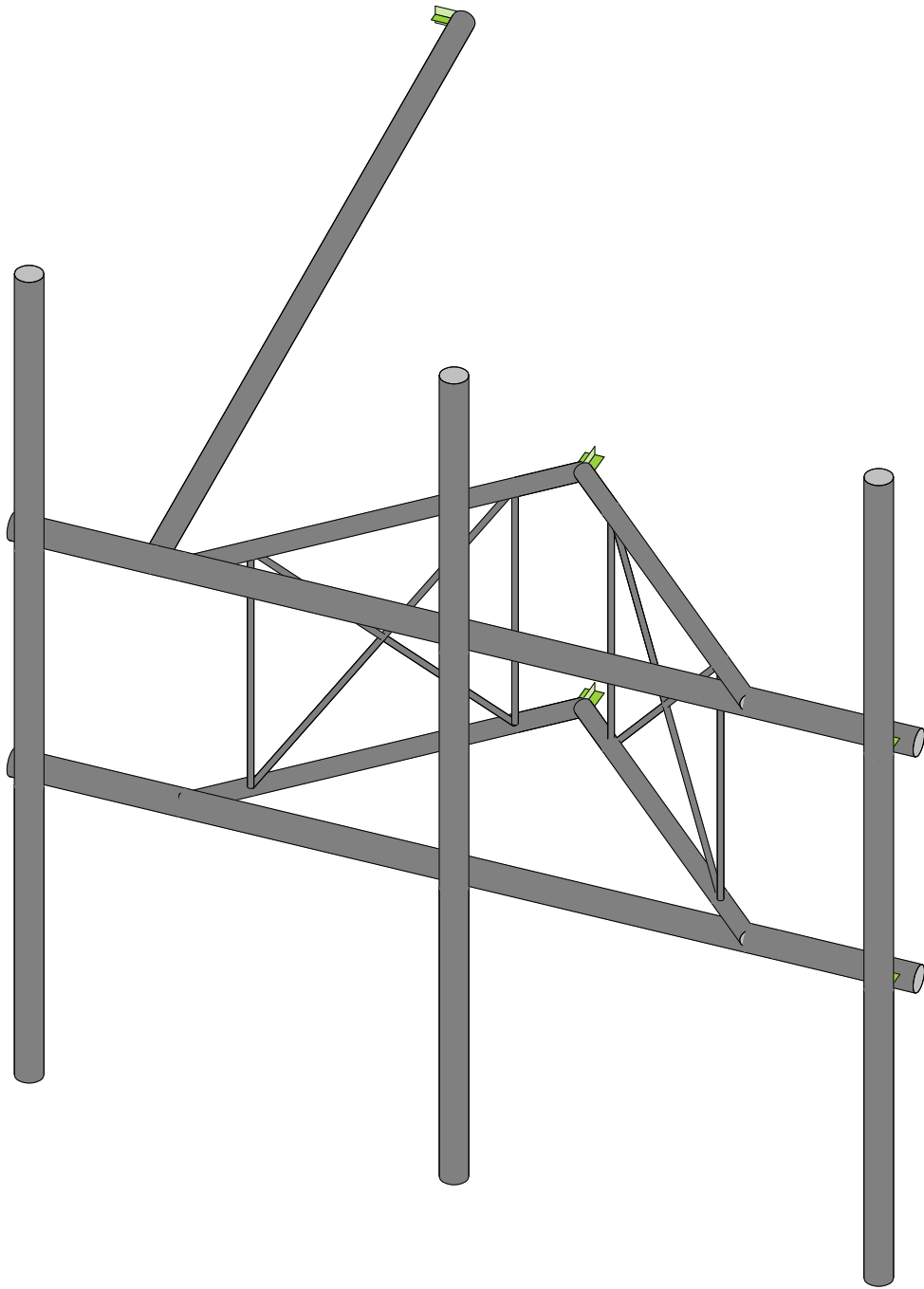
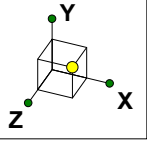
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.	
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.	
All member connections 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, Plate, Built-up Angle	ASTM A1011 36 KSI
Solid Round	ASTM A529 Gr 50
Structural Angle	ASTM A529 Gr. 50
HSS (Rectangular)	ASTM A500-B GR 46
HSS (Circular)	ASTM A500-B GR 42
Pipe	ASTM A500 Gr 46
Connection Bolts	ASTM A449
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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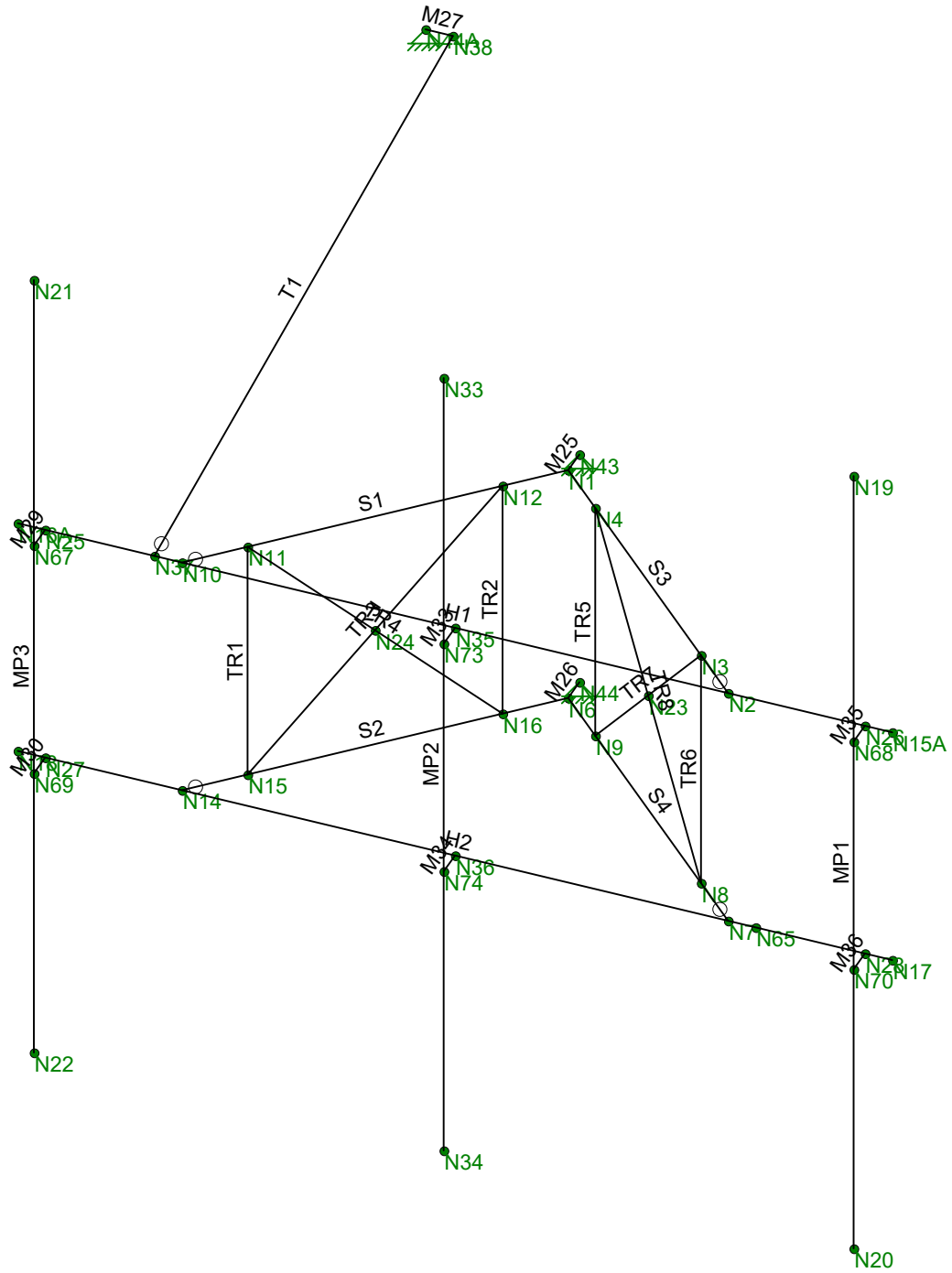
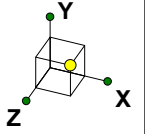
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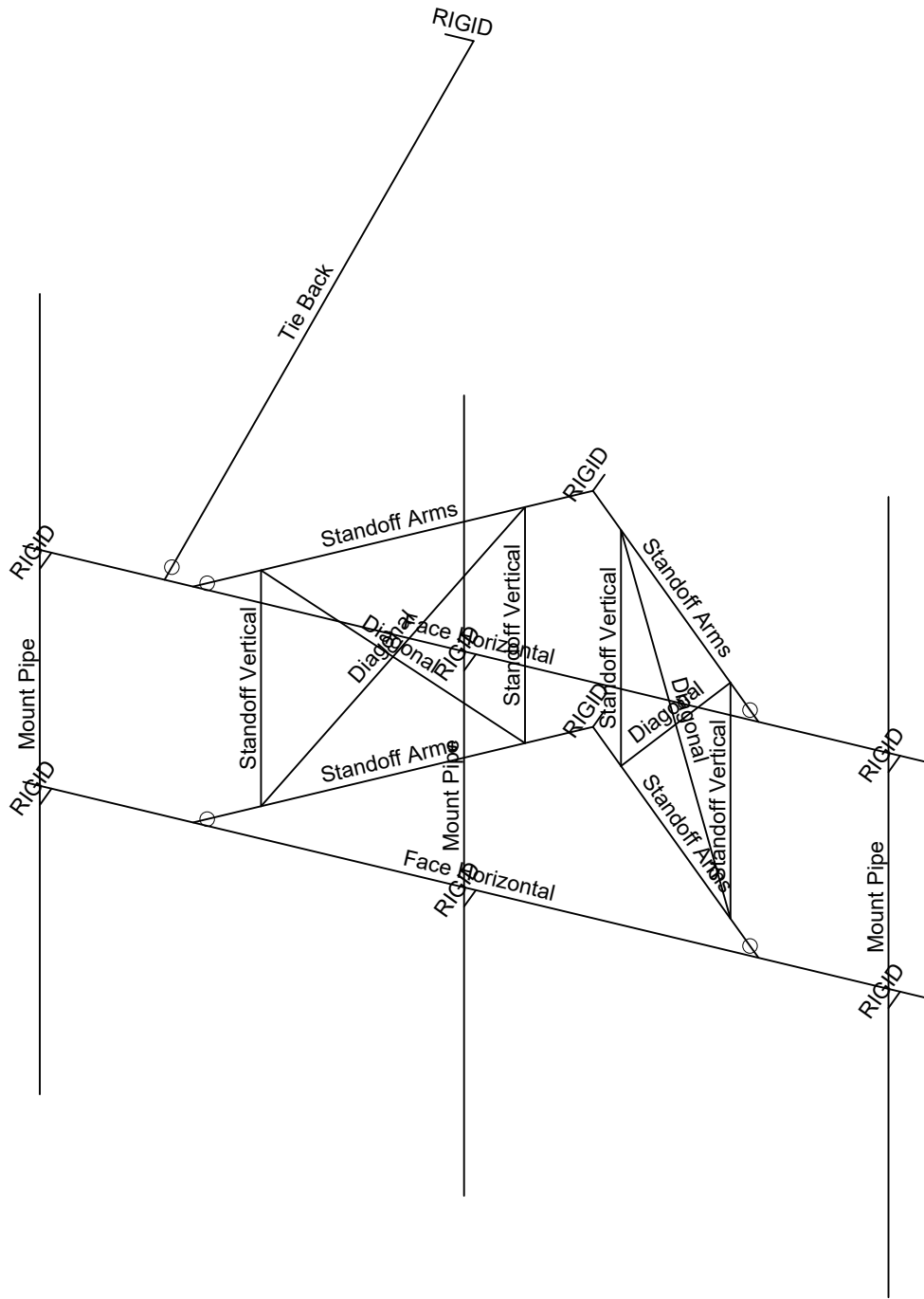
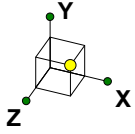
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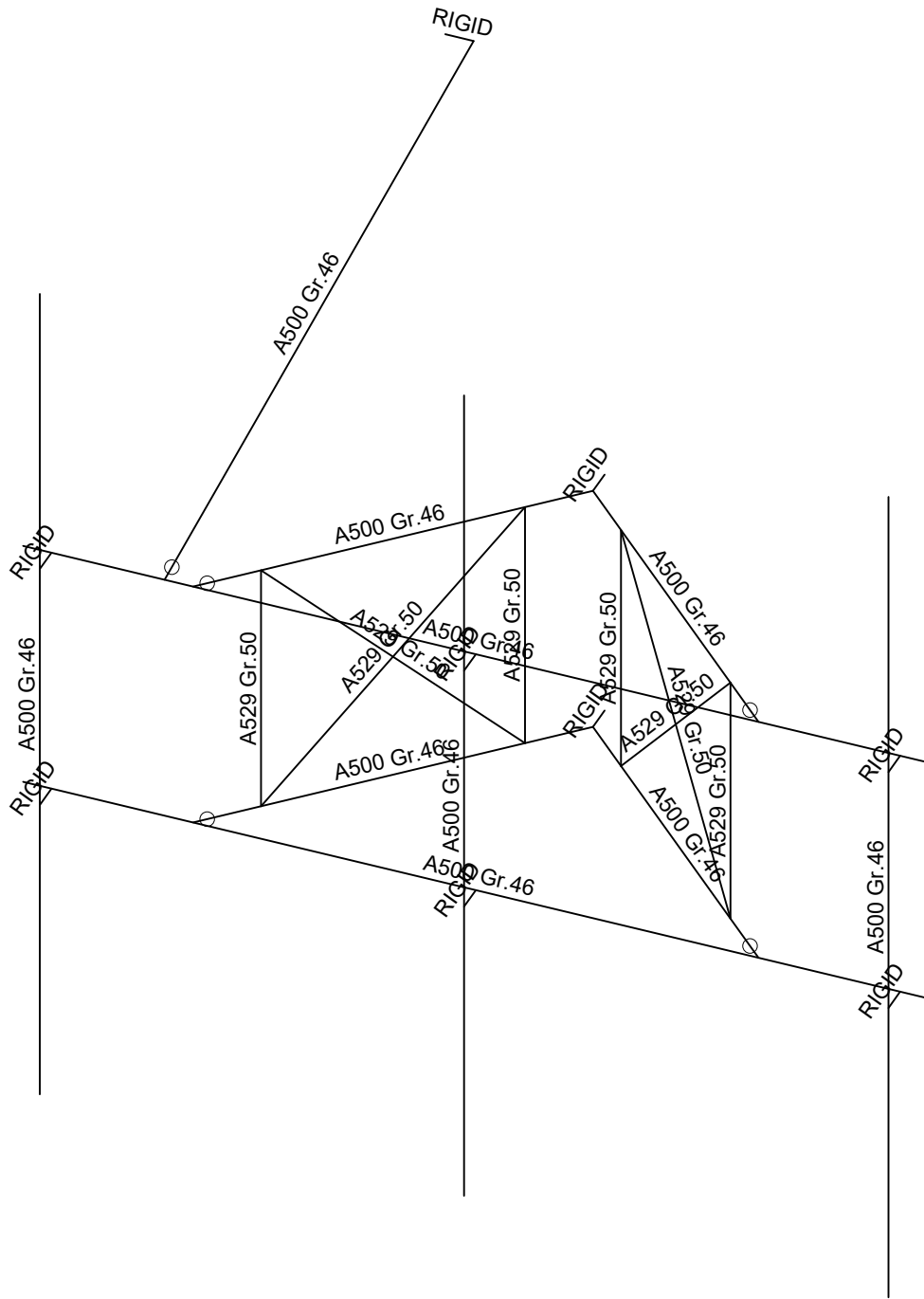
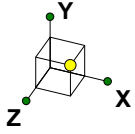
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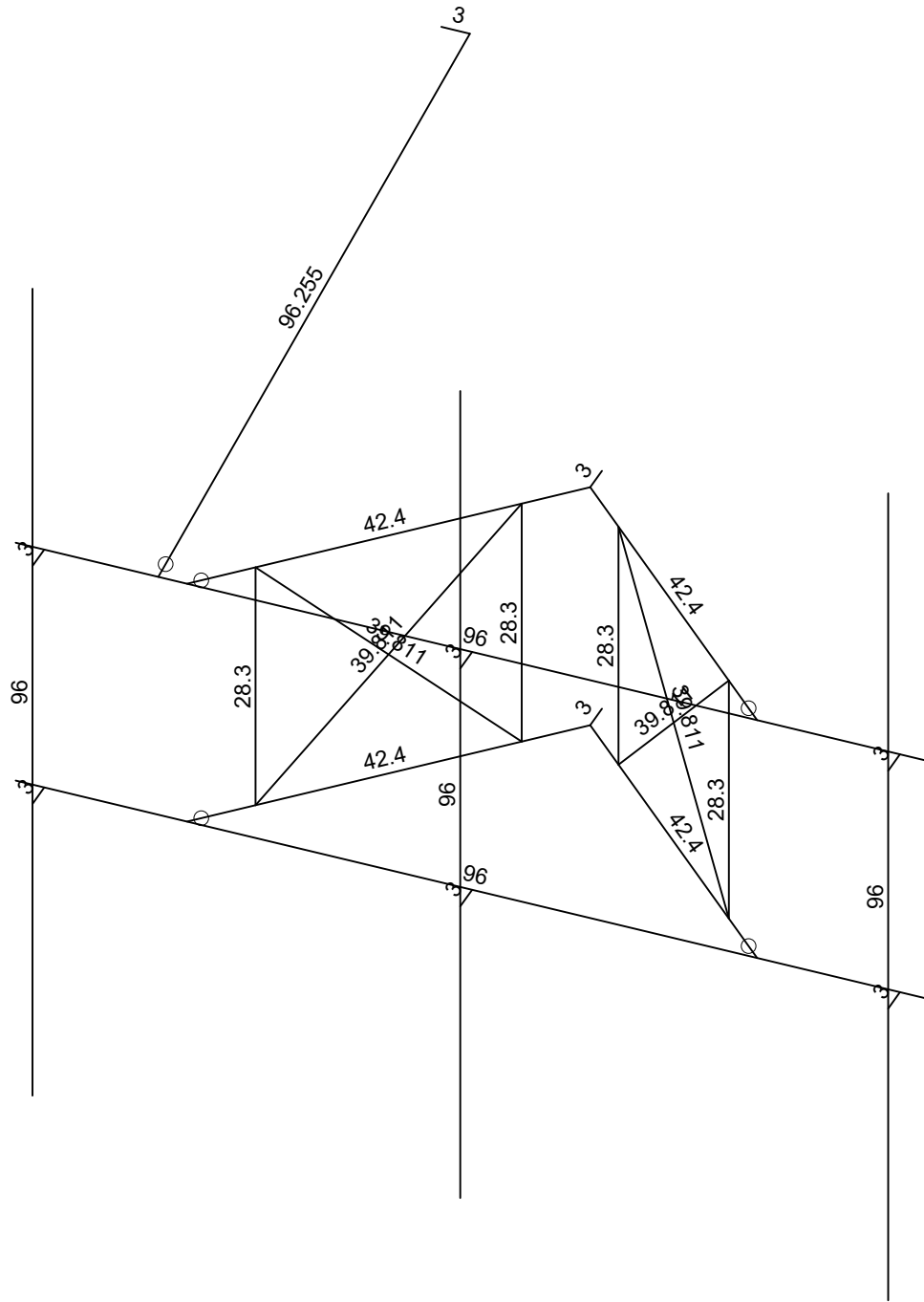
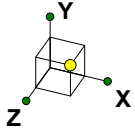
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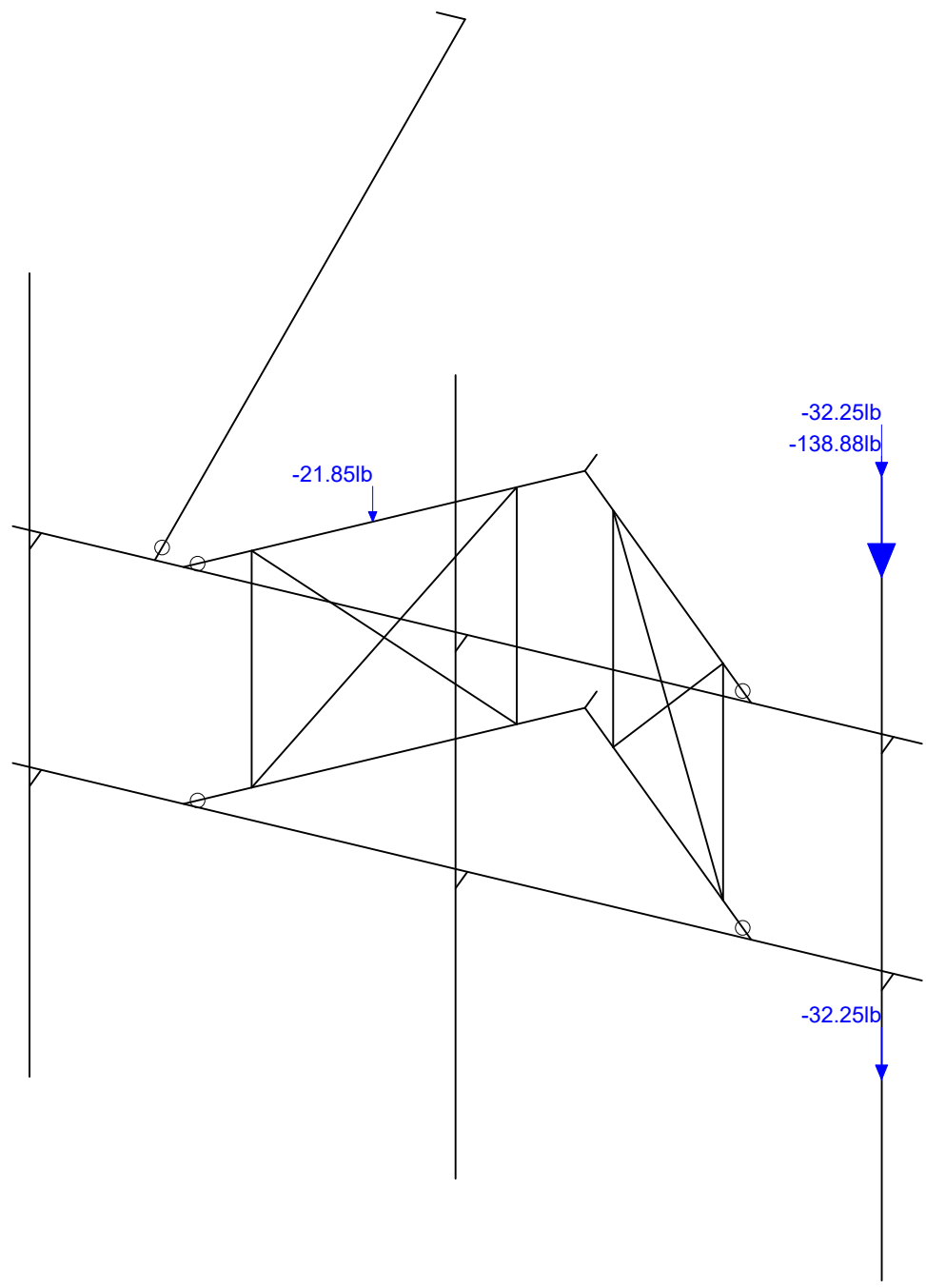
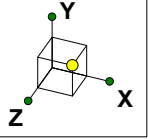
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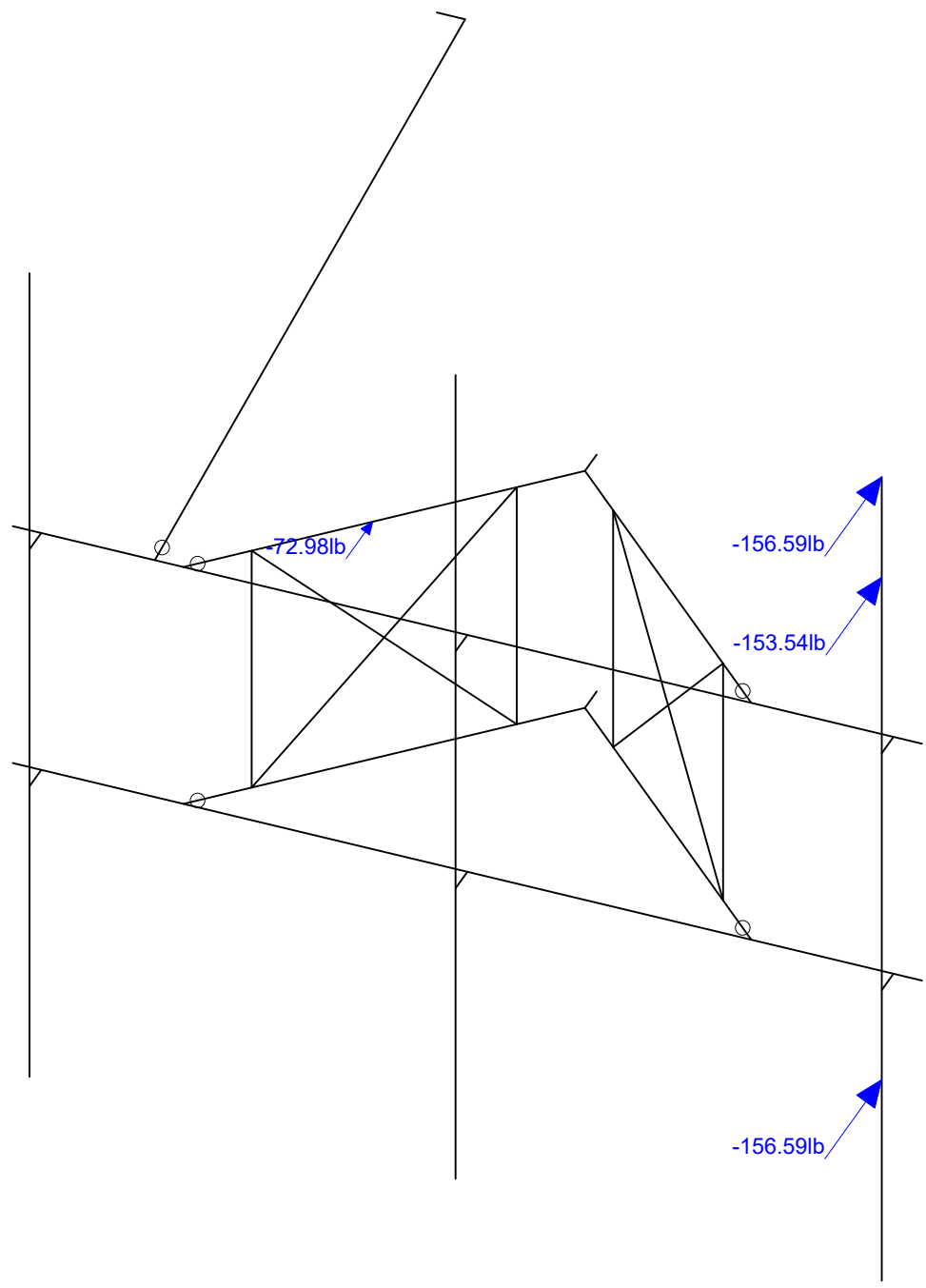
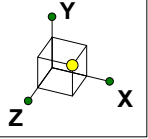
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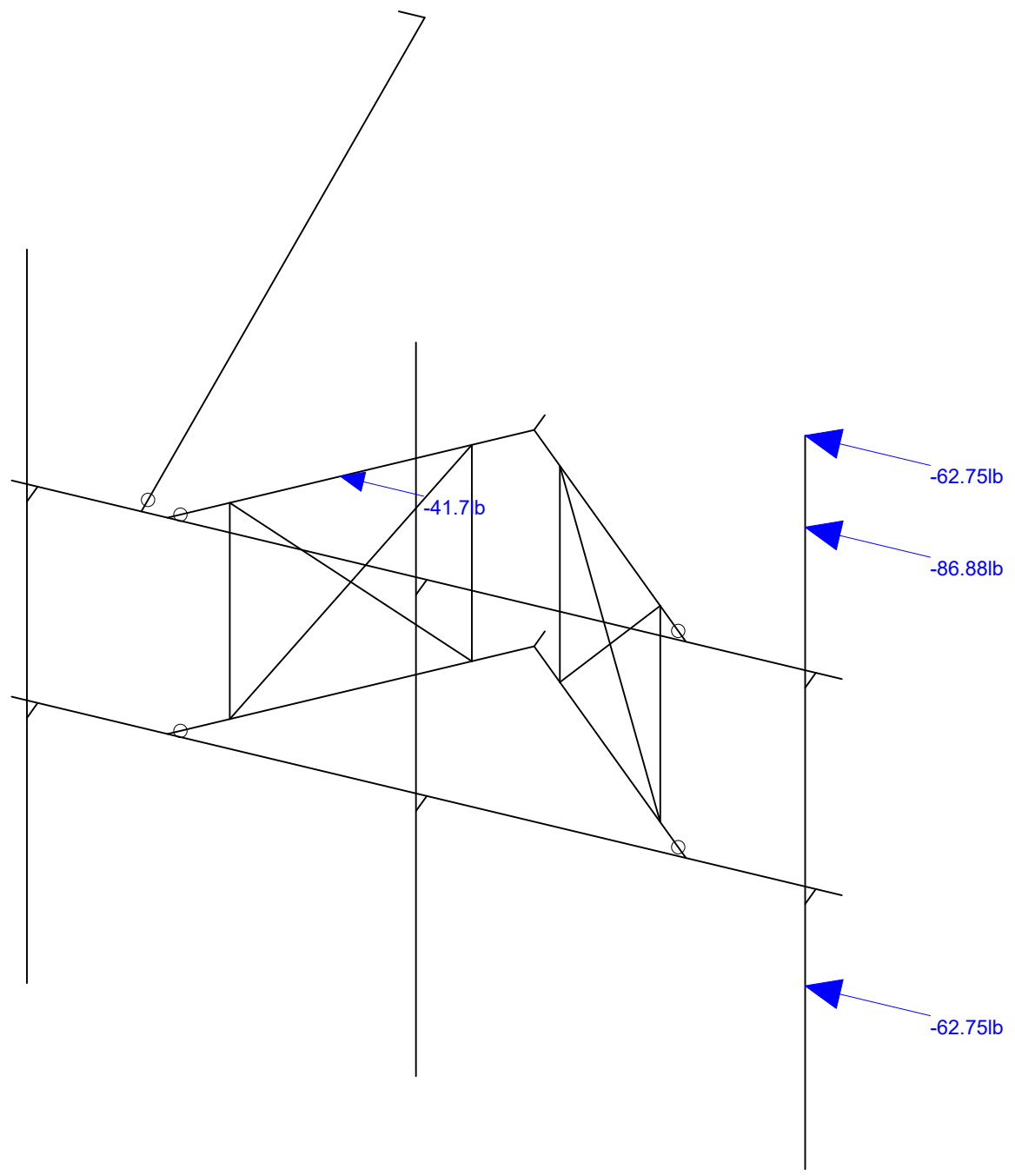
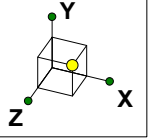
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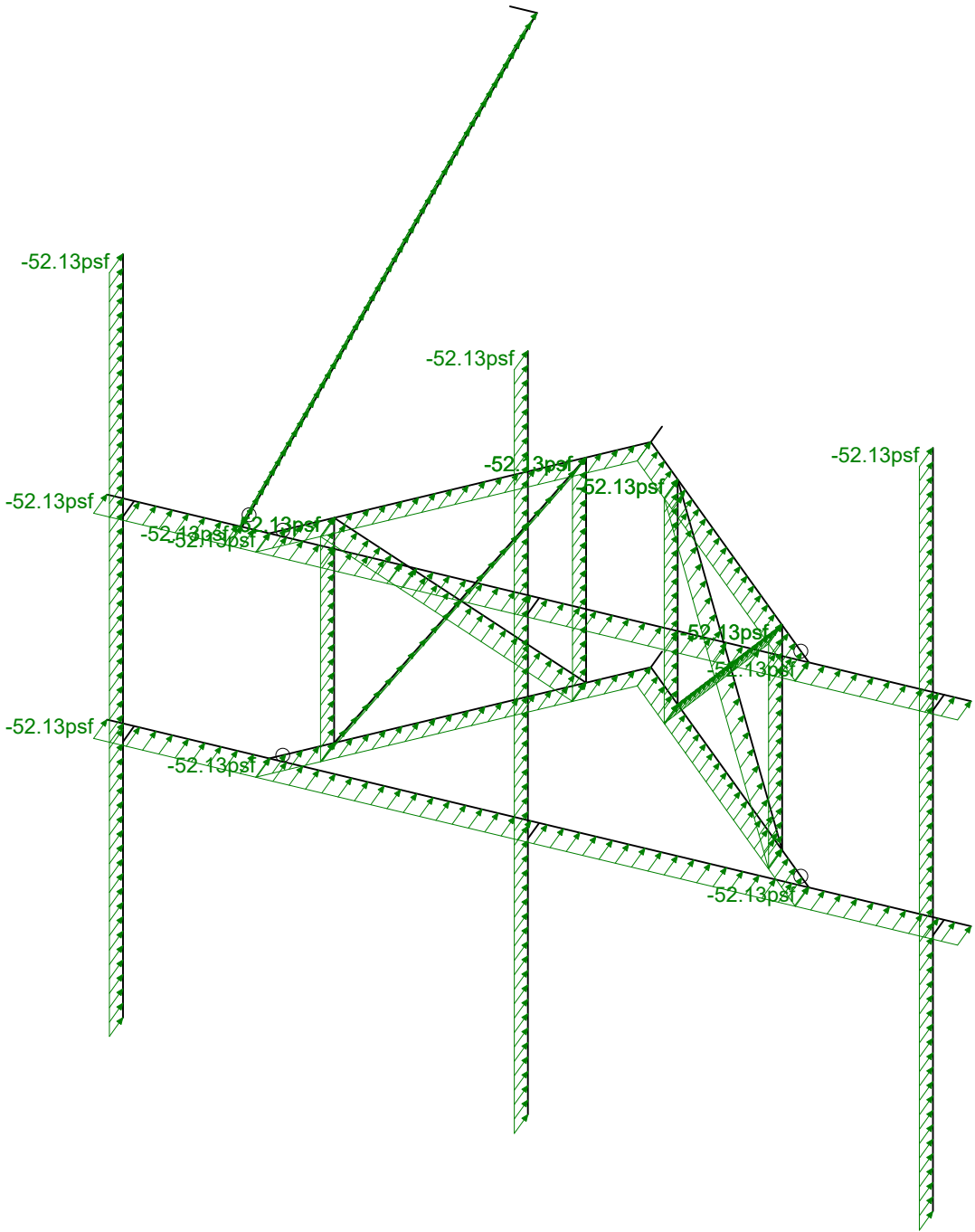
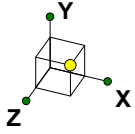
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Loads: BLC 5, Wind Load AZI 90
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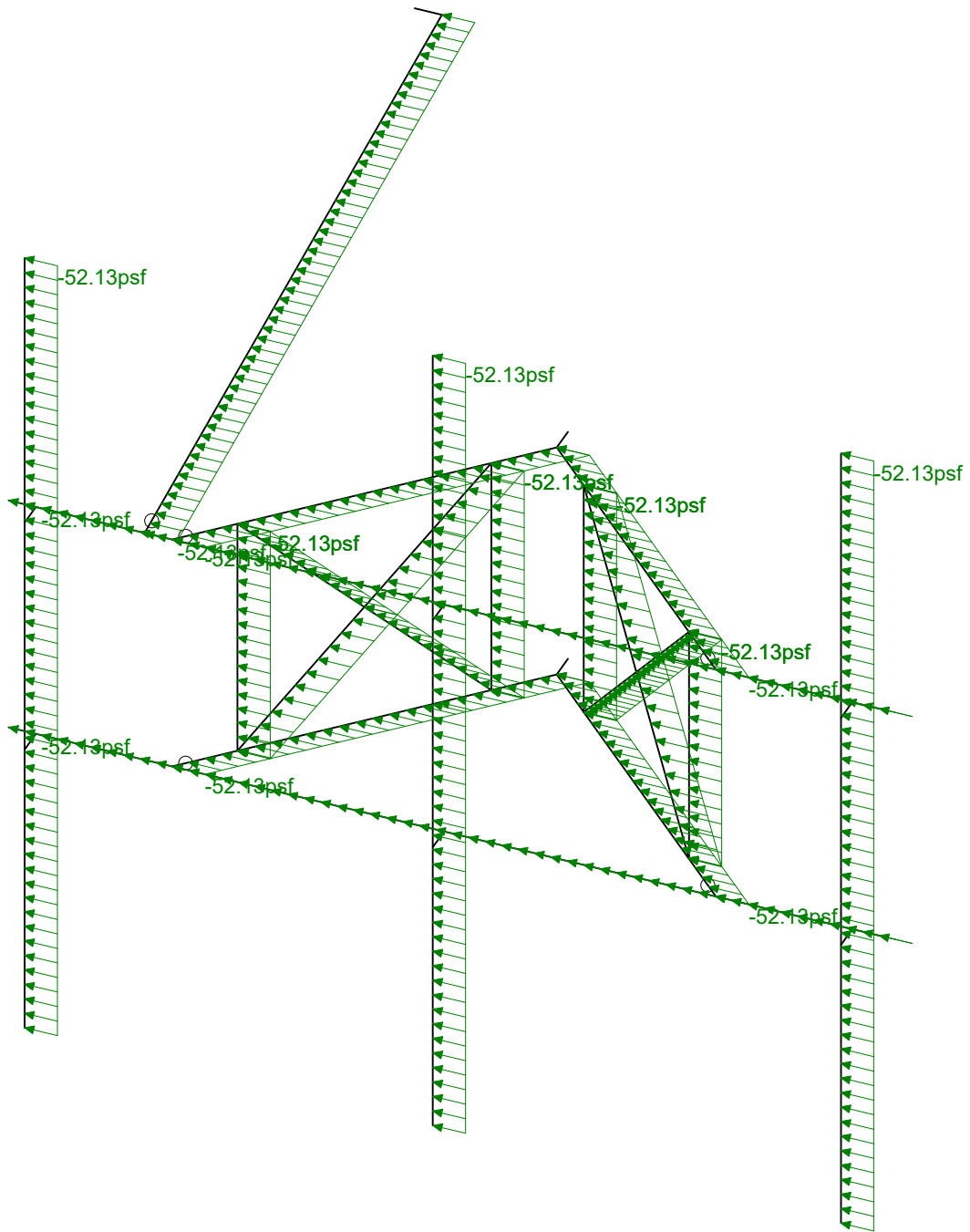
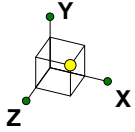


Loads: BLC 14, Distr. Wind Load Z
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BOHVN00141A

Distr Wind Load AZI 000
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Loads: BLC 15, Distr. Wind Load X
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PSM

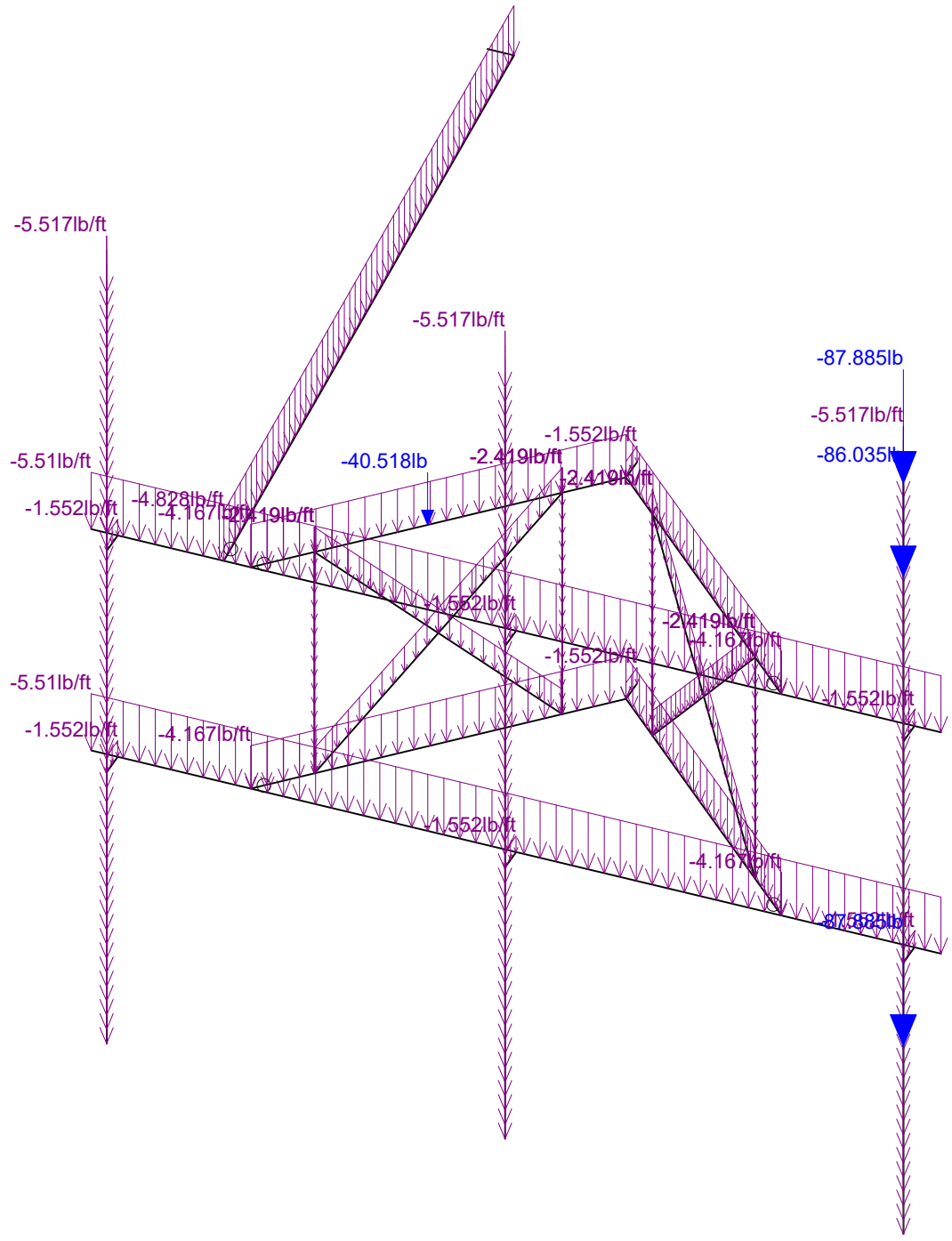
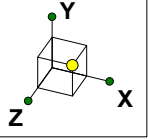
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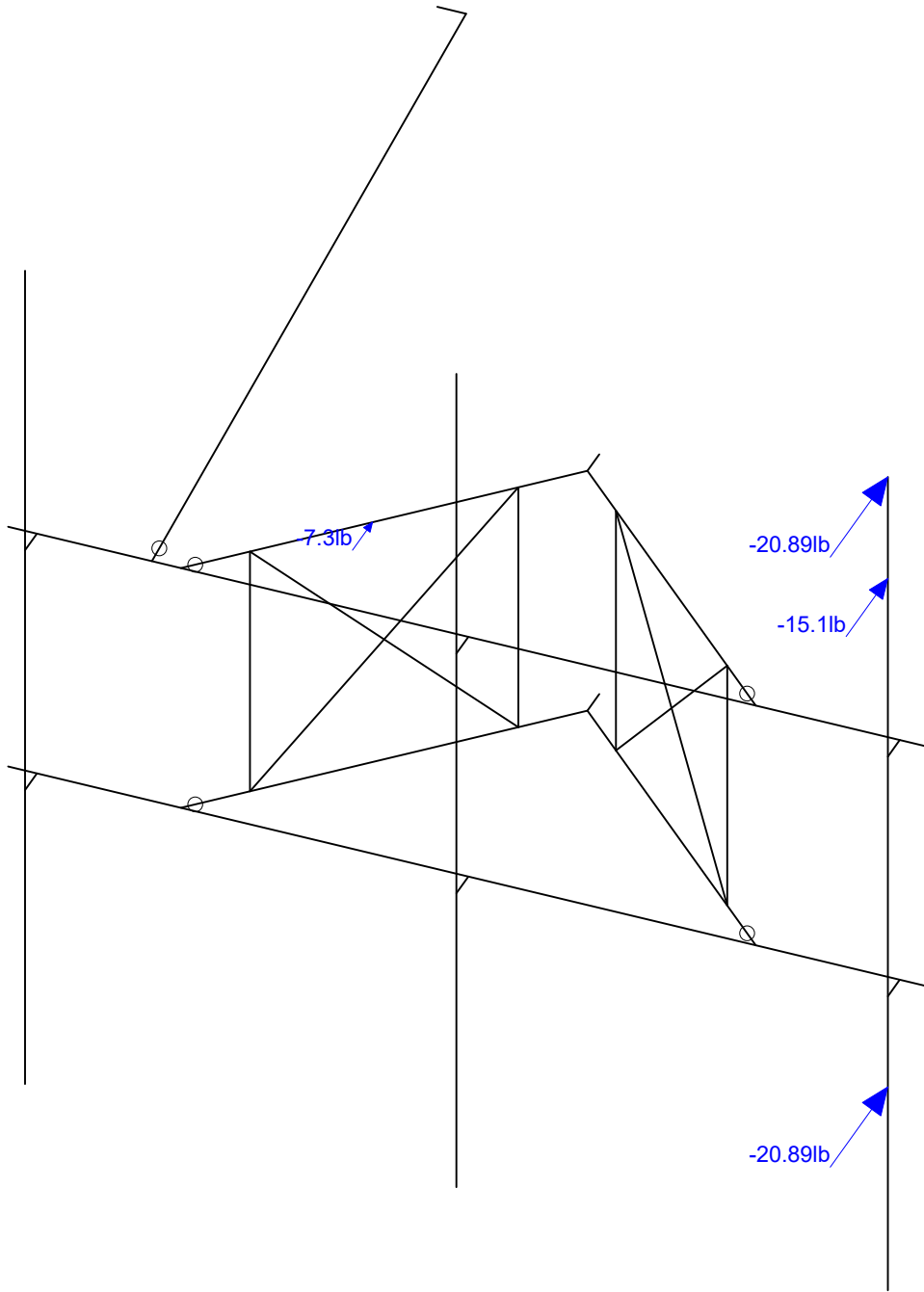
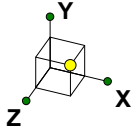
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Loads: BLC 17, Ice Wind Load AZI 0
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Infinigy Engineering, PLLC

PSM

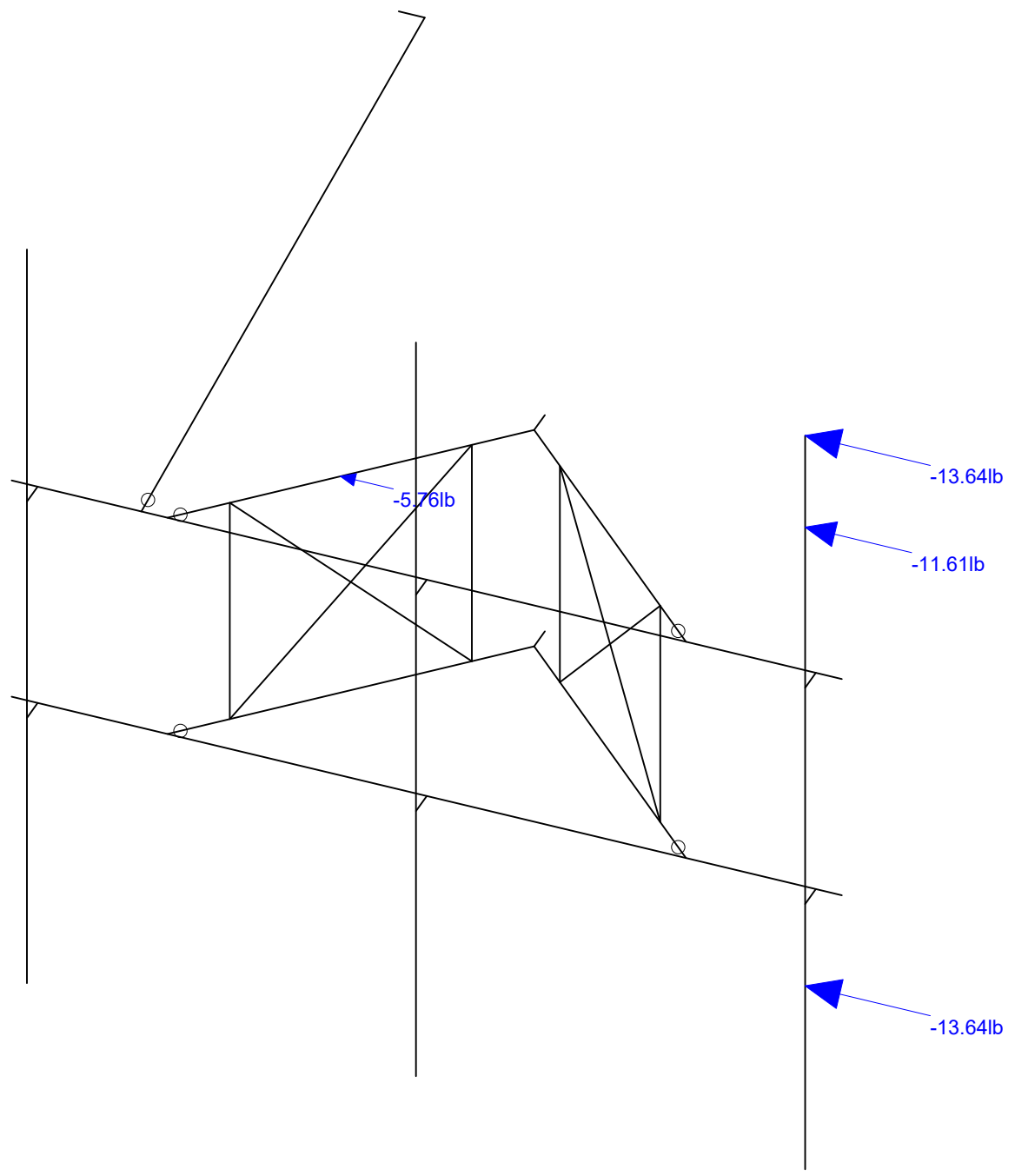
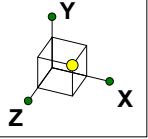
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Ice + Wind Load AZI 000

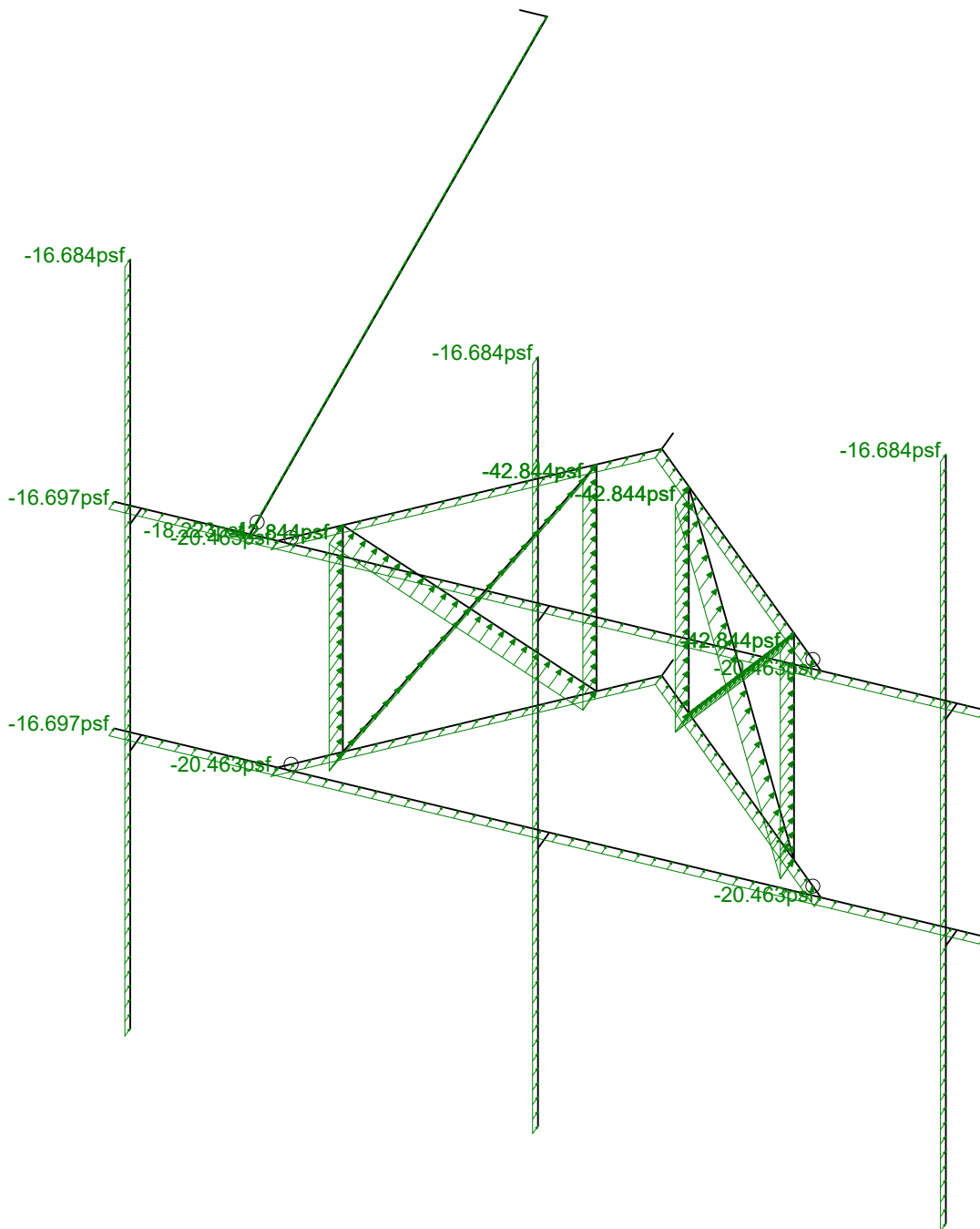
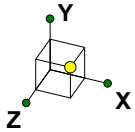
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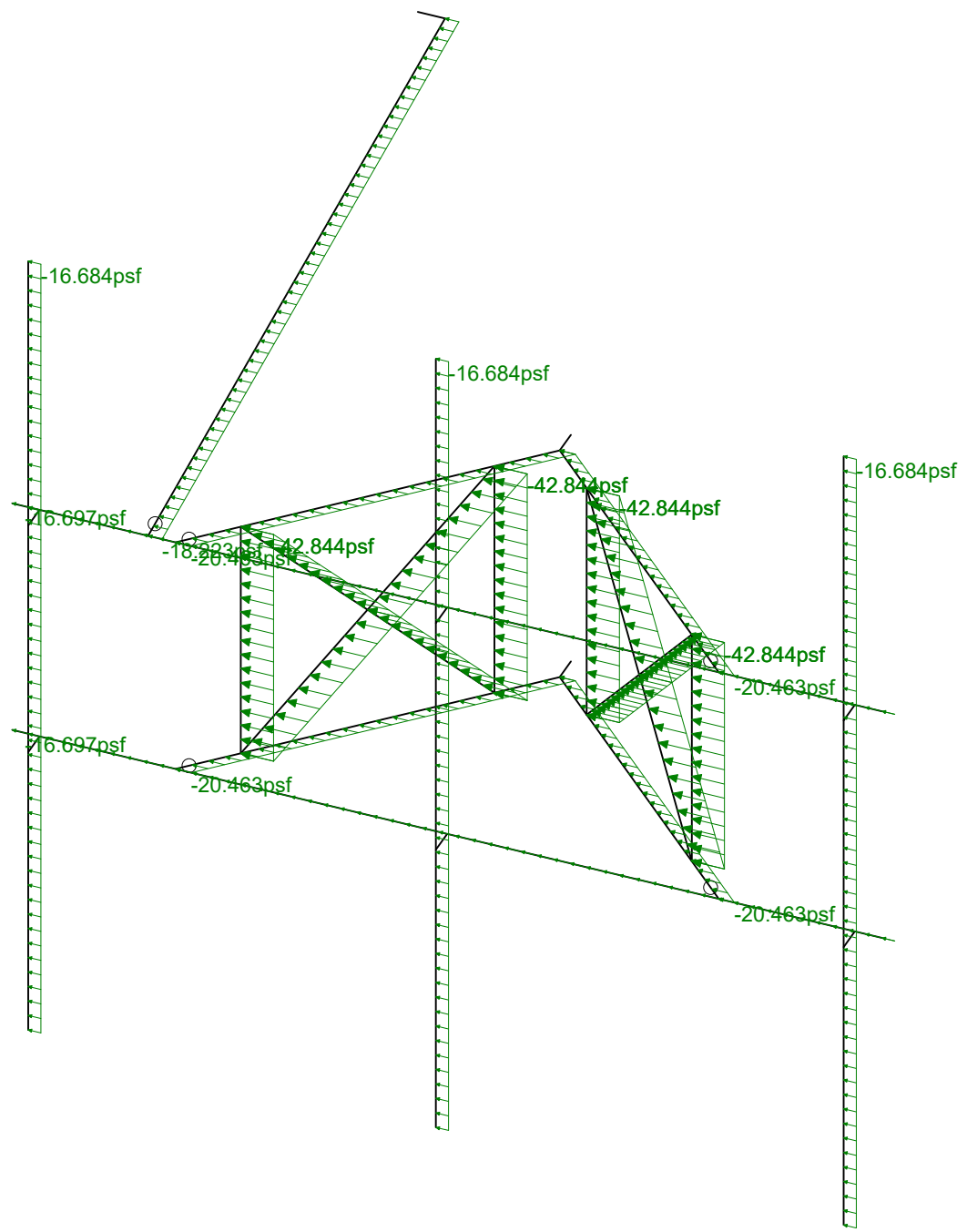
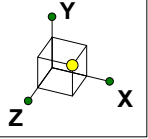
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Distr Ice + Wind Load AZI 000

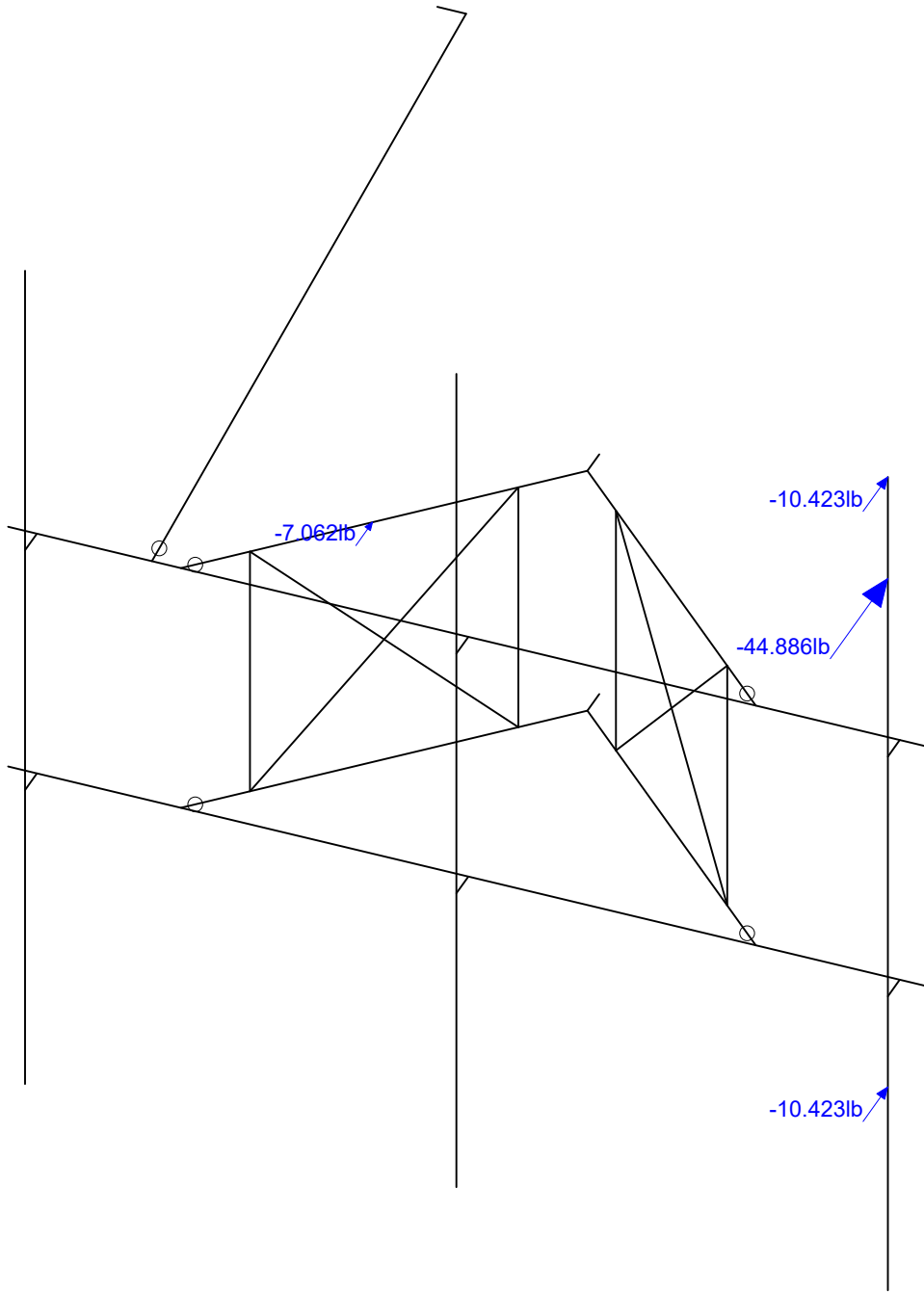
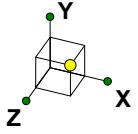
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Infinigy Engineering, PLLC

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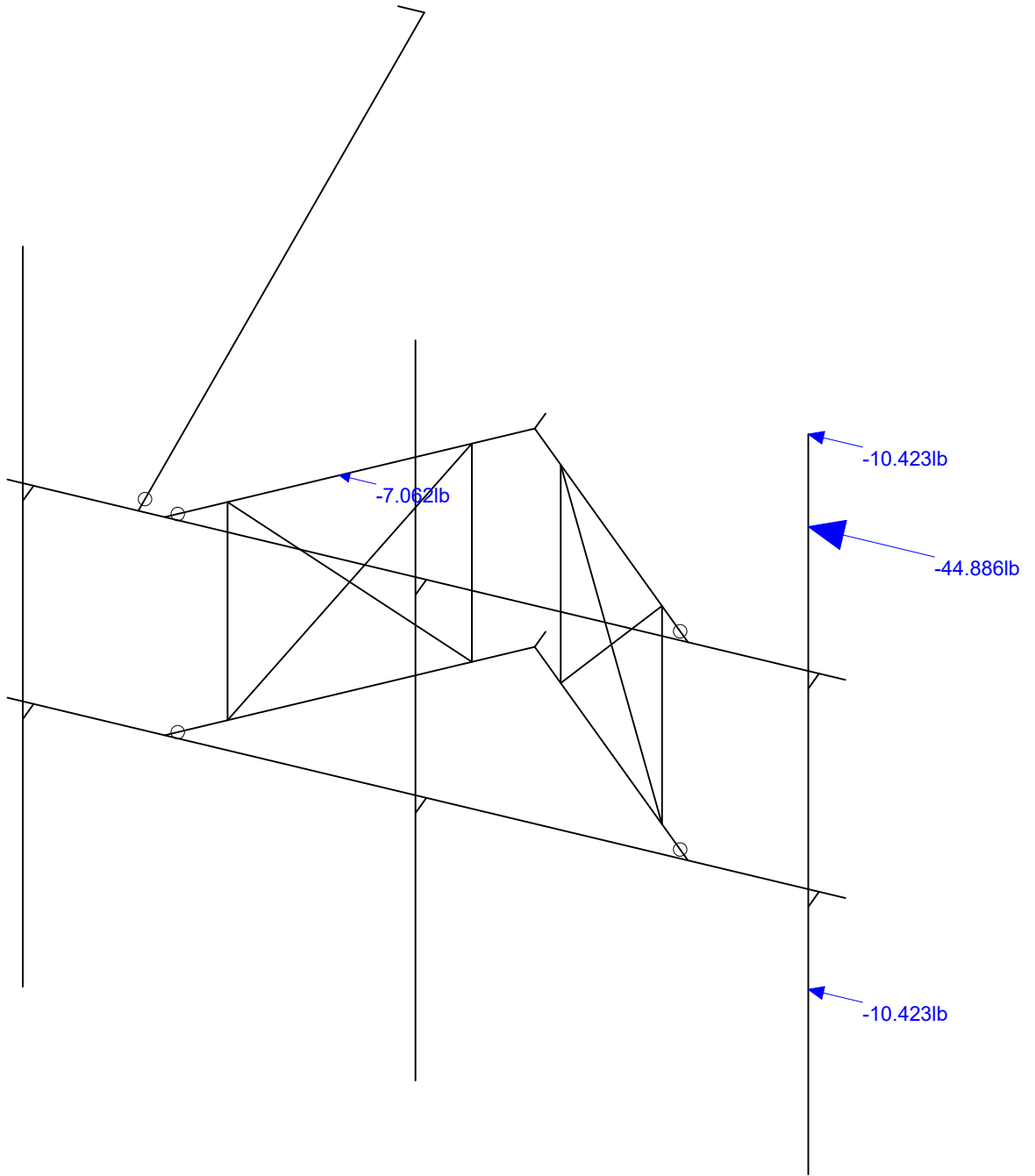
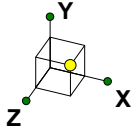
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Seismic Load AZI 000

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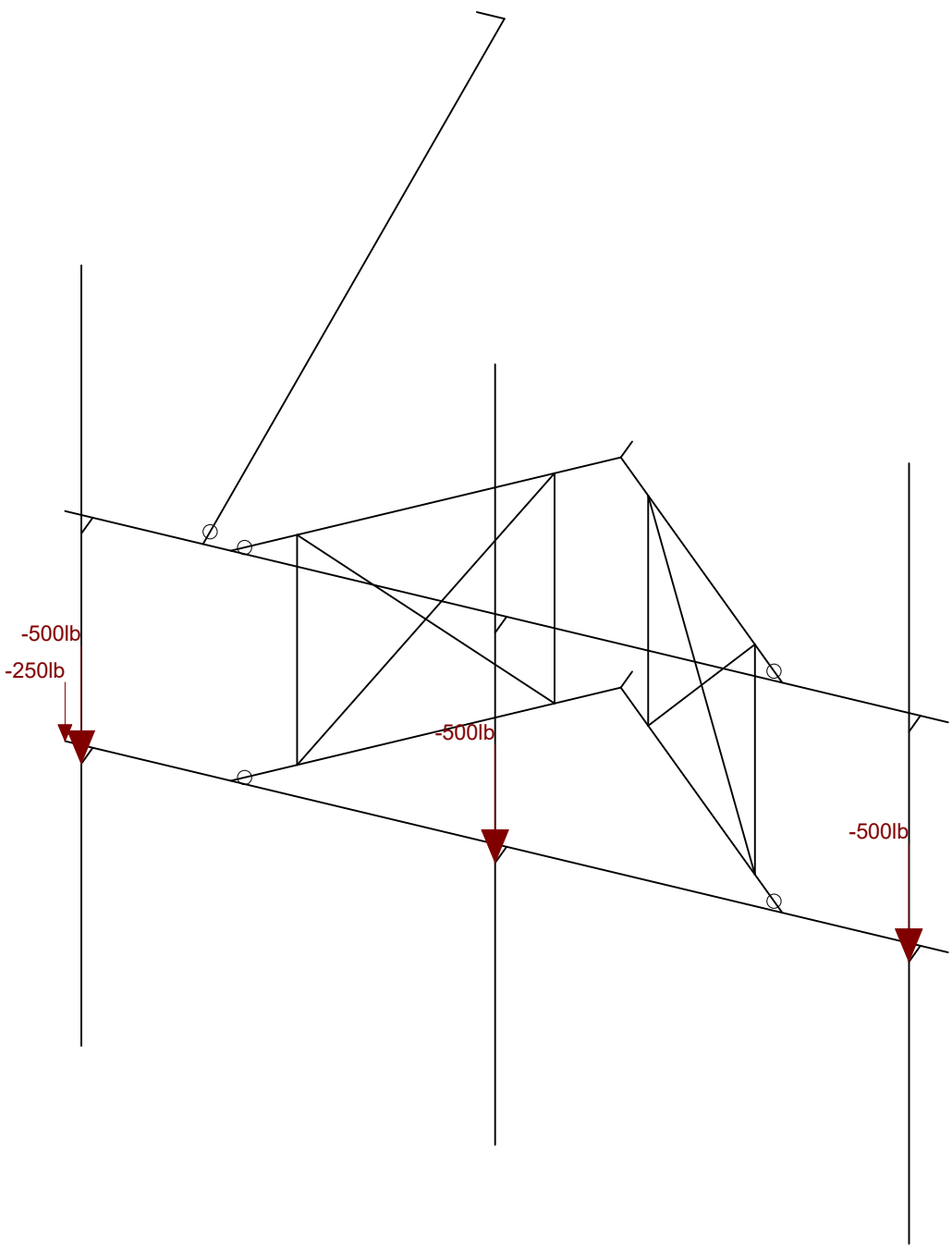
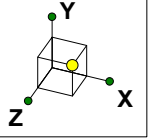


Loads: BLC 32, Seismic Load X
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Infinigy Engineering, PLLC
PSM
1197-F0001-B

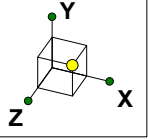
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Seismic Load AZI 090
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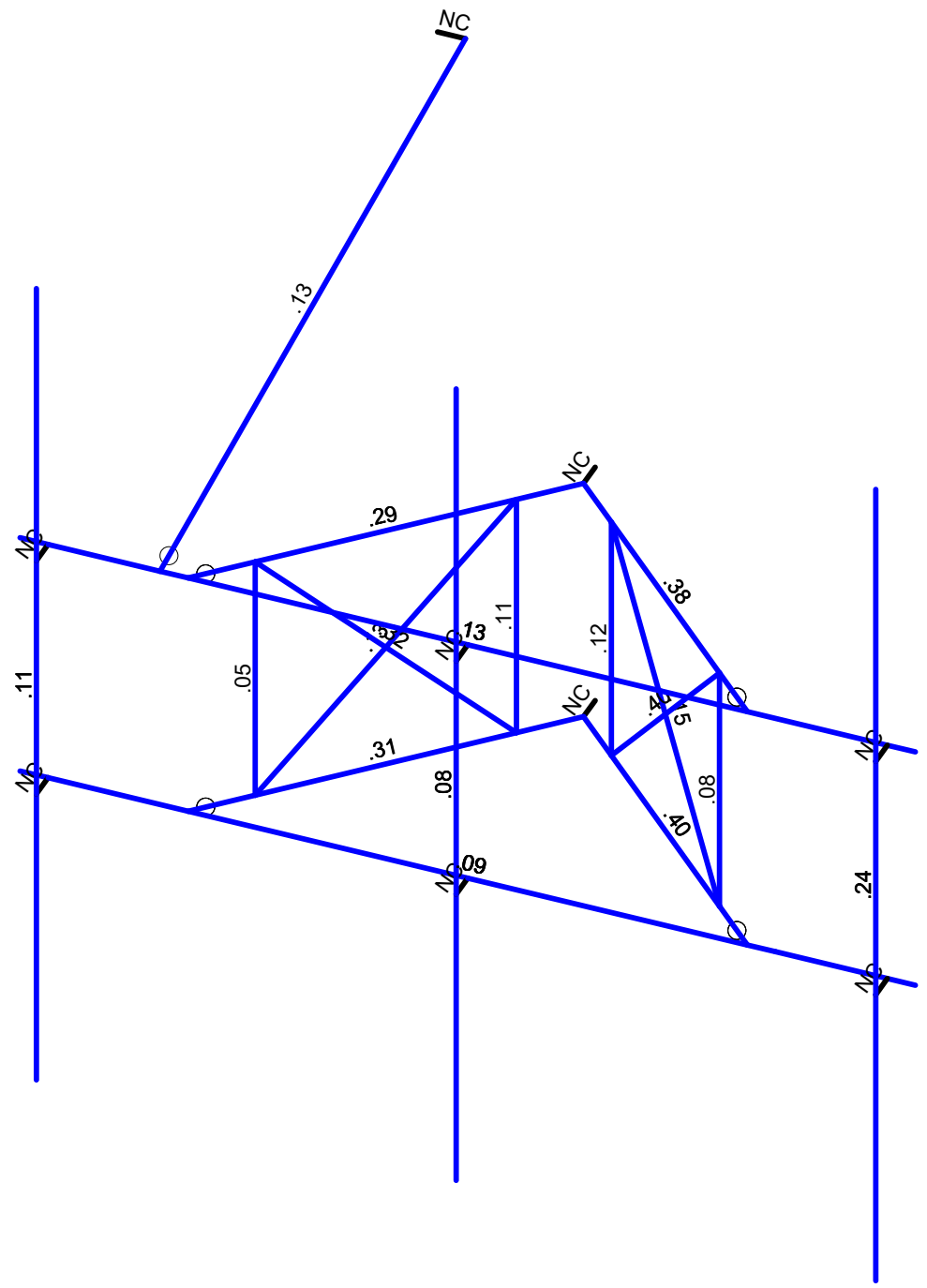


Loads: LL - Live Load
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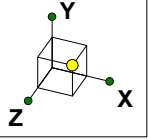


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Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0.-.50

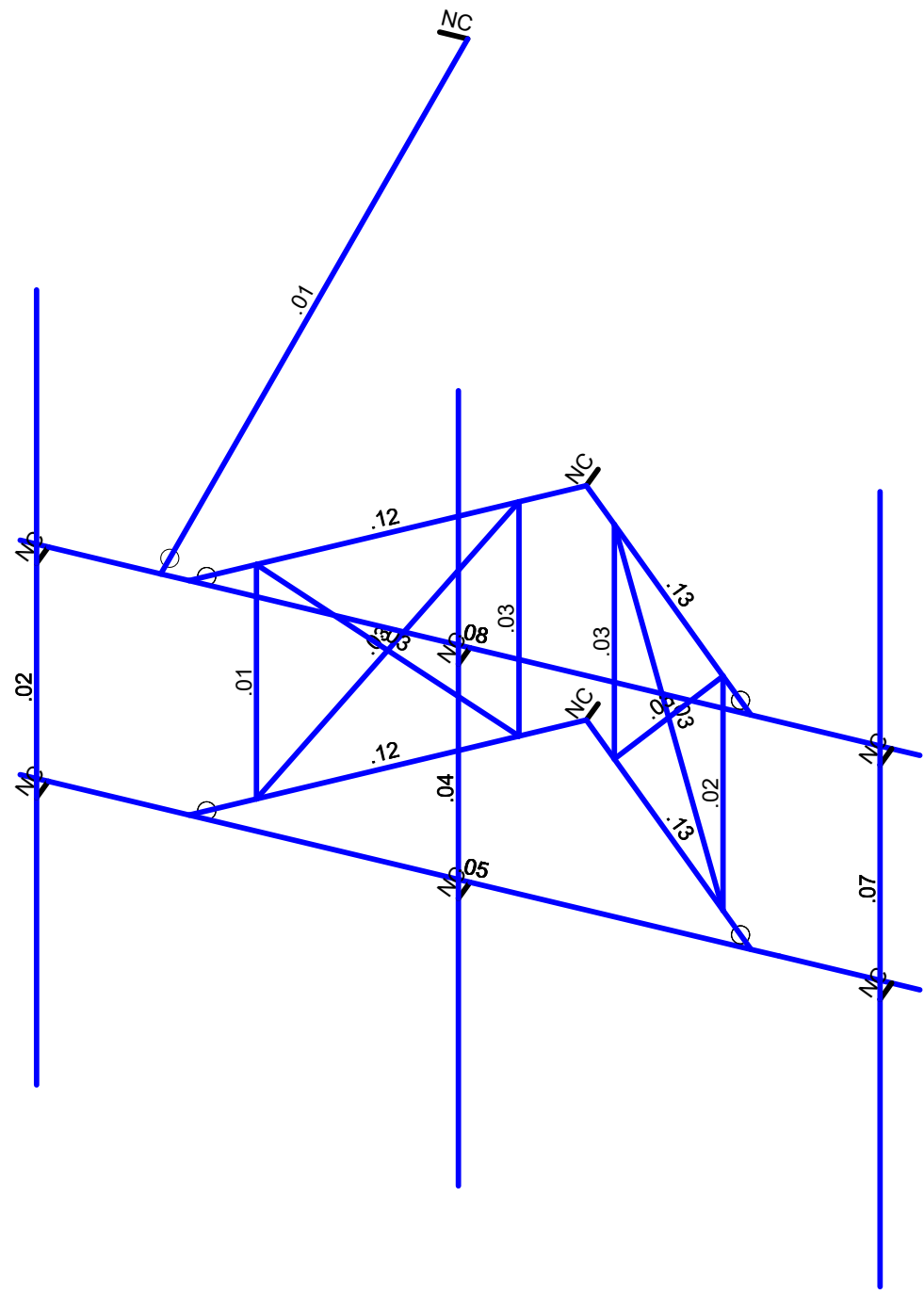


Member Code Checks Displayed (Enveloped)
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Shear Check (Env)	
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Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0.-.50



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00141A	Shear Check
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Program Inputs

PROJECT INFORMATION		
Client:	ATC	
Carrier:	Dish Wireless	
Engineer:	Pradin Suinyal Magar, M.S	

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	C	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	127.41	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Sector Frame	
Num Sectors:	3	
Centerline AGL:	109.00	ft
Tower Height AGL:	196.00	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):	0.995	*Rev H Only
Rooftop Speed-Up (K_s):	1.000	*Rev H Only
Topographic Factor (K_{zt}):	1.000	
Gust Effect Factor (G_h):	1.000	

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

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	118	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1	in
Flat Pressure:	86.883	psf
Round Pressure:	52.130	psf
Ice Wind Pressure:	9.360	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.202	g
1-Second Accel. (S_1):	0.054	g
Short-Period Design (S_{DS}):	0.215	
1-Second Design (S_{D1}):	0.086	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	



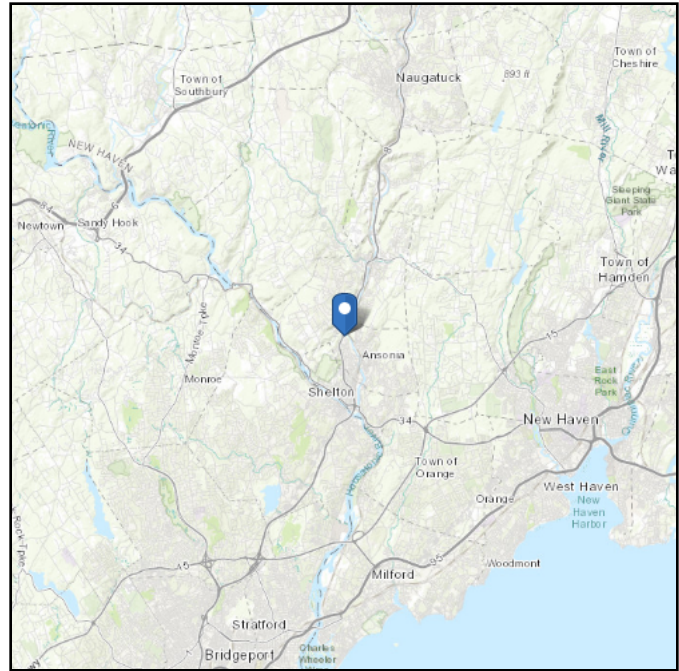
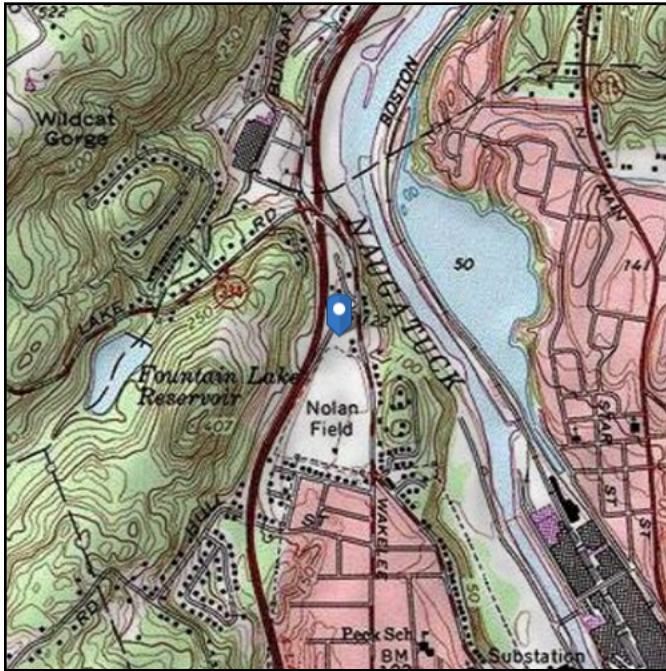
Infinigy Load Calculator V2.1.7

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 127.41 ft (NAVD 88)
Latitude: 41.356069
Longitude: -73.092



Wind

Results:

Wind Speed:	118 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Tue Sep 14 2021

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

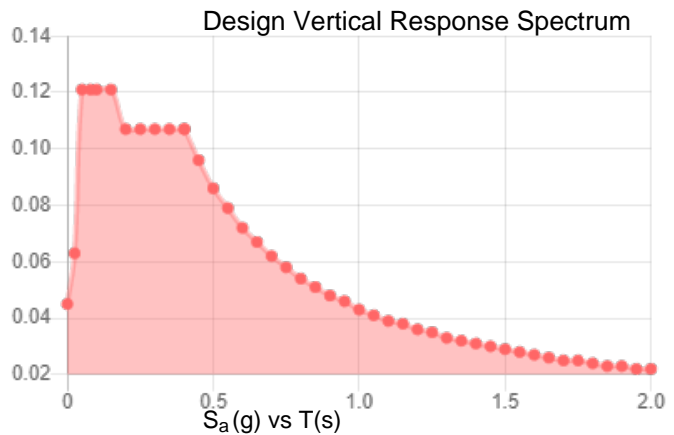
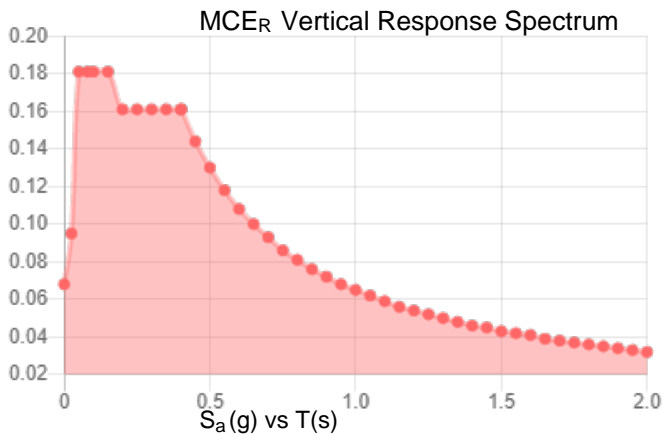
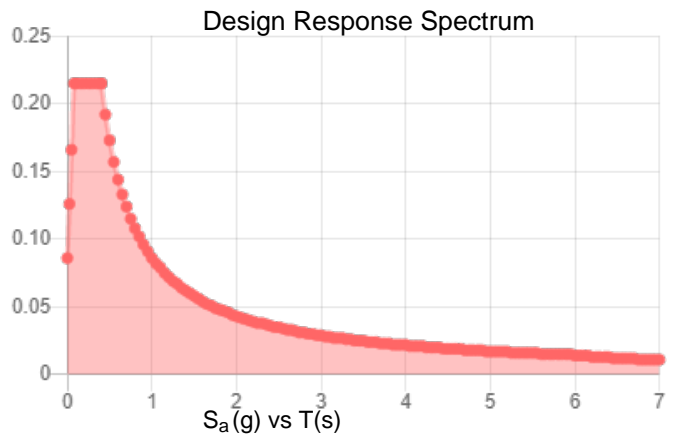
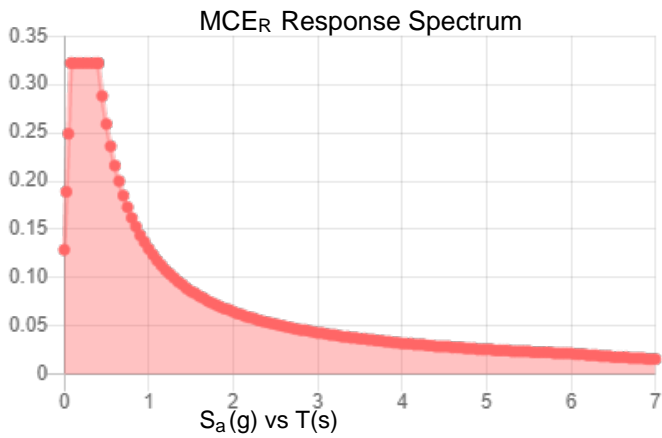
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.202	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.113
F_v :	2.4	PGA _M :	0.178
S_{MS} :	0.322	F_{PGA} :	1.574
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.215	C_v :	0.703

Seismic Design Category B



Data Accessed:

Tue Sep 14 2021

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Tue Sep 14 2021

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...)	Section/Shape	Type	Design List	Material	Design Rules
1	S3	N2	N1			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
2	S4	N7	N6			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
3	TR6	N3	N8			Standoff Vertical	None	None	A529 Gr.50	Typical
4	TR5	N4	N9			Standoff Vertical	None	None	A529 Gr.50	Typical
5	TR8	N4	N8			Diagonal	None	None	A529 Gr.50	Typical
6	TR7	N3	N9			Diagonal	None	None	A529 Gr.50	Typical
7	S1	N10	N1			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
8	S2	N14	N6			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
9	TR1	N11	N15			Standoff Vertical	None	None	A529 Gr.50	Typical
10	TR2	N12	N16			Standoff Vertical	None	None	A529 Gr.50	Typical
11	TR3	N12	N15			Diagonal	None	None	A529 Gr.50	Typical
12	TR4	N11	N16			Diagonal	None	None	A529 Gr.50	Typical
13	H1	N16A	N15A			Face Horizontal	Beam	Pipe	A500 Gr.46	Typical
14	H2	N18	N17			Face Horizontal	Beam	Pipe	A500 Gr.46	Typical
15	MP3	N21	N22			Mount Pipe	Colu...	Pipe	A500 Gr.46	Typical
16	MP1	N19	N20			Mount Pipe	Colu...	Pipe	A500 Gr.46	Typical
17	MP2	N33	N34			Mount Pipe	Colu...	Pipe	A500 Gr.46	Typical
18	T1	N37	N38			Tie Back	None	None	A500 Gr.46	Typical
19	M29	N25	N67			RIGID	None	None	RIGID	Typical
20	M30	N27	N69			RIGID	None	None	RIGID	Typical
21	M33	N35	N73			RIGID	None	None	RIGID	Typical
22	M34	N36	N74			RIGID	None	None	RIGID	Typical
23	M35	N26	N68			RIGID	None	None	RIGID	Typical
24	M36	N28	N70			RIGID	None	None	RIGID	Typical
25	M25	N43	N1			RIGID	None	None	RIGID	Typical
26	M26	N44	N6			RIGID	None	None	RIGID	Typical
27	M27	N44A	N38			RIGID	None	None	RIGID	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp b...	L-tor...	Kyy	Kzz	Cb	Func...
1	S3	Standoff Arms	42.4			Lbyy						Late...
2	S4	Standoff Arms	42.4			Lbyy						Late...
3	TR6	Standoff Vertical	28.3			Lbyy			.65	.65		Late...
4	TR5	Standoff Vertical	28.3			Lbyy			.65	.65		Late...
5	TR8	Diagonal	39.811			Lbyy			.7	.7		Late...
6	TR7	Diagonal	39.811			Lbyy			.5	.5		Late...
7	S1	Standoff Arms	42.4			Lbyy						Late...
8	S2	Standoff Arms	42.4			Lbyy						Late...
9	TR1	Standoff Vertical	28.3			Lbyy			.65	.65		Late...
10	TR2	Standoff Vertical	28.3			Lbyy			.65	.65		Late...

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp b...	L-tor...	Kyy	Kzz	Cb	Func...
11	TR3	Diagonal	39.811			Lbyy			.7	.7		Late...
12	TR4	Diagonal	39.811			Lbyy			.5	.5		Late...
13	H1	Face Horizontal	96			Lbyy						Late...
14	H2	Face Horizontal	96			Lbyy						Late...
15	MP3	Mount Pipe	96			Lbyy						Late...
16	MP1	Mount Pipe	96			Lbyy						Late...
17	MP2	Mount Pipe	96			Lbyy						Late...
18	T1	Tie Back	96.255			Lbyy						Late...

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismi...
1	S3	BenPIN					Yes	Default			None
2	S4	BenPIN					Yes	Default			None
3	TR6						Yes	** NA **			None
4	TR5						Yes	** NA **			None
5	TR8						Yes	** NA **			None
6	TR7						Yes	** NA **			None
7	S1	BenPIN					Yes	Default			None
8	S2	BenPIN					Yes	Default			None
9	TR1						Yes	** NA **			None
10	TR2						Yes	** NA **			None
11	TR3						Yes	** NA **			None
12	TR4						Yes	** NA **			None
13	H1						Yes				None
14	H2						Yes				None
15	MP3						Yes	** NA **			None
16	MP1						Yes	** NA **			None
17	MP2						Yes	** NA **			None
18	T1	BenPIN					Yes	** NA **			None
19	M29						Yes	** NA **			None
20	M30						Yes	** NA **			None
21	M33						Yes	** NA **			None
22	M34						Yes	** NA **			None
23	M35						Yes	** NA **			None
24	M36						Yes	** NA **			None
25	M25						Yes	** NA **			None
26	M26						Yes	** NA **			None
27	M27						Yes	** NA **			None

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		9	27	0
3	Total General		9	27	0
4					
5	Hot Rolled Steel				
6	A500 Gr.46	1.9" ODx0.12"	4	169.6	32.27
7	A500 Gr.46	PIPE 2.5	2	192	87.656
8	A500 Gr.46	2.88"x0.120"	3	288	84.933
9	A500 Gr.46	Pipe2.38X0.12	1	96.3	23.255
10	A529 Gr.50	0.63" SR	8	272.4	24.082
11	Total HR Steel		18	1018.3	252.196

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design...	A [in2]	Iyy [in...]	Izz [in...]	J [in4]
1	Face Horizontal	PIPE 2.5	Beam	Pipe	A500 G...	Typical	1.61	1.45	1.45	2.89
2	Standoff Arms	1.9" ODx0.12"	Beam	Pipe	A500 G...	Typical	.671	.267	.267	.534
3	Diagonal	0.63" SR	None	None	A529 G...	Typical	.312	.008	.008	.015
4	Mount Pipe	2.88"x0.120"	Colu...	Pipe	A500 G...	Typical	1.04	.993	.993	1.985
5	Tie Back	Pipe2.38X0.12	None	None	A500 G...	Typical	.852	.545	.545	1.091
6	End Support Pipe	3.5"x0.120	None	None	A500 G...	Typical	1.274	1.822	1.822	3.644
7	Standoff Vertical	0.63" SR	None	None	A529 G...	Typical	.312	.008	.008	.015

Basic Load Cases

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Memb...	Surface(Plate/Wall)
1	Self Weight	DL		-1			5			
2	Wind Load AZI 0	WLZ					10			
3	Wind Load AZI 30	None					10			
4	Wind Load AZI 60	None					10			
5	Wind Load AZI 90	WLX					10			
6	Wind Load AZI 1...	None					10			
7	Wind Load AZI 1...	None					10			
8	Wind Load AZI 1...	None					10			
9	Wind Load AZI 2...	None					10			
10	Wind Load AZI 2...	None					10			
11	Wind Load AZI 2...	None					10			
12	Wind Load AZI 3...	None					10			
13	Wind Load AZI 3...	None					10			
14	Distr. Wind Load Z	WLZ						26		



Basic Load Cases (Continued)

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Memb...	Surface(Plate/Wall)
15	Distr. Wind Load X	WLX						26		
16	Ice Weight	OL1					5	26		
17	Ice Wind Load A...	OL2					10			
18	Ice Wind Load A...	None					10			
19	Ice Wind Load A...	None					10			
20	Ice Wind Load A...	OL3					10			
21	Ice Wind Load A...	None					10			
22	Ice Wind Load A...	None					10			
23	Ice Wind Load A...	None					10			
24	Ice Wind Load A...	None					10			
25	Ice Wind Load A...	None					10			
26	Ice Wind Load A...	None					10			
27	Ice Wind Load A...	None					10			
28	Ice Wind Load A...	None					10			
29	Distr. Ice Wind L...	OL2						26		
30	Distr. Ice Wind L...	OL3						26		
31	Seismic Load Z	ELZ			-.323		5			
32	Seismic Load X	ELX	-.323				5			
33	Service Live Loa...	LL				1				
34	Maintenance Loa...	LL				1				
35	Maintenance Loa...	LL				1				
36	Maintenance Loa...	LL				1				

Load Combinations

	Description	S...	P...	S...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...
1	1.4DL	Y...Y		1	1.4													
2	1.2DL + 1WL AZI 0	Y...Y		1	1.2	2	1	14	1	15								
3	1.2DL + 1WL AZI 30	Y...Y		1	1.2	3	1	14	.866	15	.5							
4	1.2DL + 1WL AZI 60	Y...Y		1	1.2	4	1	14	.5	15	.866							
5	1.2DL + 1WL AZI 90	Y...Y		1	1.2	5	1	14		15	1							
6	1.2DL + 1WL AZI 120	Y...Y		1	1.2	6	1	14	-.5	15	.866							
7	1.2DL + 1WL AZI 150	Y...Y		1	1.2	7	1	14	-.8...	15	.5							
8	1.2DL + 1WL AZI 180	Y...Y		1	1.2	8	1	14	-1	15								
9	1.2DL + 1WL AZI 210	Y...Y		1	1.2	9	1	14	-.8...	15	-.5							
10	1.2DL + 1WL AZI 240	Y...Y		1	1.2	10	1	14	-.5	15	-.8...							
11	1.2DL + 1WL AZI 270	Y...Y		1	1.2	11	1	14		15	-1							
12	1.2DL + 1WL AZI 300	Y...Y		1	1.2	12	1	14	.5	15	-.8...							
13	1.2DL + 1WL AZI 330	Y...Y		1	1.2	13	1	14	.866	15	-.5							
14	0.9DL + 1WL AZI 0	Y...Y		1	.9	2	1	14	1	15								
15	0.9DL + 1WL AZI 30	Y...Y		1	.9	3	1	14	.866	15	.5							
16	0.9DL + 1WL AZI 60	Y...Y		1	.9	4	1	14	.5	15	.866							



Load Combinations (Continued)

Description	S...	P...	S...B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...
17 0.9DL + 1WL AZI 90	Y...	Y	1 .9	5 1	14	15	1														
18 0.9DL + 1WL AZI 120	Y...	Y	1 .9	6 1	14	-.5	15	.866													
19 0.9DL + 1WL AZI 150	Y...	Y	1 .9	7 1	14	-.8	15	.5													
20 0.9DL + 1WL AZI 180	Y...	Y	1 .9	8 1	14	-.1	15														
21 0.9DL + 1WL AZI 210	Y...	Y	1 .9	9 1	14	-.8	15	-.5													
22 0.9DL + 1WL AZI 240	Y...	Y	1 .9	10 1	14	-.5	15	-.8													
23 0.9DL + 1WL AZI 270	Y...	Y	1 .9	11 1	14		15	-.1													
24 0.9DL + 1WL AZI 300	Y...	Y	1 .9	12 1	14	.5	15	-.8													
25 0.9DL + 1WL AZI 330	Y...	Y	1 .9	13 1	14	.866	15	-.5													
26 1.2D + 1.0Di	Y...	Y	1 1.2	16 1																	
27 1.2D + 1.0Di + 1.0Wi AZI 0	Y...	Y	1 1.2	16 1	17	1	29	1	30												
28 1.2D + 1.0Di + 1.0Wi AZI 30	Y...	Y	1 1.2	16 1	18	1	29	.866	30	.5											
29 1.2D + 1.0Di + 1.0Wi AZI 60	Y...	Y	1 1.2	16 1	19	1	29	.5	30	.866											
30 1.2D + 1.0Di + 1.0Wi AZI 90	Y...	Y	1 1.2	16 1	20	1	29		30	1											
31 1.2D + 1.0Di + 1.0Wi AZI 120	Y...	Y	1 1.2	16 1	21	1	29	-.5	30	.866											
32 1.2D + 1.0Di + 1.0Wi AZI 150	Y...	Y	1 1.2	16 1	22	1	29	-.8	30	.5											
33 1.2D + 1.0Di + 1.0Wi AZI 180	Y...	Y	1 1.2	16 1	23	1	29	-.1	30												
34 1.2D + 1.0Di + 1.0Wi AZI 210	Y...	Y	1 1.2	16 1	24	1	29	-.8	30	-.5											
35 1.2D + 1.0Di + 1.0Wi AZI 240	Y...	Y	1 1.2	16 1	25	1	29	-.5	30	-.8											
36 1.2D + 1.0Di + 1.0Wi AZI 270	Y...	Y	1 1.2	16 1	26	1	29		30	-.1											
37 1.2D + 1.0Di + 1.0Wi AZI 300	Y...	Y	1 1.2	16 1	27	1	29	.5	30	-.8											
38 1.2D + 1.0Di + 1.0Wi AZI 330	Y...	Y	1 1.2	16 1	28	1	29	.866	30	-.5											
39 (1.2 + 0.2Sds)DL + 1.0E AZI 0	Y...	Y	1 1.2	.31 1	32																
40 (1.2 + 0.2Sds)DL + 1.0E AZI 30	Y...	Y	1 1.2	.31	.866	32	.5														
41 (1.2 + 0.2Sds)DL + 1.0E AZI 60	Y...	Y	1 1.2	.31	.5	32	.866														
42 (1.2 + 0.2Sds)DL + 1.0E AZI 90	Y...	Y	1 1.2	.31		32	1														
43 (1.2 + 0.2Sds)DL + 1.0E AZI 1..	Y...	Y	1 1.2	.31	-.5	32	.866														
44 (1.2 + 0.2Sds)DL + 1.0E AZI 1..	Y...	Y	1 1.2	.31	-.8	32	.5														
45 (1.2 + 0.2Sds)DL + 1.0E AZI 1..	Y...	Y	1 1.2	.31	-.1	32															
46 (1.2 + 0.2Sds)DL + 1.0E AZI 2..	Y...	Y	1 1.2	.31	-.8	32	-.5														
47 (1.2 + 0.2Sds)DL + 1.0E AZI 2..	Y...	Y	1 1.2	.31	-.5	32	-.8														
48 (1.2 + 0.2Sds)DL + 1.0E AZI 2..	Y...	Y	1 1.2	.31		32	-.1														
49 (1.2 + 0.2Sds)DL + 1.0E AZI 3..	Y...	Y	1 1.2	.31	.5	32	-.8														
50 (1.2 + 0.2Sds)DL + 1.0E AZI 3..	Y...	Y	1 1.2	.31	.866	32	-.5														
51 (0.9 - 0.2Sds)DL + 1.0E AZI 0	Y...	Y	1 .857	31 1	32																
52 (0.9 - 0.2Sds)DL + 1.0E AZI 30	Y...	Y	1 .857	31	.866	32	.5														
53 (0.9 - 0.2Sds)DL + 1.0E AZI 60	Y...	Y	1 .857	31	.5	32	.866														
54 (0.9 - 0.2Sds)DL + 1.0E AZI 90	Y...	Y	1 .857	31		32	1														
55 (0.9 - 0.2Sds)DL + 1.0E AZI 1..	Y...	Y	1 .857	31	-.5	32	.866														
56 (0.9 - 0.2Sds)DL + 1.0E AZI 1..	Y...	Y	1 .857	31	-.8	32	.5														
57 (0.9 - 0.2Sds)DL + 1.0E AZI 1..	Y...	Y	1 .857	31	-.1	32															
58 (0.9 - 0.2Sds)DL + 1.0E AZI 2..	Y...	Y	1 .857	31	-.8	32	-.5														



Load Combinations (Continued)

	Description	S...	P...	S...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...
59	(0.9 - 0.2Sds)DL + 1.0E AZI 2...	Y...	Y	1	.857	31	-.5	32	-8...									
60	(0.9 - 0.2Sds)DL + 1.0E AZI 2...	Y...	Y	1	.857	31		32	-1									
61	(0.9 - 0.2Sds)DL + 1.0E AZI 3...	Y...	Y	1	.857	31	.5	32	-8...									
62	(0.9 - 0.2Sds)DL + 1.0E AZI 3...	Y...	Y	1	.857	31	.866	32	-.5									
63	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	2	.259	14	.259	15		33	1.5					
64	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	3	.259	14	.224	15	.129	33	1.5					
65	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	4	.259	14	.129	15	.224	33	1.5					
66	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	5	.259	14		15	.259	33	1.5					
67	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	6	.259	14	-.1...	15	.224	33	1.5					
68	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	7	.259	14	-.2...	15	.129	33	1.5					
69	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	8	.259	14	-.2...	15		33	1.5					
70	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	9	.259	14	-.2...	15	-.1...	33	1.5					
71	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	10	.259	14	-.1...	15	-.2...	33	1.5					
72	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	11	.259	14		15	-.2...	33	1.5					
73	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	12	.259	14	.129	15	-.2...	33	1.5					
74	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	13	.259	14	.224	15	-.1...	33	1.5					
75	1.2DL + 1.5LL	Y...	Y	1	1.2	33	1.5											
76	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	2	.065	14	.065	15						
77	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	3	.065	14	.056	15	.032					
78	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	4	.065	14	.032	15	.056					
79	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	5	.065	14		15	.065					
80	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	6	.065	14	-.0...	15	.056					
81	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	7	.065	14	-.0...	15	.032					
82	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	8	.065	14	-.0...	15						
83	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	9	.065	14	-.0...	15	-.0...					
84	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	10	.065	14	-.0...	15	-.0...					
85	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	11	.065	14		15	-.0...					
86	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	12	.065	14	.032	15	-.0...					
87	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y	1	1.2	34	1.5	13	.065	14	.056	15	-.0...					
88	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	2	.065	14	.065	15						
89	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	3	.065	14	.056	15	.032					
90	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	4	.065	14	.032	15	.056					
91	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	5	.065	14		15	.065					
92	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	6	.065	14	-.0...	15	.056					
93	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	7	.065	14	-.0...	15	.032					
94	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	8	.065	14	-.0...	15						
95	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	9	.065	14	-.0...	15	-.0...					
96	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	10	.065	14	-.0...	15	-.0...					
97	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	11	.065	14		15	-.0...					
98	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	12	.065	14	.032	15	-.0...					
99	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y	1	1.2	35	1.5	13	.065	14	.056	15	-.0...					
100	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y	1	1.2	36	1.5	2	.065	14	.065	15						

Load Combinations (Continued)

Description	S...	P...	S...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...
101 1.2DL + 1.5LM-MP3 + 1SWL (...Y...)	Y		1	1.2	36	1.5	3	.065	14	.056	15	.032						
102 1.2DL + 1.5LM-MP3 + 1SWL (...Y...)	Y		1	1.2	36	1.5	4	.065	14	.032	15	.056						
103 1.2DL + 1.5LM-MP3 + 1SWL (...Y...)	Y		1	1.2	36	1.5	5	.065	14		15	.065						
104 1.2DL + 1.5LM-MP3 + 1SWL (...Y...)	Y		1	1.2	36	1.5	6	.065	14	-.0...	15	.056						
105 1.2DL + 1.5LM-MP3 + 1SWL (...Y...)	Y		1	1.2	36	1.5	7	.065	14	-.0...	15	.032						
106 1.2DL + 1.5LM-MP3 + 1SWL (...Y...)	Y		1	1.2	36	1.5	8	.065	14	-.0...	15							
107 1.2DL + 1.5LM-MP3 + 1SWL (...Y...)	Y		1	1.2	36	1.5	9	.065	14	-.0...	15	-.0...						
108 1.2DL + 1.5LM-MP3 + 1SWL (...Y...)	Y		1	1.2	36	1.5	10	.065	14	-.0...	15	-.0...						
109 1.2DL + 1.5LM-MP3 + 1SWL (...Y...)	Y		1	1.2	36	1.5	11	.065	14		15	-.0...						
110 1.2DL + 1.5LM-MP3 + 1SWL (...Y...)	Y		1	1.2	36	1.5	12	.065	14	.032	15	-.0...						

Joint Boundary Conditions

Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1 N1						
2 N6						
3 N38						
4 N43	Reaction	Reaction	Reaction			
5 N44	Reaction	Reaction	Reaction			
6 N44A	Reaction	Reaction	Reaction			

Envelope Joint Reactions

Joint	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1 N43	865.262	78	667.795	89	1073.8...	25	0	110	0	110	0	110
2	-1581.552	96	179.547	20	-2190.3...	7	0	1	0	1	0	1
3 N44	1560.346	91	648.828	107	1610.0...	88	0	110	0	110	0	110
4	-843.711	85	181.092	14	233.695	20	0	1	0	1	0	1
5 N44A	113.919	6	33.274	37	810.636	7	0	110	0	110	0	110
6	-114.342	12	9.931	55	-812.064	25	0	1	0	1	0	1
7 Totals:	745.23	17	1322.9...	99	1179.82	2						
8	-745.231	11	409.111	54	-1179.82	20						

Member Point Loads (BLC 1 : Self Weight)

Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1 MP1	Y	-32.25	0
2 MP1	Y	-32.25	72
3 MP1	Y	-74.95	12
4 MP1	Y	-63.93	12
5 S1	Y	-21.85	20



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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-156.59	0
3	MP1	X	0	72
4	MP1	Z	-156.59	72
5	MP1	X	0	12
6	MP1	Z	-76.77	12
7	MP1	X	0	12
8	MP1	Z	-76.77	12
9	S1	X	0	20
10	S1	Z	-72.98	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-66.56	0
2	MP1	Z	-115.29	0
3	MP1	X	-66.56	72
4	MP1	Z	-115.29	72
5	MP1	X	-34.6	12
6	MP1	Z	-59.93	12
7	MP1	X	-33.84	12
8	MP1	Z	-58.61	12
9	S1	X	-32.58	20
10	S1	Z	-56.43	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-74.66	0
2	MP1	Z	-43.11	0
3	MP1	X	-74.66	72
4	MP1	Z	-43.11	72
5	MP1	X	-46.82	12
6	MP1	Z	-27.03	12
7	MP1	X	-42.85	12
8	MP1	Z	-24.74	12
9	S1	X	-42.89	20
10	S1	Z	-24.76	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-62.75	0
2	MP1	Z	0	0

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-62.75	72
4	MP1	Z	0	72
5	MP1	X	-46.49	12
6	MP1	Z	0	12
7	MP1	X	-40.39	12
8	MP1	Z	0	12
9	S1	X	-41.7	20
10	S1	Z	0	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-74.66	0
2	MP1	Z	43.11	0
3	MP1	X	-74.66	72
4	MP1	Z	43.11	72
5	MP1	X	-46.82	12
6	MP1	Z	27.03	12
7	MP1	X	-42.85	12
8	MP1	Z	24.74	12
9	S1	X	-42.89	20
10	S1	Z	24.76	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-66.56	0
2	MP1	Z	115.29	0
3	MP1	X	-66.56	72
4	MP1	Z	115.29	72
5	MP1	X	-34.6	12
6	MP1	Z	59.93	12
7	MP1	X	-33.84	12
8	MP1	Z	58.61	12
9	S1	X	-32.58	20
10	S1	Z	56.43	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	156.59	0
3	MP1	X	0	72
4	MP1	Z	156.59	72



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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
5	MP1	X	0	12
6	MP1	Z	76.77	12
7	MP1	X	0	12
8	MP1	Z	76.77	12
9	S1	X	0	20
10	S1	Z	72.98	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	66.56	0
2	MP1	Z	115.29	0
3	MP1	X	66.56	72
4	MP1	Z	115.29	72
5	MP1	X	34.6	12
6	MP1	Z	59.93	12
7	MP1	X	33.84	12
8	MP1	Z	58.61	12
9	S1	X	32.58	20
10	S1	Z	56.43	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	74.66	0
2	MP1	Z	43.11	0
3	MP1	X	74.66	72
4	MP1	Z	43.11	72
5	MP1	X	46.82	12
6	MP1	Z	27.03	12
7	MP1	X	42.85	12
8	MP1	Z	24.74	12
9	S1	X	42.89	20
10	S1	Z	24.76	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	62.75	0
2	MP1	Z	0	0
3	MP1	X	62.75	72
4	MP1	Z	0	72
5	MP1	X	46.49	12
6	MP1	Z	0	12



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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP1	X	40.39	12
8	MP1	Z	0	12
9	S1	X	41.7	20
10	S1	Z	0	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	74.66	0
2	MP1	Z	-43.11	0
3	MP1	X	74.66	72
4	MP1	Z	-43.11	72
5	MP1	X	46.82	12
6	MP1	Z	-27.03	12
7	MP1	X	42.85	12
8	MP1	Z	-24.74	12
9	S1	X	42.89	20
10	S1	Z	-24.76	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	66.56	0
2	MP1	Z	-115.29	0
3	MP1	X	66.56	72
4	MP1	Z	-115.29	72
5	MP1	X	34.6	12
6	MP1	Z	-59.93	12
7	MP1	X	33.84	12
8	MP1	Z	-58.61	12
9	S1	X	32.58	20
10	S1	Z	-56.43	20

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-87.885	0
2	MP1	Y	-87.885	72
3	MP1	Y	-44.45	12
4	MP1	Y	-41.585	12
5	S1	Y	-40.518	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
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Member Point Loads (BLC 17 : Ice Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-20.89	0
3	MP1	X	0	72
4	MP1	Z	-20.89	72
5	MP1	X	0	12
6	MP1	Z	-7.55	12
7	MP1	X	0	12
8	MP1	Z	-7.55	12
9	S1	X	0	20
10	S1	Z	-7.3	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.54	0
2	MP1	Z	-16.52	0
3	MP1	X	-9.54	72
4	MP1	Z	-16.52	72
5	MP1	X	-3.58	12
6	MP1	Z	-6.2	12
7	MP1	X	-3.54	12
8	MP1	Z	-6.13	12
9	S1	X	-3.46	20
10	S1	Z	-5.99	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.38	0
2	MP1	Z	-7.72	0
3	MP1	X	-13.38	72
4	MP1	Z	-7.72	72
5	MP1	X	-5.51	12
6	MP1	Z	-3.18	12
7	MP1	X	-5.3	12
8	MP1	Z	-3.06	12
9	S1	X	-5.32	20
10	S1	Z	-3.07	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.64	0
2	MP1	Z	0	0



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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-13.64	72
4	MP1	Z	0	72
5	MP1	X	-5.97	12
6	MP1	Z	0	12
7	MP1	X	-5.64	12
8	MP1	Z	0	12
9	S1	X	-5.76	20
10	S1	Z	0	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.38	0
2	MP1	Z	7.72	0
3	MP1	X	-13.38	72
4	MP1	Z	7.72	72
5	MP1	X	-5.51	12
6	MP1	Z	3.18	12
7	MP1	X	-5.3	12
8	MP1	Z	3.06	12
9	S1	X	-5.32	20
10	S1	Z	3.07	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.54	0
2	MP1	Z	16.52	0
3	MP1	X	-9.54	72
4	MP1	Z	16.52	72
5	MP1	X	-3.58	12
6	MP1	Z	6.2	12
7	MP1	X	-3.54	12
8	MP1	Z	6.13	12
9	S1	X	-3.46	20
10	S1	Z	5.99	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	20.89	0
3	MP1	X	0	72
4	MP1	Z	20.89	72

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
5	MP1	X	0	12
6	MP1	Z	7.55	12
7	MP1	X	0	12
8	MP1	Z	7.55	12
9	S1	X	0	20
10	S1	Z	7.3	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	9.54	0
2	MP1	Z	16.52	0
3	MP1	X	9.54	72
4	MP1	Z	16.52	72
5	MP1	X	3.58	12
6	MP1	Z	6.2	12
7	MP1	X	3.54	12
8	MP1	Z	6.13	12
9	S1	X	3.46	20
10	S1	Z	5.99	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.38	0
2	MP1	Z	7.72	0
3	MP1	X	13.38	72
4	MP1	Z	7.72	72
5	MP1	X	5.51	12
6	MP1	Z	3.18	12
7	MP1	X	5.3	12
8	MP1	Z	3.06	12
9	S1	X	5.32	20
10	S1	Z	3.07	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.64	0
2	MP1	Z	0	0
3	MP1	X	13.64	72
4	MP1	Z	0	72
5	MP1	X	5.97	12
6	MP1	Z	0	12



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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP1	X	5.64	12
8	MP1	Z	0	12
9	S1	X	5.76	20
10	S1	Z	0	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.38	0
2	MP1	Z	-7.72	0
3	MP1	X	13.38	72
4	MP1	Z	-7.72	72
5	MP1	X	5.51	12
6	MP1	Z	-3.18	12
7	MP1	X	5.3	12
8	MP1	Z	-3.06	12
9	S1	X	5.32	20
10	S1	Z	-3.07	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	9.54	0
2	MP1	Z	-16.52	0
3	MP1	X	9.54	72
4	MP1	Z	-16.52	72
5	MP1	X	3.58	12
6	MP1	Z	-6.2	12
7	MP1	X	3.54	12
8	MP1	Z	-6.13	12
9	S1	X	3.46	20
10	S1	Z	-5.99	20

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Z	-10.423	0
2	MP1	Z	-10.423	72
3	MP1	Z	-24.224	12
4	MP1	Z	-20.662	12
5	S1	Z	-7.062	20

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
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Member Point Loads (BLC 32 : Seismic Load X) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-10.423	0
2	MP1	X	-10.423	72
3	MP1	X	-24.224	12
4	MP1	X	-20.662	12
5	S1	X	-7.062	20

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N18	L	Y	-250

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N69	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N70	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N74	L	Y	-500

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

	Member Label	Direction	Start Magnitude[lb/ft,....	End Magn...	Start Location...	End Location[in,%]
1	S3	SZ	-52.13	-52.13	0	%100
2	S4	SZ	-52.13	-52.13	0	%100
3	TR6	SZ	-52.13	-52.13	0	%100
4	TR5	SZ	-52.13	-52.13	0	%100
5	TR8	SZ	-52.13	-52.13	0	%100
6	TR7	SZ	-52.13	-52.13	0	%100
7	S1	SZ	-52.13	-52.13	0	%100
8	S2	SZ	-52.13	-52.13	0	%100
9	TR1	SZ	-52.13	-52.13	0	%100
10	TR2	SZ	-52.13	-52.13	0	%100
11	TR3	SZ	-52.13	-52.13	0	%100
12	TR4	SZ	-52.13	-52.13	0	%100
13	H1	SZ	-52.13	-52.13	0	%100
14	H2	SZ	-52.13	-52.13	0	%100



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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
15	MP3	SZ	-52.13	-52.13	0	%100
16	MP1	SZ	-52.13	-52.13	0	%100
17	MP2	SZ	-52.13	-52.13	0	%100
18	T1	SZ	-52.13	-52.13	0	%100
19	M29	SZ	0	0	0	%100
20	M30	SZ	0	0	0	%100
21	M33	SZ	0	0	0	%100
22	M34	SZ	0	0	0	%100
23	M35	SZ	0	0	0	%100
24	M36	SZ	0	0	0	%100
25	M25	SZ	0	0	0	%100
26	M26	SZ	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S3	SX	-52.13	-52.13	0	%100
2	S4	SX	-52.13	-52.13	0	%100
3	TR6	SX	-52.13	-52.13	0	%100
4	TR5	SX	-52.13	-52.13	0	%100
5	TR8	SX	-52.13	-52.13	0	%100
6	TR7	SX	-52.13	-52.13	0	%100
7	S1	SX	-52.13	-52.13	0	%100
8	S2	SX	-52.13	-52.13	0	%100
9	TR1	SX	-52.13	-52.13	0	%100
10	TR2	SX	-52.13	-52.13	0	%100
11	TR3	SX	-52.13	-52.13	0	%100
12	TR4	SX	-52.13	-52.13	0	%100
13	H1	SX	-52.13	-52.13	0	%100
14	H2	SX	-52.13	-52.13	0	%100
15	MP3	SX	-52.13	-52.13	0	%100
16	MP1	SX	-52.13	-52.13	0	%100
17	MP2	SX	-52.13	-52.13	0	%100
18	T1	SX	-52.13	-52.13	0	%100
19	M29	SX	0	0	0	%100
20	M30	SX	0	0	0	%100
21	M33	SX	0	0	0	%100
22	M34	SX	0	0	0	%100
23	M35	SX	0	0	0	%100
24	M36	SX	0	0	0	%100
25	M25	SX	0	0	0	%100
26	M26	SX	0	0	0	%100



Member Distributed Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
1	S3	Y	-4.167	-4.167	0	%100
2	S4	Y	-4.167	-4.167	0	%100
3	TR6	Y	-2.419	-2.419	0	%100
4	TR5	Y	-2.419	-2.419	0	%100
5	TR8	Y	-2.419	-2.419	0	%100
6	TR7	Y	-2.419	-2.419	0	%100
7	S1	Y	-4.167	-4.167	0	%100
8	S2	Y	-4.167	-4.167	0	%100
9	TR1	Y	-2.419	-2.419	0	%100
10	TR2	Y	-2.419	-2.419	0	%100
11	TR3	Y	-2.419	-2.419	0	%100
12	TR4	Y	-2.419	-2.419	0	%100
13	H1	Y	-5.51	-5.51	0	%100
14	H2	Y	-5.51	-5.51	0	%100
15	MP3	Y	-5.517	-5.517	0	%100
16	MP1	Y	-5.517	-5.517	0	%100
17	MP2	Y	-5.517	-5.517	0	%100
18	T1	Y	-4.828	-4.828	0	%100
19	M29	Y	-1.552	-1.552	0	%100
20	M30	Y	-1.552	-1.552	0	%100
21	M33	Y	-1.552	-1.552	0	%100
22	M34	Y	-1.552	-1.552	0	%100
23	M35	Y	-1.552	-1.552	0	%100
24	M36	Y	-1.552	-1.552	0	%100
25	M25	Y	-1.552	-1.552	0	%100
26	M26	Y	-1.552	-1.552	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
1	S3	SZ	-20.463	-20.463	0	%100
2	S4	SZ	-20.463	-20.463	0	%100
3	TR6	SZ	-42.844	-42.844	0	%100
4	TR5	SZ	-42.844	-42.844	0	%100
5	TR8	SZ	-42.844	-42.844	0	%100
6	TR7	SZ	-42.844	-42.844	0	%100
7	S1	SZ	-20.463	-20.463	0	%100
8	S2	SZ	-20.463	-20.463	0	%100
9	TR1	SZ	-42.844	-42.844	0	%100
10	TR2	SZ	-42.844	-42.844	0	%100
11	TR3	SZ	-42.844	-42.844	0	%100
12	TR4	SZ	-42.844	-42.844	0	%100
13	H1	SZ	-16.697	-16.697	0	%100



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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
14	H2	SZ	-16.697	-16.697	0	%100
15	MP3	SZ	-16.684	-16.684	0	%100
16	MP1	SZ	-16.684	-16.684	0	%100
17	MP2	SZ	-16.684	-16.684	0	%100
18	T1	SZ	-18.223	-18.223	0	%100
19	M29	SZ	0	0	0	%100
20	M30	SZ	0	0	0	%100
21	M33	SZ	0	0	0	%100
22	M34	SZ	0	0	0	%100
23	M35	SZ	0	0	0	%100
24	M36	SZ	0	0	0	%100
25	M25	SZ	0	0	0	%100
26	M26	SZ	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
1	S3	SX	-20.463	-20.463	0	%100
2	S4	SX	-20.463	-20.463	0	%100
3	TR6	SX	-42.844	-42.844	0	%100
4	TR5	SX	-42.844	-42.844	0	%100
5	TR8	SX	-42.844	-42.844	0	%100
6	TR7	SX	-42.844	-42.844	0	%100
7	S1	SX	-20.463	-20.463	0	%100
8	S2	SX	-20.463	-20.463	0	%100
9	TR1	SX	-42.844	-42.844	0	%100
10	TR2	SX	-42.844	-42.844	0	%100
11	TR3	SX	-42.844	-42.844	0	%100
12	TR4	SX	-42.844	-42.844	0	%100
13	H1	SX	-16.697	-16.697	0	%100
14	H2	SX	-16.697	-16.697	0	%100
15	MP3	SX	-16.684	-16.684	0	%100
16	MP1	SX	-16.684	-16.684	0	%100
17	MP2	SX	-16.684	-16.684	0	%100
18	T1	SX	-18.223	-18.223	0	%100
19	M29	SX	0	0	0	%100
20	M30	SX	0	0	0	%100
21	M33	SX	0	0	0	%100
22	M34	SX	0	0	0	%100
23	M35	SX	0	0	0	%100
24	M36	SX	0	0	0	%100
25	M25	SX	0	0	0	%100
26	M26	SX	0	0	0	%100



Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
No Data to Print ...						

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

Member	Shape	Code Check	Loc[in]	LC	She...	Loc[in]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*Mn z-z [lb...	Cb	Eqn	
1	TR7	0.63" SR	.401	39.811	88	.026	19.905		85	4409...	1402...	147.2...	147.295	2....	H1-1a
2	S4	1.9" ODx0.1...	.396	35.333	91	.134	42.4		94	2049...	2777...	1314...	1314.45	1....	H1-1b
3	S3	1.9" ODx0.1...	.378	35.333	94	.135	42.4		88	2049...	2777...	1314...	1314.45	1....	H1-1b
4	TR4	0.63" SR	.318	39.811	87	.030	19.905		90	4409...	1402...	147.2...	147.295	2....	H1-1a
5	S2	1.9" ODx0.1...	.308	35.333	85	.119	42.4		84	2049...	2777...	1314...	1314.45	1....	H1-1b
6	S1	1.9" ODx0.1...	.292	35.333	81	.118	42.4		87	2049...	2777...	1314...	1314.45	1.79	H1-1b
7	MP1	2.88"x0.120"	.245	33	2	.067	33		8	2249...	43056	3156...	3156.75	3....	H1-1b
8	TR8	0.63" SR	.154	0	94	.026	19.905		81	2249...	1402...	147.2...	147.295	2....	H1-1b
9	H1	PIPE 2.5	.130	77	8	.081	78		2	3348...	66654	4726.5	4726.5	2....	H1-1b
10	T1	Pipe2.38X0...	.127	96.255	7	.008	96.255		30	1328...	3527...	2114...	2114.85	1....	H1-1b
11	TR3	0.63" SR	.126	0	81	.030	19.905		96	2249...	1402...	147.2...	147.295	2....	H1-1b
12	TR5	0.63" SR	.119	0	94	.033	0		95	5162...	1402...	147.2...	147.295	2....	H1-1b
13	TR2	0.63" SR	.110	0	81	.034	0		95	5162...	1402...	147.2...	147.295	2....	H1-1b
14	MP3	2.88"x0.120"	.109	33	81	.023	61		87	2249...	43056	3156...	3156.75	4....	H1-1b
15	H2	PIPE 2.5	.088	93	96	.047	78		94	3348...	66654	4726.5	4726.5	2....	H1-1b
16	MP2	2.88"x0.120"	.077	33	8	.038	33		93	2249...	43056	3156...	3156.75	4....	H1-1b
17	TR6	0.63" SR	.076	0	93	.016	0		96	5162...	1402...	147.2...	147.295	2....	H1-1b
18	TR1	0.63" SR	.053	28.3	77	.015	28.3		96	5162...	1402...	147.2...	147.295	2....	H1-1b

Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	BOBOS00884A
Site Number:	BOBOS00884A
Connection Description:	Sector Frame to Tower Leg

MAXIMUM BOLT LOADS		
Bolt Tension:	1095.18	lbs
Bolt Shear:	851.99	lbs

WORST CASE BOLT LOADS ¹		
Bolt Tension:	794.54	lbs
Bolt Shear:	851.99	lbs

WORST CASE CONNECTION SLIP LOADS ²		
Sliding Force:	653.66	lbs
Torsion About Leg:	0.00	lbs-ft

BOLT PROPERTIES		
Bolt Type:	Threaded Rod	-
Bolt Diameter:	0.625	in
Bolt Grade:	A449	-
# of Threaded Rods:	2	-
Leg Diameter:	5.563	in
Threads Excluded?	No	-

¹ Worst case bolt loads correspond to Load combination #96 on member M25 in RISA-3D, which causes the maximum demand on the bolts.

² Worst Case slip loads correspond to Load combination #93 on member M25 in RISA 3D, which causes the maximum slip demand on the connection.

Member Information
I nodes of M25, M26

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Max Tensile Usage	5.4%	
Max Shear Usage	6.2%	
Interaction Check (Worst Case)	0.01	≤1.05
Result	Pass	

SLIP CHECK (WORST CASE)		
Torsional Slip Resistance	1470.96	
Sliding Resistance	6346.03	
Torsional Slip Usage	0.0%	
Sliding Usage	10.3%	
Interaction Check	0.01	≤1.05
Result	Pass	



Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	BOBOS00884A
Site Number:	BOBOS00884A
Connection Description:	Tieback to Tower Leg

MAXIMUM BOLT LOADS		
Bolt Tension:	57.17	lbs
Bolt Shear:	405.84	lbs

WORST CASE BOLT LOADS ¹		
Bolt Tension:	52.86	lbs
Bolt Shear:	405.84	lbs

WORST CASE CONNECTION SLIP LOADS ²		
Sliding Force:	33.21	lbs
Torsion About Leg:	0.00	lbs-ft

BOLT PROPERTIES		
Bolt Type:	Threaded Rod	-
Bolt Diameter:	0.5	in
Bolt Grade:	A449	-
# of Threaded Rods:	2	-
Leg Diameter:	5.563	in
Threads Excluded?	No	-

¹ Worst case bolt loads correspond to Load combination #13 on member M27 in RISA-3D, which causes the maximum demand on the bolts.

² Worst Case slip loads correspond to Load combination #36 on member M27 in RISA 3D, which causes the maximum slip demand on the connection.

Member Information	
I nodes of M27	

BOLT CHECK		
Tensile Strength	12770.86	
Shear Strength	8835.73	
Max Tensile Usage*	0.4%	
Max Shear Usage*	4.6%	
Interaction Check (Worst Case)*	0.00	≤1.0
Result	Pass	

SLIP CHECK (WORST CASE)		
Torsional Slip Resistance	1087.74	
Sliding Resistance	4692.73	
Torsional Slip Usage*	0.0%	
Sliding Usage*	0.7%	
Interaction Check*	0.00	≤1.0
Result	Pass	

*Usage per TIA-222-H Section 15.5



POWER DENSITY STUDY

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

Dish Wireless Existing Facility

Site ID: BOHVN00141A

BOHVN00141A
401 Wakelee Avenue
Ansonia, Connecticut 06401

April 18, 2022

EBI Project Number: 6222004007

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	23.27%

April 18, 2022

Dish Wireless

Emissions Analysis for Site: BOHVN00141A - BOHVN00141A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **401 Wakelee Avenue in Ansonia, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless Wireless antenna facility located at 401 Wakelee Avenue in Ansonia, 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 115 feet above ground level (AGL).
- 8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 9) All calculations were done with respect to uncontrolled / general population threshold limits.

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	I	Antenna #:	I	Antenna #:	I
Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21
Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz
Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd
Height (AGL):	115 feet	Height (AGL):	115 feet	Height (AGL):	115 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts
ERP (W):	5,236.31	ERP (W):	5,236.31	ERP (W):	5,236.31
Antenna AI MPE %:	1.99%	Antenna BI MPE %:	1.99%	Antenna CI MPE %:	1.99%

Site Composite MPE %	
Carrier	MPE %
Dish Wireless (Max at Sector A):	1.99%
AT&T	4.51%
Metro PCS	0.3%
Clearwire	0.05%
Sprint	0.93%
Verizon	5.74%
T-Mobile	9.75%
Site Total MPE % :	23.27%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	1.99%
Dish Wireless Sector B Total:	1.99%
Dish Wireless Sector C Total:	1.99%
Site Total MPE % :	23.27%

Dish Wireless Maximum MPE Power Values (Sector A)							
Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Dish Wireless 600 MHz n71	4	223.68	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:	1.99%

• 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:	1.99%
Sector B:	1.99%
Sector C:	1.99%
Dish Wireless Maximum MPE % (Sector A):	1.99%
Site Total:	23.27%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **23.27%** 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.

UNDERLYING PROPERTY INFORMATION



Property Information

Property Location	401 WAKELEE AVE
Owner	CITY OF ANSONIA
Co-Owner	HILLSIDE HOME & NOLAN FIE
Mailing Address	401 WAKELEE AVE ANSONIA CT 06401
Land Use	901 MUNICIPAL MDL-94
Land Class	E
Zoning Code	A
Census Tract	1253

Neighborhood	
Acres	16.5
Utilities	All Public
Lot Setting/Desc	Bus. District Level
Book / Page	0005/0525
Additional Info	

Photo



Sketch



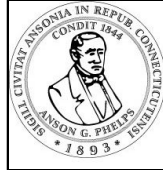
Primary Construction Details

Year Built	2001
Building Desc.	MUNICIPAL MDL-94
Building Style	Health Club
Building Grade	Average +20
Stories	1
Occupancy	1.00
Exterior Walls	Brick/Masonry
Exterior Walls 2	NA
Roof Style	Gable
Roof Cover	Asphalt Shingl
Interior Walls	Minim/Masonry
Interior Walls 2	Drywall/Sheetr
Interior Floors 1	Ceram Clay Til
Interior Floors 2	NA

Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	None
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Whirlpool Tub	0
Jet Tub	0
Bsmt Gar	0
Fireplaces	0

(*Industrial / Commercial Details)

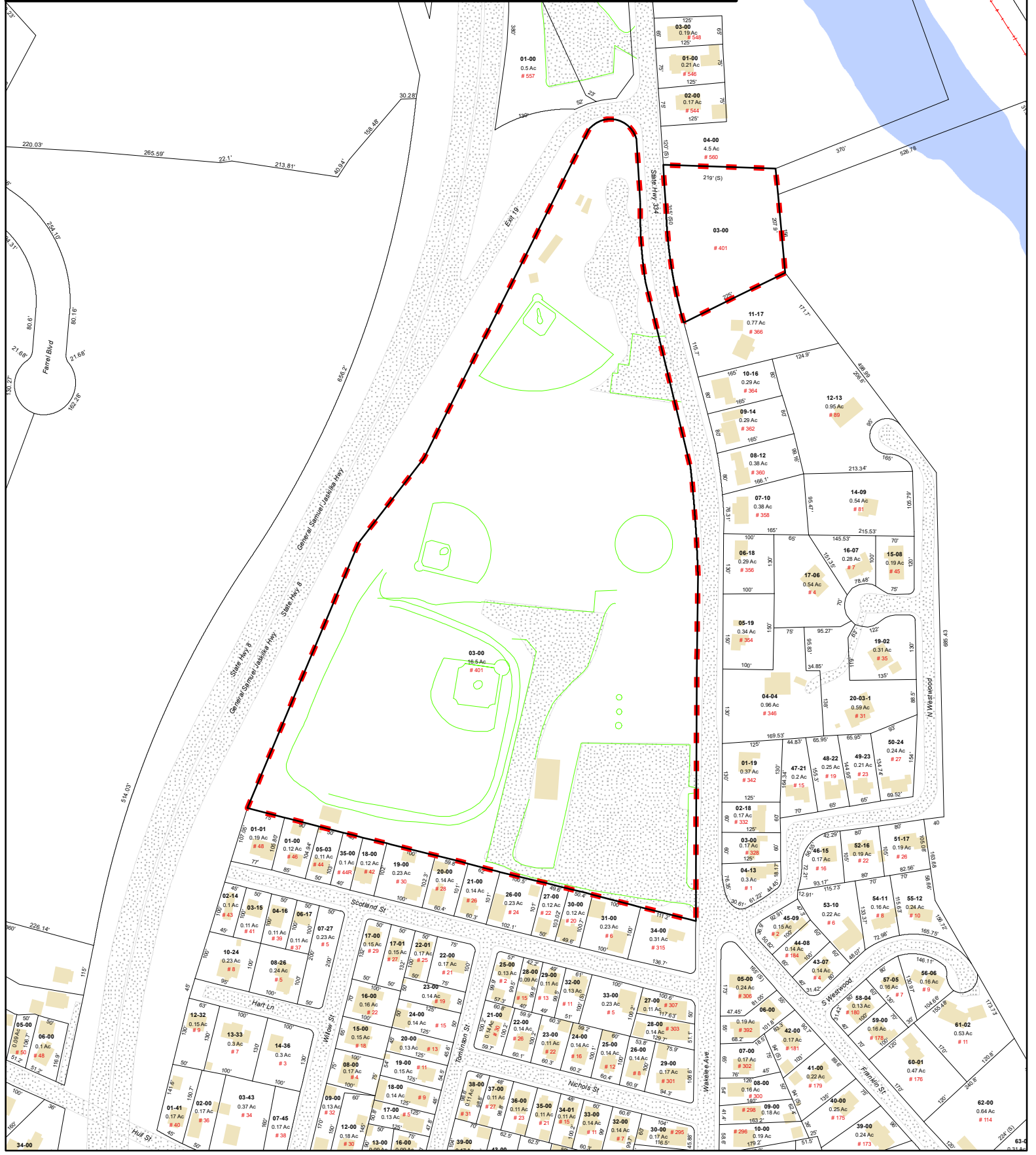
Building Use	Comm/Ind
Building Condition	A
Sprinkler %	NA
Heat / AC	NONE
Frame Type	MASONRY
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & MIN WL
Rooms / Prtns	AVERAGE
Wall Height	10.00
First Floor Use	NA
Foundation	NA



City of Ansonia, Connecticut- Parcel Map

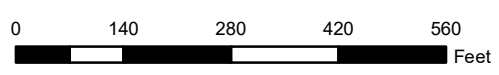
Parcel: 01900030000

Address: 401 WAKELEE AVE



Approximate Scale: 1 inch = 250 feet

Map Produced: September 2019



Disclaimer: This map is for informational purposes only All information is subject to verification by any user. The City of Ansonia and its mapping contractors assume no legal responsibility for the information contained herein.

NOTIFICATIONS

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Tuesday, 5/3/2022 at 10:14 am



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FROM
BLUE BELL, PA US

TO
ANSONIA, CT US

[MANAGE DELIVERY](#)

Travel History

TIME ZONE

Local Scan Time



Tuesday, May 3, 2022

10:14 AM	ANSONIA, CT	Delivered
9:16 AM	WATERTOWN, CT	Shipment arriving On-Time
9:01 AM	WATERTOWN, CT	On FedEx vehicle for delivery
8:58 AM	WATERTOWN, CT	At local FedEx facility

Sunday, May 1, 2022

6:42 PM	EAST GRANBY, CT	At destination sort facility
4:10 PM	MEMPHIS, TN	In transit

(<https://www.fedex.com/en-us/home.html>)

Saturday, April 30,
2022



9:41 AM	MEMPHIS, TN	Shipment arriving On-Time
9:28 AM	MEMPHIS, TN	Arrived at FedEx hub

Friday, April 29,
2022

8:34 PM	FORT WASHINGTON, PA	Left FedEx origin facility
4:05 PM	FORT WASHINGTON, PA	Picked up
10:06 AM		Shipment information sent to FedEx

Expand History 

Shipment Facts

TRACKING NUMBER 776728995467	SERVICE FedEx 2Day AM	WEIGHT 2 lbs / 0.91 kgs
DELIVERED TO Receptionist/Front Desk	TOTAL PIECES 1	TOTAL SHIPMENT WEIGHT 2 lbs / 0.91 kgs
TERMS Shipper	SHIPPER REFERENCE 100814 - 302470	PACKAGING FedEx Pak
SPECIAL HANDLING SECTION Deliver Weekday	SHIP DATE 4/29/22 	STANDARD TRANSIT 5/3/22 before 10:30 am 
ACTUAL DELIVERY 5/3/22 at 10:14 am		

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Tuesday, 5/3/2022 at 10:14 am



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Local Scan Time



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10:14 AM	ANSONIA, CT	Delivered
9:08 AM	WATERTOWN, CT	On FedEx vehicle for delivery
8:05 AM	WATERTOWN, CT	Shipment arriving On-Time
7:49 AM	WATERTOWN, CT	At local FedEx facility

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4:10 PM	MEMPHIS, TN	In transit

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2022

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4:05 PM	FORT WASHINGTON, PA	Picked up
10:07 AM		Shipment information sent to FedEx

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Shipment Facts

TRACKING NUMBER 776729018942	SERVICE FedEx 2Day AM	WEIGHT 2 lbs / 0.91 kgs
DELIVERED TO Receptionist/Front Desk	TOTAL PIECES 1	TOTAL SHIPMENT WEIGHT 2 lbs / 0.91 kgs
TERMS Shipper	SHIPPER REFERENCE 100814 - 302470	PACKAGING FedEx Pak
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