PROJECT NARRATIVE

April 28, 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
123 Pine Orchard Road, Branford, CT 06405
Latitude: 41'16'29.11" / Longitude: -72'47'35.45"

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 123 Pine Orchard Road in Branford (the "Property"). The existing 123-foot monopole tower is owned by American Tower Corporation ("ATC"). The underlying property is owned by Malavasi Investments LLC. 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 James Cosgrove, First Selectman for the Town of Branford, Anthony Cinicola, Town of Branford Building Official and Malavasi Investments LLC as the property owner.

Background

This facility was approved by the Council under Docket No. 386 on February 25, 2010 and with a provision that panel antennas shall be installed in a flush-mount configuration or utilizing t-arm mounts. A copy of the Decision and Order is included in the filing attachments. The existing ATC facility consists of a 123-foot monopole tower located within an existing leased area. T-Mobile currently maintains antennas at the 122-foot level and 120-foot level. AT&T currently maintains antennas at the 112-foot level. Verizon Wireless currently maintains antennas at the 102-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 123 Pine Orchard Road tower pursuant to mutually acceptable terms and conditions. Likewise, DISH and ATC have agreed to the proposed installation of equipment cabinets on the ground 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) T-Arm mount, (6) Remote radio units at the 80-foot level along with (1) over voltage protection device (OVP) and (1) Hybrid cable. DISH will install an equipment cabinet on a 5'x7' equipment platform. DISH's Construction Drawings provide project specifications for all proposed site improvement locations. The construction drawings also include specifications for DISH's proposed antenna and groundwork.

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

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

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

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

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

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

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

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

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

Conclusion

For the reasons discussed above, the proposed shared use of the existing ATC tower at 123 Pine Orchard Road in satisfies the criteria stated in C.G.S. §16-50aa and advances the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the prosed shared use.

Sincerely,

David Hoogasian

David Hoogasian
Project Manager

LETTER OF AUTHORIZATION

AMERICAN TOWER®
CORPORATION

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

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

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

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

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

AMERICAN TOWER®
CORPORATION

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

Signature:

Print Name: Margaret Robinson
Senior Counsel
American Tower*

AMERICAN TOWER®
CORPORATION

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

NOTARY BLOCK

Commonwealth of MASSACHUSETTS
County of Middlesex

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

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

NOTARY SEAL

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

Notary Public _____
My Commission Expires: March 14, 2025

ORIGINAL FACILITY APPROVAL

DOCKET NO. 386 – T-Mobile Northeast LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and management of a telecommunications facility located at 123 Pine Orchard Road, Branford, Connecticut.	}	Connecticut Siting Council February 25, 2010

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and management of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to T-Mobile Northeast LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 123 Pine Orchard Road, Branford, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of T-Mobile Northeast LLC and New Cingular Wireless PCS LLC and other entities, both public and private, but such tower shall not exceed a height of 125 feet above ground level. Panel antennas shall be installed in a flush-mount configuration or utilizing t-arm mounts and such panel antennas shall not exceed a height of 125 feet above ground level.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Branford for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
    b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
    c) correspondence indicating results of discussions with the property owner at 119 Pine Orchard Road regarding continued use of the existing driveway entrance. If an agreement cannot be reached and the driveway is expanded as proposed, a 12-foot spruce tree shall be planted in the front yard of 121 Pine Orchard Road.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

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

6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Branford public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.

8. At least one wireless telecommunications carrier shall install their equipment and shall become operational not later than 120 days after the tower is erected. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

9. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Branford. Any proposed modifications to this Decision and Order shall likewise be so served.

10. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

11. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

12. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the New Haven Register.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
T-Mobile Northeast LLC	Julie D. Kohler, Esq. Monte E. Frank, Esq. Jesse A. Langer, Esq. Cohen and Wolf, P.C. 1115 Broad Street Bridgeport, CT 06604

Intervenor	**Its Representative**
New Cingular Wireless PCS, LLC	Christopher B. Fisher, Esq. Daniel M. Laub, Esq. Cuddy & Feder LLP 445 Hamilton Avenue, 14th Floor White Plains, NY 10601

ENGINEERING DRAWINGS

DISH Wireless L.L.C. SITE ID:

BOHVN00136A

DISH Wireless L.L.C. SITE ADDRESS:

123 PINE ORCHARD ROAD
BRANFORD, CT 06405

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

PROJECT NOTES

THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELGIBLE 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).

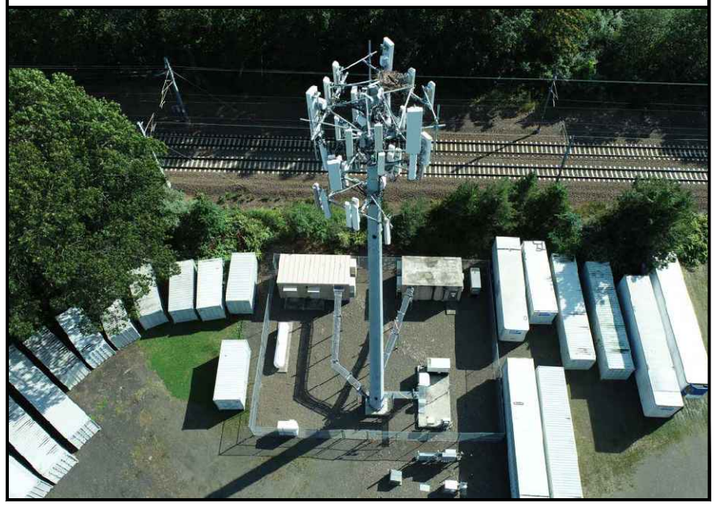
SCOPE OF WORK

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

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

GROUND SCOPE OF WORK:
- INSTALL (1) PROPOSED METAL PLATFORM
- INSTALL (1) PROPOSED ICE BRIDGE
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
- INSTALL (1) PROPOSED METER CANISTER IN EXISTING METER SOCKET
- INSTALL (1) PROPOSED FIBER HAND HOLE

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

811

GENERAL NOTES

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

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:	MALAVASI INVESTMENTS LLC
ADDRESS:	35 STONY CREEK RD BRANFORD, CT 06405
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	283419
TOWER APP NUMBER:	13694329
COUNTY:	NEW HAVEN
LATITUDE (NAD 83):	41° 16' 29.11" N 41.274753
LONGITUDE (NAD 83):	72° 47' 35.45" W -72.793181
ZONING JURISDICTION:	NEW HAVEN COUNTY
ZONING DISTRICT:	R3
PARCEL NUMBER:	F08/000/006/00049
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	ITRON
TELEPHONE COMPANY:	CROWN CASTLE

PROJECT DIRECTORY

APPLICANT:	DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120 (303) 706-5008
TOWER OWNER:	AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 01801 (781) 926-4500
SITE DESIGNER:	B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
SITE ACQUISITION:	APRIL PARROTT april.parrott@dish.com
CONSTRUCTION MANAGER:	JAVIER SOTO javier.soto@dish.com
RF ENGINEER:	SYED ZAIDI syed.zaidi@dish.com

DIRECTIONS

DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT:

CONTINUE TO BRADLEY INTERNATIONAL AIRPORT CON HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT SLIGHT LEFT TAKE I-91 S TO CEDAR ST IN BRANFORD. TAKE EXIT 54 FROM I-95 N CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON CONTINUE ONTO CT-20 E/BRADLEY INTERNATIONAL AIRPORT CON USE THE RIGHT 2 LANES TO MERGE WITH I-91 S TOWARD HARTFORD KEEP RIGHT TO STAY ON I-91 S KEEP RIGHT TO STAY ON I-91 S USE THE LEFT LANE TO MERGE WITH I-95 N TOWARD NEW LONDON TAKE EXIT 54 FOR CEDAR ST TOWARD BRANFORD CONTINUE ON CEDAR ST. TAKE MAIN ST AND PINE ORCHARD RD TO COLLINS DR TURN RIGHT ONTO CEDAR ST TURN LEFT ONTO MAIN ST TURN RIGHT ONTO S MAIN ST TURN RIGHT ONTO MONTOWESE ST TURN LEFT ONTO PINE ORCHARD RD TURN RIGHT TO STAY ON PINE ORCHARD RD STREET VIEW TURN RIGHT ONTO COLLINS DR. ARRIVE AT BOHVN00136A.

VICINITY MAP

NO SCALE

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

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

STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

1/17/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	CDW	DAS

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	7/28/21	ISSUED FOR REVIEW
0	10/17/21	ISSUED FOR CONSTRUCTION
1	10/27/21	ISSUED FOR CONSTRUCTION
2	1/17/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

153568.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

PROJECT SUMMARY

FIELD SURVEY DATE: 07/08/2020

SITE ADDRESS: 123 PINE ORCHARD ROAD, BRANFORD, CT 06405

PARCEL INFORMATION
OWNER: MALAVASI INVESTMENTS, L.L.C
OWNER ADDRESS: 35 STONY CREEK ROAD, BRANFORD, CT 06405
APN: F08/000 006/ 000491 / (003607), F08/000 006/ 00050/ / (003621)

TOTAL AREAS:
PARENT PARCEL: 3.63± ACRES
ATC LEASE AREA: 5,625 SQ. FT. OR 0.13± ACRES
ACCESS & UTILITY EASEMENT 1: 5,489 SQ. FT. OR 0.13± ACRES
ACCESS & UTILITY EASEMENT 2: 2,806 SQ. FT. OR 0.06± ACRES

GEOGRAPHIC COORDINATES OF TOWER:
LATITUDE: 41°16'29.11" N — LONGITUDE: 72°47'35.45" W
VERTICAL DATUM: NAVD 1988 — HORIZONTAL DATUM: NAD83
GROUND ELEVATION: 30'

THIS IS TO CERTIFY THAT THE ABOVE INFORMATION IS PROVIDED TO THE FOLLOWING ACCURACY:
± TWENTY (20) FEET IN THE HORIZONTAL
± THREE (3) FEET IN THE VERTICAL

*MERIDIAN AND COORDINATES REFER TO CONNECTICUT STATE PLANE, NAD 83, AND ARE BASED ON GPS OBSERVATIONS.

FLOODPLAIN:
PER THE FEMA FLOODPLAIN MAPS, THE SITE IS LOCATED IN AN AREA DESIGNATED AS ZONE : X
COMMUNITY PANEL NO. : 09009C0468J
EFFECTIVE DATE: 07/08/2013

BOUNDARY NOTE
THIS SURVEY IS THE RESULT OF AN ACTUAL FIELD SURVEY BASED UPON SUFFICIENT RESEARCH AND FIELD EVIDENCE TO VERIFY THE PARENT PARCEL OF THE SUBJECT PROPERTY. HOWEVER, THIS SURVEYOR HAS RELIED UPON THE DEEDS OF RECORD, AS PROVIDED. THIS SURVEYOR MAKES NO GUARANTEE , EITHER EXPRESSED OR IMPLIED AS TO THE QUALITY OF THE DEED REPORT AND REFERENCE DOCUMENTS PROVIDED AND THE DOCUMENTS PROVED AFFECTING THE LEASE AND IMMEDIATE AREA HAVE BEEN PLOTTED. THE BOUNDARY SHOWN HEREON IS PLOTTED FROM THE RECORD INFORMATION PROVIDED AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.

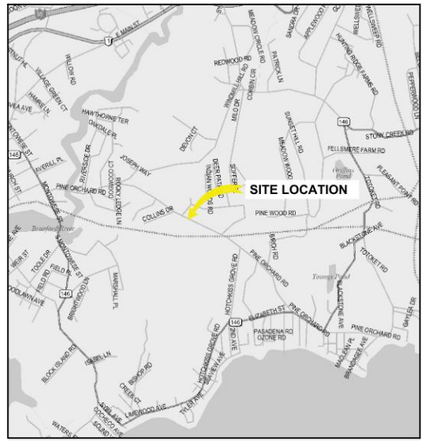
ENCROACHMENT NOTE
AT THE TIME OF THE SURVEY, THERE WAS VISIBLE EVIDENCE OF AN ENCROACHMENT AS FOLLOWS:

1. ACCESS EASEMENT DOES NOT FOLLOW INGRESS EGRESS ROUTE, WHICH WOULD BE REMEDIED BY THE AS-SURVEYED LEGAL DESCRIPTION SHOWN HEREON.

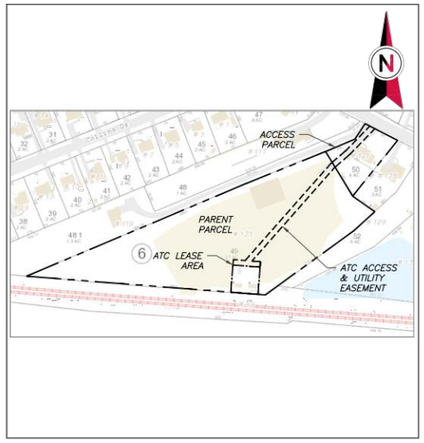
ATC LEASE AREA IS CONTAINED ENTIRELY ON THE PARENT PARCEL.

SURVEYOR'S NOTES

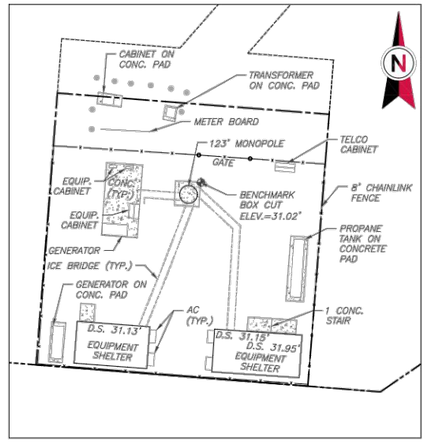
1. THERE IS ACCESS TO THE SUBJECT PROPERTY VIA PINE ORCHARD ROAD, A PUBLIC RIGHT OF WAY.
2. THE LOCATIONS OF ALL UTILITIES SHOWN ON THE SURVEY ARE FROM VISIBLE SURFACE EVIDENCE ONLY.
3. AT THE TIME OF THIS SURVEY THERE WAS NO OBSERVABLE SURFACE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.
4. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF THE SUBJECT PROPERTY BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
5. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT CHANGES IN STREET RIGHT-OF-WAY LINES EITHER COMPLETED OR PROPOSED, AND AVAILABLE FROM THE CONTROLLING JURISDICTION.
6. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
7. ANGLES OR BEARINGS SHOWN HEREON ARE FORMATTED IN DEGREES, MINUTES, AND SECONDS. DISTANCES OR ELEVATIONS SHOWN HEREON ARE IN U.S. SURVEY FEET, UNLESS NOTED OTHERWISE.
8. UNDERGROUND IMPROVEMENTS IF ANY AND NOT VISIBLE AT THE TIME OF THE SURVEY, HAVE NOT BEEN LOCATED IN THE FIELD OR SHOWN HEREON.
9. WETLANDS, IF PRESENT, HAVE NOT BEEN LOCATED OR SHOWN HEREON.
10. NOT ALL IMPROVEMENTS ON THE PARENT PARCEL BEING SURVEYED ARE SHOWN HEREON.
11. REFERENCES:
    A. DEED: BOOK 802, PAGE 624
    B. MAP ENTITLED: "PROPERTY SITUATE 121/123 PINE ORCHARD ROAD" PREPARED BY BARRETT BONACCI & VAN WEELE, PC ON 05/05/2009 AS PROJECT #C090115.
    C. TITLE COMMITMENT PREPARED BY AURO SOLUTIONS AS TITLE NUMBER ATC-102784-PR, SEARCHED DATE 01/01/1985 - 06/15/2020.



1 VICINITY MAP
NTS



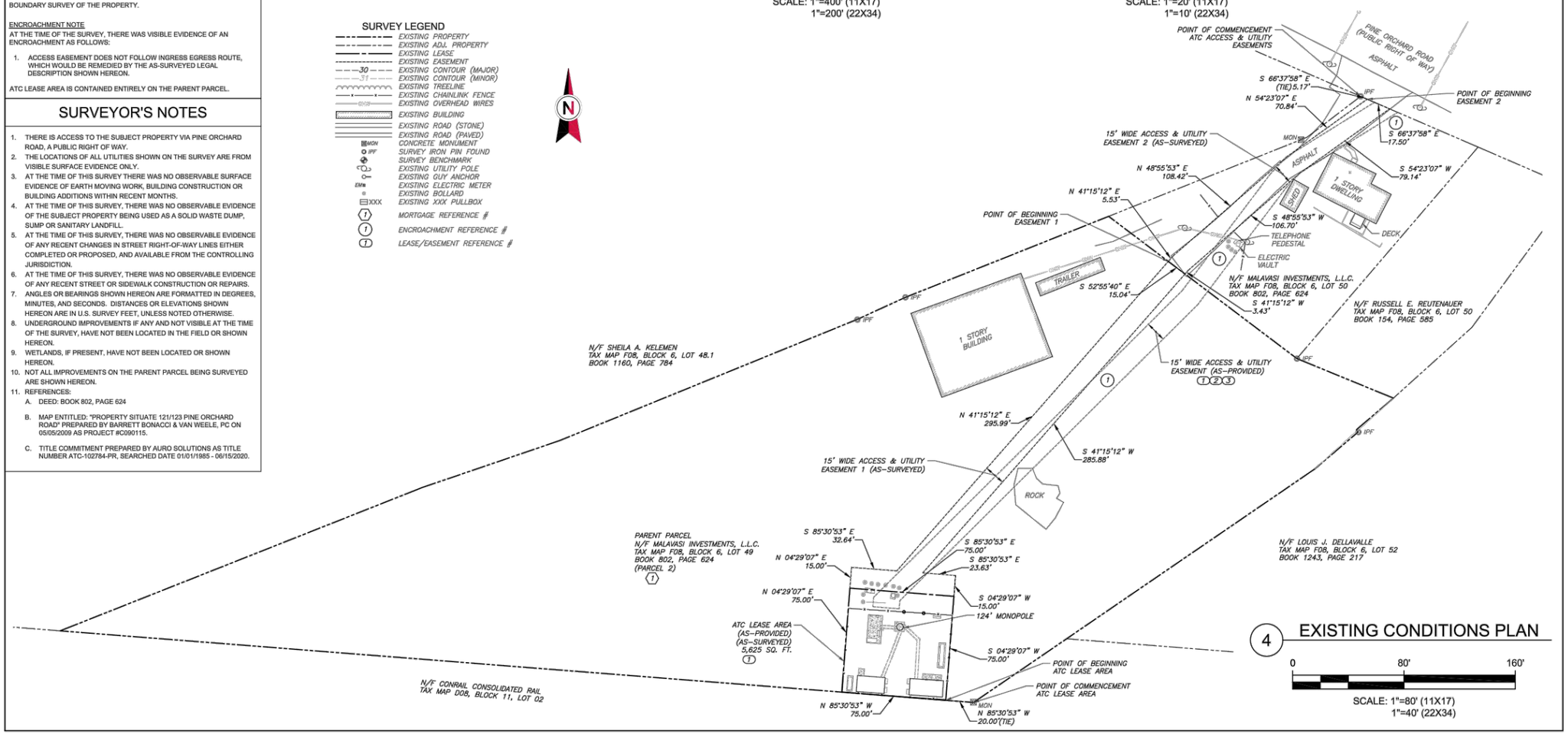
2 PARENT PARCEL
0 400' 800'
SCALE: 1"=400' (11X17)
1"=200' (22X34)



3 COMPOUND DETAIL
0 20' 40'
SCALE: 1"=20' (11X17)
1"=10' (22X34)

SURVEY LEGEND

- EXISTING PROPERTY
- EXISTING ADJ. PROPERTY
- EXISTING LEASE
- EXISTING EASEMENT
- 30 EXISTING CONTOUR (MAJOR)
- 31 EXISTING CONTOUR (MINOR)
- EXISTING TREELINE
- EXISTING CHAINLINK FENCE
- OHP EXISTING OVERHEAD WIRES
- EXISTING BUILDING
- EXISTING ROAD (STONE)
- EXISTING ROAD (PAVED)
- MON CONCRETE MONUMENT
- IPF SURVEY IRON PIN FOUND
- SURVEY BENCHMARK
- EXISTING UTILITY POLE
- EXISTING GUY ANCHOR
- EMH EXISTING ELECTRIC METER
- EXISTING BOLLARD
- XXX EXISTING XXX PULLBOX
- (1) MORTGAGE REFERENCE #
- (1) ENCROACHMENT REFERENCE #
- (1) LEASE/EASEMENT REFERENCE #



4 EXISTING CONDITIONS PLAN
0 80' 160'
SCALE: 1"=80' (11X17)
1"=40' (22X34)

AMERICAN TOWER®
ATC TOWER SERVICES, INC
3533 REGENCY PARKWAY
SUITE 133
CARY, NC 27551
PHONE: (919) 468-0145
COA: D-0204

REV.	DESCRIPTION	BY	DATE
0	ISSUED FOR COMMENT	SW	07/20/20

ATC SITE NUMBER:
283419

ATC SITE NAME:
PINE ORCHARD
BRANFORD CT

SITE ADDRESS:
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SURVEY CERTIFICATE:
I HEREBY DECLARE TO, AND ONLY, TO, THE INDIVIDUALS LISTED BELOW THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF THIS MAP SIS SUBSTANTIALLY CORRECT. THIS MAP AND SURVEY WERE PREPARED IN ACCORDANCE WITH THE STANDARDS OF A CLASS A-1 SURVEY AS DEFINED IN THE "RECOMMENDED STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS PREPARED AND ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC., ON SEPT. 13 1984, EXCEPT AS NOTED.

AMERICAN TOWER CORPORATION

SURVEY LOGO:

Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.
Tectonic Engineering & Surveying Consultants P.C.
70 Pleasant Hill Road — Phone: (845) 534-5959
P.O. Box 37 — (800) 520-8531
Mountainville, NY 10953 — www.tectonicengineering.com
Project Contact Info
1279 Route 300
Newburgh, NY 12550 — Phone: (845) 567-6656

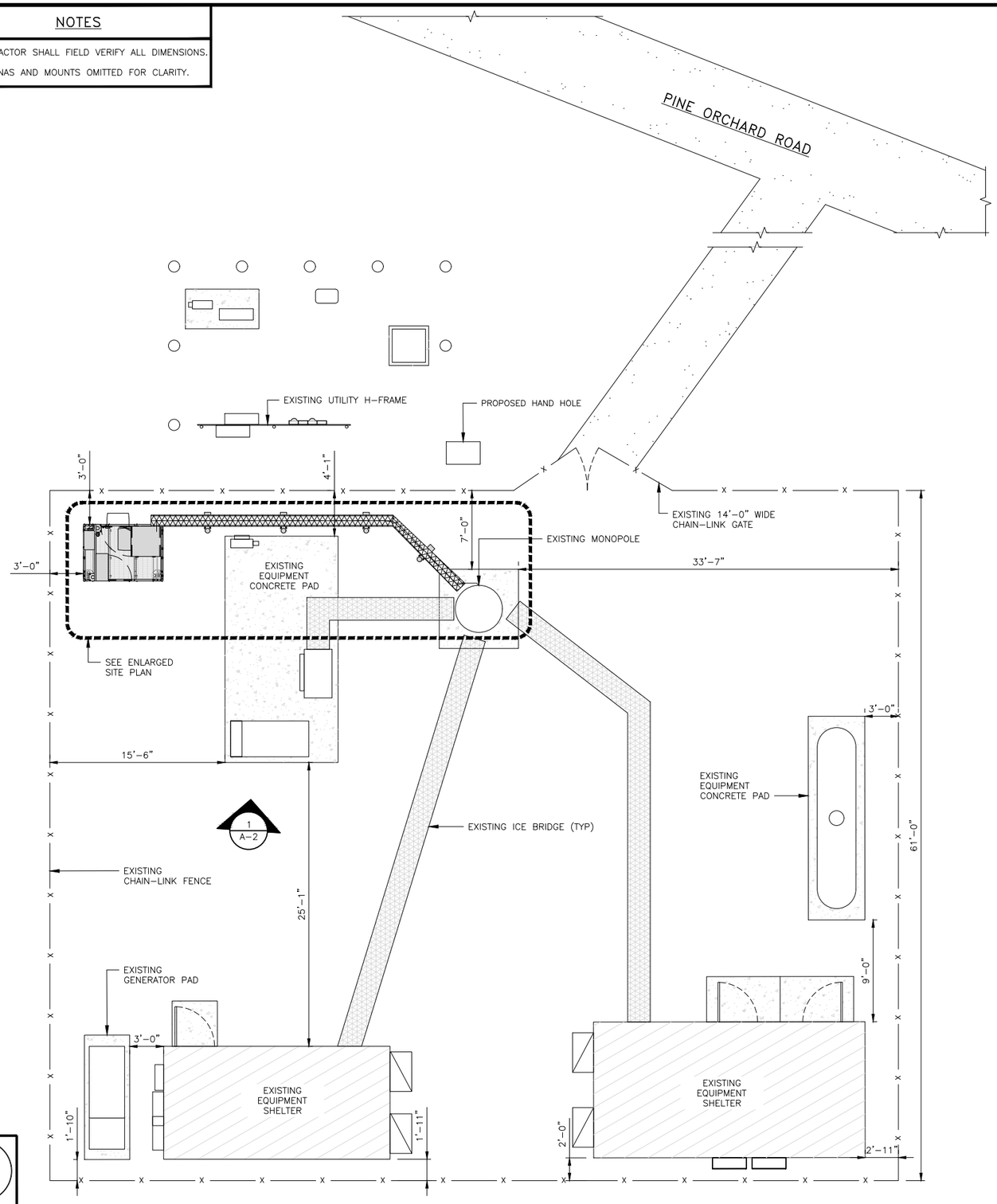
DRAWN BY:	SW
APPROVED BY:	DS
DATE DRAWN:	07/20/20
ATC JOB NO:	283419

TITLE AND BOUNDARY PLAN

SHEET NUMBER:	REVISION:
V-101	0

NOTES

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



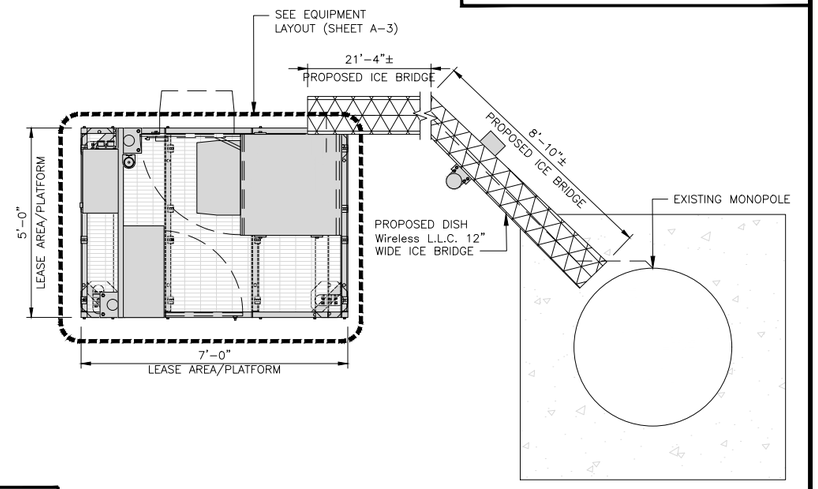
OVERALL SITE PLAN

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

1

NOTES

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



ENLARGED SITE PLAN

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

2

NOTE: CONSTRUCTION CONTRACTOR MUST FIELD VERIFY THAT THE PROPOSED UTILITY ROUTES ARE WITHIN ATC's EASEMENT. REFER TO SURVEY ATTACHED FOR EASEMENT LOCATIONS.

AERIAL IMAGE

NO SCALE

3

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SUITE 300
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STATE OF CONNECTICUT
CHAD S. TUTTLE
No. 23924
LICENSED PROFESSIONAL ENGINEER
1/17/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	CDW	DAS

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

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2	1/17/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

153568.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

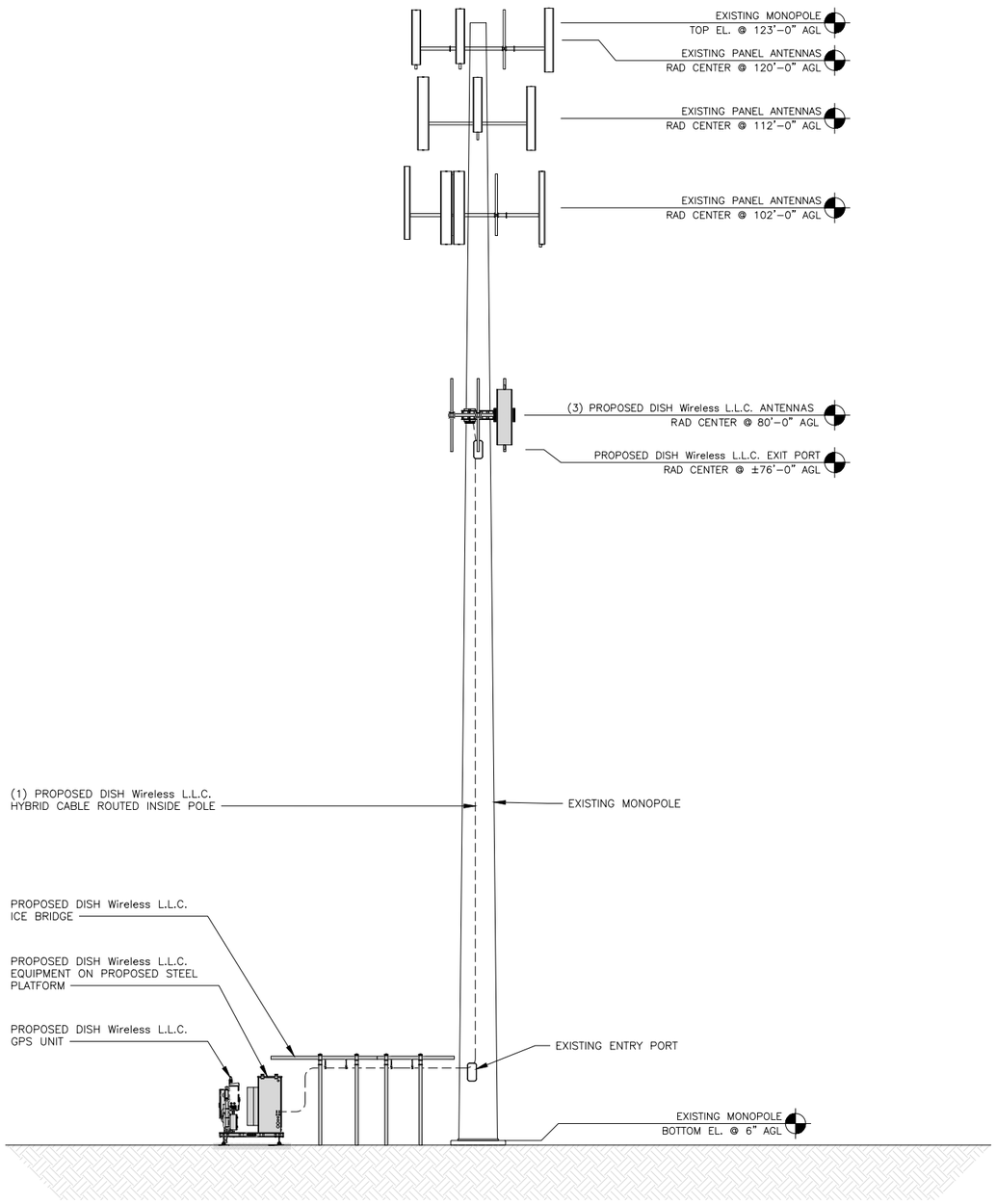
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER

A-1

NOTES

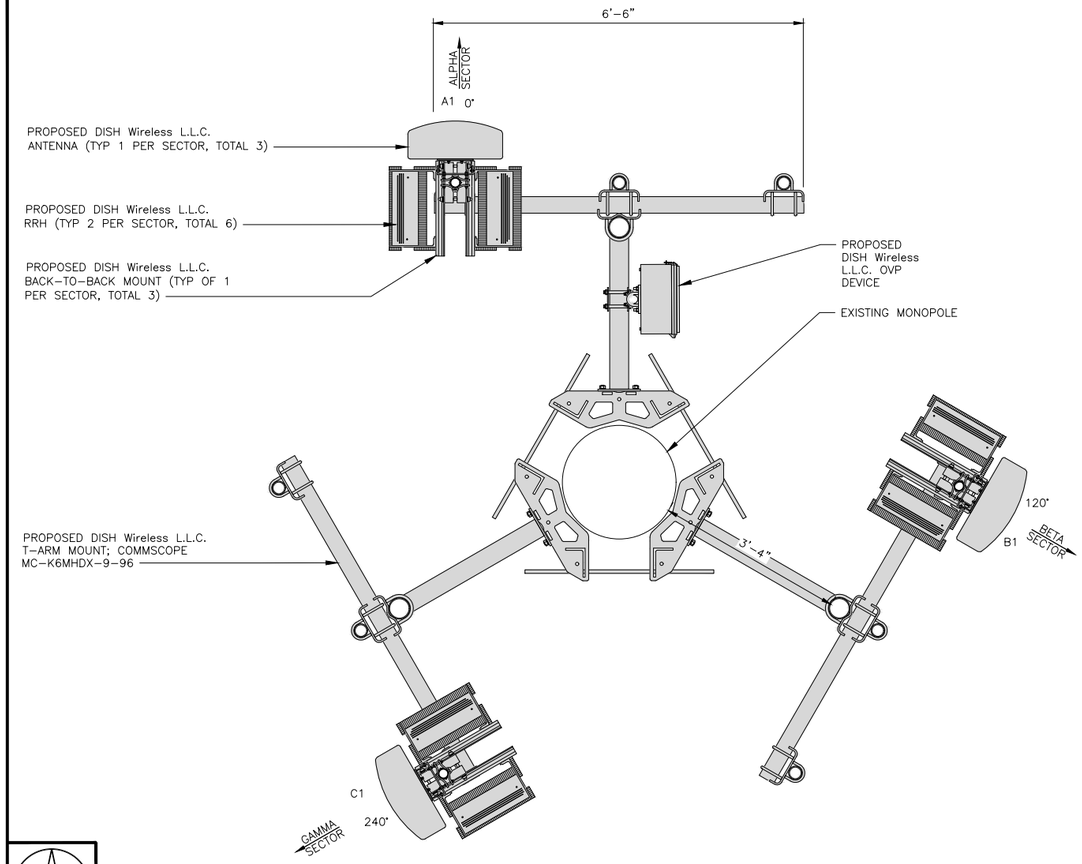
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



PROPOSED SOUTH ELEVATION

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

1



ANTENNA LAYOUT

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

2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA WIRELESS-MX08FRO665-21	5G	72.0" x 20.0"	0°	80'-0"	(1) HIGH-CAPACITY HYBRID CABLE (135' LONG)
BETA	B1	PROPOSED	JMA WIRELESS-MX08FRO665-21	5G	72.0" x 20.0"	120°	80'-0"	
GAMMA	C1	PROPOSED	JMA WIRELESS-MX08FRO665-21	5G	72.0" x 20.0"	240°	80'-0"	

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

NOTES

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

OVP		
EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	SIZE (HxWxD)
PROPOSED	RAYCAP-RDIDC-9181-PF-48	16"x14"x8"

ANTENNA SCHEDULE

NO SCALE

3

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1/17/22

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PEC.0001564
Expires 2/10/22

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RFDS REV #: 1.0

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DISH Wireless L.L.C.
PROJECT INFORMATION

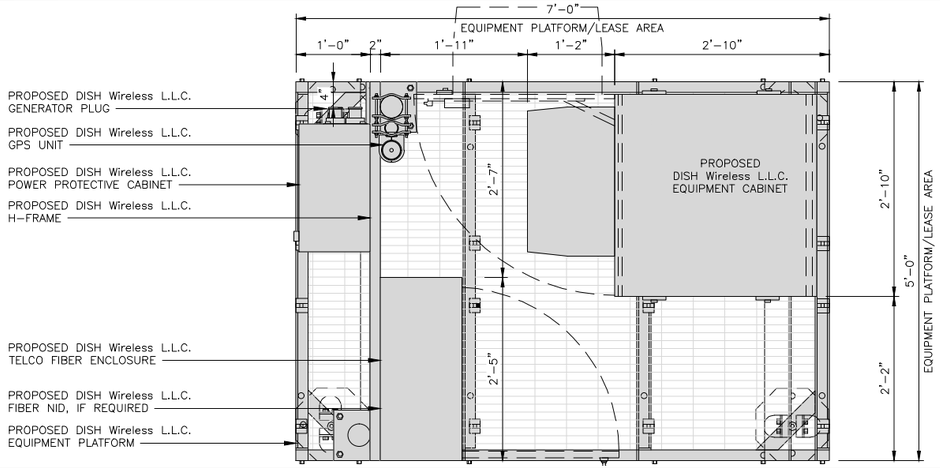
BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER

A-2



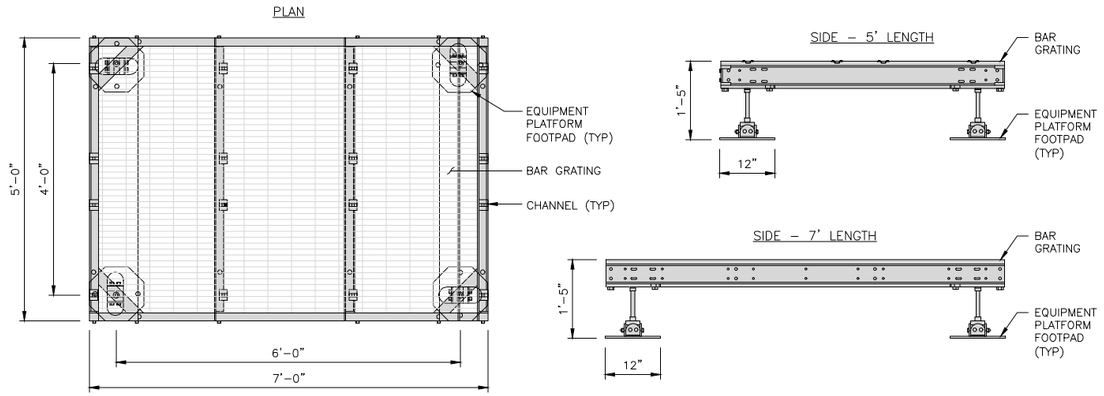
PLATFORM EQUIPMENT PLAN

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

1

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

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

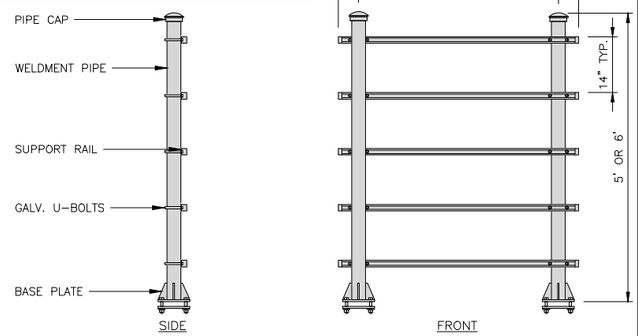


PLATFORM DETAIL

NO SCALE

2

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



H-FRAME DETAIL

NO SCALE

3

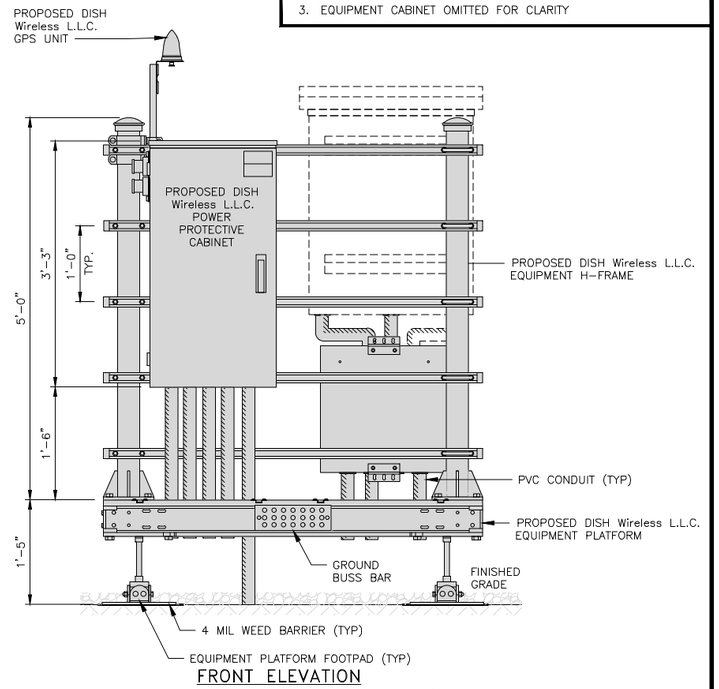
NOT USED

NO SCALE

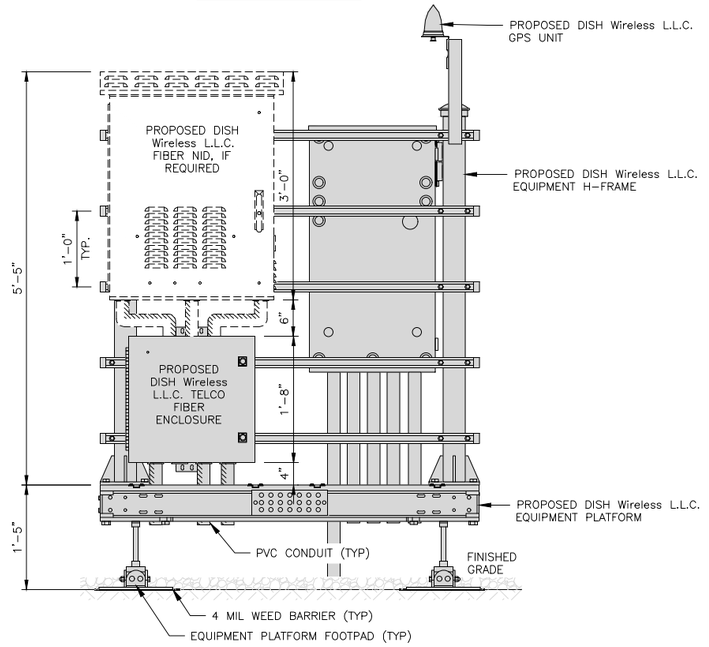
4

NOTES

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



FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION

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

5

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RFDS REV #: 1.0

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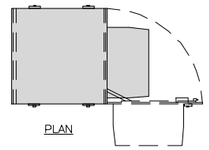
DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

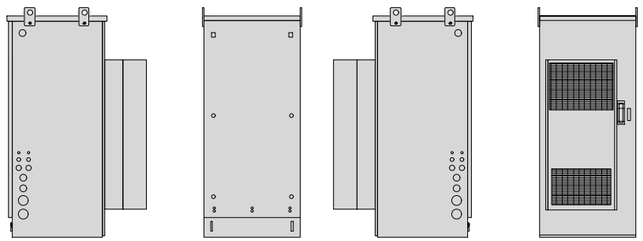
SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER
A-3

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



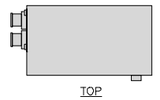
PLAN



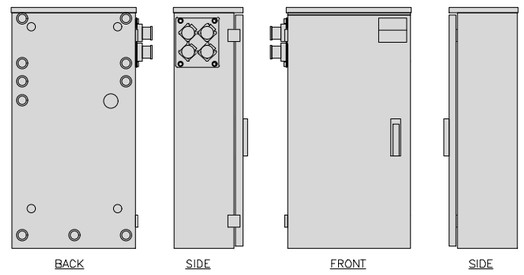
SIDE BACK SIDE FRONT

CABINET DETAIL — NO SCALE — 1

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



TOP



BACK SIDE FRONT SIDE

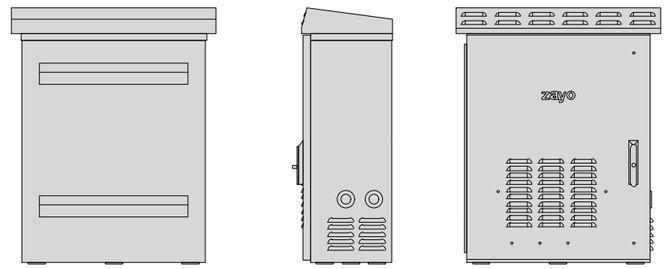
POWER PROTECTION CABINET (PPC) DETAIL — NO SCALE — 2

NOT USED — NO SCALE — 3

NOT USED — NO SCALE — 4

ZAYO 5RU (LEFT SWING DOOR) FIBER NID ENCLOSURE	
DIMENSIONS (HxWxD)	36.1"x29"x12.9"
WEIGHT	85 lbs

BOTTOM

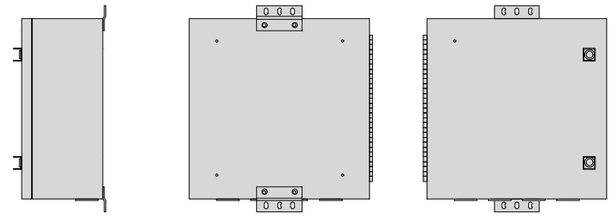


BACK SIDE FRONT

FIBER NID ENCLOSURE DETAIL — NO SCALE — 5

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

FRONT

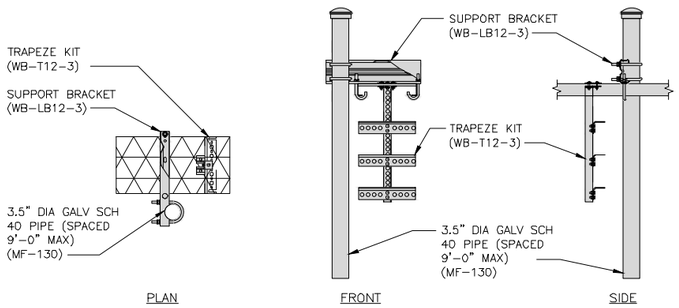


SIDE BACK FRONT

FIBER TELCO ENCLOSURE DETAIL — NO SCALE — 6

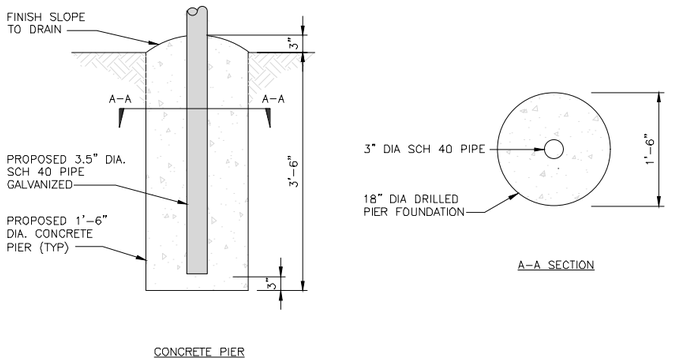
COMMSCOPE WB–K110–B WAVEGUIDE BRIDGE KIT	
DIMENSIONS (HxL)	160"x10'
WEIGHT/ VOLUME	325.0 LBS
CABLE RUN (QTY)	12

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



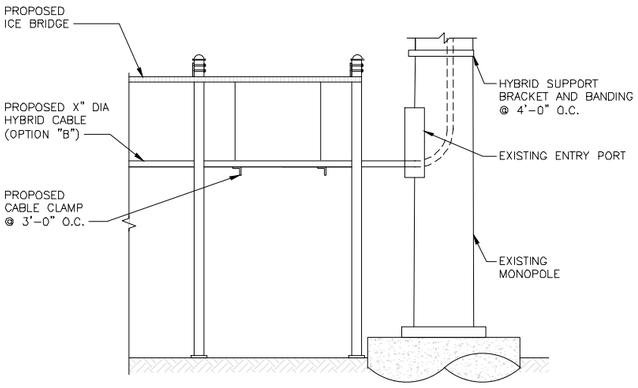
PLAN FRONT SIDE

ICE BRIDGE DETAIL — NO SCALE — 7



CONCRETE PIER A–A SECTION

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL — NO SCALE — 8



HYBRID CABLE RUN — NO SCALE — 9

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STATE OF CONNECTICUT — CHAD C. TYLER — No. 23924 — LICENSED PROFESSIONAL ENGINEER — 1/17/22

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PEC.0001564
Expires 2/10/22

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

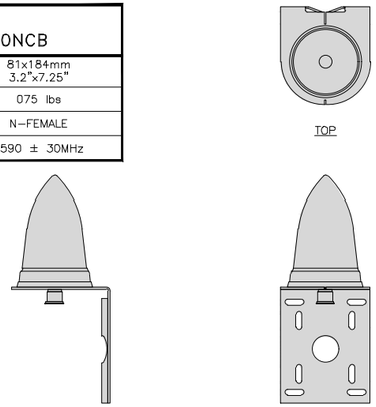
SHEET TITLE

EQUIPMENT DETAILS

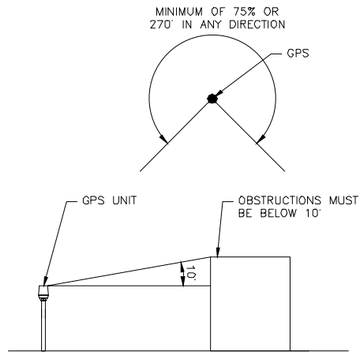
SHEET NUMBER

A-4

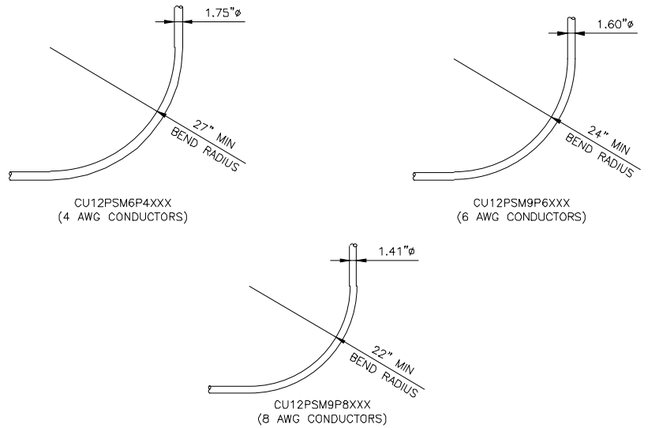
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



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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10 PRESIDENTIAL WAY
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B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

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CONSTRUCTION DOCUMENTS

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A&E PROJECT NUMBER

153568.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

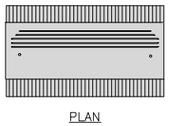
SHEET TITLE

EQUIPMENT DETAILS

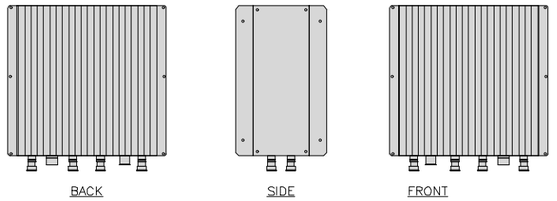
SHEET NUMBER

A-5

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



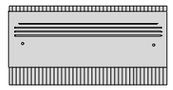
PLAN



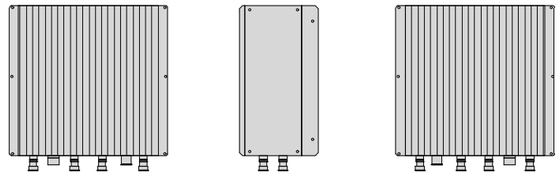
BACK SIDE FRONT

RRH DETAIL | NO SCALE | 1

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



PLAN

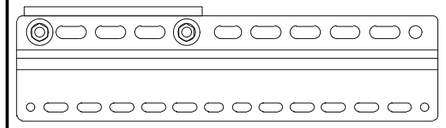


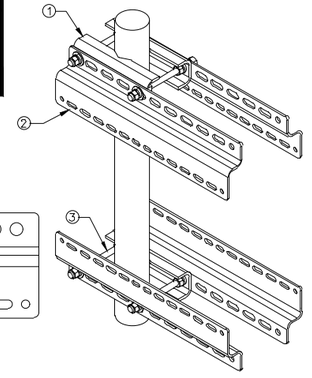
BACK SIDE FRONT

RRH DETAIL | NO SCALE | 2

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

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

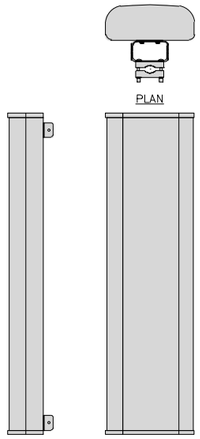




NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

RRH MOUNT DETAIL | NO SCALE | 3

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



PLAN

SIDE FRONT

ANTENNA DETAIL | NO SCALE | 4

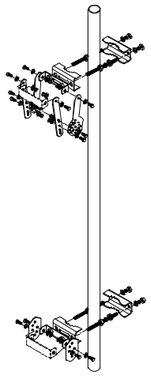
NOT USED | NO SCALE | 5

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

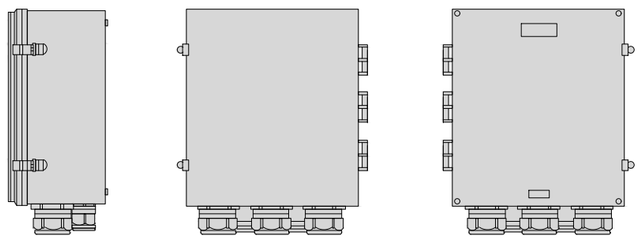
NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT



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

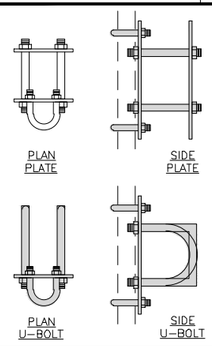


SIDE BACK FRONT

SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

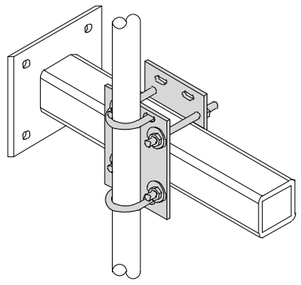
COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

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



PLAN PLATE SIDE PLATE

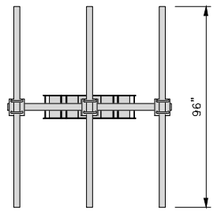
PLAN U-BOLT SIDE U-BOLT

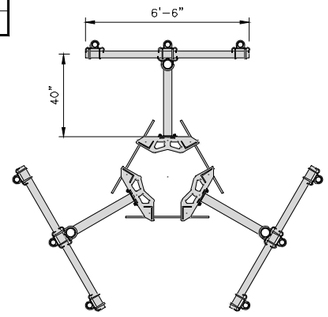


RRH/OVP MOUNT DETAIL | NO SCALE | 8

COMMSCOPE MC-K6MHDX-9-96	
FACE WIDTH	6'-6"
WEIGHT	1203.31 lbs
NOTE: 15" TO 50" O.D.	

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





T-ARM MOUNT DETAIL | NO SCALE | 9

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LITTLETON, CO 80120

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WOBURN, MA 01801

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1/17/22

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PEC.0001564
Expires 2/10/22

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SM	CDW	DAS

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

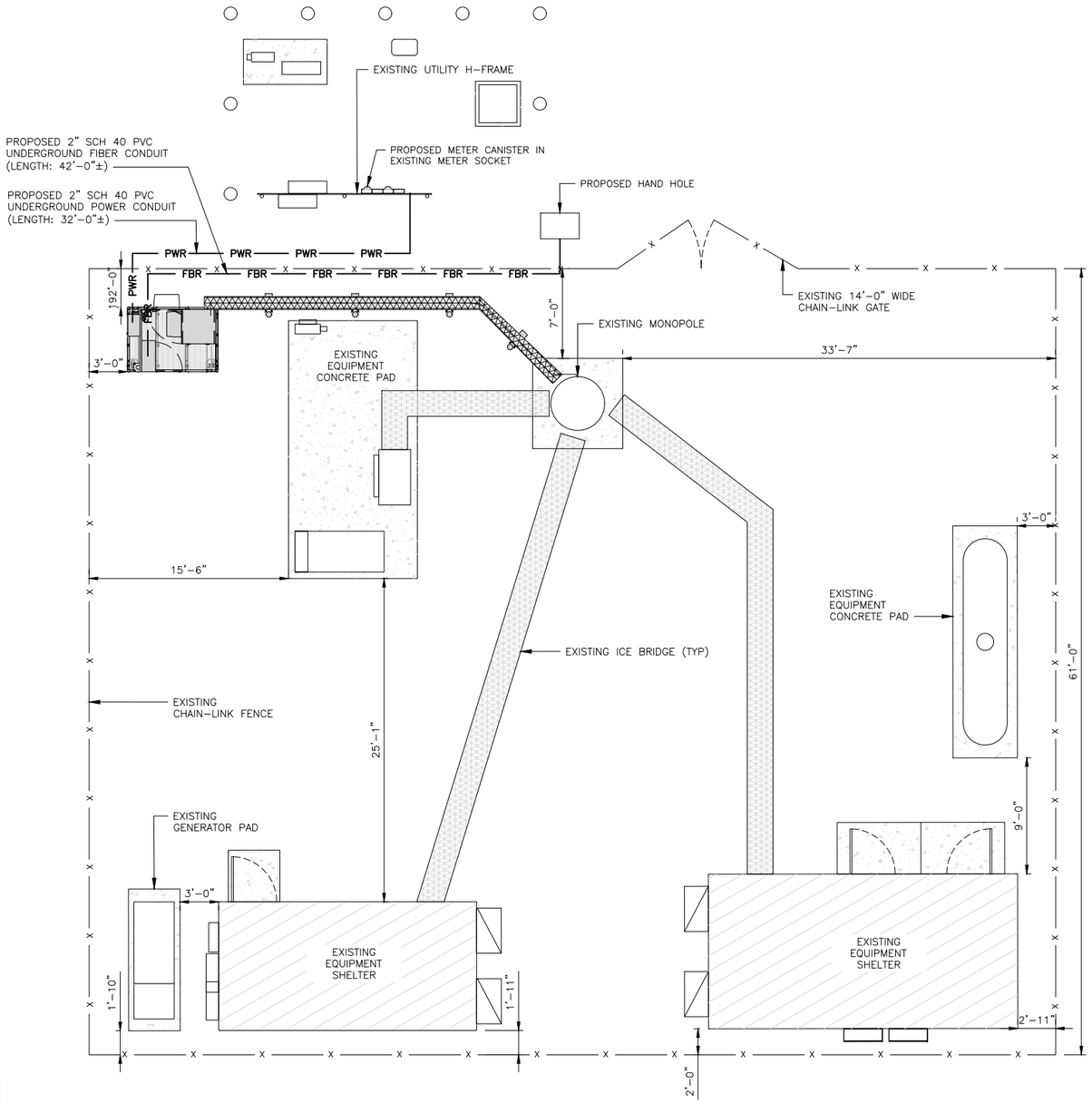
EQUIPMENT DETAILS

SHEET NUMBER

A-6

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. DUE TO UTILITY EASEMENT RIGHTS SPECIFIED IN THE GROUND LEASE, CUSTOMER MAY INSTALL EQUIPMENT WITHIN SPECIFIED UTILITY EASEMENT AREA. "PWR" AND "FBR" PATH DEPICTED ON A–1 AND E–1 REPRESENT PLANNED ROUTING BASED ON BEST AVAILABLE INFORMATION INCLUDING BUT NOT LIMITED TO A SURVEY, EXHIBITS, METES AND BOUNDS OF THE UTILITY EASEMENT, FIELD VERIFICATION, PRIOR PROJECT DOCUMENTATION AND OTHER REAL PROPETY RIGHTS DOCUMENTS. WHEN INSTALLING THE UTILITIES PLEASE LOCATE AND FOLLOW EXISTING PATH. IF EXISTING PATH IS MATERIALLY INCONSISTENT WITH "PWR" AND "FBR" PATH DEPICTED ON A–1 AND E–1 AND SAID VARIANCE IS NOT NOTED ON CDs, PLEASE NOTIFY TOWER OWNER AS FURTHER COORDINATION MAY BE NEEDED.



UTILITY ROUTE PLAN

6' 4' 2' 0 5' 10'
3/16"=1'–0"

1

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

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

ELECTRICAL NOTES

NO SCALE

2

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LITTLETON, CO 80120

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

B+T GRP
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DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

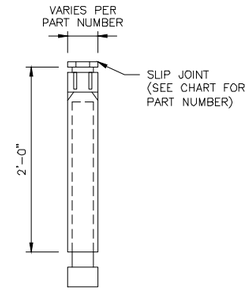
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER

E-1

CARLON EXPANSION FITTINGS

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

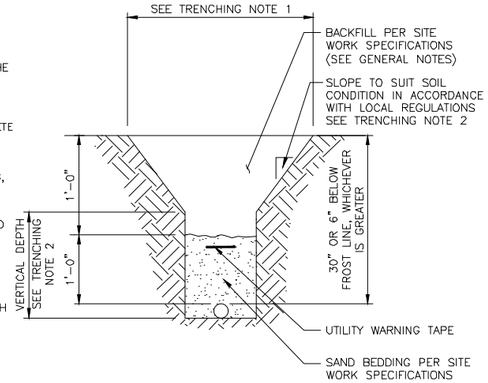


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

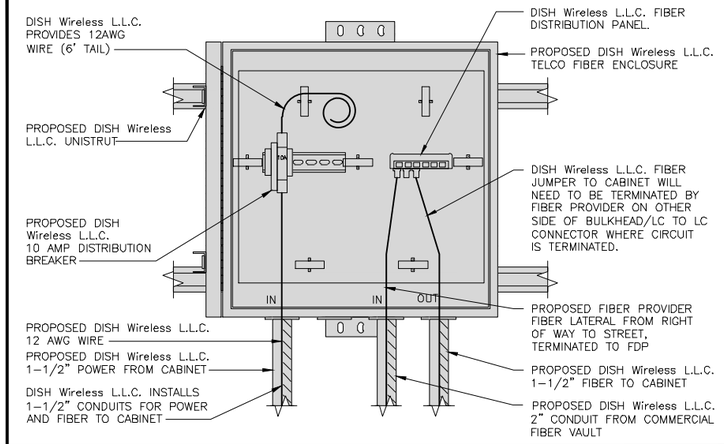
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

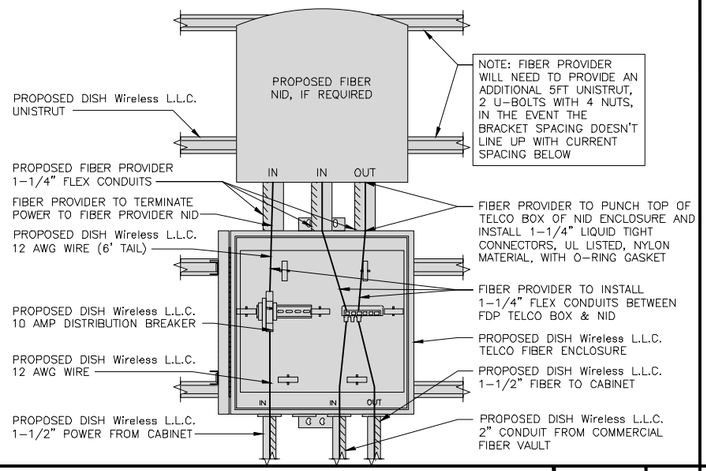
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT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



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



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



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

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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PROJECT INFORMATION

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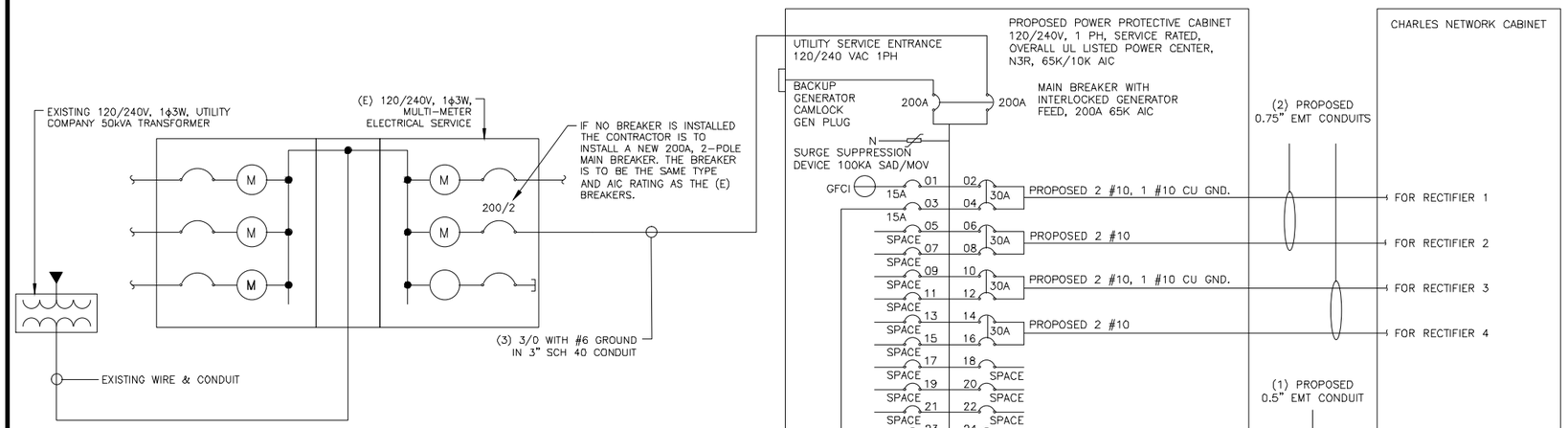
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E-2



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

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

NOTES

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

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

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.
0.5" CONDUIT - 0.122 SQ. IN AREA
0.75" CONDUIT - 0.213 SQ. IN AREA
2.0" CONDUIT - 1.316 SQ. IN AREA
3.0" CONDUIT - 2.907 SQ. IN AREA

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

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

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

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

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

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

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

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

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

PPC ONE-LINE DIAGRAM | NO SCALE | 1

PROPOSED CHARLES PANEL SCHEDULE

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

PANEL SCHEDULE | NO SCALE | 2

NOT USED | NO SCALE | 3

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No. 23924
LICENSED PROFESSIONAL ENGINEER
1/17/22

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

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RFDS REV #: 1.0

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A&E PROJECT NUMBER

153568.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

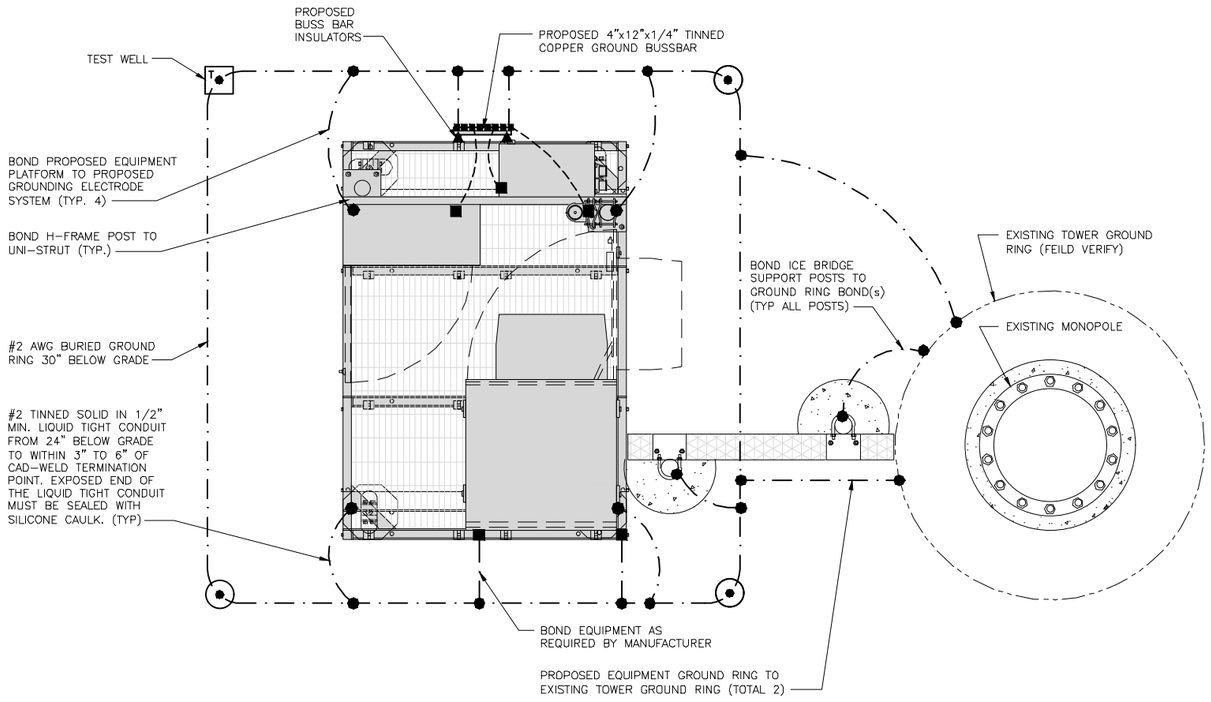
BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE

SHEET NUMBER

E-3

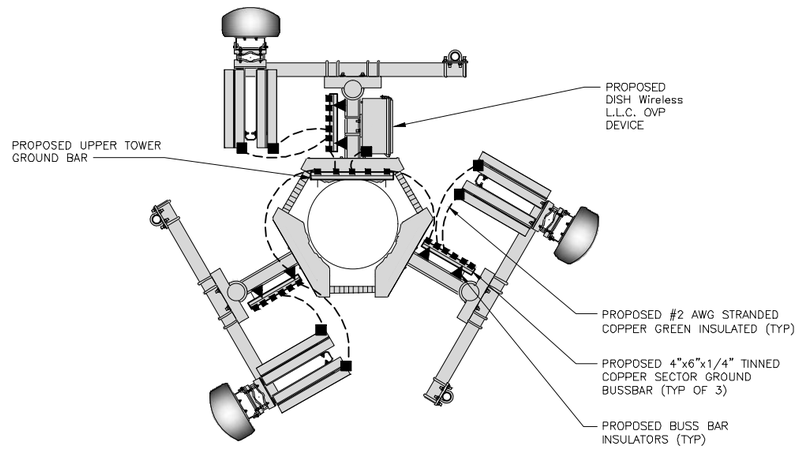


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE | 1

NOTES

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



OVP		
EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	SIZE (HxWxD)
PROPOSED	RAYCAP-RDIDC-9181-PF-48	16"x14"x8"

TYPICAL ANTENNA GROUNDING PLAN

NO SCALE | 2

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

GROUNDING LEGEND

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

GROUNDING KEY NOTES

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

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

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

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

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.

(F) CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.

(G) HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.

(H) EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE.

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

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

(K) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.

(L) FENCE AND GATE GROUNDING: METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.

(M) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE

(N) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.

(O) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR

(P) TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR.

REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE | 3

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LITTLETON, CO 80120

AMERICAN TOWER
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PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

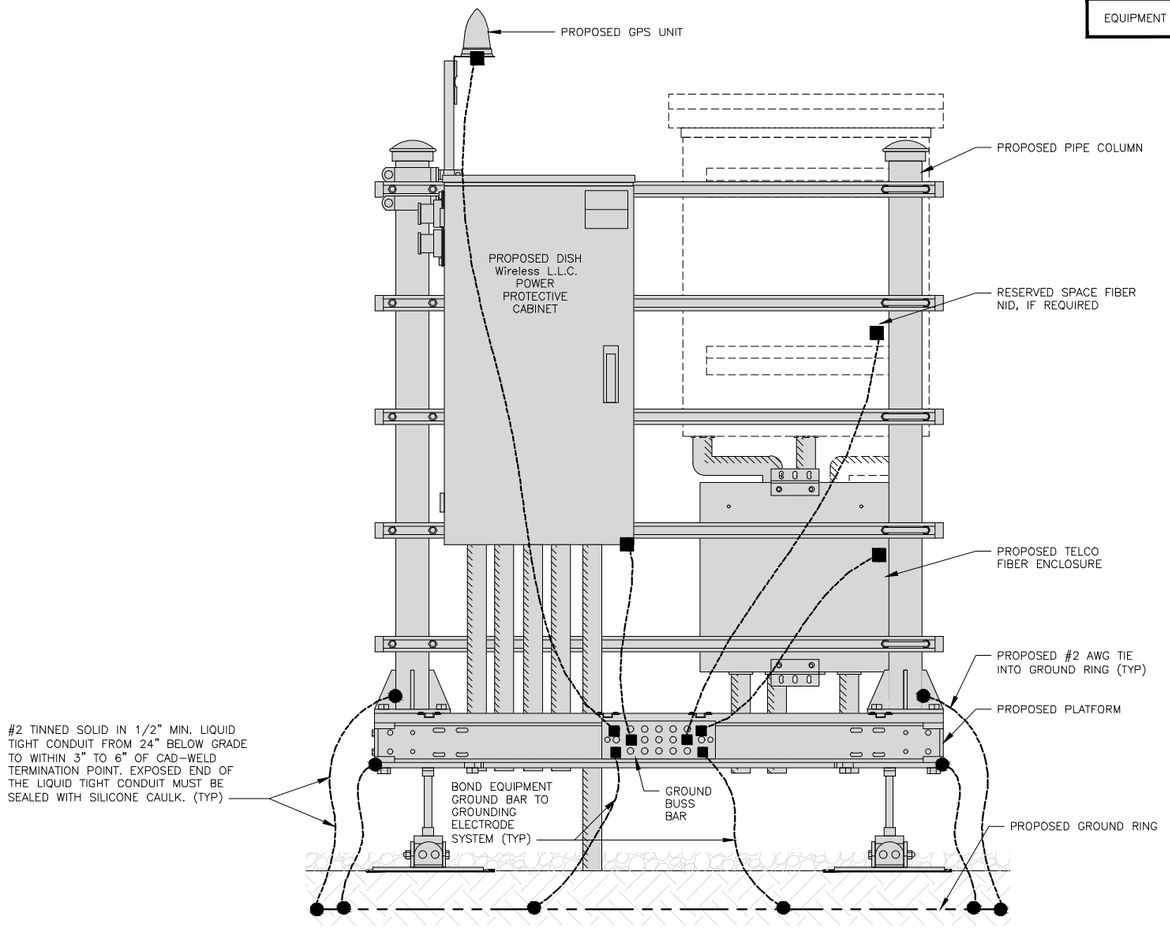
GROUNDING PLANS AND NOTES

SHEET NUMBER

G-1

NOTES

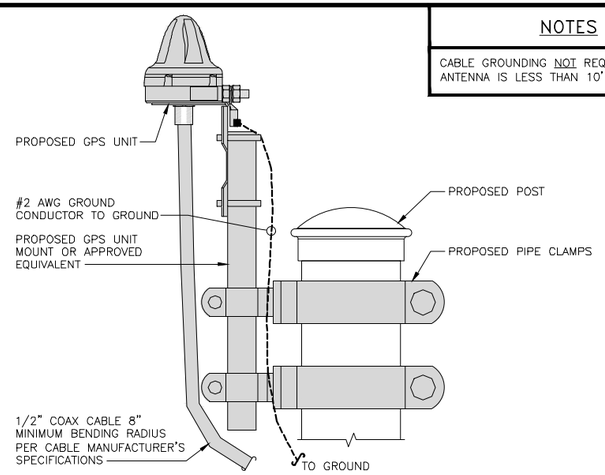
EQUIPMENT CABINET OMITTED FOR CLARITY



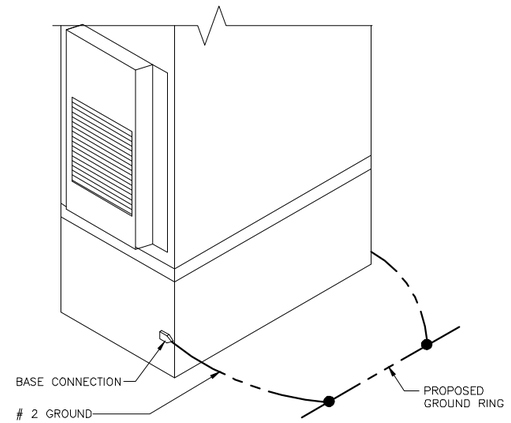
H-FRAME GROUNDING DETAIL | NO SCALE | 1

NOTES

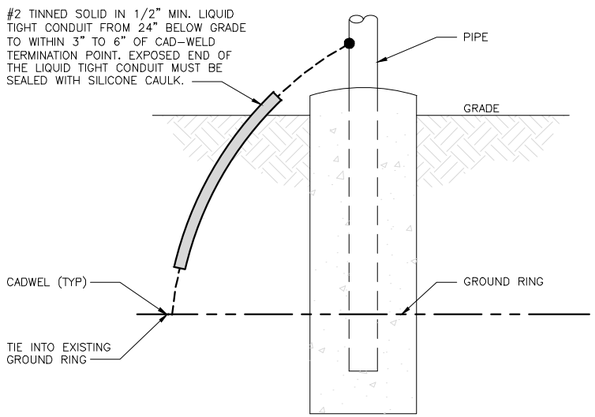
CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



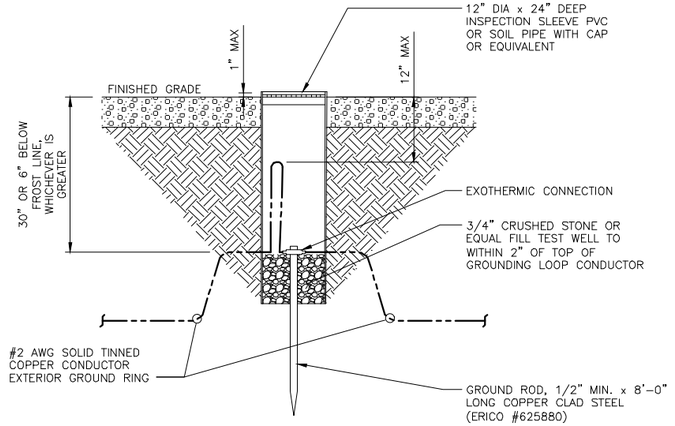
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



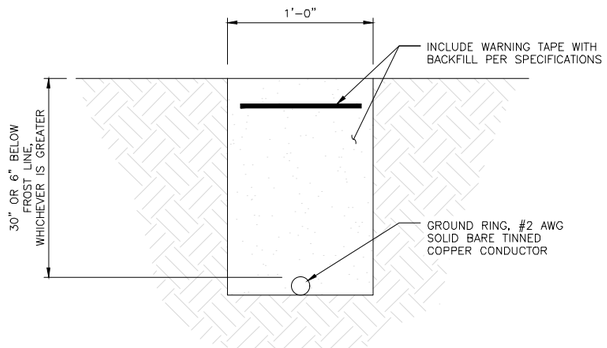
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



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



TYPICAL GROUND RING TRENCH | NO SCALE | 6

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SUITE 300
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PH: (918) 587-4630
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PROJECT INFORMATION

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BRANFORD, CT 06405

SHEET TITLE

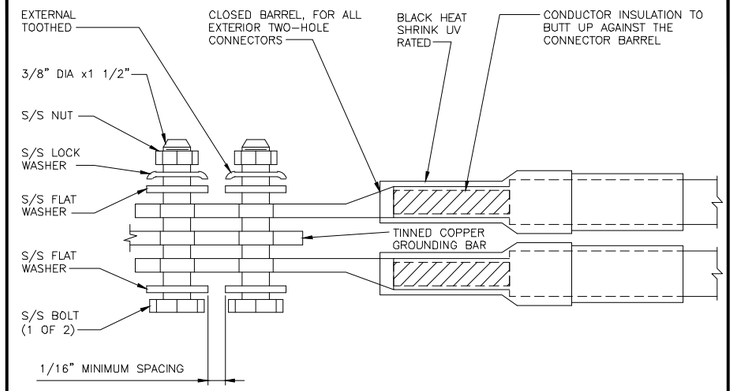
GROUNDING DETAILS

SHEET NUMBER

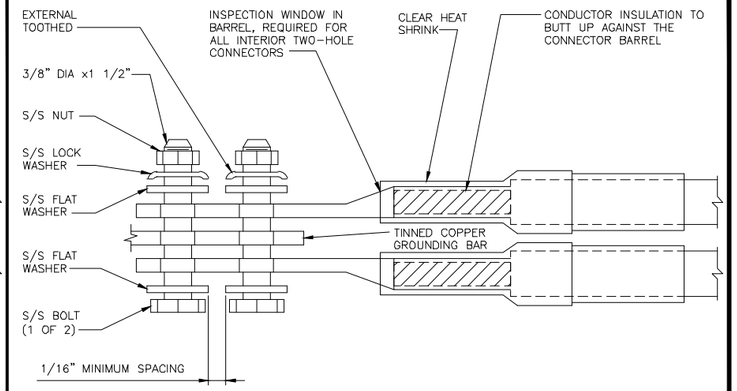
G-2

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

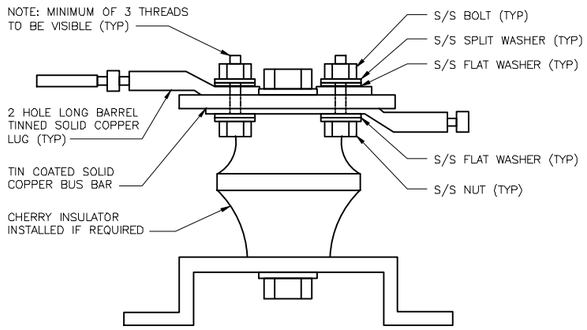
TYPICAL GROUNDING NOTES | NO SCALE | 1



TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 2



TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 3



LUG DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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BRANFORD, CT 06405

SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

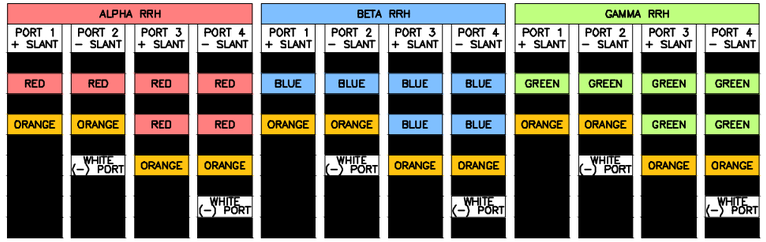
G-3

HYBRID/DISCREET CABLES

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

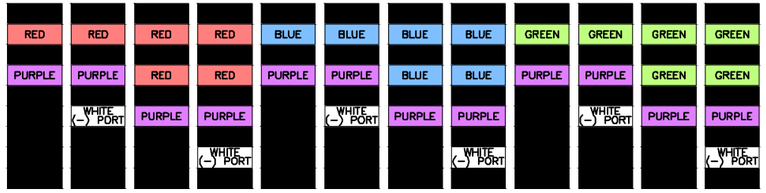
LOW-BAND RRH
(600 MHz N71 BASEBAND) +
(850 MHz N26 BAND) +
(700 MHz N29 BAND) - OPTIONAL PER MARKET

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



MID-BAND RRH
(AWS BANDS N66+N70)

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



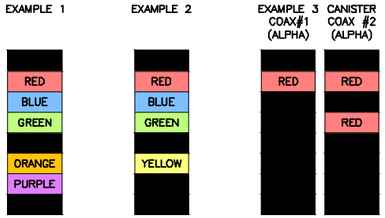
HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS.

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

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

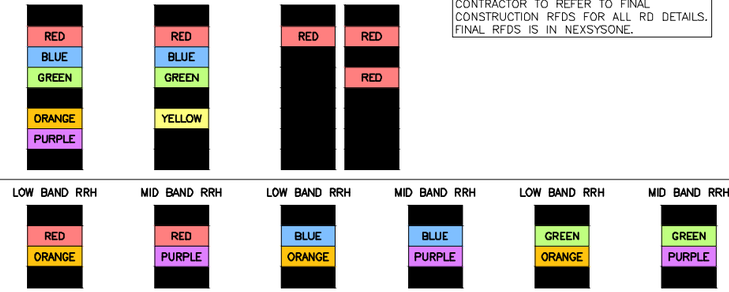
EXAMPLE 3 - MAIN COAX WITH GROUND MOUNTED RRHs.



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

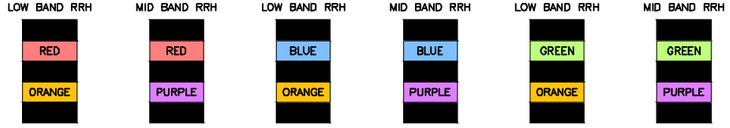
FIBER JUMPERS TO RRHs

LOW-BAND HHR FIBER CABLES HAVE SECTOR STRIPE ONLY.



POWER CABLES TO RRHs

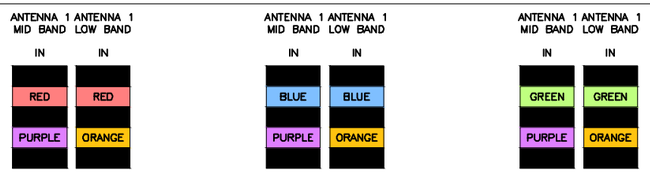
LOW-BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY



RET MOTORS AT ANTENNAS

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

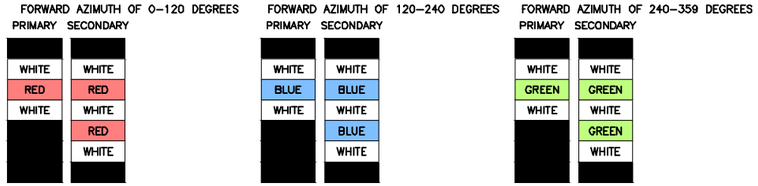
SEPARATE RET CABLES ARE USED WHEN ANTENNA PORTS PROVIDE INPUTS FOR BOTH LOW AND MID BANDS.



MICROWAVE RADIO LINKS

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

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



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

AWS (N66+N70+H-BLOCK): PURPLE

CBRS TECH (3 GHz): YELLOW

NEGATIVE SLANT PORT ON ANT/RRH: WHITE

ALPHA SECTOR: RED

BETA SECTOR: BLUE

GAMMA SECTOR: GREEN

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

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SHEET TITLE

RF
CABLE COLOR CODES

SHEET NUMBER

RF-1

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE

SINGLE POLE SWITCH

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE

FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48-T8

SMOKE DETECTION (DC)

EMERGENCY LIGHTING (DC)

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

CHAIN LINK FENCE

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE

UNDERGROUND POWER

UNDERGROUND TELCO

OVERHEAD POWER

OVERHEAD TELCO

UNDERGROUND TELCO/POWER

ABOVE GROUND POWER

ABOVE GROUND TELCO

ABOVE GROUND TELCO/POWER

WORKPOINT

SECTION REFERENCE

DETAIL REFERENCE

LEGEND

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

ABBREVIATIONS

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

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

STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

1/17/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	CDW	DAS

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

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A&E PROJECT NUMBER

153568.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

LEGEND AND ABBREVIATIONS

SHEET NUMBER

GN-1

SITE ACTIVITY REQUIREMENTS:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GENERAL NOTES:

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

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH Wireless L.L.C.

TOWER OWNER:TOWER OWNER

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

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

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

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

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

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

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

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

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

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

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

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

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

dish wireless.

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LITTLETON, CO 80120

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

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

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1/17/22

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

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RFDS REV #: 1.0

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A&E PROJECT NUMBER

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

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

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

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

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

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

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

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

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

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

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

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

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

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

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

8. TIE WRAPS ARE NOT ALLOWED.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

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

1/17/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	CDW	DAS

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	7/28/21	ISSUED FOR REVIEW
0	10/17/21	ISSUED FOR CONSTRUCTION
1	10/27/21	ISSUED FOR CONSTRUCTION
2	1/17/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

153568.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-3

GROUNDING NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

dish wireless.

5701 SOUTH SANTA FE DRIVE
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10 PRESIDENTIAL WAY
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B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
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1/17/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	CDW	DAS

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00136A
123 PINE ORCHARD ROAD
BRANFORD, CT 06405

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-4

ENGINEERING:

STRUCTURAL ANALYSIS

MOUNT ANALYSIS

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**123 ft Monopole**
ATC Site Name	:	**PINE ORCHARD BRANFORD CT,CT**
ATC Site Number	:	**283419**
Engineering Number	:	**13694329_C3_05**
Proposed Carrier	:	**DISH WIRELESS L.L.C.**
Carrier Site Name	:	**BOHVN00136A**
Carrier Site Number	:	**BOHVN00136A**
Site Location	:	**123 Pine Orchard Road** **Branford, CT 06405-3939** **41.2749, -72.7931**
County	:	**New Haven**
Date	:	**January 12, 2022**
Max Usage	:	**56%**
Result	:	**Pass**

Prepared By:

Kyle MacPetrie
Structural Engineer I

Reviewed By:

COA : PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 123 ft Monopole to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	Sabre Job #11-05276, dated June 2, 2010
Foundation Drawing	Sabre Job #11-05276, dated June 2, 2010
Geotechnical Report	Terracon Project #J2105131, dated April 2, 2010
Modifications	ATC Project #12927144_C9_06, dated September 2, 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:	122 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.20, S_1 = 0.05
Site Class:	D - Stiff Soil - Default

Conclusion

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

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

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
122.0	3	Ericsson AIR 21, 1.3M, B4A B2P	T-Arm	(4) 1 5/8" (1.63"-41.3mm) Fiber (8) 1 5/8" Coax	T-MOBILE
	3	Ericsson AIR 21, 1.3 M, B2A B4P			
120.0	3	Ericsson KRY 112 144/1			
	3	RFS APXVAARR24_43-U-NA20			
	3	Ericsson Radio 4449 B12,B71			
112.0	3	Ericsson RRUS 11 (Band 12)	T-Arm	(2) 0.40" (10.3mm) Fiber (4) 0.78" (19.7mm) 8 AWG 6 (6) 1 5/8" Coax (1) 2" conduit	AT&T MOBILITY
	3	Commscope SBNHH-1D65A			
	3	Powerwave Allgon P90-15-XLH-RR			
	3	Ericsson RRUS 32 B2			
	1	Raycap DC6-48-60-18-8C			
	3	Ericsson RRUS 4478 B14			
	3	Ericsson RRUS 4449 B5, B12			
	1	Raycap DC6-48-60-18-8F			
	3	Powerwave Allgon TT19-08BP111-001			
	3	CCI DMP65R-BU6DA			
102.0	3	Samsung B2/B66A RRH-BR049	T-Arm	(2) 1 5/8" (1.63"-41.3mm) Fiber (6) 1 5/8" Coax	VERIZON WIRELESS
	3	Samsung B5/B13 RRH-BR04C			
	1	Raycap RCMDC-6627-PF-48			
	3	Samsung MT6407-77A			
	2	Swedcom SC-E 6016 REV2			
	3	Commscope CBC78T-DS-43-2X			
	4	Antel LPA-80063/6CF			
	6	Commscope JAHH-65B-R3B			

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
80.0	3	Fujitsu TA08025-B605	Triangular Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B604			
	3	JMA Wireless MX08FRO665-21			
	1	Commscope RDIDC-9181-PF-48			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	47%	Pass
Shaft	56%	Pass
Base Plate	21%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3210.8	4334.6	2342.5	54%
Shear (Kips)	36.1	48.7	26.8	55%
* The design reactions are factored by 1.35 per ANSI/TIA-222-H, 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 and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
80.0	Fujitsu TA08025-B605	DISH WIRELESS L.L.C.	0.432	0.630
	Fujitsu TA08025-B604			
	JMA Wireless MX08FRO665-21			
	Commscope RDIDC-9181-PF-48			

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

Standard Conditions

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

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

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

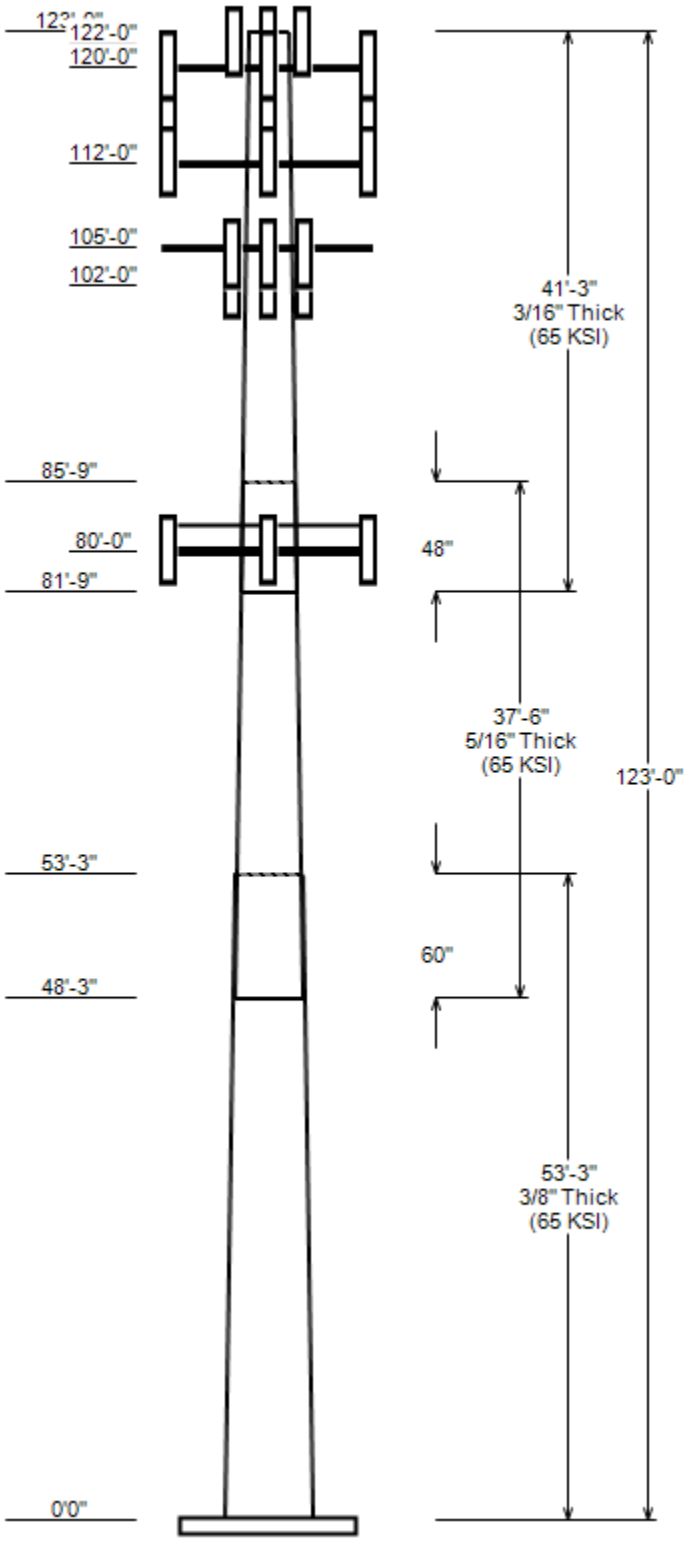
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

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

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

JOB INFORMATION

Asset :	283419, PINE ORCHARD BRANFORD CT	Height :	123 ft
Client :	DISH WIRELESS L.L.C.	Base Width :	50.75
Code :	ANSI/TIA-222-H	Shape :	18 Sides



SITE PARAMETERS

Base Elev (ft):	0.00	Structure Class:	II
Taper :	0.25000 (In/ft)	Exposure :	C
Topographic Category :	1	Topographic Feature:	
Topo Method :	Method 1		

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Diameter (in) Across Flats Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	53.250	37.44	50.75	0.375		0.000	18 Sides	65
2	37.500	29.94	39.31	0.312	Slip Joint	60.000	18 Sides	65
3	41.250	21.00	31.31	0.188	Slip Joint	48.000	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
122.0	122.0	3	Ericsson AIR 21, 1.3 M, B2A B4
122.0	122.0	3	Ericsson AIR 21, 1.3M, B4A B2P
120.0	120.0	3	Ericsson KRY 112 144/1
120.0	120.0	3	Ericsson Radio 4449 B12,B71
120.0	120.0	3	Generic Round T-Arm
120.0	120.0	3	RFS APXVAARR24_43-U-NA20
112.0	114.0	3	Powerwave Allgon TT19-08BP111-
112.0	114.0	1	Raycap DC6-48-60-18-8F
112.0	112.0	3	Ericsson RRUS 4449 B5, B12
112.0	112.0	3	Ericsson RRUS 4478 B14
112.0	112.0	1	Raycap DC6-48-60-18-8C
112.0	114.0	3	Ericsson RRUS 32 B2
112.0	114.0	3	Ericsson RRUS 11 (Band 12)
112.0	114.0	3	Commscope SBNHH-1D65A
112.0	112.0	3	Powerwave Allgon P90-15-XLH-RR
112.0	112.0	3	Round T-Arm
112.0	112.0	3	CCI DMP65R-BU6DA
105.0	105.0	3	Round T-Arm
102.0	102.0	3	Commscope CBC78T-DS-43-2X
102.0	102.0	3	Samsung B5/B13 RRH-BR04C
102.0	102.0	3	Samsung B2/B66A RRH-BR049
102.0	102.0	1	Raycap RCMDC-6627-PF-48
102.0	102.0	3	Samsung MT6407-77A
102.0	103.0	2	Swedcom SC-E 6016 REV2
102.0	102.0	6	Commscope JAHH-65B-R3B
102.0	103.0	4	Antel LPA-80063/6CF
80.0	80.0	1	Commscope RDIDC-9181-PF-48
80.0	80.0	3	Fujitsu TA08025-B605
80.0	80.0	3	Fujitsu TA08025-B604
80.0	80.0	3	JMA Wireless MX08FRO665-21
80.0	80.0	1	Generic Flat Platform with Han

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	122.0	1 5/8" Coax	No
0.0	122.0	1 5/8" (1.63"-41.3mm) Fiber	No
0.0	120.0	1 5/8" (1.63"-41.3mm) Fiber	No
0.0	112.0	2" conduit	No
0.0	112.0	1 5/8" Coax	No
0.0	112.0	0.78" (19.7mm) 8 AWG 6	No
0.0	112.0	0.40" (10.3mm) Fiber	No
0.0	102.0	1 5/8" Coax	No
0.0	102.0	1 5/8" (1.63"-41.3mm) Fiber	No

JOB INFORMATION

Asset :	283419, PINE ORCHARD BRANFORD CT	Height :	123 ft
Client :	DISH WIRELESS L.L.C.	Base Width :	50.75
Code :	ANSI/TIA-222-H	Shape :	18 Sides

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	80.0	1.60" (40.6mm) Hybrid	No

LOAD CASES

1.2D + 1.0W Normal	122 mph wind with no ice
0.9D + 1.0W Normal	122 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Nor	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Nor	Seismic
0.9D - 1.0Ev + 1.0Eh Nor	Seismic (Reduced DL)
1.0D + 1.0W Service Norm	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W Normal	2342.50	26.78	34.86
0.9D + 1.0W Normal	2326.37	26.77	26.14
1.2D + 1.0Di + 1.0Wi Normal	560.99	6.59	47.54
1.2D + 1.0Ev + 1.0Eh Normal	94.47	1.01	34.68
0.9D - 1.0Ev + 1.0Eh Normal	93.67	1.01	23.92
1.0D + 1.0W Service Normal	504.83	5.79	29.08

DISH DEFLECTIONS

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

ANALYSIS PARAMETERS

Location:	New Haven County,CT	**Height:**	123 ft
Type and Shape:	Taper, 18 Sides	**Base Diameter:**	50.75 in
Manufacturer:	Sabre	**Top Diameter:**	21.00 in
K_d (non-service):	0.95	**Taper:**	0.2500 in/ft
K_e:	1.00	**Rotation:**	0.000°

ICE & WIND PARAMETERS

Exposure Category:	C	**Design Wind Speed w/o Ice:**	122 mph
Risk Category:	II	**Design Wind Speed w/Ice:**	50 mph
Topo Factor Procedure:	Method 1	**Operational Wind Speed:**	60 mph
Topographic Category:	1	**Design Ice Thickness:**	1.00 in
Crest Height:	0 ft	**HMSL:**	30.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	1.64
T_L (sec):	6	**P:**	1	**C_s:**	0.035
S_s:	0.201	**S_1:**	0.053	**C_s Max:**	0.035
F_a:	1.600	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.214	**S_{d1}:**	0.085		

LOAD CASES

1.2D + 1.0W Normal	122 mph wind with no ice
0.9D + 1.0W Normal	122 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (in)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	53.25	0.3750	65		0.00	9,429	50.75	0.000	59.96	19,223.0	22.10	135.33	37.44	53.25	44.11	7,655.6	15.84	99.83	0.2500
2-18	37.50	0.3125	65	Slip	60.00	4,343	39.31	48.250	38.68	7,433.4	20.42	125.80	29.94	85.75	29.38	3,258.1	15.13	95.80	0.2500
3-18	41.25	0.1875	65	Slip	48.00	2,169	31.31	81.750	18.52	2,267.1	27.68	167.00	21.00	123.00	12.39	677.8	17.99	112.00	0.2500
				Shaft Weight		15,941													

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
122.00	Ericsson AIR 21, 1.3 M, B2A B4	3	0.80	0.000	83.00	6.049	0.71	178.42	7.462	0.71
122.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.80	0.000	81.50	6.092	0.70	176.57	7.507	0.70
120.00	Ericsson Radio 4449 B12,B71	3	0.80	0.000	74.00	1.639	0.50	110.50	2.189	0.50
120.00	Generic Round T-Arm	3	0.75	0.000	312.50	9.700	0.67	482.81	15.075	0.67
120.00	RFS APXVAARR24_43-U-NA20	3	0.80	0.000	127.90	20.243	0.63	383.83	22.661	0.63
120.00	Ericsson KRY 112 144/1	3	0.80	0.000	11.00	0.351	0.50	18.01	0.616	0.50
112.00	CCI DMP65R-BU6DA	3	0.80	0.000	79.40	12.709	0.63	246.38	14.517	0.63
112.00	Round T-Arm	3	0.75	0.000	250.00	9.700	0.67	385.48	15.044	0.67
112.00	Powerwave Allgon P90-15-XLH-RR	3	0.80	0.000	53.00	8.133	0.67	159.77	9.940	0.67
112.00	Commscope SBNHH-1D65A	3	0.80	2.000	33.50	5.883	0.69	121.24	7.262	0.69
112.00	Ericsson RRUS 11 (Band 12)	3	0.80	2.000	50.00	2.990	0.67	94.19	3.781	0.67
112.00	Ericsson RRUS 32 B2	3	0.80	2.000	53.00	2.743	0.67	100.68	3.501	0.67
112.00	Raycap DC6-48-60-18-8C	1	0.80	0.000	16.00	2.030	1.00	53.74	2.522	1.00
112.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.40	2.021	0.67	99.18	2.632	0.67
112.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	112.78	2.574	0.50
112.00	Raycap DC6-48-60-18-8F	1	0.80	2.000	20.00	1.260	1.00	54.13	1.687	1.00
112.00	Powerwave Allgon TT19-08BP111-	3	0.80	2.000	16.00	0.553	0.50	29.09	0.884	0.50
105.00	Round T-Arm	3	0.75	0.000	250.00	9.700	0.67	384.53	15.007	0.67
102.00	Antel LPA-80063/6CF	4	0.80	1.000	27.00	9.593	0.76	202.07	10.446	0.76
102.00	Raycap RCMDC-6627-PF-48	1	0.80	0.000	32.00	4.056	1.00	113.61	4.932	1.00
102.00	Commscope CBC78T-DS-43-2X	3	0.80	0.000	20.70	0.552	0.50	34.89	0.878	0.50
102.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	125.36	2.455	0.50
102.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	107.03	2.455	0.50
102.00	Samsung MT6407-77A	3	0.80	0.000	81.60	4.709	0.61	147.05	5.684	0.61
102.00	Commscope JAHH-65B-R3B	6	0.80	0.000	60.60	9.113	0.69	190.51	10.894	0.69
102.00	Swedcom SC-E 6016 REV2	2	0.80	1.000	25.00	7.630	0.83	149.77	8.556	0.83
80.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	114.18	2.537	0.50
80.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	100.37	2.537	0.50
80.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	225.23	14.246	0.64
80.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3610.91	55.515	1.00
80.00	Commscope RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	57.49	2.430	1.00
Totals	Num Loadings: 31	86			9,308.30			17,953.47		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	122.00	8	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	T-MOBILE
0.00	122.00	1	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0	0	0	0	N	T-MOBILE
0.00	120.00	3	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0	0	0	0	N	T-MOBILE
0.00	112.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	112.00	4	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	112.00	2	0.40" (10.3mm) Fiber	0.4	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	112.00	1	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	102.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	102.00	2	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0	0	0	0	N	VERIZON WIREL
0.00	80.00	1	1.60" (40.6mm) Hybrid	1.6	2.34	N	0	0	0	0	0	N	DISH WIRELESS

SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.3750	50.750	59.957	19,223.00	22.10	135.33	75.4	746.0	0.0	0.0
5.00		0.3750	49.500	58.469	17,827.20	21.51	132.00	76.1	709.3	0.0	1,007.4
10.00		0.3750	48.250	56.981	16,500.70	20.92	128.67	76.8	673.6	0.0	982.1
15.00		0.3750	47.000	55.493	15,241.70	20.34	125.33	77.5	638.7	0.0	956.8
20.00		0.3750	45.750	54.006	14,048.40	19.75	122.00	78.2	604.8	0.0	931.5
25.00		0.3750	44.500	52.518	12,919.00	19.16	118.67	78.9	571.8	0.0	906.2
30.00		0.3750	43.250	51.030	11,851.90	18.57	115.33	79.6	539.7	0.0	880.9
35.00		0.3750	42.000	49.542	10,845.20	17.99	112.00	80.2	508.6	0.0	855.6
40.00		0.3750	40.750	48.055	9,897.20	17.40	108.67	80.9	478.4	0.0	830.3
45.00		0.3750	39.500	46.567	9,006.10	16.81	105.33	81.6	449.1	0.0	804.9
48.25	Bot - Section 2	0.3750	38.688	45.600	8,456.60	16.43	103.17	82.1	430.5	0.0	509.6
50.00		0.3750	38.250	45.079	8,170.20	16.22	102.00	82.3	420.7	0.0	499.0
53.25	Top - Section 1	0.3125	38.063	37.442	6,741.30	19.71	121.80	78.2	348.8	0.0	911.7
55.00		0.3125	37.625	37.008	6,509.60	19.47	120.40	78.5	340.8	0.0	221.7
60.00		0.3125	36.375	35.768	5,877.10	18.76	116.40	79.3	318.2	0.0	619.1
65.00		0.3125	35.125	34.528	5,286.90	18.06	112.40	80.2	296.5	0.0	598.0
70.00		0.3125	33.875	33.289	4,737.60	17.35	108.40	81	275.5	0.0	576.9
75.00		0.3125	32.625	32.049	4,227.70	16.65	104.40	81.8	255.2	0.0	555.8
80.00		0.3125	31.375	30.809	3,755.80	15.94	100.40	82.6	235.8	0.0	534.7
81.75	Bot - Section 3	0.3125	30.938	30.375	3,599.30	15.69	99.00	82.6	229.1	0.0	182.2
85.00		0.3125	30.125	29.569	3,320.40	15.23	96.40	82.6	217.1	0.0	533.6
85.75	Top - Section 2	0.1875	30.313	17.927	2,055.50	26.74	161.67	69.9	133.6	0.0	121.1
90.00		0.1875	29.250	17.295	1,845.60	25.74	156.00	71.1	124.3	0.0	254.7
95.00		0.1875	28.000	16.551	1,617.60	24.57	149.33	72.5	113.8	0.0	287.9
100.00		0.1875	26.750	15.807	1,409.10	23.39	142.67	73.9	103.8	0.0	275.3
102.00		0.1875	26.250	15.510	1,331.00	22.92	140.00	74.4	99.9	0.0	106.6
105.00		0.1875	25.500	15.064	1,219.40	22.22	136.00	75.3	94.2	0.0	156.1
110.00		0.1875	24.250	14.320	1,047.50	21.04	129.33	76.7	85.1	0.0	250.0
112.00		0.1875	23.750	14.022	983.60	20.57	126.67	77.2	81.6	0.0	96.4
115.00		0.1875	23.000	13.576	892.60	19.87	122.67	78	76.4	0.0	140.9
120.00		0.1875	21.750	12.832	753.80	18.69	116.00	79.4	68.3	0.0	224.6
122.00		0.1875	21.250	12.534	702.50	18.22	113.33	80	65.1	0.0	86.3
123.00		0.1875	21.000	12.386	677.80	17.99	112.00	80.2	63.6	0.0	42.4
									Totals:		15,940.3

Load Case: 1.2D + 1.0W Normal 122 mph wind with no ice 22 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.86	-26.78	0.00	-2,342.5	0.00	2,342.50	4,069.07	1,052.24	4,787.63	4,219.32	0	0	0.564
5.00	-33.37	-26.36	0.00	-2,208.6	0.00	2,208.60	4,004.48	1,026.13	4,553.01	4,048.54	0.09	-0.17	0.555
10.00	-31.91	-25.95	0.00	-2,076.8	0.00	2,076.79	3,938.03	1,000.02	4,324.28	3,879.30	0.36	-0.34	0.544
15.00	-30.48	-25.53	0.00	-1,947.1	0.00	1,947.06	3,869.74	973.91	4,101.44	3,711.72	0.81	-0.51	0.533
20.00	-29.08	-25.10	0.00	-1,819.4	0.00	1,819.40	3,799.59	947.80	3,884.50	3,545.95	1.44	-0.69	0.521
25.00	-27.72	-24.65	0.00	-1,693.9	0.00	1,693.90	3,727.59	921.69	3,673.45	3,382.14	2.26	-0.87	0.509
30.00	-26.38	-24.20	0.00	-1,570.6	0.00	1,570.63	3,653.75	895.58	3,468.30	3,220.43	3.26	-1.05	0.496
35.00	-25.09	-23.73	0.00	-1,449.6	0.00	1,449.65	3,578.05	869.47	3,269.04	3,060.96	4.46	-1.23	0.481
40.00	-23.82	-23.25	0.00	-1,331.0	0.00	1,331.02	3,500.49	843.36	3,075.67	2,903.89	5.84	-1.41	0.466
45.00	-22.60	-22.85	0.00	-1,214.8	0.00	1,214.75	3,421.09	817.25	2,888.20	2,749.35	7.42	-1.59	0.449
48.25	-21.82	-22.61	0.00	-1,140.5	0.00	1,140.48	3,368.49	800.28	2,769.51	2,650.32	8.54	-1.71	0.438
50.00	-21.12	-22.36	0.00	-1,100.9	0.00	1,100.91	3,339.84	791.14	2,706.63	2,597.48	9.18	-1.78	0.431
53.25	-19.87	-22.09	0.00	-1,028.2	0.00	1,028.24	2,635.64	657.11	2,240.55	2,046.33	10.44	-1.9	0.511
55.00	-19.49	-21.78	0.00	-989.6	0.00	989.58	2,614.77	649.49	2,188.92	2,006.40	11.15	-1.97	0.502
60.00	-18.48	-21.31	0.00	-880.7	0.00	880.66	2,553.87	627.73	2,044.74	1,893.48	13.32	-2.17	0.473
65.00	-17.51	-20.83	0.00	-774.1	0.00	774.12	2,491.13	605.97	1,905.46	1,782.39	15.7	-2.37	0.443
70.00	-16.56	-20.36	0.00	-670.0	0.00	669.96	2,426.53	584.22	1,771.10	1,673.28	18.28	-2.56	0.408
75.00	-15.65	-19.89	0.00	-568.2	0.00	568.15	2,360.09	562.46	1,641.65	1,566.29	21.07	-2.75	0.371
80.00	-11.19	-16.20	0.00	-468.7	0.00	468.69	2,288.96	540.70	1,517.11	1,459.75	24.05	-2.92	0.327
81.75	-10.89	-15.97	0.00	-440.4	0.00	440.35	2,256.72	533.08	1,474.68	1,418.72	25.13	-2.99	0.316
85.00	-10.12	-15.75	0.00	-388.5	0.00	388.46	2,196.84	518.94	1,397.48	1,344.07	27.2	-3.09	0.295
85.75	-9.93	-15.53	0.00	-376.6	0.00	376.65	1,128.57	314.63	856.05	700.67	27.69	-3.12	0.549
90.00	-9.44	-15.12	0.00	-310.6	0.00	310.64	1,107.06	303.53	796.73	662.92	30.52	-3.24	0.480
95.00	-8.88	-14.69	0.00	-235.0	0.00	235.03	1,080.04	290.48	729.68	618.75	34.03	-3.45	0.391
100.00	-8.34	-14.38	0.00	-161.6	0.00	161.57	1,051.16	277.42	665.57	574.96	37.75	-3.63	0.292
102.00	-6.81	-10.09	0.00	-131.1	0.00	131.11	1,039.10	272.20	640.75	557.59	39.28	-3.69	0.243
105.00	-5.69	-8.96	0.00	-100.9	0.00	100.86	1,020.44	264.37	604.41	531.71	41.62	-3.76	0.196
110.00	-5.26	-8.66	0.00	-56.1	0.00	56.07	987.87	251.31	546.19	489.13	45.62	-3.85	0.121
112.00	-2.93	-4.45	0.00	-36.6	0.00	36.61	974.32	246.09	523.73	472.32	47.24	-3.88	0.081
115.00	-2.73	-4.14	0.00	-23.3	0.00	23.26	953.44	238.26	490.93	447.37	49.68	-3.91	0.055
120.00	-0.68	-1.26	0.00	-2.6	0.00	2.55	917.17	225.20	438.61	406.57	53.78	-3.93	0.007
122.00	-0.05	-0.03	0.00	-0.0	0.00	0.03	902.14	219.98	418.50	390.56	55.43	-3.93	0.000
123.00	0.00	-0.03	0.00	0.0	0.00	0.00	894.51	217.37	408.63	382.62	56.25	-3.93	0.000

Load Case: 0.9D + 1.0W Normal 122 mph wind with no ice 22 Iterations
Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-26.14	-26.77	0.00	-2,326.4	0.00	2,326.37	4,069.07	1,052.24	4,787.63	4,219.32	0	0	0.558
5.00	-25.00	-26.32	0.00	-2,192.5	0.00	2,192.54	4,004.48	1,026.13	4,553.01	4,048.54	0.09	-0.17	0.548
10.00	-23.88	-25.89	0.00	-2,060.9	0.00	2,060.92	3,938.03	1,000.02	4,324.28	3,879.30	0.36	-0.34	0.538
15.00	-22.79	-25.45	0.00	-1,931.5	0.00	1,931.50	3,869.74	973.91	4,101.44	3,711.72	0.8	-0.51	0.527
20.00	-21.73	-25.00	0.00	-1,804.2	0.00	1,804.25	3,799.59	947.80	3,884.50	3,545.95	1.43	-0.68	0.515
25.00	-20.69	-24.53	0.00	-1,679.3	0.00	1,679.26	3,727.59	921.69	3,673.45	3,382.14	2.24	-0.86	0.503
30.00	-19.67	-24.06	0.00	-1,556.6	0.00	1,556.59	3,653.75	895.58	3,468.30	3,220.43	3.24	-1.04	0.489
35.00	-18.69	-23.58	0.00	-1,436.3	0.00	1,436.30	3,578.05	869.47	3,269.04	3,060.96	4.42	-1.22	0.475
40.00	-17.72	-23.09	0.00	-1,318.4	0.00	1,318.42	3,500.49	843.36	3,075.67	2,903.89	5.79	-1.4	0.460
45.00	-16.79	-22.68	0.00	-1,203.0	0.00	1,202.98	3,421.09	817.25	2,888.20	2,749.35	7.36	-1.58	0.443
48.25	-16.21	-22.43	0.00	-1,129.3	0.00	1,129.26	3,368.49	800.28	2,769.51	2,650.32	8.47	-1.7	0.432
50.00	-15.67	-22.18	0.00	-1,090.0	0.00	1,090.00	3,339.84	791.14	2,706.63	2,597.48	9.11	-1.76	0.425
53.25	-14.73	-21.92	0.00	-1,017.9	0.00	1,017.91	2,635.64	657.11	2,240.55	2,046.33	10.35	-1.88	0.504
55.00	-14.43	-21.60	0.00	-979.6	0.00	979.56	2,614.77	649.49	2,188.92	2,006.40	11.06	-1.95	0.495
60.00	-13.67	-21.11	0.00	-871.6	0.00	871.58	2,553.87	627.73	2,044.74	1,893.48	13.21	-2.15	0.467
65.00	-12.92	-20.63	0.00	-766.0	0.00	766.03	2,491.13	605.97	1,905.46	1,782.39	15.57	-2.35	0.436
70.00	-12.20	-20.15	0.00	-662.9	0.00	662.88	2,426.53	584.22	1,771.10	1,673.28	18.13	-2.54	0.402
75.00	-11.51	-19.68	0.00	-562.1	0.00	562.12	2,360.09	562.46	1,641.65	1,566.29	20.89	-2.73	0.365
80.00	-8.20	-16.04	0.00	-463.7	0.00	463.71	2,288.96	540.70	1,517.11	1,459.75	23.84	-2.9	0.322
81.75	-7.97	-15.81	0.00	-435.6	0.00	435.64	2,256.72	533.08	1,474.68	1,418.72	24.91	-2.96	0.311
85.00	-7.39	-15.60	0.00	-384.3	0.00	384.28	2,196.84	518.94	1,397.48	1,344.07	26.96	-3.06	0.290
85.75	-7.25	-15.38	0.00	-372.6	0.00	372.58	1,128.57	314.63	856.05	700.67	27.45	-3.09	0.541
90.00	-6.88	-14.97	0.00	-307.2	0.00	307.22	1,107.06	303.53	796.73	662.92	30.25	-3.21	0.472
95.00	-6.45	-14.54	0.00	-232.4	0.00	232.38	1,080.04	290.48	729.68	618.75	33.73	-3.42	0.384
100.00	-6.05	-14.23	0.00	-159.7	0.00	159.70	1,051.16	277.42	665.57	574.96	37.41	-3.59	0.286
102.00	-4.96	-9.96	0.00	-129.6	0.00	129.55	1,039.10	272.20	640.75	557.59	38.93	-3.65	0.238
105.00	-4.13	-8.85	0.00	-99.7	0.00	99.66	1,020.44	264.37	604.41	531.71	41.25	-3.73	0.193
110.00	-3.81	-8.56	0.00	-55.4	0.00	55.41	987.87	251.31	546.19	489.13	45.2	-3.82	0.118
112.00	-2.13	-4.39	0.00	-36.2	0.00	36.15	974.32	246.09	523.73	472.32	46.81	-3.84	0.079
115.00	-1.98	-4.09	0.00	-23.0	0.00	22.97	953.44	238.26	490.93	447.37	49.23	-3.87	0.054
120.00	-0.49	-1.24	0.00	-2.5	0.00	2.52	917.17	225.20	438.61	406.57	53.29	-3.89	0.007
122.00	-0.04	-0.03	0.00	-0.0	0.00	0.03	902.14	219.98	418.50	390.56	54.92	-3.89	0.000
123.00	0.00	-0.03	0.00	0.0	0.00	0.00	894.51	217.37	408.63	382.62	55.73	-3.89	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi Normal		50 mph wind with 1" radial ice			21 Iterations
Gust Response Factor:	1.10	Ice Dead Load Factor	1.00		
Dead load Factor:	1.20			Ice Importance Factor	1.00
Wind Load Factor:	1.00				

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.54	-6.59	0.00	-561.0	0.00	560.99	4,069.07	1,052.24	4,787.63	4,219.32	0	0	0.145
5.00	-45.87	-6.47	0.00	-528.1	0.00	528.06	4,004.48	1,026.13	4,553.01	4,048.54	0.02	-0.04	0.142
10.00	-44.22	-6.36	0.00	-495.7	0.00	495.71	3,938.03	1,000.02	4,324.28	3,879.30	0.09	-0.08	0.139
15.00	-42.58	-6.24	0.00	-463.9	0.00	463.93	3,869.74	973.91	4,101.44	3,711.72	0.19	-0.12	0.136
20.00	-40.98	-6.12	0.00	-432.7	0.00	432.72	3,799.59	947.80	3,884.50	3,545.95	0.34	-0.16	0.133
25.00	-39.41	-6.00	0.00	-402.1	0.00	402.11	3,727.59	921.69	3,673.45	3,382.14	0.54	-0.21	0.130
30.00	-37.87	-5.87	0.00	-372.1	0.00	372.12	3,653.75	895.58	3,468.30	3,220.43	0.78	-0.25	0.126
35.00	-36.36	-5.74	0.00	-342.8	0.00	342.77	3,578.05	869.47	3,269.04	3,060.96	1.06	-0.29	0.122
40.00	-34.89	-5.61	0.00	-314.1	0.00	314.08	3,500.49	843.36	3,075.67	2,903.89	1.39	-0.34	0.118
45.00	-33.45	-5.49	0.00	-286.1	0.00	286.06	3,421.09	817.25	2,888.20	2,749.35	1.77	-0.38	0.114
48.25	-32.54	-5.42	0.00	-268.2	0.00	268.21	3,368.49	800.28	2,769.51	2,650.32	2.03	-0.41	0.111
50.00	-31.77	-5.35	0.00	-258.7	0.00	258.72	3,339.84	791.14	2,706.63	2,597.48	2.19	-0.42	0.109
53.25	-30.37	-5.28	0.00	-241.3	0.00	241.32	2,635.64	657.11	2,240.55	2,046.33	2.48	-0.45	0.130
55.00	-29.94	-5.19	0.00	-232.1	0.00	232.08	2,614.77	649.49	2,188.92	2,006.40	2.65	-0.47	0.127
60.00	-28.74	-5.06	0.00	-206.1	0.00	206.12	2,553.87	627.73	2,044.74	1,893.48	3.17	-0.51	0.120
65.00	-27.57	-4.92	0.00	-180.8	0.00	180.83	2,491.13	605.97	1,905.46	1,782.39	3.73	-0.56	0.113
70.00	-26.44	-4.79	0.00	-156.2	0.00	156.22	2,426.53	584.22	1,771.10	1,673.28	4.34	-0.61	0.104
75.00	-25.33	-4.65	0.00	-132.3	0.00	132.28	2,360.09	562.46	1,641.65	1,566.29	5	-0.65	0.095
80.00	-19.08	-3.82	0.00	-109.0	0.00	109.01	2,288.96	540.70	1,517.11	1,459.75	5.7	-0.69	0.083
81.75	-18.72	-3.76	0.00	-102.3	0.00	102.32	2,256.72	533.08	1,474.68	1,418.72	5.96	-0.7	0.080
85.00	-17.81	-3.69	0.00	-90.1	0.00	90.11	2,196.84	518.94	1,397.48	1,344.07	6.45	-0.73	0.075
85.75	-17.60	-3.63	0.00	-87.3	0.00	87.34	1,128.57	314.63	856.05	700.67	6.56	-0.73	0.140
90.00	-16.95	-3.51	0.00	-71.9	0.00	71.91	1,107.06	303.53	796.73	662.92	7.23	-0.76	0.124
95.00	-16.21	-3.39	0.00	-54.4	0.00	54.35	1,080.04	290.48	729.68	618.75	8.06	-0.81	0.103
100.00	-15.49	-3.30	0.00	-37.4	0.00	37.42	1,051.16	277.42	665.57	574.96	8.93	-0.85	0.080
102.00	-11.65	-2.40	0.00	-30.5	0.00	30.51	1,039.10	272.20	640.75	557.59	9.29	-0.87	0.066
105.00	-10.05	-2.09	0.00	-23.3	0.00	23.32	1,020.44	264.37	604.41	531.71	9.84	-0.88	0.054
110.00	-9.43	-2.00	0.00	-12.9	0.00	12.89	987.87	251.31	546.19	489.13	10.78	-0.91	0.036
112.00	-5.11	-1.04	0.00	-8.4	0.00	8.43	974.32	246.09	523.73	472.32	11.16	-0.91	0.023
115.00	-4.79	-0.95	0.00	-5.3	0.00	5.31	953.44	238.26	490.93	447.37	11.74	-0.92	0.017
120.00	-1.30	-0.28	0.00	-0.6	0.00	0.58	917.17	225.20	438.61	406.57	12.7	-0.92	0.003
122.00	-0.08	-0.01	0.00	-0.0	0.00	0.01	902.14	219.98	418.50	390.56	13.09	-0.92	0.000
123.00	0.00	-0.01	0.00	0.0	0.00	0.00	894.51	217.37	408.63	382.62	13.28	-0.92	0.000

Load Case: 1.0D + 1.0W Service Normal 60 mph Wind with No Ice 20 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.00
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-29.08	-5.79	0.00	-504.8	0.00	504.83	4,069.07	1,052.24	4,787.63	4,219.32	0	0	0.127
5.00	-27.90	-5.70	0.00	-475.9	0.00	475.86	4,004.48	1,026.13	4,553.01	4,048.54	0.02	-0.04	0.125
10.00	-26.74	-5.61	0.00	-447.4	0.00	447.37	3,938.03	1,000.02	4,324.28	3,879.30	0.08	-0.07	0.122
15.00	-25.61	-5.51	0.00	-419.4	0.00	419.35	3,869.74	973.91	4,101.44	3,711.72	0.17	-0.11	0.120
20.00	-24.50	-5.42	0.00	-391.8	0.00	391.78	3,799.59	947.80	3,884.50	3,545.95	0.31	-0.15	0.117
25.00	-23.42	-5.32	0.00	-364.7	0.00	364.70	3,727.59	921.69	3,673.45	3,382.14	0.49	-0.19	0.114
30.00	-22.36	-5.22	0.00	-338.1	0.00	338.11	3,653.75	895.58	3,468.30	3,220.43	0.7	-0.23	0.111
35.00	-21.33	-5.11	0.00	-312.0	0.00	312.03	3,578.05	869.47	3,269.04	3,060.96	0.96	-0.26	0.108
40.00	-20.32	-5.01	0.00	-286.5	0.00	286.46	3,500.49	843.36	3,075.67	2,903.89	1.26	-0.3	0.104
45.00	-19.34	-4.92	0.00	-261.4	0.00	261.42	3,421.09	817.25	2,888.20	2,749.35	1.6	-0.34	0.101
48.25	-18.72	-4.87	0.00	-245.4	0.00	245.42	3,368.49	800.28	2,769.51	2,650.32	1.84	-0.37	0.098
50.00	-18.16	-4.81	0.00	-236.9	0.00	236.90	3,339.84	791.14	2,706.63	2,597.48	1.98	-0.38	0.097
53.25	-17.13	-4.76	0.00	-221.2	0.00	221.25	2,635.64	657.11	2,240.55	2,046.33	2.25	-0.41	0.115
55.00	-16.85	-4.69	0.00	-212.9	0.00	212.93	2,614.77	649.49	2,188.92	2,006.40	2.4	-0.42	0.113
60.00	-16.06	-4.59	0.00	-189.5	0.00	189.48	2,553.87	627.73	2,044.74	1,893.48	2.87	-0.47	0.106
65.00	-15.28	-4.48	0.00	-166.6	0.00	166.56	2,491.13	605.97	1,905.46	1,782.39	3.38	-0.51	0.100
70.00	-14.53	-4.38	0.00	-144.2	0.00	144.15	2,426.53	584.22	1,771.10	1,673.28	3.94	-0.55	0.092
75.00	-13.80	-4.28	0.00	-122.2	0.00	122.25	2,360.09	562.46	1,641.65	1,566.29	4.54	-0.59	0.084
80.00	-9.97	-3.49	0.00	-100.9	0.00	100.86	2,288.96	540.70	1,517.11	1,459.75	5.18	-0.63	0.073
81.75	-9.73	-3.44	0.00	-94.8	0.00	94.76	2,256.72	533.08	1,474.68	1,418.72	5.41	-0.64	0.071
85.00	-9.09	-3.39	0.00	-83.6	0.00	83.59	2,196.84	518.94	1,397.48	1,344.07	5.86	-0.67	0.066
85.75	-8.94	-3.34	0.00	-81.0	0.00	81.05	1,128.57	314.63	856.05	700.67	5.96	-0.67	0.124
90.00	-8.55	-3.25	0.00	-66.8	0.00	66.84	1,107.06	303.53	796.73	662.92	6.57	-0.7	0.109
95.00	-8.10	-3.16	0.00	-50.6	0.00	50.57	1,080.04	290.48	729.68	618.75	7.33	-0.74	0.089
100.00	-7.66	-3.10	0.00	-34.8	0.00	34.76	1,051.16	277.42	665.57	574.96	8.13	-0.78	0.068
102.00	-6.18	-2.17	0.00	-28.2	0.00	28.20	1,039.10	272.20	640.75	557.59	8.46	-0.79	0.057
105.00	-5.20	-1.93	0.00	-21.7	0.00	21.69	1,020.44	264.37	604.41	531.71	8.96	-0.81	0.046
110.00	-4.83	-1.86	0.00	-12.1	0.00	12.06	987.87	251.31	546.19	489.13	9.82	-0.83	0.030
112.00	-2.67	-0.96	0.00	-7.9	0.00	7.87	974.32	246.09	523.73	472.32	10.17	-0.83	0.019
115.00	-2.49	-0.89	0.00	-5.0	0.00	5.00	953.44	238.26	490.93	447.37	10.7	-0.84	0.014
120.00	-0.63	-0.27	0.00	-0.6	0.00	0.55	917.17	225.20	438.61	406.57	11.58	-0.84	0.002
122.00	-0.04	-0.01	0.00	-0.0	0.00	0.01	902.14	219.98	418.50	390.56	11.94	-0.85	0.000
123.00	0.00	-0.01	0.00	0.0	0.00	0.00	894.51	217.37	408.63	382.62	12.11	-0.85	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

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

Spectral Response Acceleration for Short Period (S_S):	0.201
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.053
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a:	1.600
Site Coefficient F_v:	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.214
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.085
Seismic Response Coefficient (C_s):	0.035
Upper Limit C_S:	0.035
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	1.640
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	1.570
Total Unfactored Dead Load:	29.090 k
Seismic Base Shear (E):	1.000 k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
32	122.5	42	80	0.003	3	53
31	121	103	190	0.008	8	128
30	117.5	290	511	0.022	22	360
29	113.5	180	301	0.013	13	224
28	111	145	234	0.010	10	180
27	107.5	371	569	0.024	24	461
26	103.5	228	330	0.014	14	284
25	101	171	238	0.010	10	213
24	97.5	437	575	0.024	25	543
23	92.5	449	545	0.023	23	558
22	87.875	392	439	0.019	19	487
21	85.375	145	155	0.007	7	181
20	83.375	638	658	0.028	28	794
19	80.875	239	234	0.010	10	297
18	77.5	708	650	0.028	28	880
17	72.5	729	603	0.026	26	906
16	67.5	750	555	0.024	24	932
15	62.5	771	506	0.022	22	958
14	57.5	792	456	0.019	19	984
13	54.125	282	148	0.006	6	351
12	51.625	1,024	498	0.021	21	1,273
11	49.125	560	252	0.011	11	695
10	46.625	622	258	0.011	11	773
9	42.5	978	350	0.015	15	1,215
8	37.5	1,003	295	0.012	13	1,247
7	32.5	1,029	242	0.010	10	1,278
6	27.5	1,054	191	0.008	8	1,310
5	22.5	1,079	143	0.006	6	1,341
4	17.5	1,104	98	0.004	4	1,373
3	12.5	1,130	59	0.002	3	1,404
2	7.5	1,155	27	0.001	1	1,436
1	2.5	1,180	5	0.000	0	1,467
Ericsson AIR 21, 1.3 M, B2A B4P	122	249	466	0.020	20	309
Ericsson AIR 21, 1.3M, B4A B2P	122	244	458	0.020	20	304

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
Ericsson KRY 112 144/1	120	33	60	0.003	3	41
Ericsson Radio 4449 B12,B71	120	222	405	0.017	17	276
Generic Round T-Arm	120	938	1,711	0.073	73	1,165
RFS APXVAARR24_43-U-NA20	120	384	700	0.030	30	477
Powerwave Allgon TT19-08BP111-001	112	48	79	0.003	3	60
Raycap DC6-48-60-18-8F	112	20	33	0.001	1	25
Ericsson RRUS 4449 B5, B12	112	213	349	0.015	15	265
Ericsson RRUS 4478 B14	112	178	292	0.012	12	221
Raycap DC6-48-60-18-8C	112	16	26	0.001	1	20
Ericsson RRUS 32 B2	112	159	260	0.011	11	198
Ericsson RRUS 11 (Band 12)	112	150	246	0.010	10	186
Commscope SBNHH-1D65A	112	100	165	0.007	7	125
Powerwave Allgon P90-15-XLH-RR	112	159	260	0.011	11	198
Round T-Arm	112	750	1,228	0.052	52	932
Round T-Arm	105	750	1,110	0.047	47	932
CCI DMP65R-BU6DA	112	238	390	0.017	17	296
Commscope CBC78T-DS-43-2X	102	62	88	0.004	4	77
Samsung B2/B66A RRH-BR049	102	253	358	0.015	15	315
Samsung B5/B13 RRH-BR04C	102	211	298	0.013	13	262
Raycap RCMDC-6627-PF-48	102	32	45	0.002	2	40
Samsung MT6407-77A	102	245	346	0.015	15	304
Swedcom SC-E 6016 REV2	102	50	71	0.003	3	62
Commscope JAHH-65B-R3B	102	364	514	0.022	22	452
Antel LPA-80063/6CF	102	108	153	0.006	7	134
Commscope RDIDC-9181-PF-48	80	22	21	0.001	1	27
Fujitsu TA08025-B605	80	225	217	0.009	9	280
Fujitsu TA08025-B604	80	192	185	0.008	8	238
JMA Wireless MX08FRO665-21	80	194	187	0.008	8	240
Generic Flat Platform with Handrails	80	2,500	2,415	0.103	103	3,107
		29,087	23,533	1.000	1,004	36,151

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
32	122.5	42	80	0.003	3	36
31	121	103	190	0.008	8	88
30	117.5	290	511	0.022	22	248
29	113.5	180	301	0.013	13	154
28	111	145	234	0.010	10	124
27	107.5	371	569	0.024	24	318
26	103.5	228	330	0.014	14	196
25	101	171	238	0.010	10	147
24	97.5	437	575	0.024	25	374
23	92.5	449	545	0.023	23	385
22	87.875	392	439	0.019	19	336
21	85.375	145	155	0.007	7	125
20	83.375	638	658	0.028	28	547
19	80.875	239	234	0.010	10	205
18	77.5	708	650	0.028	28	607
17	72.5	729	603	0.026	26	625
16	67.5	750	555	0.024	24	643
15	62.5	771	506	0.022	22	661
14	57.5	792	456	0.019	19	679
13	54.125	282	148	0.006	6	242
12	51.625	1,024	498	0.021	21	878
11	49.125	560	252	0.011	11	480
10	46.625	622	258	0.011	11	533
9	42.5	978	350	0.015	15	838
8	37.5	1,003	295	0.012	13	860
7	32.5	1,029	242	0.010	10	882
6	27.5	1,054	191	0.008	8	903
5	22.5	1,079	143	0.006	6	925

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
4	17.5	1,104	98	0.004	4	947
3	12.5	1,130	59	0.002	3	968
2	7.5	1,155	27	0.001	1	990
1	2.5	1,180	5	0.000	0	1,012
Ericsson AIR 21, 1.3 M, B2A B4P	122	249	466	0.020	20	213
Ericsson AIR 21, 1.3M, B4A B2P	122	244	458	0.020	20	210
Ericsson KRY 112 144/1	120	33	60	0.003	3	28
Ericsson Radio 4449 B12,B71	120	222	405	0.017	17	190
Generic Round T-Arm	120	938	1,711	0.073	73	804
RFS APXVAARR24_43-U-NA20	120	384	700	0.030	30	329
Powerwave Allgon TT19-08BP111-001	112	48	79	0.003	3	41
Raycap DC6-48-60-18-8F	112	20	33	0.001	1	17
Ericsson RRUS 4449 B5, B12	112	213	349	0.015	15	183
Ericsson RRUS 4478 B14	112	178	292	0.012	12	153
Raycap DC6-48-60-18-8C	112	16	26	0.001	1	14
Ericsson RRUS 32 B2	112	159	260	0.011	11	136
Ericsson RRUS 11 (Band 12)	112	150	246	0.010	10	129
Commscope SBNHH-1D65A	112	100	165	0.007	7	86
Powerwave Allgon P90-15-XLH-RR	112	159	260	0.011	11	136
Round T-Arm	112	750	1,228	0.052	52	643
Round T-Arm	105	750	1,110	0.047	47	643
CCI DMP65R-BU6DA	112	238	390	0.017	17	204
Commscope CBC78T-DS-43-2X	102	62	88	0.004	4	53
Samsung B2/B66A RRH-BR049	102	253	358	0.015	15	217
Samsung B5/B13 RRH-BR04C	102	211	298	0.013	13	181
Raycap RCMDC-6627-PF-48	102	32	45	0.002	2	27
Samsung MT6407-77A	102	245	346	0.015	15	210
Swedcom SC-E 6016 REV2	102	50	71	0.003	3	43
Commscope JAHH-65B-R3B	102	364	514	0.022	22	312
Antel LPA-80063/6CF	102	108	153	0.006	7	93
Commscope RDIDC-9181-PF-48	80	22	21	0.001	1	19
Fujitsu TA08025-B605	80	225	217	0.009	9	193
Fujitsu TA08025-B604	80	192	185	0.008	8	164
JMA Wireless MX08FRO665-21	80	194	187	0.008	8	166
Generic Flat Platform with Handrails	80	2,500	2,415	0.103	103	2,143
		29,087	23,533	1.000	1,004	24,931

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

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.68	-1.01	0.00	-94.47	0.00	94.47	4,069.07	1,052.24	4,788	4,219.32	0.00	0.00	0.03
5.00	-33.25	-1.01	0.00	-89.44	0.00	89.44	4,004.48	1,026.13	4,553	4,048.54	0.00	-0.01	0.03
10.00	-31.84	-1.01	0.00	-84.40	0.00	84.40	3,938.03	1,000.02	4,324	3,879.30	0.01	-0.01	0.03
15.00	-30.47	-1.01	0.00	-79.35	0.00	79.35	3,869.74	973.91	4,101	3,711.72	0.03	-0.02	0.03
20.00	-29.13	-1.01	0.00	-74.31	0.00	74.31	3,799.59	947.80	3,884	3,545.95	0.06	-0.03	0.03
25.00	-27.82	-1.00	0.00	-69.28	0.00	69.28	3,727.59	921.69	3,673	3,382.14	0.09	-0.04	0.03
30.00	-26.54	-0.99	0.00	-64.28	0.00	64.28	3,653.75	895.58	3,468	3,220.43	0.13	-0.04	0.03
35.00	-25.29	-0.98	0.00	-59.32	0.00	59.32	3,578.05	869.47	3,269	3,060.96	0.18	-0.05	0.03
40.00	-24.08	-0.97	0.00	-54.40	0.00	54.40	3,500.49	843.36	3,076	2,903.89	0.24	-0.06	0.03
45.00	-23.31	-0.96	0.00	-49.56	0.00	49.56	3,421.09	817.25	2,888	2,749.35	0.30	-0.06	0.03
48.25	-22.61	-0.95	0.00	-46.44	0.00	46.44	3,368.49	800.28	2,770	2,650.32	0.35	-0.07	0.02
50.00	-21.34	-0.93	0.00	-44.78	0.00	44.78	3,339.84	791.14	2,707	2,597.48	0.37	-0.07	0.02
53.25	-20.99	-0.92	0.00	-41.76	0.00	41.76	2,635.64	657.11	2,241	2,046.33	0.42	-0.08	0.03
55.00	-20.00	-0.90	0.00	-40.14	0.00	40.14	2,614.77	649.49	2,189	2,006.40	0.45	-0.08	0.03
60.00	-19.04	-0.88	0.00	-35.62	0.00	35.62	2,553.87	627.73	2,045	1,893.48	0.54	-0.09	0.03
65.00	-18.11	-0.86	0.00	-31.20	0.00	31.20	2,491.13	605.97	1,905	1,782.39	0.64	-0.10	0.03
70.00	-17.21	-0.84	0.00	-26.89	0.00	26.89	2,426.53	584.22	1,771	1,673.28	0.74	-0.10	0.02
75.00	-16.33	-0.81	0.00	-22.71	0.00	22.71	2,360.09	562.46	1,642	1,566.29	0.86	-0.11	0.02
80.00	-12.14	-0.66	0.00	-18.67	0.00	18.67	2,288.96	540.70	1,517	1,459.75	0.98	-0.12	0.02
81.75	-11.34	-0.63	0.00	-17.51	0.00	17.51	2,256.72	533.08	1,475	1,418.72	1.02	-0.12	0.02
85.00	-11.16	-0.63	0.00	-15.45	0.00	15.45	2,196.84	518.94	1,397	1,344.07	1.11	-0.13	0.02
85.75	-10.68	-0.61	0.00	-14.98	0.00	14.98	1,128.57	314.63	856	700.67	1.13	-0.13	0.03

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
90.00	-10.12	-0.58	0.00	-12.40	0.00	12.40	1,107.06	303.53	797	662.92	1.24	-0.13	0.03
95.00	-9.58	-0.56	0.00	-9.47	0.00	9.47	1,080.04	290.48	730	618.75	1.38	-0.14	0.02
100.00	-9.36	-0.55	0.00	-6.68	0.00	6.68	1,051.16	277.42	666	574.96	1.53	-0.15	0.02
102.00	-7.43	-0.45	0.00	-5.58	0.00	5.58	1,039.10	272.20	641	557.59	1.60	-0.15	0.02
105.00	-6.04	-0.38	0.00	-4.22	0.00	4.22	1,020.44	264.37	604	531.71	1.69	-0.15	0.01
110.00	-5.86	-0.37	0.00	-2.34	0.00	2.34	987.87	251.31	546	489.13	1.85	-0.16	0.01
112.00	-3.11	-0.20	0.00	-1.61	0.00	1.61	974.32	246.09	524	472.32	1.92	-0.16	0.01
115.00	-2.75	-0.18	0.00	-1.00	0.00	1.00	953.44	238.26	491	447.37	2.02	-0.16	0.01
120.00	-0.67	-0.04	0.00	-0.09	0.00	0.09	917.17	225.20	439	406.57	2.19	-0.16	0.00
122.00	0.00	0.00	0.00	0.00	0.00	0.00	902.14	219.98	418	390.56	2.25	-0.16	0.00
123.00	0.00	0.00	0.00	0.00	0.00	0.00	894.51	217.37	409	382.62	2.29	-0.16	0.00

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

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-23.92	-1.01	0.00	-93.67	0.00	93.67	4,069.07	1,052.24	4,788	4,219.32	0.00	0.00	0.03
5.00	-22.93	-1.01	0.00	-88.65	0.00	88.65	4,004.48	1,026.13	4,553	4,048.54	0.00	-0.01	0.03
10.00	-21.96	-1.01	0.00	-83.61	0.00	83.61	3,938.03	1,000.02	4,324	3,879.30	0.01	-0.01	0.03
15.00	-21.01	-1.00	0.00	-78.58	0.00	78.58	3,869.74	973.91	4,101	3,711.72	0.03	-0.02	0.03
20.00	-20.09	-1.00	0.00	-73.56	0.00	73.56	3,799.59	947.80	3,884	3,545.95	0.06	-0.03	0.03
25.00	-19.19	-0.99	0.00	-68.56	0.00	68.56	3,727.59	921.69	3,673	3,382.14	0.09	-0.03	0.03
30.00	-18.30	-0.99	0.00	-63.58	0.00	63.58	3,653.75	895.58	3,468	3,220.43	0.13	-0.04	0.03
35.00	-17.44	-0.97	0.00	-58.65	0.00	58.65	3,578.05	869.47	3,269	3,060.96	0.18	-0.05	0.02
40.00	-16.61	-0.96	0.00	-53.78	0.00	53.78	3,500.49	843.36	3,076	2,903.89	0.24	-0.06	0.02
45.00	-16.07	-0.95	0.00	-48.97	0.00	48.97	3,421.09	817.25	2,888	2,749.35	0.30	-0.06	0.02
48.25	-15.59	-0.94	0.00	-45.88	0.00	45.88	3,368.49	800.28	2,770	2,650.32	0.34	-0.07	0.02
50.00	-14.71	-0.92	0.00	-44.24	0.00	44.24	3,339.84	791.14	2,707	2,597.48	0.37	-0.07	0.02
53.25	-14.47	-0.91	0.00	-41.25	0.00	41.25	2,635.64	657.11	2,241	2,046.33	0.42	-0.08	0.03
55.00	-13.79	-0.90	0.00	-39.65	0.00	39.65	2,614.77	649.49	2,189	2,006.40	0.45	-0.08	0.03
60.00	-13.13	-0.87	0.00	-35.17	0.00	35.17	2,553.87	627.73	2,045	1,893.48	0.54	-0.09	0.02
65.00	-12.49	-0.85	0.00	-30.80	0.00	30.80	2,491.13	605.97	1,905	1,782.39	0.63	-0.10	0.02
70.00	-11.87	-0.83	0.00	-26.54	0.00	26.54	2,426.53	584.22	1,771	1,673.28	0.74	-0.10	0.02
75.00	-11.26	-0.80	0.00	-22.41	0.00	22.41	2,360.09	562.46	1,642	1,566.29	0.85	-0.11	0.02
80.00	-8.37	-0.65	0.00	-18.42	0.00	18.42	2,288.96	540.70	1,517	1,459.75	0.97	-0.12	0.02
81.75	-7.82	-0.63	0.00	-17.28	0.00	17.28	2,256.72	533.08	1,475	1,418.72	1.01	-0.12	0.02
85.00	-7.70	-0.62	0.00	-15.24	0.00	15.24	2,196.84	518.94	1,397	1,344.07	1.09	-0.12	0.02
85.75	-7.36	-0.60	0.00	-14.78	0.00	14.78	1,128.57	314.63	856	700.67	1.11	-0.12	0.03
90.00	-6.98	-0.58	0.00	-12.23	0.00	12.23	1,107.06	303.53	797	662.92	1.23	-0.13	0.03
95.00	-6.60	-0.55	0.00	-9.34	0.00	9.34	1,080.04	290.48	730	618.75	1.37	-0.14	0.02
100.00	-6.46	-0.54	0.00	-6.58	0.00	6.58	1,051.16	277.42	666	574.96	1.52	-0.15	0.02
102.00	-5.13	-0.45	0.00	-5.50	0.00	5.50	1,039.10	272.20	641	557.59	1.58	-0.15	0.02
105.00	-4.17	-0.37	0.00	-4.16	0.00	4.16	1,020.44	264.37	604	531.71	1.67	-0.15	0.01
110.00	-4.04	-0.36	0.00	-2.31	0.00	2.31	987.87	251.31	546	489.13	1.83	-0.15	0.01
112.00	-2.15	-0.20	0.00	-1.59	0.00	1.59	974.32	246.09	524	472.32	1.90	-0.16	0.01
115.00	-1.90	-0.18	0.00	-0.98	0.00	0.98	953.44	238.26	491	447.37	2.00	-0.16	0.00
120.00	-0.46	-0.04	0.00	-0.09	0.00	0.09	917.17	225.20	439	406.57	2.16	-0.16	0.00
122.00	0.00	0.00	0.00	0.00	0.00	0.00	902.14	219.98	418	390.56	2.23	-0.16	0.00
123.00	0.00	0.00	0.00	0.00	0.00	0.00	894.51	217.37	409	382.62	2.26	-0.16	0.00

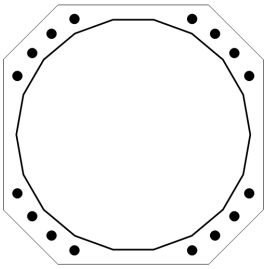
ANALYSIS SUMMARY

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W Normal	26.78	0.00	34.86	0.00	0.00	2342.50	0.00	0.56
0.9D + 1.0W Normal	26.77	0.00	26.14	0.00	0.00	2326.37	0.00	0.56
1.2D + 1.0Di + 1.0Wi Normal	6.59	0.00	47.54	0.00	0.00	560.99	0.00	0.14
1.2D + 1.0Ev + 1.0Eh Normal	1.01	0.00	34.68	0.00	0.00	94.47	0.00	0.03
0.9D - 1.0Ev + 1.0Eh Normal	1.01	0.00	23.92	0.00	0.00	93.67	0.00	0.03
1.0D + 1.0W Service Normal	5.79	0.00	29.08	0.00	0.00	504.83	0.00	0.13

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 8663)

Width:	57	in
Shape:	Square	
Thickness:	2.75	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Clip Length:	12	in
Rod Detail Type:	d	
Clear Distance	3	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	40	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 2233]	Cluster	16	2.25	57	A615-75	75	100	6	-

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- Original (16) 2.25"ø [ID 2233]

GEOMETRY AND APPLIED LOADS (UNFACTORED)

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.470	25.42	12.90	-6.159	124.036	-105.56	2.77
2	0.680	22.16	17.92	-0.489	1.617	-105.56	2.85
3	0.891	17.92	22.16	5.202	88.728	114.27	2.79
4	1.101	12.90	25.42	10.664	370.155	114.27	2.62
5	2.040	-12.90	25.42	26.481	2278.205	114.27	0.64
6	2.251	-17.92	22.16	27.183	2400.625	114.27	0.05
7	2.461	-22.16	17.92	26.685	2313.513	114.27	0.54
8	2.672	-25.42	12.90	25.009	2032.087	114.27	1.12
9	3.611	-25.42	-12.90	6.159	124.037	114.27	2.77
10	3.822	-22.16	-17.92	0.489	1.617	114.27	2.85
11	4.032	-17.92	-22.16	-5.202	88.729	-105.56	2.79
12	4.243	-12.90	-25.42	-10.664	370.154	-105.56	2.62
13	5.182	12.90	-25.42	-26.481	2278.206	-105.56	0.64
14	5.393	17.92	-22.16	-27.183	2400.625	-105.56	0.05
15	5.603	22.16	-17.92	-26.685	2313.513	-105.56	0.54
16	5.814	25.42	-12.90	-25.009	2032.086	-105.56	1.12

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Factor
Pole	50.75"ø x 0.375" (18 Sides)	2342.5	34.86	26.78	1.000
Bolt Group	Original (16) 2.25"ø	2342.5	-	26.78	1.000
	TOTALS	**2342.5**	**34.86**	**26.78**	

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	50.75"ø x 0.375" (18 Sides)	59.0458	-	-	18732.41	-
Bolt Group	Original (16) 2.25"ø	3.9761	3.2477	0.8393	19217.93	4.5

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	50.88	in
Point-to-Point Diameter:	51.66	in
Flat Width:	8.971	in
Flat Radians:	0.349	rad

PLATE PROPERTIES

Neutral Axis:	40	°
Bend Line Lower Limit:		rad
Bend Line Upper Limit:	-0.124	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment Mu (k-in)	Moment Capacity ϕMn (k-in)	Ratio
Flat	29.735	0.00	56.218	523.6	2529.8	0.207
Corner	28.950	0.00	54.734	371.2	2463.0	0.151

PLASTIC ANCHOR ROD ANALYSIS

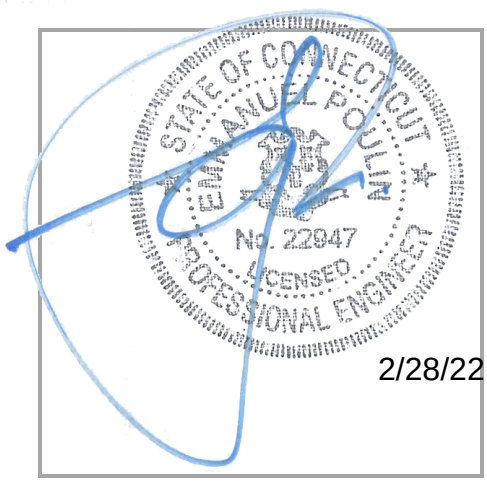
Class	Group Quantity	Rod Diameter (in)	Applied Axial Load Pu (k)	Compressive Capacity ϕPn (k)	Ratio
Original	16	2.25	114.2	243.6	0.469

MOUNT ANALYSIS REPORT

February 28, 2022

Dish Wireless Site Name	BOHVN00136A
Dish Wireless Site Number	BOHVN00136A
Infinigy Job Number	1197-F0001-C
Client	NSS
Carrier	Dish Wireless
Site Location	123 Pine Orchard Road Branford, CT 06405 New Haven County 41.2748610 N NAD83 72.7930780 W NAD83
Mount Type	7.0 ft T-Arms
Mount Elevation	80.0 ft AGL
Structural Usage Ratio	**42.8**
Overall Result	**Pass**

The enclosed mount structural analysis has been performed in accordance with the 2018 Connecticut State Building Code (2015 IBC) based on an ultimate 3-second gust wind speed of 122 mph. The evaluation criteria and applicable codes are presented in the next section of this report.



CONTENTS

1. INTRODUCTION

Infinigy performed a structural analysis on the Dish Wireless proposed telecommunication equipment supporting T-Arms 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	122 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 = 0.201 g / S_1 = 0.053 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 - 80.0 ft. AGL T-Arms

Antenna Centerline (ft)	Qty.	Appurtenance Manufacturers	Appurtenance Models
80.0	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-283419 Rev 1, Site #BOHVN00136A, dated July 09, 2021
Mount Manufacturer Drawings	Commscope Document # MC-K6MHDX-9-96, dated March 16, 2021
Structural Analysis Report	ATC, Asset #283419, dated June 24, 2021

5. RESULTS

Components	Capacity	Pass/Fail
Mount Pipes	33.3%	Pass
Horizontals	42.8%	Pass
Standoffs	35.7%	Pass
Connections	29.1%	Pass
MOUNT RATING =	**42.8 %**	**Pass**

Notes:

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

6. RECOMMENDATIONS

Infinigy recommends installing Dish Wireless's proposed equipment loading configuration on the mount at 80.0 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

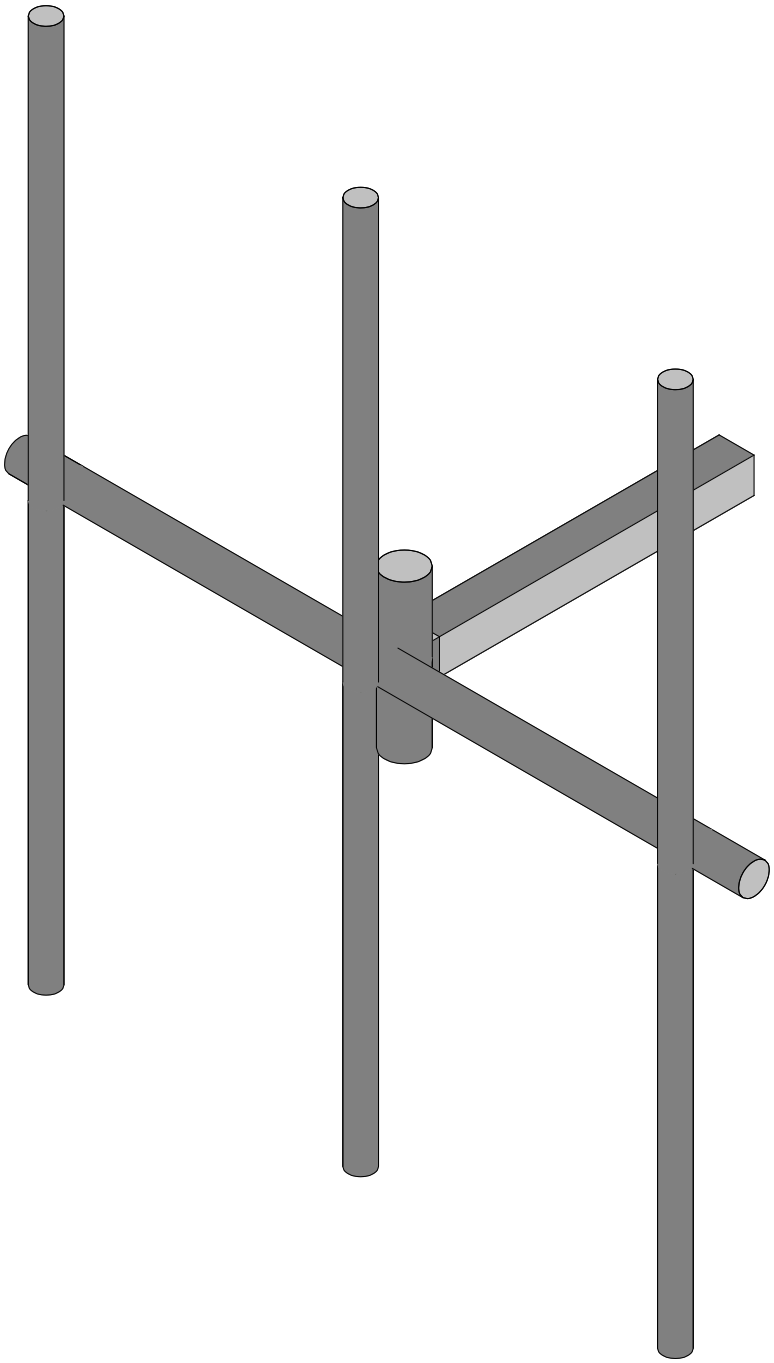
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.
All member connections are 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, Solid Round, Plate, Built-up Angle — ASTM A1011 36 KSI Structural Angle — ASTM A529 Gr. 50 HSS (Rectangular) — ASTM A500-B GR 46 HSS (Circular) — ASTM A500-B GR 42 Pipe — ASTM A500 Gr C Connection Bolts — ASTM A325 U-Bolts — ASTM A307
All bolted connections are pretensioned in accordance with Table 8.2 of the RCSC 2014 Standard

8. LIABILITY WAIVER AND LIMITATIONS

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

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

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



Envelope Only Solution

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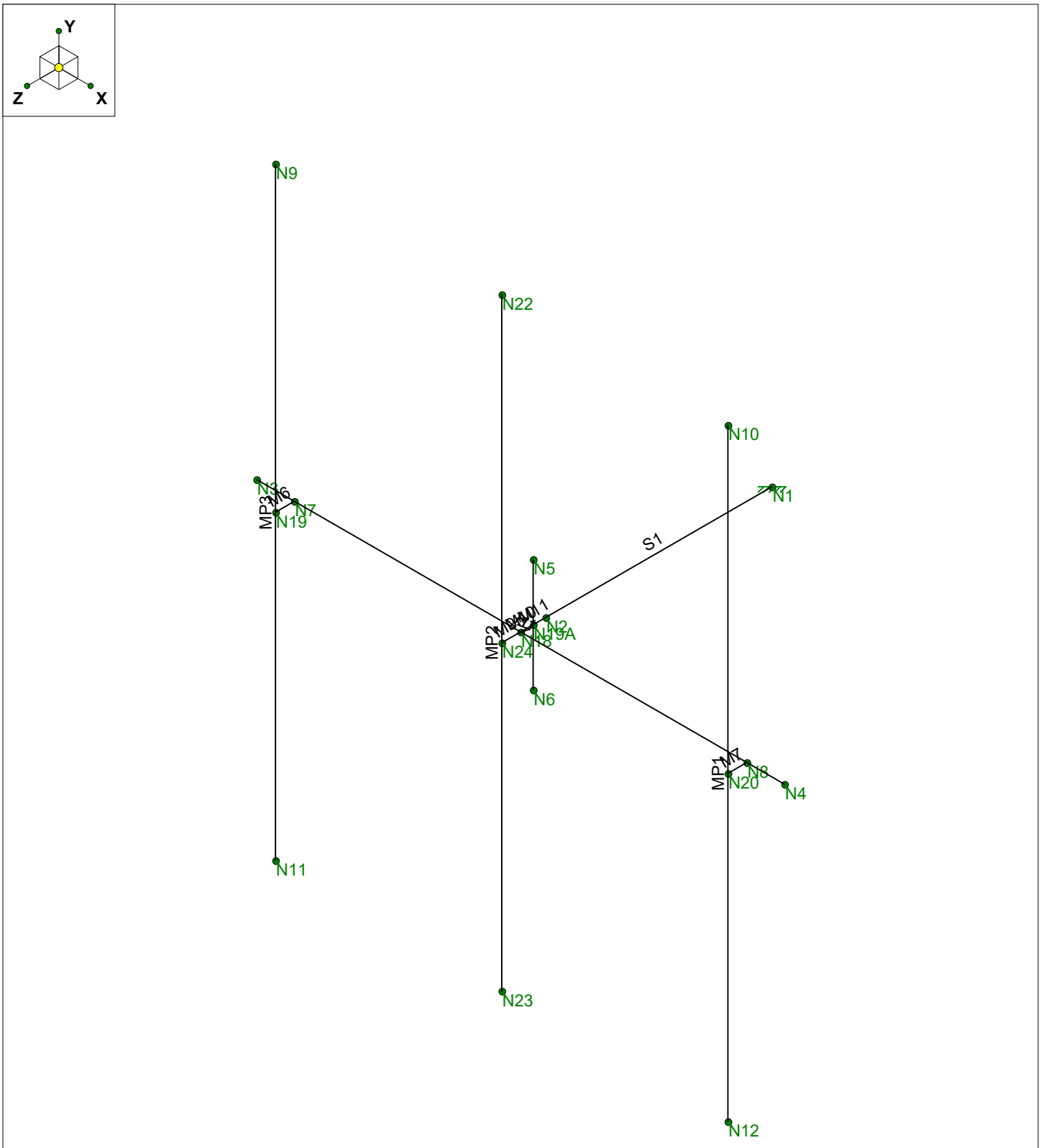

Envelope Only Solution

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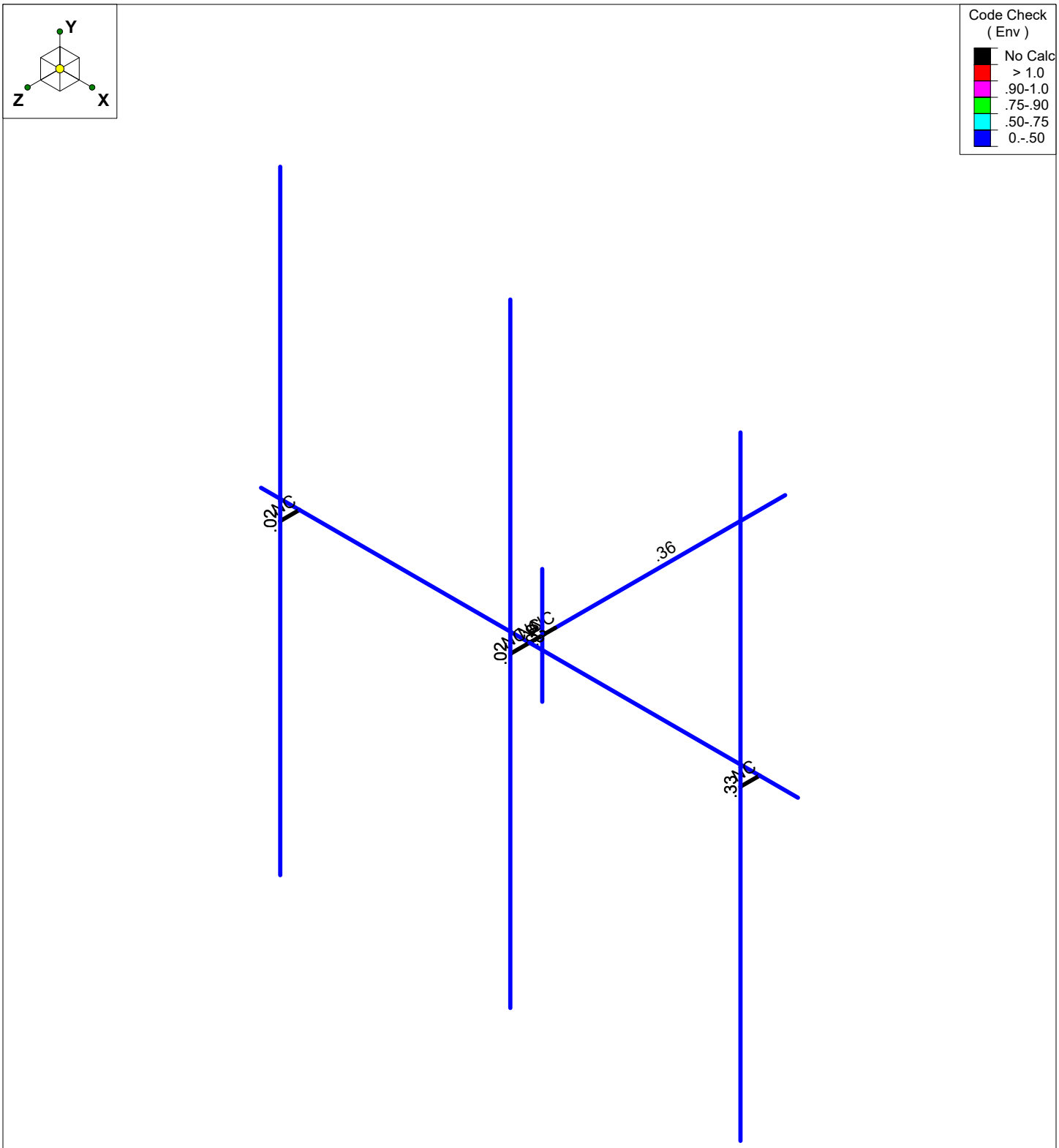

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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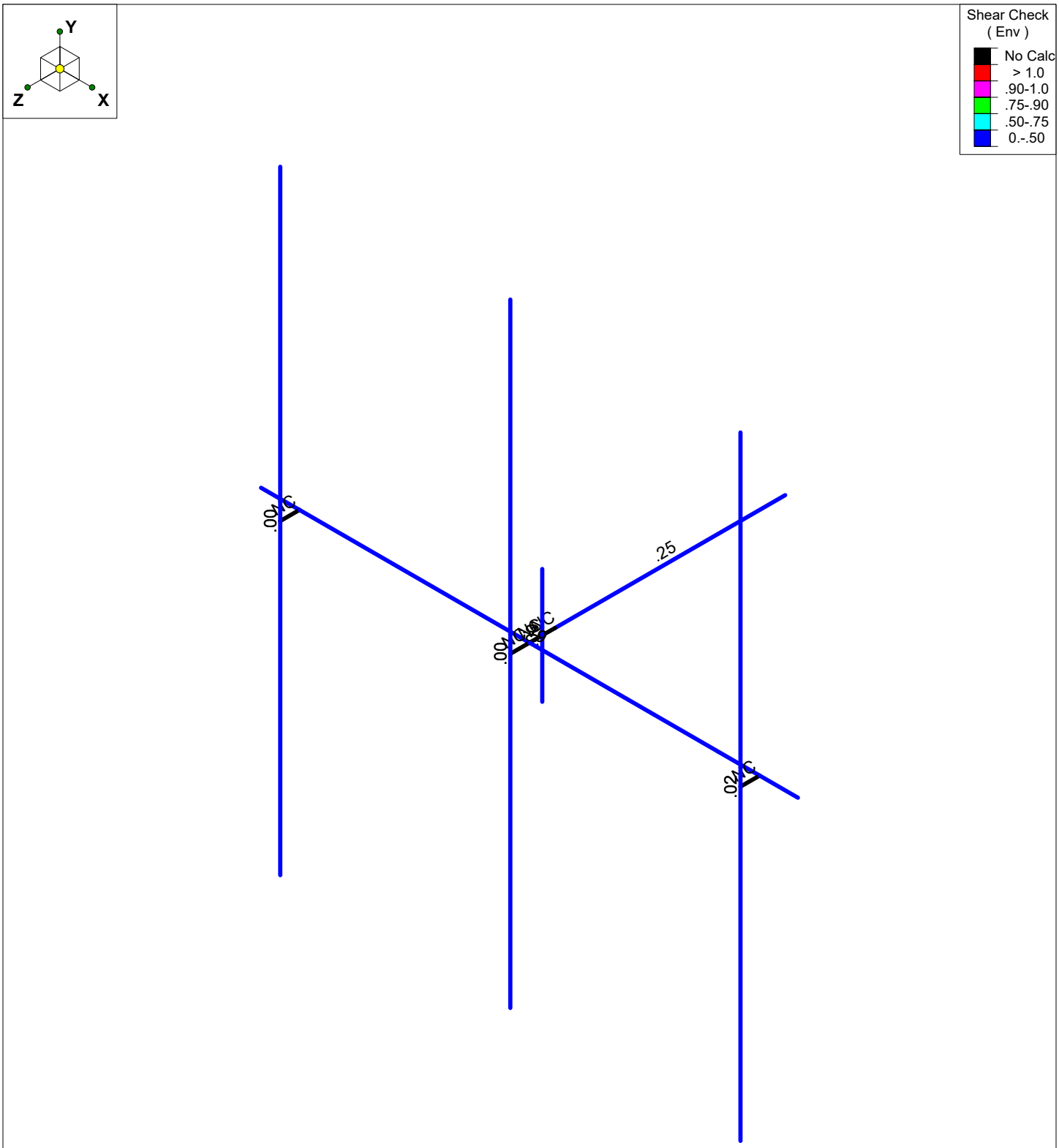

Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

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PSM		Feb 28, 2022 at 3:14 PM
1197-F0001-C		BOHVN00136A_loaded.r3d

Program Inputs

PROJECT INFORMATION	
Client:	NSS
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:	35.19	ft *Rev H

MOUNT INFORMATION		
Mount Type:	T-Arm	
Num Sectors:	3	
Centerline AGL:	80.00	ft
Tower Height AGL:	123.00	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):	0.999	*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}):	122	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1	in
Flat Pressure:	87.309	psf
Round Pressure:	52.386	psf
Ice Wind Pressure:	8.799	psf

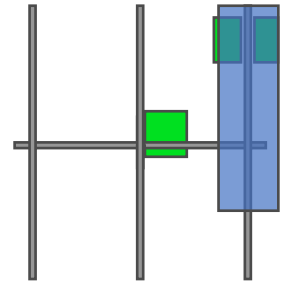
SEISMIC DATA		
Short-Period Accel. (S_s):	0.201	g
1-Second Accel. (S_1):	0.053	g
Short-Period Design (S_{DS}):	0.214	
1-Second Design (S_{D1}):	0.085	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

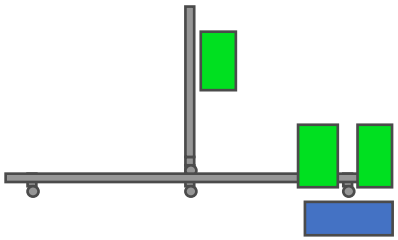
Infinigy Load Calculator V2.1.7

Program Inputs

ELEVATION VIEW



PLAN VIEW



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FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.7

APPURTENANCE INFORMATION

Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
JMA WIRELESS MX08FRO665-21	80.0	3	0.90	43.65	12.49	5.87	490.68	230.50	64.50	20.74	MP1
FUJITSU TA08025-B605	80.0	3	0.90	43.65	1.96	1.19	77.14	46.72	74.95	24.10	MP1
FUJITSU TA08025-B604	80.0	3	0.90	43.65	1.96	1.03	77.14	40.58	63.93	20.56	MP1
RAYCAP RDIDC-9181-PF-48	80.0	1	0.90	43.65	1.87	1.07	41.91	73.34	21.85	7.03	S1

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design Rules
1	S1	N1	N2			Standoff Tube	Beam	Pipe	A500 Gr.B Rect	Typical
2	H1	N3	N4			Horizontal Pipe	Beam	Pipe	a500 gr.c	Typical
3	V1	N6	N5			Vertical Pipe	Colu...	Pipe	a500 gr.c	Typical
4	MP1	N10	N12			Mount Pipes	Colu...	Pipe	a500 gr.c	Typical
5	MP3	N9	N11			Mount Pipes	Colu...	Pipe	a500 gr.c	Typical
6	M6	N19	N7			RIGID	None	None	RIGID	Typical
7	M7	N20	N8			RIGID	None	None	RIGID	Typical
8	MP2	N22	N23			Mount Pipes	Colu...	Pipe	a500 gr.c	Typical
9	M9	N24	N18			RIGID	None	None	RIGID	Typical
10	M10	N18	N19A			RIGID	None	None	RIGID	Typical
11	M11	N19A	N2			RIGID	None	None	RIGID	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		5	13	0
3	Total General		5	13	0
4					
5	Hot Rolled Steel				
6	A500 Gr.B Rect	HSS4X4X4	1	36	37
7	a500 gr.c	PIPE_2.5	3	288	131.483
8	a500 gr.c	PIPE_3.0	1	84	49.306
9	a500 gr.c	PIPE_4.0	1	18	15.108
10	Total HR Steel		6	426	232.898

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			

Basic Load Cases (Continued)

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Memb...	Surface(Plate/Wall)
12	Wind Load AZI 3...	None					10			
13	Wind Load AZI 3...	None					10			
14	Distr. Wind Load Z	WLZ						11		
15	Distr. Wind Load X	WLX						11		
16	Ice Weight	OL1					5	11		
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						11		
30	Distr. Ice Wind L...	OL3						11		
31	Seismic Load Z	ELZ			-.322		5			
32	Seismic Load X	ELX	-.322				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...
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														

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...
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														
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																

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...
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																
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	.242	14	.242	15		33	1.5												
64	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	3	.242	14	.209	15	.121	33	1.5												
65	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	4	.242	14	.121	15	.209	33	1.5												
66	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	5	.242	14		15	.242	33	1.5												
67	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	6	.242	14	-.1...	15	.209	33	1.5												
68	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	7	.242	14	-.2...	15	.121	33	1.5												
69	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	8	.242	14	-.2...	15		33	1.5												
70	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	9	.242	14	-.2...	15	-.1...	33	1.5												
71	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	10	.242	14	-.1...	15	-.2...	33	1.5												
72	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	11	.242	14		15	-.2...	33	1.5												
73	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	12	.242	14	.121	15	-.2...	33	1.5												
74	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	13	.242	14	.209	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	.06	14	.06	15													
77	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	3	.06	14	.052	15	.03												
78	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	4	.06	14	.03	15	.052												
79	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	5	.06	14		15	.06												
80	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	6	.06	14	-.03	15	.052												
81	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	7	.06	14	-.0...	15	.03												
82	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	8	.06	14	-.06	15													
83	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	9	.06	14	-.0...	15	-.03												
84	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	10	.06	14	-.03	15	-.0...												
85	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	11	.06	14		15	-.06												
86	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	12	.06	14	.03	15	-.0...												
87	1.2DL + 1.5LM-MP1 + 1SWL (...	Y...	Y		1	1.2	34	1.5	13	.06	14	.052	15	-.03												
88	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	2	.06	14	.06	15													
89	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	3	.06	14	.052	15	.03												
90	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	4	.06	14	.03	15	.052												
91	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	5	.06	14		15	.06												
92	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	6	.06	14	-.03	15	.052												
93	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	7	.06	14	-.0...	15	.03												
94	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	8	.06	14	-.06	15													
95	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	9	.06	14	-.0...	15	-.03												
96	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	10	.06	14	-.03	15	-.0...												
97	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	11	.06	14		15	-.06												

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...
98	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	12	.06	14	.03	15	-.0...										
99	1.2DL + 1.5LM-MP2 + 1SWL (...	Y...	Y		1	1.2	35	1.5	13	.06	14	.052	15	-.03										
100	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	2	.06	14	.06	15											
101	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	3	.06	14	.052	15	.03										
102	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	4	.06	14	.03	15	.052										
103	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	5	.06	14		15	.06										
104	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	6	.06	14	-.03	15	.052										
105	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	7	.06	14	-.0...	15	.03										
106	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	8	.06	14	-.06	15											
107	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	9	.06	14	-.0...	15	-.03										
108	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	10	.06	14	-.03	15	-.0...										
109	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	11	.06	14		15	-.06										
110	1.2DL + 1.5LM-MP3 + 1SWL (...	Y...	Y		1	1.2	36	1.5	12	.06	14	.03	15	-.0...										

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	N1	...	809.126	17	1299.77	82	1124.5...	14	-389.72	14	3158.259	19	3021.223	84
2		...	-809.126	11	392.674	52	-1124.5...	8	-4548.4...	82	-3164.199	13	-1550.672	90
3	Totals:	...	809.126	17	1299.77	82	1124.5...	14						
4		...	-809.126	11	392.674	52	-1124.5...	8						

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	H1	PIPE_3.0	.428	42	86	.187	42		8	6070...	85698	7555.5	7555.5	1....	H1-1b
2	S1	HSS4X4X4	.357	0	81	.255	0	y	86	1343...	1395...	1618...	16180.5	1....	H3-6
3	MP1	PIPE_2.5	.333	48	8	.023	48		8	3348...	66654	4726.5	4726.5	1....	H1-1b
4	MP2	PIPE_2.5	.022	48	9	.003	48		9	3348...	66654	4726.5	4726.5	1....	H1-1b
5	MP3	PIPE_2.5	.022	48	9	.003	48		9	3348...	66654	4726.5	4726.5	1....	H1-1b
6	V1	PIPE_4.0	.000	9	9	.000	9		9	1213...	1225...	1397...	13972.5	1....	H1-1b

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	BOHVN00136A
Site Number:	BOHVN00136A
Connection Description:	T-Arm to Pole

MAXIMUM BOLT LOADS		
Bolt Tension:	5910.70	lbs
Bolt Shear:	2384.61	lbs

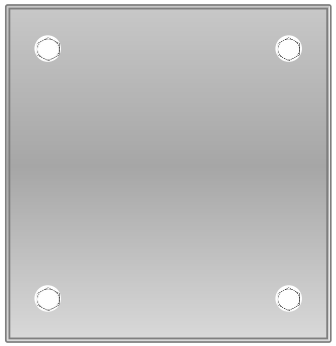
WORST CASE BOLT LOADS[1]		
Bolt Tension:	5910.70	lbs
Bolt Shear:	294.74	lbs

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

[1] *Worst case bolt loads correspond to Load combination #7 on member S1 in RISA-3D, which causes the maximum demand on the bolts.*

Member Information
I nodes of S1

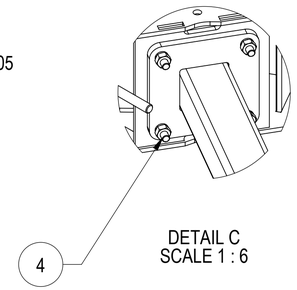
BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Max Tensile Usage	29.1%	
Max Shear Usage	17.3%	
Interaction Check (Worst Case)	0.08	***≤1.05***
Result	Pass	



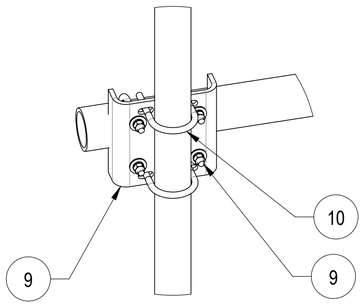
REVISIONS				
REV.	IPS	DESCRIPTION	BY	DATE
A	10539PC	NEW RELEASED.	XZ1054	3/11/2021

NOTES:

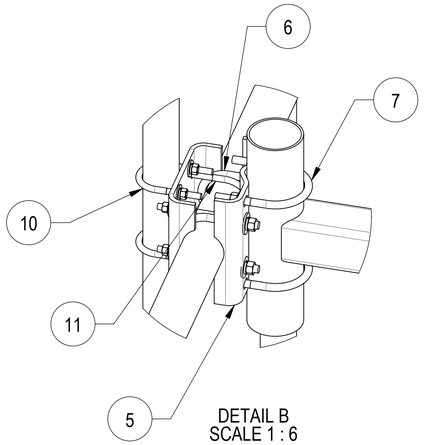
1.0 GENERAL NOTES
1.1 ALL METRIC DIMENSIONS ARE IN BRACKETS.
2.0 DESIGN NOTES
2.1 FOR PATENT INFORMATION: HTTPS://WWW.CS-PAT.COM
3.0 MANUFACTURING/SPECIAL REQUIREMENTS
4.0 TEST
5.0 PACKAGING
5.1 PACKAGING SHALL MEET COMMSCOPE REQUIREMENTS PER DOCUMENT IS-PL-3005



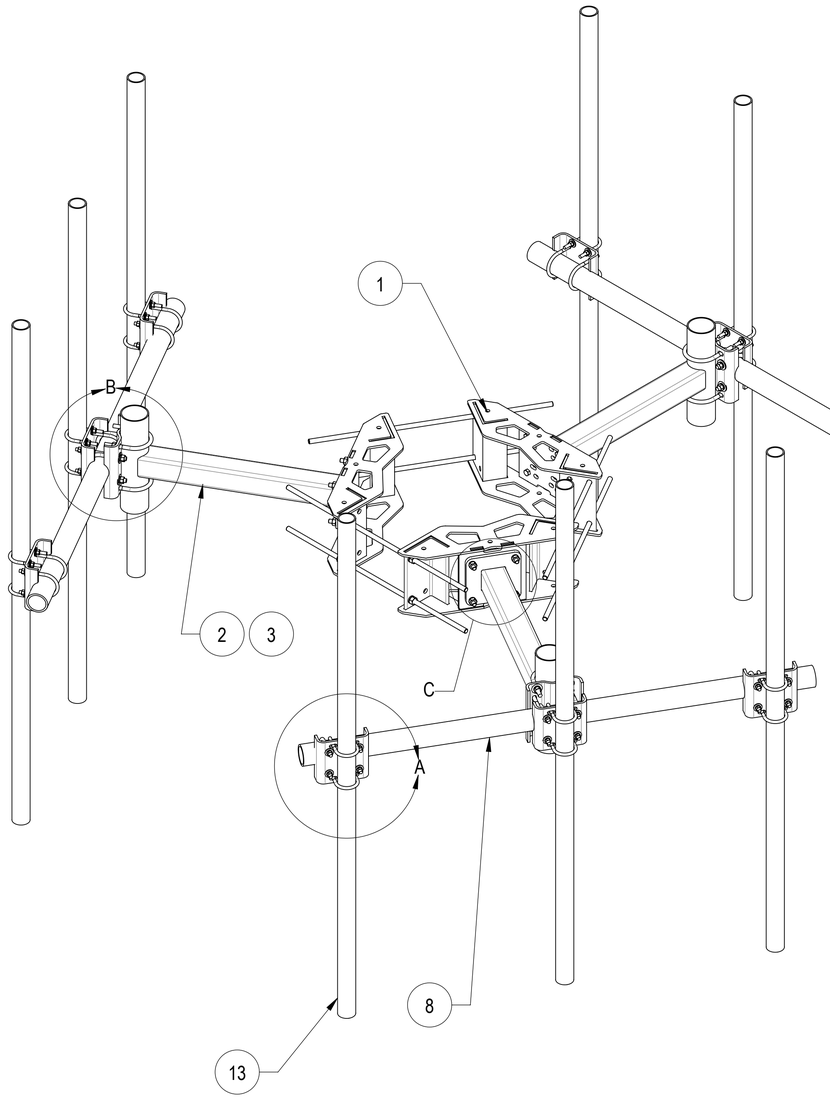
DETAIL C
SCALE 1 : 6



DETAIL A
SCALE 1 : 6



DETAIL B
SCALE 1 : 6



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MC-RM1550-3	12" - 50" OD RINGMOUNT	1
2	MT197.01	36" SINGLE SUPPORT ARM	3
3	MT197H	HARDWARE KIT (NEXT ITEM)	3
4	GB-0524A	5/8" X 2-1/2" GALV BOLT KIT (A325)	12
5	MT216.13	CENTER BRACKET	3
6	GUB-53560	5/8" X 3-5/8" X 6" GALV U-BOLT	6
7	GUB-5456	5/8" X 4-5/8" X 6½" GALV U-BOLT	6
8	MTC333912	84" X 3-1/2" OD PIPE	3
9	MT219H3501	3.5"OD Clamp Bracket	9
10	GUB-4352	1/2" X 3" X 5-1/4" GALV U-BOLT	18
11	GUB-4356	1/2" X 3-5/8" X 6" GALV U-BOLT	18
13	MT54696	∅2.875" O.D. X 96 PIPE	9

DENSITY	0.28	lbs/in³
MASS	1203.02	lbs
VOLUME	4265.23	in³
SURFACE AREA	35860.22	in²
HEIGHT	96"	
LENGTH	131.5"	
WIDTH	151.9"	

COMMSCOPE, INC. OF NORTH CAROLINA

TOLERANCES
1 PLACE .X ± .12 3 PLACE .XXX ± .03
2 PLACE .XX ± .06 ANGLES ± 2° FRACTIONS ± 1/32

SAP MATERIAL MASTER: MC-K6MHDX-9-96

FINISH: N/A

MATERIAL: A36, A53

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES INTERPRET PER ANSI Y 14.5M-1994

	NAME	DATE
CE	XZ1054	03/08/2021
RW	ROGHANSON	03/16/2021
AD	BCAMPBELLCON	03/19/2021
RE		

ECN 10539PC

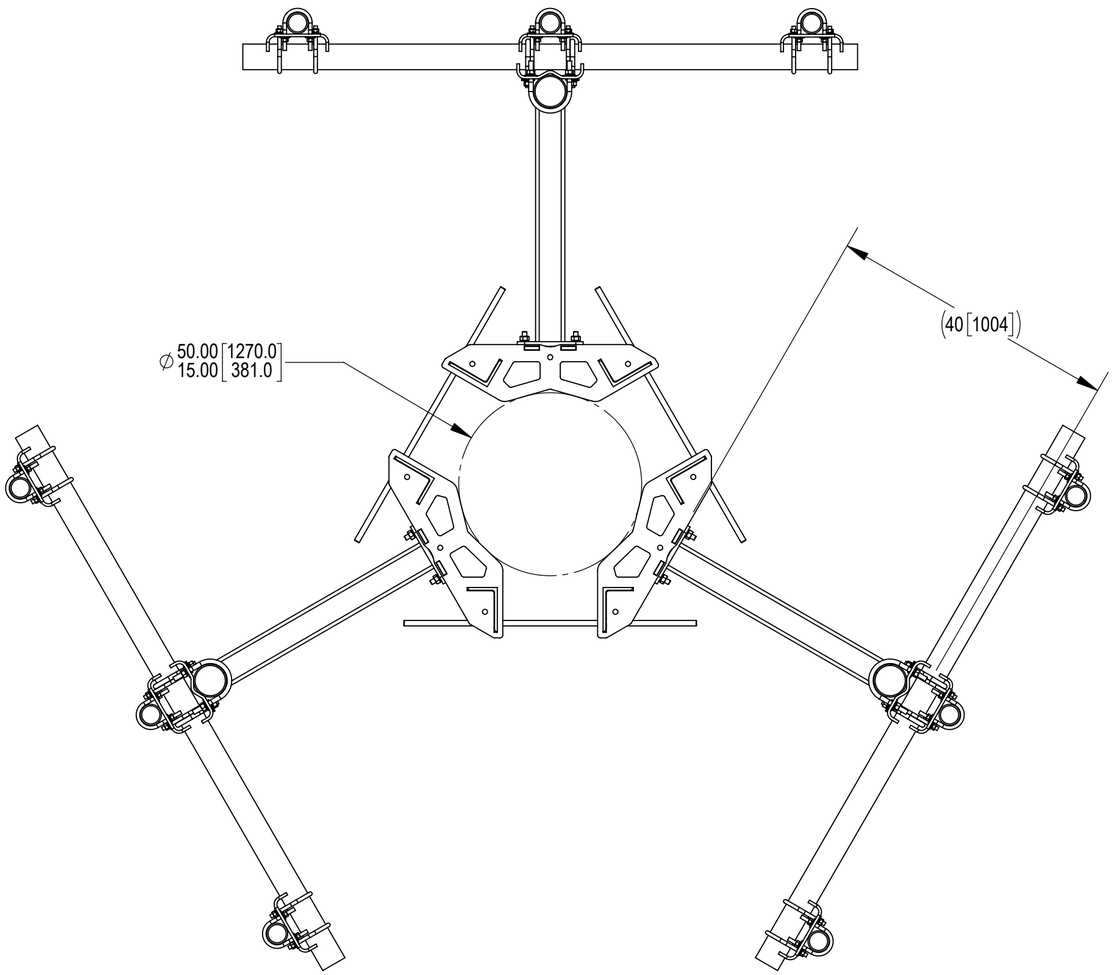
TITLE: T-ARM, MCK6, 3, 4" x 84" , 9, 2-7/8"x96

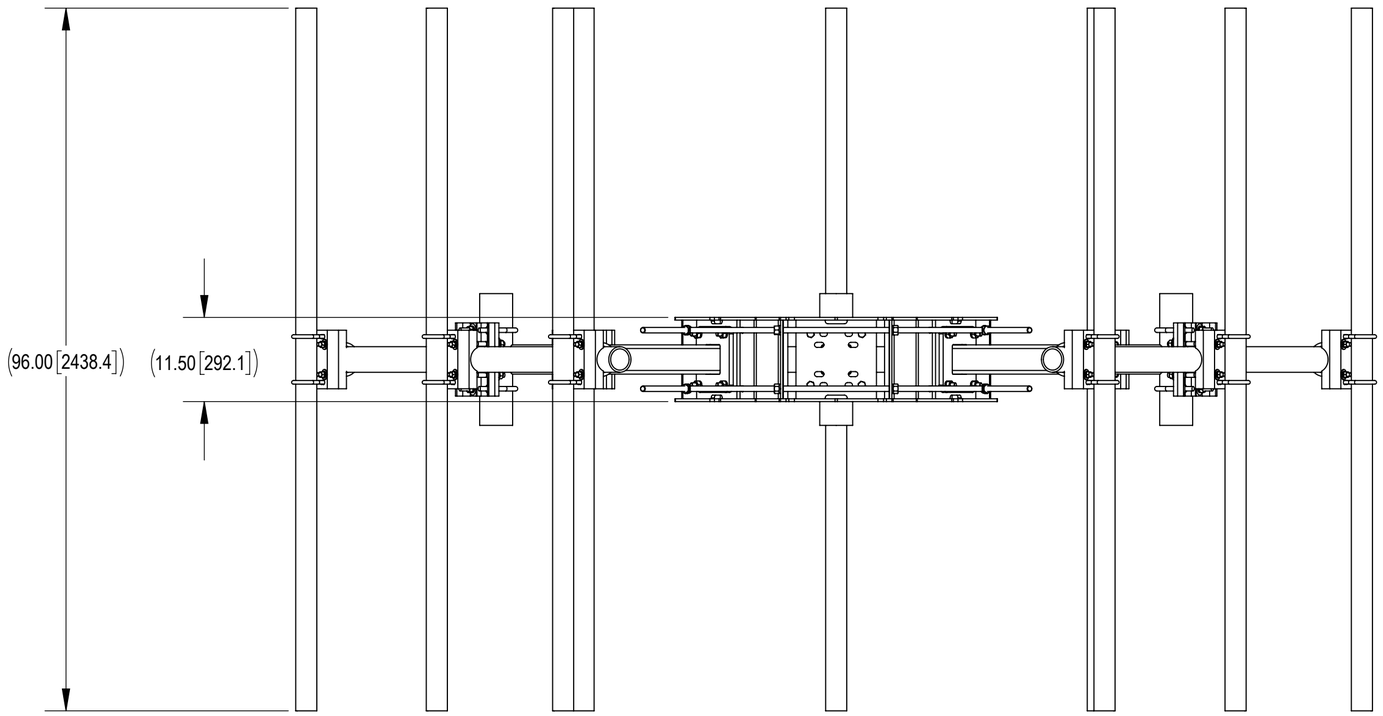
SCALE: 1:32

DOCUMENT NO.: MC-K6MHDX-9-96

SIZE	Auth Group	INSL	MODEL			DRAWING			SHEET
			VERSION	STATUS	REVISION	VERSION	STATUS	REVISION	
D			00	AD	A	00	AD	A	1 OF 2

NOTES:





COMMSCOPE, INC. OF NORTH CAROLINA			
TITLE: T-ARM, MCK6, 3, 4” x 84” , 9, 2-7/8"x96			
SIZE: C	SCALE: 1:32	DOCUMENT NO.: MC-K6MHDX-9-96	
		DRAWING	SHEET
		VERSION: 00 / STATUS: AD / REVISION: A	2 OF 2

POWER DENSITY STUDY

EBI Consulting

environmental | engineering | due diligence

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

Dish Wireless Existing Facility

Site ID: BOHVN00136A

BOHVN00136A
123 Pine Orchard Road
Branford, Connecticut 06405

October 4, 2021

EBI Project Number: 6221004022

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**19.43%**

October 4, 2021

Dish Wireless

Emissions Analysis for Site: BOHVN00136A - BOHVN00136A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **123 Pine Orchard Road** in **Branford, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless antenna facility located at 123 Pine Orchard Road in Branford, 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 80 feet above ground level (AGL).

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

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

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21
Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz
Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd
Height (AGL):	80 feet	Height (AGL):	80 feet	Height (AGL):	80 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts
ERP (W):	5,236.31	ERP (W):	5,236.31	ERP (W):	5,236.31
Antenna A1 MPE %:	**4.32%**	Antenna B1 MPE %:	**4.32%**	Antenna C1 MPE %:	**4.32%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:		Make / Model:		Make / Model:	
Frequency Bands:		Frequency Bands:		Frequency Bands:	
Gain:		Gain:		Gain:	
Height (AGL):	feet	Height (AGL):	feet	Height (AGL):	feet
Channel Count:	0	Channel Count:	0	Channel Count:	0
Total TX Power (W):	0 Watts	Total TX Power (W):	0 Watts	Total TX Power (W):	0 Watts
ERP (W):	0.00	ERP (W):	0.00	ERP (W):	0.00
Antenna A2 MPE %:	**0.00%**	Antenna B2 MPE %:	**0.00%**	Antenna C2 MPE %:	**0.00%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:		Make / Model:		Make / Model:	
Frequency Bands:		Frequency Bands:		Frequency Bands:	
Gain:		Gain:		Gain:	
Height (AGL):	feet	Height (AGL):	feet	Height (AGL):	feet
Channel Count:	0	Channel Count:	0	Channel Count:	0
Total TX Power (W):	0 Watts	Total TX Power (W):	0 Watts	Total TX Power (W):	0 Watts
ERP (W):	0.00	ERP (W):	0.00	ERP (W):	0.00
Antenna A3 MPE %:	**0.00%**	Antenna B3 MPE %:	**0.00%**	Antenna C3 MPE %:	**0.00%**
Antenna #:	**4**	Antenna #:	**4**	Antenna #:	**4**
Make / Model:		Make / Model:		Make / Model:	
Frequency Bands:		Frequency Bands:		Frequency Bands:	
Gain:		Gain:		Gain:	
Height (AGL):	feet	Height (AGL):	feet	Height (AGL):	feet
Channel Count:	0	Channel Count:	0	Channel Count:	0
Total TX Power (W):	0 Watts	Total TX Power (W):	0 Watts	Total TX Power (W):	0 Watts
ERP (W):	0.00	ERP (W):	0.00	ERP (W):	0.00
Antenna A4 MPE %:	**0.00%**	Antenna B4 MPE %:	**0.00%**	Antenna C4 MPE %:	**0.00%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	4.32%
T-Mobile	4.83%
AT&T	3.59%
Verizon	6.69%
Site Total MPE % :	19.43%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	4.32%
Dish Wireless Sector B Total:	4.32%
Dish Wireless Sector C Total:	4.32%
Site Total MPE % :	19.43%

Dish Wireless Maximum MPE Power Values (Sector A)

Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
Dish Wireless 600 MHz n71	4	223.68	80.0	5.87	600 MHz n71	400	1.47%
Dish Wireless 1900 MHz n70	4	542.70	80.0	14.25	1900 MHz n70	1000	1.43%
Dish Wireless 2190 MHz n66	4	542.70	80.0	14.25	2190 MHz n66	1000	1.43%
						Total:	**4.32%**

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

Summary

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

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

Dish Wireless Sector	Power Density Value (%)
Sector A:	4.32%
Sector B:	4.32%
Sector C:	4.32%
Dish Wireless Maximum MPE % (Sector A):	4.32%
Site Total:	19.43%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **19.43%** 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

Town of Branford, CT

Property Listing Report

Map Block Lot	F08/000/006/	Bldg #	1	Sec #	1	PID	1046	Account	003607

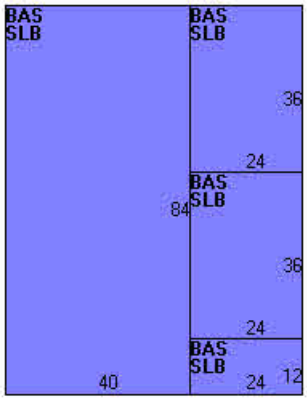
Property Information

Property Location	123 PINE ORCHARD RD
Owner	MALAVASI INVESTMENTS LLC
Co-Owner	na
Mailing Address	35 STONY CREEK RD BRANFORD CT 06405
Land Use	3160 COMM WHS MDL96
Land Class	C
Zoning Code	R3
Census Tract	

Neighborhood	0070
Acreage	3.76
Utilities	Public Water,Public Sewer
Lot Setting/Desc	Suburban Level
Book / Page	0802/0624

Photo

Sketch



Primary Construction Details

Year Built	1941
Building Desc.	COMM WHS MDL96
Building Style	Service Shop
Building Grade	C
Stories	1
Occupancy	1.00
Exterior Walls	Concr/Cinder
Exterior Walls 2	NA
Roof Style	Flat
Roof Cover	T&G/Rubber
Interior Walls	Minim/Masonry
Interior Walls 2	NA
Interior Floors 1	Concr-Finished
Interior Floors 2	NA

Heating Fuel	Oil
Heating Type	Hot Air-no Duc
AC Type	None
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	Ind/Comm
Building Condition	G
Sprinkler %	NA
Heat / AC	NONE
Frame Type	MASONRY
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEILING ONLY
Rooms / Prtns	AVERAGE
Wall Height	15.00
First Floor Use	NA
Foundation	NA

Report Created On 4/27/2022

Town of Branford, CT

Property Listing Report

Map Block Lot	F08/000/006/	Bldg #	1	Sec #	1	PID	1046	Account	003607

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	163700	114600
Extras	65800	46090
Improvements		
Outbuildings	19600	13710
Land	347800	243500
Total	596900	417900

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	5376	5376
Slab	5376	0
Total Area	10752	5376

Outbuilding and Extra Features

Type	Description
FENCE-8' CHAIN	272 L.F.
SHED COM MAS	240 S.F.
SHED COM MAS	288 S.F.
PAVING-CONC	959 S.F.
GEN 100+ KW PRMT BKP	1 UNITS
PAVING-ASPHALT	1000 S.F.
MEZZANINE-UNF	379 S.F.
GEN 15-30KW PRMT BKP	1 UNITS

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
MALAVASI INVESTMENTS LLC	0802/0624	2003-02-13	537500
PRIFITERA BARBARA A	0802/0622	2003-02-13	0
GIORDANO ANTHONY EST OF	0802/0621	2003-02-13	0
GIORDANO ANTHONY	0695/0932	2000-03-23	0
GIORDANO ANTHONY + HELEN EST	0425/0520		0

Report Created On 4/27/2022

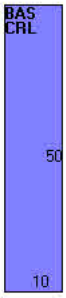
Town of Branford, CT

Property Listing Report

Map Block Lot	F08/000/006/00049	Bldg #	2	Sec #	1	PID	1046	Account	003607

Photo

Sketch



Primary Construction Details

Year Built	1974
Building Desc.	Residential
Building Style	Mobile Home
Building Grade	C -
Stories	1
Occupancy	1.00
Exterior Walls	Pre-finsh Metl
Exterior Walls 2	NA
Roof Style	Gable/Hip
Roof Cover	Metal/Tin
Interior Walls	Plywood Panel
Interior Walls 2	NA
Interior Floors 1	Carpet
Interior Floors 2	NA

Heating Fuel	Electric
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
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	COMM WHS MDL01
Building Condition	A
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	500	500
Crawl Space	500	0

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	1000	500

Report Created On 4/27/2022

NOTIFICATIONS

June 20, 2022

Dear Customer,

The following is the proof-of-delivery for tracking number: 776706806777

Delivery Information:

Status:	Delivered	**Delivered To:**	Shipping/Receiving
Signed for by:	S.IGNATURE NOT REQ	**Delivery Location:**	35 STONY CREEK RD
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday		BRANFORD, CT, 06405
		Delivery date:	Apr 29, 2022 12:19

Shipping Information:

Tracking number:	776706806777	**Ship Date:**	Apr 27, 2022
		Weight:	1.0 LB/0.45 KG

Recipient:
Malavasi Investments LLC,
35 Stony Creek Road
BRANFORD, CT, US, 06405

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

Reference 100814

Thank you for choosing FedEx

June 20, 2022

Dear Customer,

The following is the proof-of-delivery for tracking number: 776705719220

Delivery Information:

Status:	Delivered	**Delivered To:**	Shipping/Receiving
Signed for by:	T.MILLICCI	**Delivery Location:**	1019 Main Street
Service type:	FedEx 2Day		P.O. Box 150
Special Handling:	Deliver Weekday		BRANFORD, CT, 06405
		Delivery date:	Apr 29, 2022 13:23

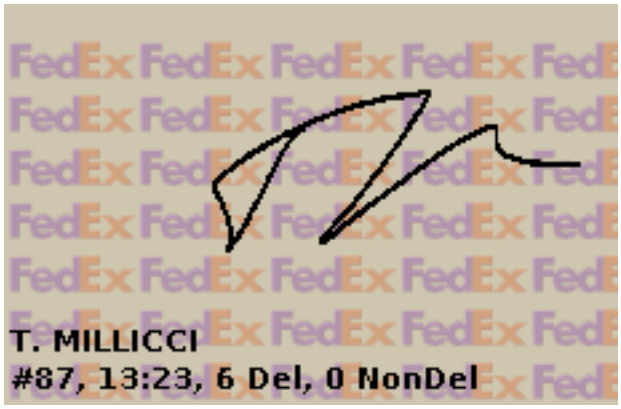
Shipping Information:

Tracking number:	776705719220	**Ship Date:**	Apr 27, 2022
		Weight:	1.0 LB/0.45 KG

Recipient:
James Cosgrove - First Selectman,
1019 Main Street
P.O. Box 150
BRANFORD, CT, US, 06405

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

Reference 100814



Thank you for choosing FedEx

June 20, 2022

Dear Customer,

The following is the proof-of-delivery for tracking number: 776705670096

Delivery Information:

Status:	Delivered	**Delivered To:**	Shipping/Receiving
Signed for by:	T.MILLICCI	**Delivery Location:**	1019 Main Street
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday		BRANFORD, CT, 06405
		Delivery date:	Apr 29, 2022 13:23

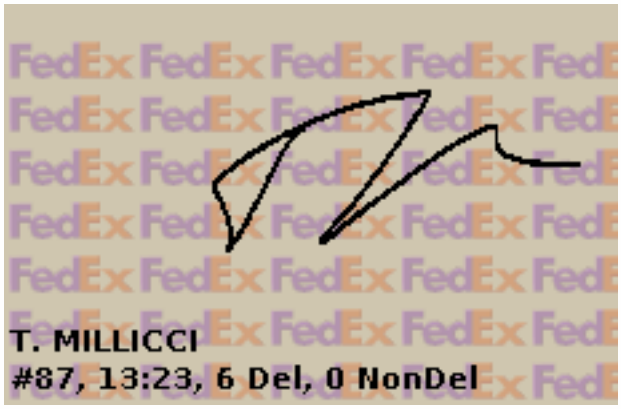
Shipping Information:

Tracking number:	776705670096	**Ship Date:**	Apr 27, 2022
		Weight:	1.0 LB/0.45 KG

Recipient:
Anthony Cinicola - Bldg Official,
1019 Main Street
BRANFORD, CT, US, 06405

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

Reference 100814



Thank you for choosing FedEx