



Northeast Site Solutions
Denise Sabo
4 Angela's Way, Burlington CT 06013
203-435-3640
denise@northeastsitesolutions.com

May 24, 2022

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Tower Share Application
280 Ross Road, Killingly, CT 06239
Latitude: 41.771527
Longitude: -71.855722
Site #: 857013_Crown_Dish

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Dish Wireless LLC. Dish Wireless LLC plans to install antennas and related equipment to the tower site located at 280 Ross Road, Killingly, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900 MHz 5G antennas and six (6) RRUs, at the 75-foot level of the existing 119-foot monopole tower, one (1) Fiber cable will also be installed. Dish Wireless LLC equipment cabinets will be placed within a 7' x 5' lease area within the fenced compound. Included are plans by Jacobs, dated February 1, 2022, Exhibit C. Also included is a structural analysis prepared by Morrison Hershfield, dated September 8, 2021, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit D. The facility was approved by the Connecticut Siting Council, Docket No.283 on June 23, 2004. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish Wireless LLC intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Jason Anderson, Town Council Chair and Ann-Marie Aubrey, Director of Planning & Development for the Town of Killingly as well as the tower owner (Crown Castle) and property owner (Snake Meadow Club Inc.).

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the existing tower is 119-feet and the Dish Wireless LLC antennas will be located at a center line height of 75-feet.
2. The proposed modifications will not result in an increase of the site boundary as depicted on the attached site plan.



3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed local and state criteria. The incremental effect of the proposed changes will be negligent.

4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. The combined site operations will result in a total power density of 16.29% as evidenced by Exhibit F.

Connecticut General Statutes 16-50aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, Dish Wireless LLC respectfully submits that the shared use of this facility satisfies these criteria.

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting Dish Wireless LLC proposed loading. The structural analysis is included as Exhibit D.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this monopole tower in Killingly. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit Dish Wireless LLC to obtain a building permit for the proposed installation. Further, a Letter of Authorization is included as Exhibit G, authorizing Dish Wireless LLC to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of Dish Wireless LLC equipment at the 75-foot level of the existing 119-foot tower would have an insignificant visual impact on the area around the tower. Dish Wireless LLC ground equipment would be installed within the existing facility compound. Dish Wireless LLC shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

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

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting Dish Wireless LLC proposed loading. Dish Wireless LLC is not aware of any public safety concerns relative to the proposed sharing of the existing tower. Dish Wireless LLC intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Killingly.

Sincerely,

Denise Sabo

Denise Sabo
Mobile: 203-435-3640
Fax: 413-521-0558
Office: 4 Angela's Way, Burlington CT 06013
Email: denise@northeastsitesolutions.com



NSS

NORTHEAST
SITE SOLUTIONS

Turnkey Wireless Development

Attachments

Cc: Jason Anderson, Town Council Chair

Town of Killingly
172 Main Street
Killingly, CT 06239

Ann-Marie Aubrey, Director of Planning & Development

Town of Killingly
172 Main Street
Killingly, CT 06239

Snake Meadow Club Inc., Property Owner

PO Box 236
Central Village, CT 06332-0236

Crown Castle, Tower Owner

Exhibit A

Original Facility Approval

Connecticut Siting Council ^(/CSC)

[CT.gov Home](#) [\(/\)](#) [Connecticut Siting Council](#) [\(/CSC\)](#) DO 283 Decision Killingly

[Decisions \(/CSC/Decisions/Decisions\)](#) >

[Meetings and Minutes \(/CSC/Common-Elements/v4-template/Council-Activity\)](#) >

[Pending Matters \(/CSC/1_Applications-and-Other-Pending-Matters/Pending-Matters\)](#) >

[About Us \(/CSC/Common-Elements/Common-Elements/Connecticut-Siting-Council---Description\)](#) >

[Contact Us \(/CSC/Common-Elements/Common-Elements/Contact-Us\)](#) >

Search Connecticut Siting Council



DOCKET NO. 283 – New Cingular Wireless PCS,LLC Certificate of Environmental Compatibility and Public need for the construction, maintenance and operation of a wireless telecommunications facility at 280 Ross Road in Killingly, Connecticut.

} Connecticut

} Siting

} Council

June 23, 2004

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, operation, and maintenance 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 AT&T Wireless PCS, LLC d/b/a AT&T Wireless for the construction, maintenance and operation of a wireless telecommunications facility at Site C, located at 280 Ross Road, Killingly, Connecticut. The Council denies certification of Site A and Site B located at 25 Klocek Road, Killingly, 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 AT&T Wireless and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level. The height at the top of the antennas shall not exceed 123 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 Killingly, 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. comments from the Town of Killingly regarding the type of tower to be constructed;
 - b. a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping; and
 - c. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case

modeling of 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 electromagnetic radio frequency power density is 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 municipal antennas, provided such antennas are compatible with the structural integrity of the tower.
7. If the facility does not initially provide wireless services within one year of completion of construction or 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.
8. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.
9. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved. Any request for extension of this period shall be filed with the Council not later than sixty days prior to expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list. Any proposed modifications to this Decision and Order shall likewise be so served.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the [Norwich Bulletin](#).

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:

<u>Applicant</u>	<u>Its Representative</u>
AT&T Wireless PCS, LLC d/b/a AT&T Wireless	Christopher B. Fisher, Esq. Lucia Chiochio, Esq. Cuddy & Feder LLP

Exhibit B

Property Card

Situs : 280 ROSS RD

Map ID: 001365

Class : PA 490 FOREST

Card: 1 of 1

Printed: June 4, 2020

CURRENT OWNER

SNAKE MEADOW CLUB INC
 % PAUL CHASE
 PO BOX 236
 CENTRAL VILLAGE CT 06332-0236

GENERAL INFORMATION

Living Units
 Neighborhood 113
 Alternate Id 256-2
 Vol / Pg 625/206
 District 7
 Zoning RURAL DEVELOPMENT
 Class 600



Property Notes

MONOPOLE & TELECOM FACILITY

Land Information

Type	Size	Influence Factors	Influence %	Value
Primary	AC 0.5000			44,000
Excess	AC 7.3000			12,780

Total Acres: 7.8
 Spot: Location:

Assessment Information

	Assessed	Appraised	Cost	Income	
Land	32,030	56,800	56,800	0	56,800
Building	108,150	154,500	154,500	0	154,500
Total	140,180	211,300	211,300	0	211,300

Manual Override Reason
Base Date of Value 10/01/2019
Effective Date of Value 10/01/2020

Value Flag COST APPROACH
MONOPOLE BLDG 154500

Entrance Information

Date	ID	Entry Code	Source
07/27/07	AD	Complete	Other

Permit Information

Date Issued	Number	Price	Purpose	% Complete
11/30/18	26488	12,500	31 ELEC Install Dc Generator On Existing Cx	997
10/06/17	25597	6,500	81 CELE Cellular Facility Cabinet - 100 Amp	997
08/18/17	25494	31,000	97 BPP Install 2 High Capacity Sector Mou	995
09/27/16	24777	15,000	73 CREP Verizon Wireless To Repl All 12 Ai	995
07/14/15	23754	15,000	97 BPP Install 3 New Antennaes, 3 New E	995

Sales/Ownership History

Transfer Date	Price	Type	Validity	Deed Reference	Deed Type	Grantee
04/01/95	40,000	Land Only				

Situs : 280 ROSS RD

Parcel Id: 001365

Class: PA 490 FOREST

Card: 1 of 1

Printed: June 4, 2020

Dwelling Information

Style	Year Built
Story height	Eff Year Built
Attic	Year Remodeled
Exterior Walls	Amenities
Masonry Trim x	
Color	In-law Apt No

Basement

Basement	# Car Bsm t Gar
FBLA Size x	FBLA Type
Rec Rm Size x	Rec Rm Type

Heating & Cooling

Heat Type	Stacks
Fuel Type	Openings
System Type	Pre-Fab

Room Detail

Bedrooms	Full Baths
Family Rooms	Half Baths
Kitchens	Extra Fixtures
Total Rooms	
Kitchen Type	Bath Type
Kitchen Remod	Bath Remod

Adjustments

Int vs Ext	Unfinished Area
Cathedral Ceiling x	Unheated Area

Grade & Depreciation

Grade	Market Adj
Condition	Functional
CDU	Economic
Cost & Design 0	% Good Ovr
% Complete	

Dwelling Computations

Base Price	% Good
Plumbing	% Good Override
Basement	Functional
Heating	Economic
Attic	% Complete
Other Features 0	C&D Factor
	Adj Factor
Subtotal	Additions

Ground Floor Area	Dwelling Value
Total Living Area	

Building Notes

Outbuilding Data

Type	Size 1	Size 2	Area	Qty	Yr Blt	Grade	Condition	Value

Condominium / Mobile Home Information

Complex Name	
Condo Model	
Unit Number	
Unit Level	Unit Location
Unit Parking	Unit View
Model (MH)	Model Make (MH)

Addition Details

Line #	Low	1st	2nd	3rd	Value

Exhibit C

Construction Drawings



DISH WIRELESS L.L.C. SITE ID:
BOBOS00036A

DISH WIRELESS L.L.C. SITE ADDRESS:
**280 ROSS ROAD
KILLINGLY, CT 06239**

SCOPE OF WORK

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

- TOWER SCOPE OF WORK:**
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
 - INSTALL (1) PROPOSED ANTENNA PLATFORM MOUNT
 - INSTALL PROPOSED JUMPERS
 - INSTALL (6) PROPOSED RRRs (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 GPS UNIT
 - INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
 - DISH WIRELESS L.L.C. TO UTILIZE POSITION 'F' ON EXISTING METER BANK

SITE INFORMATION

PROPERTY OWNER: SNAKE MEADOW CLUB INC.
ADDRESS: PO BOX 236
CENTRAL VILLAGE, CT 06332

TOWER TYPE: MONOPOLE

TOWER CO SITE ID: 857013

TOWER APP NUMBER: 553316

COUNTY: WINDHAM

LATITUDE (NAD 83): 41° 46' 17.59" N
41.771553

LONGITUDE (NAD 83): 71° 51' 20.39" W
-71.855664

ZONING JURISDICTION: TOWN OF KILLINGLY

ZONING DISTRICT: RD

PARCEL NUMBER: 256-002-000-000

OCCUPANCY GROUP: U

CONSTRUCTION TYPE: II-B

POWER COMPANY: NORTHEAST UTILITIES

TELEPHONE COMPANY: TBD

PROJECT DIRECTORY

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

TOWER OWNER: CROWN CASTLE USA, INC.
2000 CORPORATE DRIVE
CANONSBURG, PA 15317
877.486.9377

SITE DESIGNER: JACOBS TELECOMMUNICATIONS, INC
5449 BELLS FERRY ROAD
ACWORTH, GA 30102
470.785.4050

SITE ACQUISITION: COURTNEY PRESTON
COURTNEY.PRESTON.CONTRACTOR@CROWNCastle.COM

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

RF ENGINEER: ARVIN SEBASTIAN
ARVIN.SEBASTIAN@DISH.COM

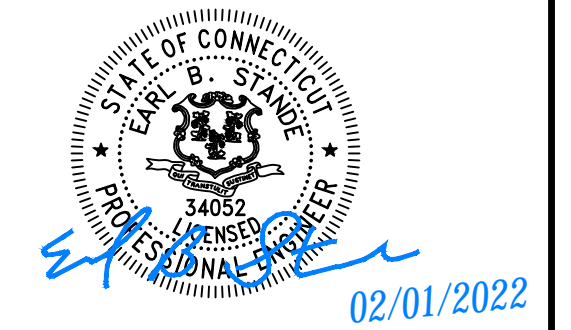


5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



Challenging today.
Reinventing tomorrow.

Jacobs Telecommunications, Inc.
5449 BELLS FERRY ROAD
ACWORTH, GA 30102



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

DRAWN BY: CHECKED BY: APPROVED BY:
MWD TJM KRK

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
1	12/16/2021	ISSUED FOR CONSTRUCTION
2	02/01/2022	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
EUC0309

DISH WIRELESS L.L.C.
PROJECT INFORMATION
BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

CONNECTICUT - CODE COMPLIANCE

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

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

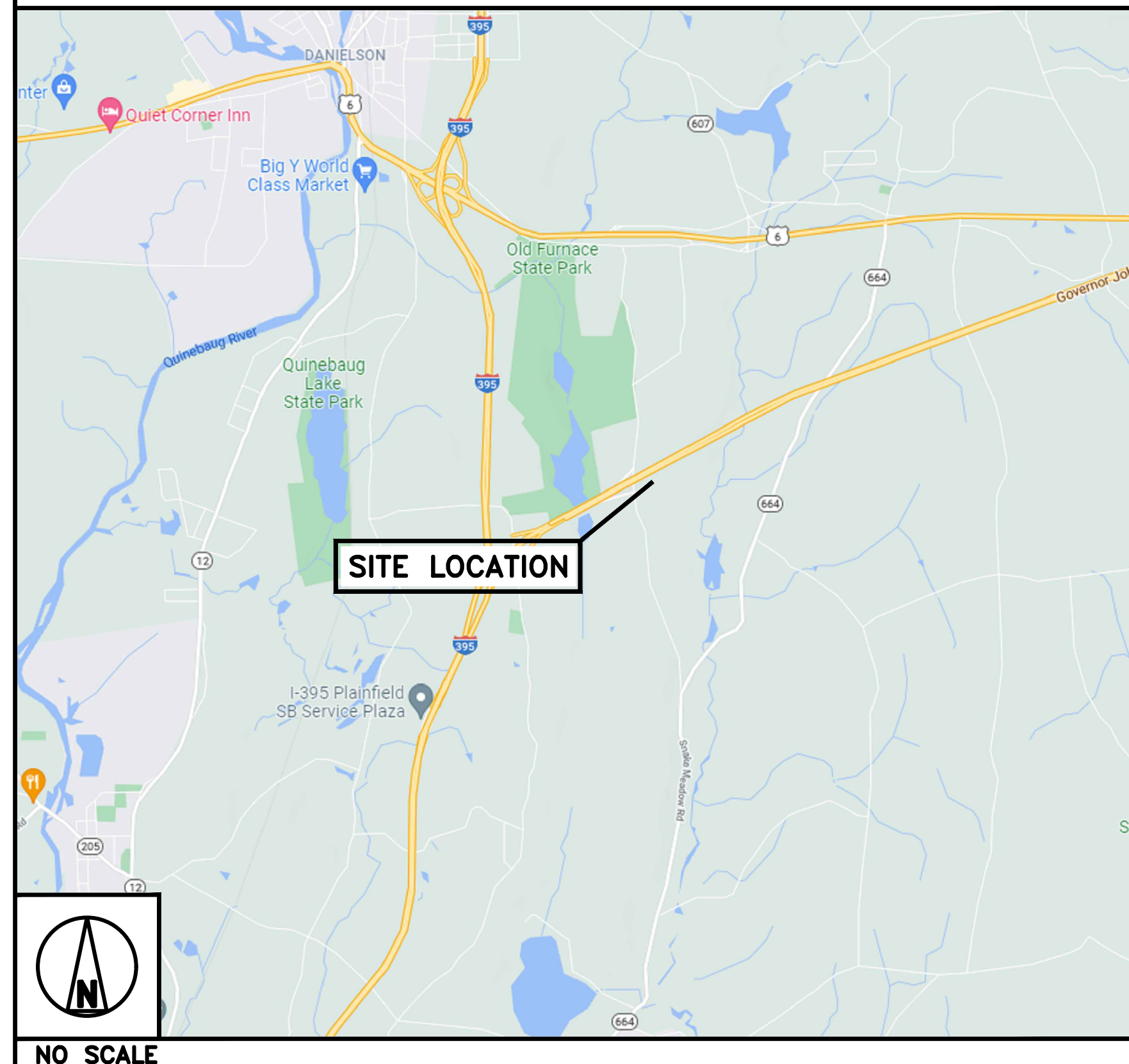
SITE PHOTO



DIRECTIONS

DIRECTIONS FROM DISH WIRELESS L.L.C. DISTRICT OFFICE: I-395 SOUTH TO EXIT 91W (RT6 WEST). AT END OF RAMP, GET IN LEFT LANE AND MAKE U-TURN AT FIRST LIGHT ONTO RT6 EAST. TAKE FIRST RIGHT ONTO GREEN HOLLOW RD. TAKE SECOND LEFT OFF GREEN HOLLOW ONTO SQUAW ROCK RD. FOLLOW SQUAW ROCK RD TO RAMP FOR RT695/6 EAST TOWARD PROVIDENCE (RAMP IS ON LEFT). TAKE FIRST EXIT OFF HIGHWAY (ONLY MARKED WITH EXIT SIGN). AT THE END OF THE RAMP, TAKE A RIGHT ONTO ROSS RD. THEN TAKE FIRST DIRT RD ON LEFT (MAYBE 50 YARDS FROM OFF RAMP).

VICINITY MAP



SHEET INDEX

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



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

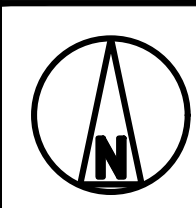


GENERAL NOTES

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

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

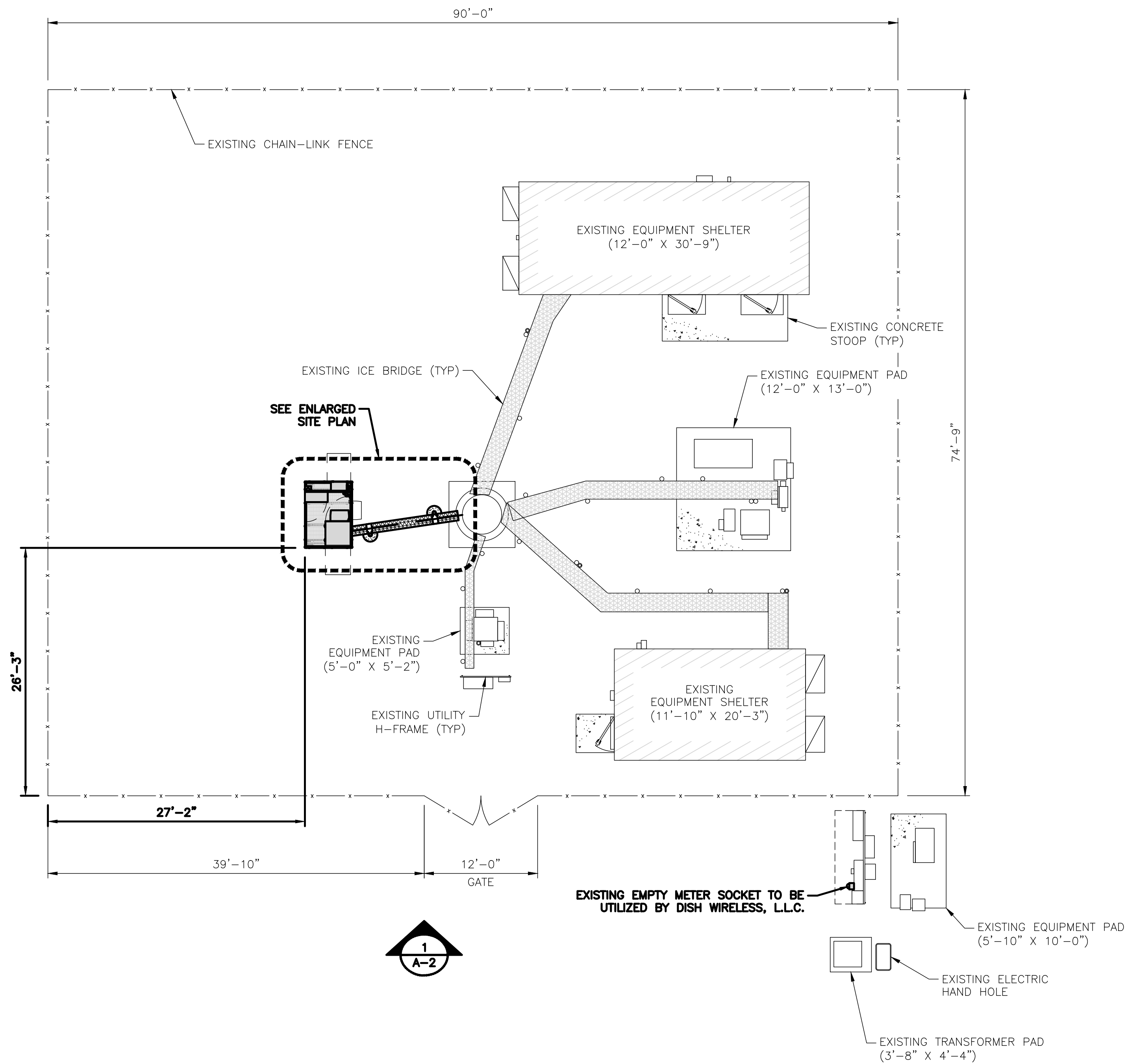
CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.



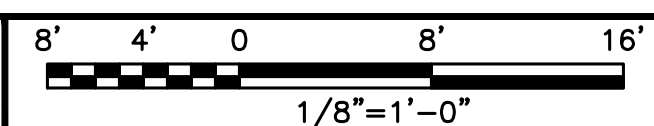
NO SCALE

NOTES

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



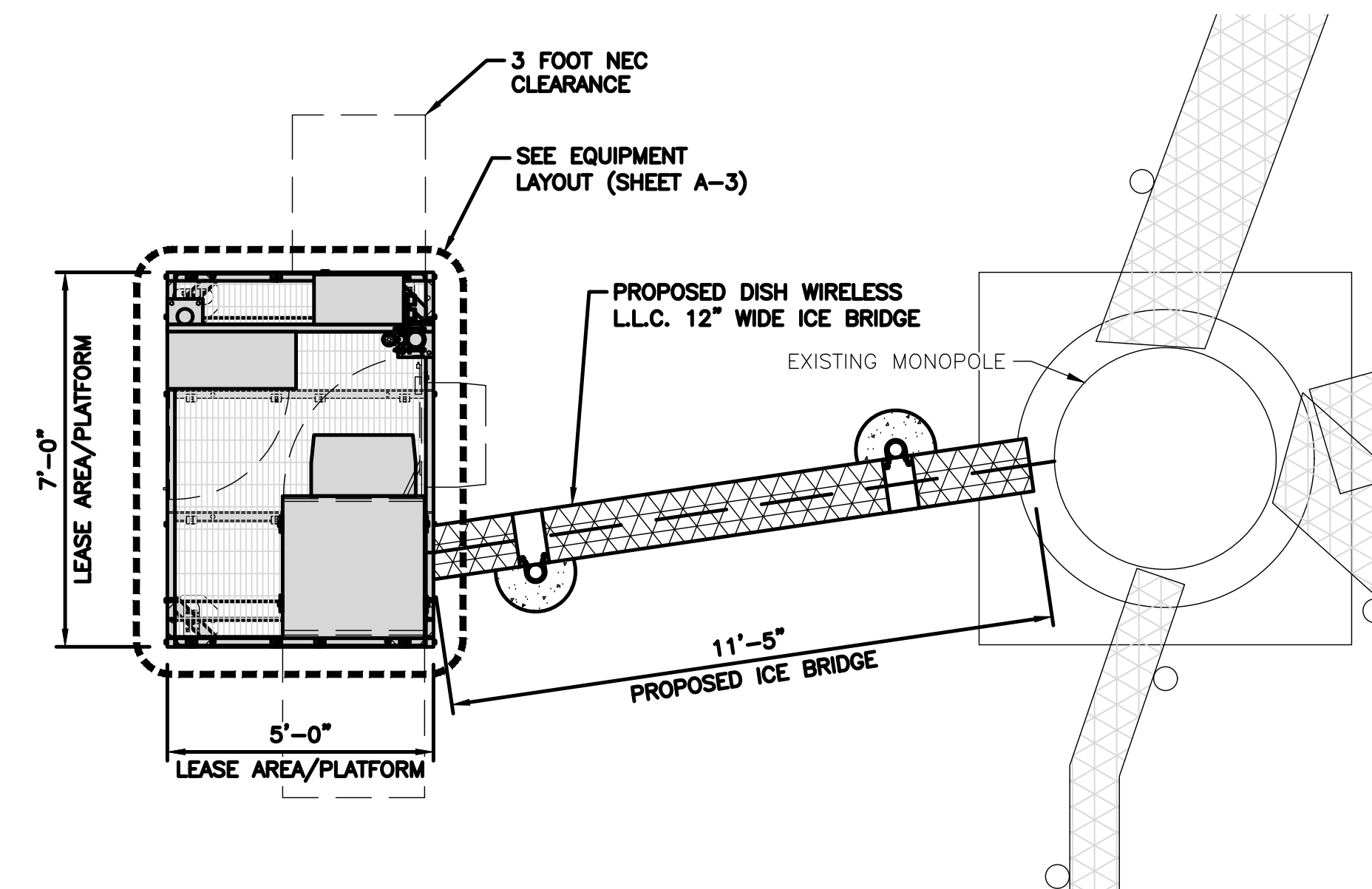
OVERALL SITE PLAN



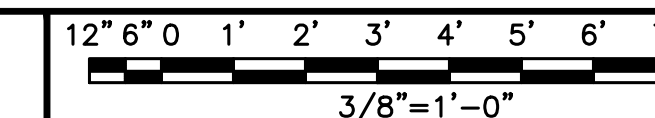
1

NOTES

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



ENLARGED SITE PLAN



2



ESA

NO SCALE

3

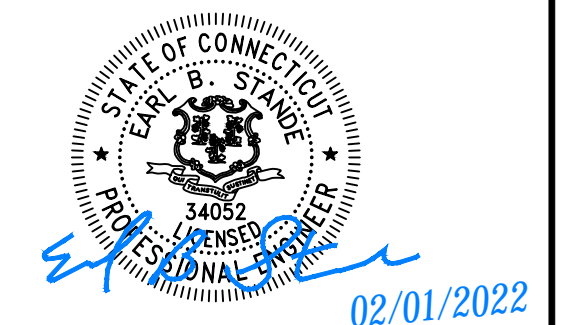


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A&E PROJECT NUMBER
EUCC0309

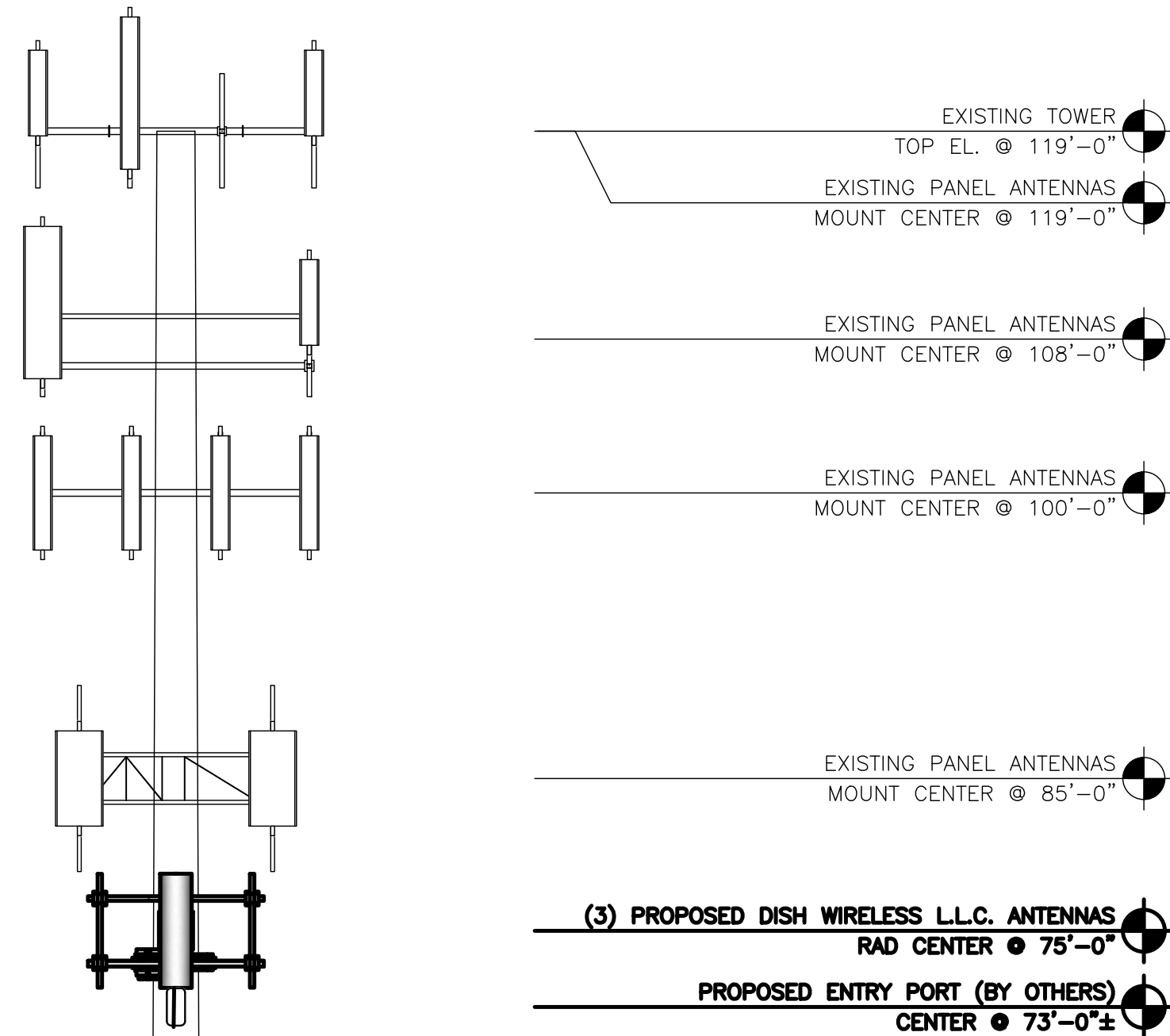
DISH WIRELESS L.L.C.
PROJECT INFORMATION
BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
OVERALL AND ENLARGED
SITE PLAN

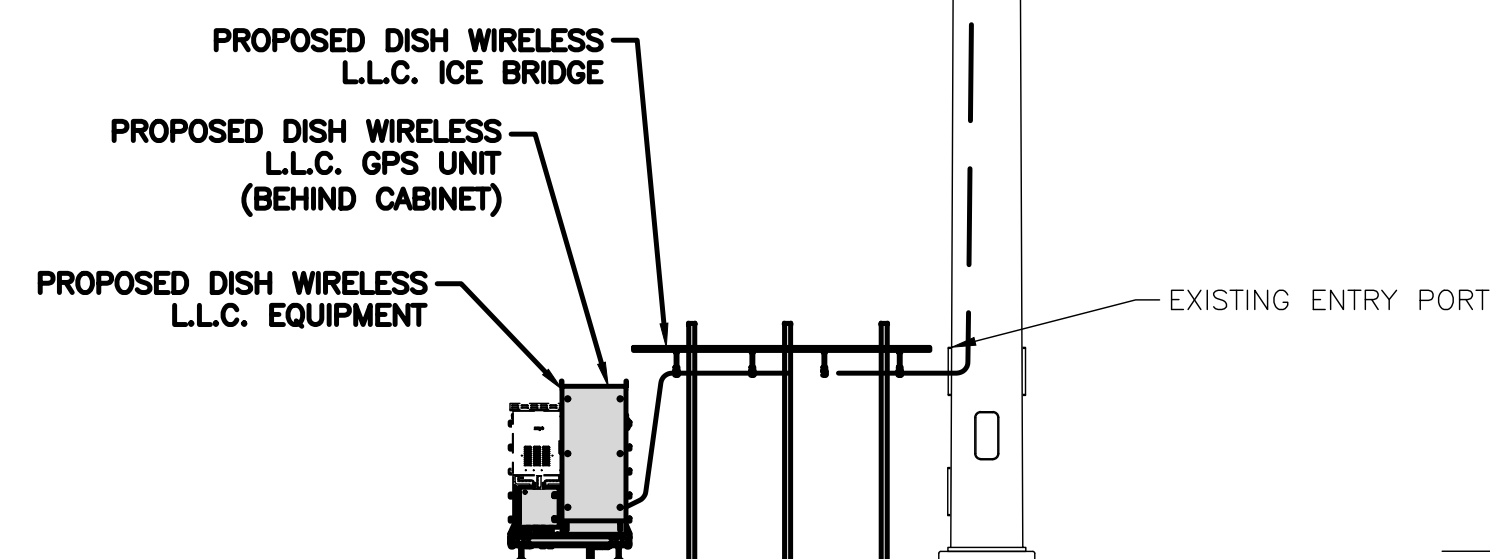
SHEET NUMBER
A-1

NOTES

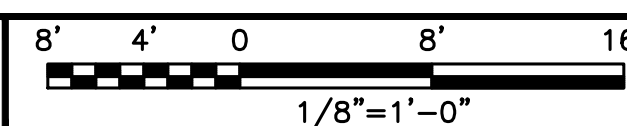
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. FOR ANTENNA SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.
4. JACOBS HAS NOT EVALUATED OR CONFIRMED THE STRUCTURAL CAPACITY OF THE TOWER OR ANTENNA/RADIO MOUNTS. REFER TO LATEST STRUCTURAL ANALYSIS FOR VERIFICATION OF TOWER AND MOUNTING COMPONENTS PRIOR TO CONSTRUCTION. ANY MODIFICATIONS SHALL BE PERFORMED PRIOR TO THE INSTALLATION OF THE EQUIPMENT SHOWN IN THE DRAWING.



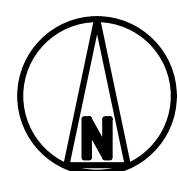
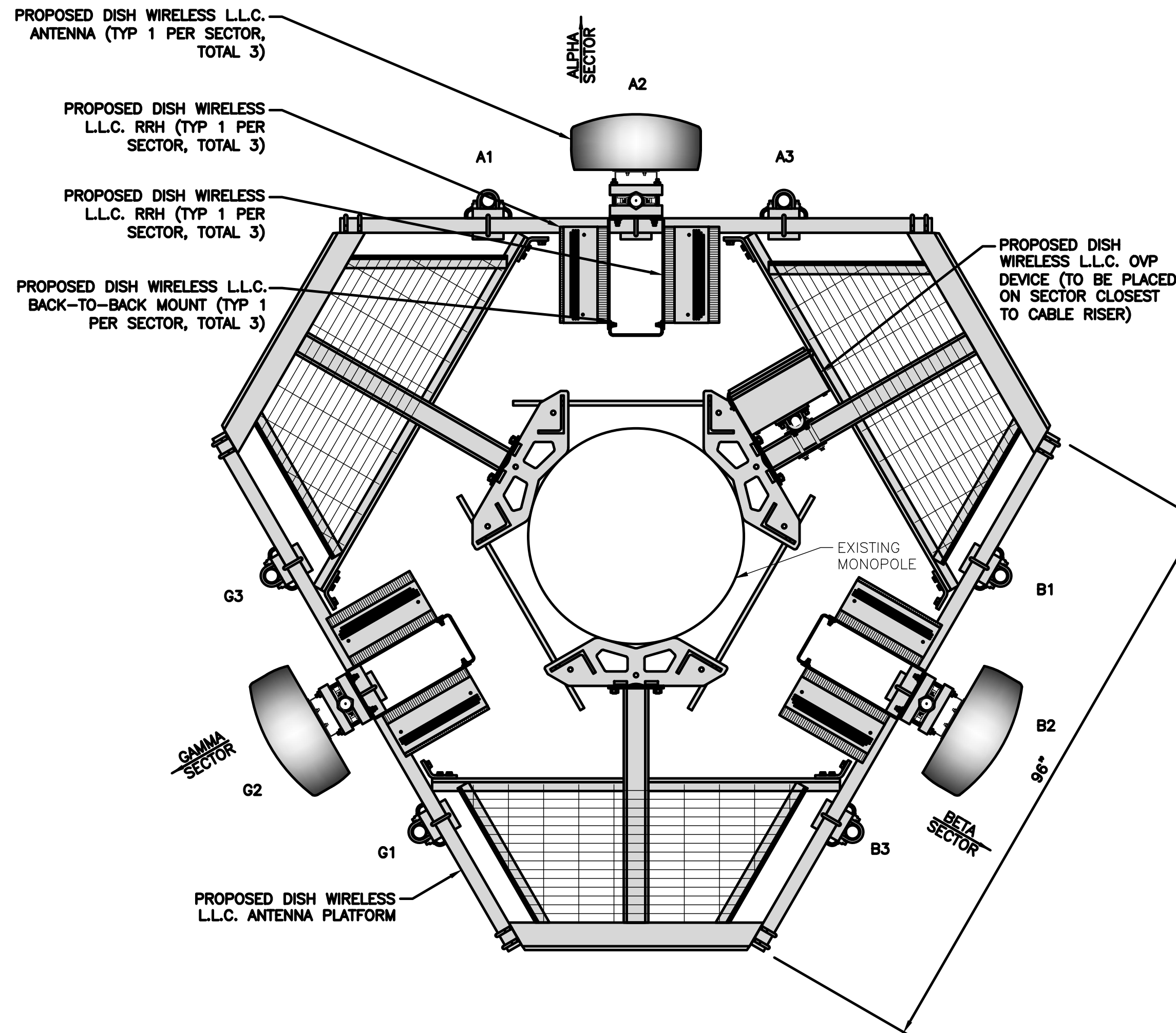
(1) PROPOSED DISH WIRELESS L.L.C. HYBRID CABLE ROUTED INSIDE POLE PER STRUCTURAL ANALYSIS (BY MORRISON HERSHFIELD DATED SEPTEMBER 8, 2021)



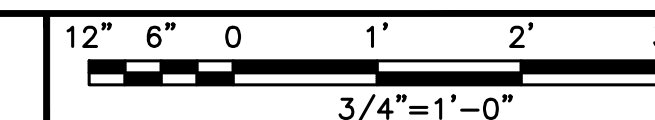
PROPOSED SOUTHWEST ELEVATION



1



ANTENNA LAYOUT



2

SECTOR POS.	ANTENNA					RRH		OVP	TRANSMISSION CABLE
	EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECH	AZIMUTH	RAD CENTER	MANUFACTURER - MODEL NUMBER	TECH	MANUFACTURER MODEL	FEED LINE TYPE AND LENGTH
A1	---	---	---	---	---	---	---	RAYCAP RDIDC-9181-PF-48	(1) HIGH-CAPACITY HYBRID CABLE (110' LONG)
A2	PROPOSED	JMA WIRELESS - MX08FR0665-21	5G	0°	75'-0"	FUJITSU - TA08025-B604 FUJITSU - TA08025-B605	5G		
A3	---	---	---	---	---	---	---		
B1	---	---	---	---	---	---	---	SHARED W/ALPHA	SHARED W/ALPHA
B2	PROPOSED	JMA WIRELESS - MX08FR0665-21	5G	120°	75'-0"	FUJITSU - TA08025-B604 FUJITSU - TA08025-B605	5G		
B3	---	---	---	---	---	---	---		
G1	---	---	---	---	---	---	---	SHARED W/ALPHA	SHARED W/ALPHA
G2	PROPOSED	JMA WIRELESS - MX08FR0665-21	5G	240°	75'-0"	FUJITSU - TA08025-B604 FUJITSU - TA08025-B605	5G		
G3	---	---	---	---	---	---	---		

- 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.

*SEE LATEST DISH RFDS FOR AZIMUTH INFORMATION AT TIME OF BUILD

ANTENNA SCHEDULE

NO SCALE

3

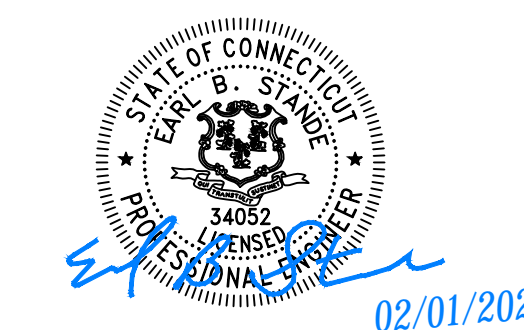


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RFDS REV #: 0

CONSTRUCTION DOCUMENTS

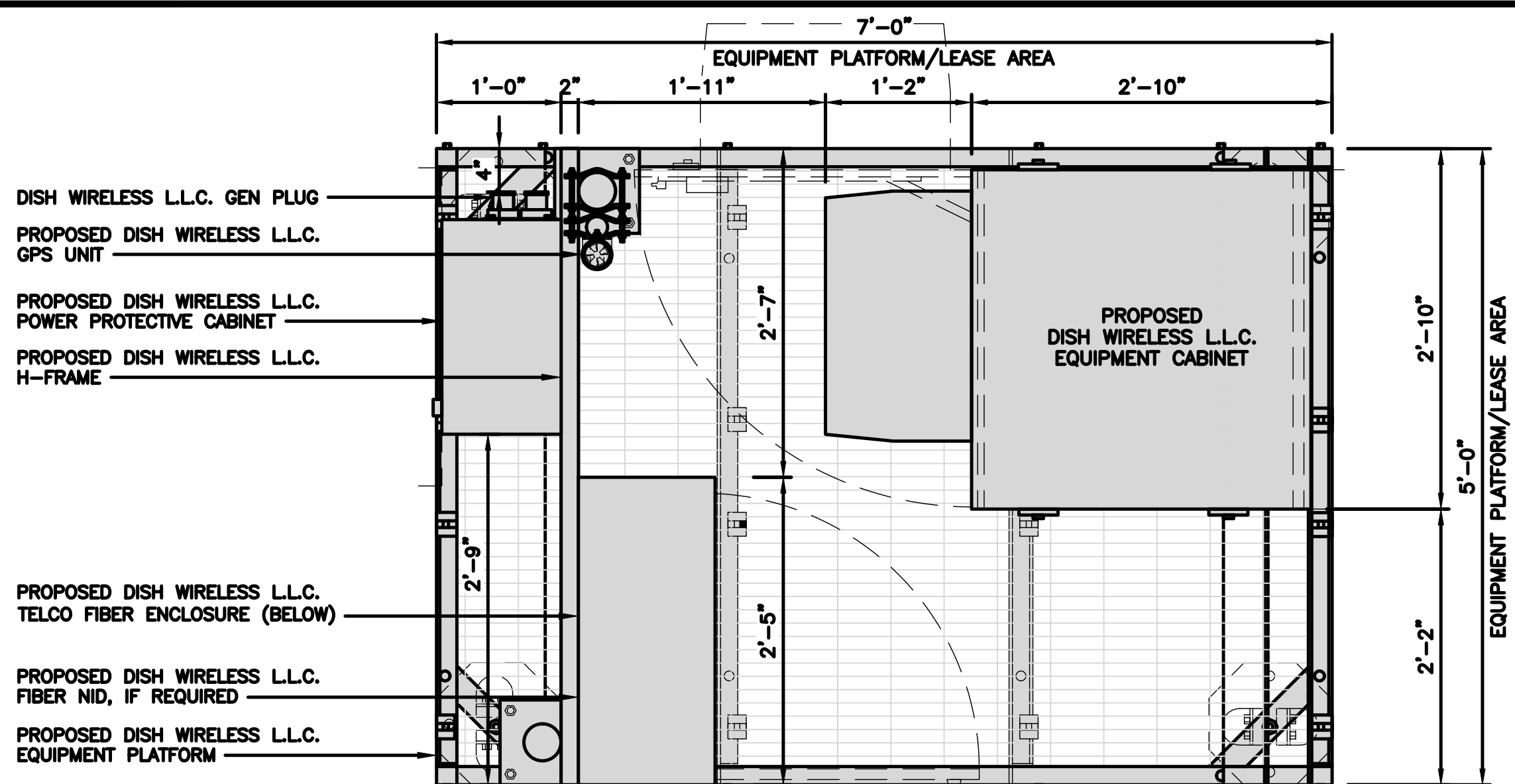
SUBMITTALS		
REV	DATE	DESCRIPTION
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A&E PROJECT NUMBER
EUC0309

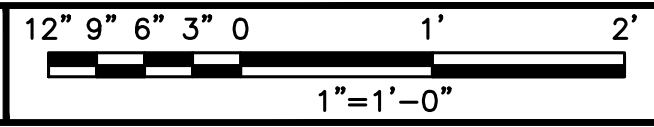
DISH WIRELESS L.L.C. PROJECT INFORMATION
BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-2

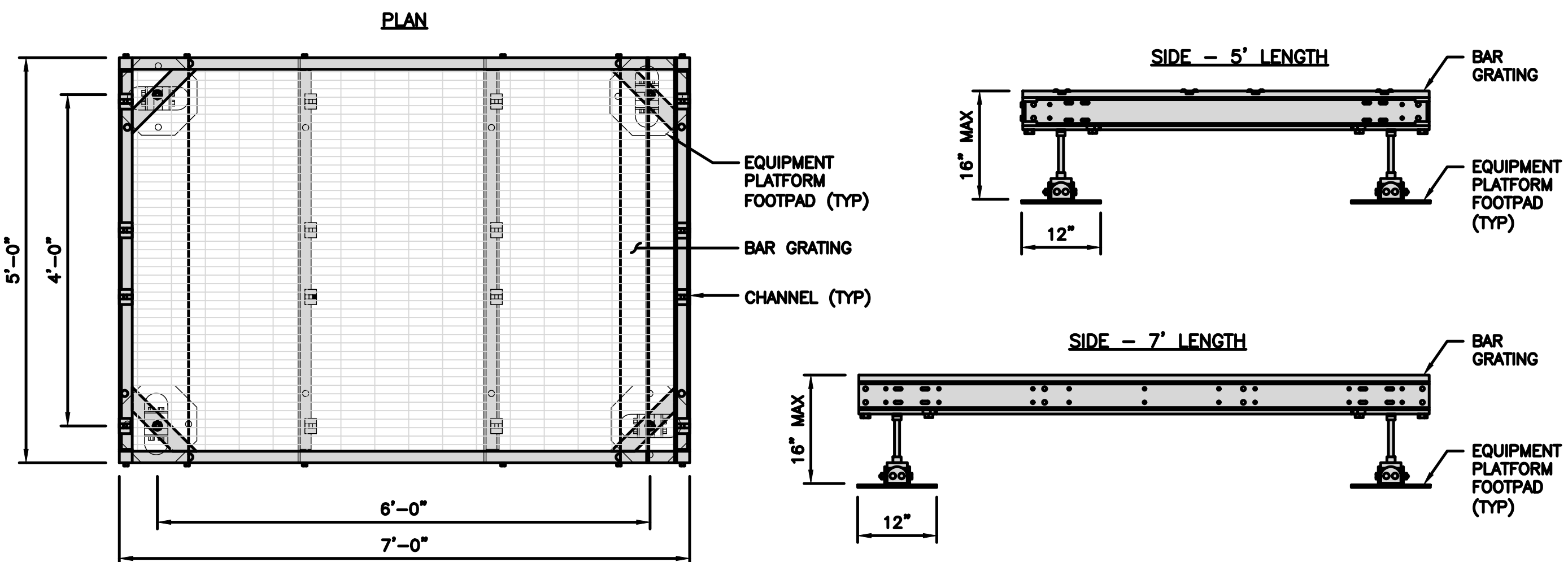


PLATFORM EQUIPMENT PLAN



1

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



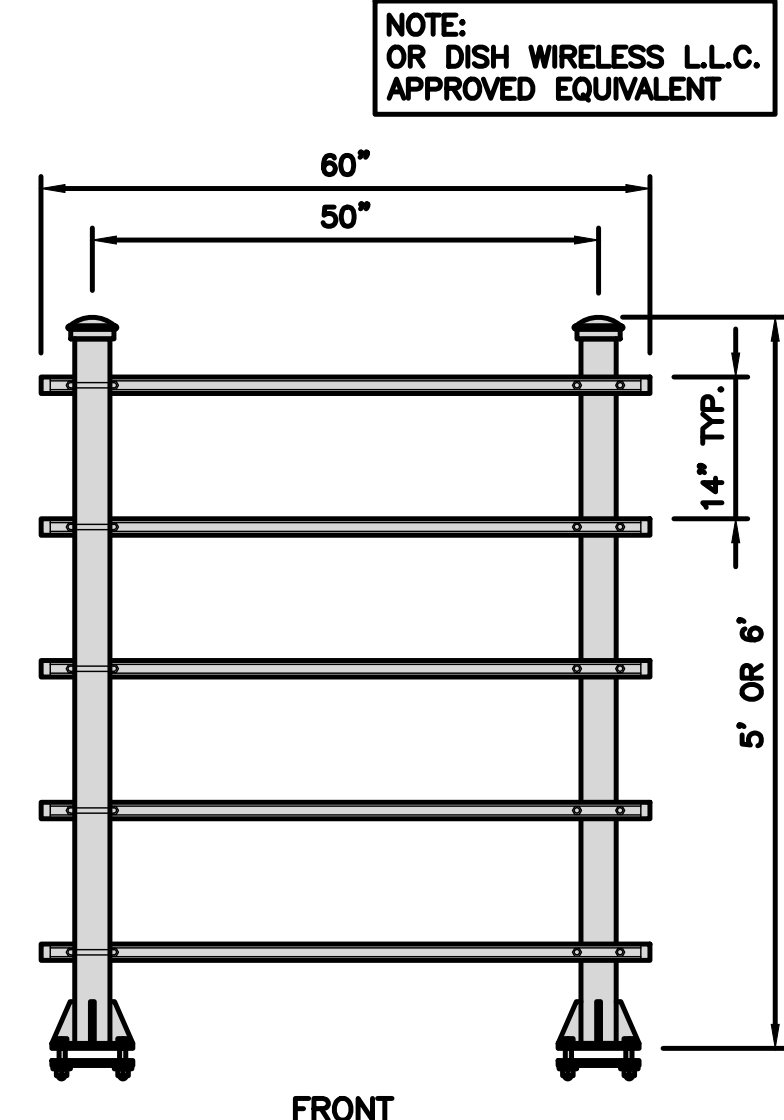
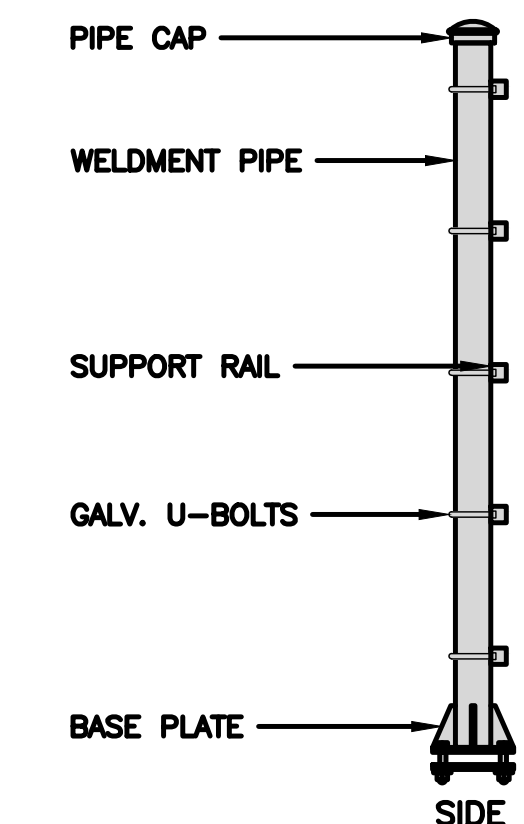
PLATFORM DETAIL

NO SCALE

2

NOTES
1. PLATFORM TO BE LEVELED TO NO MORE THAN +/- 1 DEGREE FROM HORIZONTAL ON BOTH PLANES.

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



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

H-FRAME DETAIL

NO SCALE

3

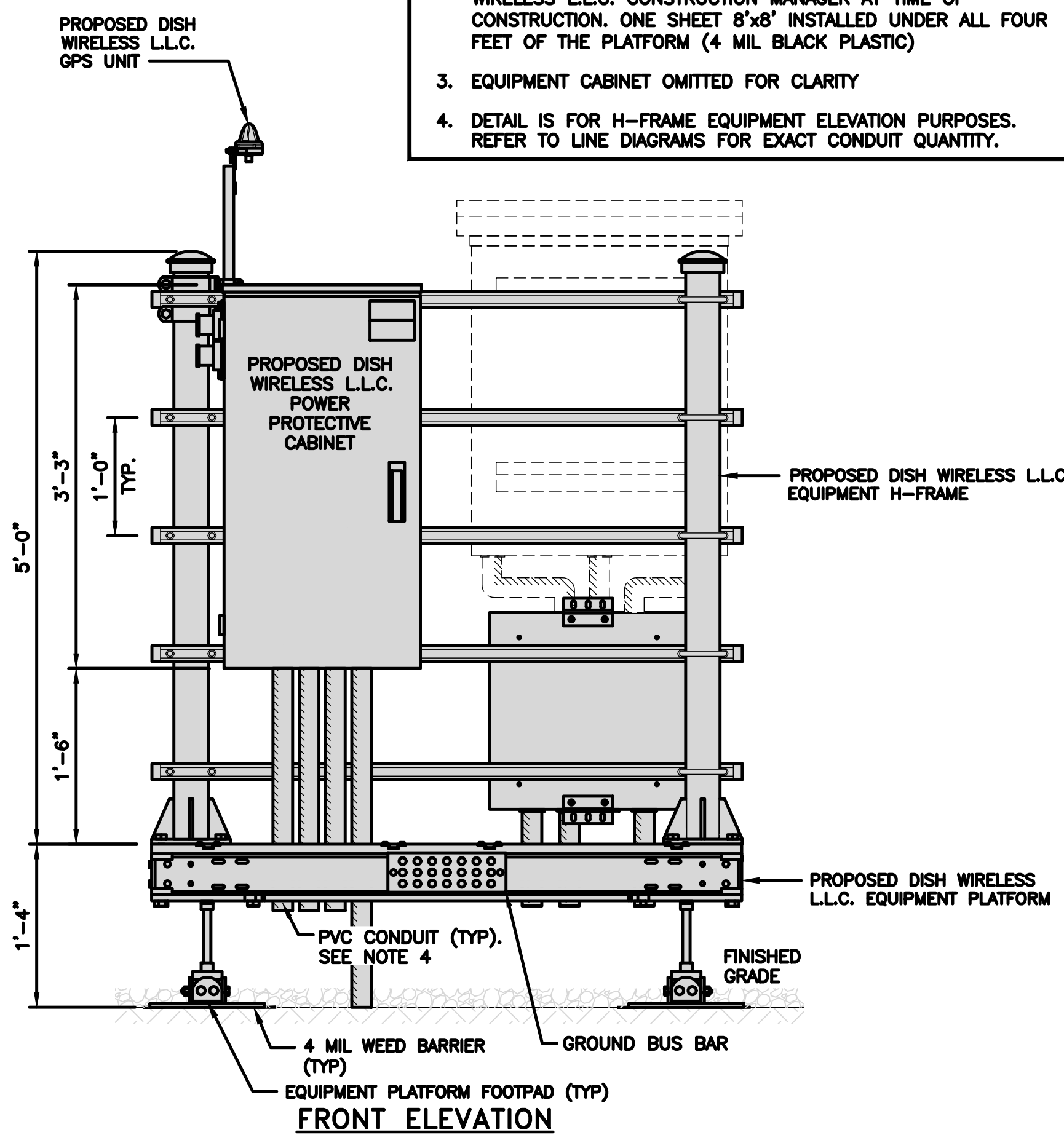
NOT USED

NO SCALE

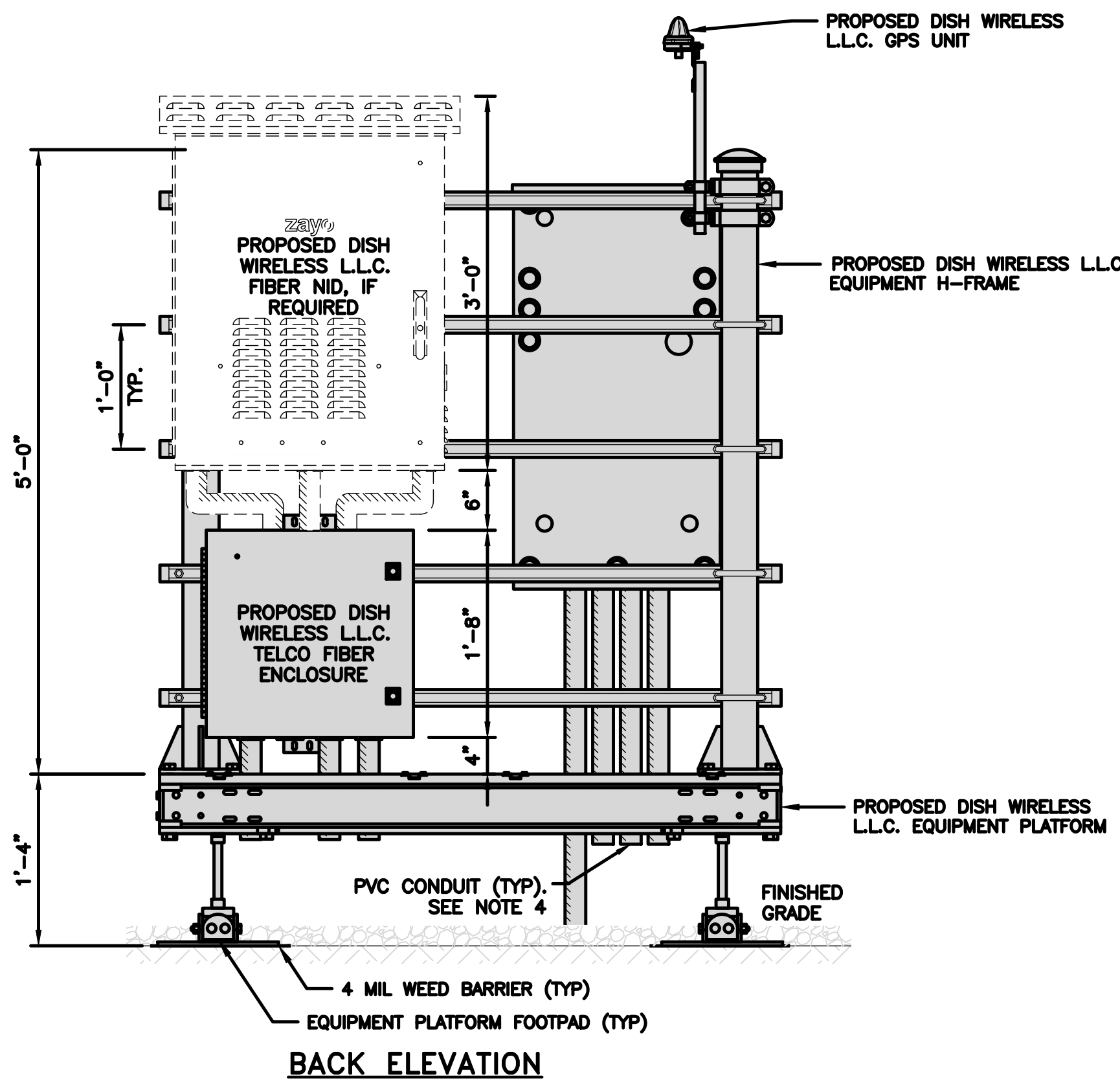
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NOTES

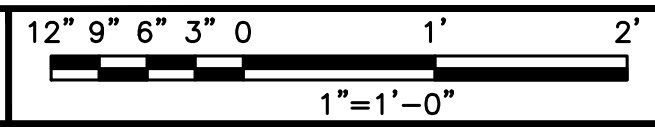
- CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
- WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH WIRELESS L.L.C. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
- EQUIPMENT CABINET OMITTED FOR CLARITY
- DETAIL IS FOR H-FRAME EQUIPMENT ELEVATION PURPOSES. REFER TO LINE DIAGRAMS FOR EXACT CONDUIT QUANTITY.



FRONT ELEVATION



BACK ELEVATION



5

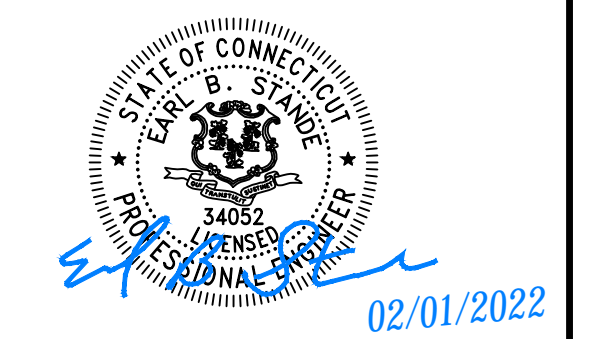


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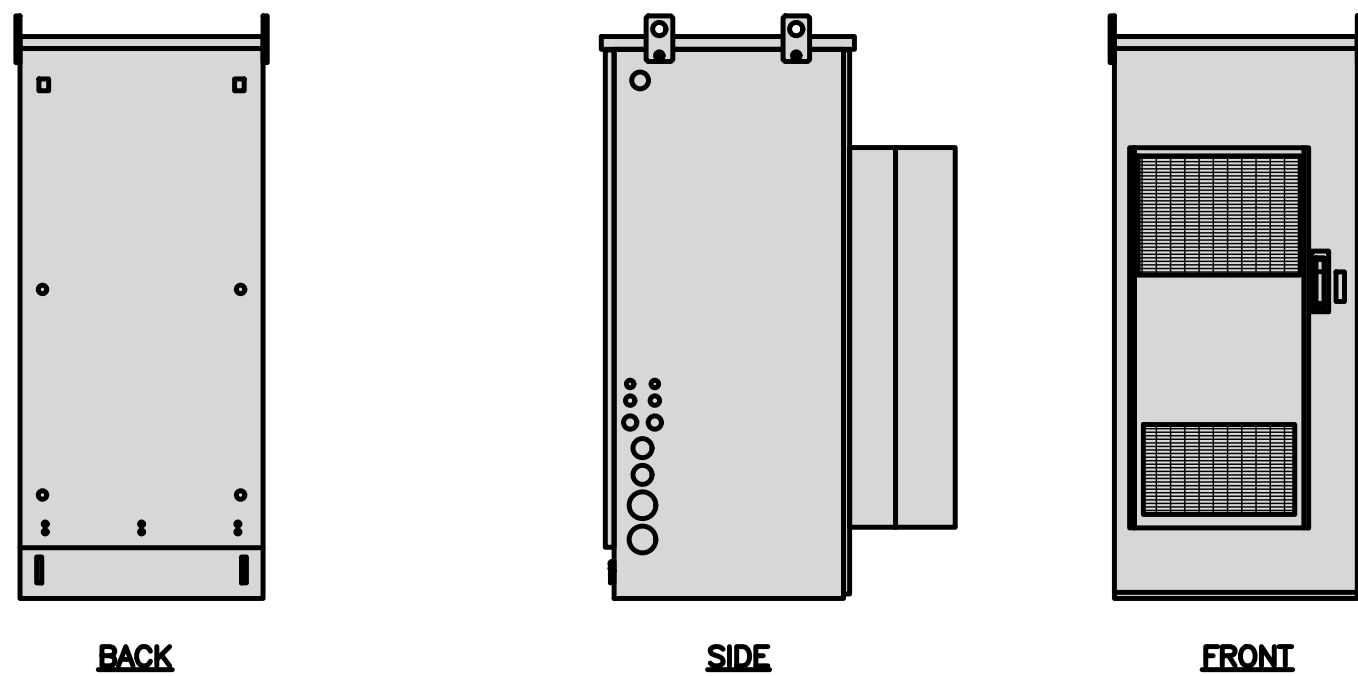
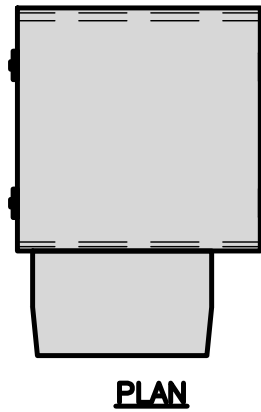
A&E PROJECT NUMBER
EUCC0309

DISH WIRELESS L.L.C.
PROJECT INFORMATION
BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
EQUIPMENT PLATFORM AND
H-FRAME DETAILS

SHEET NUMBER
A-3

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

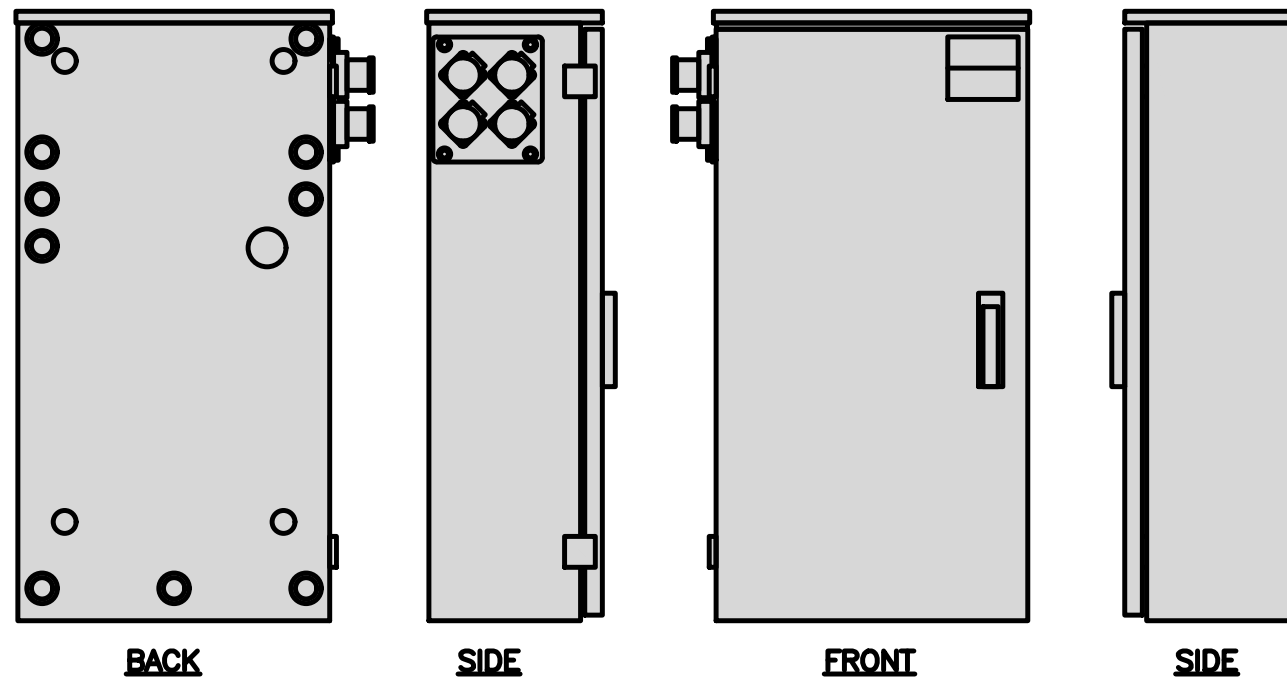
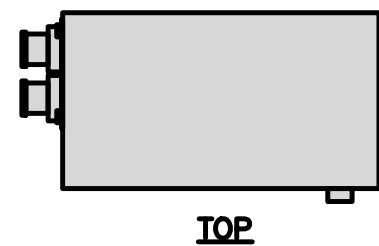


CABINET DETAIL

NO SCALE

1

RAYCAP 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



POWER PROTECTION CABINET (PPC) DETAIL

NO SCALE

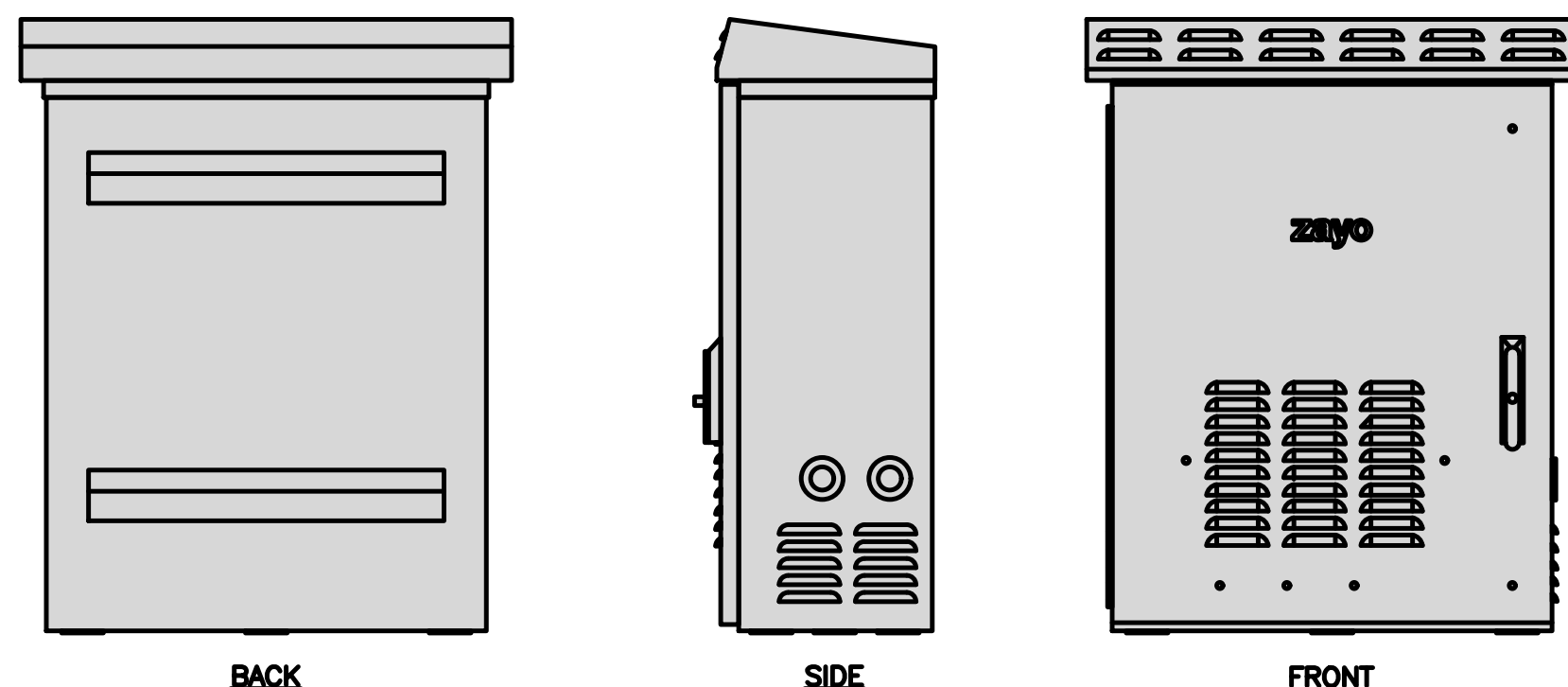
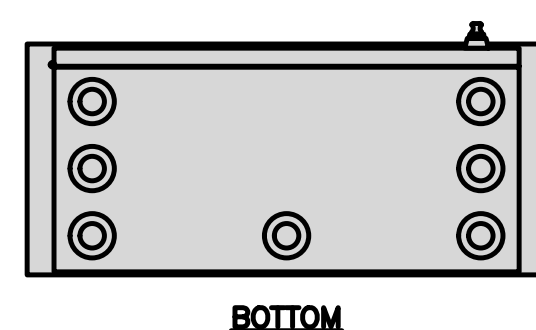
2

NOT USED

NO SCALE

3

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



FIBER NID ENCLOSURE DETAIL

NO SCALE

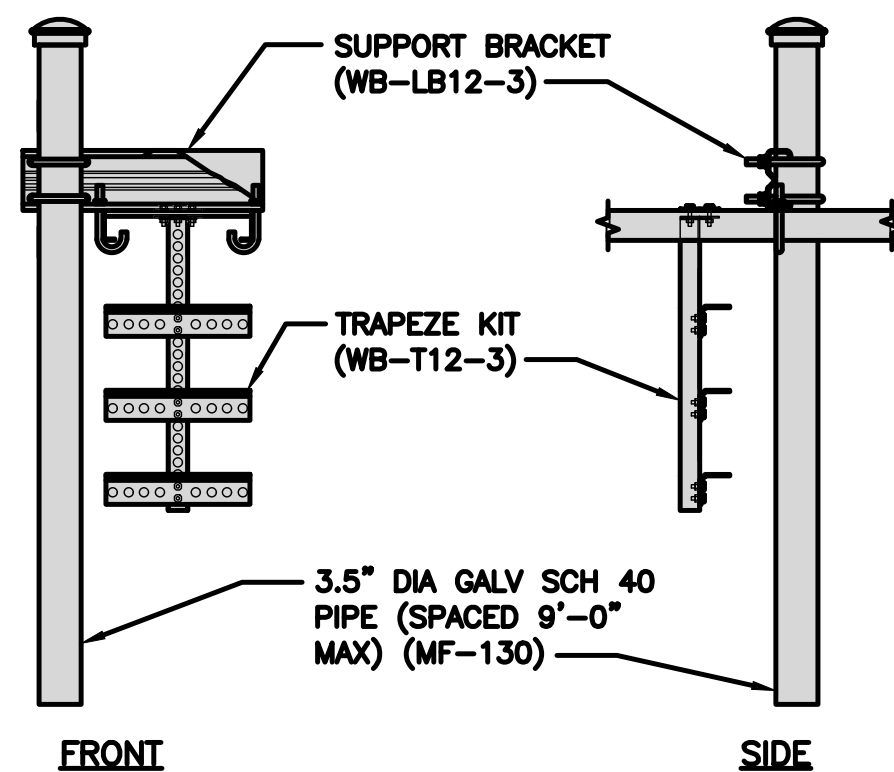
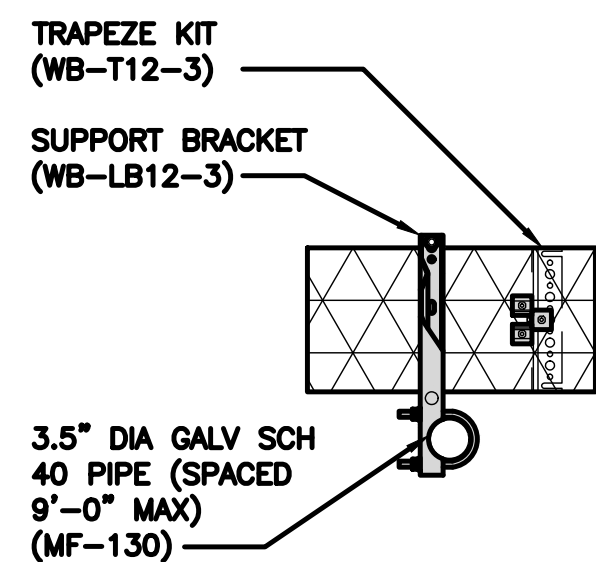
5

NOT USED

NO SCALE

6

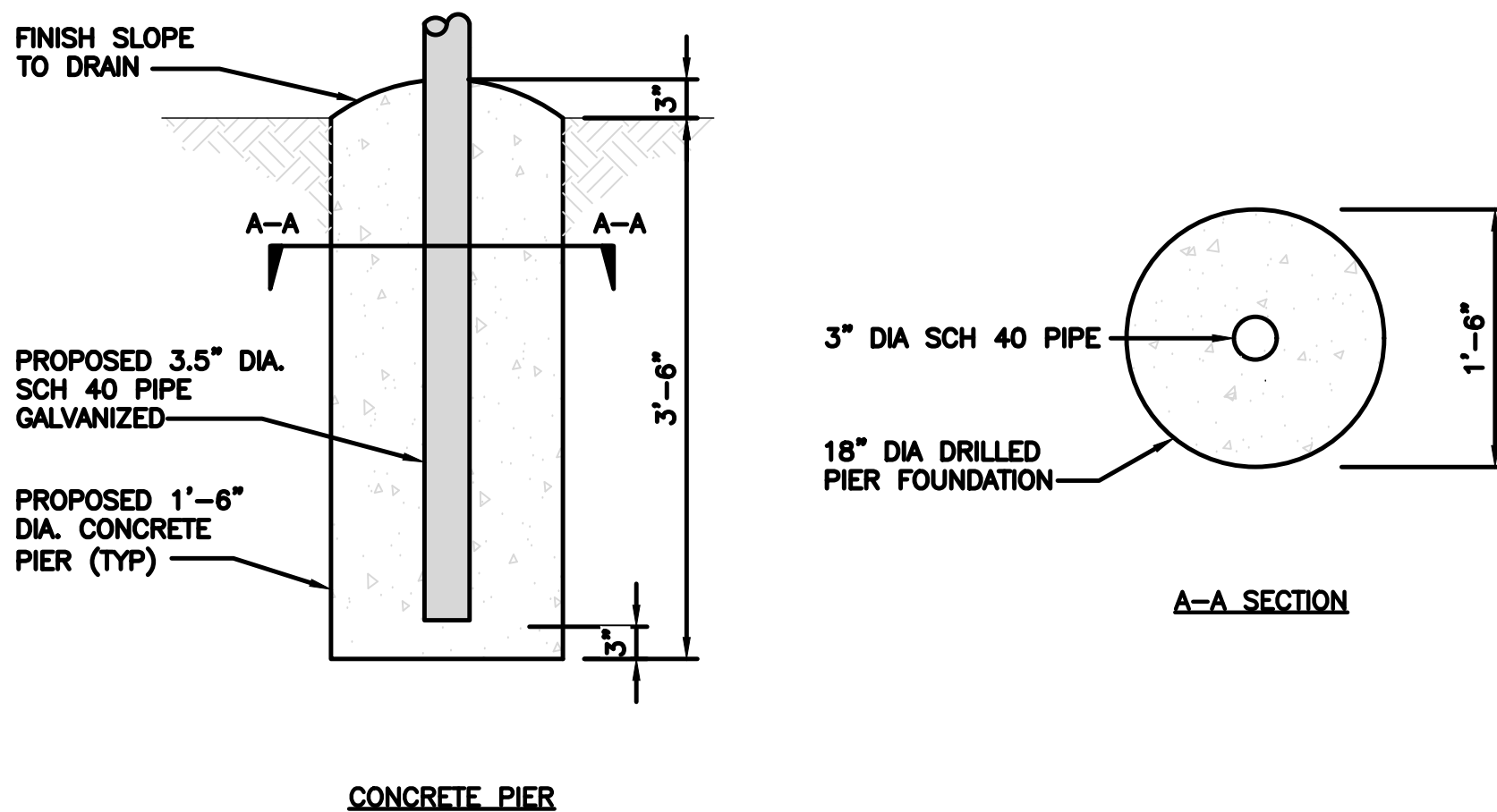
COMMSCOPE WB-K110-B WAVEGUIDE BRIDGE KIT		INCLUDED PRODUCTS: WB-T12-3 TRAPEZE KIT, 3 RUNGS WB-LB12-3 SUPPORT BRACKET MF-130 DIRECT BURIAL PIPE COLUMN, 13'-4"
DIMENSIONS (HxL)	160"x10"	
WEIGHT/ VOLUME	325.0 LBS	
CABLE RUN (QTY)	12	



ICE BRIDGE DETAIL

NO SCALE

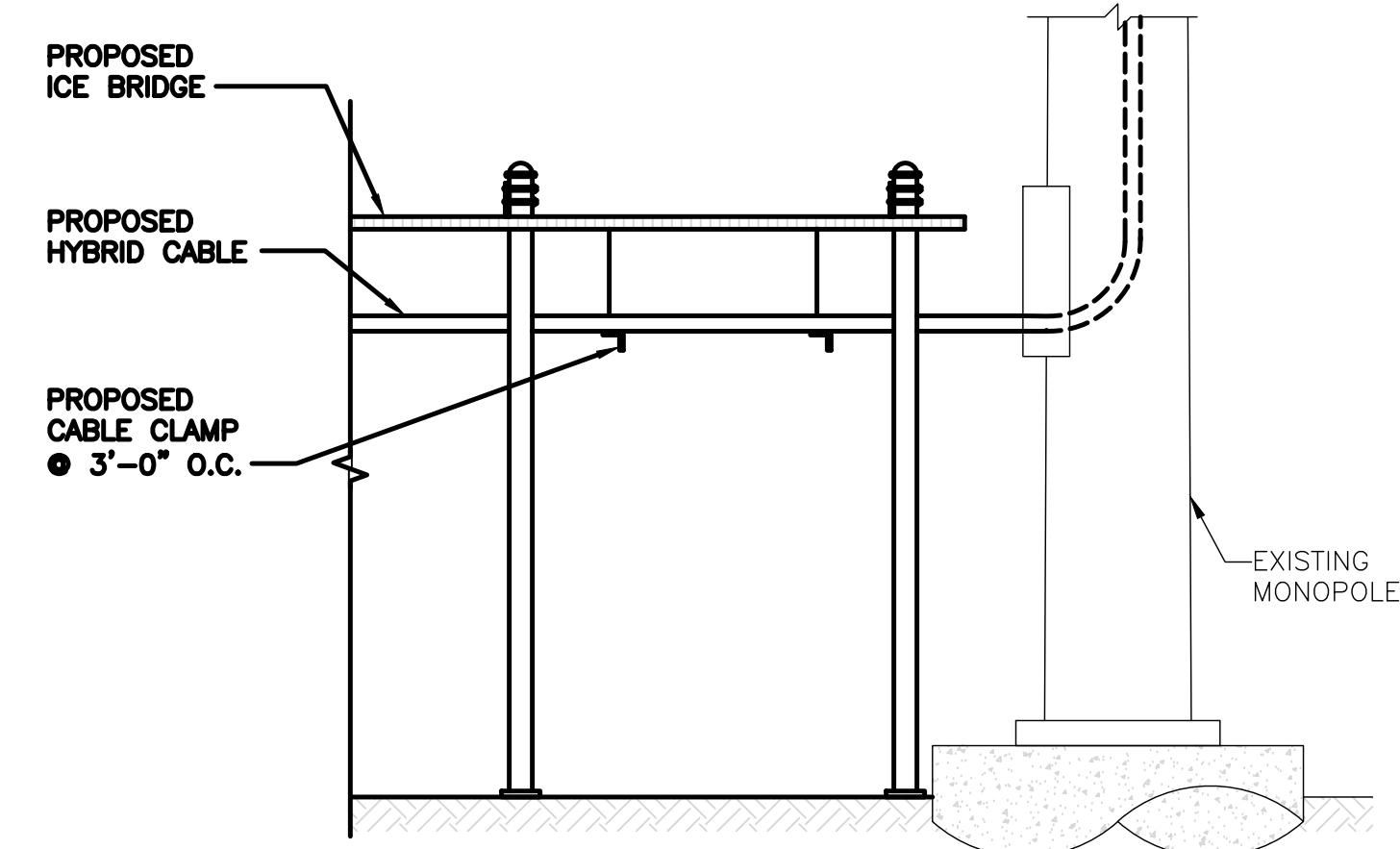
7



TYPICAL ICE BRIDGE CONCRETE PIER DETAIL

NO SCALE

8



HYBRID CABLE RUN

NO SCALE

9

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DISH WIRELESS L.L.C.
PROJECT INFORMATION

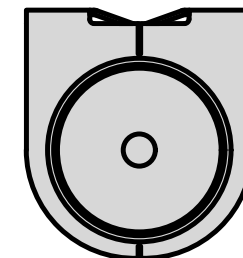
BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
EQUIPMENT DETAILS

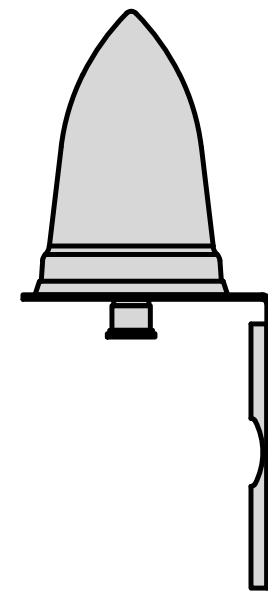
SHEET NUMBER

A-4

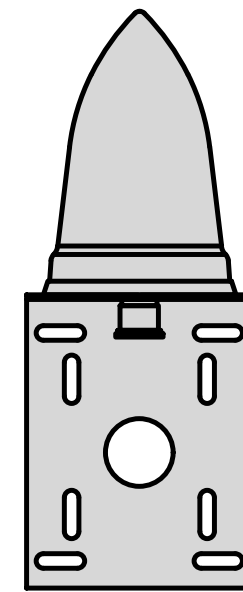
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



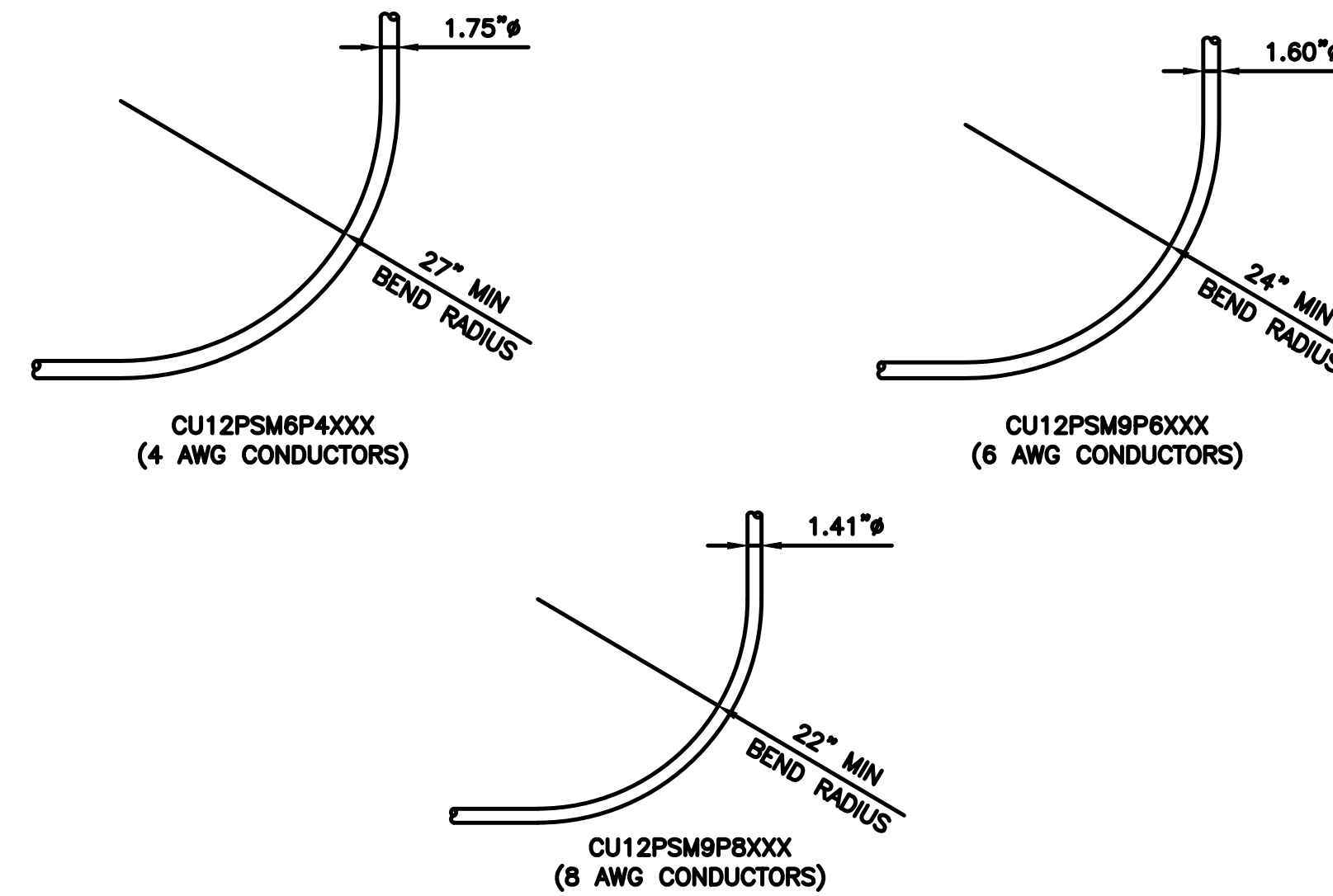
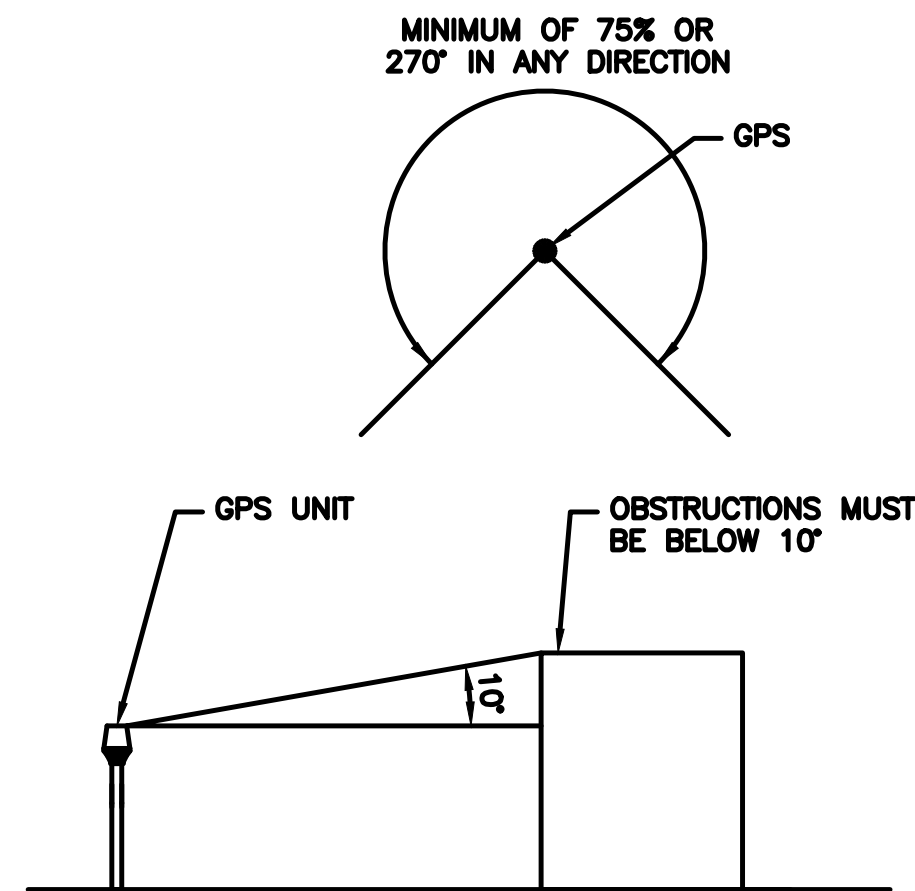
TOP



BACK



SIDE



GPS DETAIL

NO SCALE

1

GPS MINIMUM SKY VIEW REQUIREMENTS

NO SCALE

2

CABLES UNLIMITED HYBRID CABLE
MINIMUM BEND 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

dish
wireless.

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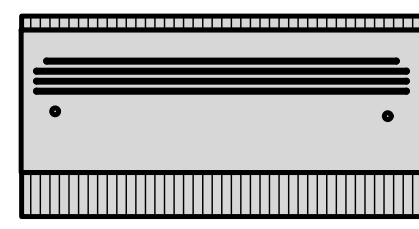
BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
EQUIPMENT DETAILS

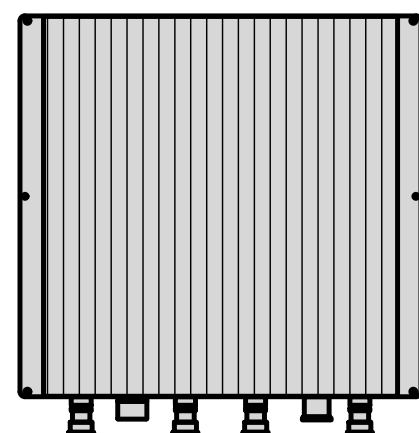
SHEET NUMBER

A-5

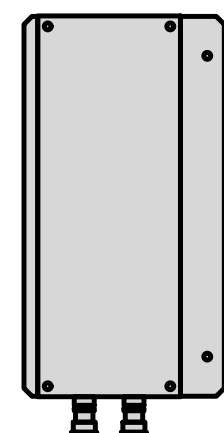
FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



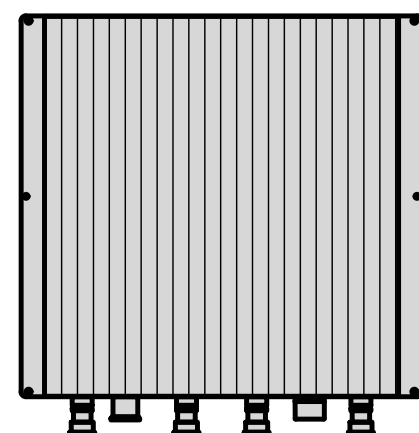
PLAN



BACK

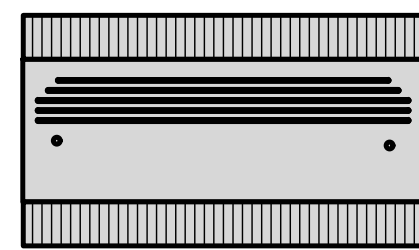


SIDE

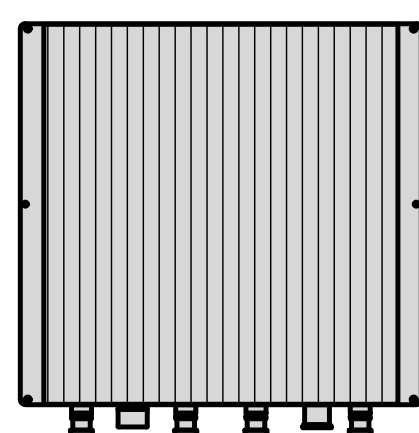


FRONT

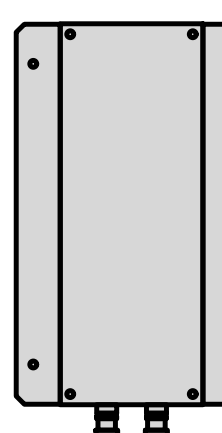
FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



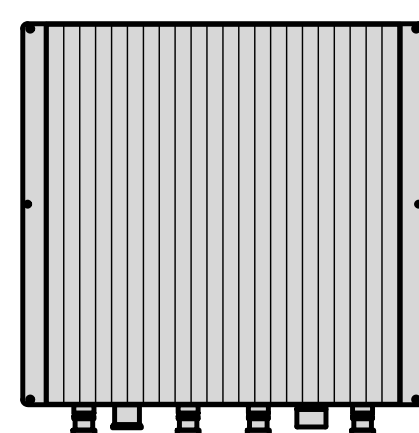
PLAN



BACK

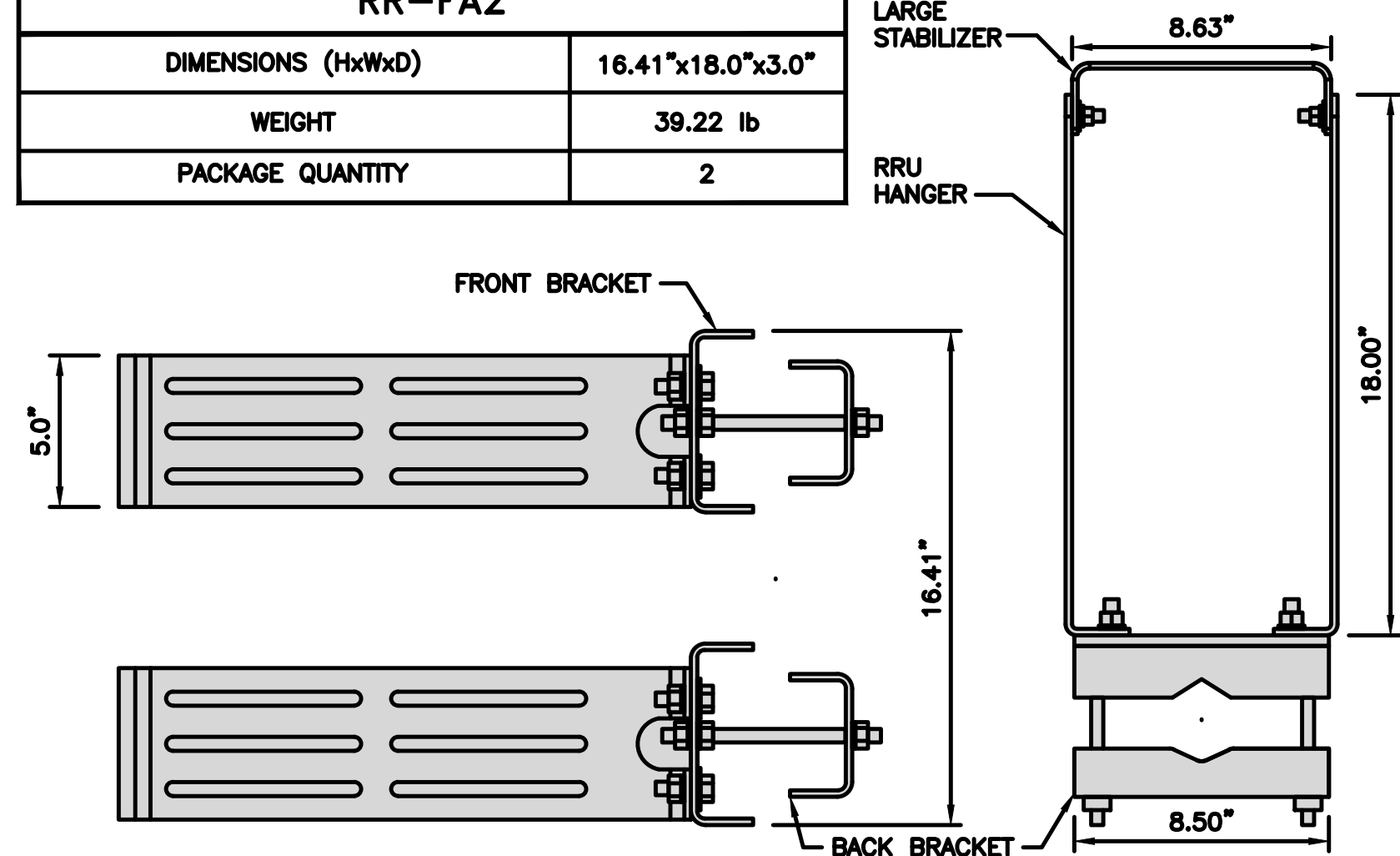


SIDE



FRONT

COMMSCOPE BACK-TO-BACK MOUNT RR-FA2	
DIMENSIONS (HxWxD)	16.41"x18.0"x3.0"
WEIGHT	39.22 lb
PACKAGE QUANTITY	2



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

REMOTE RADIO HEAD DETAIL (RRH)

NO SCALE

1

REMOTE RADIO HEAD DETAIL (RRH)

NO SCALE

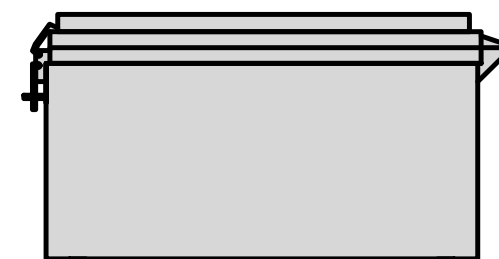
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REMOTE RADIO MOUNT DETAIL

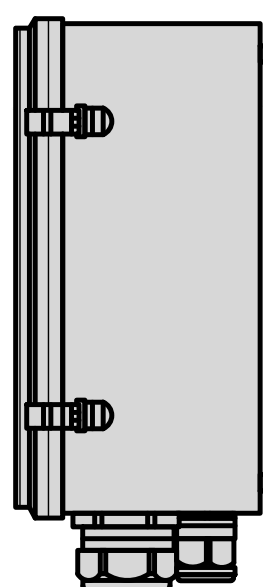
NO SCALE

3

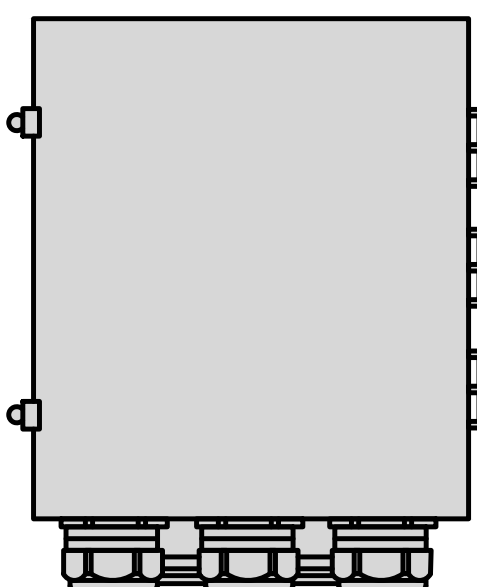
RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



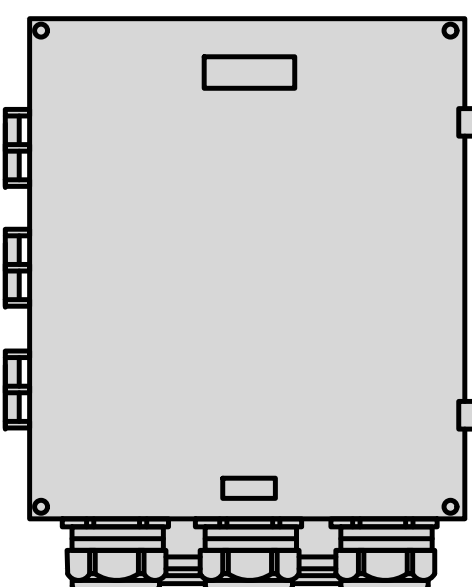
PLAN



SIDE

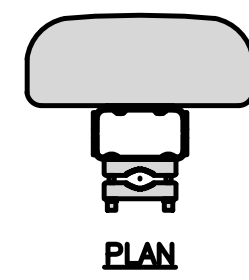


BACK

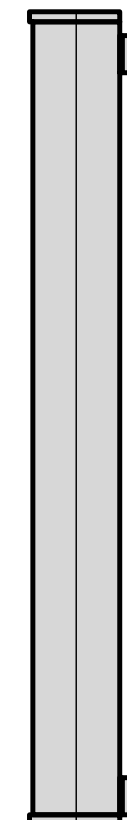


FRONT

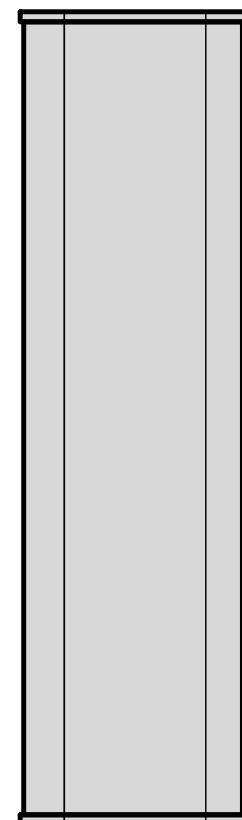
JMA MX08FRO665-21	
DIMENSIONS (HxWxD)	72"x20.0"x8.0"
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE
WEIGHT	64.5 lbs
WEIGHT WITH BRACKETS	82.5 lbs



PLAN



SIDE



FRONT

SURGE SUPPRESSION DETAIL (OVP)

NO SCALE

4

ANTENNA DETAIL

NO SCALE

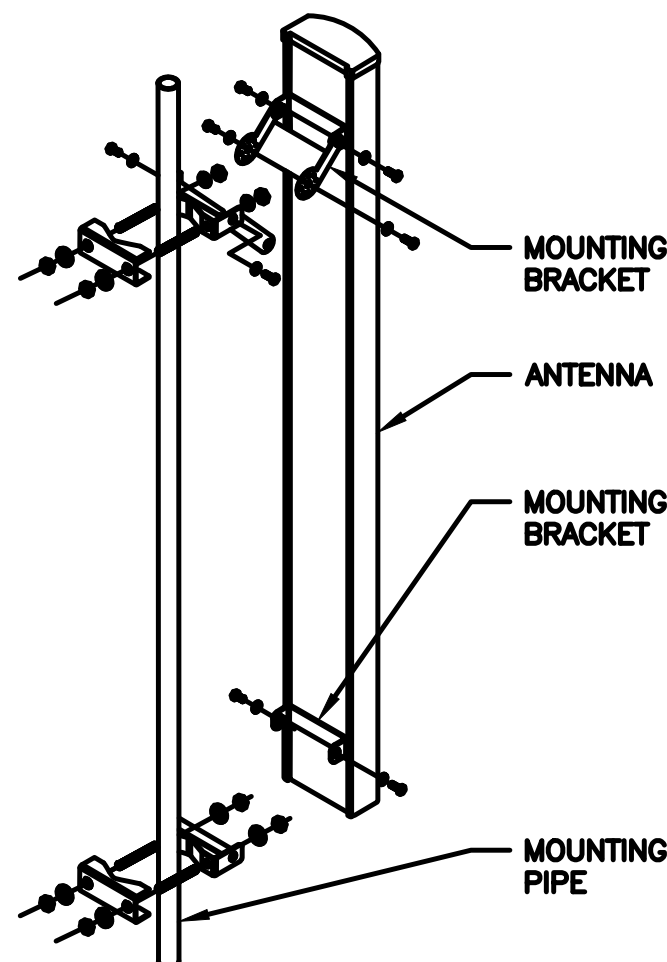
5

NOT USED

NO SCALE

6

M04 MOUNTING BRACKET HPA-33R-BUU-H4-K	
WIDTH	5"
DEPTH	2"
HEIGHT	8"
TOTAL WEIGHT	1.5 lbs
HOUSING MATERIAL	ASA/ABS/ALUMINUM
RADOME COLOR	LIGHT GRAY
CONNECTOR	1x8-PIN DAISY CHAIN



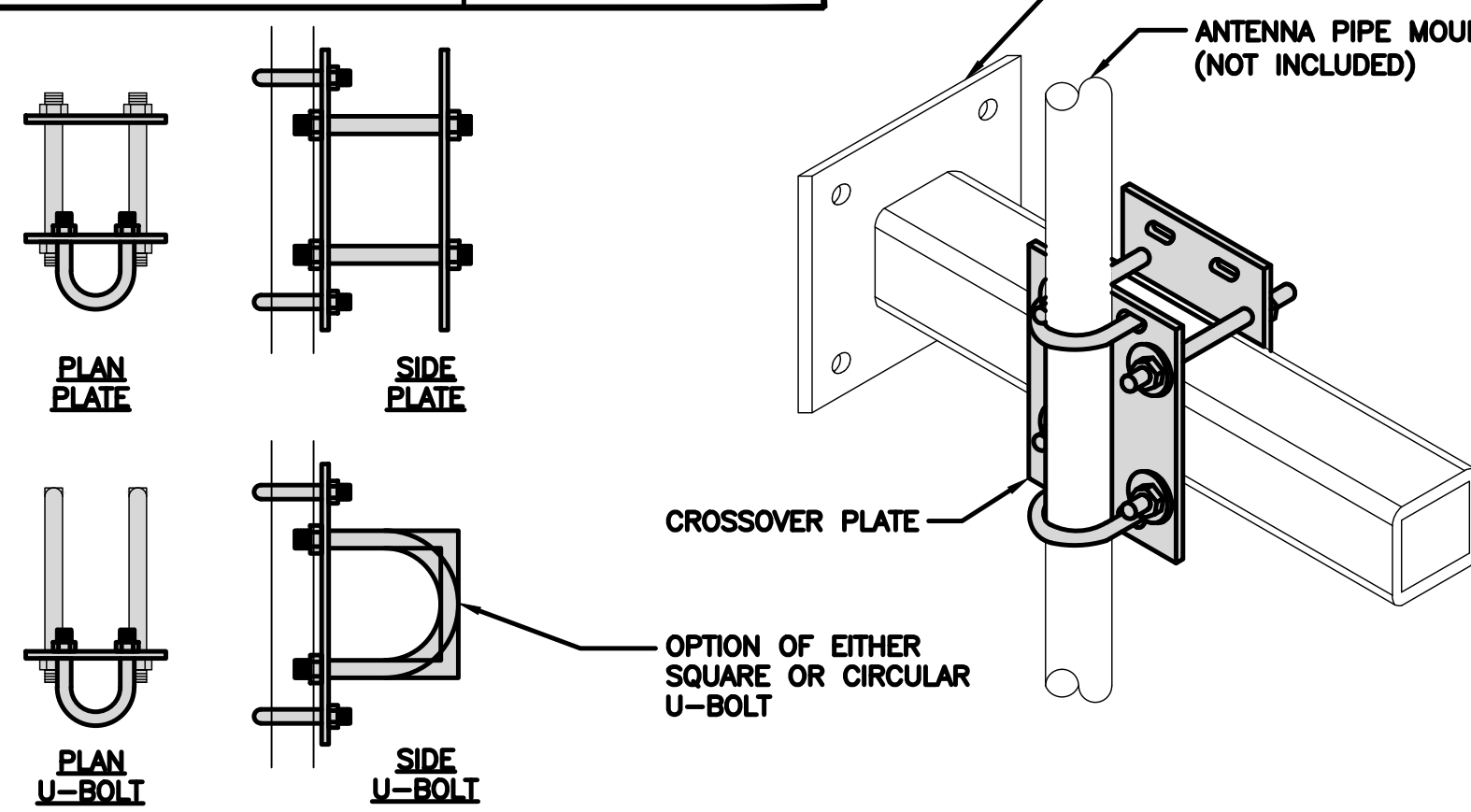
NOTE:
OR DISH WIRELESS L.L.C.
APPROVED EQUIVALENT

ANTENNA MOUNTING DETAIL

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

CROSSOVER
PLATE

OPTION OF EITHER
SQUARE OR CIRCULAR
U-BOLT

PLAN
U-BOLT

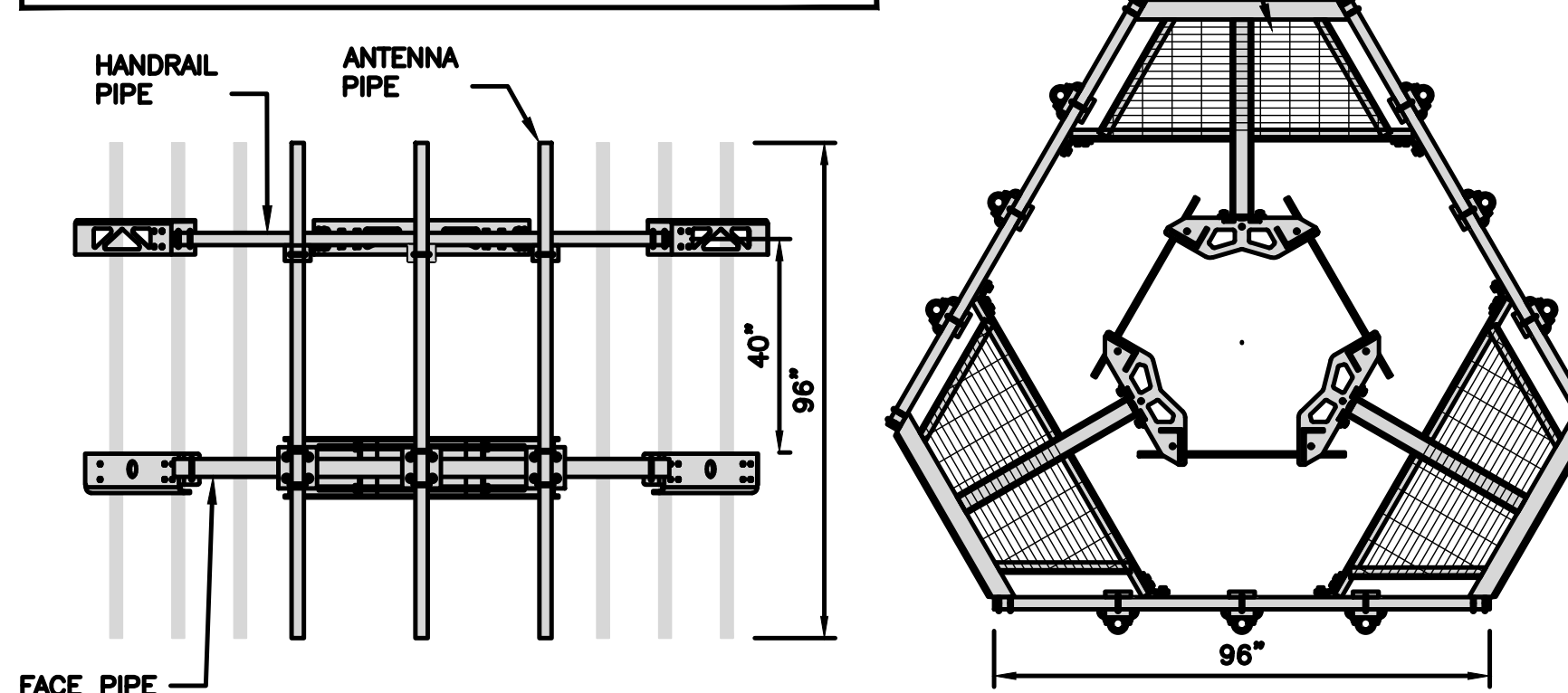
SIDE
U-BOLT

RRH/OVP MOUNT DETAIL

NO SCALE

8

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



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

HANDRAIL
PIPE

ANTENNA
PIPE

FACE PIPE

PLATFORM

ANTENNA PLATFORM DETAIL

NO SCALE

9

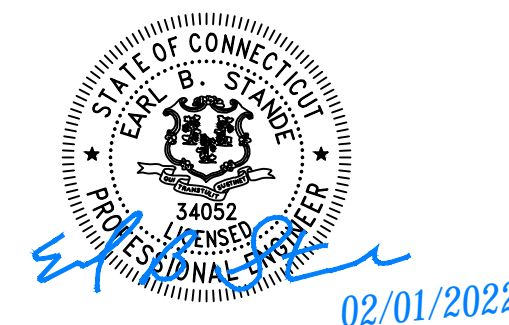


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DISH WIRELESS L.L.C.
PROJECT INFORMATION

BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER

A-6

ROW NOTE

NO WORK WITHIN THIS PERMIT APPLICATION SHALL BE PERFORMED WITHIN THE PUBLIC ROW. UTILITY WORK WITHIN THE PUBLIC ROW SHALL BE THE RESPONSIBILITY OF THE UTILITY PROVIDER AND REQUIRES A SEPARATE PERMIT.

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. THE GROUND LEASE PROVIDES BROAD/BLANKET UTILITY RIGHTS. "PWR" AND "FBR" PATH DEPICTED ON A-1 AND E-1 ARE BASED ON BEST AVAILABLE INFORMATION INCLUDING BUT NOT LIMITED TO FIELD VERIFICATION, PRIOR PROJECT DOCUMENTATION AND OTHER REAL PROPERTY RIGHTS DOCUMENTS. WHEN INSTALLING THE UTILITIES PLEASE LOCATE AND FOLLOW EXISTING PATH. IF EXISTING PATH IS NOT AN OPTION, PLEASE NOTIFY TOWER OWNER AS FURTHER COORDINATION MAY BE NEEDED.

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. PROVIDE 1 PULL BOX EVERY 150' TO 200' MAX.
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.

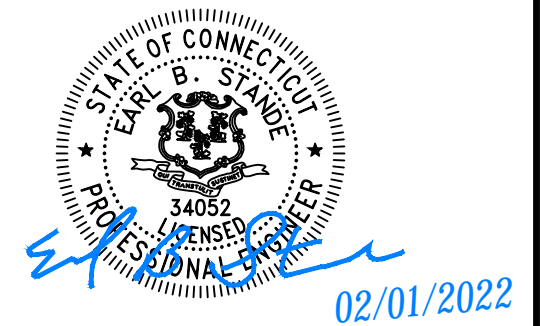


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MWD TJM KRK

RFDS REV #: 0

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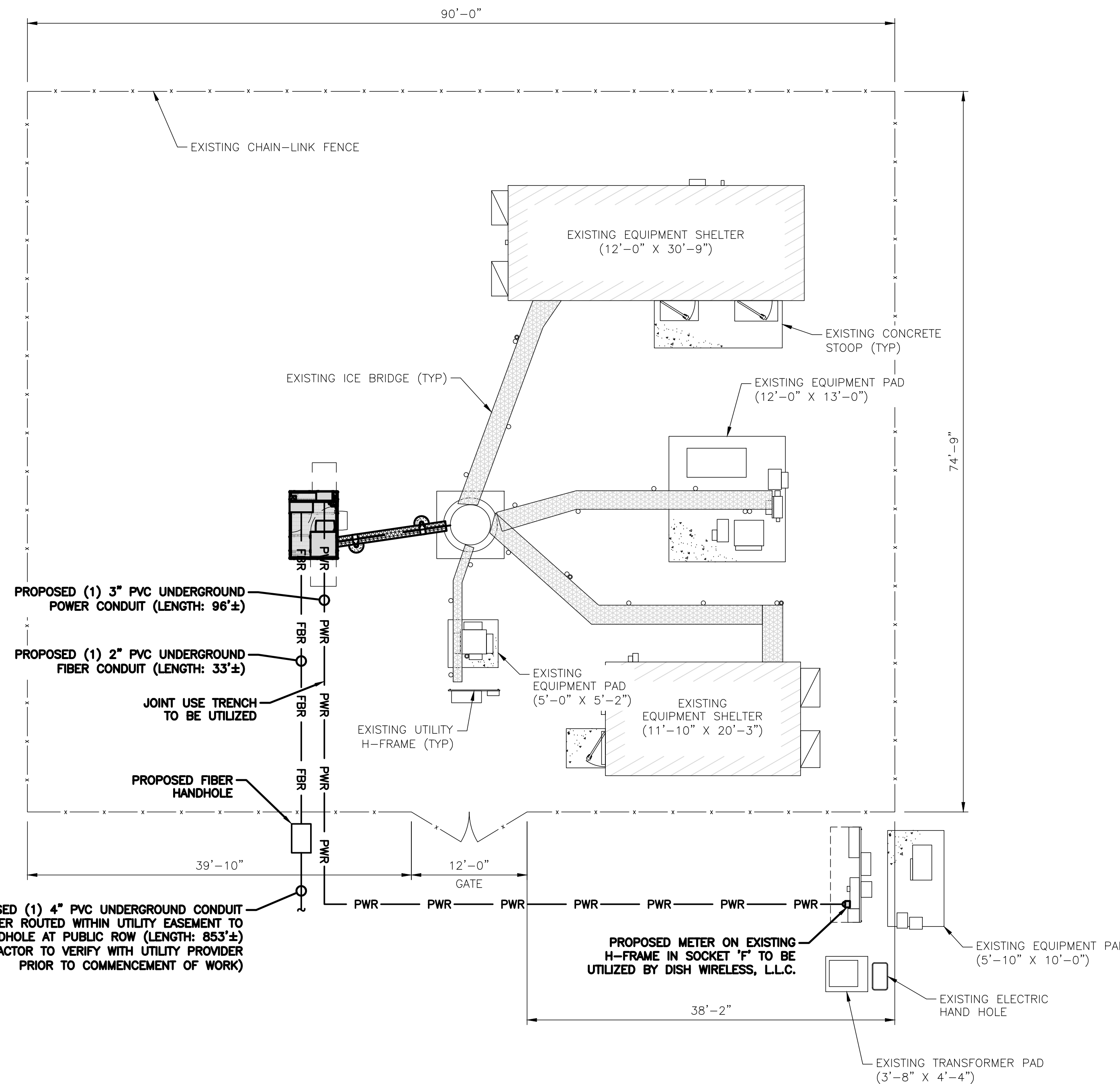
A&E PROJECT NUMBER
EUC0309

DISH WIRELESS L.L.C.
PROJECT INFORMATION
BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
ELECTRICAL/FIBER ROUTE
PLAN AND NOTES

SHEET NUMBER

E-1



ELECTRICAL NOTES

NO SCALE

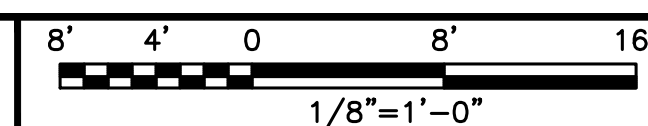
2



PROPOSED LOCATION OF DISH FIBER J-BOX MEET POINT.

PROPOSED 2" CONDUIT FOR DISH ELECTRIC SERVICE

UTILITY ROUTE PLAN



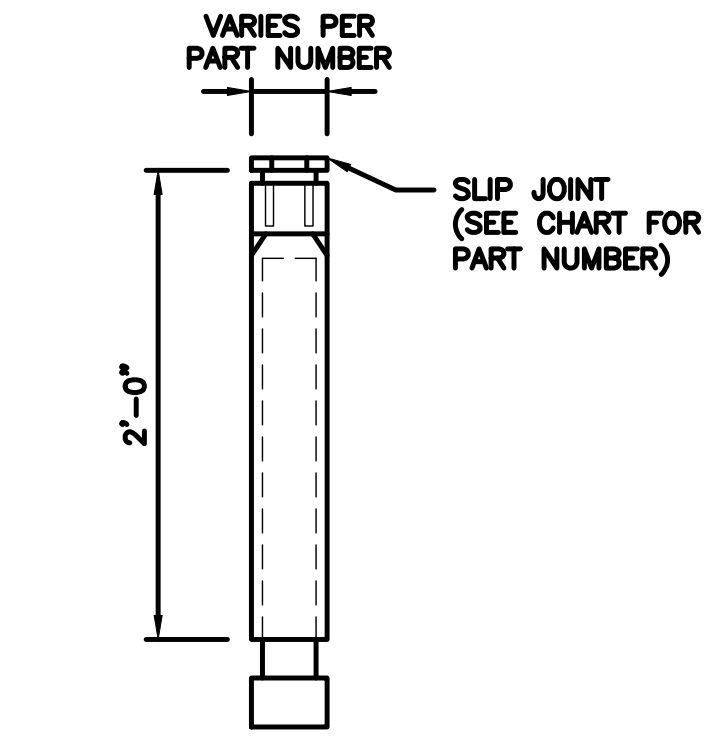
1

ESA

NO SCALE

3

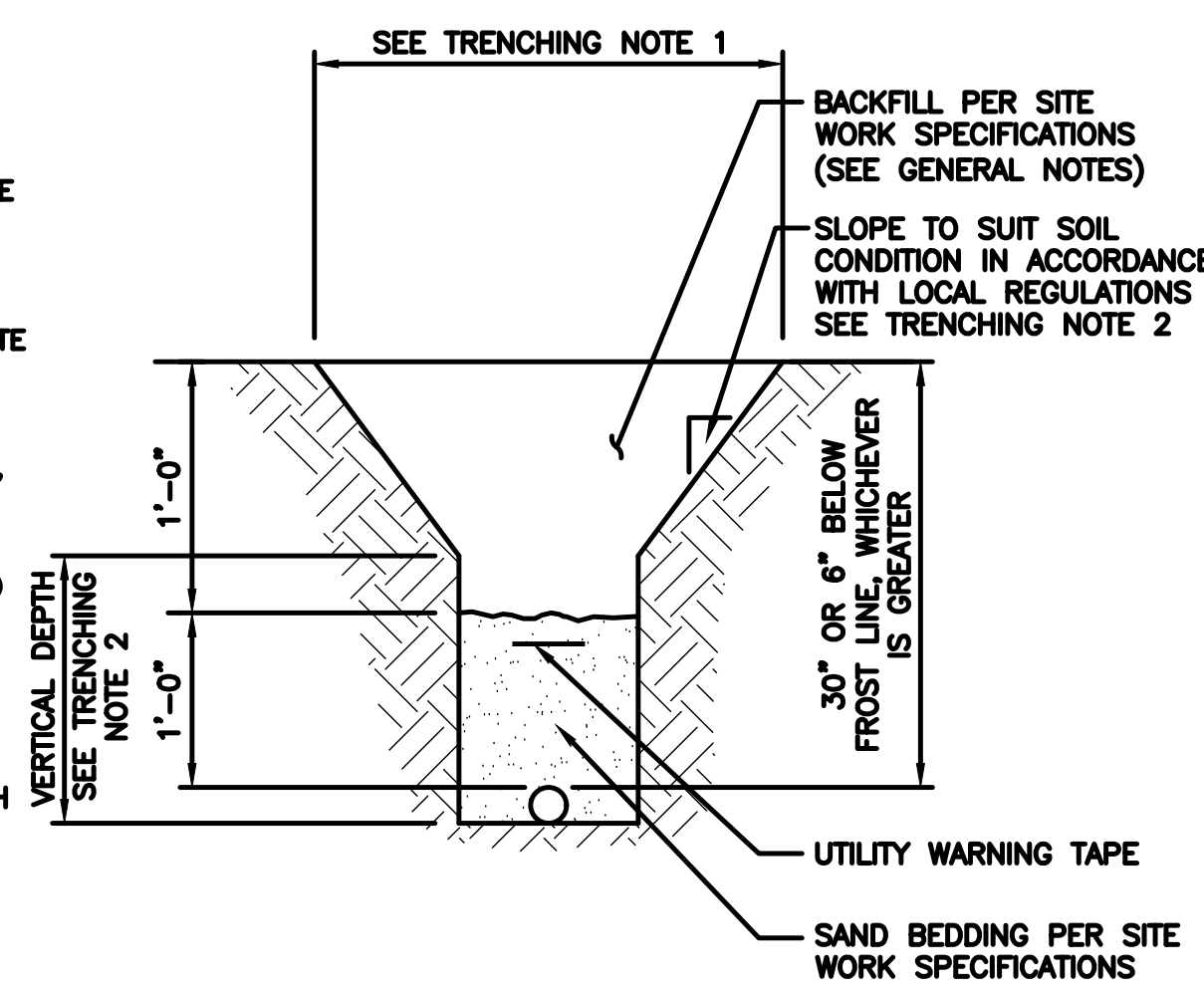
CARLON EXPANSION FITTINGS				
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"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



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

TRENCHING NOTES

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



EXPANSION JOINT DETAIL

NO SCALE

1

TYPICAL UNDERGROUND TRENCH DETAIL

NO SCALE

2

NOT USED

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

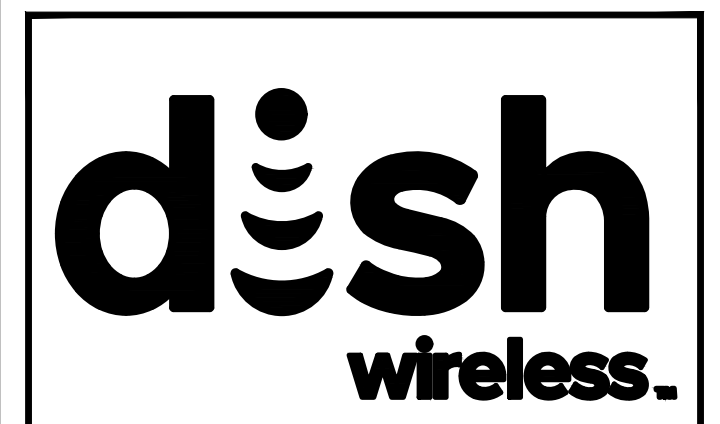
NO SCALE

8

NOT USED

NO SCALE

9

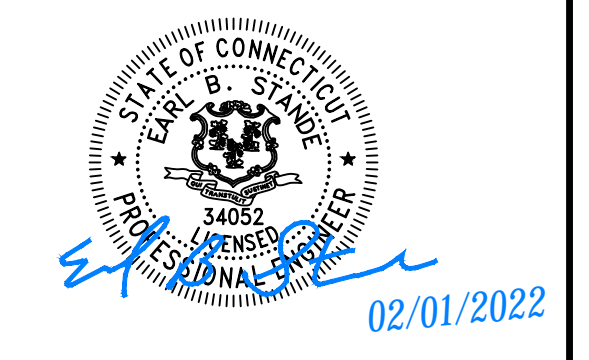


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APPROVED BY: KRK

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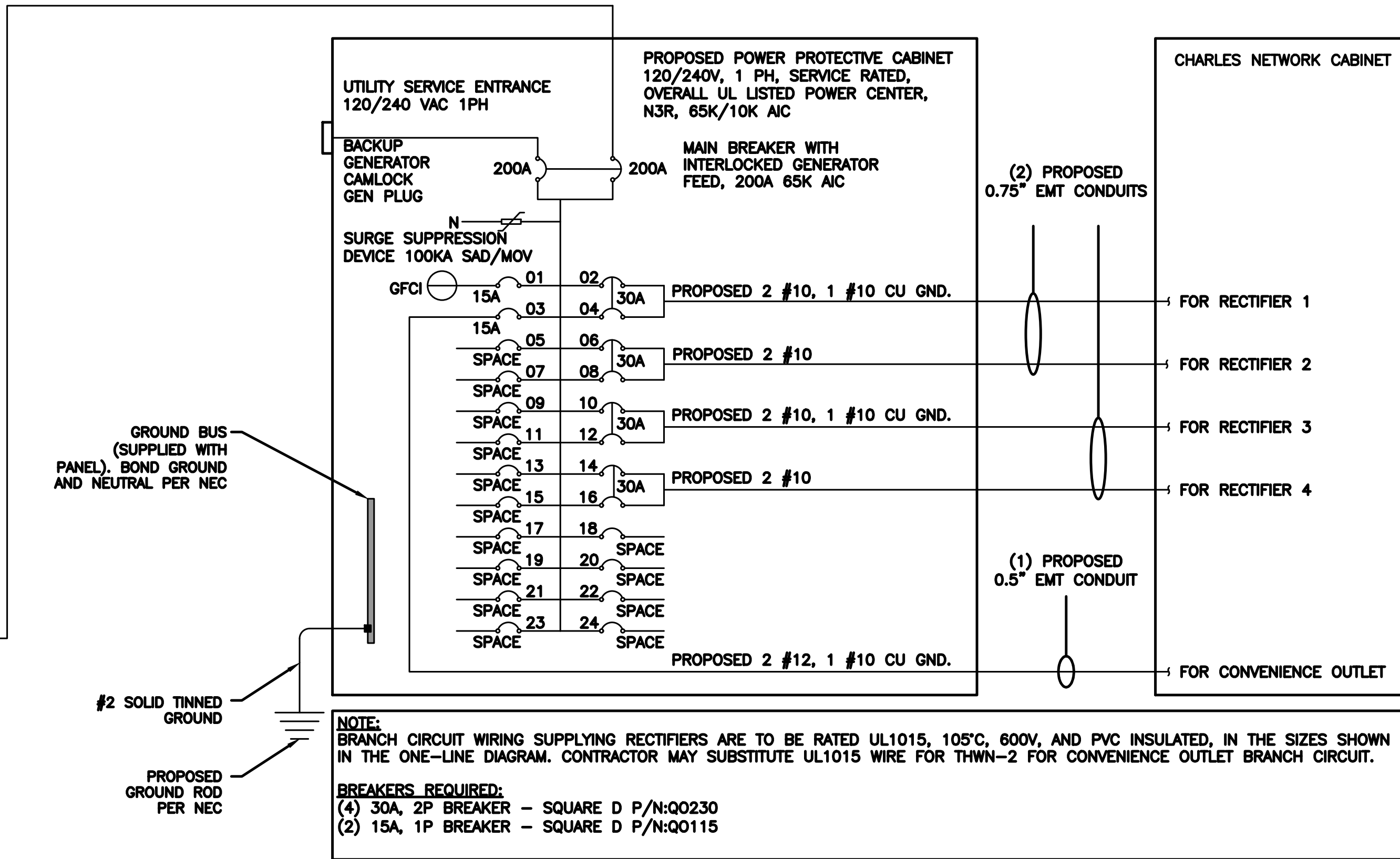
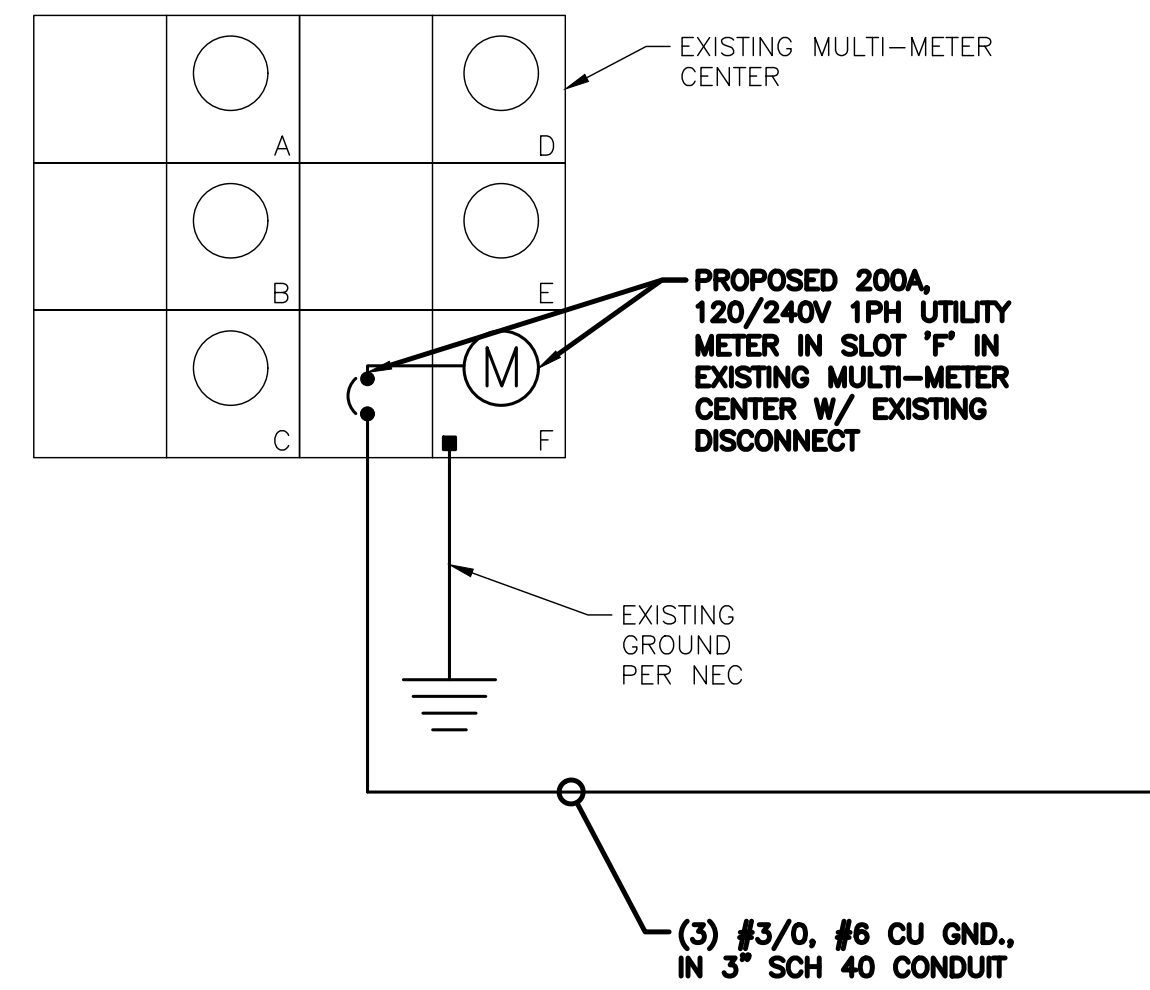
A&E PROJECT NUMBER
EUCC0309

DISH WIRELESS L.L.C.
PROJECT INFORMATION

BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

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:Q0230
(2) 15A, 1P BREAKER - SQUARE D P/N:Q0115

NOTES

ELECTRICAL CONTRACTOR TO CALCULATE MAXIMUM AVAILABLE FAULT CURRENT AND LABEL PANEL IN ACCORDANCE WITH NEC AS REQUIRED BY JURISDICTION.

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED VOLTAGE DROP CALCULATIONS AND ALL BRANCH CIRCUIT AND FEEDERS COMPLY WITH THE NEC (LISTED ON T-1) ARTICLE 210.19(A)(1) FPN NO. 4.

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.

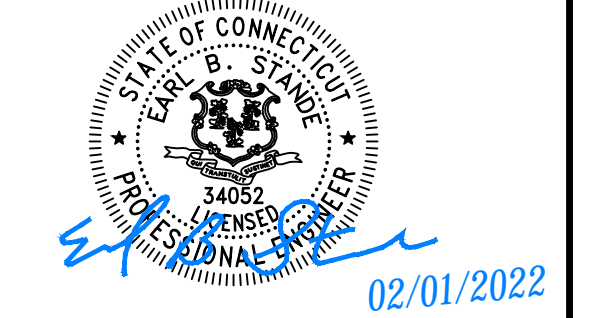


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PPC ONE-LINE DIAGRAM

NO SCALE

1

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

PANEL SCHEDULE

NO SCALE

2

NOT USED

NO SCALE

3

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DISH WIRELESS L.L.C.
PROJECT INFORMATION
BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
ELECTRICAL ONE-LINE
& PANEL SCHEDULE

SHEET NUMBER

E-3



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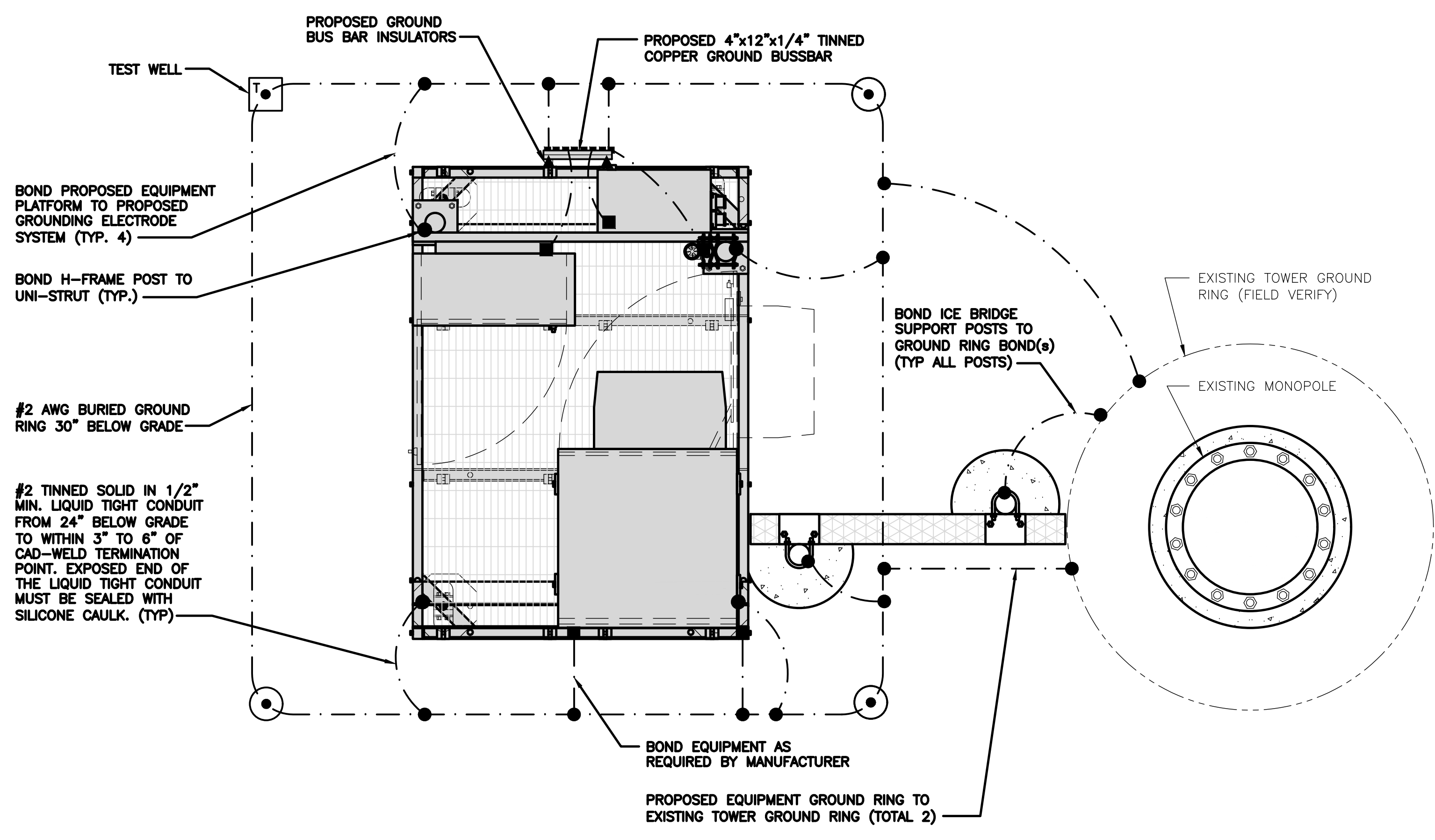
A&E PROJECT NUMBER
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DISH WIRELESS L.L.C.
PROJECT INFORMATION

BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
GROUNDING PLANS
AND NOTES

SHEET NUMBER
G-1



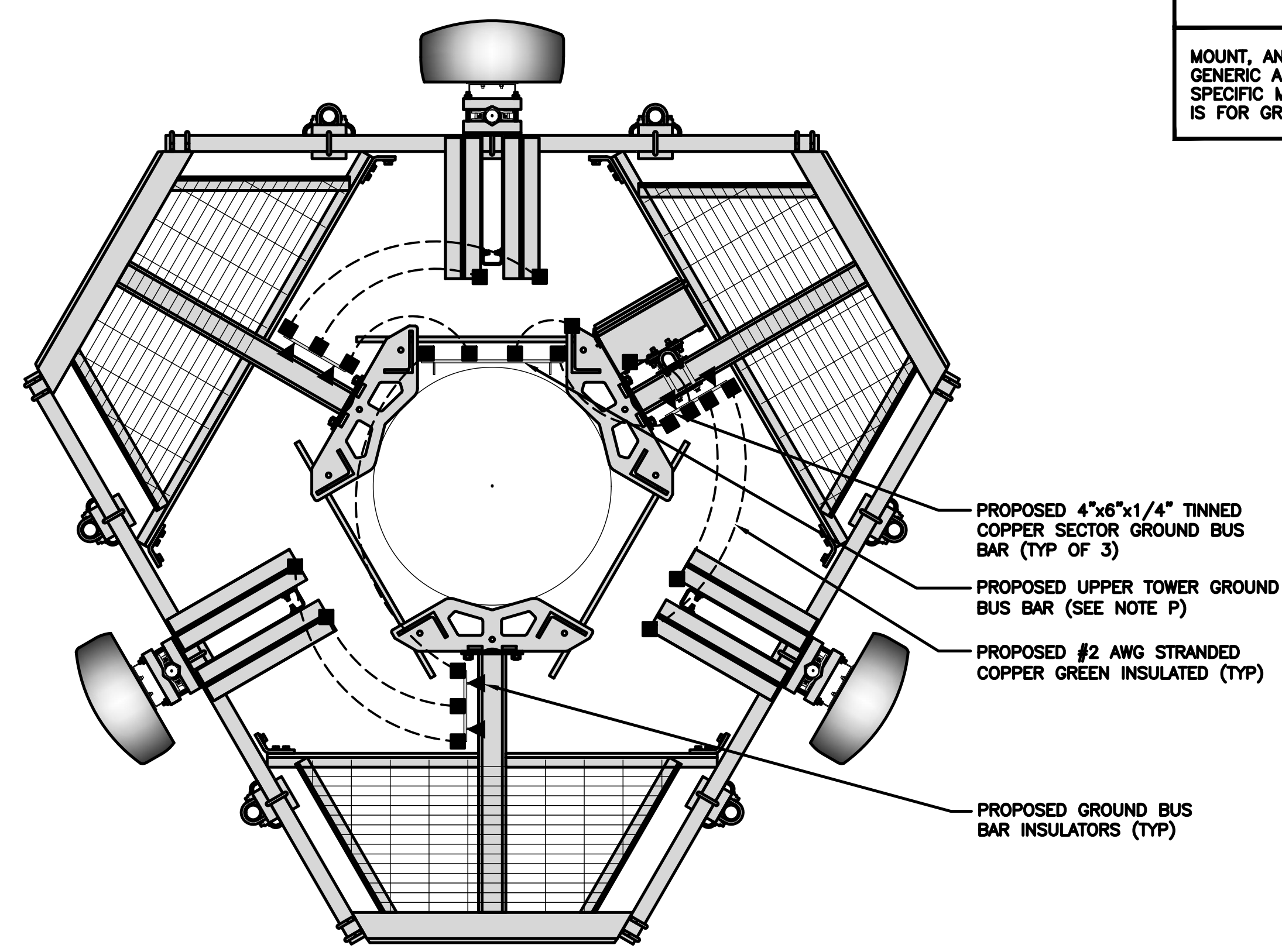
TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE

1

NOTES

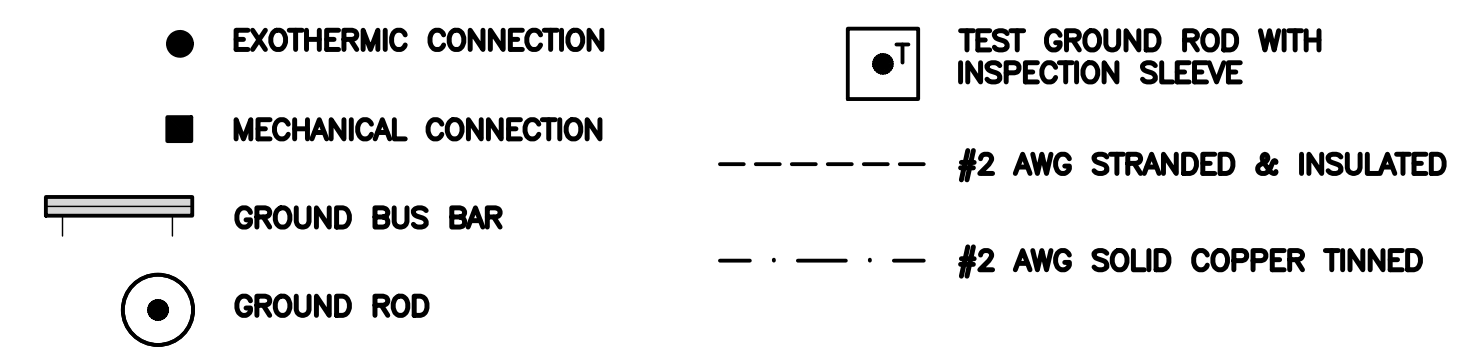
MOUNT, ANTENNAS AND OVP SHOWN ARE GENERIC AND NOT REFERENCING TO A SPECIFIC MANUFACTURER. THIS LAYOUT IS FOR GROUNDING REFERENCE ONLY.



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE

2



GROUNDING LEGEND

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

GROUNDING KEY NOTES

- (A) **EXTERIOR GROUND RING:** #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.
- (B) **TOWER GROUND RING:** THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.
- (C) **INTERIOR GROUND RING:** #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.
- (D) **BOND TO INTERIOR GROUND RING:** #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.
- (E) **GROUND ROD:** UL LISTED COPPER CLAD STEEL, MINIMUM 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 BUS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR. REFER TO DISH WIRELESS L.L.C. GROUNDING NOTES.

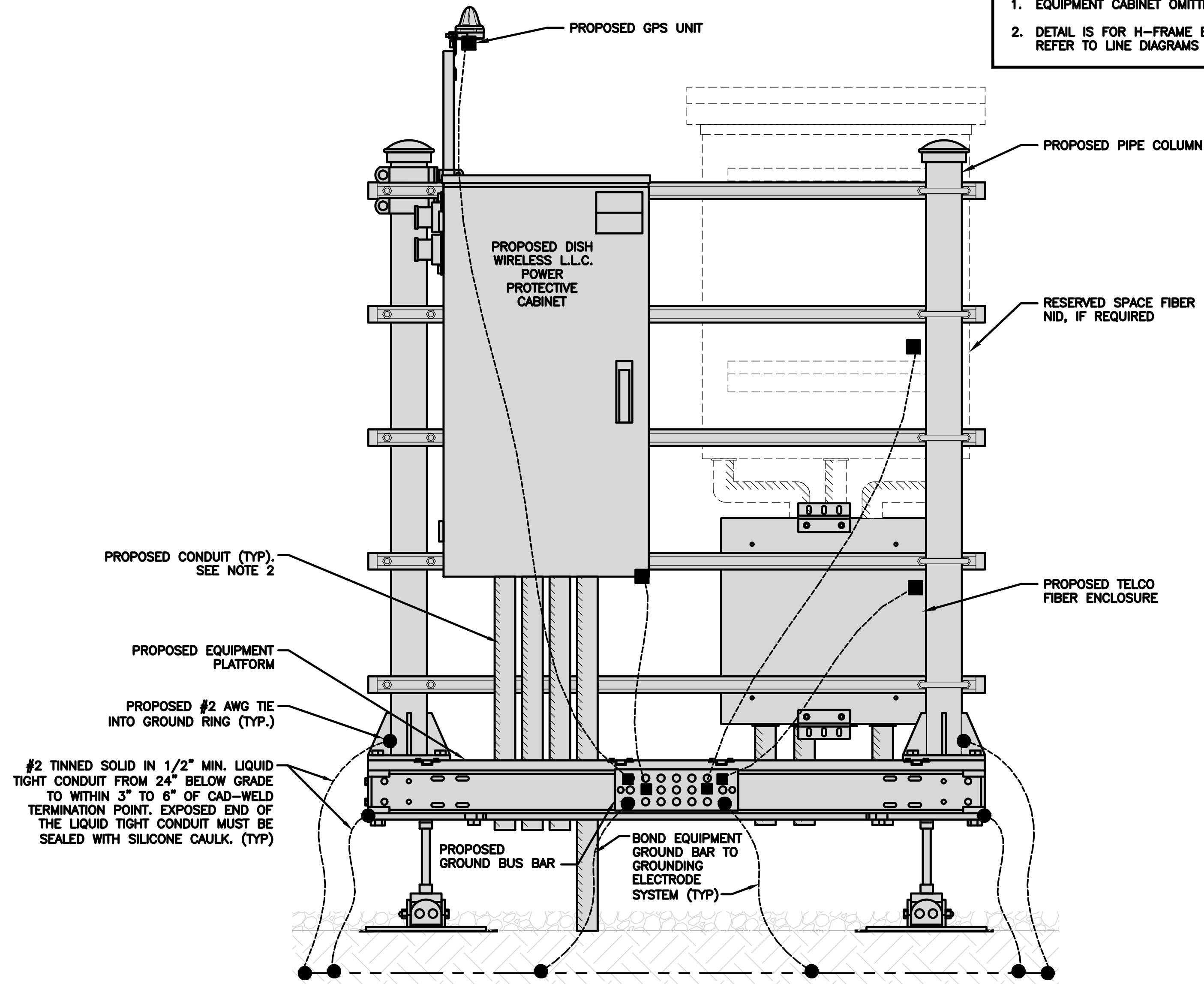
GROUNDING KEY NOTES

NO SCALE

3

NOTES

1. EQUIPMENT CABINET OMITTED FOR CLARITY
2. DETAIL IS FOR H-FRAME EQUIPMENT GROUNDING PURPOSES. REFER TO LINE DIAGRAMS FOR EXACT CONDUIT QUANTITY.



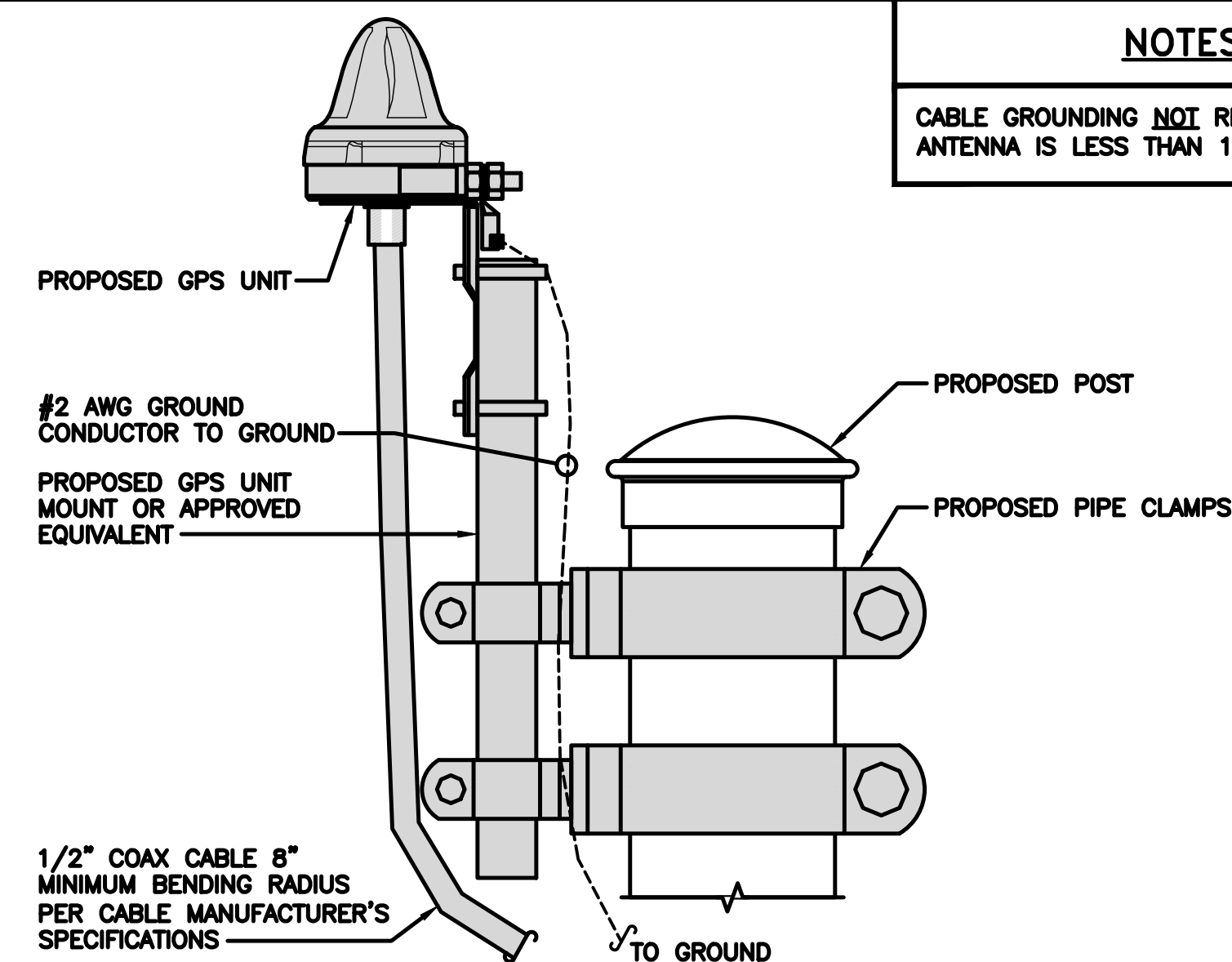
H-FRAME GROUNDING DETAIL

NO SCALE

1

NOTES

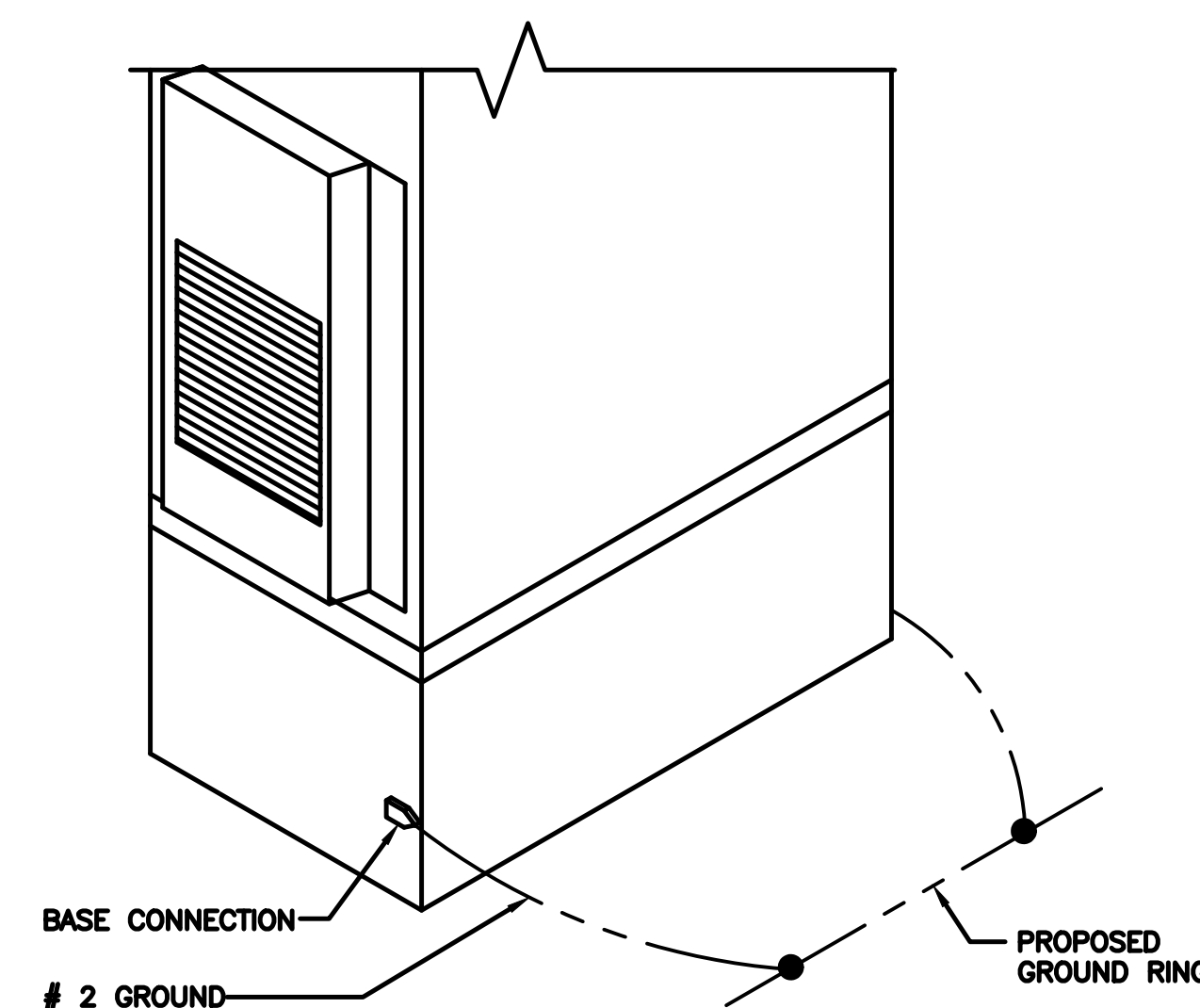
CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



TYPICAL GPS UNIT GROUNDING

NO SCALE

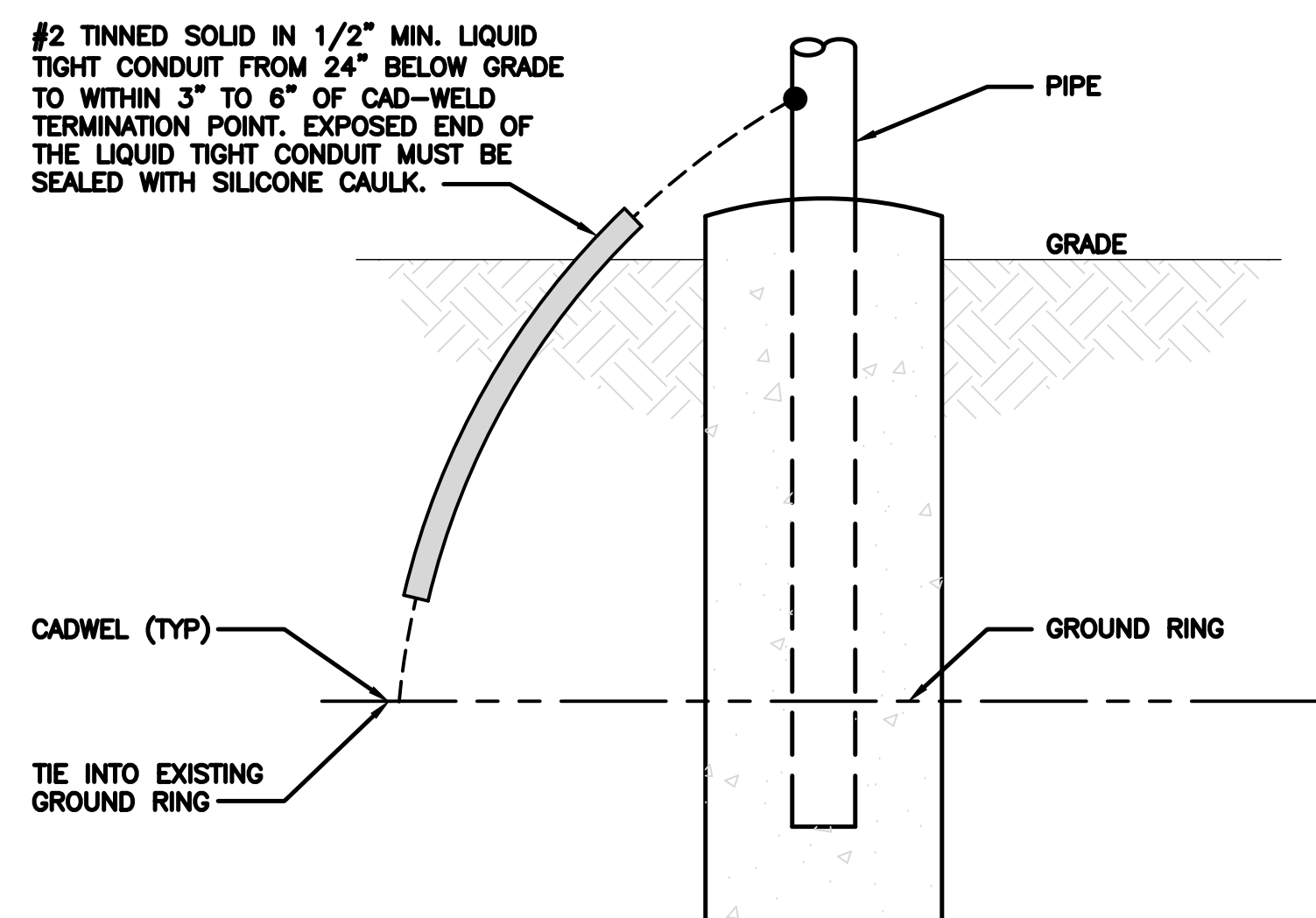
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OUTDOOR CABINET GROUNDING

NO SCALE

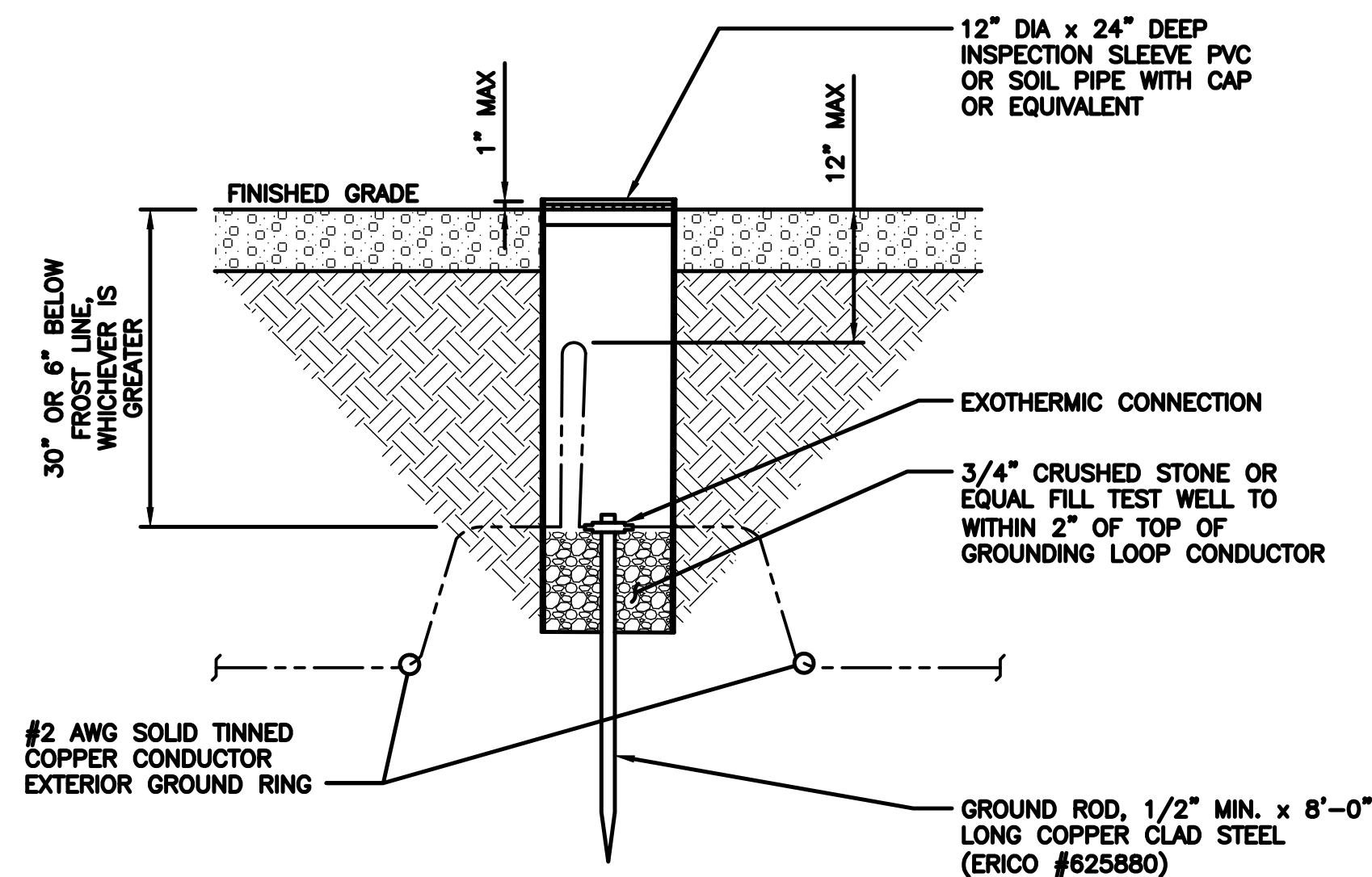
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TRANSITIONING GROUND DETAIL

NO SCALE

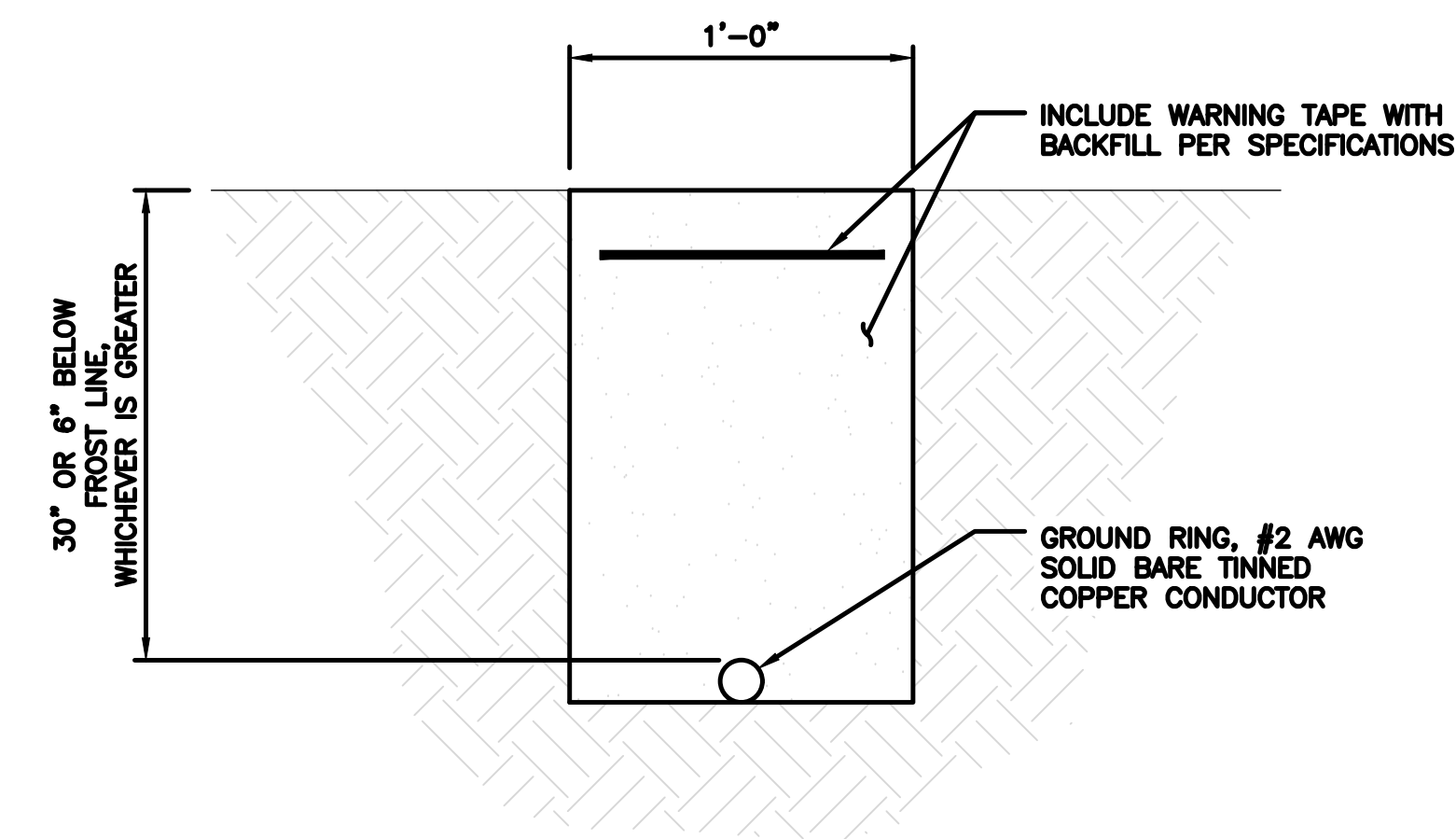
4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE

NO SCALE

5



TYPICAL GROUND RING TRENCH

NO SCALE

6

dish
wireless.

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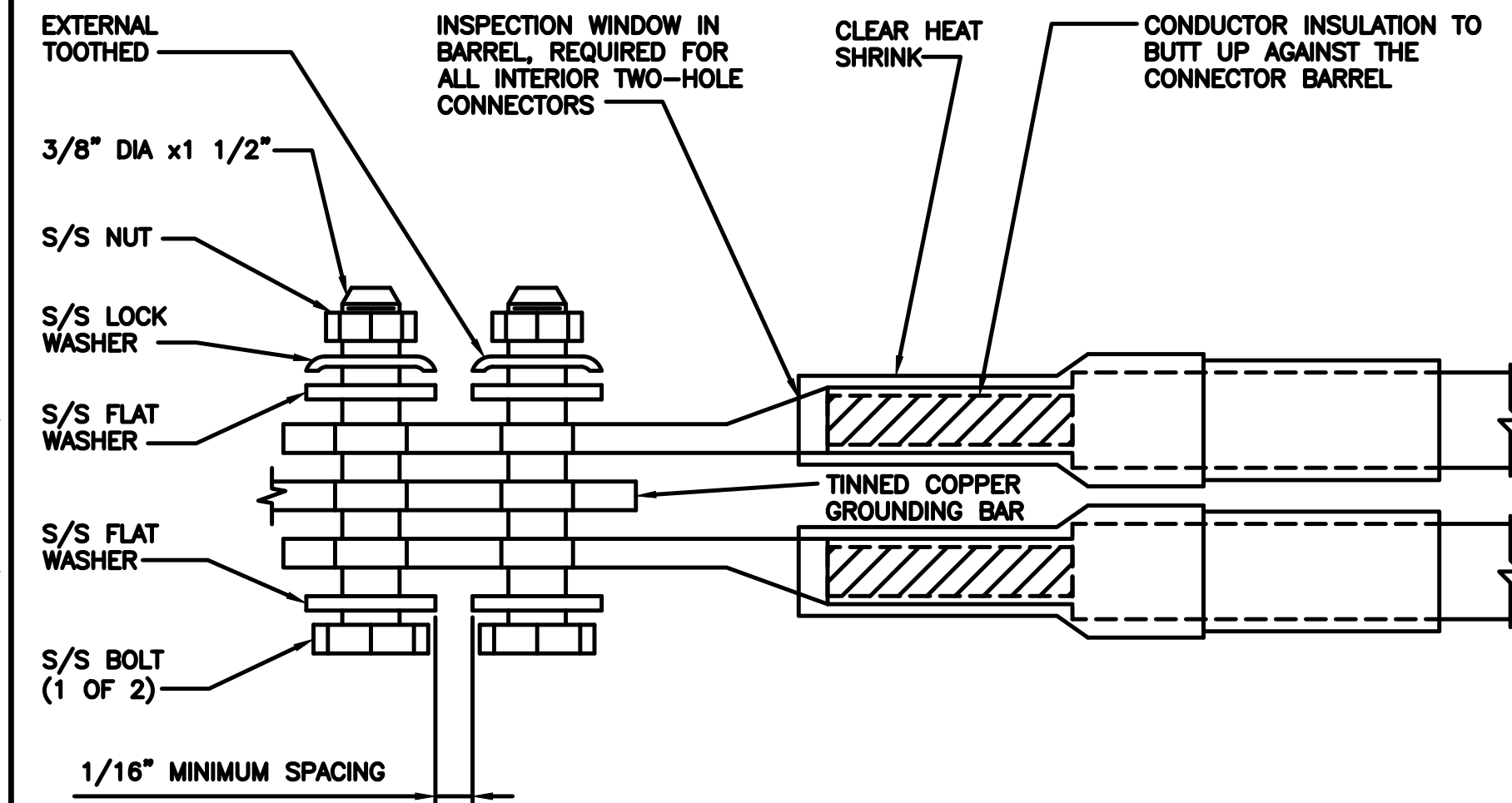
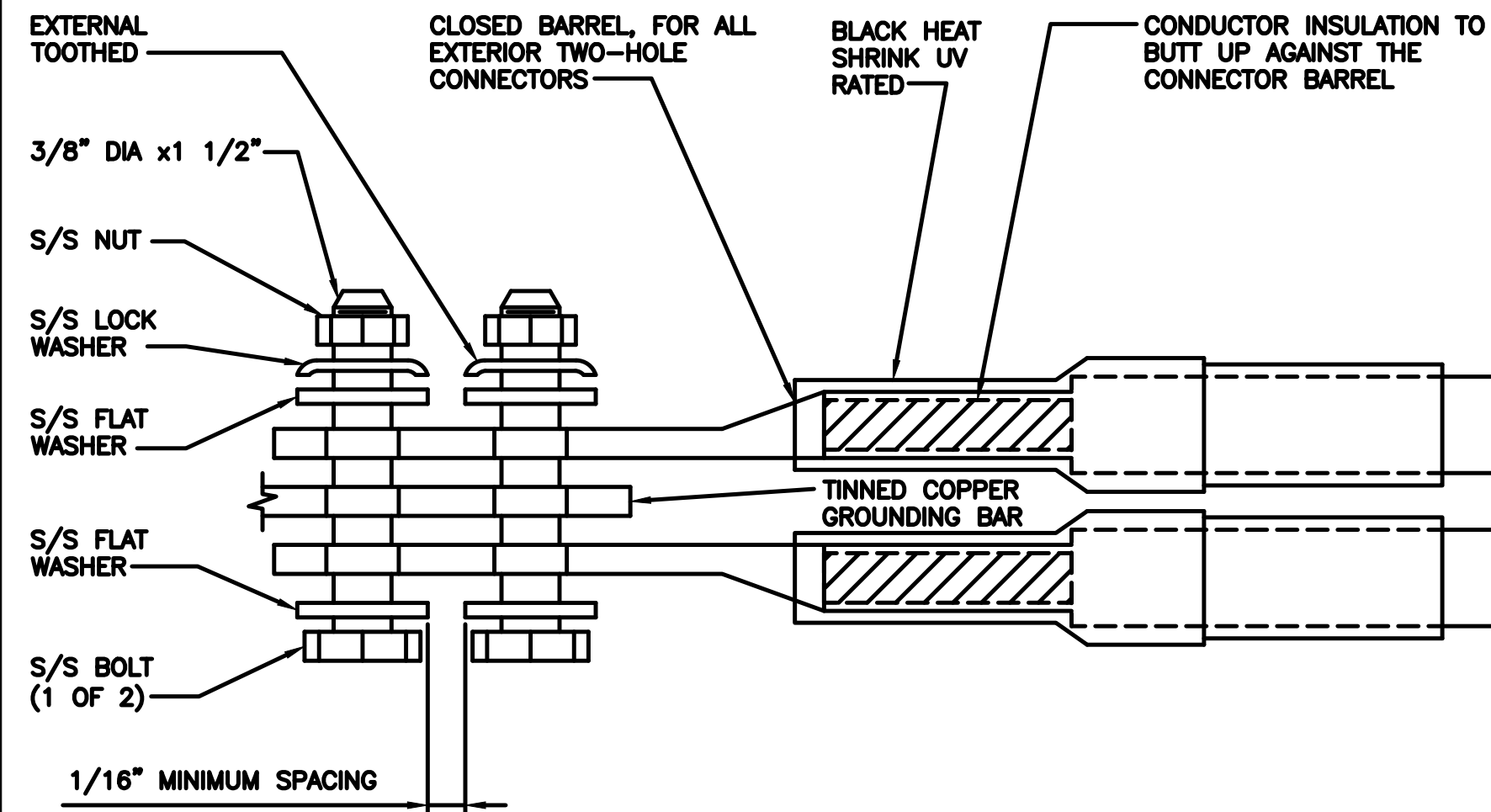
DISH WIRELESS L.L.C.
PROJECT INFORMATION
BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER

G-2

- 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.
- 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.
- FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
- DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
- NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
- ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
- ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).



TYPICAL GROUNDING NOTES

NO SCALE

1

TYPICAL EXTERIOR TWO HOLE LUG

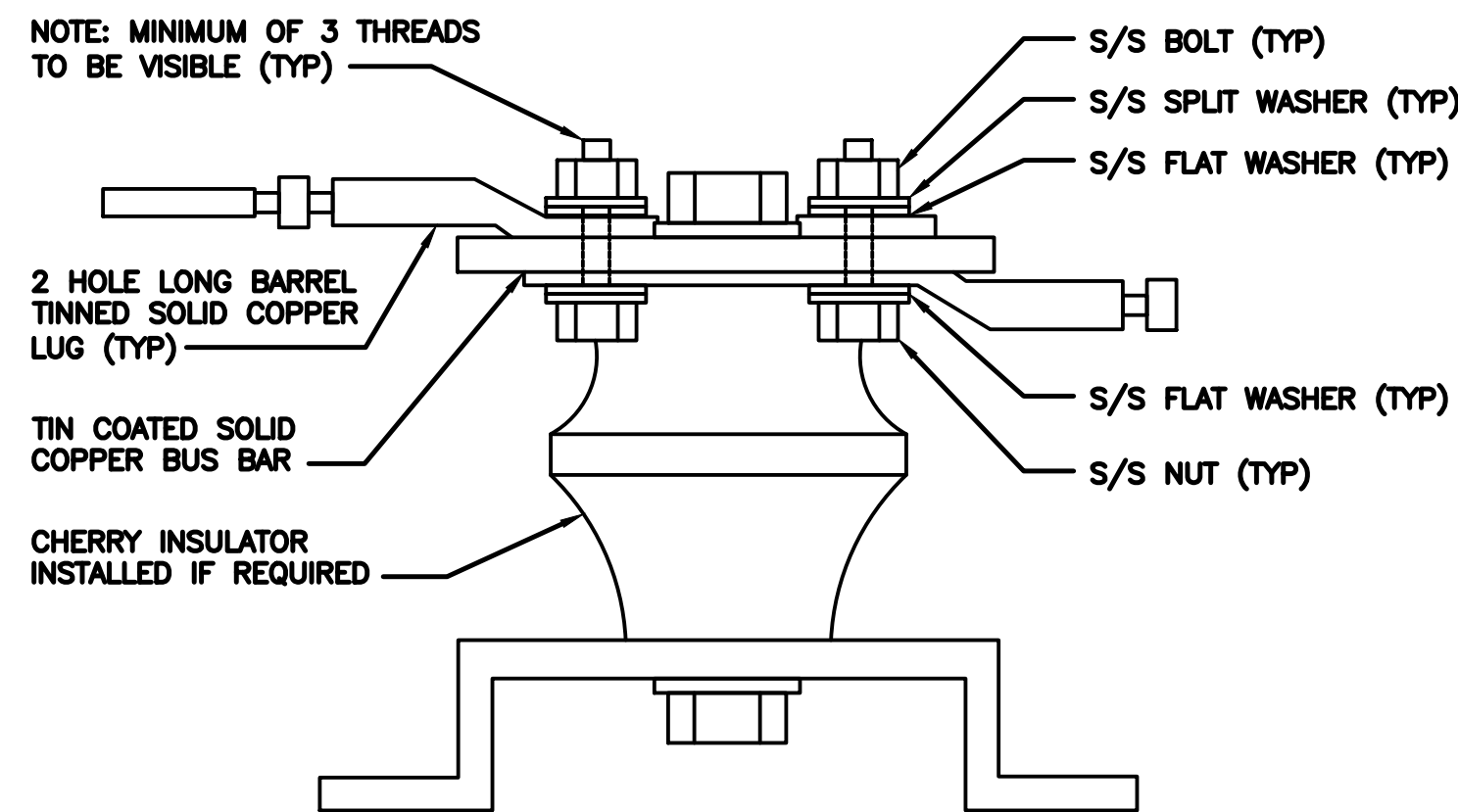
NO SCALE

2

TYPICAL INTERIOR TWO HOLE LUG

NO SCALE

3



LUG DETAIL

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9

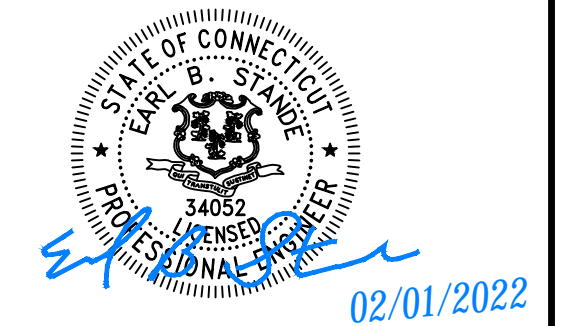
dish
wireless.

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CONSTRUCTION DOCUMENTS

SUBMITTALS		
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A&E PROJECT NUMBER
EUCC0309

DISH WIRELESS L.L.C.
PROJECT INFORMATION

BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER

G-3

RF JUMPER COLOR CODING

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

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

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

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

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

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

RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
PURPLE	PURPLE	RED	RED	PURPLE	PURPLE	BLUE	BLUE	PURPLE	PURPLE	GREEN	GREEN
	WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE
			WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT

HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS

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

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

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

FIBER JUMPERS TO RRHs

LOW-BAND RRH FIBER CABLES HAVE SECTOR STRIPE ONLY

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

POWER CABLES TO RRHs

LOW-BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY

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

RET MOTORS AT ANTENNAS

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

MICROWAVE RADIO LINKS

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

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

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

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



AWS
(N66+N70+H-BLOCK)



CBRS TECH
(3 GHz)



NEGATIVE SLANT PORT
ON ANT/RRH



ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR



COLOR IDENTIFIER

NO SCALE

2

NOT USED

NO SCALE

3

RF CABLE COLOR CODES

NO SCALE

1

NOT USED

NO SCALE

4

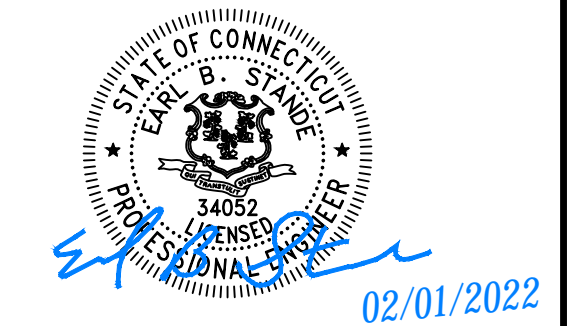


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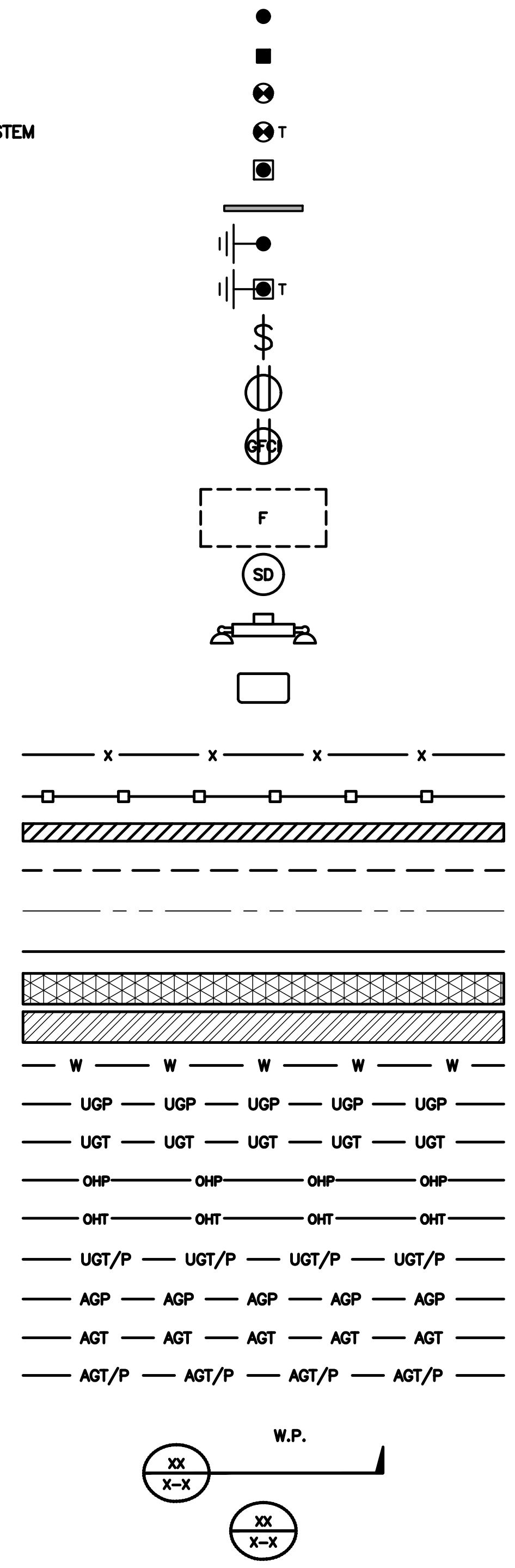
DISH WIRELESS L.L.C.
PROJECT INFORMATION

BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
RF
CABLE COLOR CODES

SHEET NUMBER
RF-1

EXOTHERMIC CONNECTION
 MECHANICAL CONNECTION
 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-DBBTXD
 CHAIN LINK FENCE
 WOOD/WROUGHT IRON FENCE
 WALL STRUCTURE
 LEASE AREA
 PROPERTY LINE (PL)
 SETBACKS
 ICE BRIDGE
 CABLE TRAY
 WATER LINE
 UNDERGROUND POWER
 UNDERGROUND TELCO
 OVERHEAD POWER
 OVERHEAD TELCO
 UNDERGROUND TELCO/POWER
 ABOVE GROUND POWER
 ABOVE GROUND TELCO
 ABOVE GROUND TELCO/POWER
 WORKPOINT
 SECTION REFERENCE
 DETAIL REFERENCE



LEGEND

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

ABBREVIATIONS

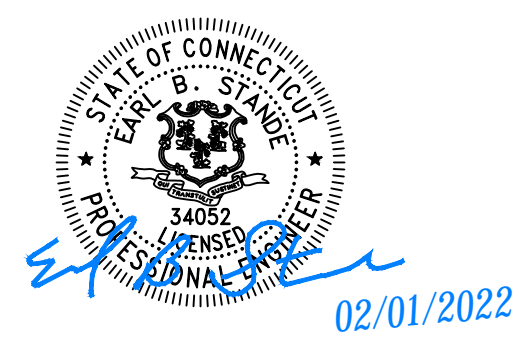


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MWD TJM KRK

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

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2	02/01/2022	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
EUC0309

DISH WIRELESS L.L.C.
PROJECT INFORMATION

BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
LEGEND AND ABBREVIATIONS

SHEET NUMBER
GN-1

SITE ACTIVITY REQUIREMENTS:

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

GENERAL NOTES:

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

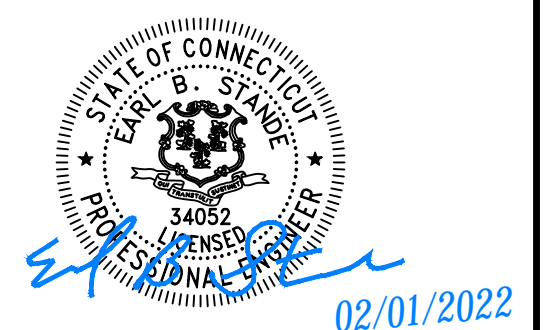


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A&E PROJECT NUMBER
EUC0309

DISH WIRELESS L.L.C.
PROJECT INFORMATION

BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
 - ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
 - 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.
- 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.
- 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).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- TIE WRAPS ARE NOT ALLOWED.
- 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.
- 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.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- 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.
- 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).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECIMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH WIRELESS L.L.C."
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

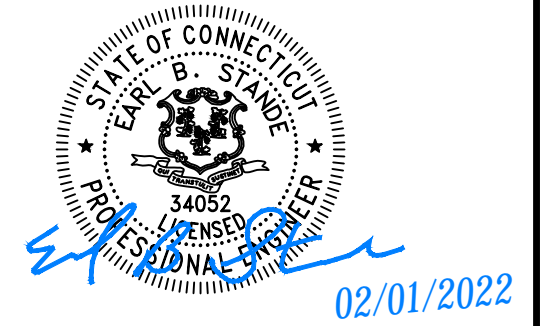


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DRAWN BY: CHECKED BY: APPROVED BY:

MWD TJM KRK

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

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REV	DATE	DESCRIPTION
1	12/16/2021	ISSUED FOR CONSTRUCTION
2	02/01/2022	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
EUCC0309

DISH WIRELESS L.L.C.
PROJECT INFORMATION

BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-3

GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.

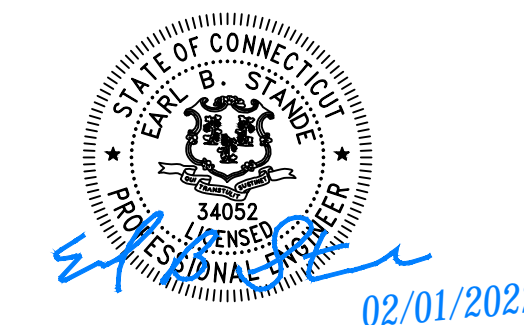


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DISH WIRELESS L.L.C.
PROJECT INFORMATION

BOBOS00036A
280 ROSS ROAD
KILLINGLY, CT 06239

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-4

Exhibit D

Structural Analysis Report



MORRISON HERSHFIELD

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379-8500

Date: **September 08, 2021**

Subject: **Structural Analysis Report**

Carrier Designation: **DISH Network Co-Locate**
Site Number: BOBOS00036A
Site Name: CT-CCI-T-857013

Crown Castle Designation: **BU Number:** 857013
Site Name: Killingly Ross Road
JDE Job Number: 645154
Work Order Number: 1965573
Order Number: 553316 Rev. 0

Engineering Firm Designation: **Morrison Hershfield Project Number:** CN6-958R3 / 2101398

Site Data: **280 Ros Road, Killingly, Windham County, CT 06239**
Latitude 41° 46' 17.59", Longitude -71° 51' 20.39"
119 Foot - Monopole Tower

Morrison Hershfield is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above-mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity-57.7%**

This analysis utilizes an ultimate 3-second gust wind speed of 130 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

G. Lance Cooke, P.E. (CT License No. PEN.0028133)
Senior Engineer



Digitally signed by
G. Lance Cooke
Date: 2021.09.08
08:56:45-07'00'

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1) INTRODUCTION

This tower is a 119 ft monopole tower and the original drawings are not available. A tower mapping was performed by GPD Associates in January of 2009. The tower geometry and member sizes have been obtained from the above mentioned report and are considered to be accurate.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	130 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
75.0	75.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe	1	1-3/8
		3	fujitsu	TA08025-B605		
		3	fujitsu	TA08025-B604		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
119.0	121.0	3	kmw communications	AM-X-CD-17-65-00T-RET w/ Mount Pipe	12 2 1	1-5/8 7/8 1/2
		6	powerwave technologies	7770.00 w/ Mount Pipe		
		6	ericsson	RRUS 11 B12		
		6	powerwave technologies	LGP21401		
		6	powerwave technologies	LGP21901		
		1	raycap	DC6-48-60-18-8F		
	119.0	1	-	Platform Mount [LP 1202-1]		
107.0	110.0	3	rfs celwave	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	12 1	1-5/8 1-1/4
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
		3	ericsson	KRY 112 489/2		
		3	ericsson	RADIO 4449 B12/B71		
	107.0	1	Site pro 1	Top Rail Kit [#HRK-14]		
107.0	1	-	Platform Mount [LP 304-1]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
100.0	100.0	3	samsung telecommunications	MT6407-77A w/ Mount Pipe	13	1-5/8
		6	commscope	JAHH-65B-R3B		
		3	commscope	CBC78T-DS-43-2X		
		1	raycap	RVZDC-6627-PF-48		
		3	samsung telecommunications	RF4439D-25A		
		3	samsung telecommunications	RF4440D-13A		
		3	-	Side-By-Side Mounting Kit [#BSAMNT-SBS-2-2]		
		1	-	Platform Mount [LP 304-1]		
85.0	85.0	6	cci antennas	BFA8F-A5A W/RRH w/ Mount Pipe	1	7/8
		1	raycap	RHCDC-1390-PF-48		
		6	raycap	RHCDC-3441-P-48-NA		
		1	-	Sector Mount [SM 406-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	4908007	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	4908012	CCISITES
4-TOWER MANUFACTURER DRAWINGS	4908008	CCISITES

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

3.2) Assumptions

- 1) Tower and structures were maintained in accordance with the TIA-222 Standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Morrison Hershfield should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	119 - 84.33	Pole	TP29.03x19.0986x0.5	1	-17.15	2061.37	18.9	Pass
L2	84.33 - 45.5	Pole	TP39.15x26.9902x0.625	2	-33.96	3479.77	29.6	Pass
L3	45.5 - 0	Pole	TP50.9295x36.4996x0.6875	3	-57.22	5180.22	32.2	Pass
							Summary	
						Pole (L3)	32.2	Pass
						Rating =	32.2	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	40.3	Pass
1	Base Plate		57.7	Pass
1	Base Foundation (Structure)	0	36.8	Pass
1	Base Foundation (Soil Interaction)		30.6	Pass

Structure Rating (max from all components) =	57.7%*
-----------------------------------------------------	---------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) *Rating per TIA-222-H, Section 15.5.

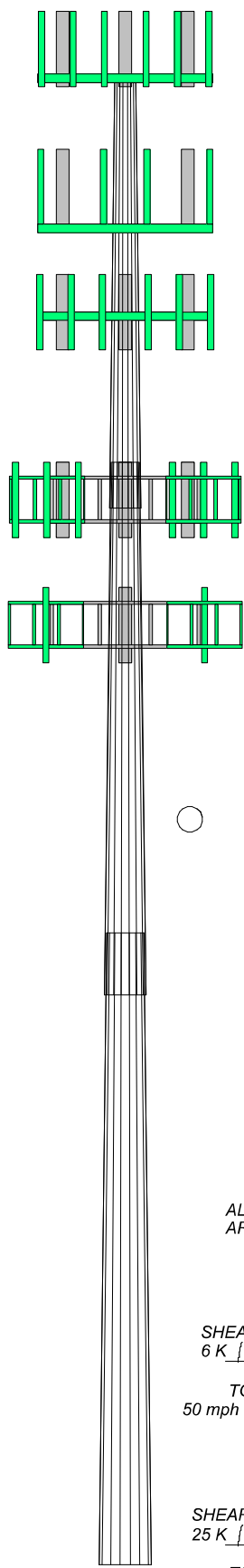
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A
TNXTOWER OUTPUT

Section	1	2	3	4
Length (ft)	34.67	42.46	50.39	28.8
Number of Sides	18	18	18	
Thickness (in)	0.5000	0.6250	0.6875	
Socket Length (ft)	3.63	4.89		
Top Dia (in)	19.0986	26.9902	36.4996	
Bot Dia (in)	29.0300	39.1500	50.9295	
Grade		A572-50		
Weight (K)	4.4	9.3	16.1	

119.0 ft
84.3 ft
45.5 ft
0.0 ft

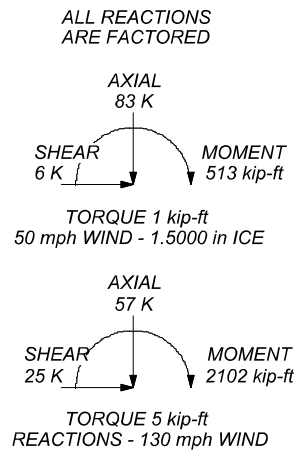


MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

TOWER DESIGN NOTES

1. Tower is located in Windham County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 130 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 32.2%



Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
Phone: (770) 379-8500
FAX: (770) 379-8501

Job: CN6-958R3 / 2101398	Project: 857013 / Killingly Ross Road	
Client: Crown Castle USA	Drawn by: BH	App'd:
Code: TIA-222-H	Date: 09/08/21	Scale: NTS
Path:		Dwg No. E-1

Tower Input Data

The tower is a monopole.
 This tower is designed using the TIA-222-H standard.
 The following design criteria apply:

- Tower is located in Windham County, Connecticut.
- Tower base elevation above sea level: 453.00 ft.
- Basic wind speed of 130 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 1.5000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile
 Include Bolts In Member Capacity
 Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt.
 Autocalc Torque Arm Areas
 Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption
 <li style="text-align: center;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	119.00-84.33	34.67	3.63	18	19.0986	29.0300	0.5000	2.0000	A572-50 (50 ksi)
L2	84.33-45.50	42.46	4.89	18	26.9902	39.1500	0.6250	2.5000	A572-50 (50 ksi)
L3	45.50-0.00	50.39		18	36.4996	50.9295	0.6875	2.7500	A572-50 (50 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	19.3161	29.5160	1289.8952	6.6025	9.7021	132.9503	2581.4878	14.7608	2.4814	4.963
	29.4007	45.2771	4656.0720	10.1282	14.7472	315.7250	9318.2707	22.6429	4.2293	8.459
L2	28.3657	52.3019	4593.2065	9.3596	13.7110	335.0014	9192.4568	26.1559	3.6503	5.84
	39.6575	76.4240	14330.2027	13.6764	19.8882	720.5379	28679.2614	38.2192	5.7904	9.265
L3	38.3785	78.1464	12662.1056	12.7133	18.5418	682.8955	25340.8723	39.0806	5.2139	7.584
	51.6091	109.6343	34963.7360	17.8359	25.8722	1351.4025	69973.4782	54.8276	7.7536	11.278

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 119.00-84.33				1	1	1			
L2 84.33-45.50				1	1	1			
L3 45.50-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
***** Safety Line 3/8"	C	No	Surface Ar (CaAa)	119.00 - 12.50	1	1	0.000 0.000	0.3750		0.22
Step Pegs	C	No	Surface Ar (CaAa)	119.00 - 12.50	1	1	-0.050 0.050	0.7050		1.80
***** EUCAHYBRID 78-12C6-24MM5(7/8) *****	A	No	Surface Ar (CaAa)	85.00 - 5.00	1	1	-0.400 -0.400	1.1000		0.73

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C _A A _A ft ² /ft	Weight plf	
***** LDF4-50A(1/2)	C	No	No	Inside Pole	119.00 - 3.00	1	No Ice 1/2" Ice	0.00 0.00	0.15 0.15

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
LDF5-50A(7/8)	C	No	No	Inside Pole	119.00 - 3.00	2	1" Ice	0.00	0.15
							2" Ice	0.00	0.15
							No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
LDF7-50A(1-5/8)	C	No	No	Inside Pole	119.00 - 3.00	12	2" Ice	0.00	0.33
							No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82

AVA7-50(1-5/8)	C	No	No	Inside Pole	107.00 - 7.00	6	No Ice	0.00	0.70
							1/2" Ice	0.00	0.70
							1" Ice	0.00	0.70
							2" Ice	0.00	0.70
LDF7-50A(1-5/8)	C	No	No	Inside Pole	107.00 - 7.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82

HB114-U6S12-XXX-LI(1-1/4)	C	No	No	Inside Pole	107.00 - 7.00	1	No Ice	0.00	1.70
							1/2" Ice	0.00	1.70
							1" Ice	0.00	1.70
							2" Ice	0.00	1.70

HJ7-50A(1-5/8)	B	No	No	Inside Pole	100.00 - 7.00	12	No Ice	0.00	1.04
							1/2" Ice	0.00	1.04
							1" Ice	0.00	1.04
							2" Ice	0.00	1.04
HB158-1-08U8-S8J18(1-5/8)	B	No	No	Inside Pole	100.00 - 7.00	1	No Ice	0.00	1.30
							1/2" Ice	0.00	1.30
							1" Ice	0.00	1.30
							2" Ice	0.00	1.30

CU12PSM9P8XXX(1-3/8)	A	No	No	Inside Pole	75.00 - 0.00	1	No Ice	0.00	1.66
							1/2" Ice	0.00	1.66
							1" Ice	0.00	1.66
							2" Ice	0.00	1.66

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	119.00-84.33	A	0.000	0.000	0.074	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.22
		C	0.000	0.000	3.744	0.000	0.68
L2	84.33-45.50	A	0.000	0.000	4.271	0.000	0.08
		B	0.000	0.000	0.000	0.000	0.54
		C	0.000	0.000	4.194	0.000	0.91
L3	45.50-0.00	A	0.000	0.000	4.455	0.000	0.11
		B	0.000	0.000	0.000	0.000	0.53
		C	0.000	0.000	3.564	0.000	0.94

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
---------------	--------------------	-------------	------------------	--------------------------------	--------------------------------	-------------------------------------------------------	--------------------------------------------------------	----------

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
L1	119.00-84.33	A	1.425	0.000	0.000	0.265	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.22
		C		0.000	0.000	23.513	0.000	0.92
L2	84.33-45.50	A	1.363	0.000	0.000	15.341	0.000	0.25
		B		0.000	0.000	0.000	0.000	0.54
		C		0.000	0.000	26.334	0.000	1.18
L3	45.50-0.00	A	1.223	0.000	0.000	15.494	0.000	0.27
		B		0.000	0.000	0.000	0.000	0.53
		C		0.000	0.000	21.554	0.000	1.15

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
L1	119.00-84.33	-0.0191	0.8425	-0.0320	2.4602
L2	84.33-45.50	-0.7934	1.0648	-1.3730	2.8847
L3	45.50-0.00	-0.7160	0.8136	-1.3051	2.2638

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	2	Safety Line 3/8"	84.33 - 119.00	1.0000	1.0000
L1	3	Step Pegs	84.33 - 119.00	1.0000	1.0000
L1	19	EUCAHYBRID 78-12C6-24MM5(7/8)	84.33 - 85.00	1.0000	1.0000
L2	2	Safety Line 3/8"	45.50 - 84.33	1.0000	1.0000
L2	3	Step Pegs	45.50 - 84.33	1.0000	1.0000
L2	19	EUCAHYBRID 78-12C6-24MM5(7/8)	45.50 - 84.33	1.0000	1.0000
L3	2	Safety Line 3/8"	12.50 - 45.50	1.0000	1.0000
L3	3	Step Pegs	12.50 - 45.50	1.0000	1.0000
L3	19	EUCAHYBRID 78-12C6-24MM5(7/8)	5.00 - 45.50	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K

(2) 7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.75 6.18 6.61 7.49	4.25 5.01 5.71 7.16	0.06 0.10 0.16 0.29
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.75 6.18 6.61 7.49	4.25 5.01 5.71 7.16	0.06 0.10 0.16 0.29
(2) 7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.75 6.18 6.61 7.49	4.25 5.01 5.71 7.16	0.06 0.10 0.16 0.29
AM-X-CD-17-65-00T-RET w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.09 6.66 7.24 8.43	4.31 4.86 5.42 6.57	0.09 0.17 0.26 0.48
AM-X-CD-17-65-00T-RET w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.09 6.66 7.24 8.43	4.31 4.86 5.42 6.57	0.09 0.17 0.26 0.48
AM-X-CD-17-65-00T-RET w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.09 6.66 7.24 8.43	4.31 4.86 5.42 6.57	0.09 0.17 0.26 0.48
(2) LGP21401	A	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.10 1.24 1.38 1.69	0.21 0.27 0.35 0.52	0.01 0.02 0.03 0.05
(2) LGP21401	B	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.10 1.24 1.38 1.69	0.21 0.27 0.35 0.52	0.01 0.02 0.03 0.05
(2) LGP21401	C	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.10 1.24 1.38 1.69	0.21 0.27 0.35 0.52	0.01 0.02 0.03 0.05
(2) RRUS 11 B12	A	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.83 3.04 3.26 3.71	1.18 1.33 1.48 1.83	0.05 0.07 0.10 0.15
(2) RRUS 11 B12	B	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.83 3.04 3.26 3.71	1.18 1.33 1.48 1.83	0.05 0.07 0.10 0.15
(2) RRUS 11 B12	C	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.83 3.04 3.26 3.71	1.18 1.33 1.48 1.83	0.05 0.07 0.10 0.15
(2) LGP21901	A	From Leg	4.00 0.00 2.00	0.0000	119.00	No Ice 1/2" Ice 1" Ice	0.23 0.29 0.36 0.53	0.16 0.21 0.28 0.42	0.01 0.01 0.01 0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
(2) LGP21901	B	From Leg	4.00 0.00 2.00	0.0000	119.00	2" Ice			
						No Ice	0.23	0.16	0.01
						1/2"	0.29	0.21	0.01
						Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
(2) LGP21901	C	From Leg	4.00 0.00 2.00	0.0000	119.00	2" Ice			
						No Ice	0.23	0.16	0.01
						1/2"	0.29	0.21	0.01
						Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
DC6-48-60-18-8F	C	From Leg	4.00 0.00 2.00	0.0000	119.00	2" Ice			
						No Ice	0.92	0.92	0.02
						1/2"	1.46	1.46	0.04
						Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
Platform Mount [LP 1202-1]	C	None		0.0000	119.00	2" Ice			
						No Ice	23.61	23.61	3.40
						1/2"	28.39	28.39	4.08
						Ice	33.20	33.20	4.83
						1" Ice	42.89	42.89	6.57
7'x2" Antenna Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	119.00	2" Ice			
						No Ice	1.66	1.66	0.03
						1/2"	2.39	2.39	0.04
						Ice	2.83	2.83	0.06
						1" Ice	3.71	3.71	0.10
7'x2" Antenna Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	119.00	2" Ice			
						No Ice	1.66	1.66	0.03
						1/2"	2.39	2.39	0.04
						Ice	2.83	2.83	0.06
						1" Ice	3.71	3.71	0.10
7'x2" Antenna Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	119.00	2" Ice			
						No Ice	1.66	1.66	0.03
						1/2"	2.39	2.39	0.04
						Ice	2.83	2.83	0.06
						1" Ice	3.71	3.71	0.10
***** Platform Mount [LP 304-1]	C	None		0.0000	107.00	2" Ice			
						No Ice	17.49	17.49	1.35
						1/2"	21.37	21.37	1.71
						Ice	25.28	25.28	2.13
						1" Ice	33.17	33.17	3.16
*** APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	A	From Leg	4.00 0.00 3.00	0.0000	107.00	2" Ice			
						No Ice	6.29	2.76	0.06
						1/2"	6.86	3.27	0.11
						Ice	7.45	3.79	0.16
						1" Ice	8.68	4.90	0.29
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	B	From Leg	4.00 0.00 3.00	0.0000	107.00	2" Ice			
						No Ice	6.29	2.76	0.06
						1/2"	6.86	3.27	0.11
						Ice	7.45	3.79	0.16
						1" Ice	8.68	4.90	0.29
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	C	From Leg	4.00 0.00 3.00	0.0000	107.00	2" Ice			
						No Ice	6.29	2.76	0.06
						1/2"	6.86	3.27	0.11
						Ice	7.45	3.79	0.16
						1" Ice	8.68	4.90	0.29
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00 0.00 3.00	0.0000	107.00	2" Ice			
						No Ice	14.69	6.87	0.19
						1/2"	15.46	7.55	0.31
						Ice	16.23	8.25	0.46
						1" Ice	17.82	9.67	0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00	0.0000	107.00	2" Ice			
						No Ice	14.69	6.87	0.19
						1/2"	15.46	7.55	0.31

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			3.00			Ice 16.23	8.25	0.46
						1" Ice 17.82	9.67	0.79
						2" Ice		
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00	0.0000	107.00	No Ice 14.69	6.87	0.19
			0.00			1/2" 15.46	7.55	0.31
			3.00			Ice 16.23	8.25	0.46
						1" Ice 17.82	9.67	0.79
						2" Ice		
KRY 112 489/2	A	From Leg	4.00	0.0000	107.00	No Ice 0.56	0.37	0.02
			0.00			1/2" 0.66	0.45	0.02
			3.00			Ice 0.76	0.54	0.03
						1" Ice 1.00	0.75	0.05
						2" Ice		
KRY 112 489/2	B	From Leg	4.00	0.0000	107.00	No Ice 0.56	0.37	0.02
			0.00			1/2" 0.66	0.45	0.02
			3.00			Ice 0.76	0.54	0.03
						1" Ice 1.00	0.75	0.05
						2" Ice		
KRY 112 489/2	C	From Leg	4.00	0.0000	107.00	No Ice 0.56	0.37	0.02
			0.00			1/2" 0.66	0.45	0.02
			3.00			Ice 0.76	0.54	0.03
						1" Ice 1.00	0.75	0.05
						2" Ice		
RADIO 4449 B12/B71	A	From Leg	4.00	0.0000	107.00	No Ice 1.65	1.16	0.07
			0.00			1/2" 1.81	1.30	0.09
			3.00			Ice 1.98	1.45	0.11
						1" Ice 2.34	1.76	0.16
						2" Ice		
RADIO 4449 B12/B71	B	From Leg	4.00	0.0000	107.00	No Ice 1.65	1.16	0.07
			0.00			1/2" 1.81	1.30	0.09
			3.00			Ice 1.98	1.45	0.11
						1" Ice 2.34	1.76	0.16
						2" Ice		
RADIO 4449 B12/B71	C	From Leg	4.00	0.0000	107.00	No Ice 1.65	1.16	0.07
			0.00			1/2" 1.81	1.30	0.09
			3.00			Ice 1.98	1.45	0.11
						1" Ice 2.34	1.76	0.16
						2" Ice		
Top Rail Kit [#HRK-14]	C	None		0.0000	107.00	No Ice 6.36	6.36	0.26
						1/2" 8.52	8.52	0.34
						Ice 10.62	10.62	0.46
						1" Ice 14.64	14.64	0.77
						2" Ice		

(2) 6' x 2" Mount Pipe	A	From Leg	4.00	0.0000	100.00	No Ice 1.43	1.43	0.02
			0.00			1/2" 1.92	1.92	0.03
			0.00			Ice 2.29	2.29	0.05
						1" Ice 3.06	3.06	0.09
						2" Ice		
(2) 6' x 2" Mount Pipe	B	From Leg	4.00	0.0000	100.00	No Ice 1.43	1.43	0.02
			0.00			1/2" 1.92	1.92	0.03
			0.00			Ice 2.29	2.29	0.05
						1" Ice 3.06	3.06	0.09
						2" Ice		
(2) 6' x 2" Mount Pipe	C	From Leg	4.00	0.0000	100.00	No Ice 1.43	1.43	0.02
			0.00			1/2" 1.92	1.92	0.03
			0.00			Ice 2.29	2.29	0.05
						1" Ice 3.06	3.06	0.09
						2" Ice		
Platform Mount [LP 304-1]	C	None		0.0000	100.00	No Ice 17.49	17.49	1.35
						1/2" 21.37	21.37	1.71
						Ice 25.28	25.28	2.13
						1" Ice 33.17	33.17	3.16
						2" Ice		

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
MT6407-77A w/ Mount Pipe	A	From Leg	4.00	0.0000	100.00	No Ice	4.91	2.68	0.10
			0.00			1/2"	5.26	3.14	0.14
			0.00			Ice	5.61	3.62	0.18
						1" Ice	6.36	4.63	0.29
						2" Ice			
MT6407-77A w/ Mount Pipe	B	From Leg	4.00	0.0000	100.00	No Ice	4.91	2.68	0.10
			0.00			1/2"	5.26	3.14	0.14
			0.00			Ice	5.61	3.62	0.18
						1" Ice	6.36	4.63	0.29
						2" Ice			
MT6407-77A w/ Mount Pipe	C	From Leg	4.00	0.0000	100.00	No Ice	4.91	2.68	0.10
			0.00			1/2"	5.26	3.14	0.14
			0.00			Ice	5.61	3.62	0.18
						1" Ice	6.36	4.63	0.29
						2" Ice			
(2) JAHH-65B-R3B	A	From Leg	4.00	0.0000	100.00	No Ice	5.29	3.05	0.06
			0.00			1/2"	5.75	3.48	0.12
			0.00			Ice	6.22	3.93	0.19
						1" Ice	7.20	4.84	0.33
						2" Ice			
(2) JAHH-65B-R3B	B	From Leg	4.00	0.0000	100.00	No Ice	5.29	3.05	0.06
			0.00			1/2"	5.75	3.48	0.12
			0.00			Ice	6.22	3.93	0.19
						1" Ice	7.20	4.84	0.33
						2" Ice			
(2) JAHH-65B-R3B	C	From Leg	4.00	0.0000	100.00	No Ice	5.29	3.05	0.06
			0.00			1/2"	5.75	3.48	0.12
			0.00			Ice	6.22	3.93	0.19
						1" Ice	7.20	4.84	0.33
						2" Ice			
RF4439D-25A	A	From Leg	4.00	0.0000	100.00	No Ice	1.87	1.25	0.07
			0.00			1/2"	2.03	1.39	0.09
			0.00			Ice	2.21	1.54	0.11
						1" Ice	2.59	1.87	0.17
						2" Ice			
(2) RF4439D-25A	B	From Leg	4.00	0.0000	100.00	No Ice	1.87	1.25	0.07
			0.00			1/2"	2.03	1.39	0.09
			0.00			Ice	2.21	1.54	0.11
						1" Ice	2.59	1.87	0.17
						2" Ice			
CBC78T-DS-43-2X	A	From Leg	4.00	0.0000	100.00	No Ice	0.37	0.51	0.02
			0.00			1/2"	0.45	0.60	0.03
			0.00			Ice	0.53	0.70	0.04
						1" Ice	0.72	0.93	0.06
						2" Ice			
CBC78T-DS-43-2X	B	From Leg	4.00	0.0000	100.00	No Ice	0.37	0.51	0.02
			0.00			1/2"	0.45	0.60	0.03
			0.00			Ice	0.53	0.70	0.04
						1" Ice	0.72	0.93	0.06
						2" Ice			
CBC78T-DS-43-2X	C	From Leg	4.00	0.0000	100.00	No Ice	0.37	0.51	0.02
			0.00			1/2"	0.45	0.60	0.03
			0.00			Ice	0.53	0.70	0.04
						1" Ice	0.72	0.93	0.06
						2" Ice			
(2) RF4440D-13A	A	From Leg	4.00	0.0000	100.00	No Ice	1.87	1.13	0.07
			0.00			1/2"	2.03	1.27	0.09
			0.00			Ice	2.21	1.41	0.11
						1" Ice	2.59	1.72	0.16
						2" Ice			
RF4440D-13A	C	From Leg	4.00	0.0000	100.00	No Ice	1.87	1.13	0.07
			0.00			1/2"	2.03	1.27	0.09
			0.00			Ice	2.21	1.41	0.11
						1" Ice	2.59	1.72	0.16
						2" Ice			

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
RVZDC-6627-PF-48	B	From Leg	4.00	0.0000	100.00	No Ice	3.79	2.51	0.03
			0.00			1/2"	4.04	2.73	0.06
			0.00			Ice	4.30	2.95	0.10
						1" Ice	4.84	3.42	0.18
						2" Ice			
Side-By-Side Mounting Kit [#BSAMNT-SBS-2-2]	A	From Leg	4.00	0.0000	100.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12
						2" Ice			
Side-By-Side Mounting Kit [#BSAMNT-SBS-2-2]	B	From Leg	4.00	0.0000	100.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12
						2" Ice			
Side-By-Side Mounting Kit [#BSAMNT-SBS-2-2]	C	From Leg	4.00	0.0000	100.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice	4.40	4.40	0.12
						2" Ice			

(3) BFA8F-A5A W/RRH w/ Mount Pipe	A	From Leg	4.00	0.0000	85.00	No Ice	15.85	5.69	0.16
			0.00			1/2"	16.62	6.28	0.27
			0.00			Ice	17.40	6.88	0.39
						1" Ice	19.01	8.15	0.67
						2" Ice			
(3) BFA8F-A5A W/RRH w/ Mount Pipe	B	From Leg	4.00	0.0000	85.00	No Ice	15.85	5.69	0.16
			0.00			1/2"	16.62	6.28	0.27
			0.00			Ice	17.40	6.88	0.39
						1" Ice	19.01	8.15	0.67
						2" Ice			
(3) RHCDC-3441-P-48-NA	A	From Leg	4.00	0.0000	85.00	No Ice	0.49	0.19	0.00
			0.00			1/2"	0.57	0.25	0.01
			0.00			Ice	0.67	0.33	0.01
						1" Ice	0.88	0.49	0.03
						2" Ice			
(3) RHCDC-3441-P-48-NA	B	From Leg	4.00	0.0000	85.00	No Ice	0.49	0.19	0.00
			0.00			1/2"	0.57	0.25	0.01
			0.00			Ice	0.67	0.33	0.01
						1" Ice	0.88	0.49	0.03
						2" Ice			
RHCDC-1390-PF-48	A	From Leg	4.00	0.0000	85.00	No Ice	3.18	1.20	0.02
			0.00			1/2"	3.41	1.35	0.04
			0.00			Ice	3.63	1.50	0.07
						1" Ice	4.11	1.85	0.13
						2" Ice			
Sector Mount [SM 406-1]	A	From Leg	4.00	0.0000	85.00	No Ice	9.66	7.90	0.31
			0.00			1/2"	14.38	11.61	0.44
			0.00			Ice	19.29	15.20	0.61
						1" Ice	30.29	22.07	1.11
						2" Ice			

MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00	0.0000	75.00	No Ice	8.01	4.23	0.11
			0.00			1/2"	8.52	4.69	0.19
			0.00			Ice	9.04	5.16	0.29
						1" Ice	10.11	6.12	0.52
						2" Ice			
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00	0.0000	75.00	No Ice	8.01	4.23	0.11
			0.00			1/2"	8.52	4.69	0.19
			0.00			Ice	9.04	5.16	0.29
						1" Ice	10.11	6.12	0.52
						2" Ice			
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00	0.0000	75.00	No Ice	8.01	4.23	0.11
			0.00			1/2"	8.52	4.69	0.19

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			0.00			Ice 9.04	5.16	0.29
						1" Ice 10.11	6.12	0.52
						2" Ice		
TA08025-B604	A	From Leg	4.00	0.0000	75.00	No Ice 1.96	0.98	0.06
			0.00			1/2" 2.14	1.11	0.08
			0.00			Ice 2.32	1.25	0.10
						1" Ice 2.71	1.55	0.15
						2" Ice		
TA08025-B604	B	From Leg	4.00	0.0000	75.00	No Ice 1.96	0.98	0.06
			0.00			1/2" 2.14	1.11	0.08
			0.00			Ice 2.32	1.25	0.10
						1" Ice 2.71	1.55	0.15
						2" Ice		
TA08025-B604	C	From Leg	4.00	0.0000	75.00	No Ice 1.96	0.98	0.06
			0.00			1/2" 2.14	1.11	0.08
			0.00			Ice 2.32	1.25	0.10
						1" Ice 2.71	1.55	0.15
						2" Ice		
TA08025-B605	A	From Leg	4.00	0.0000	75.00	No Ice 1.96	1.13	0.08
			0.00			1/2" 2.14	1.27	0.09
			0.00			Ice 2.32	1.41	0.11
						1" Ice 2.71	1.72	0.16
						2" Ice		
TA08025-B605	B	From Leg	4.00	0.0000	75.00	No Ice 1.96	1.13	0.08
			0.00			1/2" 2.14	1.27	0.09
			0.00			Ice 2.32	1.41	0.11
						1" Ice 2.71	1.72	0.16
						2" Ice		
TA08025-B605	C	From Leg	4.00	0.0000	75.00	No Ice 1.96	1.13	0.08
			0.00			1/2" 2.14	1.27	0.09
			0.00			Ice 2.32	1.41	0.11
						1" Ice 2.71	1.72	0.16
						2" Ice		
RDIDC-9181-PF-48	A	From Leg	4.00	0.0000	75.00	No Ice 2.01	1.17	0.02
			0.00			1/2" 2.19	1.31	0.04
			0.00			Ice 2.37	1.46	0.06
						1" Ice 2.76	1.78	0.11
						2" Ice		
(2) 8' x 2" Mount Pipe	A	From Leg	4.00	0.0000	75.00	No Ice 1.90	1.90	0.03
			0.00			1/2" 2.73	2.73	0.04
			0.00			Ice 3.40	3.40	0.06
						1" Ice 4.40	4.40	0.12
						2" Ice		
(2) 8' x 2" Mount Pipe	B	From Leg	4.00	0.0000	75.00	No Ice 1.90	1.90	0.03
			0.00			1/2" 2.73	2.73	0.04
			0.00			Ice 3.40	3.40	0.06
						1" Ice 4.40	4.40	0.12
						2" Ice		
(2) 8' x 2" Mount Pipe	C	From Leg	4.00	0.0000	75.00	No Ice 1.90	1.90	0.03
			0.00			1/2" 2.73	2.73	0.04
			0.00			Ice 3.40	3.40	0.06
						1" Ice 4.40	4.40	0.12
						2" Ice		
Commscope MC-PK8-DSH	C	None		0.0000	75.00	No Ice 34.24	34.24	1.75
						1/2" 62.95	62.95	2.10
						Ice 91.66	91.66	2.45
						1" Ice 149.08	149.08	3.15
						2" Ice		

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	119 - 84.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.15	-1.12	0.46
			Max. Mx	8	-17.16	-263.42	0.00
			Max. My	2	-17.15	0.01	263.85
			Max. Vy	8	12.09	-263.42	0.00
			Max. Vx	2	-12.12	0.01	263.85
			Max. Torque	22			-4.01
L2	84.33 - 45.5	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L3	45.5 - 0	Pole	Max. Compression	26	-56.00	-8.69	10.29
			Max. M _x	8	-33.99	-921.62	-14.67
			Max. M _y	2	-33.96	15.70	949.05
			Max. V _y	8	19.93	-921.62	-14.67
			Max. V _x	2	-20.68	15.70	949.05
			Max. Torque	23			-4.66
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.13	-8.40	9.99
			Max. M _x	8	-57.22	-2016.16	-40.95
			Max. M _y	2	-57.22	41.93	2081.26
			Max. V _y	8	23.55	-2016.16	-40.95
			Max. V _x	2	-24.29	41.93	2081.26
			Max. Torque	23			-4.66

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	83.13	-0.00	0.00
	Max. H _x	20	57.23	23.53	0.51
	Max. H _z	2	57.23	0.51	24.27
	Max. M _x	2	2081.26	0.51	24.27
	Max. M _z	8	2016.16	-23.53	-0.51
	Max. Torsion	11	4.66	-20.64	-12.58
	Min. Vert	19	42.92	20.12	-11.69
	Min. H _x	8	57.23	-23.53	-0.51
	Min. H _z	14	57.23	-0.51	-24.27
	Min. M _x	14	-2073.23	-0.51	-24.27
	Min. M _z	20	-2010.08	23.53	0.51
	Min. Torsion	23	-4.66	20.64	12.58

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overtuning Moment, M _x kip-ft	Overtuning Moment, M _z kip-ft	Torque kip-ft
Dead Only	47.69	0.00	0.00	-3.26	-2.47	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	57.23	-0.51	-24.27	-2081.26	41.93	3.24
0.9 Dead+1.0 Wind 0 deg - No Ice	42.92	-0.51	-24.27	-2067.28	42.45	3.24
1.2 Dead+1.0 Wind 30 deg - No Ice	57.23	11.32	-20.76	-1780.49	-970.66	1.05
0.9 Dead+1.0 Wind 30 deg - No Ice	42.92	11.32	-20.76	-1768.38	-963.81	1.05
1.2 Dead+1.0 Wind 60 deg - No Ice	57.23	20.12	-11.69	-1003.71	-1723.98	-1.42
0.9 Dead+1.0 Wind 60 deg - No Ice	42.92	20.12	-11.69	-996.43	-1712.43	-1.42
1.2 Dead+1.0 Wind 90 deg - No Ice	57.23	23.53	0.51	40.95	-2016.16	-3.51
0.9 Dead+1.0 Wind 90 deg - No Ice	42.92	23.53	0.51	41.73	-2002.80	-3.51
1.2 Dead+1.0 Wind 120 deg - No Ice	57.23	20.64	12.58	1073.55	-1768.92	-4.66
0.9 Dead+1.0 Wind 120 deg - No Ice	42.92	20.64	12.58	1067.90	-1757.12	-4.66
1.2 Dead+1.0 Wind 150 deg - No Ice	57.23	12.21	21.28	1817.41	-1048.52	-4.56
0.9 Dead+1.0 Wind 150 deg - No Ice	42.92	12.21	21.28	1807.11	-1041.23	-4.56

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
- No Ice						
1.2 Dead+1.0 Wind 180 deg	57.23	0.51	24.27	2073.23	-48.00	-3.24
- No Ice						
0.9 Dead+1.0 Wind 180 deg	42.92	0.51	24.27	2061.33	-46.96	-3.24
- No Ice						
1.2 Dead+1.0 Wind 210 deg	57.23	-11.32	20.76	1772.46	964.58	-1.06
- No Ice						
0.9 Dead+1.0 Wind 210 deg	42.92	-11.32	20.76	1762.43	959.30	-1.06
- No Ice						
1.2 Dead+1.0 Wind 240 deg	57.23	-20.12	11.69	995.68	1717.90	1.42
- No Ice						
0.9 Dead+1.0 Wind 240 deg	42.92	-20.12	11.69	990.47	1707.92	1.42
- No Ice						
1.2 Dead+1.0 Wind 270 deg	57.23	-23.53	-0.51	-48.97	2010.08	3.51
- No Ice						
0.9 Dead+1.0 Wind 270 deg	42.92	-23.53	-0.51	-47.68	1998.29	3.51
- No Ice						
1.2 Dead+1.0 Wind 300 deg	57.23	-20.64	-12.58	-1081.57	1762.85	4.66
- No Ice						
0.9 Dead+1.0 Wind 300 deg	42.92	-20.64	-12.58	-1073.85	1752.61	4.66
- No Ice						
1.2 Dead+1.0 Wind 330 deg	57.23	-12.21	-21.28	-1825.43	1042.45	4.56
- No Ice						
0.9 Dead+1.0 Wind 330 deg	42.92	-12.21	-21.28	-1813.06	1036.73	4.56
- No Ice						
1.2 Dead+1.0 Ice+1.0 Temp	83.13	0.00	-0.00	-9.99	-8.40	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	83.13	-0.08	-5.94	-512.70	-1.33	0.61
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	83.13	2.83	-5.10	-441.79	-247.56	0.08
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	83.13	4.99	-2.90	-255.20	-429.73	-0.47
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	83.13	5.80	0.08	-2.93	-499.02	-0.89
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	83.13	5.07	3.04	247.42	-436.87	-1.08
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	83.13	2.97	5.18	428.78	-259.93	-0.98
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	83.13	0.08	5.94	492.55	-15.61	-0.61
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	83.13	-2.83	5.10	421.64	230.62	-0.08
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	83.13	-4.99	2.90	235.05	412.79	0.47
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	83.13	-5.80	-0.08	-17.22	482.08	0.89
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	83.13	-5.07	-3.04	-267.57	419.93	1.08
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	83.13	-2.97	-5.18	-448.93	242.99	0.98
Dead+Wind 0 deg - Service	47.69	-0.10	-4.87	-418.58	6.47	0.64
Dead+Wind 30 deg - Service	47.69	2.27	-4.17	-358.45	-195.95	0.21
Dead+Wind 60 deg - Service	47.69	4.04	-2.35	-203.17	-346.54	-0.28
Dead+Wind 90 deg - Service	47.69	4.72	0.10	5.66	-404.95	-0.70
Dead+Wind 120 deg - Service	47.69	4.14	2.52	212.09	-355.53	-0.93
Dead+Wind 150 deg - Service	47.69	2.45	4.27	360.79	-211.52	-0.91
Dead+Wind 180 deg - Service	47.69	0.10	4.87	411.93	-11.50	-0.65
Dead+Wind 210 deg - Service	47.69	-2.27	4.17	351.80	190.92	-0.21
Dead+Wind 240 deg - Service	47.69	-4.04	2.35	196.52	341.51	0.28
Dead+Wind 270 deg - Service	47.69	-4.72	-0.10	-12.31	399.92	0.70
Dead+Wind 300 deg - Service	47.69	-4.14	-2.52	-218.73	350.49	0.93
Dead+Wind 330 deg -	47.69	-2.45	-4.27	-367.44	206.48	0.91

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Service						

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-47.69	0.00	0.00	47.69	0.00	0.000%
2	-0.51	-57.23	-24.27	0.51	57.23	24.27	0.000%
3	-0.51	-42.92	-24.27	0.51	42.92	24.27	0.000%
4	11.32	-57.23	-20.76	-11.32	57.23	20.76	0.000%
5	11.32	-42.92	-20.76	-11.32	42.92	20.76	0.000%
6	20.12	-57.23	-11.69	-20.12	57.23	11.69	0.000%
7	20.12	-42.92	-11.69	-20.12	42.92	11.69	0.000%
8	23.53	-57.23	0.51	-23.53	57.23	-0.51	0.000%
9	23.53	-42.92	0.51	-23.53	42.92	-0.51	0.000%
10	20.64	-57.23	12.58	-20.64	57.23	-12.58	0.000%
11	20.64	-42.92	12.58	-20.64	42.92	-12.58	0.000%
12	12.21	-57.23	21.28	-12.21	57.23	-21.28	0.000%
13	12.21	-42.92	21.28	-12.21	42.92	-21.28	0.000%
14	0.51	-57.23	24.27	-0.51	57.23	-24.27	0.000%
15	0.51	-42.92	24.27	-0.51	42.92	-24.27	0.000%
16	-11.32	-57.23	20.76	11.32	57.23	-20.76	0.000%
17	-11.32	-42.92	20.76	11.32	42.92	-20.76	0.000%
18	-20.12	-57.23	11.69	20.12	57.23	-11.69	0.000%
19	-20.12	-42.92	11.69	20.12	42.92	-11.69	0.000%
20	-23.53	-57.23	-0.51	23.53	57.23	0.51	0.000%
21	-23.53	-42.92	-0.51	23.53	42.92	0.51	0.000%
22	-20.64	-57.23	-12.58	20.64	57.23	12.58	0.000%
23	-20.64	-42.92	-12.58	20.64	42.92	12.58	0.000%
24	-12.21	-57.23	-21.28	12.21	57.23	21.28	0.000%
25	-12.21	-42.92	-21.28	12.21	42.92	21.28	0.000%
26	0.00	-83.13	0.00	-0.00	83.13	0.00	0.000%
27	-0.08	-83.13	-5.94	0.08	83.13	5.94	0.000%
28	2.83	-83.13	-5.10	-2.83	83.13	5.10	0.000%
29	4.99	-83.13	-2.90	-4.99	83.13	2.90	0.000%
30	5.80	-83.13	0.08	-5.80	83.13	-0.08	0.000%
31	5.07	-83.13	3.04	-5.07	83.13	-3.04	0.000%
32	2.97	-83.13	5.18	-2.97	83.13	-5.18	0.000%
33	0.08	-83.13	5.94	-0.08	83.13	-5.94	0.000%
34	-2.83	-83.13	5.10	2.83	83.13	-5.10	0.000%
35	-4.99	-83.13	2.90	4.99	83.13	-2.90	0.000%
36	-5.80	-83.13	-0.08	5.80	83.13	0.08	0.000%
37	-5.07	-83.13	-3.04	5.07	83.13	3.04	0.000%
38	-2.97	-83.13	-5.18	2.97	83.13	5.18	0.000%
39	-0.10	-47.69	-4.87	0.10	47.69	4.87	0.000%
40	2.27	-47.69	-4.17	-2.27	47.69	4.17	0.000%
41	4.04	-47.69	-2.35	-4.04	47.69	2.35	0.000%
42	4.72	-47.69	0.10	-4.72	47.69	-0.10	0.000%
43	4.14	-47.69	2.52	-4.14	47.69	-2.52	0.000%
44	2.45	-47.69	4.27	-2.45	47.69	-4.27	0.000%
45	0.10	-47.69	4.87	-0.10	47.69	-4.87	0.000%
46	-2.27	-47.69	4.17	2.27	47.69	-4.17	0.000%
47	-4.04	-47.69	2.35	4.04	47.69	-2.35	0.000%
48	-4.72	-47.69	-0.10	4.72	47.69	0.10	0.000%
49	-4.14	-47.69	-2.52	4.14	47.69	2.52	0.000%
50	-2.45	-47.69	-4.27	2.45	47.69	4.27	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
------------------	------------	------------------	------------------------	-----------------

1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00020863
3	Yes	4	0.00000001	0.00014412
4	Yes	4	0.00000001	0.00066458
5	Yes	4	0.00000001	0.00045076
6	Yes	4	0.00000001	0.00066640
7	Yes	4	0.00000001	0.00045299
8	Yes	4	0.00000001	0.00021689
9	Yes	4	0.00000001	0.00015025
10	Yes	4	0.00000001	0.00059881
11	Yes	4	0.00000001	0.00040616
12	Yes	4	0.00000001	0.00088658
13	Yes	4	0.00000001	0.00060540
14	Yes	4	0.00000001	0.00026842
15	Yes	4	0.00000001	0.00018535
16	Yes	4	0.00000001	0.00056339
17	Yes	4	0.00000001	0.00038331
18	Yes	4	0.00000001	0.00055869
19	Yes	4	0.00000001	0.00038093
20	Yes	4	0.00000001	0.00027441
21	Yes	4	0.00000001	0.00019002
22	Yes	4	0.00000001	0.00087748
23	Yes	4	0.00000001	0.00059982
24	Yes	4	0.00000001	0.00059202
25	Yes	4	0.00000001	0.00040004
26	Yes	4	0.00000001	0.00002263
27	Yes	4	0.00000001	0.00041334
28	Yes	4	0.00000001	0.00042653
29	Yes	4	0.00000001	0.00042247
30	Yes	4	0.00000001	0.00040344
31	Yes	4	0.00000001	0.00041277
32	Yes	4	0.00000001	0.00040944
33	Yes	4	0.00000001	0.00038199
34	Yes	4	0.00000001	0.00038028
35	Yes	4	0.00000001	0.00037686
36	Yes	4	0.00000001	0.00037663
37	Yes	4	0.00000001	0.00040955
38	Yes	4	0.00000001	0.00042024
39	Yes	4	0.00000001	0.00000968
40	Yes	4	0.00000001	0.00000918
41	Yes	4	0.00000001	0.00000941
42	Yes	4	0.00000001	0.00000985
43	Yes	4	0.00000001	0.00001250
44	Yes	4	0.00000001	0.00001668
45	Yes	4	0.00000001	0.00000981
46	Yes	4	0.00000001	0.00000665
47	Yes	4	0.00000001	0.00000675
48	Yes	4	0.00000001	0.00001003
49	Yes	4	0.00000001	0.00001664
50	Yes	4	0.00000001	0.00001242

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	119 - 84.33	5.490	50	0.3962	0.0021
L2	87.96 - 45.5	3.070	50	0.3307	0.0022
L3	50.39 - 0	0.992	50	0.1862	0.0008

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
119.00	(2) 7770.00 w/ Mount Pipe	50	5.490	0.3962	0.0021	105142
107.00	Platform Mount [LP 304-1]	50	4.518	0.3753	0.0023	43809
100.00	(2) 6' x 2" Mount Pipe	50	3.966	0.3613	0.0023	27669
85.00	(3) BFA8F-A5A W/RRH w/ Mount Pipe	50	2.864	0.3216	0.0021	16350
75.00	MX08FRO665-21 w/ Mount Pipe	50	2.216	0.2864	0.0018	14473

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	119 - 84.33	27.327	24	1.9714	0.0110
L2	87.96 - 45.5	15.292	24	1.6442	0.0112
L3	50.39 - 0	4.947	24	0.9280	0.0039

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
119.00	(2) 7770.00 w/ Mount Pipe	24	27.327	1.9714	0.0110	21506
107.00	Platform Mount [LP 304-1]	24	22.492	1.8662	0.0116	8960
100.00	(2) 6' x 2" Mount Pipe	24	19.747	1.7959	0.0118	5659
85.00	(3) BFA8F-A5A W/RRH w/ Mount Pipe	24	14.265	1.5990	0.0108	3331
75.00	MX08FRO665-21 w/ Mount Pipe	24	11.039	1.4248	0.0091	2931

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	119 - 84.33 (1)	TP29.03x19.0986x0.5	34.67	0.00	0.0	43.626 9	-17.15	1963.21	0.009
L2	84.33 - 45.5 (2)	TP39.15x26.9902x0.625	42.46	0.00	0.0	73.645 9	-33.96	3314.07	0.010
L3	45.5 - 0 (3)	TP50.9295x36.4996x0.68 75	50.39	0.00	0.0	109.63 40	-57.22	4933.54	0.012

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M _{uy} kip-ft	φM _{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	119 - 84.33 (1)	TP29.03x19.0986x0.5	263.88	1395.13	0.189	0.00	1395.13	0.000
L2	84.33 - 45.5	TP39.15x26.9902x0.625	956.63	3184.70	0.300	0.00	3184.70	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L3	45.5 - 0 (3) (2)	TP50.9295x36.4996x0.68 75	2102.12	6436.05	0.327	0.00	6436.05	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	119 - 84.33 (1)	TP29.03x19.0986x0.5	12.14	588.96	0.021	0.32	1417.90	0.000
L2	84.33 - 45.5 (2)	TP39.15x26.9902x0.625	20.95	994.22	0.021	4.56	3232.39	0.001
L3	45.5 - 0 (3) (2)	TP50.9295x36.4996x0.68 75	24.55	1480.06	0.017	4.56	6512.19	0.001

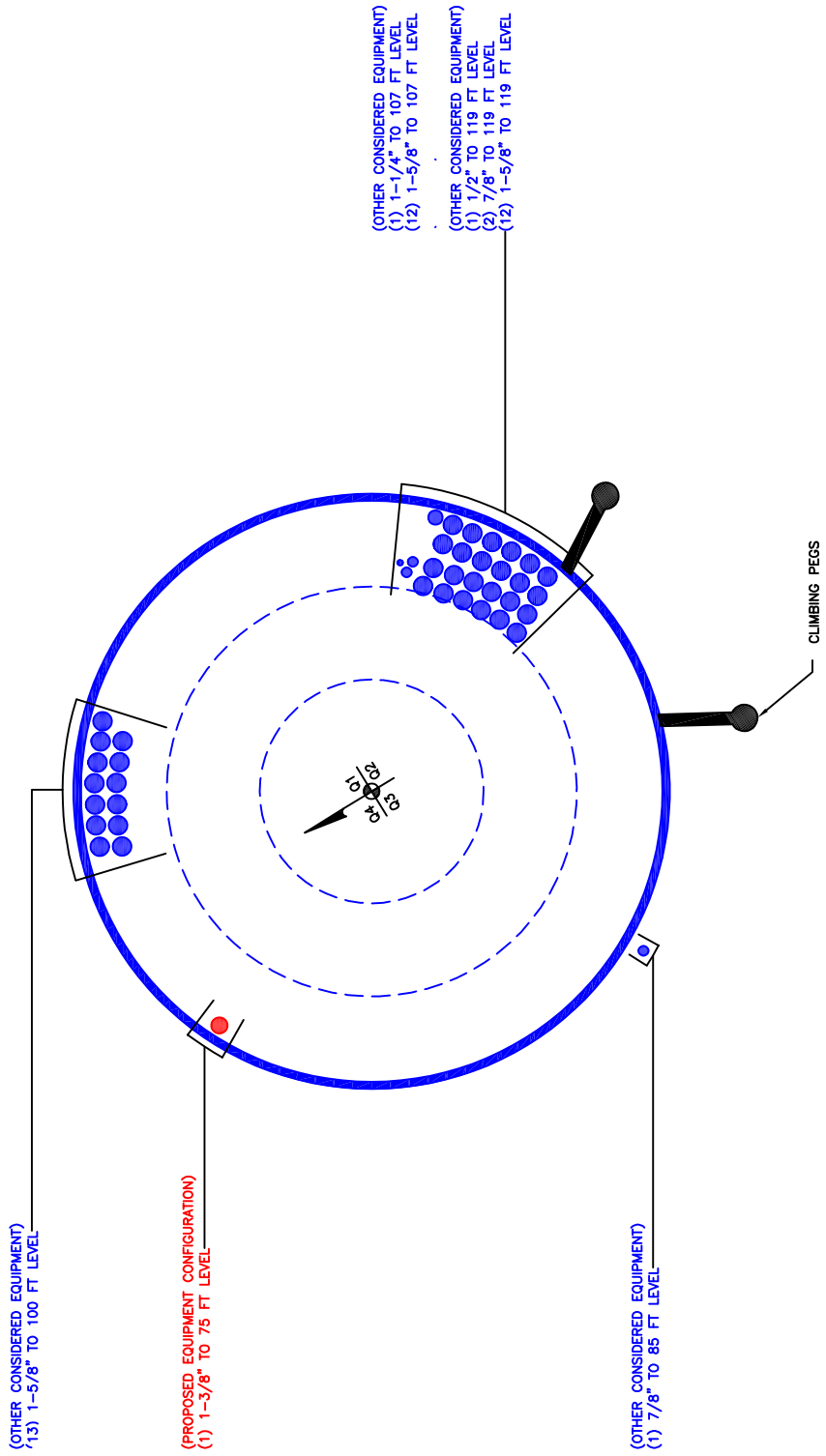
Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	119 - 84.33 (1)	0.009	0.189	0.000	0.021	0.000	0.198	1.050	4.8.2
L2	84.33 - 45.5 (2)	0.010	0.300	0.000	0.021	0.001	0.311	1.050	4.8.2
L3	45.5 - 0 (3) (2)	0.012	0.327	0.000	0.017	0.001	0.339	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	119 - 84.33	Pole	TP29.03x19.0986x0.5	1	-17.15	2061.37	18.9	Pass
L2	84.33 - 45.5	Pole	TP39.15x26.9902x0.625	2	-33.96	3479.77	29.6	Pass
L3	45.5 - 0	Pole	TP50.9295x36.4996x0.6875	3	-57.22	5180.22	32.2	Pass
Summary								
Pole (L3)							32.2	Pass
RATING =							32.2	Pass

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

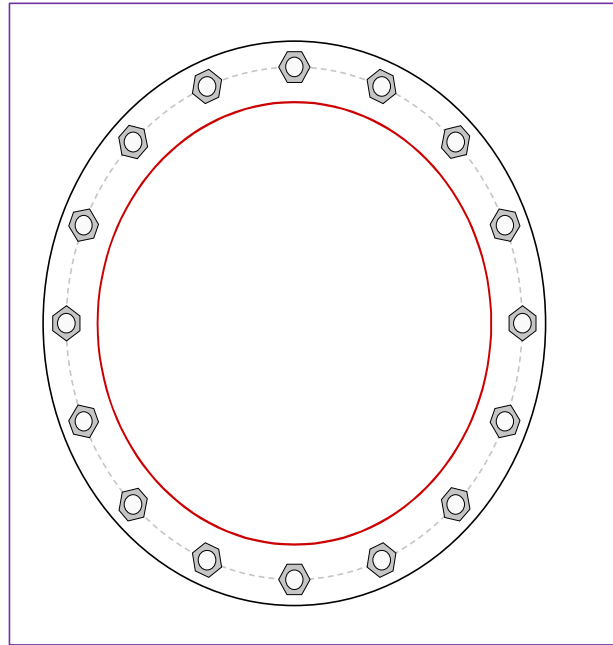


Site Info	
BU #	857013
Site Name	Killingly Ross Road
Order #	553316 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1

Applied Loads	
Moment (kip-ft)	2102.12
Axial Force (kips)	57.22
Shear Force (kips)	24.55

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
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Anchor Rod Data
(16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 59" BC
Base Plate Data
65" OD x 2" Plate (A572-50; $F_y=50$ ksi, $F_u=65$ ksi)
Stiffener Data
N/A
Pole Data
50.9295" x 0.6875" 18-sided pole (A572-50; $F_y=50$ ksi, $F_u=65$ ksi)

Anchor Rod Summary		<i>(units of kips, kip-in)</i>	
$P_u_t = 103.25$	$\phi P_n_t = 243.75$		Stress Rating
$V_u = 1.53$	$\phi V_n = 149.1$		40.3%
$M_u = n/a$	$\phi M_n = n/a$		Pass
Base Plate Summary			
Max Stress (ksi):	27.25		(Flexural)
Allowable Stress (ksi):	45		
Stress Rating:	57.7%		Pass

Pier and Pad Foundation



BU #: 857013
 Site Name: Killingly Ross Road
 App. Number: 553316 Rev. 0

TIA-222 Revision: H
 Tower Type: Monopole

Top & Bot. Pad Rein. Different?:
 Block Foundation?:
 Rectangular Pad?:

Superstructure Analysis Reactions		
Compression, P_{comp} :	57.23	kips
Base Shear, V_{u_comp} :	24.53	kips
Moment, M_u :	2102.12	ft-kips
Tower Height, H :	119	ft
BP Dist. Above Fdn, bp_{dist} :	3.25	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	362.40	24.53	6.4%	Pass
Bearing Pressure (ksf)	11.25	1.88	15.9%	Pass
Overtuning (kip*ft)	7504.35	2292.74	30.6%	Pass
Pier Flexure (Comp.) (kip*ft)	7571.41	2212.51	27.8%	Pass
Pier Compression (kip)	18370.97	88.40	0.5%	Pass
Pad Flexure (kip*ft)	2730.73	781.79	27.3%	Pass
Pad Shear - 1-way (kips)	776.40	120.95	14.8%	Pass
Pad Shear - 2-way (Comp) (ksi)	0.164	0.026	14.9%	Pass
Flexural 2-way (Comp) (kip*ft)	3437.16	1327.50	36.8%	Pass

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, $dpier$:	7	ft
Ext. Above Grade, E :	0.5	ft
Pier Rebar Size, Sc :	10	
Pier Rebar Quantity, mc :	39	
Pier Tie/Spiral Size, St :	3	
Pier Tie/Spiral Quantity, mt :	4	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

*Rating per TIA-222-H Section 15.5

Structural Rating*:	36.8%
Soil Rating*:	30.6%

Pad Properties		
Depth, D :	7	ft
Pad Width, W_1 :	25	ft
Pad Thickness, T :	3	ft
Pad Rebar Size (Bottom dir. 2), Sp_2 :	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2 :	25	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, F_y :	60	ksi
Concrete Compressive Strength, F'_c :	3	ksi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	130	pcf
Ultimate Gross Bearing, Q_{ult} :	15.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	38	degrees
SPT Blow Count, N_{blows} :		
Base Friction, μ :	0.45	
Neglected Depth, N :	4.17	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	N/A	ft

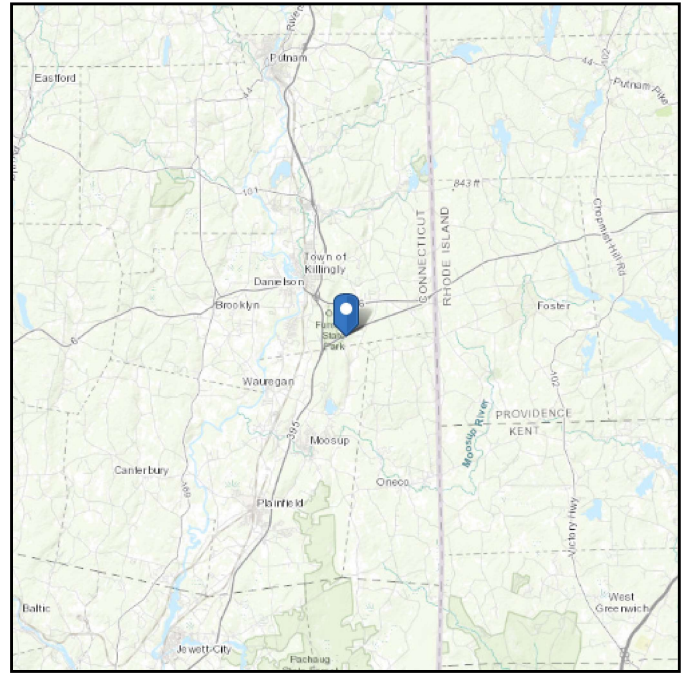
<--Toggle between Gross and Net

ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 452.89 ft (NAVD 88)
Latitude: 41.771553
Longitude: -71.855664



Wind

Results:

Wind Speed:	130 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	97 Vmph
100-year MRI	106 Vmph

Data Source: ASCE/SEI 2010, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

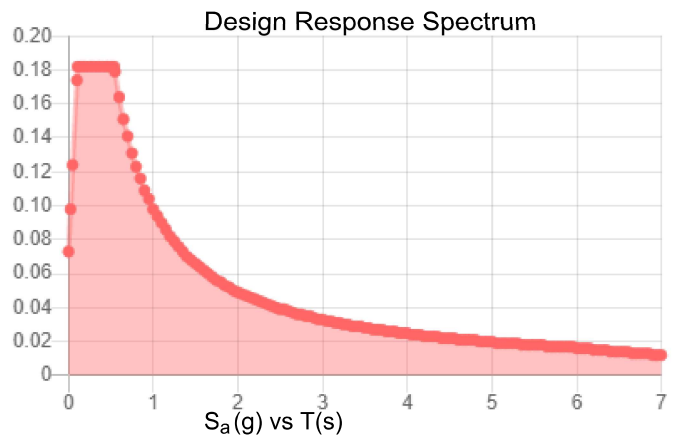
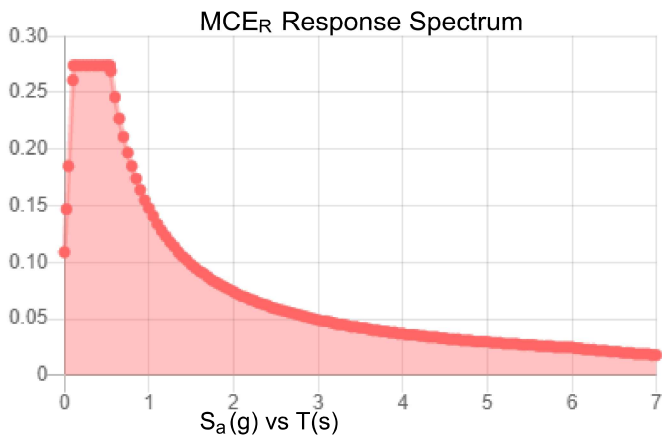
Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Stiff Soil

Results:

S_s :	0.171	S_{DS} :	0.182
S_1 :	0.062	S_{D1} :	0.098
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.086
S_{MS} :	0.274	PGA _M :	0.137
S_{M1} :	0.148	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Fri Aug 20 2021

Date Source:

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

Ice

Results:

Ice Thickness: 0.75 in. Design Ice: 2*0.75 in. = 1.50 in.
Concurrent Temperature: 15 F
Gust Speed: 50 mph

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

Date Accessed: Fri Aug 20 2021

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

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

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Exhibit E

Mount Analysis

Date: March 31, 2022



B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject: Mount Analysis Report - Conditional Passing Report

Carrier Designation: DISH Network Equipment Co-Locate
Carrier Site Number: BOBOS00036A
Carrier Site Name: CT-CCI-T-857013

Crown Castle Designation: **BU Number:** 857013
Site Name: Killingly Ross Road
JDE Job Number: 645154
Order Number: 553316, Rev.2

Engineering Firm Designation: **B+T Group Report Designation:** 102936.006.01

Site Data: 280 Ross Road, Killingly, CT, Windham County, 06239
Latitude 41° 46' 17.59" Longitude - 71° 51' 20.39"

Structure Information: **Tower Height & Type:** 119 ft. Monopole
Mount Elevation: 75 ft.
Mount Type: 8 ft. Platform Mount

B+T Group is pleased to submit this "Mount Analysis - Conditional Passing Report" to determine the structural integrity of DISH Network's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount's stress level. Based on our analysis we have determined the stress level to be:

Platform Mount

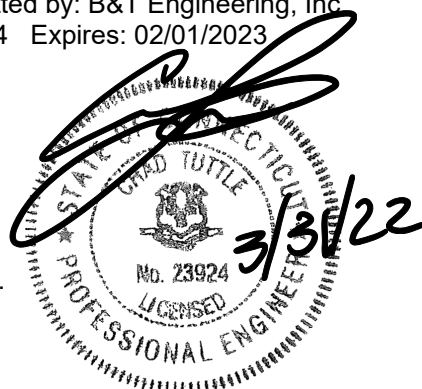
Sufficient

*Sufficient upon completion of the recommendations listed in the Section 4.1 of this report.

This analysis utilizes an ultimate 3-second gust wind speed of 123 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Chris Guidry

Respectfully submitted by: B&T Engineering, Inc
COA: PEC.0001564 Expires: 02/01/2023



Chad E. Tuttle, P.E.

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Supplemental Drawings

1) INTRODUCTION

This is a proposed 3 - Sector 8' Platform Mount, designed by Commscope (Part #MC-PK8-DSH).

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	123 mph
Exposure Category:	B
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Seismic S_s :	0.186
Seismic S_1 :	0.054
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb.
Man Live Load at Mount Pipes:	500 lb.

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft.)	Antenna Centerline (ft.)	Number of Antennas	Manufacturer	Model/Type	Mount / Modification Details
75	75	3	JMA Wireless	MX08FRO665-21	8' Platform Mount
		3	Fujitsu	TA08025-B604	
		3	Fujitsu	TA08025-B605	
		1	Raycap	RDIDC-9181-PF-48	

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Proposed Loading	Date: 04/28/2021	Crown Castle
CDs	Jacobs.	Date: 02/01/2022	
Mount Manufacturer Drawing	Commscope (Part #MC-PK8-DSH)	Date: 03/08/2021	Commscope

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed by B+T Group, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Mount Analysis* (Revision E). In addition, this analysis is in accordance with OTHER SOW.

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
3. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected members unless otherwise specified in this report.
4. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.

The following assumptions have been included in the analysis of the mount

Component	Section	Length	Note
Proposed Equipment Mount Pipe	2" Std. Pipe	4'-0"	Attached to Support Tube

5. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
6. Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
7. The analysis will be required to be revised 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.
8. The following material grades were assumed (Unless Noted Otherwise):
 - (a) Connection Bolts : ASTM A325
 - (b) Steel Pipe : ASTM A53 (GR. 35)
 - (c) HSS (Round) : ASTM 500 (GR. B-42)
 - (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
 - (e) Channel : ASTM A36 (GR. 36)
 - (f) Steel Solid Rod : ASTM A36 (GR. 36)
 - (g) Steel Plate : ASTM A36 (GR. 36)
 - (h) Steel Angle : ASTM A36 (GR. 36)
 - (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity (Platform Mount)

Notes	Component	Centerline (ft.)	Critical Member	% Capacity	Pass / Fail
1	Main Face Horizontals	75	6	7.3	Pass
	Support Rails		22	8.7	Pass
	Support Tubes		31	43.3	Pass
	Support Channels		33	33.3	Pass
	Support Angles		11	23.1	Pass
	Mount Pipes		91	10.8	Pass
	Connection Plates		36	20.2	Pass
	Connection Angles		68	14.2	Pass
2	Mount to Tower Connection		--	43.9	Pass

Structure Rating (max from all components) =	43.9%
-----------------------------------------------------	--------------

Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) See additional documentation in "Appendix D - Additional Calculations" for calculations supporting the % capacity reported.

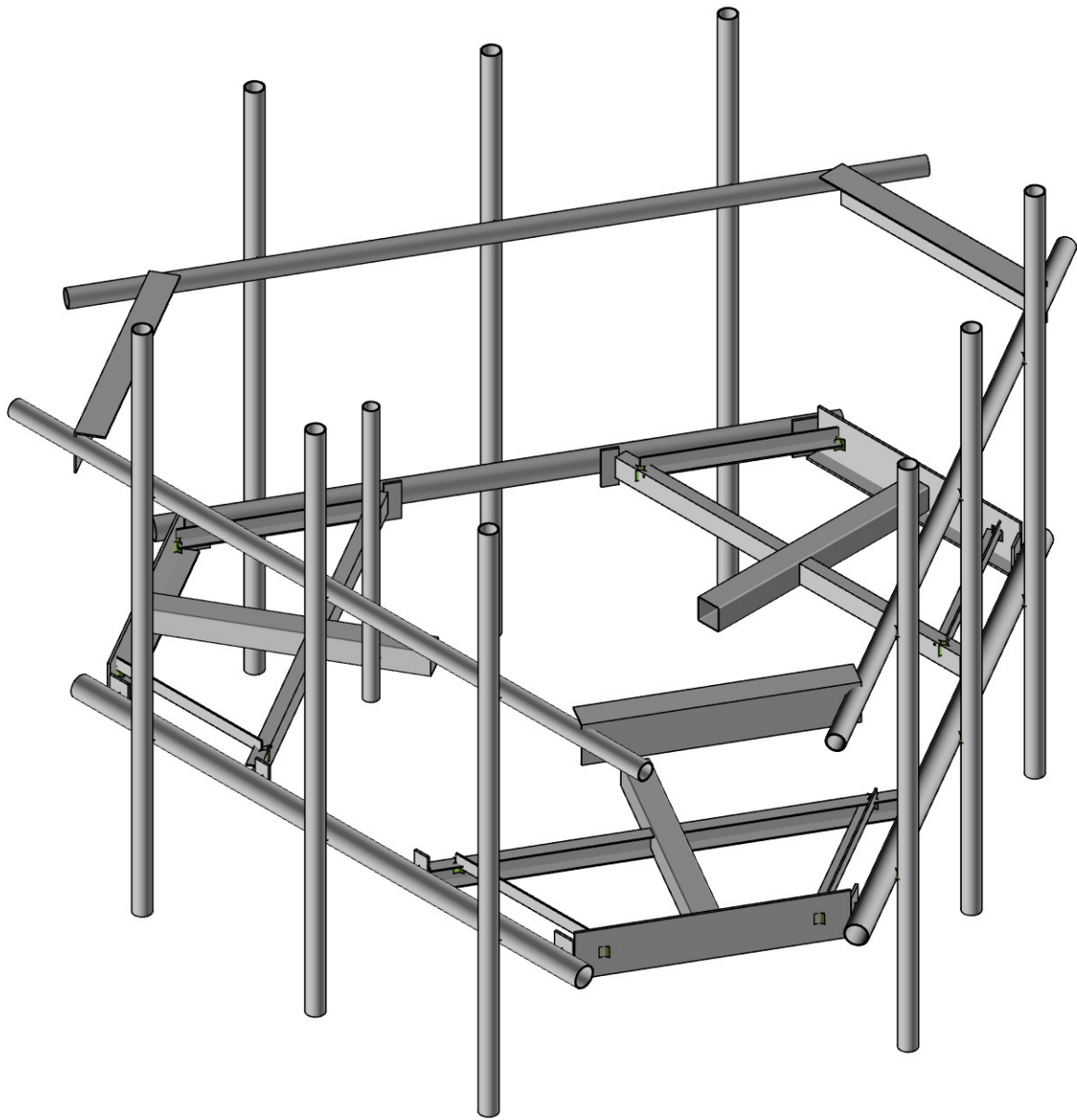
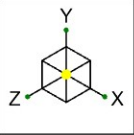
4.1) Recommendations

The proposed mount has sufficient capacity to support the proposed loading configuration. In order for the results of this analysis to be considered valid, the mount listed below shall be installed.

1. Commscope Part #MC-PK8-DSH.

No structural modifications are required at this time.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

B+T Group

KR

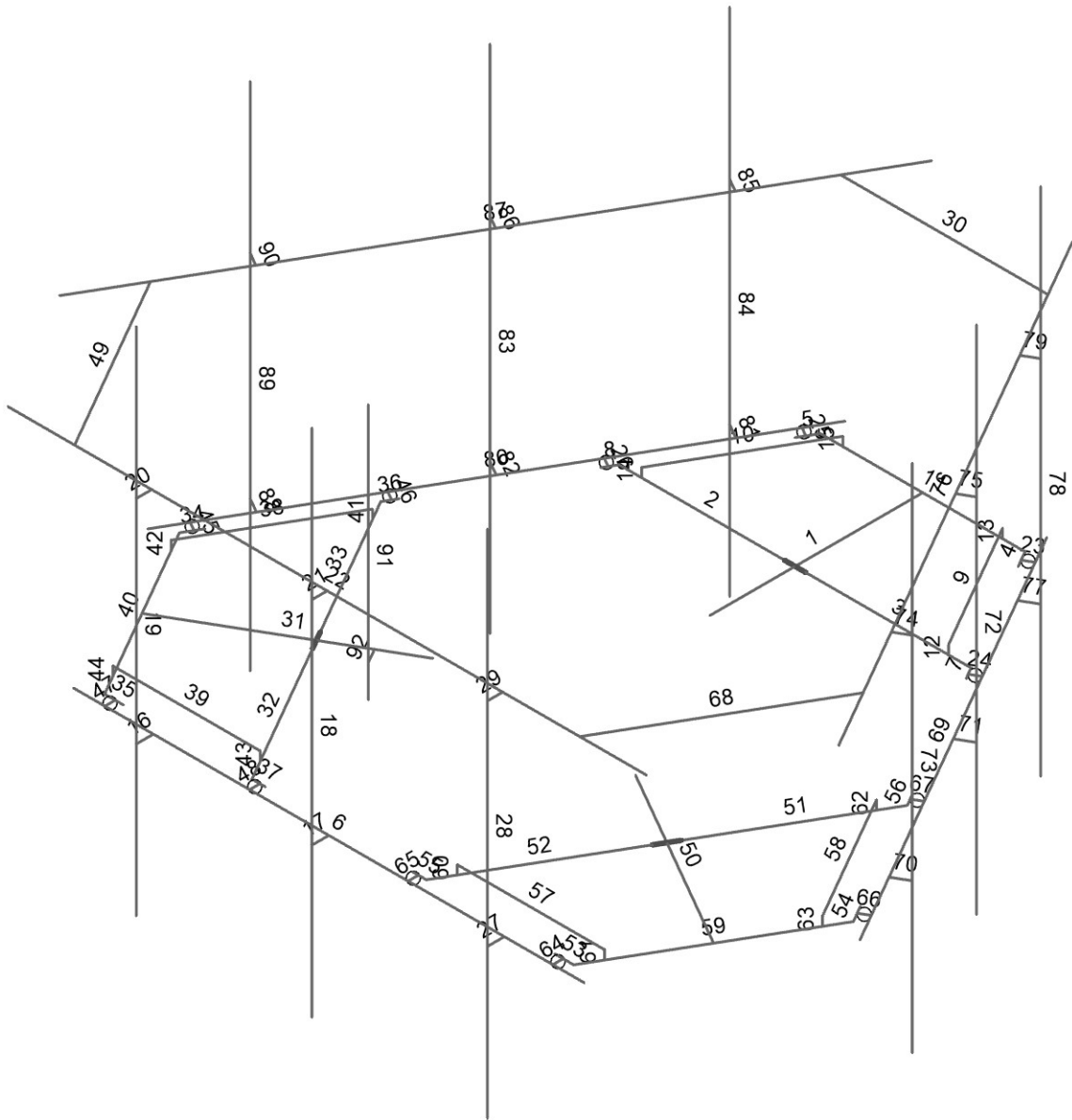
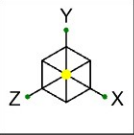
102936.006.01

857013 - Killingly Ross Road

SK-1

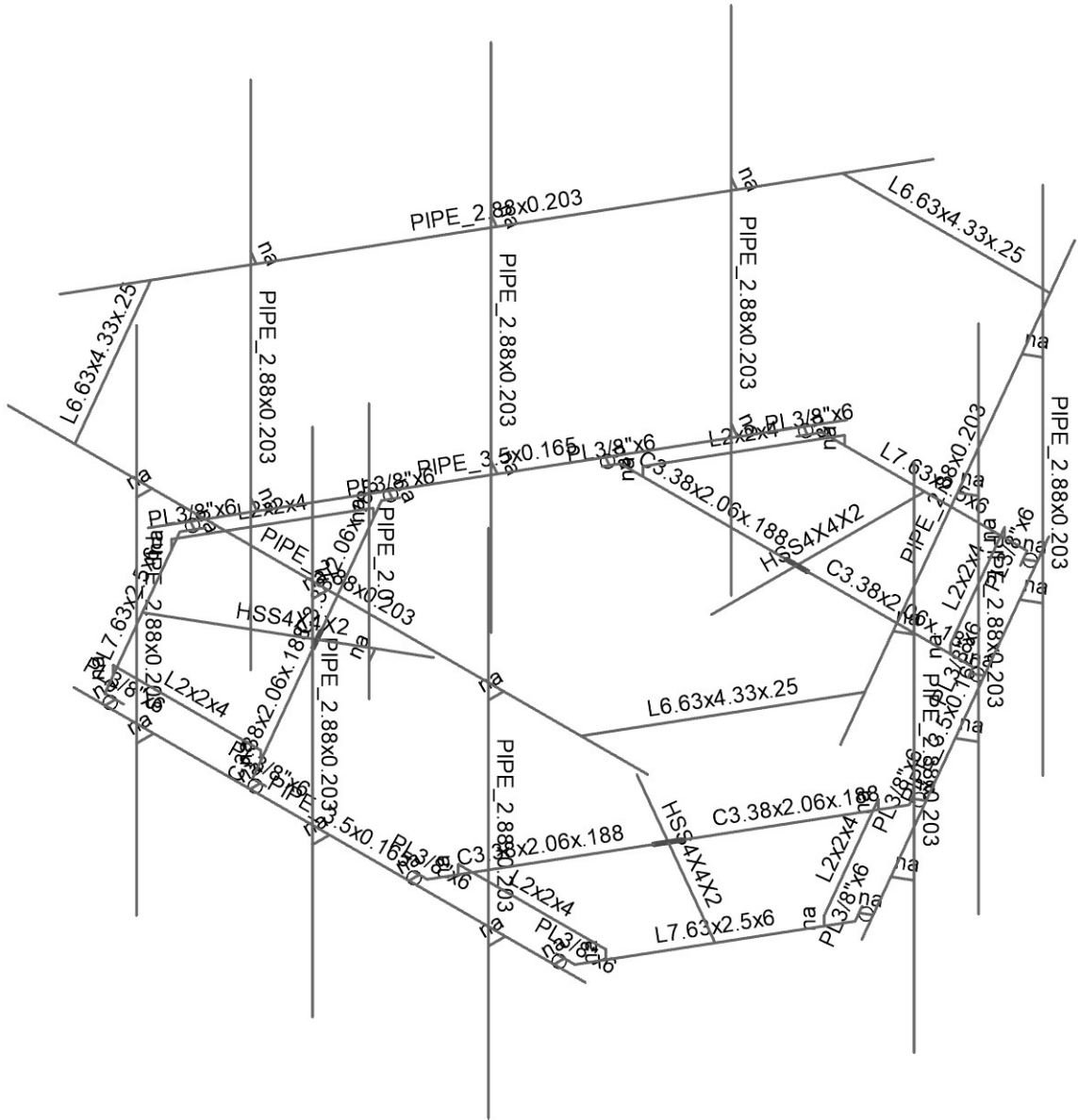
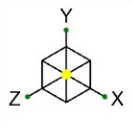
Mar 30, 2022

102936_006_01_Killingly Ross Ro...



Envelope Only Solution

B+T Group	857013 - Killingly Ross Road	SK-2
KR		Mar 30, 2022
102936.006.01		102936_006_01_Killingly Ross Ro...

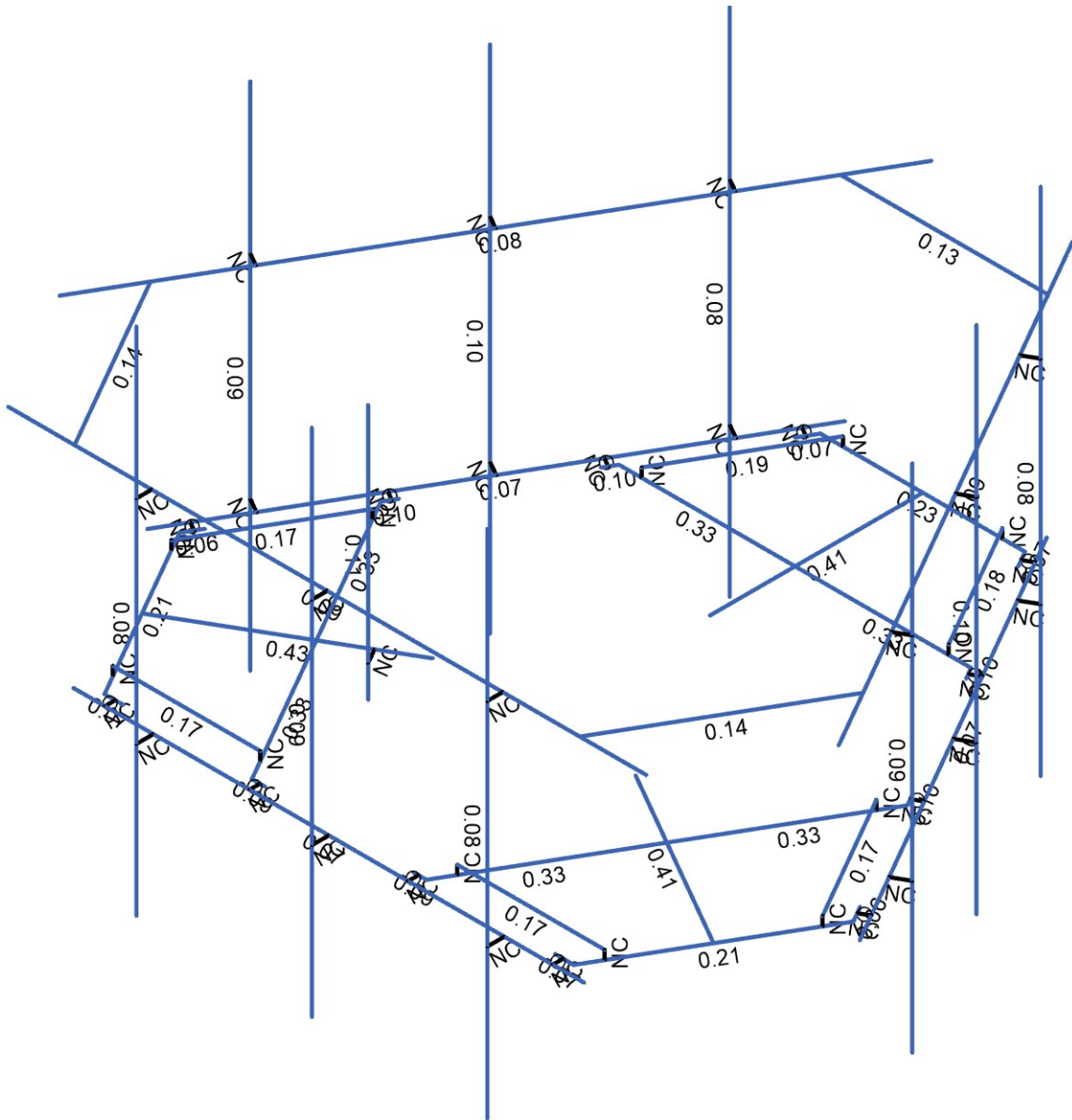
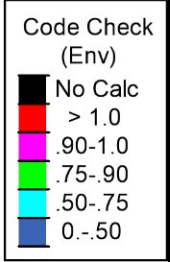
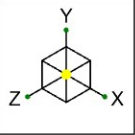


Envelope Only Solution

B+T Group
 KR
 102936.006.01

857013 - Killingly Ross Road

SK-3
 Mar 30, 2022
 102936_006_01_Killingly Ross Ro...

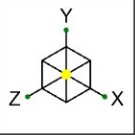


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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KR
102936.006.01

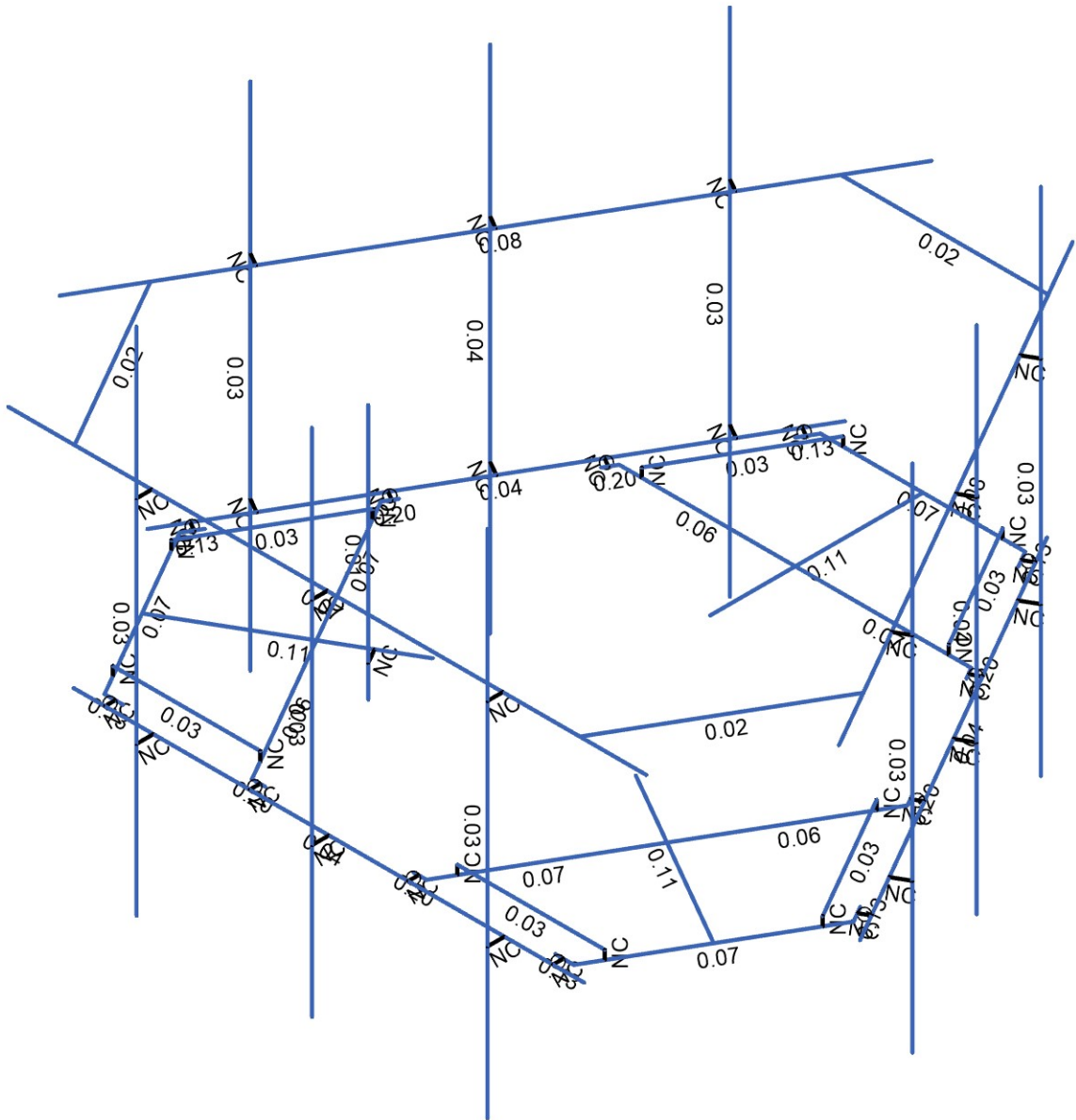
857013 - Killingly Ross Road

SK-4
Mar 30, 2022
102936_006_01_Killingly Ross Ro...



Shear Check (Env)

- No Calc
- > 1.0
- .90-1.0
- .75-.90
- .50-.75
- 0-.50



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group
KR
102936.006.01

857013 - Killingly Ross Road

SK-5
Mar 30, 2022
102936_006_01_Killingly Ross Ro...

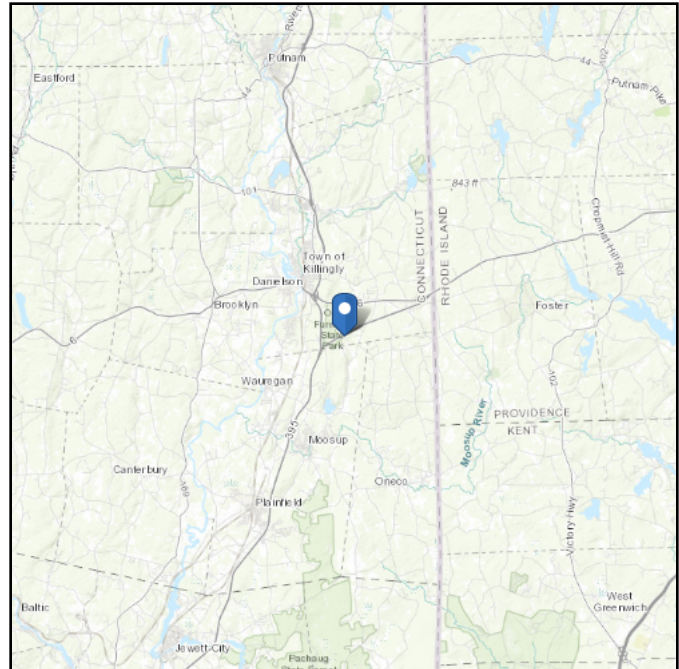
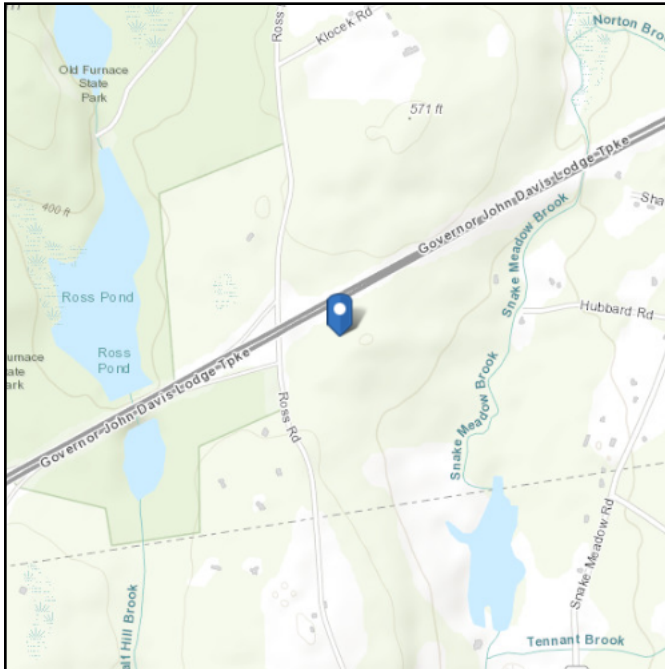
APPENDIX B
SOFTWARE INPUT CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 452.89 ft (NAVD 88)
Latitude: 41.771553
Longitude: -71.855664



Wind

Results:

Wind Speed	123 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	95 Vmph
100-year MRI	100 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Tue Mar 29 2022

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

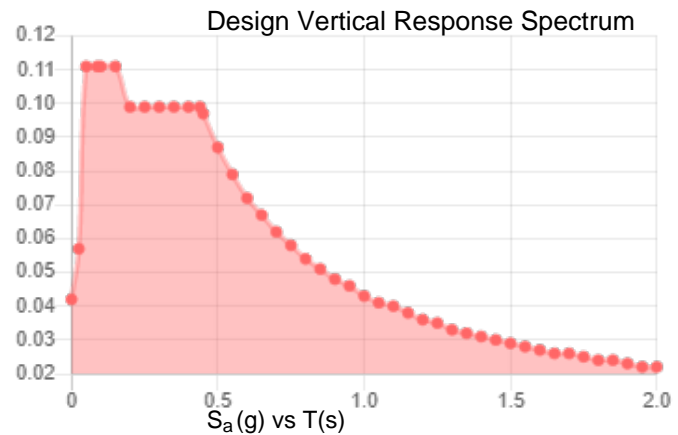
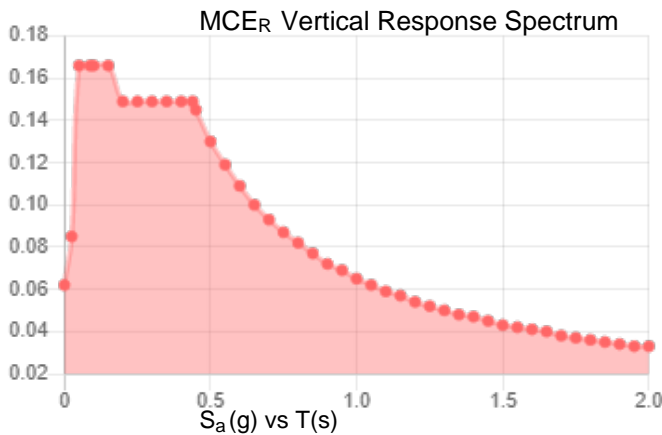
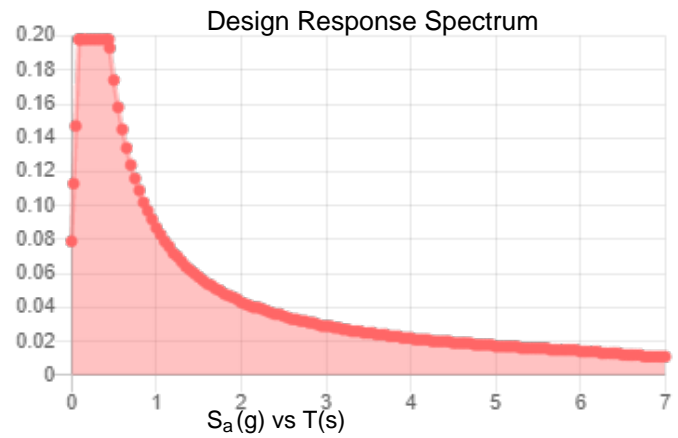
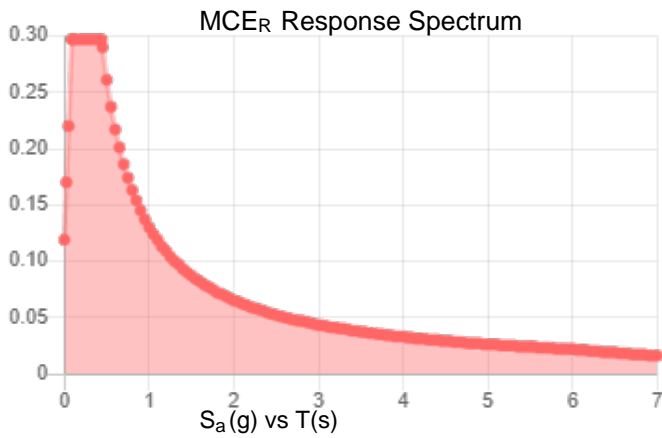
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.186	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.101
F_v :	2.4	PGA _M :	0.161
S_{MS} :	0.297	F_{PGA} :	1.599
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.198	C_v :	0.7

Seismic Design Category B



Data Accessed: Tue Mar 29 2022

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

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

Date Accessed: Tue Mar 29 2022

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

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

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PROJECT	102936.006.01 - Killingly Ros		KSC
SUBJECT	Platform Mount Analysis		
DATE	03/30/22	PAGE	OF



Tower Type	:	Monopole	
Ground Elevation	z_s :	453 ft	[ASCE7 Hazard Tool]
Tower Height	:	119.00 ft	
Mount Elevation	:	75.00 ft	
Antenna Elevation	:	75.00 ft	
Crest Height	:	0 ft	
Risk Category	:	II	[Table 2-1]
Exposure Category	:	B	[Sec. 2.6.5.1.2]
Topography Category	:	1.00	[Sec. 2.6.6.2]
Wind Velocity	V :	123 mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i :	50 mph	[ASCE7 Hazard Tool]
Service Velocity	V_s :	30 mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i :	1.00 in	[ASCE7 Hazard Tool]
Seismic Design Cat.	:	B	[ASCE7 Hazard Tool]
	S_s :	0.19	
	S_1 :	0.05	
	S_{DS} :	0.20	
	S_{D1} :	0.09	
Gust Factor	G_h :	1.00	[Sec. 16.6]
Pressure Coefficient	K_z :	0.91	[Sec. 2.6.5.2]
Topography Factor	K_{zt} :	1.00	[Sec. 2.6.6]
Elevation Factor	K_e :	0.98	[Sec. 2.6.8]
Directionality Factor	K_d :	0.95	[Sec. 16.6]
Shielding Factor	K_a :	0.90	[Sec. 16.6]
Design Ice Thickness	t_{iz} :	1.09 in	[Sec. 2.6.10]
Importance Factor	I_e :	1	[Table 2-3]
Response Coefficient	C_s :	0.099	[Sec. 2.7.7.1]
Amplification	A_s :	1.521008	[Sec. 16.7]
	q_z :	32.95 psf	

PROJECT	102936.006.01 - Killingly Ros		KSC
SUBJECT	Platform Mount Analysis		
DATE	03/30/22	PAGE	OF



Manufacturer	Model	Qty	Aspect Ratio	C _a flat/round	EPA _N (ft ²)	EPA _T (ft ²)	EPA _{N-ice} (ft ²)	EPA _{T-ice} (ft ²)	F _{A No Ice (N)}	F _{A No Ice (T)}	F _{A Ice (N)}	F _{A Ice (T)}
JMA WIRELESS	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.02	0.01
JMA WIRELESS	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.02	0.01
FUJITSU	TA08025-B605	1	1.74	1.20	0.99	1.64	1.40	2.13	0.04	0.06	0.01	0.01
FUJITSU	TA08025-B604	1	2.00	1.20	0.86	1.64	1.25	2.13	0.03	0.06	0.01	0.01
JMA WIRELESS	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.02	0.01
JMA WIRELESS	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.02	0.01
FUJITSU	TA08025-B605	1	1.74	1.20	0.99	1.64	1.40	2.13	0.04	0.06	0.01	0.01
FUJITSU	TA08025-B604	1	2.00	1.20	0.86	1.64	1.25	2.13	0.03	0.06	0.01	0.01
JMA WIRELESS	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.02	0.01
JMA WIRELESS	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.13	0.05	0.02	0.01
FUJITSU	TA08025-B605	1	1.74	1.20	0.99	1.64	1.40	2.13	0.04	0.06	0.01	0.01
FUJITSU	TA08025-B604	1	2.00	1.20	0.86	1.64	1.25	2.13	0.03	0.06	0.01	0.01
RAYCAP	RDIDC-9181-PF-48	1	1.14	1.20	1.68	0.97	2.18	1.38	0.06	0.03	0.01	0.01

APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0	0	-1.837463	
2	2	0	0	-5.170797	
3	3	0	0	-3.170797	
4	4	2.758333	0	-3.170797	
5	5	-2.758333	0	-3.170797	
6	6	-1.603633	0	-5.170797	
7	7	1.603633	0	-5.170797	
8	8	1.749466	0	-4.918206	
9	9	-1.749466	0	-4.918206	
10	10	1.686966	0	-5.026459	
11	11	1.826826	0	-5.107207	
12	12	-1.686966	0	-5.026459	
13	13	-1.826826	0	-5.107207	
14	14	-3.999998	0	4.135682	
15	15	3.999998	0	4.135682	
16	16	2.8625	0	-2.990375	
17	17	2.820833	0	-3.062544	
18	18	2.960693	0	-3.143293	
19	19	-2.8625	0	-2.990375	
20	20	-2.820833	0	-3.062544	
21	21	-2.960693	0	-3.143293	
22	22	-1.25	0.140833	-5.170797	
23	23	-2.404701	0.140833	-3.170797	
24	24	2.404701	0.140833	-3.170797	
25	25	1.25	0.140833	-5.170797	
26	26	-1.25	0	-5.170797	
27	27	-2.404701	0	-3.170797	
28	28	2.404701	0	-3.170797	
29	29	1.25	0	-5.170797	
30	30	-2.749998	0	4.135682	
31	31	0.000002	0	4.135682	
32	32	-2.749998	0	4.401307	
33	33	0.000002	0	4.401307	
34	34	-2.749998	-2.333667	4.401307	
35	35	0.000002	-2.333667	4.401307	
36	36	-2.749998	5.666335	4.401307	
37	37	0.000002	5.666335	4.401307	
38	38	-2.749998	3.333337	4.401307	
39	39	0.000002	3.333337	4.401307	
40	40	-2.749998	3.333337	4.161723	
41	41	0.000002	3.333337	4.161723	
42	42	-5	3.333337	4.161723	
43	43	5	3.333337	4.161723	
44	44	2.749998	0	4.135682	
45	45	2.749998	0	4.401307	
46	46	2.749998	-2.333667	4.401307	
47	47	2.749998	5.666335	4.401307	
48	48	2.749998	3.333337	4.401307	
49	49	2.749998	3.333337	4.161723	
50	50	0	0	0	
51	51	1.625045	3.333337	-5.508786	
52	52	-1.625045	3.333337	-5.508786	
53	53	-1.59129	0	0.918732	
54	54	-4.478041	0	2.585398	
55	55	-2.74599	0	1.585398	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	-4.125157	0	-0.803388	
57	57	-1.366824	0	3.974185	
58	58	-3.676225	0	3.974185	
59	59	-5.279858	0	1.196612	
60	60	-5.134024	0	0.944021	
61	61	-3.384558	0	3.974185	
62	62	-5.196524	0	1.052274	
63	63	-5.336385	0	0.971526	
64	64	-3.509558	0	3.974185	
65	65	-3.509558	0	4.135682	
66	66	-4.02099	0	-0.98381	
67	67	-4.062658	0	-0.911641	
68	68	-4.202518	0	-0.992389	
69	69	-1.15849	0	3.974185	
70	70	-1.241825	0	3.974185	
71	71	-1.241825	0	4.135682	
72	72	-3.853041	0.140833	3.66793	
73	73	-1.54364	0.140833	3.66793	
74	74	-3.948341	0.140833	-0.497133	
75	75	-5.103041	0.140833	1.502867	
76	76	-3.853041	0	3.66793	
77	77	-1.54364	0	3.66793	
78	78	-3.948341	0	-0.497133	
79	79	-5.103041	0	1.502867	
80	80	-5.583271	3.333337	1.347062	
81	81	-3.958226	3.333337	4.161723	
82	82	1.59129	0	0.918732	
83	83	4.478041	0	2.585398	
84	84	2.74599	0	1.585398	
85	85	1.366824	0	3.974185	
86	86	4.125157	0	-0.803388	
87	87	5.279858	0	1.196612	
88	88	3.676225	0	3.974185	
89	89	3.384558	0	3.974185	
90	90	5.134024	0	0.944021	
91	91	3.509558	0	3.974185	
92	92	3.509558	0	4.135682	
93	93	5.196524	0	1.052274	
94	94	5.336385	0	0.971526	
95	95	1.15849	0	3.974185	
96	96	1.241825	0	3.974185	
97	97	1.241825	0	4.135682	
98	98	4.02099	0	-0.98381	
99	99	4.062658	0	-0.911641	
100	100	4.202518	0	-0.992389	
101	101	5.103041	0.140833	1.502867	
102	102	3.948341	0.140833	-0.497133	
103	103	1.54364	0.140833	3.66793	
104	104	3.853041	0.140833	3.66793	
105	105	5.103041	0	1.502867	
106	106	3.948341	0	-0.497133	
107	107	1.54364	0	3.66793	
108	108	3.853041	0	3.66793	
109	109	3.958226	3.333337	4.161723	
110	110	5.583271	3.333337	1.347062	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	5.581604	0	1.396259	
112	112	1.581606	0	-5.531941	
113	113	4.956604	0	0.313727	
114	114	3.581604	0	-2.067843	
115	115	5.186642	0	0.180915	
116	116	3.811642	0	-2.200655	
117	117	5.186642	-2.333667	0.180915	
118	118	3.811642	-2.333667	-2.200655	
119	119	5.186642	5.666335	0.180915	
120	120	3.811642	5.666335	-2.200655	
121	121	5.186642	3.333337	0.180915	
122	122	3.811642	3.333337	-2.200655	
123	123	4.979157	3.333337	0.300706	
124	124	3.604157	3.333337	-2.080863	
125	125	6.104158	3.333337	2.249265	
126	126	1.104158	3.333337	-6.410989	
127	127	2.206606	0	-4.449409	
128	128	2.436644	0	-4.582222	
129	129	2.436644	-2.333667	-4.582222	
130	130	2.436644	5.666335	-4.582222	
131	131	2.436644	3.333337	-4.582222	
132	132	2.229159	3.333337	-4.46243	
133	133	-1.581606	0	-5.531941	
134	134	-5.581604	0	1.396259	
135	135	-2.206606	0	-4.449409	
136	136	-3.581606	0	-2.067839	
137	137	-2.436644	0	-4.582222	
138	138	-3.811644	0	-2.200652	
139	139	-2.436644	-2.333667	-4.582222	
140	140	-3.811644	-2.333667	-2.200652	
141	141	-2.436644	5.666335	-4.582222	
142	142	-3.811644	5.666335	-2.200652	
143	143	-2.436644	3.333337	-4.582222	
144	144	-3.811644	3.333337	-2.200652	
145	145	-2.229159	3.333337	-4.46243	
146	146	-3.604159	3.333337	-2.08086	
147	147	-1.104158	3.333337	-6.410989	
148	148	-6.104158	3.333337	2.249265	
149	149	-4.956604	0	0.313727	
150	150	-5.186642	0	0.180915	
151	151	-5.186642	-2.333667	0.180915	
152	152	-5.186642	5.666335	0.180915	
153	153	-5.186642	3.333337	0.180915	
154	154	-4.979157	3.333337	0.300706	
155	155	-2.168929	0	1.252232	
156	156	-2.035929	0	1.482594	
157	157	-2.035929	3.5	1.482594	
158	158	-2.035929	-0.5	1.482594	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	2						
3	3						
4	4						

Node Boundary Conditions (Continued)

Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
5	5					
6	16					
7	17					
8	19					
9	20					
10	22					
11	25					
12	26					
13	29					
14	53	Reaction	Reaction	Reaction	Reaction	Reaction
15	54					
16	55					
17	56					
18	57					
19	66					
20	67					
21	69					
22	70					
23	72					
24	75					
25	76					
26	79					
27	82	Reaction	Reaction	Reaction	Reaction	Reaction
28	83					
29	84					
30	85					
31	86					
32	95					
33	96					
34	98					
35	99					
36	101					
37	104					
38	105					
39	108					
40	155					
41	156					
42	157					
43	158					

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	MF-H1	PIPE 3.5x0.165	Beam	Pipe	A500 Gr.C	Typical	1.729	2.409	2.409	4.819
2	MF-H2	PIPE 2.88x0.203	Beam	Pipe	A500 Gr.C	Typical	1.707	1.538	1.538	3.076
3	SF-H1	HSS4X4X2	Beam	Tube	A500 Gr.B Rect	Typical	1.77	4.4	4.4	6.91
4	SF-H2	C3.38x2.06x.188	Beam	Channel	A36 Gr.36	Typical	1.339	0.562	2.4	0.015
5	SF-H3	L2x2x4	Beam	Single Angle	A36 Gr.36	Typical	0.944	0.346	0.346	0.021
6	SF-H4	L7.63x2.5x6	Beam	Single Angle	A36 Gr.36	Typical	3.658	1.307	22.092	0.163
7	MF-P1	PIPE 2.88x0.203	Column	Pipe	A500 Gr.C	Typical	1.707	1.538	1.538	3.076
8	MF-CP1	PL3/8"x6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
9	MF-H3	L6.63x4.33x.25	Beam	Single Angle	A36 Gr.36	Typical	2.678	4.383	12.502	0.054
10	MF-P2	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	1	2		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
2	2	5	3	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
3	3	3	4	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
4	4	7	8		MF-CP1	Beam	RECT	A36 Gr.36	Typical
5	5	6	9		MF-CP1	Beam	RECT	A36 Gr.36	Typical
6	6	14	15		MF-H1	Beam	Pipe	A500 Gr.C	Typical
7	7	16	4		MF-CP1	Beam	RECT	A36 Gr.36	Typical
8	8	5	19		MF-CP1	Beam	RECT	A36 Gr.36	Typical
9	9	25	24		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
10	10	23	22		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
11	11	6	7		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
12	12	28	24		RIGID	None	None	RIGID	Typical
13	13	29	25		RIGID	None	None	RIGID	Typical
14	14	27	23		RIGID	None	None	RIGID	Typical
15	15	26	22		RIGID	None	None	RIGID	Typical
16	16	32	30		RIGID	None	None	RIGID	Typical
17	17	33	31		RIGID	None	None	RIGID	Typical
18	18	37	35		MF-P1	Column	Pipe	A500 Gr.C	Typical
19	19	36	34		MF-P1	Column	Pipe	A500 Gr.C	Typical
20	20	38	40		RIGID	None	None	RIGID	Typical
21	21	39	41		RIGID	None	None	RIGID	Typical
22	22	42	43		MF-H2	Beam	Pipe	A500 Gr.C	Typical
23	23	11	10		RIGID	None	None	RIGID	Typical
24	24	18	17		RIGID	None	None	RIGID	Typical
25	25	13	12		RIGID	None	None	RIGID	Typical
26	26	21	20		RIGID	None	None	RIGID	Typical
27	27	45	44		RIGID	None	None	RIGID	Typical
28	28	47	46		MF-P1	Column	Pipe	A500 Gr.C	Typical
29	29	48	49		RIGID	None	None	RIGID	Typical
30	30	51	52	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
31	31	53	54		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
32	32	57	55	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
33	33	55	56	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
34	34	59	60		MF-CP1	Beam	RECT	A36 Gr.36	Typical
35	35	58	61		MF-CP1	Beam	RECT	A36 Gr.36	Typical
36	36	66	56		MF-CP1	Beam	RECT	A36 Gr.36	Typical
37	37	57	69		MF-CP1	Beam	RECT	A36 Gr.36	Typical
38	38	75	74		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
39	39	73	72		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
40	40	58	59		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
41	41	78	74		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
42	42	79	75		RIGID	None	None	RIGID	Typical
43	43	77	73		RIGID	None	None	RIGID	Typical
44	44	76	72		RIGID	None	None	RIGID	Typical
45	45	63	62		RIGID	None	None	RIGID	Typical
46	46	68	67		RIGID	None	None	RIGID	Typical
47	47	65	64		RIGID	None	None	RIGID	Typical
48	48	71	70		RIGID	None	None	RIGID	Typical
49	49	80	81	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
50	50	82	83		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
51	51	86	84	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
52	52	84	85	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
53	53	88	89		MF-CP1	Beam	RECT	A36 Gr.36	Typical
54	54	87	90		MF-CP1	Beam	RECT	A36 Gr.36	Typical
55	55	95	85		MF-CP1	Beam	RECT	A36 Gr.36	Typical
56	56	86	98		MF-CP1	Beam	RECT	A36 Gr.36	Typical
57	57	104	103		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
58	58	102	101		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
59	59	87	88		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
60	60	107	103		RIGID	None	None	RIGID	Typical
61	61	108	104		RIGID	None	None	RIGID	Typical
62	62	106	102		RIGID	None	None	RIGID	Typical
63	63	105	101		RIGID	None	None	RIGID	Typical
64	64	92	91		RIGID	None	None	RIGID	Typical
65	65	97	96		RIGID	None	None	RIGID	Typical
66	66	94	93		RIGID	None	None	RIGID	Typical
67	67	100	99		RIGID	None	None	RIGID	Typical
68	68	109	110	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
69	69	111	112		MF-H1	Beam	Pipe	A500 Gr.C	Typical
70	70	115	113		RIGID	None	None	RIGID	Typical
71	71	116	114		RIGID	None	None	RIGID	Typical
72	72	120	118		MF-P1	Column	Pipe	A500 Gr.C	Typical
73	73	119	117		MF-P1	Column	Pipe	A500 Gr.C	Typical
74	74	121	123		RIGID	None	None	RIGID	Typical
75	75	122	124		RIGID	None	None	RIGID	Typical
76	76	125	126		MF-H2	Beam	Pipe	A500 Gr.C	Typical
77	77	128	127		RIGID	None	None	RIGID	Typical
78	78	130	129		MF-P1	Column	Pipe	A500 Gr.C	Typical
79	79	131	132		RIGID	None	None	RIGID	Typical
80	80	133	134		MF-H1	Beam	Pipe	A500 Gr.C	Typical
81	81	137	135		RIGID	None	None	RIGID	Typical
82	82	138	136		RIGID	None	None	RIGID	Typical
83	83	142	140		MF-P1	Column	Pipe	A500 Gr.C	Typical
84	84	141	139		MF-P1	Column	Pipe	A500 Gr.C	Typical
85	85	143	145		RIGID	None	None	RIGID	Typical
86	86	144	146		RIGID	None	None	RIGID	Typical
87	87	147	148		MF-H2	Beam	Pipe	A500 Gr.C	Typical
88	88	150	149		RIGID	None	None	RIGID	Typical
89	89	152	151		MF-P1	Column	Pipe	A500 Gr.C	Typical
90	90	153	154		RIGID	None	None	RIGID	Typical
91	91	157	158		MF-P2	Column	Pipe	A53 Gr.B	Typical
92	92	155	156		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
1	1				Yes	N/A	None
2	2			2	Yes	N/A	None
3	3		2		Yes	N/A	None
4	4				Yes	N/A	None
5	5				Yes	N/A	None
6	6				Yes	N/A	None
7	7				Yes	N/A	None
8	8				Yes	N/A	None
9	9				Yes	N/A	None
10	10				Yes	N/A	None
11	11				Yes	N/A	None
12	12				Yes	** NA **	None
13	13				Yes	** NA **	None
14	14				Yes	** NA **	None
15	15				Yes	** NA **	None
16	16				Yes	** NA **	None
17	17				Yes	** NA **	None
18	18				Yes	** NA **	None
19	19				Yes	** NA **	None
20	20				Yes	** NA **	None
21	21				Yes	** NA **	None
22	22				Yes	N/A	None
23	23	O O O O O X			Yes	** NA **	None
24	24	O O O O O X			Yes	** NA **	None
25	25	O O O O O X			Yes	** NA **	None
26	26	O O O O O X			Yes	** NA **	None
27	27				Yes	** NA **	None
28	28				Yes	** NA **	None
29	29				Yes	** NA **	None
30	30				Yes	N/A	None
31	31				Yes	N/A	None
32	32			2	Yes	N/A	None
33	33		2		Yes	N/A	None
34	34				Yes	N/A	None
35	35				Yes	N/A	None
36	36				Yes	N/A	None
37	37				Yes	N/A	None
38	38				Yes	N/A	None
39	39				Yes	N/A	None
40	40				Yes	N/A	None
41	41				Yes	** NA **	None
42	42				Yes	** NA **	None
43	43				Yes	** NA **	None
44	44				Yes	** NA **	None
45	45	O O O O O X			Yes	** NA **	None
46	46	O O O O O X			Yes	** NA **	None
47	47	O O O O O X			Yes	** NA **	None
48	48	O O O O O X			Yes	** NA **	None
49	49				Yes	N/A	None
50	50				Yes	N/A	None
51	51			2	Yes	N/A	None
52	52		2		Yes	N/A	None
53	53				Yes	N/A	None
54	54				Yes	N/A	None
55	55				Yes	N/A	None

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
56	56				Yes	N/A	None
57	57				Yes	N/A	None
58	58				Yes	N/A	None
59	59				Yes	N/A	None
60	60				Yes	** NA **	None
61	61				Yes	** NA **	None
62	62				Yes	** NA **	None
63	63				Yes	** NA **	None
64	64	OOOOOX			Yes	** NA **	None
65	65	OOOOOX			Yes	** NA **	None
66	66	OOOOOX			Yes	** NA **	None
67	67	OOOOOX			Yes	** NA **	None
68	68				Yes	N/A	None
69	69				Yes	N/A	None
70	70				Yes	** NA **	None
71	71				Yes	** NA **	None
72	72				Yes	** NA **	None
73	73				Yes	** NA **	None
74	74				Yes	** NA **	None
75	75				Yes	** NA **	None
76	76				Yes	N/A	None
77	77				Yes	** NA **	None
78	78				Yes	** NA **	None
79	79				Yes	** NA **	None
80	80				Yes	N/A	None
81	81				Yes	** NA **	None
82	82				Yes	** NA **	None
83	83				Yes	** NA **	None
84	84				Yes	** NA **	None
85	85				Yes	** NA **	None
86	86				Yes	** NA **	None
87	87				Yes	N/A	None
88	88				Yes	** NA **	None
89	89				Yes	** NA **	None
90	90				Yes	** NA **	None
91	91				Yes	** NA **	None
92	92				Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	1	SF-H1	3.333	Lbyy	Lateral
2	2	SF-H2	2.758	Lbyy	Lateral
3	3	SF-H2	2.758	Lbyy	Lateral
4	4	MF-CP1	0.292	Lbyy	Lateral
5	5	MF-CP1	0.292	Lbyy	Lateral
6	6	MF-H1	8	Lbyy	Lateral
7	7	MF-CP1	0.208	Lbyy	Lateral
8	8	MF-CP1	0.208	Lbyy	Lateral
9	9	SF-H3	2.309	Lbyy	Lateral
10	10	SF-H3	2.309	Lbyy	Lateral
11	11	SF-H4	3.207	Lbyy	Lateral
12	18	MF-P1	8	Lbyy	Lateral
13	19	MF-P1	8	Lbyy	Lateral
14	22	MF-H2	10	Lbyy	Lateral
15	28	MF-P1	8	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
16	30	MF-H3	3.25	Lbyy	Lateral
17	31	SF-H1	3.333	Lbyy	Lateral
18	32	SF-H2	2.758	Lbyy	Lateral
19	33	SF-H2	2.758	Lbyy	Lateral
20	34	MF-CP1	0.292	Lbyy	Lateral
21	35	MF-CP1	0.292	Lbyy	Lateral
22	36	MF-CP1	0.208	Lbyy	Lateral
23	37	MF-CP1	0.208	Lbyy	Lateral
24	38	SF-H3	2.309	Lbyy	Lateral
25	39	SF-H3	2.309	Lbyy	Lateral
26	40	SF-H4	3.207	Lbyy	Lateral
27	49	MF-H3	3.25	Lbyy	Lateral
28	50	SF-H1	3.333	Lbyy	Lateral
29	51	SF-H2	2.758	Lbyy	Lateral
30	52	SF-H2	2.758	Lbyy	Lateral
31	53	MF-CP1	0.292	Lbyy	Lateral
32	54	MF-CP1	0.292	Lbyy	Lateral
33	55	MF-CP1	0.208	Lbyy	Lateral
34	56	MF-CP1	0.208	Lbyy	Lateral
35	57	SF-H3	2.309	Lbyy	Lateral
36	58	SF-H3	2.309	Lbyy	Lateral
37	59	SF-H4	3.207	Lbyy	Lateral
38	68	MF-H3	3.25	Lbyy	Lateral
39	69	MF-H1	8	Lbyy	Lateral
40	72	MF-P1	8	Lbyy	Lateral
41	73	MF-P1	8	Lbyy	Lateral
42	76	MF-H2	10	Lbyy	Lateral
43	78	MF-P1	8	Lbyy	Lateral
44	80	MF-H1	8	Lbyy	Lateral
45	83	MF-P1	8	Lbyy	Lateral
46	84	MF-P1	8	Lbyy	Lateral
47	87	MF-H2	10	Lbyy	Lateral
48	89	MF-P1	8	Lbyy	Lateral
49	91	MF-P2	4	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	Y	-0.041	%15
2	18	Y	-0.041	%85
3	18	Y	-0.075	%50
4	18	Y	-0.064	%50
5	18	Y	0	0
6	83	Y	-0.041	%15
7	83	Y	-0.041	%85
8	83	Y	-0.075	%50
9	83	Y	-0.064	%50
10	83	Y	0	0
11	72	Y	-0.041	%15
12	72	Y	-0.041	%85
13	72	Y	-0.075	%50
14	72	Y	-0.064	%50
15	72	Y	0	0
16	91	Y	-0.022	%20
17	91	Y	0	0
18	91	Y	0	0

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
19	91	Y	0	0
20	91	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	Z	-0.132	%15
2	18	Z	-0.132	%85
3	18	Z	-0.035	%50
4	18	Z	-0.031	%50
5	18	Z	0	0
6	83	Z	-0.132	%15
7	83	Z	-0.132	%85
8	83	Z	-0.035	%50
9	83	Z	-0.031	%50
10	83	Z	0	0
11	72	Z	-0.132	%15
12	72	Z	-0.132	%85
13	72	Z	-0.035	%50
14	72	Z	-0.031	%50
15	72	Z	0	0
16	91	Z	-0.06	%20
17	91	Z	0	0
18	91	Z	0	0
19	91	Z	0	0
20	91	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	X	-0.053	%15
2	18	X	-0.053	%85
3	18	X	-0.058	%50
4	18	X	-0.058	%50
5	18	X	0	0
6	83	X	-0.053	%15
7	83	X	-0.053	%85
8	83	X	-0.058	%50
9	83	X	-0.058	%50
10	83	X	0	0
11	72	X	-0.053	%15
12	72	X	-0.053	%85
13	72	X	-0.058	%50
14	72	X	-0.058	%50
15	72	X	0	0
16	91	X	-0.035	%20
17	91	X	0	0
18	91	X	0	0
19	91	X	0	0
20	91	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	Z	-0.025	%15
2	18	Z	-0.025	%85
3	18	Z	-0.006	%50
4	18	Z	-0.005	%50
5	18	Z	0	0
6	83	Z	-0.025	%15
7	83	Z	-0.025	%85
8	83	Z	-0.006	%50
9	83	Z	-0.005	%50
10	83	Z	0	0
11	72	Z	-0.025	%15
12	72	Z	-0.025	%85
13	72	Z	-0.006	%50
14	72	Z	-0.005	%50
15	72	Z	0	0
16	91	Z	-0.01	%20
17	91	Z	0	0
18	91	Z	0	0
19	91	Z	0	0
20	91	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	X	-0.011	%15
2	18	X	-0.011	%85
3	18	X	-0.01	%50
4	18	X	-0.01	%50
5	18	X	0	0
6	83	X	-0.011	%15
7	83	X	-0.011	%85
8	83	X	-0.01	%50
9	83	X	-0.01	%50
10	83	X	0	0
11	72	X	-0.011	%15
12	72	X	-0.011	%85
13	72	X	-0.01	%50
14	72	X	-0.01	%50
15	72	X	0	0
16	91	X	-0.006	%20
17	91	X	0	0
18	91	X	0	0
19	91	X	0	0
20	91	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	Z	-0.008	%15
2	18	Z	-0.008	%85
3	18	Z	-0.002	%50
4	18	Z	-0.002	%50
5	18	Z	0	0
6	83	Z	-0.008	%15

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
7	83	Z	-0.008	%85
8	83	Z	-0.002	%50
9	83	Z	-0.002	%50
10	83	Z	0	0
11	72	Z	-0.008	%15
12	72	Z	-0.008	%85
13	72	Z	-0.002	%50
14	72	Z	-0.002	%50
15	72	Z	0	0
16	91	Z	-0.004	%20
17	91	Z	0	0
18	91	Z	0	0
19	91	Z	0	0
20	91	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	X	-0.003	%15
2	18	X	-0.003	%85
3	18	X	-0.004	%50
4	18	X	-0.004	%50
5	18	X	0	0
6	83	X	-0.003	%15
7	83	X	-0.003	%85
8	83	X	-0.004	%50
9	83	X	-0.004	%50
10	83	X	0	0
11	72	X	-0.003	%15
12	72	X	-0.003	%85
13	72	X	-0.004	%50
14	72	X	-0.004	%50
15	72	X	0	0
16	91	X	-0.002	%20
17	91	X	0	0
18	91	X	0	0
19	91	X	0	0
20	91	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	Y	-0.118	%15
2	18	Y	-0.118	%85
3	18	Y	-0.032	%50
4	18	Y	-0.031	%50
5	18	Y	0	0
6	83	Y	-0.118	%15
7	83	Y	-0.118	%85
8	83	Y	-0.032	%50
9	83	Y	-0.031	%50
10	83	Y	0	0
11	72	Y	-0.118	%15
12	72	Y	-0.118	%85
13	72	Y	-0.032	%50

Member Point Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
14	72	Y	-0.031	%50
15	72	Y	0	0
16	91	Y	-0.033	%20
17	91	Y	0	0
18	91	Y	0	0
19	91	Y	0	0
20	91	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	Z	-0.012	%15
2	18	Z	-0.012	%85
3	18	Z	-0.011	%50
4	18	Z	-0.01	%50
5	18	Z	0	0
6	83	Z	-0.012	%15
7	83	Z	-0.012	%85
8	83	Z	-0.011	%50
9	83	Z	-0.01	%50
10	83	Z	0	0
11	72	Z	-0.012	%15
12	72	Z	-0.012	%85
13	72	Z	-0.011	%50
14	72	Z	-0.01	%50
15	72	Z	0	0
16	91	Z	-0.003	%20
17	91	Z	0	0
18	91	Z	0	0
19	91	Z	0	0
20	91	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	X	-0.012	%15
2	18	X	-0.012	%85
3	18	X	-0.011	%50
4	18	X	-0.01	%50
5	18	X	0	0
6	83	X	-0.012	%15
7	83	X	-0.012	%85
8	83	X	-0.011	%50
9	83	X	-0.01	%50
10	83	X	0	0
11	72	X	-0.012	%15
12	72	X	-0.012	%85
13	72	X	-0.011	%50
14	72	X	-0.01	%50
15	72	X	0	0
16	91	X	-0.003	%20
17	91	X	0	0
18	91	X	0	0
19	91	X	0	0
20	91	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	22	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	22	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%95



Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	31	Y	-0.25	%95

Member Point Loads (BLC 28 : Maint LL 14)

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

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	50	Y	-0.25	%95

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.015	-0.015	0	%100
2	2	Z	-0.012	-0.012	0	%100
3	3	Z	-0.012	-0.012	0	%100
4	4	Z	-0.018	-0.018	0	%100
5	5	Z	-0.018	-0.018	0	%100
6	6	Z	-0.01	-0.01	0	%100
7	7	Z	-0.018	-0.018	0	%100
8	8	Z	-0.018	-0.018	0	%100
9	9	Z	-0.008	-0.008	0	%100
10	10	Z	-0.008	-0.008	0	%100
11	11	Z	-0.024	-0.024	0	%100
12	18	Z	-0.009	-0.009	0	%100
13	19	Z	-0.009	-0.009	0	%100
14	22	Z	-0.009	-0.009	0	%100
15	28	Z	-0.009	-0.009	0	%100
16	30	Z	-0.022	-0.022	0	%100
17	31	Z	-0.015	-0.015	0	%100
18	32	Z	-0.012	-0.012	0	%100
19	33	Z	-0.012	-0.012	0	%100
20	34	Z	-0.018	-0.018	0	%100
21	35	Z	-0.018	-0.018	0	%100
22	36	Z	-0.018	-0.018	0	%100
23	37	Z	-0.018	-0.018	0	%100
24	38	Z	-0.008	-0.008	0	%100
25	39	Z	-0.008	-0.008	0	%100
26	40	Z	-0.024	-0.024	0	%100
27	49	Z	-0.022	-0.022	0	%100
28	50	Z	-0.015	-0.015	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
29	51	Z	-0.012	-0.012	0	%100
30	52	Z	-0.012	-0.012	0	%100
31	53	Z	-0.018	-0.018	0	%100
32	54	Z	-0.018	-0.018	0	%100
33	55	Z	-0.018	-0.018	0	%100
34	56	Z	-0.018	-0.018	0	%100
35	57	Z	-0.008	-0.008	0	%100
36	58	Z	-0.008	-0.008	0	%100
37	59	Z	-0.024	-0.024	0	%100
38	68	Z	-0.022	-0.022	0	%100
39	69	Z	-0.01	-0.01	0	%100
40	72	Z	-0.009	-0.009	0	%100
41	73	Z	-0.009	-0.009	0	%100
42	76	Z	-0.009	-0.009	0	%100
43	78	Z	-0.009	-0.009	0	%100
44	80	Z	-0.01	-0.01	0	%100
45	83	Z	-0.009	-0.009	0	%100
46	84	Z	-0.009	-0.009	0	%100
47	87	Z	-0.009	-0.009	0	%100
48	89	Z	-0.009	-0.009	0	%100
49	91	Z	-0.006	-0.006	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.015	-0.015	0	%100
2	2	X	-0.012	-0.012	0	%100
3	3	X	-0.012	-0.012	0	%100
4	4	X	-0.018	-0.018	0	%100
5	5	X	-0.018	-0.018	0	%100
6	6	X	-0.01	-0.01	0	%100
7	7	X	-0.018	-0.018	0	%100
8	8	X	-0.018	-0.018	0	%100
9	9	X	-0.008	-0.008	0	%100
10	10	X	-0.008	-0.008	0	%100
11	11	X	-0.024	-0.024	0	%100
12	18	X	-0.009	-0.009	0	%100
13	19	X	-0.009	-0.009	0	%100
14	22	X	-0.009	-0.009	0	%100
15	28	X	-0.009	-0.009	0	%100
16	30	X	-0.022	-0.022	0	%100
17	31	X	-0.015	-0.015	0	%100
18	32	X	-0.012	-0.012	0	%100
19	33	X	-0.012	-0.012	0	%100
20	34	X	-0.018	-0.018	0	%100
21	35	X	-0.018	-0.018	0	%100
22	36	X	-0.018	-0.018	0	%100
23	37	X	-0.018	-0.018	0	%100
24	38	X	-0.008	-0.008	0	%100
25	39	X	-0.008	-0.008	0	%100
26	40	X	-0.024	-0.024	0	%100
27	49	X	-0.022	-0.022	0	%100
28	50	X	-0.015	-0.015	0	%100
29	51	X	-0.012	-0.012	0	%100
30	52	X	-0.012	-0.012	0	%100
31	53	X	-0.018	-0.018	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
32	54	X	-0.018	-0.018	0	%100
33	55	X	-0.018	-0.018	0	%100
34	56	X	-0.018	-0.018	0	%100
35	57	X	-0.008	-0.008	0	%100
36	58	X	-0.008	-0.008	0	%100
37	59	X	-0.024	-0.024	0	%100
38	68	X	-0.022	-0.022	0	%100
39	69	X	-0.01	-0.01	0	%100
40	72	X	-0.009	-0.009	0	%100
41	73	X	-0.009	-0.009	0	%100
42	76	X	-0.009	-0.009	0	%100
43	78	X	-0.009	-0.009	0	%100
44	80	X	-0.01	-0.01	0	%100
45	83	X	-0.009	-0.009	0	%100
46	84	X	-0.009	-0.009	0	%100
47	87	X	-0.009	-0.009	0	%100
48	89	X	-0.009	-0.009	0	%100
49	91	X	-0.006	-0.006	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.004	-0.004	0	%100
2	2	Z	-0.004	-0.004	0	%100
3	3	Z	-0.004	-0.004	0	%100
4	4	Z	-0.007	-0.007	0	%100
5	5	Z	-0.007	-0.007	0	%100
6	6	Z	-0.001	-0.001	0	%100
7	7	Z	-0.008	-0.008	0	%100
8	8	Z	-0.008	-0.008	0	%100
9	9	Z	-0.003	-0.003	0	%100
10	10	Z	-0.003	-0.003	0	%100
11	11	Z	-0.006	-0.006	0	%100
12	18	Z	-0.001	-0.001	0	%100
13	19	Z	-0.001	-0.001	0	%100
14	22	Z	-0.001	-0.001	0	%100
15	28	Z	-0.001	-0.001	0	%100
16	30	Z	-0.005	-0.005	0	%100
17	31	Z	-0.004	-0.004	0	%100
18	32	Z	-0.004	-0.004	0	%100
19	33	Z	-0.004	-0.004	0	%100
20	34	Z	-0.007	-0.007	0	%100
21	35	Z	-0.007	-0.007	0	%100
22	36	Z	-0.008	-0.008	0	%100
23	37	Z	-0.008	-0.008	0	%100
24	38	Z	-0.003	-0.003	0	%100
25	39	Z	-0.003	-0.003	0	%100
26	40	Z	-0.006	-0.006	0	%100
27	49	Z	-0.005	-0.005	0	%100
28	50	Z	-0.004	-0.004	0	%100
29	51	Z	-0.004	-0.004	0	%100
30	52	Z	-0.004	-0.004	0	%100
31	53	Z	-0.007	-0.007	0	%100
32	54	Z	-0.007	-0.007	0	%100
33	55	Z	-0.008	-0.008	0	%100
34	56	Z	-0.008	-0.008	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
35	57	Z	-0.003	-0.003	0	%100
36	58	Z	-0.003	-0.003	0	%100
37	59	Z	-0.006	-0.006	0	%100
38	68	Z	-0.005	-0.005	0	%100
39	69	Z	-0.001	-0.001	0	%100
40	72	Z	-0.001	-0.001	0	%100
41	73	Z	-0.001	-0.001	0	%100
42	76	Z	-0.001	-0.001	0	%100
43	78	Z	-0.001	-0.001	0	%100
44	80	Z	-0.001	-0.001	0	%100
45	83	Z	-0.001	-0.001	0	%100
46	84	Z	-0.001	-0.001	0	%100
47	87	Z	-0.001	-0.001	0	%100
48	89	Z	-0.001	-0.001	0	%100
49	91	Z	-0.001	-0.001	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.004	-0.004	0	%100
2	2	X	-0.004	-0.004	0	%100
3	3	X	-0.004	-0.004	0	%100
4	4	X	-0.007	-0.007	0	%100
5	5	X	-0.007	-0.007	0	%100
6	6	X	-0.001	-0.001	0	%100
7	7	X	-0.008	-0.008	0	%100
8	8	X	-0.008	-0.008	0	%100
9	9	X	-0.003	-0.003	0	%100
10	10	X	-0.003	-0.003	0	%100
11	11	X	-0.006	-0.006	0	%100
12	18	X	-0.001	-0.001	0	%100
13	19	X	-0.001	-0.001	0	%100
14	22	X	-0.001	-0.001	0	%100
15	28	X	-0.001	-0.001	0	%100
16	30	X	-0.005	-0.005	0	%100
17	31	X	-0.004	-0.004	0	%100
18	32	X	-0.004	-0.004	0	%100
19	33	X	-0.004	-0.004	0	%100
20	34	X	-0.007	-0.007	0	%100
21	35	X	-0.007	-0.007	0	%100
22	36	X	-0.008	-0.008	0	%100
23	37	X	-0.008	-0.008	0	%100
24	38	X	-0.003	-0.003	0	%100
25	39	X	-0.003	-0.003	0	%100
26	40	X	-0.006	-0.006	0	%100
27	49	X	-0.005	-0.005	0	%100
28	50	X	-0.004	-0.004	0	%100
29	51	X	-0.004	-0.004	0	%100
30	52	X	-0.004	-0.004	0	%100
31	53	X	-0.007	-0.007	0	%100
32	54	X	-0.007	-0.007	0	%100
33	55	X	-0.008	-0.008	0	%100
34	56	X	-0.008	-0.008	0	%100
35	57	X	-0.003	-0.003	0	%100
36	58	X	-0.003	-0.003	0	%100
37	59	X	-0.006	-0.006	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
38	68	X	-0.005	-0.005	0	%100
39	69	X	-0.001	-0.001	0	%100
40	72	X	-0.001	-0.001	0	%100
41	73	X	-0.001	-0.001	0	%100
42	76	X	-0.001	-0.001	0	%100
43	78	X	-0.001	-0.001	0	%100
44	80	X	-0.001	-0.001	0	%100
45	83	X	-0.001	-0.001	0	%100
46	84	X	-0.001	-0.001	0	%100
47	87	X	-0.001	-0.001	0	%100
48	89	X	-0.001	-0.001	0	%100
49	91	X	-0.001	-0.001	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.0009	-0.0009	0	%100
2	2	Z	-0.0007	-0.0007	0	%100
3	3	Z	-0.0007	-0.0007	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.001	-0.001	0	%100
6	6	Z	-0.0003	-0.0003	0	%100
7	7	Z	-0.001	-0.001	0	%100
8	8	Z	-0.001	-0.001	0	%100
9	9	Z	-0.0005	-0.0005	0	%100
10	10	Z	-0.0005	-0.0005	0	%100
11	11	Z	-0.001	-0.001	0	%100
12	18	Z	-0.0003	-0.0003	0	%100
13	19	Z	-0.0003	-0.0003	0	%100
14	22	Z	-0.0003	-0.0003	0	%100
15	28	Z	-0.0003	-0.0003	0	%100
16	30	Z	-0.001	-0.001	0	%100
17	31	Z	-0.0009	-0.0009	0	%100
18	32	Z	-0.0007	-0.0007	0	%100
19	33	Z	-0.0007	-0.0007	0	%100
20	34	Z	-0.001	-0.001	0	%100
21	35	Z	-0.001	-0.001	0	%100
22	36	Z	-0.001	-0.001	0	%100
23	37	Z	-0.001	-0.001	0	%100
24	38	Z	-0.0005	-0.0005	0	%100
25	39	Z	-0.0005	-0.0005	0	%100
26	40	Z	-0.001	-0.001	0	%100
27	49	Z	-0.001	-0.001	0	%100
28	50	Z	-0.0009	-0.0009	0	%100
29	51	Z	-0.0007	-0.0007	0	%100
30	52	Z	-0.0007	-0.0007	0	%100
31	53	Z	-0.001	-0.001	0	%100
32	54	Z	-0.001	-0.001	0	%100
33	55	Z	-0.001	-0.001	0	%100
34	56	Z	-0.001	-0.001	0	%100
35	57	Z	-0.0005	-0.0005	0	%100
36	58	Z	-0.0005	-0.0005	0	%100
37	59	Z	-0.001	-0.001	0	%100
38	68	Z	-0.001	-0.001	0	%100
39	69	Z	-0.0003	-0.0003	0	%100
40	72	Z	-0.0003	-0.0003	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
41	73	Z	-0.0003	-0.0003	0	%100
42	76	Z	-0.0003	-0.0003	0	%100
43	78	Z	-0.0003	-0.0003	0	%100
44	80	Z	-0.0003	-0.0003	0	%100
45	83	Z	-0.0003	-0.0003	0	%100
46	84	Z	-0.0003	-0.0003	0	%100
47	87	Z	-0.0003	-0.0003	0	%100
48	89	Z	-0.0003	-0.0003	0	%100
49	91	Z	-0.0002	-0.0002	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.0009	-0.0009	0	%100
2	2	X	-0.0007	-0.0007	0	%100
3	3	X	-0.0007	-0.0007	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.001	-0.001	0	%100
6	6	X	-0.0003	-0.0003	0	%100
7	7	X	-0.001	-0.001	0	%100
8	8	X	-0.001	-0.001	0	%100
9	9	X	-0.0005	-0.0005	0	%100
10	10	X	-0.0005	-0.0005	0	%100
11	11	X	-0.001	-0.001	0	%100
12	18	X	-0.0003	-0.0003	0	%100
13	19	X	-0.0003	-0.0003	0	%100
14	22	X	-0.0003	-0.0003	0	%100
15	28	X	-0.0003	-0.0003	0	%100
16	30	X	-0.001	-0.001	0	%100
17	31	X	-0.0009	-0.0009	0	%100
18	32	X	-0.0007	-0.0007	0	%100
19	33	X	-0.0007	-0.0007	0	%100
20	34	X	-0.001	-0.001	0	%100
21	35	X	-0.001	-0.001	0	%100
22	36	X	-0.001	-0.001	0	%100
23	37	X	-0.001	-0.001	0	%100
24	38	X	-0.0005	-0.0005	0	%100
25	39	X	-0.0005	-0.0005	0	%100
26	40	X	-0.001	-0.001	0	%100
27	49	X	-0.001	-0.001	0	%100
28	50	X	-0.0009	-0.0009	0	%100
29	51	X	-0.0007	-0.0007	0	%100
30	52	X	-0.0007	-0.0007	0	%100
31	53	X	-0.001	-0.001	0	%100
32	54	X	-0.001	-0.001	0	%100
33	55	X	-0.001	-0.001	0	%100
34	56	X	-0.001	-0.001	0	%100
35	57	X	-0.0005	-0.0005	0	%100
36	58	X	-0.0005	-0.0005	0	%100
37	59	X	-0.001	-0.001	0	%100
38	68	X	-0.001	-0.001	0	%100
39	69	X	-0.0003	-0.0003	0	%100
40	72	X	-0.0003	-0.0003	0	%100
41	73	X	-0.0003	-0.0003	0	%100
42	76	X	-0.0003	-0.0003	0	%100
43	78	X	-0.0003	-0.0003	0	%100



Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
44	80	X	-0.0003	-0.0003	0	%100
45	83	X	-0.0003	-0.0003	0	%100
46	84	X	-0.0003	-0.0003	0	%100
47	87	X	-0.0003	-0.0003	0	%100
48	89	X	-0.0003	-0.0003	0	%100
49	91	X	-0.0002	-0.0002	0	%100

Member Distributed Loads (BLC 8 : Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.009	-0.009	0	%100
2	2	Y	-0.007	-0.007	0	%100
3	3	Y	-0.007	-0.007	0	%100
4	4	Y	-0.009	-0.009	0	%100
5	5	Y	-0.009	-0.009	0	%100
6	6	Y	-0.006	-0.006	0	%100
7	7	Y	-0.009	-0.009	0	%100
8	8	Y	-0.009	-0.009	0	%100
9	9	Y	-0.005	-0.005	0	%100
10	10	Y	-0.005	-0.005	0	%100
11	11	Y	-0.012	-0.012	0	%100
12	18	Y	-0.005	-0.005	0	%100
13	19	Y	-0.005	-0.005	0	%100
14	22	Y	-0.005	-0.005	0	%100
15	28	Y	-0.005	-0.005	0	%100
16	30	Y	-0.012	-0.012	0	%100
17	31	Y	-0.009	-0.009	0	%100
18	32	Y	-0.007	-0.007	0	%100
19	33	Y	-0.007	-0.007	0	%100
20	34	Y	-0.009	-0.009	0	%100
21	35	Y	-0.009	-0.009	0	%100
22	36	Y	-0.009	-0.009	0	%100
23	37	Y	-0.009	-0.009	0	%100
24	38	Y	-0.005	-0.005	0	%100
25	39	Y	-0.005	-0.005	0	%100
26	40	Y	-0.012	-0.012	0	%100
27	49	Y	-0.012	-0.012	0	%100
28	50	Y	-0.009	-0.009	0	%100
29	51	Y	-0.007	-0.007	0	%100
30	52	Y	-0.007	-0.007	0	%100
31	53	Y	-0.009	-0.009	0	%100
32	54	Y	-0.009	-0.009	0	%100
33	55	Y	-0.009	-0.009	0	%100
34	56	Y	-0.009	-0.009	0	%100
35	57	Y	-0.005	-0.005	0	%100
36	58	Y	-0.005	-0.005	0	%100
37	59	Y	-0.012	-0.012	0	%100
38	68	Y	-0.012	-0.012	0	%100
39	69	Y	-0.006	-0.006	0	%100
40	72	Y	-0.005	-0.005	0	%100
41	73	Y	-0.005	-0.005	0	%100
42	76	Y	-0.005	-0.005	0	%100
43	78	Y	-0.005	-0.005	0	%100
44	80	Y	-0.006	-0.006	0	%100
45	83	Y	-0.005	-0.005	0	%100
46	84	Y	-0.005	-0.005	0	%100



Member Distributed Loads (BLC 8 : Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
47	87	Y	-0.005	-0.005	0	%100
48	89	Y	-0.005	-0.005	0	%100
49	91	Y	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.001	-0.001	0	%100
2	2	Z	-0.0007	-0.0007	0	%100
3	3	Z	-0.0007	-0.0007	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.001	-0.001	0	%100
6	6	Z	-0.0009	-0.0009	0	%100
7	7	Z	-0.001	-0.001	0	%100
8	8	Z	-0.001	-0.001	0	%100
9	9	Z	-0.0005	-0.0005	0	%100
10	10	Z	-0.0005	-0.0005	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	18	Z	-0.0009	-0.0009	0	%100
13	19	Z	-0.0009	-0.0009	0	%100
14	22	Z	-0.0009	-0.0009	0	%100
15	28	Z	-0.0009	-0.0009	0	%100
16	30	Z	-0.001	-0.001	0	%100
17	31	Z	-0.001	-0.001	0	%100
18	32	Z	-0.0007	-0.0007	0	%100
19	33	Z	-0.0007	-0.0007	0	%100
20	34	Z	-0.001	-0.001	0	%100
21	35	Z	-0.001	-0.001	0	%100
22	36	Z	-0.001	-0.001	0	%100
23	37	Z	-0.001	-0.001	0	%100
24	38	Z	-0.0005	-0.0005	0	%100
25	39	Z	-0.0005	-0.0005	0	%100
26	40	Z	-0.002	-0.002	0	%100
27	49	Z	-0.001	-0.001	0	%100
28	50	Z	-0.001	-0.001	0	%100
29	51	Z	-0.0007	-0.0007	0	%100
30	52	Z	-0.0007	-0.0007	0	%100
31	53	Z	-0.001	-0.001	0	%100
32	54	Z	-0.001	-0.001	0	%100
33	55	Z	-0.001	-0.001	0	%100
34	56	Z	-0.001	-0.001	0	%100
35	57	Z	-0.0005	-0.0005	0	%100
36	58	Z	-0.0005	-0.0005	0	%100
37	59	Z	-0.002	-0.002	0	%100
38	68	Z	-0.001	-0.001	0	%100
39	69	Z	-0.0009	-0.0009	0	%100
40	72	Z	-0.0009	-0.0009	0	%100
41	73	Z	-0.0009	-0.0009	0	%100
42	76	Z	-0.0009	-0.0009	0	%100
43	78	Z	-0.0009	-0.0009	0	%100
44	80	Z	-0.0009	-0.0009	0	%100
45	83	Z	-0.0009	-0.0009	0	%100
46	84	Z	-0.0009	-0.0009	0	%100
47	87	Z	-0.0009	-0.0009	0	%100
48	89	Z	-0.0009	-0.0009	0	%100
49	91	Z	-0.0006	-0.0006	0	%100



Member Distributed Loads (BLC 10 : 90 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.001	-0.001	0	%100
2	2	X	-0.0007	-0.0007	0	%100
3	3	X	-0.0007	-0.0007	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.001	-0.001	0	%100
6	6	X	-0.0009	-0.0009	0	%100
7	7	X	-0.001	-0.001	0	%100
8	8	X	-0.001	-0.001	0	%100
9	9	X	-0.0005	-0.0005	0	%100
10	10	X	-0.0005	-0.0005	0	%100
11	11	X	-0.002	-0.002	0	%100
12	18	X	-0.0009	-0.0009	0	%100
13	19	X	-0.0009	-0.0009	0	%100
14	22	X	-0.0009	-0.0009	0	%100
15	28	X	-0.0009	-0.0009	0	%100
16	30	X	-0.001	-0.001	0	%100
17	31	X	-0.001	-0.001	0	%100
18	32	X	-0.0007	-0.0007	0	%100
19	33	X	-0.0007	-0.0007	0	%100
20	34	X	-0.001	-0.001	0	%100
21	35	X	-0.001	-0.001	0	%100
22	36	X	-0.001	-0.001	0	%100
23	37	X	-0.001	-0.001	0	%100
24	38	X	-0.0005	-0.0005	0	%100
25	39	X	-0.0005	-0.0005	0	%100
26	40	X	-0.002	-0.002	0	%100
27	49	X	-0.001	-0.001	0	%100
28	50	X	-0.001	-0.001	0	%100
29	51	X	-0.0007	-0.0007	0	%100
30	52	X	-0.0007	-0.0007	0	%100
31	53	X	-0.001	-0.001	0	%100
32	54	X	-0.001	-0.001	0	%100
33	55	X	-0.001	-0.001	0	%100
34	56	X	-0.001	-0.001	0	%100
35	57	X	-0.0005	-0.0005	0	%100
36	58	X	-0.0005	-0.0005	0	%100
37	59	X	-0.002	-0.002	0	%100
38	68	X	-0.001	-0.001	0	%100
39	69	X	-0.0009	-0.0009	0	%100
40	72	X	-0.0009	-0.0009	0	%100
41	73	X	-0.0009	-0.0009	0	%100
42	76	X	-0.0009	-0.0009	0	%100
43	78	X	-0.0009	-0.0009	0	%100
44	80	X	-0.0009	-0.0009	0	%100
45	83	X	-0.0009	-0.0009	0	%100
46	84	X	-0.0009	-0.0009	0	%100
47	87	X	-0.0009	-0.0009	0	%100
48	89	X	-0.0009	-0.0009	0	%100
49	91	X	-0.0006	-0.0006	0	%100

Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	9	Y	-0.015	-0.015	0	2.078
2	10	Y	-0.014	-0.02	0.231	1.27

Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
3	10	Y	-0.02	-0.026	1.27 2.309
4	38	Y	-0.035	-0.016	0 1.155
5	38	Y	-0.016	0.0006163	1.155 2.309
6	39	Y	-0.018	-0.016	0.231 2.309
7	57	Y	-0.018	-0.016	0 2.078
8	58	Y	0.0006164	-0.016	0 1.155
9	58	Y	-0.016	-0.035	1.155 2.309

Member Distributed Loads (BLC 31 : BLC 8 Transient Area Loads)

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	9	Y	-0.008	-0.008	0 2.078
2	10	Y	-0.007	-0.01	0.231 1.27
3	10	Y	-0.01	-0.013	1.27 2.309
4	38	Y	-0.017	-0.008	0 1.155
5	38	Y	-0.008	0.0003082	1.155 2.309
6	39	Y	-0.009	-0.008	0.231 2.309
7	57	Y	-0.009	-0.008	0 2.078
8	58	Y	0.0003082	-0.008	0 1.155
9	58	Y	-0.008	-0.017	1.155 2.309

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	23	22	25	24	Y	Two Way	-0.01
2	73	72	75	74	Y	Two Way	-0.01
3	102	101	104	103	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	23	22	25	24	Y	Two Way	-0.005
2	73	72	75	74	Y	Two Way	-0.005
3	102	101	104	103	Y	Two Way	-0.005

Node Loads and Enforced Displacements (BLC 11 : Live Load a)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	30	L	Y	-0.5
2	113	L	Y	-0.5
3	135	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 12 : Live Load b)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	31	L	Y	-0.5
2	114	L	Y	-0.5
3	136	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 13 : Live Load c)

Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1 44	L	Y	-0.5
2 127	L	Y	-0.5
3 149	L	Y	-0.5

Basic Load Cases

BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1 Dead	DL	-1		20		3
2 0 Wind - No Ice	WLZ			20	49	
3 90 Wind - No Ice	WLX			20	49	
4 0 Wind - Ice	WLZ			20	49	
5 90 Wind - Ice	WLX			20	49	
6 0 Wind - Service	WLZ			20	49	
7 90 Wind - Service	WLX			20	49	
8 Ice	OL1			20	49	3
9 0 Seismic	ELZ			20	49	
10 90 Seismic	ELX			20	49	
11 Live Load a	LL		3			
12 Live Load b	LL		3			
13 Live Load c	LL		3			
14 Live Load d	LL					
15 Maint LL 1	LL			1		
16 Maint LL 2	LL			1		
17 Maint LL 3	LL			1		
18 Maint LL 4	LL			1		
19 Maint LL 5	LL			1		
20 Maint LL 6	LL			1		
21 Maint LL 7	LL			1		
22 Maint LL 8	LL			1		
23 Maint LL 9	LL			1		
24 Maint LL 10	LL			1		
25 Maint LL 11	LL			1		
26 Maint LL 12	LL			1		
27 Maint LL 13	LL			1		
28 Maint LL 14	LL			1		
29 Maint LL 15	LL			1		
30 BLC 1 Transient Area Loads	None				9	
31 BLC 8 Transient Area Loads	None				9	

Load Combinations

Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1 1.4 Dead	Yes	Y	1	1.4						
2 1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3 1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4 1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5 1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				
6 1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7 1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8 1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9 1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10 1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11 1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12 1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		



Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					15	1.5
87	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					16	1.5
88	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					17	1.5
89	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					18	1.5
90	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					19	1.5
91	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					20	1.5
92	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					21	1.5
93	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					22	1.5
94	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					23	1.5
95	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					24	1.5
96	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					25	1.5
97	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					26	1.5
98	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					27	1.5
99	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					28	1.5
100	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					29	1.5

Envelope Node Reactions

Node Label	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC		
1	1	max	0.95	5	1.648	14	0.893	2	3.194	14	0.934	11	0.262	97
2		min	-0.951	11	0.213	8	-1.016	8	-0.004	8	-0.934	5	-0.277	89
3	53	max	0.893	5	1.737	18	1.162	2	0.065	13	1.066	3	-0.065	12
4		min	-0.999	11	0.32	12	-1.101	8	-1.805	43	-1.067	9	-2.867	66
5	82	max	0.943	5	1.639	22	1.079	2	-0.042	3	1.026	7	2.836	46
6		min	-0.835	11	0.269	4	-1.017	8	-1.779	69	-1.026	13	0.136	4
7	Totals:	max	2.785	5	4.728	57	3.134	2						
8		min	-2.785	11	2.478	3	-3.134	8						

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

Member	Shape	Code Check	Loc [ft]	LC	Shear	Check	Loc [ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	1	HSS4X4X2	0.411	0	13	0.11	0	y	39	70.173	73.278	8.24	8.24	2.055	H1-1b
2	2	C3.38x2.06x.188	0.332	2.592	60	0.06	0.351	y	65	35.676	43.394	1.703	4.483	1.62	H1-1b
3	3	C3.38x2.06x.188	0.331	0	52	0.068	2.241	y	45	35.676	43.394	1.703	4.483	1.619	H1-1b
4	4	PL3/8"x6	0.069	0	13	0.133	0	y	62	68.997	72.9	0.57	9.113	1.99	H1-1b
5	5	PL3/8"x6	0.069	0	3	0.132	0	y	38	68.997	72.9	0.57	9.113	2.007	H1-1b
6	6	PIPE 3.5x0.165	0.073	4	52	0.036	2.833		4	45.872	71.57	6.336	6.336	1.704	H1-1b

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

Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	phi*	Pnc [k]	phi*	Pnt [k]	phi*	Mn y-y [k-ft]	phi*	Mn z-z [k-ft]	Cb	Eqn
7	7	PL3/8"x6	0.096	0.208	3	0.2	0.208	y	61	70.882	72.9	0.57	9.113	2.99	H1-1b					
8	8	PL3/8"x6	0.096	0	13	0.2	0	y	51	70.882	72.9	0.57	9.113	2.99	H1-1b					
9	9	L2x2x4	0.183	0	8	0.033	2.309	y	48	23.349	30.586	0.691	1.577	1.5	H2-1					
10	10	L2x2x4	0.186	2.309	8	0.034	0	y	64	23.349	30.586	0.691	1.577	1.5	H2-1					
11	11	L7.63x2.5x6	0.231	1.604	8	0.075	3.207	z	39	75.414	118.523	1.798	13.134	1.119	H2-1					
12	18	PIPE_2.88x0.203	0.088	5.583	5	0.034	5.583	5	35.519	70.68	5.029	5.029	3	H1-1b						
13	19	PIPE_2.88x0.203	0.083	2.333	10	0.033	5.583	8	35.519	70.68	5.029	5.029	3	H1-1b						
14	22	PIPE_2.88x0.203	0.087	7.812	7	0.075	7.812	92	24.131	70.68	5.029	5.029	2.265	H1-1b						
15	28	PIPE_2.88x0.203	0.085	2.333	6	0.033	5.583	8	35.519	70.68	5.029	5.029	3	H1-1b						
16	30	L6.63x4.33x.25	0.127	0	10	0.017	0	y	11	51.794	86.751	2.311	6.976	1.5	H2-1					
17	31	HSS4X4X2	0.433	0	7	0.113	0	y	44	70.173	73.278	8.24	8.24	2.142	H1-1b					
18	32	C3.38x2.06x.188	0.332	2.592	52	0.06	0.351	y	68	35.676	43.394	1.703	4.483	1.62	H1-1b					
19	33	C3.38x2.06x.188	0.333	0	56	0.069	2.241	y	49	35.676	43.394	1.703	4.483	1.618	H1-1b					
20	34	PL3/8"x6	0.062	0	5	0.131	0	y	66	68.997	72.9	0.57	9.113	1.942	H1-1b					
21	35	PL3/8"x6	0.067	0	7	0.133	0	y	42	68.997	72.9	0.57	9.113	1.951	H1-1b					
22	36	PL3/8"x6	0.099	0.208	7	0.202	0.208	y	53	70.882	72.9	0.57	9.113	3	H1-1b					
23	37	PL3/8"x6	0.089	0	5	0.2	0	y	55	70.882	72.9	0.57	9.113	3	H1-1b					
24	38	L2x2x4	0.171	0	12	0.033	2.309	y	40	23.349	30.586	0.691	1.577	1.5	H2-1					
25	39	L2x2x4	0.17	2.309	12	0.034	0	y	68	23.349	30.586	0.691	1.577	1.5	H2-1					
26	40	L7.63x2.5x6	0.21	1.604	12	0.074	0	z	65	75.414	118.523	1.798	12.637	1.032	H2-1					
27	49	L6.63x4.33x.25	0.14	0	2	0.019	3.25	y	9	51.794	86.751	2.311	6.976	1.5	H2-1					
28	50	HSS4X4X2	0.412	0	9	0.109	0	y	68	70.173	73.278	8.24	8.24	2.062	H1-1b					
29	51	C3.38x2.06x.188	0.331	2.592	56	0.06	0.351	y	73	35.676	43.394	1.703	4.483	1.618	H1-1b					
30	52	C3.38x2.06x.188	0.331	0	60	0.068	2.241	y	42	35.676	43.394	1.703	4.483	1.619	H1-1b					
31	53	PL3/8"x6	0.067	0	9	0.133	0	y	70	68.997	72.9	0.57	9.113	1.96	H1-1b					
32	54	PL3/8"x6	0.062	0	11	0.131	0	y	46	68.997	72.9	0.57	9.113	1.952	H1-1b					
33	55	PL3/8"x6	0.089	0.208	11	0.2	0.208	y	57	70.882	72.9	0.57	9.113	3	H1-1b					
34	56	PL3/8"x6	0.098	0	9	0.201	0	y	59	70.882	72.9	0.57	9.113	3	H1-1b					
35	57	L2x2x4	0.172	0	4	0.033	2.309	y	44	23.349	30.586	0.691	1.577	1.5	H2-1					
36	58	L2x2x4	0.172	2.309	4	0.033	0	y	73	23.349	30.586	0.691	1.577	1.5	H2-1					
37	59	L7.63x2.5x6	0.212	1.604	4	0.074	3.207	z	46	75.414	118.523	1.798	12.784	1.056	H2-1					
38	68	L6.63x4.33x.25	0.142	3.25	2	0.02	0	y	7	51.794	86.751	2.311	6.976	1.5	H2-1					
39	69	PIPE_3.5x0.165	0.073	4	52	0.04	2.833	9	45.872	71.57	6.336	6.336	1.703	H1-1b						
40	72	PIPE_2.88x0.203	0.095	5.583	9	0.036	5.583	3	35.519	70.68	5.029	5.029	2.637	H1-1b						
41	73	PIPE_2.88x0.203	0.093	2.333	2	0.03	5.583	13	35.519	70.68	5.029	5.029	3	H1-1b						
42	76	PIPE_2.88x0.203	0.085	2.188	13	0.075	2.188	90	24.131	70.68	5.029	5.029	2.048	H1-1b						
43	78	PIPE_2.88x0.203	0.084	2.333	10	0.029	5.583	12	35.519	70.68	5.029	5.029	3	H1-1b						
44	80	PIPE_3.5x0.165	0.073	4	56	0.04	5.167	7	45.872	71.57	6.336	6.336	1.7	H1-1b						
45	83	PIPE_2.88x0.203	0.096	5.583	7	0.036	5.583	7	35.519	70.68	5.029	5.029	2.643	H1-1b						
46	84	PIPE_2.88x0.203	0.084	2.333	12	0.029	5.583	4	35.519	70.68	5.029	5.029	3	H1-1b						
47	87	PIPE_2.88x0.203	0.084	7.813	3	0.075	2.188	88	24.131	70.68	5.029	5.029	2.035	H1-1b						
48	89	PIPE_2.88x0.203	0.092	2.333	2	0.03	5.583	3	35.519	70.68	5.029	5.029	3	H1-1b						
49	91	PIPE_2.0	0.108	3.5	8	0.009	3.5	8	26.521	32.13	1.872	1.872	1.522	H1-1b						

APPENDIX D
ADDITIONAL CALCULATIONS

PROJECT	102936.006.01 - Killingly Ross Road, C KSC		
SUBJECT	Platform Mount Analysis		
DATE	03/31/22	PAGE	1 OF 1



[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	0.893	k
Vertical Shear	:	1.648	k
Horizontal Shear	:	0.95	k
Torsion	:	0.262	k.ft
Moment from Horizontal Forces	:	0.934	k.ft
Moment from Vertical Forces	:	3.194	k.ft

Bolt Parameters

Bolt Grade	:	A307	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in ²
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1.5	in
Bolt edge distance, plate width	:	1.5	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	1.90	k
Force from Horz. Moment	:	1.69	k
Force from Vert. Moment	:	5.79	k
Shear Load / Bolt	:	0.48	k
Tension Load / Bolt	:	0.22	k
Resultant from Moments / Bolt	:	3.01	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	45.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	10.36	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	31.24%		OKAY
Nominal Shear Stress, F_{nv}	:	24.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	5.53	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	12.65%		OKAY
Unity Check, Combined	:	43.89%		OKAY
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	1.37%		OKAY

APPENDIX E
SUPPLEMENTAL DRAWINGS

4

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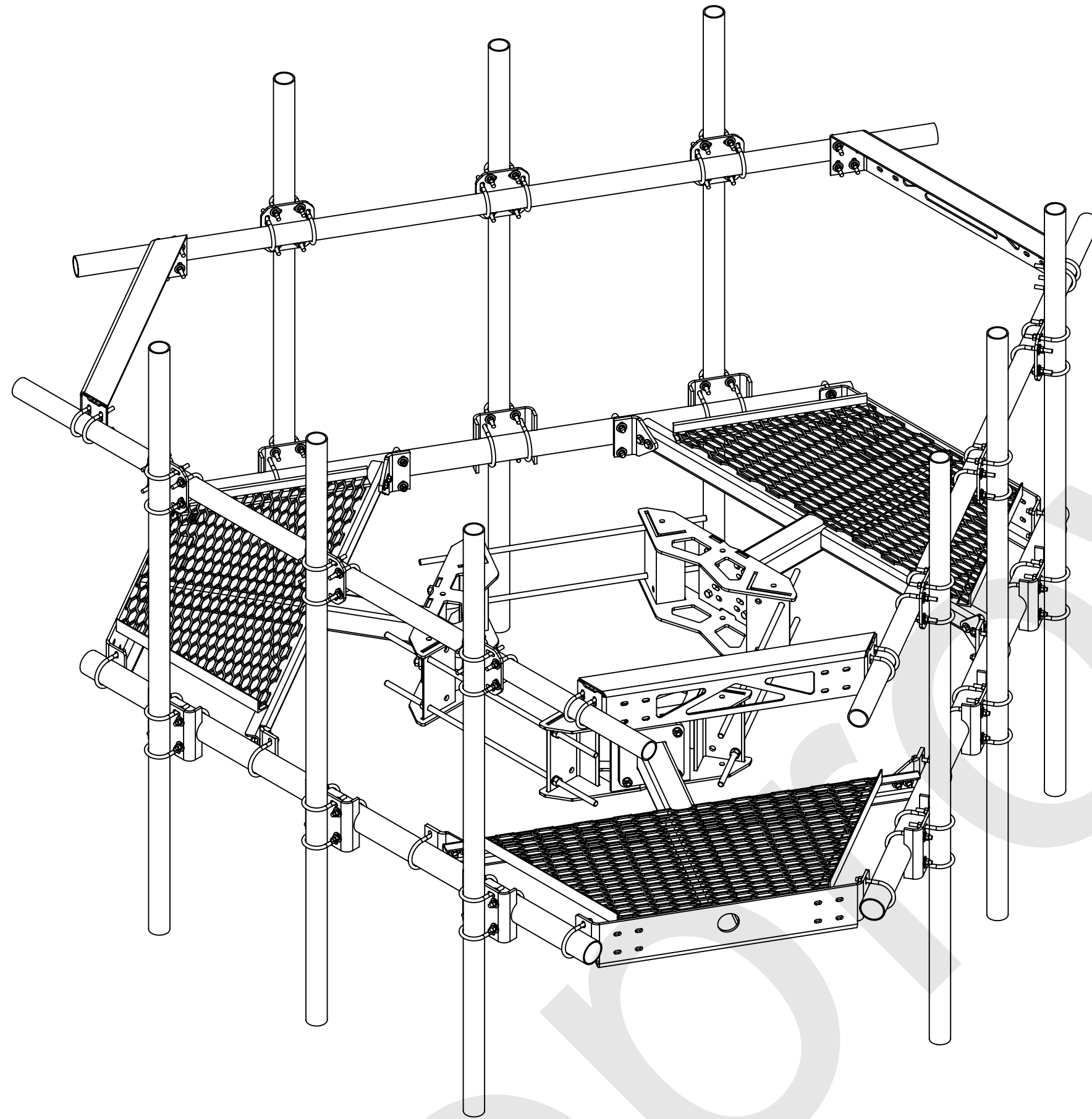
2

1

NOTES:

- 1.0 GENERAL
 - 1.1 ALL METRIC DIMENSIONS ARE IN BRACKETS
 - 1.2 FOR PATENTS, SEE WWW.CS-PAT.COM
- 2.0 DESIGN NOTES
 - 2.1 TORQUE U-BOLTS TO 44 FT-LBS
- 3.0 MANUFACTURING/SPECIAL REQUIREMENTS
- 4.0 TEST
- 5.0 PACKAGING

REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A	10272PC	INITIAL RELEASE	HDAI	03/08/2021



PATENT PENDING

COMMSCOPE, INC. OF NORTH CAROLINA

TOLERANCES		SAP MATERIAL MASTER
1 PLACE .X ± .25	3 PLACE .XXX ± 0.06	MC-PK8-DSH
2 PLACE .XX ± 0.12	ANGLES ± 2°	
FINISH GALV A123		MATERIAL A500, A1011/A1018

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES INTERPRET PER ANSI Y 14.5M-1994	NAME	DATE	TITLE						
	CE MRC	02/17/20	LOW PROFILE PLATFORM FACE						
	RW ROGHANSON	03/16/2021							
	AD BCROSS	03/17/2021							
RE FA1024	02/27/2020								
ECN 10272PC	SCALE 1:32	DOCUMENT NO. MC-PK8-DSH							
SIZE	Auth Group	INSL	MODEL		DRAWING			SHEET	
C			VERSION 01	STATUS AD	REVISION	VERSION 00	STATUS AD	REVISION A	1 OF 3

DENSITY	lbs/in ³
MASS	lbs
VOLUME	in ³
SURFACE AREA	in ²
HEIGHT	96"
LENGTH	46"
WIDTH	29'

© 2021 CommScope, Inc.

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Exhibit F

Power Density/RF Emissions Report

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

Dish Wireless Existing Facility

Site ID: 857013

BOBOS00036A
280 Ross Road
Killingly, Connecticut 06239

May 19, 2022

EBI Project Number: 6222003232

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	16.29%

May 19, 2022

Attn: Dish Wireless

Emissions Analysis for Site: 857013 - BOBOS00036A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **280 Ross Road in Killingly, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless Wireless antenna facility located at 280 Ross Road in Killingly, 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) 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.
- 4) 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.

- 5) The antennas used in this modeling are the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz channel(s) in Sector A, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz channel(s) in Sector B, the JMA MX08FRO665-21 for the 600 MHz / 1900 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.
- 6) The antenna mounting height centerline of the proposed antennas is 75 feet above ground level (AGL).
- 7) 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.
- 8) 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	Frequency Bands:	600 MHz / 1900 MHz	Frequency Bands:	600 MHz / 1900 MHz
Gain:	11.35 dBd / 15.75 dBd	Gain:	11.35 dBd / 15.75 dBd	Gain:	11.35 dBd / 15.75 dBd
Height (AGL):	75 feet	Height (AGL):	75 feet	Height (AGL):	75 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	280.00 Watts	Total TX Power (W):	280.00 Watts	Total TX Power (W):	280.00 Watts
ERP (W):	1,424.17	ERP (W):	1,424.17	ERP (W):	1,424.17
Antenna AI MPE %:	1.58%	Antenna BI MPE %:	1.58%	Antenna CI MPE %:	1.58%

Site Composite MPE %	
Carrier	MPE %
Dish Wireless (Max at Sector A):	1.58%
Smartsky	0.04%
AT&T	2.69%
Metro PCS	0.68%
Verizon	7.82%
T-Mobile	3.48%
Site Total MPE % :	16.29%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	1.58%
Dish Wireless Sector B Total:	1.58%
Dish Wireless Sector C Total:	1.58%
Site Total MPE % :	16.29%

Dish Wireless Maximum MPE Power Values (Sector A)							
Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Dish Wireless 600 MHz n71	4	110.82	75.0	3.35	600 MHz n71	400	0.84%
Dish Wireless 1900 MHz n70	4	245.22	75.0	7.41	1900 MHz n70	1000	0.74%
						Total:	1.58%

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

Summary

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

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

Dish Wireless Sector	Power Density Value (%)
Sector A:	1.58%
Sector B:	1.58%
Sector C:	1.58%
Dish Wireless Maximum MPE % (Sector A):	1.58%
Site Total:	16.29%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **16.29%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Exhibit G

Letter of Authorization



4545 E River Rd, Suite 320
West Henrietta, NY 14586

Phone: (585) 445-5896
Fax: (724) 416-4461
www.crowncastle.com

Crown Castle Letter of Authorization

CT - CONNECTICUT SITING COUNCIL

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

Re: Tower Share Application
Crown Castle telecommunications site at:
280 ROSS ROAD, KILLINGLY, CT 06239

CCATT LLC ("Crown Castle") hereby authorizes DISH Wireless LLC, including their Agent, to act as our Agent in the processing of all zoning applications, building permits and approvals through the CT - CONNECTICUT SITING COUNCIL for the existing wireless communications site described below:


Crown Site ID/Name: 857013/KILLINGLY ROSS ROAD
Customer Site ID: BOBOS00036A/CT-CCI-T-857013
Site Address: 280 ROSS ROAD, KILLINGLY, CT 06239

Crown Castle

By:  _____ Date: 5/24/2022
Richard Zajac
Site Acquisition Specialist

Exhibit H

Recipient Mailings



UNITED STATES POSTAL SERVICE®

Click-N-Ship®

P

usps.com 9405 5036 9930 0257 6673 52 0089 5000 0031 4586

US POSTAGE

Flat Rate Env

U.S. POSTAGE PAID

click-n-ship®

05/25/2022 Mailed from 01566

PRIORITY MAIL 2-DAY™


Expected Delivery Date: 05/27/22
Re#: DS-857013
0006

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

R013

SHIP TO: RICH ZAJAC
CROWN CASTLE
4545 E RIVER RD
STE 320
W HENRIETTA NY 14586-9024

USPS TRACKING #



9405 5036 9930 0257 6673 52

Electronic Rate Approved #038555749



Cut on dotted line.

Instructions

- Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- Place your label so it does not wrap around the edge of the package.
- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
- Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0257 6673 52

Trans. #: 564256756	Priority Mail® Postage: \$8.95
Print Date: 05/25/2022	Total: \$8.95
Ship Date: 05/25/2022	
Expected Delivery Date: 05/27/2022	

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

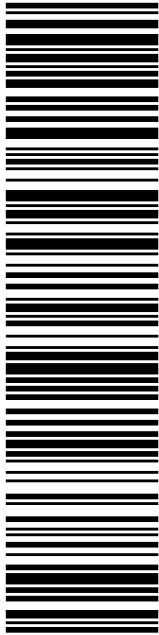
Re#: DS-857013

To: RICH ZAJAC
CROWN CASTLE
4545 E RIVER RD
STE 320
W HENRIETTA NY 14586-9024

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.



Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



USPS TRACKING #

9405 5036 9930 0257 6674 06

Electronic Rate Approved #038555749

SHIP

TO: JASON ANDERSON
TOWN COUNCIL CHAIR
172 MAIN ST
KILLINGLY CT 06239-2822

P

05/25/2022

US POSTAGE
Flat Rate Env
\$8.95

usps.com 9405 5036 9930 0257 6674 06 0089 5000 0010 6239

U.S. POSTAGE PAID
click-n-ship®


Mailed from 01566

PRIORITY MAIL 2-DAY™

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Expected Delivery Date: 05/27/22
Re#: DS-857013
0006

C005



Click-N-Ship®

U.S. POSTAGE PAID
click-n-ship®

05/25/2022

Mailed from 01566



Cut on dotted line.

Instructions

1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0257 6674 06

Trans. #: 564256756	Priority Mail® Postage: \$8.95
Print Date: 05/25/2022	Total: \$8.95
Ship Date: 05/25/2022	
Expected Delivery Date: 05/27/2022	

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

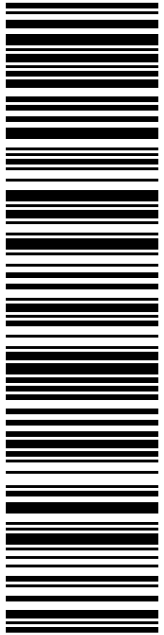
Re#: DS-857013

To: JASON ANDERSON
TOWN COUNCIL CHAIR
172 MAIN ST
KILLINGLY CT 06239-2822

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.



Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



USPS TRACKING #

9405 5036 9930 0257 6762 86

Electronic Rate Approved #038555749

SHIP TO: ANNE-MARIE AUBREY
DIRECTOR OF PLANNING & DEVELOPMENT
172 MAIN ST
KILLINGLY CT 06239-2822

SHIP TO: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

C005


P

05/25/2022

PRIORITY MAIL 2-DAY™

Expected Delivery Date: 05/27/22
Ret#: CR-857013
0006

Mailed from 01566



UNITED STATES POSTAL SERVICE®

Click-N-Ship®

usps.com
9405 5036 9930 0257 6762 86 0089 5000 0010 6239
US POSTAGE
Flat Rate Envoy

U.S. POSTAGE PAID
Click-N-Ship®



Cut on dotted line.

Instructions

1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0257 6762 86

<p>Trans. #: 564257221 Print Date: 05/25/2022 Ship Date: 05/25/2022 Expected Delivery Date: 05/27/2022</p>	<p>Priority Mail® Postage: \$8.95 Total: \$8.95</p>
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From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359


Re#: CR-857013

To: ANNE-MARIE AUBREY
DIRECTOR OF PLANNING & DEVELOPMENT
172 MAIN ST
KILLINGLY CT 06239-2822

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.



Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



**UNITED STATES
POSTAL SERVICE®**

Click-N-Ship®

P

usps.com 9405 5036 9930 0257 6762 93 0089 5000 0010 6332
US POSTAGE
 Flat Rate Env
 U.S. POSTAGE PAID
 Click-N-Ship®

05/25/2022 Mailed from 01566

PRIORITY MAIL 2-DAY™


Expected Delivery Date: 05/27/22
 Re#: DS-857013
0006

DEBORAH CHASE
 NORTHEAST SITE SOLUTIONS
 420 MAIN ST
 STE 1
 STURBRIDGE MA 01566-1359

B003

SHIP TO:
 SNAKE MEADOW CLUB, INC
 PO BOX 236
 CENTRAL VLG CT 06332-0236

USPS TRACKING #



9405 5036 9930 0257 6762 93

Electronic Rate Approved #038555749



Cut on dotted line.

Instructions

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0257 6762 93

Trans. #: 564257221	Priority Mail® Postage: \$8.95
Print Date: 05/25/2022	Total: \$8.95
Ship Date: 05/25/2022	
Expected Delivery Date: 05/27/2022	

From: DEBORAH CHASE
 NORTHEAST SITE SOLUTIONS
 420 MAIN ST
 STE 1
 STURBRIDGE MA 01566-1359

Re#: DS-857013

To: SNAKE MEADOW CLUB, INC
 PO BOX 236
 CENTRAL VLG CT 06332-0236

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.



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 Check the status of your shipment on the USPS Tracking® page at usps.com

857013 CROWNDSH



FARMINGTON
210 MAIN ST
FARMINGTON, CT 06032-9998
(800) 275-8777

05/25/2022 04:45 PM

Product	Qty	Unit Price	Price
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Prepaid Mail	1		\$0.00
West Henrietta, NY 14586			
Weight: 0 lb 2.00 oz			
Acceptance Date:			
Wed 05/25/2022			
Tracking #:			
9405 5036 9930 0257 6673 52			

Prepaid Mail	1		\$0.00
Danielson, CT 06239			
Weight: 0 lb 9.60 oz			
Acceptance Date:			
Wed 05/25/2022			
Tracking #:			
9405 5036 9930 0257 6674 06			

Prepaid Mail	1		\$0.00
Danielson, CT 06239			
Weight: 0 lb 9.60 oz			
Acceptance Date:			
Wed 05/25/2022			
Tracking #:			
9405 5036 9930 0257 6762 86			

Prepaid Mail	1		\$0.00
Central Village, CT 06332			
Weight: 0 lb 9.60 oz			
Acceptance Date:			
Wed 05/25/2022			
Tracking #:			
9405 5036 9930 0257 6762 93			

Grand Total:			\$0.00
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 Every household in the U.S. is now
 eligible to receive a third set
 of 8 free test kits.
 Go to www.covidtests.gov

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 Track your Packages
 Sign up for FREE @
<https://informedelivery.usps.com>

All sales final on stamps and postage.
 Refunds for guaranteed services only.
 Thank you for your business.

Tell us about your experience.
 Go to: <https://postalexperience.com/Pos>
 or scan this code with your mobile device,

