



STATE OF CONNECTICUT  
*CONNECTICUT SITING COUNCIL*

Ten Franklin Square, New Britain, CT 06051  
Phone: (860) 827-2935 Fax: (860) 827-2950  
E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)  
Web Site: [portal.ct.gov/csc](http://portal.ct.gov/csc)

**VIA ELECTRONIC MAIL**

December 8, 2021

David Hoogasian  
Project Manager  
Network Building + Consulting, LLC  
100 Apollo Drive, Suite 303  
Chelmsford, MA 01824  
[dhoogasian@nbcllc.com](mailto:dhoogasian@nbcllc.com)

**RE: TS-DISH-137-211105** - Dish Wireless LLC request for an order to approve tower sharing at an existing telecommunications facility located at 166 Pawcatuck Avenue, Stonington, Connecticut.

Dear Mr. Hoogasian:

The Connecticut Siting Council (Council) is in receipt of your correspondence of December 7, 2021 submitted in response to the Council's December 6, 2021 notification of an incomplete request for tower sharing with regard to the above-referenced matter.

The submission renders the request for tower sharing complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.  
Sincerely,

A handwritten signature in black ink, appearing to read 'Melanie A. Bachman'.

Melanie A. Bachman  
Executive Director

MAB/IN/laf

**From:** David Hoogasian <dhoogasian@nbcllc.com>  
**Sent:** Tuesday, December 7, 2021 4:50 PM  
**To:** Robidoux, Evan <Evan.Robidoux@ct.gov>  
**Cc:** CSC-DL Siting Council <Siting.Council@ct.gov>  
**Subject:** RE: Council Incomplete Letter for TS-DISH-137-211105 (Pawcatuck Avenue, Stonington)

Good afternoon. Attached please find the requested documentation:

- Original Tower facility approval (CSC Docket No. 399 – Decision and Order)
- Project Narrative referencing the original facility approval
- Property owner record card
- PE Stamped CD's

A hard copy of these materials will be mailed in to you shortly.

If you have any questions or need any further information, please feel free to contact me.

**Thank you,**

**David Hoogasian**

*Project Manager*

**NETWORK BUILDING + CONSULTING**

100 Apollo Drive | Suite 303 | Chelmsford, MA | 01824  
M 508.344.3343



**DOCKET NO. 399** – T-Mobile Northeast LLC application for a } Connecticut  
Certificate of Environmental Compatibility and Public Need for }  
the construction, management, and maintenance of a } Siting  
telecommunications facility at 166 Pawcatuck Avenue, } Council  
Stonington, Connecticut. }

August 26, 2010

### **Decision and Order**

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, management, 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 T-Mobile Northeast LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility located at 166 Pawcatuck Avenue in Stonington, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of T-Mobile Northeast LLC and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level. The tower shall incorporate a yield point at a height approximately 100 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 Stonington for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
  - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
  - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Stonington public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
8. At least one wireless telecommunications carrier shall install their equipment and shall become operational not later than 120 days after the tower is erected. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
9. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Stonington. Any proposed modifications to this Decision and Order shall likewise be so served.
10. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
11. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

12. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.
13. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.
14. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder\transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder\transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

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

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

The parties and intervenors to this proceeding are:

**Applicant**

T-Mobile Northeast, LLC

**Its Representative**

Julie D. Kohler, Esq.  
Jesse A. Langer, Esq.  
Cohen and Wolf, P.C.  
1115 Broad Street  
Bridgeport, CT 06604

**Intervenor**

Cellco Partnership d/b/a Verizon Wireless

**Its Representative**

Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103-3597

December 7, 2021

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

Re: Request of DISH Wireless LLC for an Order to Approve the Shared Use of an Existing Tower  
166 Pawcatuck Ave., Stonington, CT 06379  
Latitude: 41'21'37.77" /Longitude: -71'51'08.65"

Dear Ms. Bachman:

Pursuant to Connecticut General Statutes ("C.G.S.") §16-50aa, as amended, DISH Wireless LLC ("DISH") hereby requests an order from the Connecticut Siting Council ("Council") to approve the shared use by DISH of an existing telecommunication tower at 166 Pawcatuck Ave in Stonington (the "Property"). The existing 119-foot monopole tower is owned by American Tower Corporation ("ATC"). The underlying property is owned by Alan D. Main Jr., Alan D Main Sr., and Jill N M Main. DISH requests that the Council find that the proposed shared use of the ATC tower satisfies the criteria of C.G.S. §16-50aa and issue an order approving the proposed shared use. A copy of this filing is being sent to Danielle Chesebrough, First Selectman for the Town of Stonington, Lawrence Stannard, Town of Stonington Building Official and Alan D. Main Jr., Alan D Main Sr., and Jill N M Main as the property owners.

## **Background**

This facility was approved by the Council under Docket No. 399 on August 26, 2010. A copy of the Decision and Order is included in the filing attachments. The existing ATC facility consists of a 119-foot monopole tower located within an existing leased area. T-Mobile currently maintains antennas at the 117-foot level. Equipment associated with these antennas are located at various positions within the tower and compound.

DISH is licensed by the Federal Communications Commission ("FCC") to provide wireless services throughout the State of Connecticut. DISH and Crown Castle have agreed to the proposed shared use of the 166 Pawcatuck Ave tower pursuant to mutually acceptable terms and conditions. Likewise, DISH and ATC have agreed to the proposed installation of equipment cabinets on the ground within the existing compound. ATC has authorized DISH to apply for all necessary permits and approvals that may be required to share the existing tower.  
(See attached Letter of Authorization)

DISH proposes to install three (3) antennas, (1) Tower platform mount, (6) Remote radio units at the 104-foot level along with (1) over voltage protection device (OVP) and (1) Hybrid cable. DISH will install an equipment cabinet on a 5'x7' equipment platform. DISH's Construction Drawings provide project specifications for all proposed site improvement locations. The construction drawings also include specifications for DISH's proposed antenna and ground work.

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

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

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

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

1. The proposed installation will have no visual impact on the area of the tower. DISH's equipment cabinet would be installed within the existing facility compound. DISH's shared use of this tower therefore will not cause any significant change or alteration in the physical or environmental characteristics of the existing site.
2. Operation of DISH's antennas at this site would not exceed the RF emissions standard adopted by the Federal Communications Commission ("FCC"). Included in the EME report of this filing are the approximation tables that demonstrate that DISH's proposed facility will operate well within the FCC RF emissions safety standards.
3. Under ordinary operating conditions, the proposed installation would not require the use of any water or sanitary facilities and would not generate air emissions or discharges to water bodies or sanitary facilities. After construction is complete the proposed installations would not generate any increased traffic to the ATC facility other than periodic maintenance. The proposed shared use of the ATC tower, would, therefore, have a minimal environmental effect, and is environmentally feasible.

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

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

### **Conclusion**

For the reasons discussed above, the proposed shared use of the existing ATC tower at 166 Pawcatuck Ave satisfies the criteria stated in C.G.S. §16-50aa and advances the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the proposed shared use.

Sincerely,

*David Hoogasian*

**David Hoogasian**  
Project Manager





# Town of Stonington, CT

## Property Listing Report

Map Block Lot

26-2-1

Building # 1

PID

3202

Account

00511500

### Property Information

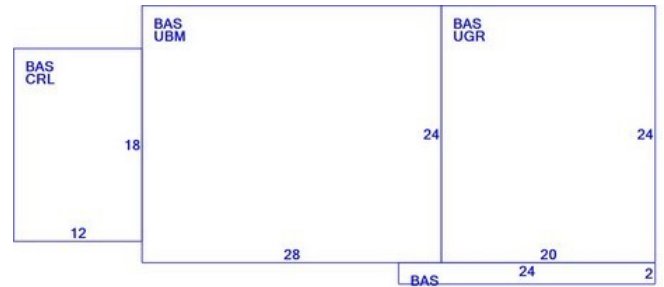
Property Location	166 PAWCATUCK AVE
Owner	MAIN ALAN D JR & JILL N M & ALAN D SR
Co-Owner	
Mailing Address	166 PAWCATUCK AVE PAWCATUCK CT 06379
Land Use	0101 Single Fam M-01
Land Class	R
Zoning Code	RR-80
Census Tract	7051

Neighborhood	0035
Acreage	5.02
Utilities	Public Water,Public Sewer
Lot Setting/Desc	Suburban Level
Book / Page	804/68
Additional Info	

### Photo



### Sketch



### Primary Construction Details

Year Built	1967
Building Desc.	Single Fam M-01
Building Style	Ranch
Building Grade	Average
Stories	1
Occupancy	1
Exterior Walls	Aluminum Sidng
Exterior Walls 2	NA
Roof Style	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Walls	Drywall/Sheet
Interior Walls 2	NA
Interior Floors 1	Carpet
Interior Floors 2	Hardwood

Heating Fuel	Electric
Heating Type	Electr Basebrd
AC Type	None
Bedrooms	03
Full Bathrooms	0
Half Bathrooms	1
Extra Fixtures	
Total Rooms	6 Rooms
Bath Style	Average
Kitchen Style	Average
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(\*Industrial / Commercial Details)

Building Use	Residential
Building Condition	AV
Sprinkler %	
Heat / AC	
Frame Type	
Baths / Plumbing	
Ceiling / Wall	
Rooms / Prtns	
Wall Height	
First Floor Use	
Foundation	



**Town of Stonington, CT**

Property Listing Report

Map Block Lot 26-2-1

Building # 1

PID 3202

Account 00511500

**Valuation Summary** (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed	Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Buildings	97900	68500	First Floor	1416	1416
Extras	18200	12700	Crawl Space	216	0
Improvements			Basement, Unfinished	672	0
Outbuildings	189000	132200	Garage, Under	480	0
Land	116400	76080			
<b>Total</b>	<b>421500</b>	<b>289480</b>			

**Outbuilding and Extra Features**

Type	Description
W/LOFT-AVG	1944.00 S.F.
PLTRY HSE 1 ST	48.00 S.F.
FENCE-8' CHAIN	180.00 L.F.
SOLAR ELEC	28.00 UNITS
CELL TOWER	1.00 UNIT

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	1416	1416
Crawl Space	216	0
Basement, Unfinished	672	0
Garage, Under	480	0
<b>Total Area</b>	<b>2784</b>	<b>1416</b>

**Sales History**

Owner of Record	Book/ Page	Sale Date	Sale Price
MAIN ALAN D JR & JILL N M & ALAN D SR	804/68	8/11/2020	256000
MAIN PATRICIA L	0771/0415	12/7/2017	0
MAIN WARREN D & PATRICIA L	0399/0684	1/24/1997	0
MAIN WARREN D & PATRICIA L	0158/0365	8/31/1966	0



# Town of Stonington, CT

## Property Listing Report

Map Block Lot

26-2-1

Building #

2

PID

3202

Account

00511500

Photo



Sketch



### Primary Construction Details

Year Built	
Building Desc.	Vacant
Building Style	
Building Grade	
Stories	
Occupancy	
Exterior Walls	
Exterior Walls 2	NA
Roof Style	
Roof Cover	
Interior Walls	
Interior Walls 2	NA
Interior Floors 1	
Interior Floors 2	

Heating Fuel	
Heating Type	
AC Type	
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(\*Industrial / Commercial Details)

Building Use	TEL X STA M-00
Building Condition	
Sprinkler %	
Heat / AC	
Frame Type	
Baths / Plumbing	
Ceiling / Wall	
Rooms / Prtns	
Wall Height	
First Floor Use	
Foundation	

### Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area		0



DISH Wireless L.L.C. SITE ID:

**BOBOS00021A**

DISH Wireless L.L.C. SITE ADDRESS:

**166 PAWCATUCK AVE  
STONINGTON, CT 06378**

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

**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 TOWER PLATFORM MOUNT
  - INSTALL PROPOSED JUMPERS
  - INSTALL (6) PROPOSED RRU'S (2 PER SECTOR)
  - INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
  - INSTALL (1) PROPOSED HYBRID CABLE

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

SITE INFORMATION	PROJECT DIRECTORY
PROPERTY OWNER: MAIN ALAN D. JR & JILL N. M & ALAN D. SR ADDRESS: 166 PAWCATUCK AVE PAWCATUCK, CT 06379	APPLICANT: DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER TYPE: MONOPOLE	TOWER OWNER: AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 01801 (781) 926-4500
TOWER CO SITE ID: 284984	SITE DESIGNER: B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
TOWER APP NUMBER: 13693120	SITE ACQUISITION: KENNETH BRADBURY II (781) 926-4770
COUNTY: NEW LONDON	CONSTRUCTION MANAGER: JAVIER SOTO JAVIER.SOTO@DISH.COM
LATITUDE (NAD 83): 41° 21' 37.77" N 41.360492 N	RF ENGINEER: ARVIN SEBASTIAN ARVIN.SEBASTIAN@DISH.COM
LONGITUDE (NAD 83): 71° 51' 08.65" W 71.852403 W	
ZONING JURISDICTION: CONNECTICUT SITING COUNCIL	
ZONING DISTRICT: RESIDENTIAL	
PARCEL NUMBER: 26-2-1	
OCCUPANCY GROUP: U	
CONSTRUCTION TYPE: II-B	
POWER COMPANY: EVERSOURCE ENERGY	
TELEPHONE COMPANY: XFINITY	



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



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

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: RY	CHECKED BY: YF	APPROVED BY: YF
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RFDS REV #: 0

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
A	8/2/21	ISSUED FOR REVIEW
0	10/15/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
153552.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION  
**BOBOS00021A**  
166 PAWCATUCK AVE  
STONINGTON, CT 06378

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

**SHEET INDEX**

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
LS1	SITE SURVEY
LS2	SITE SURVEY CONTINUED
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES

**SITE PHOTO**



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

**GENERAL NOTES**

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

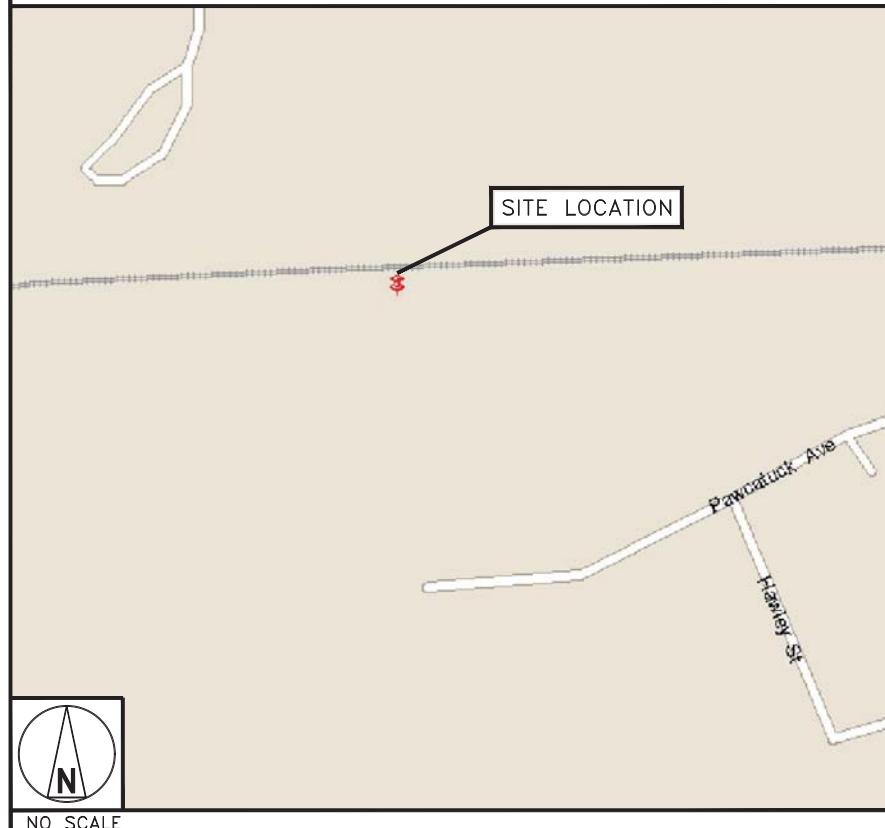
11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

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.

**DIRECTIONS**

DIRECTIONS FROM GROTON - NEW LONDON AIRPORT:  
HEAD NORTH TOWARD STATE HWY 649, TAKE I-95 N AND CT-234 E/PEQUOT TRAIL TO MECHANIC ST IN STONINGTON. TURN RIGHT ONTO STATE HWY 649/SOUTH RD, TURN RIGHT ONTO US-1 N/POQUONNOCK RD, TURN LEFT ONTO CT-117 N, TURN RIGHT TO MERGE WITH I-95 N TOWARD PROVIDENCE, TAKE EXIT 91 FOR CT-234 TOWARD STONINGTON, CONTINUE ONTO CT-234 E/PEQUOT TRAIL, SLIGHT LEFT ONTO W BROAD ST, FOLLOW MECHANIC ST TO PAWCATUCK AVE, TURN RIGHT ONTO MECHANIC ST, TURN RIGHT ONTO CLARK ST, CLARK ST TURNS LEFT AND BECOMES PAWCATUCK AVE, DESTINATION WILL BE ON THE RIGHT. ARRIVING AT BOBOS00021A.

**VICINITY MAP**



**PROJECT SUMMARY**

**FIELD SURVEY DATE:** 08/14/2018  
**SITE ADDRESS:** 166 PAWCATUCK AVENUE, PAWCATUCK, CT 06379

**PARCEL INFORMATION**  
 OWNER: PATRICIA L. MAIN, SURVIVING SPOUSE OF WARREN D. MAIN, AS TO FEE SIMPLE INTEREST;  
 MUNICIPAL BAY, LLC, A DELAWARE LIMITED LIABILITY COMPANY, AS TO LEASEHOLD INTEREST.  
 OWNER ADDRESS: 166 PAWCATUCK AVE, STONINGTON, CT 06379  
 APN: 26-2-1

**TOTAL AREAS:**  
 PARENT PARCEL: 5.02± ACRES  
 ATC FEE AREA: 0.04± ACRES OR 1,891± SQUARE FEET  
 ACCESS & UTILITY EASEMENT AREA: 24,330± SQ. FT. OR 0.56± ACRES

**GEOGRAPHIC COORDINATES OF TOWER:**  
 LATITUDE: 41°21'37.71" N      LONGITUDE: 71°51'08.62" W  
 VERTICAL DATUM: NAVD 1988      HORIZONTAL DATUM: NAD83  
 GROUND ELEVATION: 54.5'

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

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

**FLOODPLAIN:**  
 PER THE FEMA FLOODPLAIN MAPS, THE SITE IS LOCATED IN AN AREA DESIGNATED AS ZONE X.  
 COMMUNITY PANEL NO.: 09011C0551J  
 EFFECTIVE DATE: AUGUST 5, 2013

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

**ENCROACHMENT NOTE**  
 AT THE TIME OF THE SURVEY, THERE WAS VISIBLE EVIDENCE OF AN ENCROACHMENT AS FOLLOWS:  
 1. GRAVEL DRIVE 20± OUTSIDE THE PROVIDED ACCESS EASEMENT, WHICH WOULD BE REMEDIED BY THE AS-SURVEYED LEGAL DESCRIPTION SHOWN HEREON.  
 ATC FEE AREA IS CONTAINED ENTIRELY ON THE PARENT PARCEL.

**SURVEYOR'S NOTES**

1. THERE IS ACCESS TO THE SUBJECT PROPERTY VIA PAWCATUCK, A PUBLIC RIGHT OF WAY.
2. THE LOCATIONS OF ALL UTILITIES SHOWN ON THE SURVEY ARE FROM VISIBLE SURFACE EVIDENCE ONLY.
3. AT THE TIME OF THIS SURVEY THERE WAS NO OBSERVABLE SURFACE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.
4. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF THE SUBJECT PROPERTY BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
5. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT CHANGES IN STREET RIGHT-OF-WAY LINES EITHER COMPLETED OR PROPOSED, AND AVAILABLE FROM THE CONTROLLING JURISDICTION.
6. AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
7. ANGLES OR BEARINGS SHOWN HEREON ARE FORMATTED IN DEGREES, MINUTES, AND SECONDS. DISTANCES OR ELEVATIONS SHOWN HEREON ARE IN U.S. SURVEY FEET, UNLESS NOTED OTHERWISE.
8. UNDERGROUND IMPROVEMENTS IF ANY AND NOT VISIBLE AT THE TIME OF THE SURVEY, HAVE NOT BEEN LOCATED IN THE FIELD OR SHOWN HEREON.
9. WETLANDS, IF PRESENT, HAVE NOT BEEN LOCATED OR SHOWN HEREON.
10. NOT ALL IMPROVEMENTS ON THE PARENT PARCEL BEING SURVEYED ARE SHOWN HEREON.
11. REFERENCES:  
 A. DEED: BOOK 158, PAGE 365

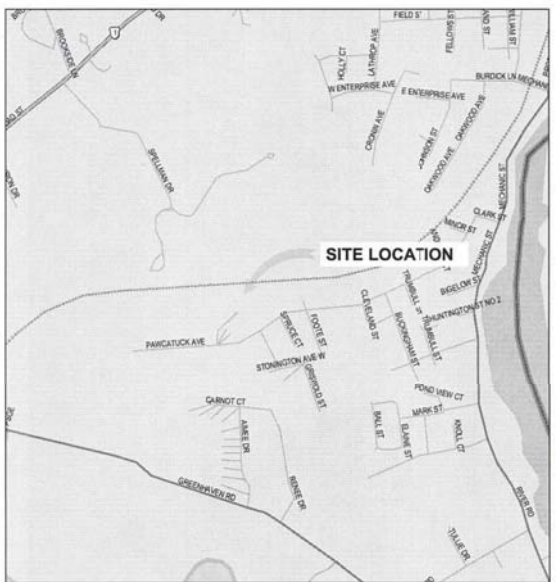
**ZONING INFORMATION**

ZONE: RR-80 (RURAL RESIDENTIAL)		
SETBACKS:	REQUIRED:	EXISTING:
FRONT:	50'	>40'±
SIDE:	50'	35±
REAR:	50'	15±
HEIGHT:	N/A	N/A
BULK:	N/A	N/A

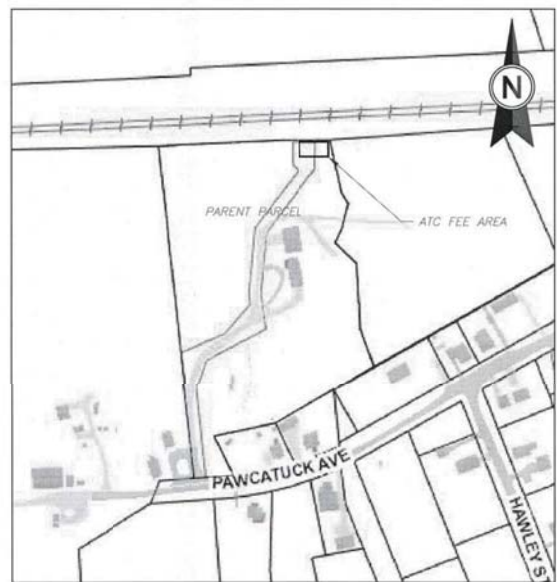
\*ALL SITE RESTRICTIONS WERE OBTAINED FROM THE LOCAL MUNICIPALITY.

**SURVEY LEGEND**

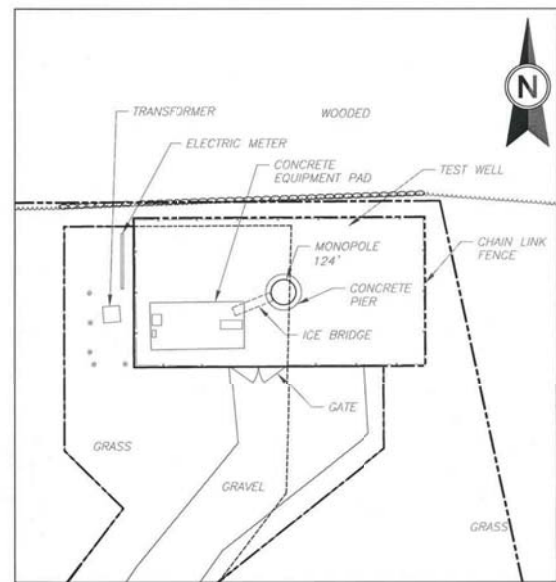
---	EXISTING PROPERTY
- - -	EXISTING ADJ. PROPERTY
---	EXISTING LEASE
---	EXISTING EASEMENT
---	EXISTING CONTOUR (MAJOR)
---	EXISTING CONTOUR (MINOR)
---	EXISTING TREELINE
---	EXISTING CHAINLINK FENCE
---	EXISTING OVERHEAD WIRES
---	EXISTING BUILDING
---	EXISTING ROAD (STONE)
---	EXISTING ROAD (PAVED)
○	SURVEY IRON PIN FOUND
○	SURVEY BENCHMARK
○	EXISTING UTILITY POLE
○	EXISTING GUY ANCHOR
○	EXISTING BOLLARD
○	MORTGAGE REFERENCE #
○	ENCROACHMENT REFERENCE #



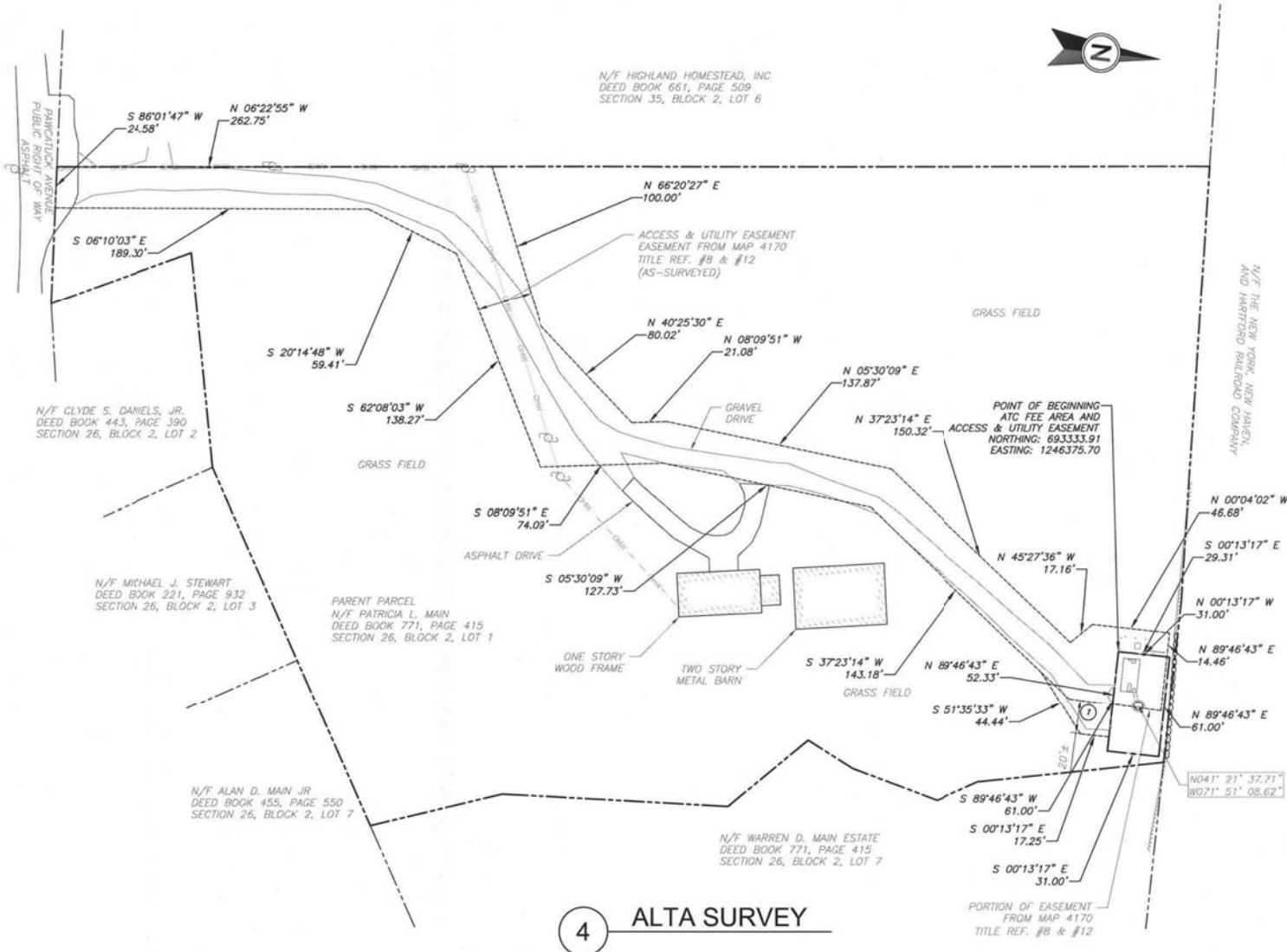
1 VICINITY MAP  
NTS



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



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



4 ALTA SURVEY  
SCALE: 1"=100' (11X17)  
1"=50' (22X34)

**NOTES CORRESPONDING TO ALTA COMMITMENT**

- THE ALTA COMMITMENT FORM ISSUED BY CATC, WITH AN EFFECTIVE DATE OF AUGUST 3, 2018 CONTAINS THE FOLLOWING SURVEY RELATED ITEMS.
7. ALL MATTERS CONTAINED ON THE PLAN SHOWING PROPERTY TO BE CONVEYED BY CHARLES A. MAIN SR. TO WARREN D. AND PATRICIA MAIN RECORDED AS MAP NUMBER 1048, PUBLIC RECORDS OF NEW LONDON COUNTY, CT. NO PLOTTABLE MATTERS ON PLAN.
  8. ALL MATTERS CONTAINED ON THE PLAT OF MAP-SHOWING EASEMENT AREA TO BE GRANTED TO THE CONNECTICUT LIGHT AND POWER COMPANY RECORDED AS MAP NUMBER 4170, PUBLIC RECORDS OF NEW LONDON COUNTY, CT. EASEMENT FROM PLAT SHOWN HEREON.
  9. TERMS AND CONDITIONS OF UNRECORDED LEASE AS EVIDENCED BY MEMORANDUM OF LEASE BETWEEN WARREN D. MAIN AND PATRICIA L. MAIN, AND OMNIPONT COMMUNICATIONS, INC., DATED JUNE 29, 2009 AND RECORDED AUGUST 18, 2009, IN BOOK 060 PAGE 22, IN NEW LONDON COUNTY, CONNECTICUT. NOT PLOTTABLE, NO METES AND BOUNDS FOR LEASE PROVIDED.
  10. TERMS AND CONDITIONS OF UNRECORDED LEASE AS EVIDENCED BY MEMORANDUM OF LEASE BETWEEN WARREN D. MAIN AND PATRICIA L. MAIN, AND T-MOBILE NORTHEAST LLC, A DELAWARE LIMITED LIABILITY COMPANY, SUCCESSOR-IN-INTEREST TO OMNIPONT COMMUNICATIONS, INC., DATED MARCH 26, 2013 AND RECORDED APRIL 12, 2013, IN BOOK 714 PAGE 379, IN NEW LONDON COUNTY, CONNECTICUT. NOT PLOTTABLE, NO METES AND BOUNDS FOR LEASE PROVIDED.  
 AFFECTED BY TERMS AND CONDITIONS OF UNRECORDED ASSIGNMENT AS EVIDENCED BY ASSIGNMENT AND ASSUMPTION OF SITE LEASE BETWEEN T-MOBILE NORTHEAST, LLC, A SUCCESSOR IN INTEREST TO OMNIPONT COMMUNICATIONS, INC. AND A WHOLLY OWNED SUBSIDIARY OF T-MOBILE, USA, INC. AND BAY COMMUNICATIONS II, LLC, DATED SEPTEMBER 6, 2013 AND RECORDED JANUARY 21, 2014, IN BOOK 725 PAGE 356, IN NEW LONDON COUNTY, CONNECTICUT. NOT PLOTTABLE, NO METES AND BOUNDS PROVIDED.  
 AFFECTED BY TERMS AND CONDITIONS OF UNRECORDED ASSIGNMENT AS EVIDENCED BY MEMORANDUM OF ASSIGNMENT OF LEASE BETWEEN BAY COMMUNICATIONS II, LLC, A DELAWARE LIMITED LIABILITY COMPANY, AND MUNICIPAL BAY, LLC, A DELAWARE LIMITED LIABILITY COMPANY, DATED FEBRUARY 5, 2016 AND RECORDED FEBRUARY 22, 2016, IN BOOK 773 PAGE 678, IN NEW LONDON COUNTY, CONNECTICUT. NOT PLOTTABLE, NO METES AND BOUNDS PROVIDED.
  11. TERMS AND CONDITIONS OF UNRECORDED AGREEMENT AS EVIDENCED BY MEMORANDUM OF SITE LICENSE AGREEMENT BETWEEN BAY COMMUNICATIONS II, LLC, AND T-MOBILE NORTHEAST LLC, DATED JANUARY 7, 2014 AND RECORDED MARCH 14, 2014, IN BOOK 726 PAGE 385, IN NEW LONDON COUNTY, CONNECTICUT. NOT PLOTTABLE. LEGAL DESCRIPTION ILLIBLEG.
  12. ELECTRIC DISTRIBUTION EASEMENT BETWEEN WARREN D. MAIN AND PATRICIA L. MAIN, BAY COMMUNICATIONS II, LLC, SUCCESSOR IN INTEREST TO T-MOBILE NORTHEAST LLC, AND THE CONNECTICUT LIGHT AND POWER COMPANY, A SPECIALLY CHARTERED CONNECTICUT CORPORATION, DATED JANUARY 30, 2014 AND RECORDED APRIL 2, 2014, IN BOOK 727 PAGE 52, IN NEW LONDON COUNTY, CONNECTICUT. SHOWN HEREON.  
 AFFECTED BY PARTIAL ASSIGNMENT OF EASEMENT RIGHTS BETWEEN THE CONNECTICUT LIGHT AND POWER COMPANY DBA EVERSOURCE ENERGY, A SPECIALLY CHARTERED CONNECTICUT CORPORATION, AND THE SOUTHERN NEW ENGLAND TELEPHONE COMPANY DBA FRONTIER COMMUNICATIONS, A CONNECTICUT CORPORATION. NOT PLOTTABLE, NO METES AND BOUNDS PROVIDED.

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

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
0	ISSUED FOR COMMENT	DTS	08/23/18
1	ISSUED	SAA	11/20/18

ATC SITE NUMBER:  
**284984**

ATC SITE NAME:  
**PAWCATUCK CT**

SITE ADDRESS:  
166 PAWCATUCK AVENUE  
PAWCATUCK, CT 06379

**SURVEY CERTIFICATE:**  
 TO AMERICAN TOWER CORPORATION:  
 THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6(B) (TO THE EXTENT, GRAPHICALLY DEPICT ON SURVEY DRAWING THE ZONING SETBACK LINES), 7(A), 7(B)(1), 7(C), 8, 9, 11, AND 13 TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 08/14/18.

DATE OF PLAT OR MAP: 08/23/18

(SIGNED) NAME: THORODOR J. SHARRIS, 70300 CT LICENSED LAND SURVEYOR

**SURVEY LOGO:**

**Tectonic**  
 PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.  
 Tectonic Engineering & Surveying Consultants P.C.  
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 (800) 629-5531  
 www.tectonicingeering.com

DRAWN BY: DTS  
 APPROVED BY: TJH  
 DATE DRAWN: 08/23/18  
 ATC JOB NO: 284984

**ALTA/NSPS LAND TITLE SURVEY**

SHEET NUMBER: **V-101**  
 REVISION: **1**

**LEGAL DESCRIPTION**

PARENT PARCEL - AS PROVIDED:  
THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF NEW LONDON, CITY OF PAWCATUCK, STATE OF CONNECTICUT, AND IS DESCRIBED AS FOLLOWS:

A LEASEHOLD INTEREST IN AND TO THE FOLLOWING DESCRIBED PROPERTY:

BEGINNING AT THE SOUTHEASTERN CORNER OF THE PARCEL OF LAND HEREIN CONVEYED ON THE NORTHERLY LINE OF PAWCATUCK AVENUE, SAID CORNER ALSO BEING THE SOUTHWESTERLY CORNER OF LAND OF LEE AND IRENE MORGAN; THENCE RUNNING NORTHERLY, BOUNDED EASTERLY BY SAID MORGAN LAND 90.50 FEET TO AN IRON PIPE MARKING THE NORTHWESTERLY CORNER OF MORGAN LAND; THENCE TURNING AN INTERIOR ANGLE OF 284°-06'-00" AND RUNNING EASTERLY 130.00 FEET TO A DRILL HOLE AT THE NORTHEASTERLY CORNER OF SAID MORGAN LAND; THENCE TURNING AN INTERIOR ANGLE OF 161°-52'-30" AND CONTINUING IN A GENERALLY EASTERLY DIRECTION BY AND ALONG A STONE WALL 235.63 FEET TO A DRILL HOLE MARKING A CORNER OF THE HEREIN CONVEYED PARCEL OF LAND, WITH SAID LAST COURSE BEING BOUNDED SOUTHERLY IN PART BY LAND OF JOSEPH AND IRENE ORLANDO AND PARTLY BY LAND OF MICHAEL AND BARBARA LYNCH; THENCE TURNING AN INTERIOR ANGLE OF 100°-27'-00" AND RUNNING NORTHERLY BY AND ALONG A STONE WALL 81.61 FEET TO A DRILL HOLE MARKING AN ANGLE POINT; THENCE TURNING AN INTERIOR ANGLE OF 196°-27'-00" AND CONTINUING ALONG SAID WALL 136.28 FEET TO A DRILL HOLE AT AN ANGLE POINT; THENCE TURNING AN INTERIOR ANGLE OF 137°-22'-30" AND CONTINUING NORTHERLY WITH SAID WALL 62.54 FEET TO A DRILL HOLE AT AN ANGLE POINT; THENCE TURNING AN INTERIOR ANGLE OF 251°-50'-00" AND CONTINUING ALONG SAID WALL 31.66 FEET TO AN ANGLE POINT; THENCE TURNING AN INTERIOR ANGLE OF 187°-14'-30" AND CONTINUING ALONG SAID WALL 54.42 FEET TO A DRILL HOLE AT AN ANGLE POINT; THENCE TURNING AN INTERIOR ANGLE OF 135°-50'-30" AND CONTINUING ALONG SAID WALL 27.55 FEET TO A DRILL HOLE AT AN ANGLE POINT; THENCE TURNING AN INTERIOR ANGLE OF 197°-42'-00" AND CONTINUING ALONG SAID WALL 112.35 FEET TO A DRILL HOLE AT THE NORTHEASTERLY CORNER OF THE PARCEL OF LAND HEREIN CONVEYED WITH SAID LAST MENTIONED SEVEN COURSES ALL BEING BOUNDED EASTERLY BY LAND NOW OR FORMERLY OF SAMUEL LARKIN; THENCE TURNING AN INTERIOR ANGLE OF 102°-02'-00" AND RUNNING WESTERLY ALONG A STONE WALL 99.76 FEET TO A DRILL HOLE; THENCE RUNNING NORTHERLY 18 FEET MORE OR LESS TO PROPERTY OF THE NEW YORK NEW HAVEN AND HARTFORD RAILROAD, THENCE TURNING AND RUNNING WESTERLY, BOUNDED NORTHERLY BY SAID RAILROAD PROPERTY 266 FEET MORE OR LESS TO THE NORTHWESTERLY CORNER OF THE PARCEL OF LAND HEREIN CONVEYED; THENCE TURNING AND RUNNING SOUTHERLY 160 FEET, MORE OR LESS, TO A CORNER; THENCE TURNING AN INTERIOR ANGLE OF 270°-00'-00" AND RUNNING WESTERLY 195.00 FEET TO A CORNER; THENCE TURNING AN INTERIOR ANGLE OF 90°-00'-00" AND RUNNING SOUTHERLY 212.00 FEET TO A CORNER; THENCE TURNING AN INTERIOR ANGLE OF 90°-00'-00" AND RUNNING EASTERLY 25.00 FEET TO A CORNER; THENCE TURNING AN INTERIOR ANGLE OF 270°-00'-00" AND RUNNING SOUTHERLY 212.00 FEET TO A CORNER; THENCE TURNING AN INTERIOR ANGLE OF 90°-00'-00" AND RUNNING EASTERLY 109.28 FEET TO THE POINT OF CURVATURE OF A CURVE HAVING A RADIUS OF 30.00 FEET AND A CENTRAL ANGLE OF 91°-32'-25" AND CONTINUING ALONG THE ARC OF SAID CURVE 47.93 TO THE POINT OF TANGENCY OF SAID CURVE; THENCE CONTINUING SOUTHERLY 54.91 FEET TO THE POINT OF CURVATURE OF A CURVE HAVING A RADIUS OF 30.00 FEET AND A CENTRAL ANGLE OF 89°-18'-05" AND CONTINUING ALONG THE ARC OF SAID CURVE 46.76 FEET TO THE NORTHERLY LINE OF PAWCATUCK AVENUE, WITH SAID LAST NINE COURSES BEING BOUNDED BY OTHER LAND OF CHARLES N. MAIN, SR.; THENCE RUNNING EASTERLY BY AND ALONG THE NORTHERLY LINE OF PAWCATUCK AVENUE 154.64 FEET TO THE POINT AND PLACE OF BEGINNING.

LESS AND EXCEPT ALL THAT PROPERTY CONVEYED BY QUIT CLAIM DEED RECORDED JANUARY 24, 1997, IN BOOK 399 PAGE 684, AND QUIT CLAIM DEED RECORDED JANUARY 24, 1997, IN BOOK 399 PAGE 686, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THAT CERTAIN TRACT OR PARCEL OF LAND LOCATED ON THE NORTHERLY SIDE OF PAWCATUCK AVENUE, IN THE TOWN OF STONINGTON COUNTY OF NEW LONDON AND STATE OF CONNECTICUT AND WHICH IS SHOWN AND DELINEATED ON A PLAN TITLED: "MONUMENTED PERIMETER SURVEY PREPARED FOR CHARLES MAIN HIGHLAND HOMESTEAD, PAWCATUCK AVENUE, MAP 26, BLOCK 2, LOT 1, STONINGTON, CONNECTICUT, SCALE 1" = 20', AUGUST 20, 1996, BY CHERENZIA & ASSOCIATES, LTD., WESTERLY, RHODE ISLAND." SAID PARCEL IS MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A RAILROAD SPIKE SET IN THE NORTHERLY LINE OF PAWCATUCK AVENUE MARKING THE SOUTHEASTERN CORNER OF THE PARCEL OF LAND HEREIN DESCRIBED AND THE SOUTHWESTERLY CORNER OF THE REMAINING LAND OF WARREN D. AND PATRICIA MAIN;

THENCE NORTH 19° 45' 18" EAST, BOUNDED EASTERLY BY SAID REMAINING LAND OF MAIN, A DISTANCE OF 703.00 FEET MORE OR LESS TO THE SOUTHERLY LINE OF LAND NOW OR FORMERLY OF THE NATIONAL RAILROAD PASSENGER CORPORATION AND THE NORTHEASTERLY CORNER OF THE PARCEL OF LAND HEREIN DESCRIBED;

THENCE WESTERLY, ALONG THE SOUTHERLY LINE OF SAID RAILROAD, A DISTANCE OF 20.00 FEET, MORE OR LESS, TO THE NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF CHARLES N. MAIN, SR., AND THE NORTHWESTERLY CORNER OF THE PARCEL OF LAND HEREIN DESCRIBED;

THENCE SOUTHERLY, BOUNDED WESTERLY BY SAID CHARLES N. MAIN, SR., LAND, A DISTANCE OF 160.00 FEET, MORE OR LESS, TO AN ANGLE POINT;

THENCE NORTH 68° 40' 30" WEST, BOUNDED NORTHERLY BY SAID CHARLES N. MAIN, SR., LAND, A DISTANCE OF 165.00 FEET TO AN ANGLE POINT;

THENCE SOUTH 21° 19' 30" WEST, BOUNDED NORTHERLY BY SAID CHARLES N. MAIN, SR., LAND, A DISTANCE OF 212.00 FEET TO AN ANGLE POINT;

THENCE SOUTH 62° 40' 30" EAST, BOUNDED SOUTHERLY BY SAID CHARLES N. MAIN, SR., LAND, A DISTANCE OF 25.00 FEET TO AN ANGLE POINT;

THENCE SOUTH 21° 19' 30" WEST, BOUNDED WESTERLY BY SAID CHARLES N. MAIN, SR., LAND, A DISTANCE OF 210.00 FEET TO AN ANGLE POINT;

THENCE SOUTH 68° 40' 30" EAST, BOUNDED SOUTHERLY BY SAID CHARLES N. MAIN, SR., LAND, A DISTANCE OF 109.28 FEET TO THE BEGINNING OF A CIRCULAR CURVE HAVING A RADIUS OF 30.00 FEET AND A CENTRAL ANGLE OF 91° 32' 55";

THENCE EASTERLY, SOUTHEASTERLY AND SOUTHERLY, BOUNDED SOUTHERLY, SOUTHWESTERLY AND WESTERLY BY SAID CHARLES N. MAIN, SR., LAND, ALONG THE ARC OF SAID CURVE, A DISTANCE OF 47.93 FEET;

THENCE SOUTH 22° 51' 55" WEST, BOUNDED NORTHWESTERLY BY SAID CHARLES N. MAIN, SR., LAND, A DISTANCE OF 54.91 FEET TO THE BEGINNING OF A CIRCULAR CURVE HAVING A RADIUS OF 30.00 FEET AND A CENTRAL ANGLE OF 89° 19' 05";

THENCE SOUTH WESTERLY AND WESTERLY, BOUNDED NORTHWESTERLY AND NORTHERLY BY SAID CHARLES N. MAIN, SR., LAND, ALONG THE ARC OF SAID CURVE, A DISTANCE OF 46.76 FEET TO A POINT IN THE NORTHERLY LINE OF SAID PAWCATUCK AVENUE AT THE SOUTHEASTERLY CORNER OF SAID CHARLES N. MAIN, SR., LAND AND THE SOUTHWESTERLY CORNER OF THE PARCEL OF LAND HEREIN DESCRIBED;

THENCE SOUTH 67° 50' 00" EAST, ALONG THE NORTHERLY LINE OF PAWCATUCK AVENUE, A DISTANCE OF 72.71 FEET TO THE POINT AND PLACE OF BEGINNING.

PARCEL ID # 26-2-1

THIS BEING THE SAME PROPERTY CONVEYED TO WARREN D. MAIN AND PATRICIA L. MAIN, HUSBAND AND WIFE, AND UNTO THE SURVIVOR OF THEM, FROM CHARLES N. MAIN, SR., IN WARRANTY DEED DATED AUGUST 31, 1966 AND RECORDED AUGUST 31, 1966, IN BOOK 158 PAGE 365.

WARREN D. MAIN HAVING PASSED AWAY ON DECEMBER 2, 2016, AS EVIDENCED BY CERTIFICATE RELEASING LIENS DATED DECEMBER 7, 2017 AND RECORDED DECEMBER 7, 2017, IN BOOK 771 PAGE 415.

THIS BEING THE SAME PROPERTY ASSIGNED TO MUNICIPAL BAY, LLC A DELAWARE LIMITED LIABILITY COMPANY, AS TO A LEASEHOLD INTEREST, FROM BAY COMMUNICATIONS II, LLC, A DELAWARE LIMITED LIABILITY COMPANY, BY TERMS AND CONDITIONS OF UNRECORDED ASSIGNMENT AS EVIDENCED BY MEMORANDUM OF ASSIGNMENT OF LEASE DATED FEBRUARY 5, 2018 AND RECORDED FEBRUARY 22, 2018, IN BOOK 773 PAGE 678.

ATC FEE AREA - AS SURVEYED (NONE PROVIDED)  
ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE CITY OF PAWCATUCK, COUNTY OF NEW LONDON, STATE OF CONNECTICUT, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWESTERLY CORNER OF THE HEREIN DESCRIBED ATC FEE AREA WHOSE STATE PLANE COORDINATE IS 693333.91 NORTH AND 1246375.70 EAST; RUNNING THENCE

NORTH 00°13'17" WEST FOR A DISTANCE OF 31.00 FEET TO A POINT; THENCE NORTH 89°46'43" EAST FOR A DISTANCE OF 61.00 FEET TO A POINT; THENCE SOUTH 00°13'17" EAST FOR A DISTANCE OF 31.00 FEET TO A POINT; THENCE NORTH 89°46'43" WEST FOR A DISTANCE OF 61.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 0.04± ACRES OR 1,891± SQUARE FEET. ATC RETAINS RIGHTS TO 2,100 SQUARE FEET PER THE SITE LEASE WITH OPTION, DATED JUNE 29, 2009

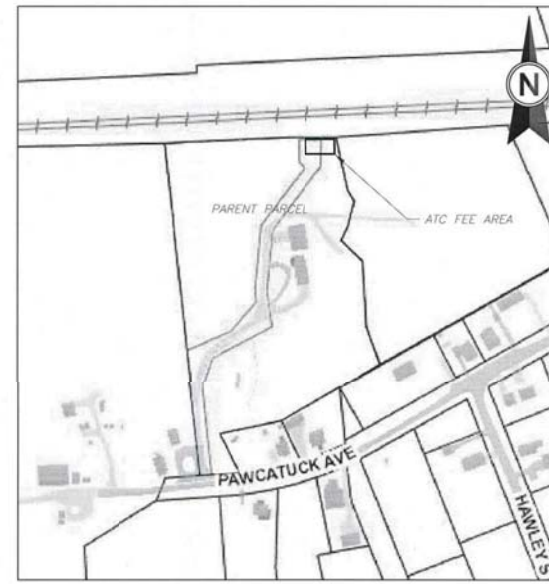
ACCESS & UTILITY EASEMENT - AS SURVEYED (NONE PROVIDED)  
THIS BEING THE SAME PROPERTY ASSIGNED TO MUNICIPAL BAY, LLC A DELAWARE LIMITED LIABILITY COMPANY, AS TO A LEASEHOLD INTEREST, FROM BAY COMMUNICATIONS II, LLC, A DELAWARE LIMITED LIABILITY COMPANY, BY TERMS AND CONDITIONS OF UNRECORDED ASSIGNMENT AS EVIDENCED BY MEMORANDUM OF ASSIGNMENT OF LEASE DATED FEBRUARY 5, 2018 AND RECORDED FEBRUARY 22, 2018, IN BOOK 773 PAGE 678.

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE CITY OF PAWCATUCK, COUNTY OF NEW LONDON, STATE OF CONNECTICUT, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:  
BEGINNING AT A NORTHEASTERLY CORNER OF THE HEREIN DESCRIBED ACCESS AND UTILITY EASEMENT WHOSE STATE PLANE COORDINATE IS 693333.91 NORTH AND 1246375.70 EAST; RUNNING THENCE

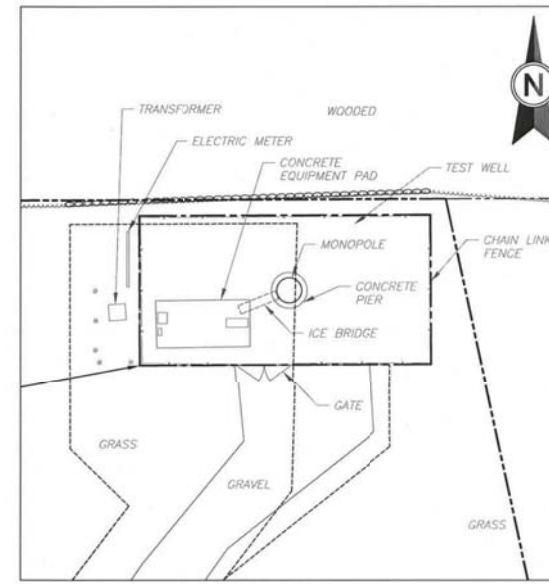
NORTH 89°46'43" EAST FOR A DISTANCE OF 52.33 FEET TO A POINT; THENCE SOUTH 00°13'17" EAST FOR A DISTANCE OF 17.25 FEET TO A POINT; THENCE SOUTH 51°35'33" WEST FOR A DISTANCE OF 44.44 FEET TO A POINT; THENCE SOUTH 37°23'14" WEST FOR A DISTANCE OF 143.18 FEET TO A POINT; THENCE SOUTH 05°30'09" WEST FOR A DISTANCE OF 127.73 FEET TO A POINT; THENCE SOUTH 08°09'51" EAST FOR A DISTANCE OF 74.09 FEET TO A POINT; THENCE SOUTH 62°08'03" WEST FOR A DISTANCE OF 138.27 FEET TO A POINT; THENCE SOUTH 20°14'48" WEST FOR A DISTANCE OF 59.41 FEET TO A POINT; THENCE SOUTH 06°10'03" EAST FOR A DISTANCE OF 189.30 FEET TO A POINT; THENCE SOUTH 86°01'47" WEST FOR A DISTANCE OF 24.58 FEET TO A POINT; THENCE NORTH 06°22'55" WEST FOR A DISTANCE OF 262.75 FEET TO A POINT; THENCE NORTH 40°25'30" EAST FOR A DISTANCE OF 80.02 FEET TO A POINT; THENCE NORTH 08°09'51" WEST FOR A DISTANCE OF 21.08 FEET TO A POINT; THENCE NORTH 05°30'09" EAST FOR A DISTANCE OF 137.87 FEET TO A POINT; THENCE NORTH 37°23'14" EAST FOR A DISTANCE OF 150.32 FEET TO A POINT; THENCE NORTH 45°27'36" WEST FOR A DISTANCE OF 17.16 FEET TO A POINT; THENCE NORTH 00°13'17" EAST FOR A DISTANCE OF 31.00 FEET TO A POINT; THENCE NORTH 89°46'43" EAST FOR A DISTANCE OF 14.46 FEET TO A POINT; THENCE SOUTH 00°13'17" EAST FOR A DISTANCE OF 29.31 FEET TO A POINT; THENCE TO THE POINT OF BEGINNING.

CONTAINING 0.56± ACRES OR 24,330± SQUARE FEET

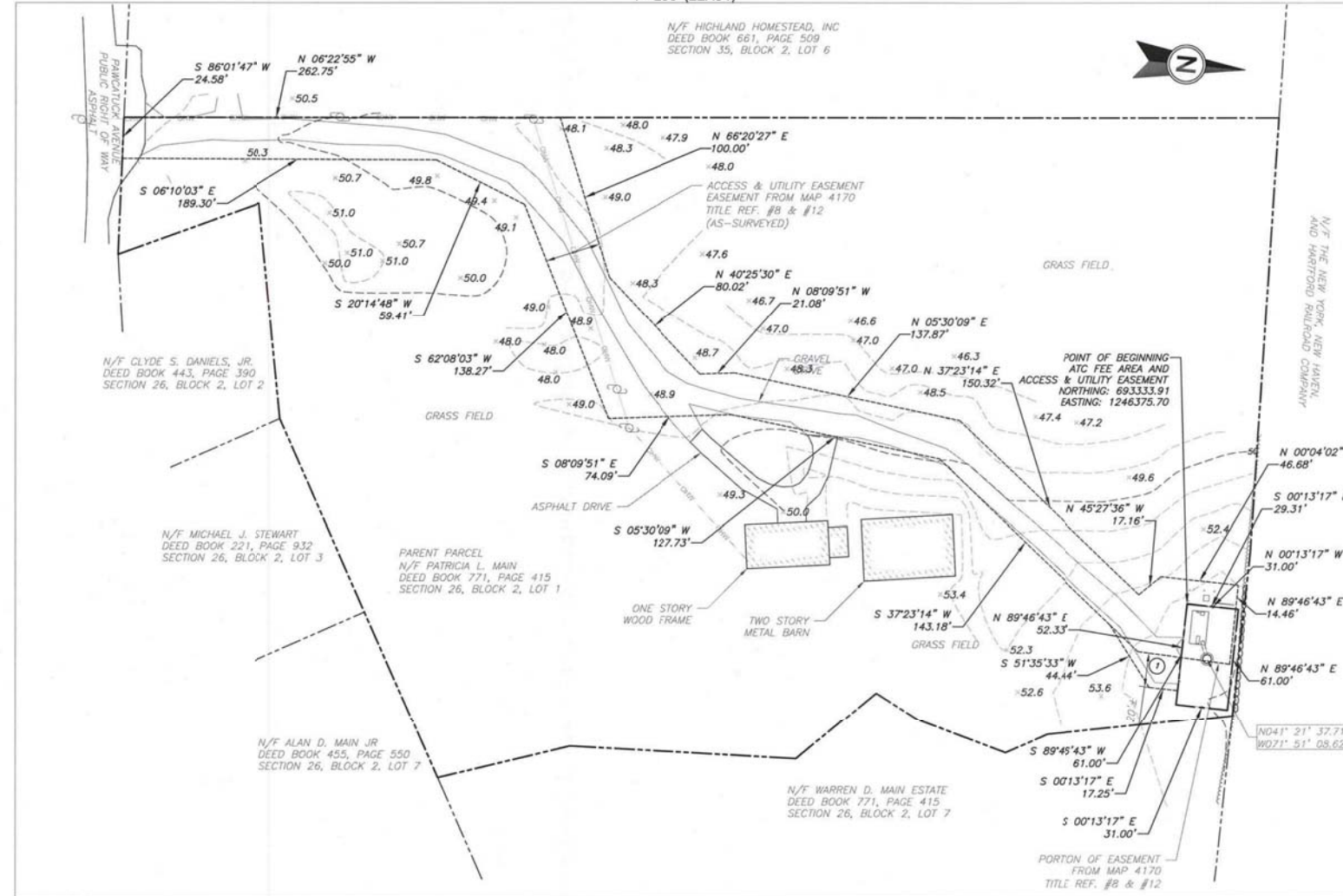
- SURVEY LEGEND**
- EXISTING PROPERTY
  - EXISTING ADJ. PROPERTY
  - EXISTING LEASE
  - EXISTING EASEMENT
  - 50- EXISTING CONTOUR (MAJOR)
  - 15- EXISTING CONTOUR (MINOR)
  - EXISTING TREELINE
  - EXISTING CHAINLINK FENCE
  - EXISTING OVERHEAD WIRES
  - EXISTING BUILDING
  - EXISTING ROAD (STONE)
  - EXISTING ROAD (PAVED)
  - SURVEY IRON PIN FOUND
  - SURVEY BENCHMARK
  - EXISTING UTILITY POLE
  - EXISTING GUY ANCHOR
  - EXISTING DOLLARD
  - MORTGAGE REFERENCE #
  - ENCROACHMENT REFERENCE #



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



**2 COMPOUND DETAIL**  
SCALE: 1"=20' (11X17)  
1"=10' (22X34)



**3 EXISTING CONDITIONS PLAN**  
SCALE: 1"=100' (11X17)  
1"=50' (22X34)



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

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REV.	DESCRIPTION	BY	DATE
0	ISSUED FOR COMMENT	DTS	08/23/18
1	ISSUED	SAA	11/20/18

ATC SITE NUMBER:  
**284984**  
ATC SITE NAME:  
**PAWCATUCK CT**  
SITE ADDRESS:  
166 PAWCATUCK AVENUE  
PAWCATUCK, CT 06379

SURVEY CERTIFICATE:  
TO AMERICAN TOWER CORPORATION:  
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6(B) (TO THE EXTENT, GRAPHICALLY DEPICT ON SURVEY DRAWING THE ZONING SETBACK LINES), 7(A), 7(B)(1), 7(C), 8, 9, 11, AND 13 TABLE THEREOF. THE FIELD WORK WAS COMPLETED ON 08/14/18.

DATE OF PLAT OR MAP: 8/20/18  
(SIGNED) NAME: [Signature]  
Tectonic Engineering & Surveying Consultants P.C.  
10000 TOWN CENTER DRIVE, SUITE 70300  
CT LIC# 05881 LAND SURVEYOR

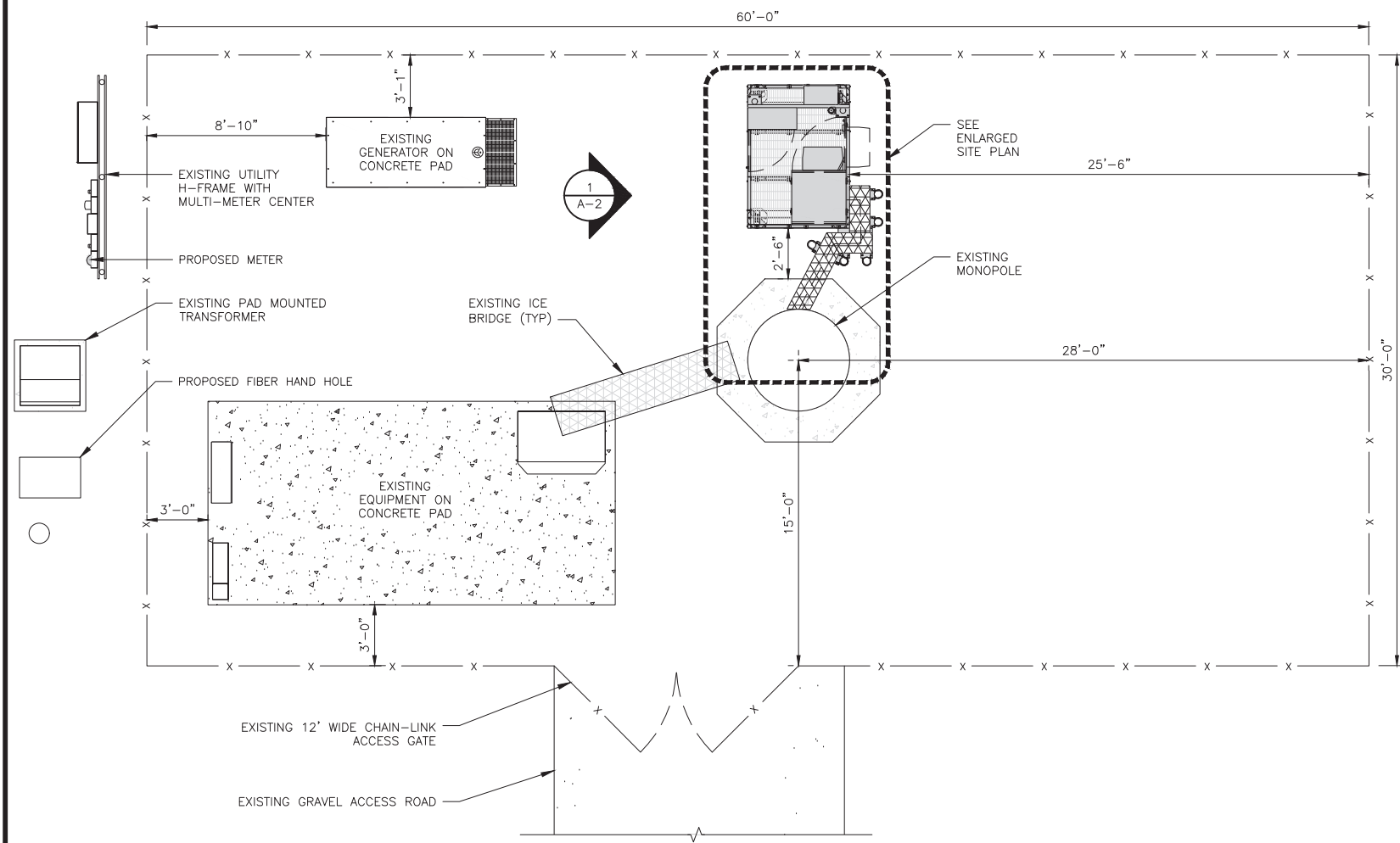
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PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.  
Tectonic Engineering & Surveying Consultants P.C.  
Phone: (845) 547-6556  
(800) 629-6531  
www.tectoniceengineering.com

DRAWN BY: DTS  
APPROVED BY: TJH  
DATE DRAWN: 08/23/18  
ATC JOB NO: 284984

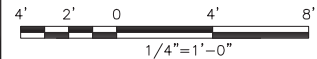
**EXISTING CONDITIONS PLAN**  
SHEET NUMBER: **V-102**  
REVISION: **1**

NOTES

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



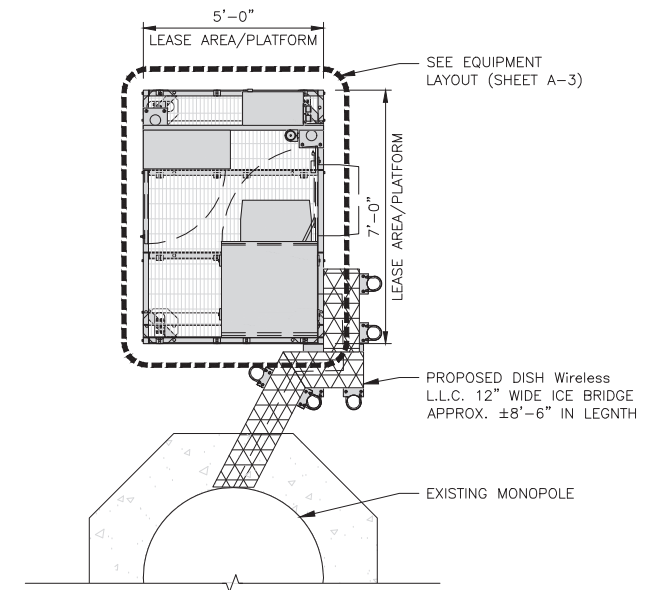
OVERALL SITE PLAN



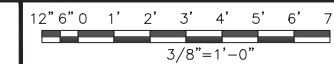
1

NOTES

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



ENLARGED SITE PLAN



2



AERIAL IMAGE

NO SCALE

3



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



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

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DRAWN BY:	CHECKED BY:	APPROVED BY:
RY	YF	YF

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	8/2/21	ISSUED FOR REVIEW
0	10/15/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
153552.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION

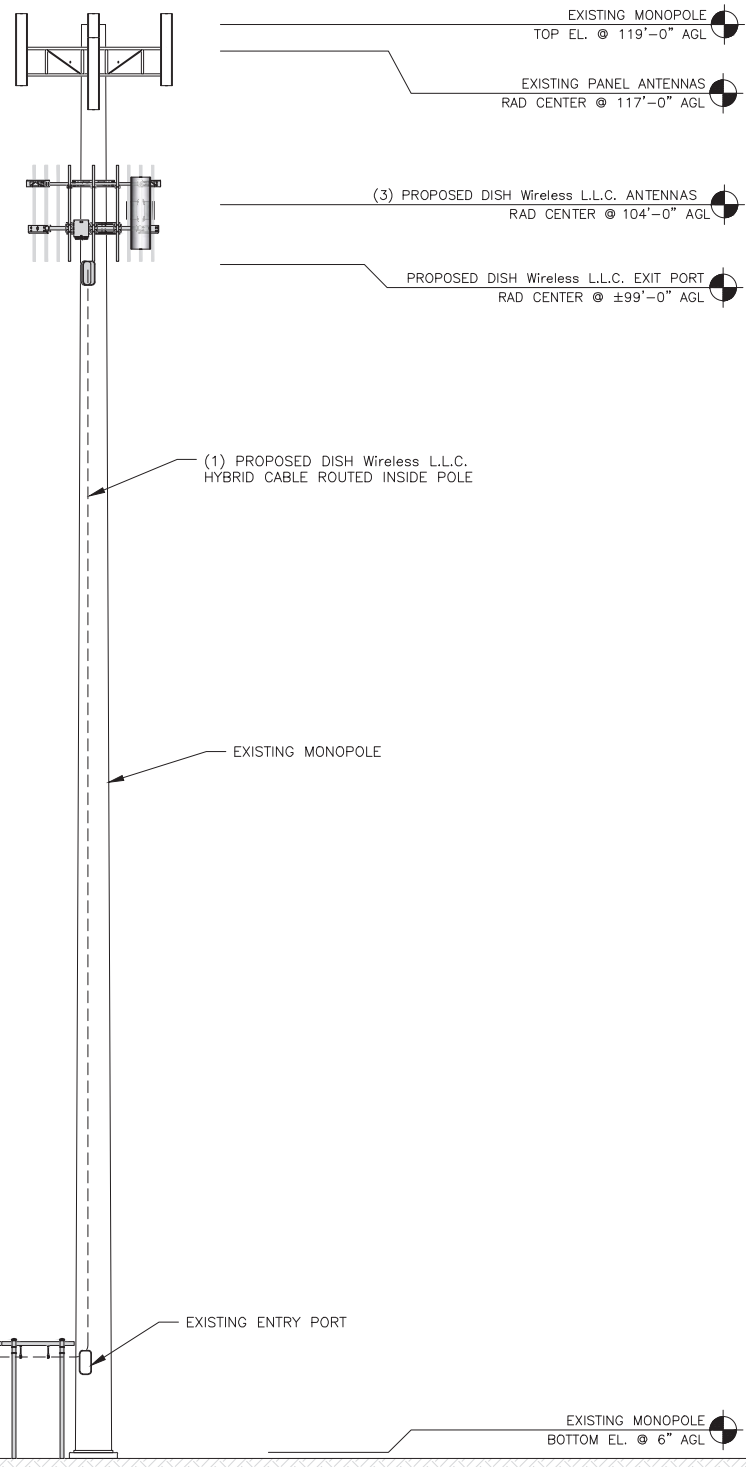
BOBOS00021A  
166 PAWCATUCK AVE  
STONINGTON, CT 06378

SHEET TITLE  
OVERALL AND ENLARGED  
SITE PLAN

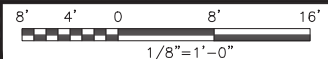
SHEET NUMBER  
**A-1**

**NOTES**

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



**PROPOSED WEST ELEVATION**



**ANTENNA LAYOUT**

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA - MX08FR0665-21	5G	72.0" x 20.0"	0°	104'-0"	(1) HIGH-CAPACITY HYBRID CABLE (135' LONG)
BETA	B1	PROPOSED	JMA - MX08FR0665-21	5G	72.0" x 20.0"	120°	104'-0"	
GAMMA	C1	PROPOSED	JMA - MX08FR0665-21	5G	72.0" x 20.0"	240°	104'-0"	

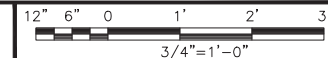
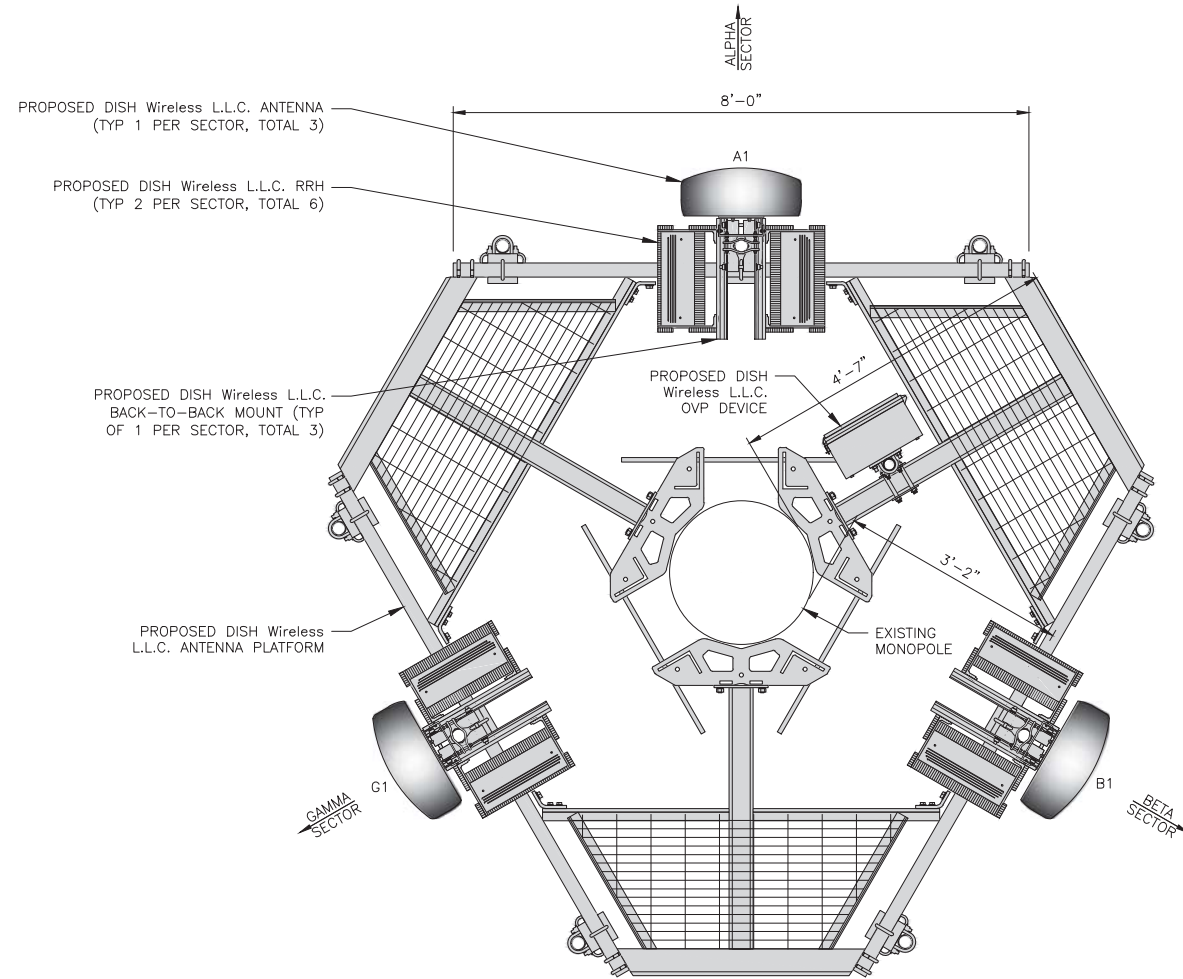
SECTOR	POSITION	RRH		NOTES
		MANUFACTURER - MODEL NUMBER	TECHNOLOGY	
ALPHA	A1	FUJITSU - TA08025-B605	5G	1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS. 2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.
	A1	FUJITSU - TA08025-B605	5G	
BETA	B1	FUJITSU - TA08025-B605	5G	
	B1	FUJITSU - TA08025-B605	5G	
GAMMA	C1	FUJITSU - TA08025-B605	5G	
	C1	FUJITSU - TA08025-B605	5G	

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

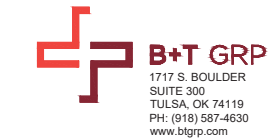
**ANTENNA SCHEDULE**

NO SCALE

3



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



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DRAWN BY:	CHECKED BY:	APPROVED BY:
RY	YF	YF

RFDS REV #: 0

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
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A&E PROJECT NUMBER  
153552.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00021A  
166 PAWCATUCK AVE  
STONINGTON, CT 06378

SHEET TITLE  
ELEVATION, ANTENNA  
LAYOUT AND SCHEDULE

SHEET NUMBER

**A-2**





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A&E PROJECT NUMBER  
**153552.001.01**

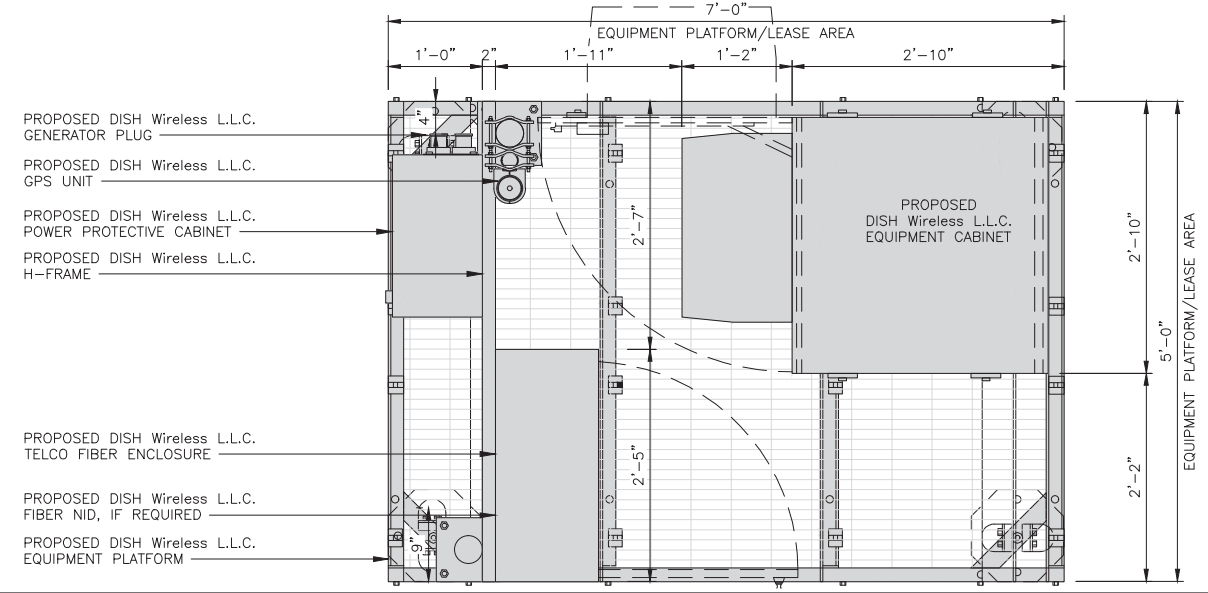
DISH Wireless L.L.C.  
PROJECT INFORMATION  
**BOBOS00021A**  
166 PAWCATUCK AVE  
STONINGTON, CT 06378

SHEET TITLE  
**EQUIPMENT PLATFORM AND H-FRAME DETAILS**

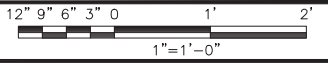
SHEET NUMBER  
**A-3**

**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



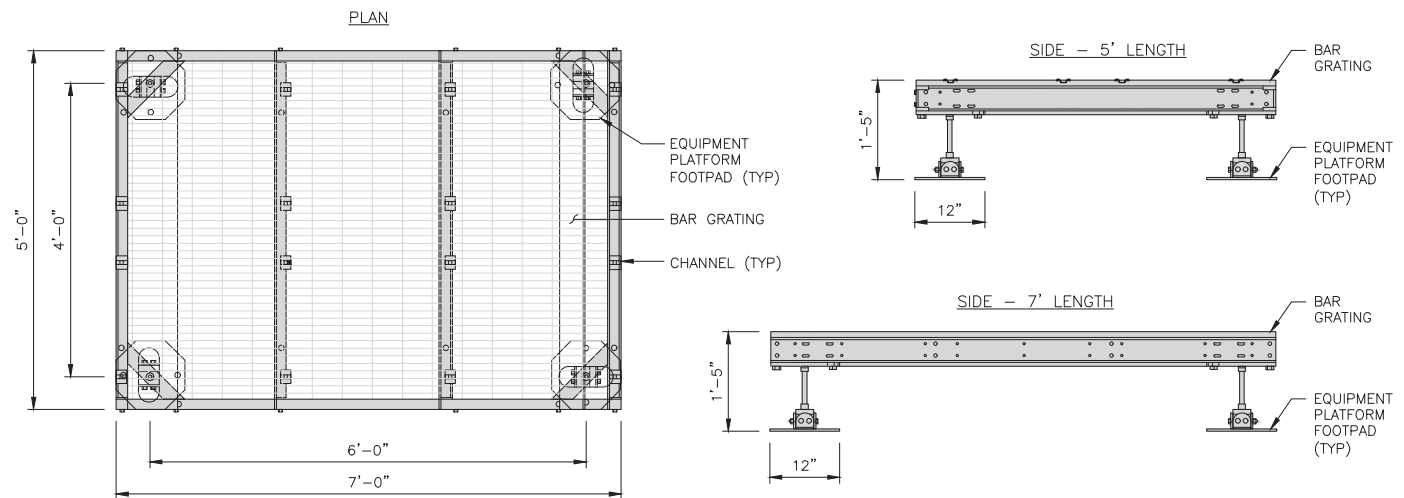
PLATFORM EQUIPMENT PLAN



1

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

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

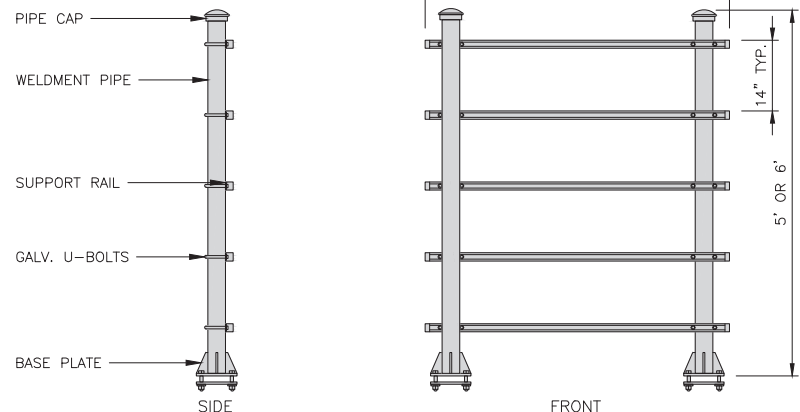


PLATFORM DETAIL

NO SCALE 2

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

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

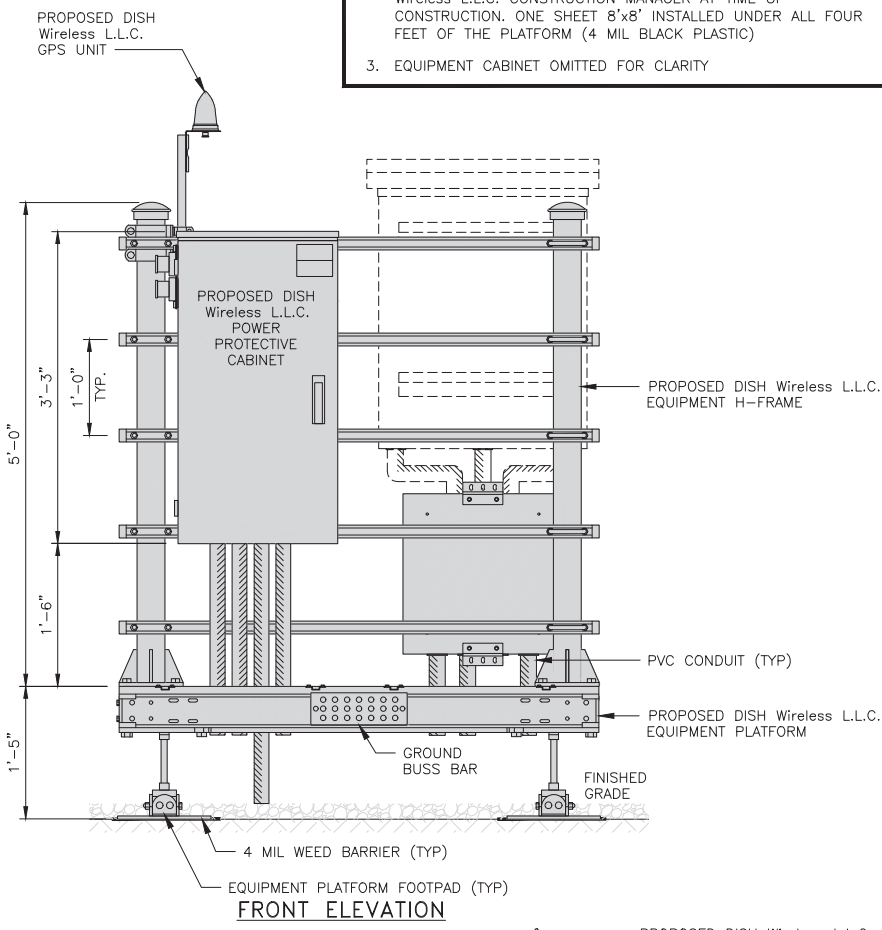


H-FRAME DETAIL

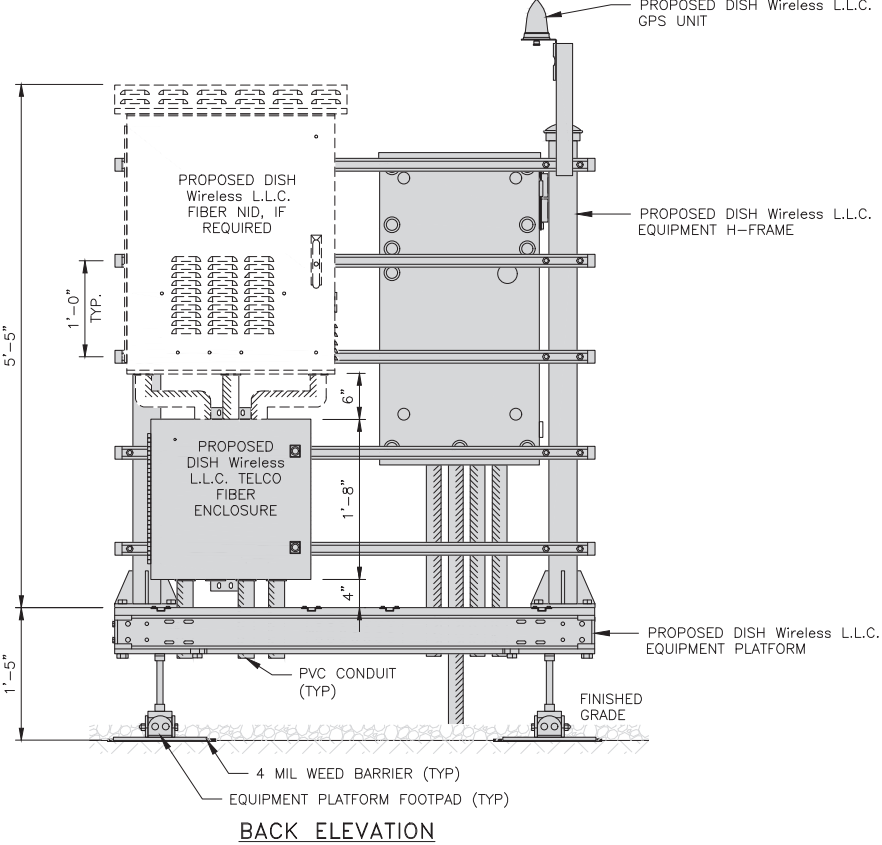
NO SCALE 3

NOT USED

NO SCALE 4

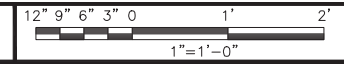


FRONT ELEVATION

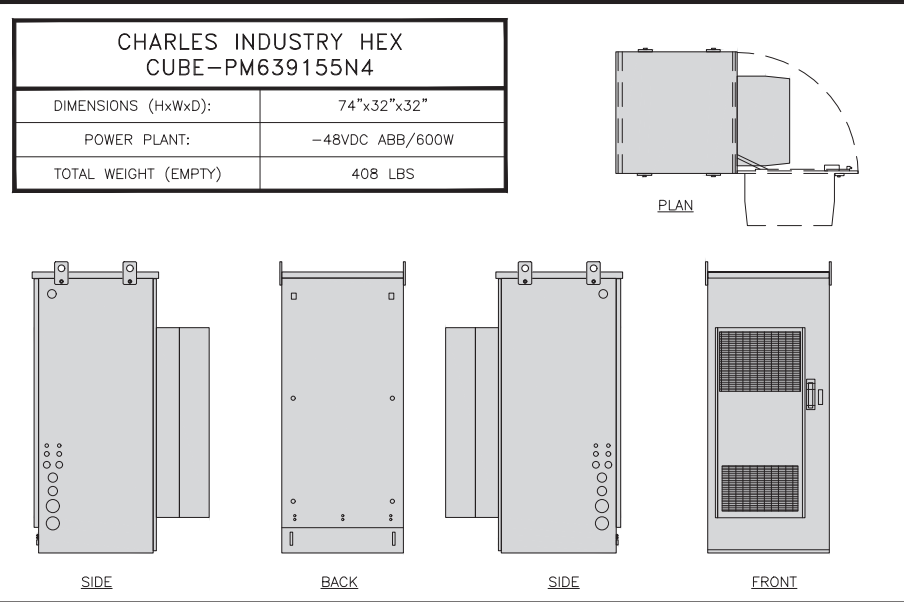


BACK ELEVATION

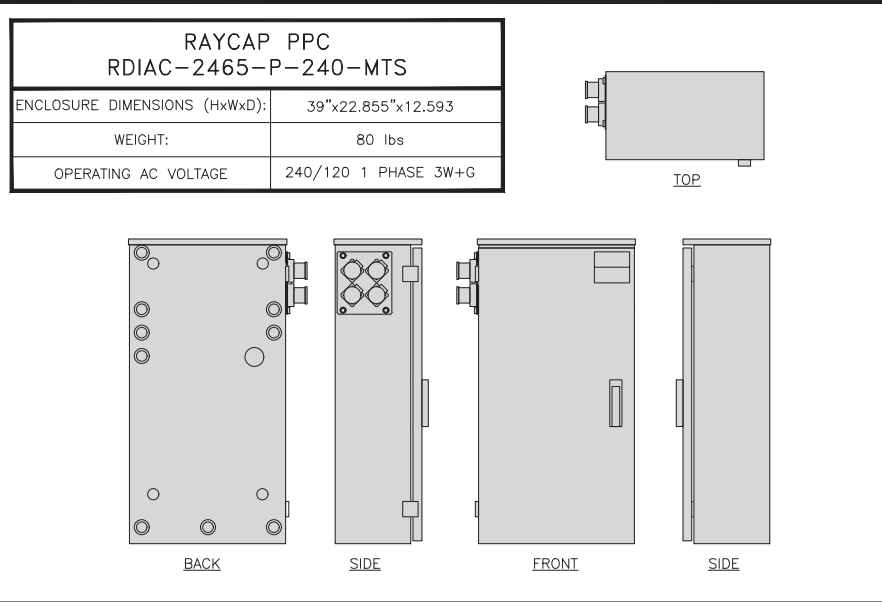
H-FRAME EQUIPMENT ELEVATION



5



**CABINET DETAIL**      NO SCALE      1



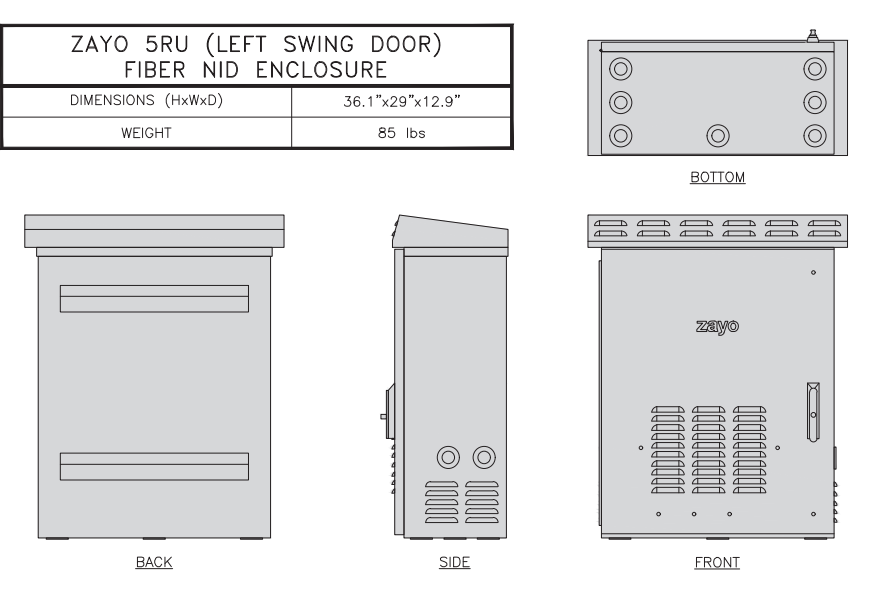
**POWER PROTECTION CABINET (PPC) DETAIL**      NO SCALE      2



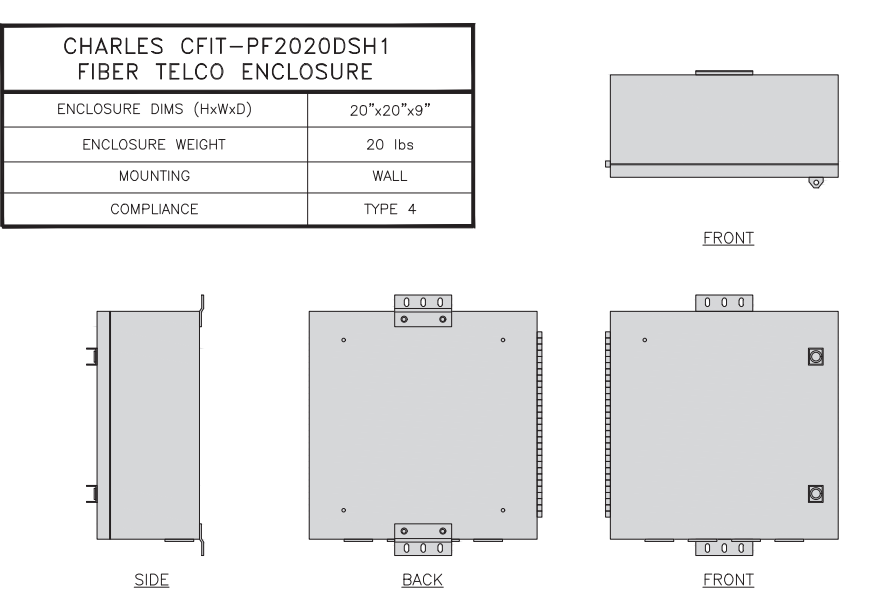
**NOT USED**      NO SCALE      3



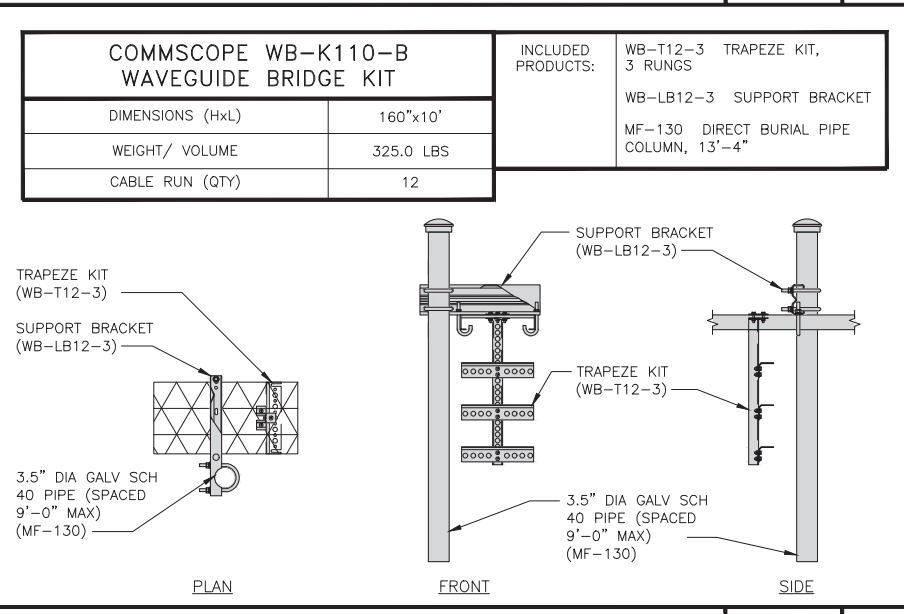
**NOT USED**      NO SCALE      4



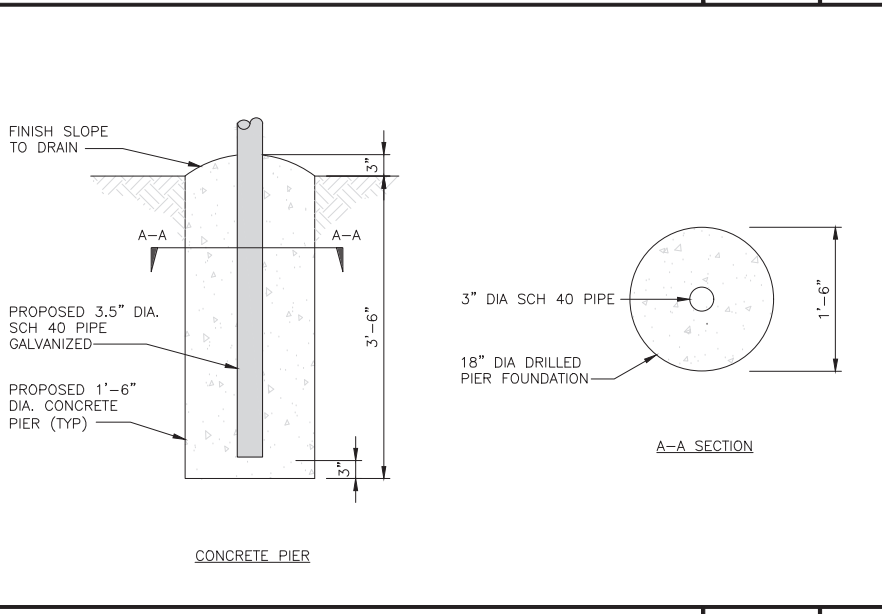
**FIBER NID ENCLOSURE DETAIL**      NO SCALE      5



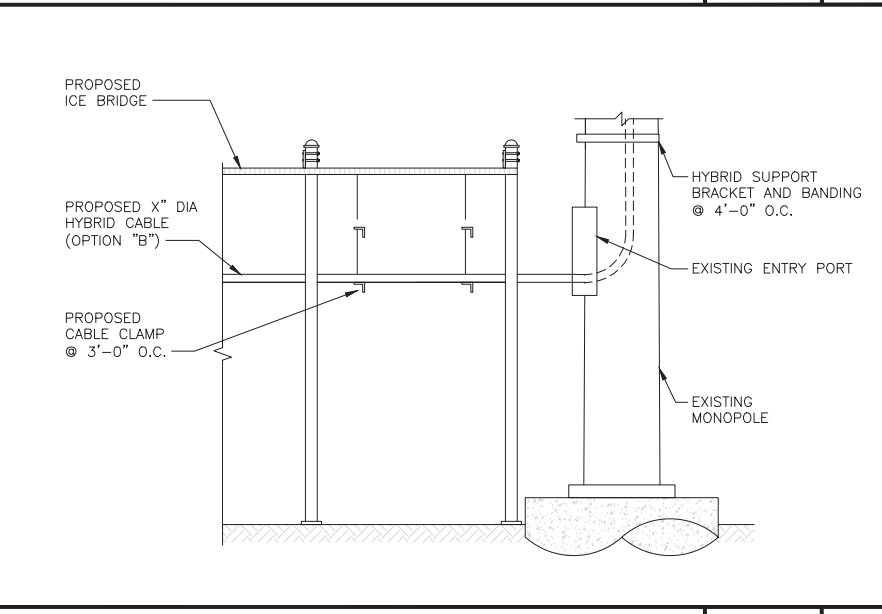
**FIBER TELCO ENCLOSURE DETAIL**      NO SCALE      6



**ICE BRIDGE DETAIL**      NO SCALE      7



**TYPICAL ICE BRIDGE CONCRETE PIER DETAIL**      NO SCALE      8



**HYBRID CABLE RUN**      NO SCALE      9

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

10 PRESIDENTIAL WAY  
WOBBURN, MA 01801

1717 S. BOULDER  
SUITE 300  
TULSA, OK 74119  
PH: (918) 587-4630  
www.blgrp.com

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RY	YF	YF
RFDS REV #:		0

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
A	8/2/21	ISSUED FOR REVIEW
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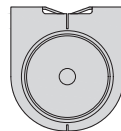
A&E PROJECT NUMBER  
**153552.001.01**

DISH Wireless L.L.C.  
PROJECT INFORMATION  
**BOBOS00021A**  
166 PAWCATUCK AVE  
STONINGTON, CT 06378

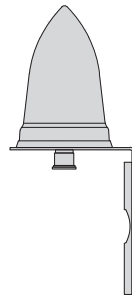
SHEET TITLE  
**EQUIPMENT DETAILS**

SHEET NUMBER  
**A-4**

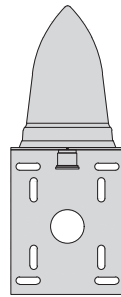
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



TOP



BACK

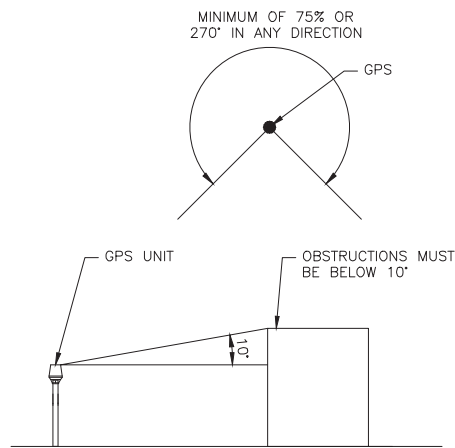


SIDE

GPS DETAIL

NO SCALE

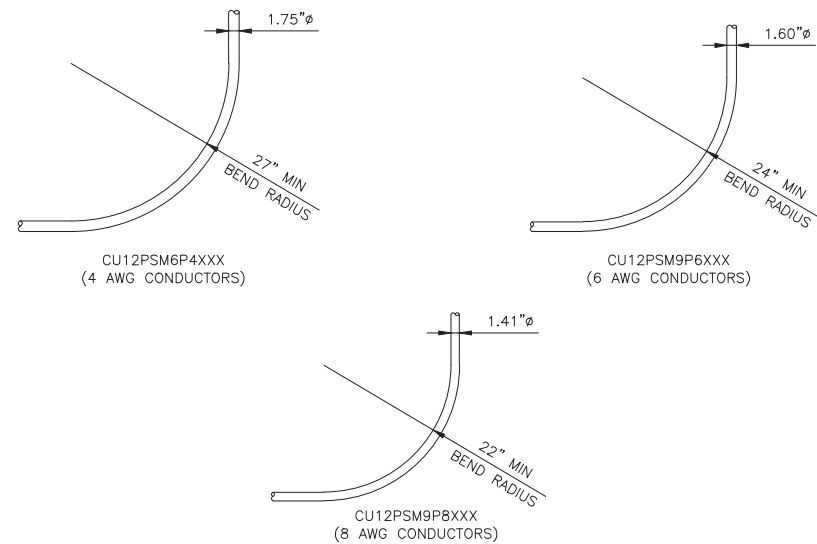
1



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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LITTLETON, CO 80120

**AMERICAN TOWER**  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

**B+T GRP**  
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RFDS REV #: 0

**CONSTRUCTION DOCUMENTS**

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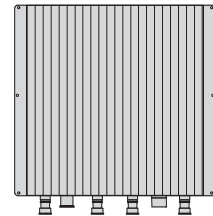
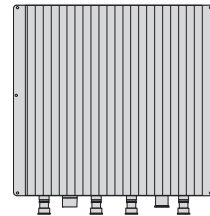
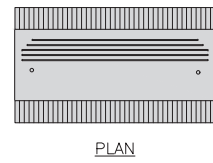
A&E PROJECT NUMBER  
153552.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION  
  
BOBOS00021A  
166 PAWCATUCK AVE  
STONINGTON, CT 06378

SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER  
**A-5**

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



BACK

SIDE

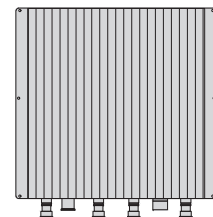
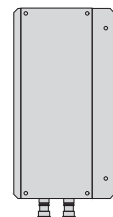
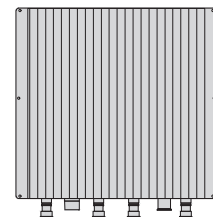
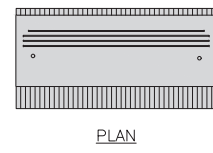
FRONT

RRH DETAIL

NO SCALE

1

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



BACK

SIDE

FRONT

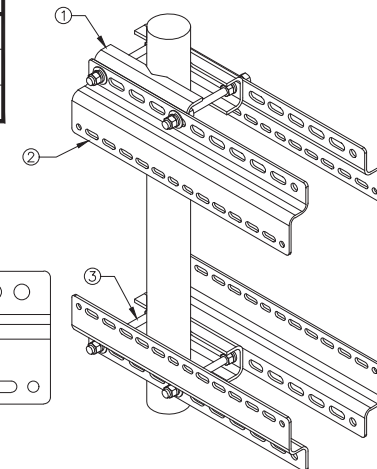
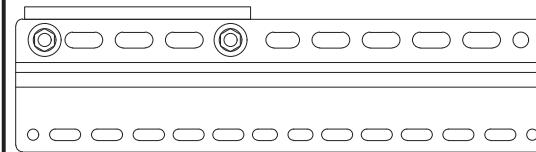
RRH DETAIL

NO SCALE

2

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

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



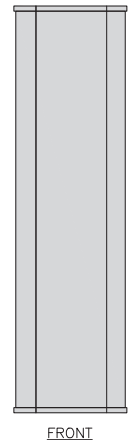
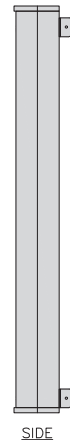
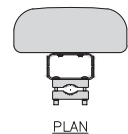
NOTE:  
OR DISH Wireless L.L.C.  
APPROVED EQUIVALENT

RRH MOUNT DETAIL

NO SCALE

3

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



SIDE

FRONT

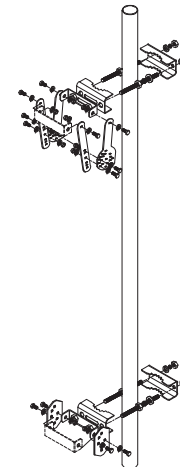
ANTENNA DETAIL

NO SCALE

4

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

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



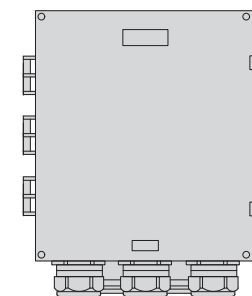
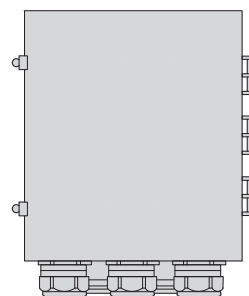
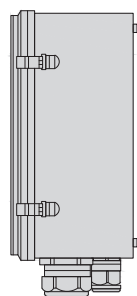
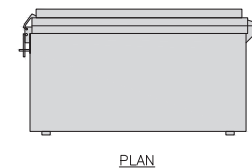
NOTE:  
OR DISH Wireless L.L.C.  
APPROVED EQUIVALENT

ANTENNA BRACKET DETAIL

NO SCALE

6

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



SIDE

BACK

FRONT

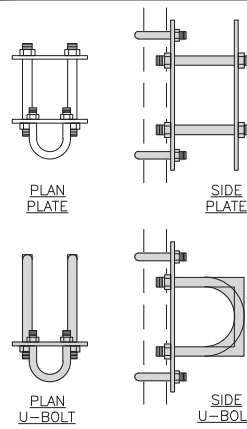
SURGE SUPPRESSION DETAIL (OVP)

NO SCALE

7

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

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

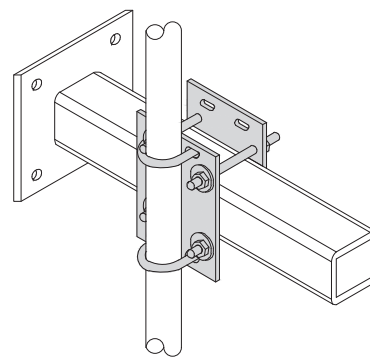


PLAN PLATE

SIDE PLATE

PLAN U-BOLT

SIDE U-BOLT



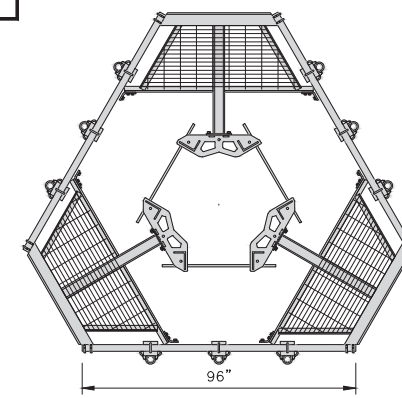
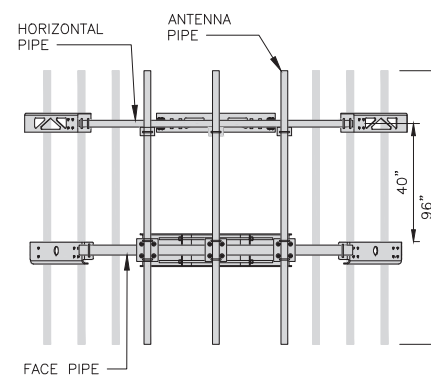
RRH/OVP MOUNT DETAIL

NO SCALE

8

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

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



ANTENNA PLATFORM DETAIL

NO SCALE

9

**dish**  
wireless.

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LITTLETON, CO 80120

**AMERICAN TOWER**  
10 PRESIDENTIAL WAY  
WOBURN, MA 01801

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



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RY YF YF

RFDS REV #: 0

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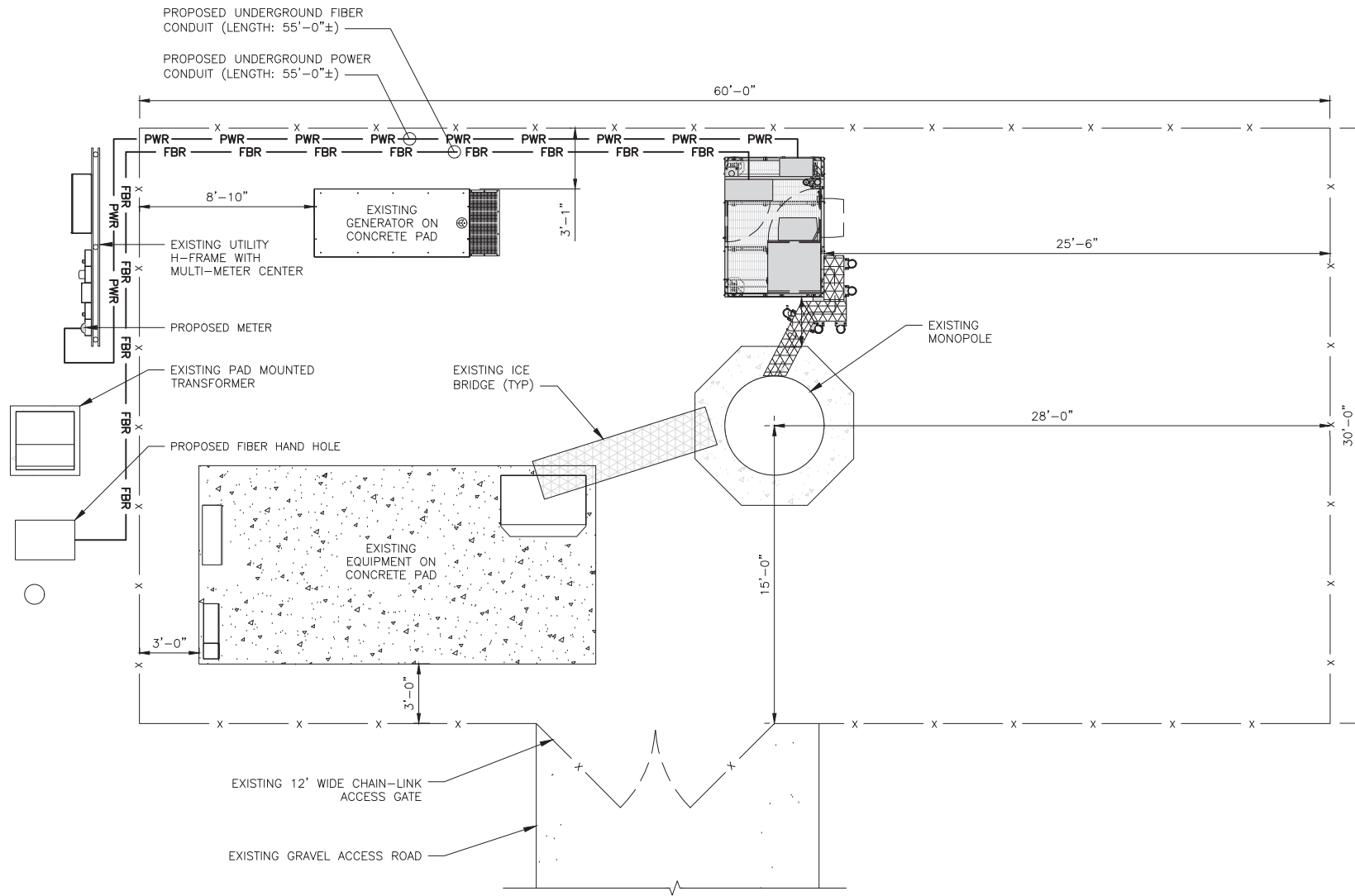
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EQUIPMENT DETAILS

SHEET NUMBER

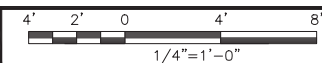
**A-6**

**NOTES**

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



UTILITY ROUTE PLAN



1

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

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



ELECTRICAL NOTES

NO SCALE

2



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RY	YF	YF

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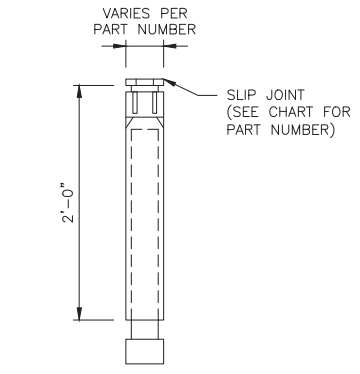
SHEET TITLE  
ELECTRICAL/FIBER ROUTE  
PLAN AND NOTES

SHEET NUMBER

**E-1**

**CARLON EXPANSION FITTINGS**

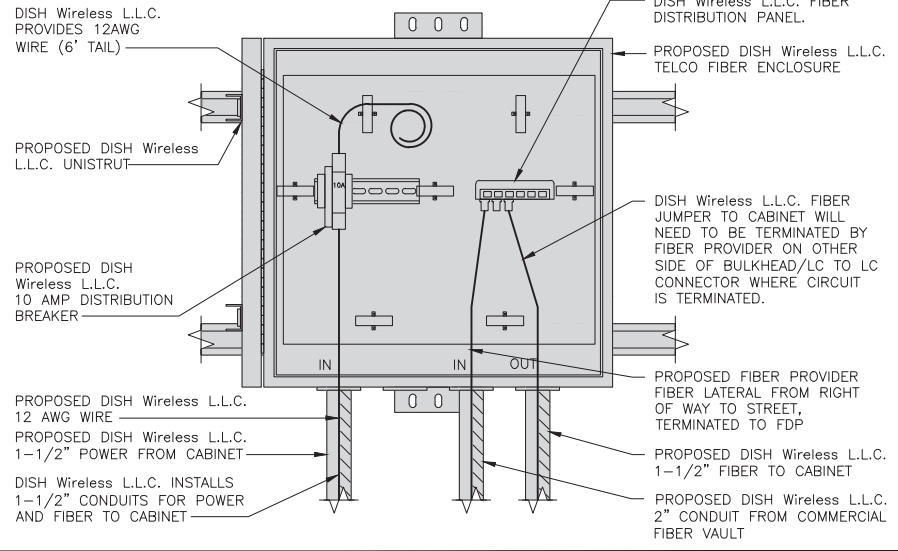
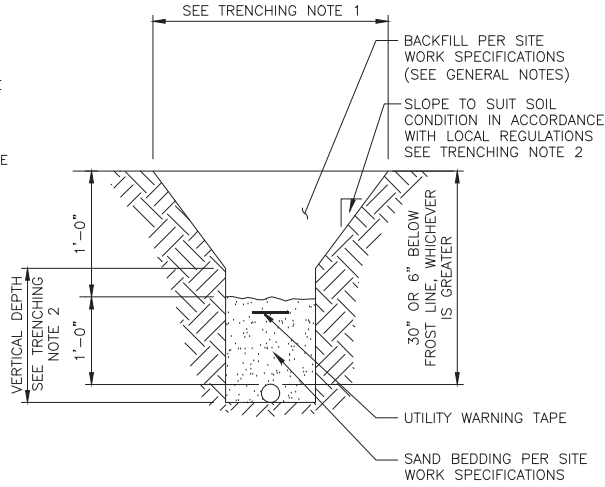
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N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



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

**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.



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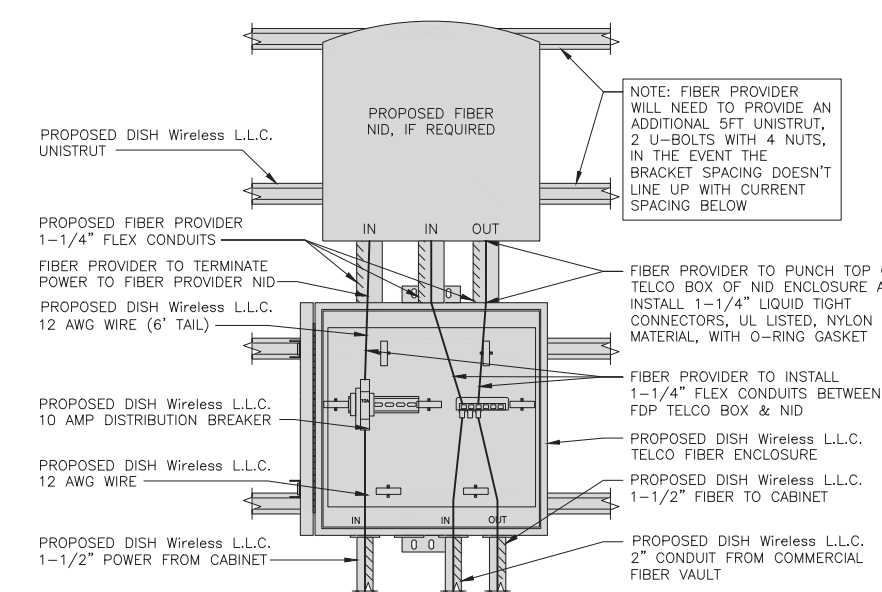
SHEET TITLE  
ELECTRICAL  
DETAILS

SHEET NUMBER  
**E-2**

EXPANSION JOINT DETAIL NO SCALE 1

TYPICAL UNDERGROUND TRENCH DETAIL NO SCALE 2

DARK TELCO BOX – INTERIOR WIRING LAYOUT NO SCALE 3



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

NOT USED NO SCALE 5

NOT USED NO SCALE 6

NOT USED NO SCALE 7

NOT USED NO SCALE 8

NOT USED NO SCALE 9



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

SHEET NUMBER

E-3

NOTES

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE AIC RATINGS FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.

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)(g) 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.

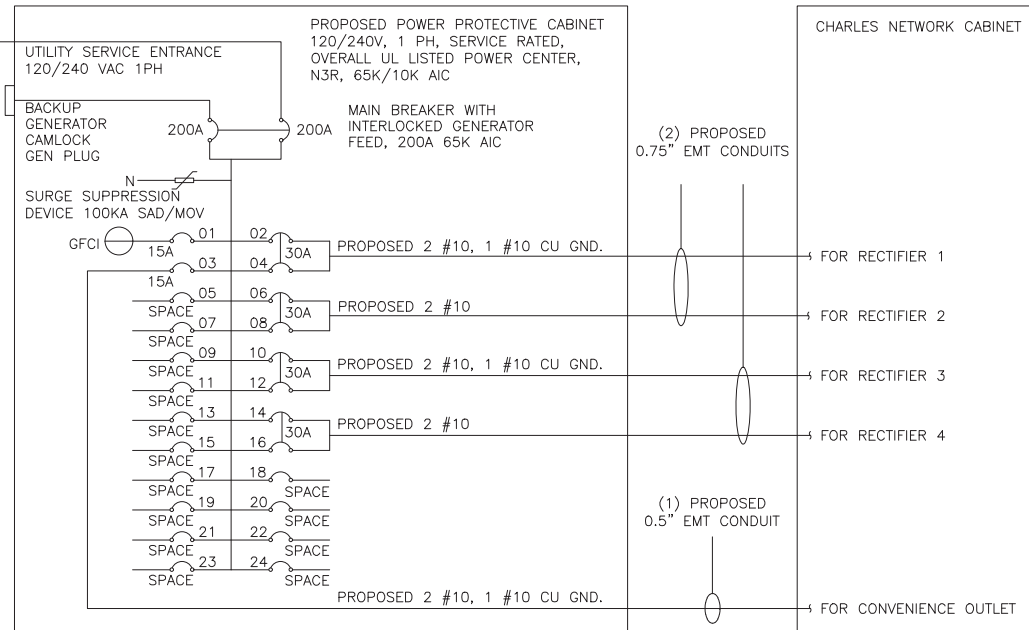
- #10 - 0.0266 SQ. IN X 4 = 0.1064 SQ. IN
- #10 - 0.0082 SQ. IN X 1 = 0.0082 SQ. IN <BARE GROUND
- TOTAL = 0.1146 SQ. IN

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.



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

PPC ONE-LINE DIAGRAM

NO SCALE

1

PROPOSED CHARLES PANEL SCHEDULE										
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				
-SPACE-				5	A	6	30A	2880	2880	ABB/GE INFINITY RECTIFIER 2
-SPACE-				7	B	8				
-SPACE-				9	A	10	30A	2880	2880	ABB/GE INFINITY RECTIFIER 3
-SPACE-				11	B	12				
-SPACE-				13	A	14	30A	2880	2880	ABB/GE INFINITY RECTIFIER 4
-SPACE-				15	B	16				
-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					VOLTAGE AMPS
										AMPS
										MAX AMPS
										MAX 125%

PANEL SCHEDULE

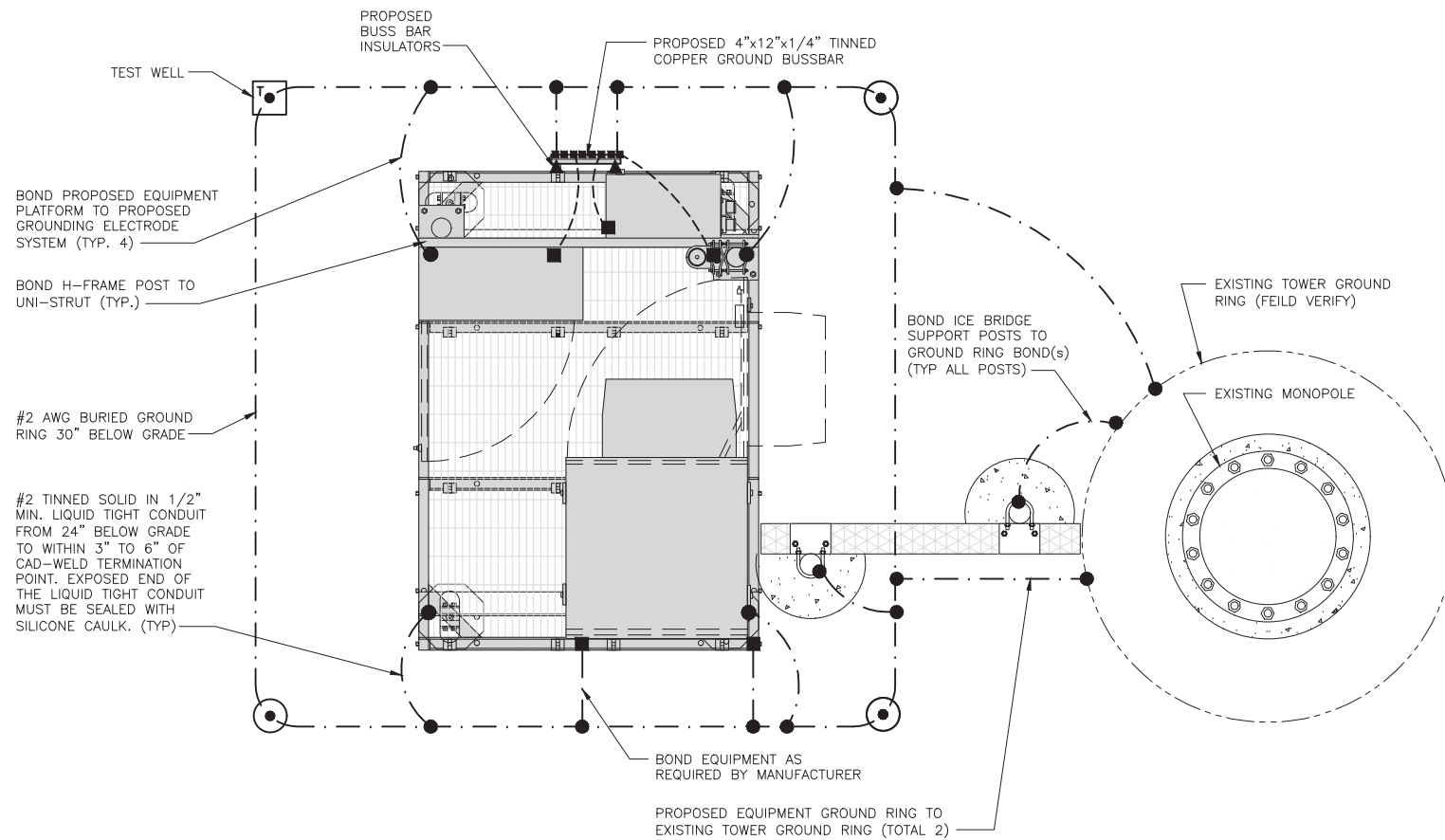
NO SCALE

2

NOT USED

NO SCALE

3

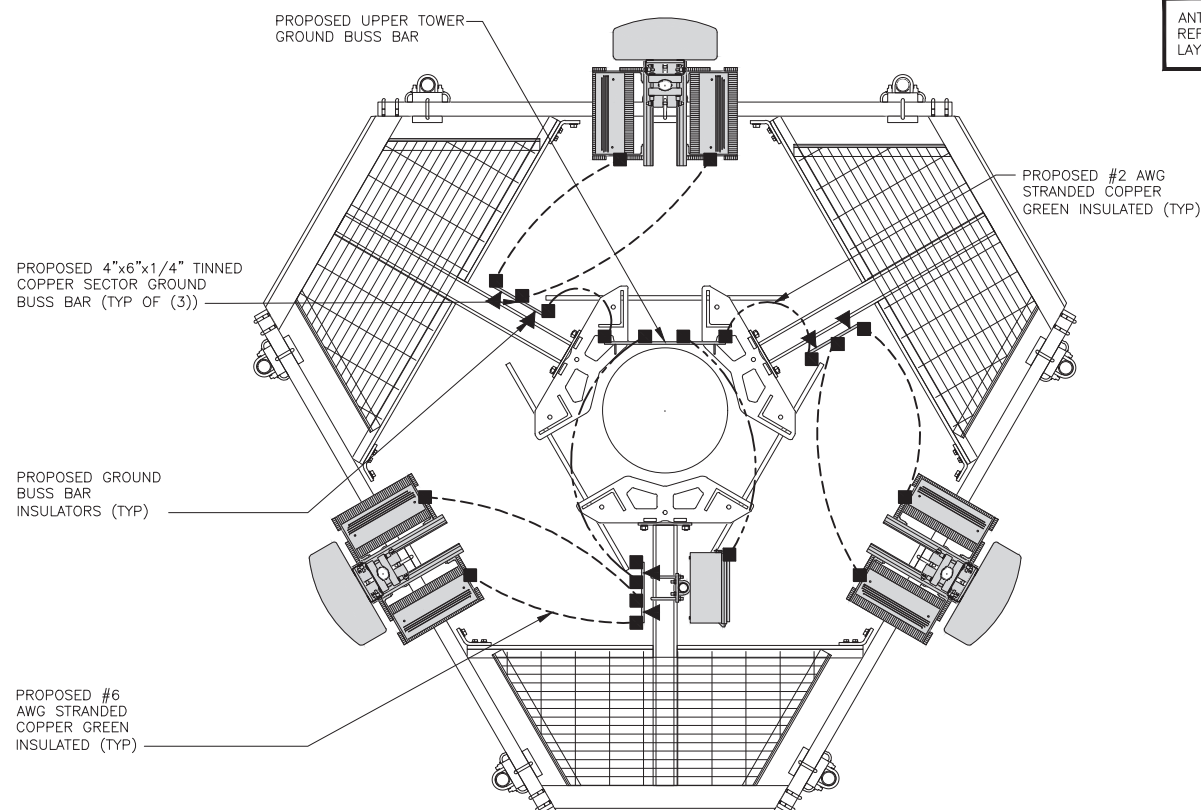


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1

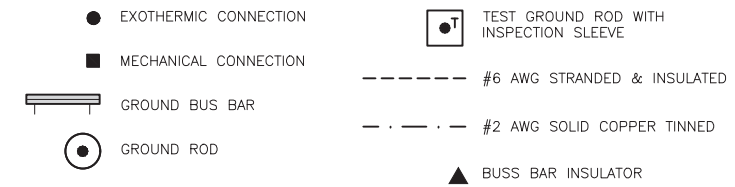
NOTES

ANTENNAS AND OVP SHOWN ARE GENERIC AND NOT REFERENCING TO A SPECIFIC MANUFACTURER. THIS LAYOUT IS FOR REFERENCE PURPOSES 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 BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR.
- (Q) REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE 3



5701 SOUTH SANTA FE DRIVE  
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RY	YF	YF

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CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
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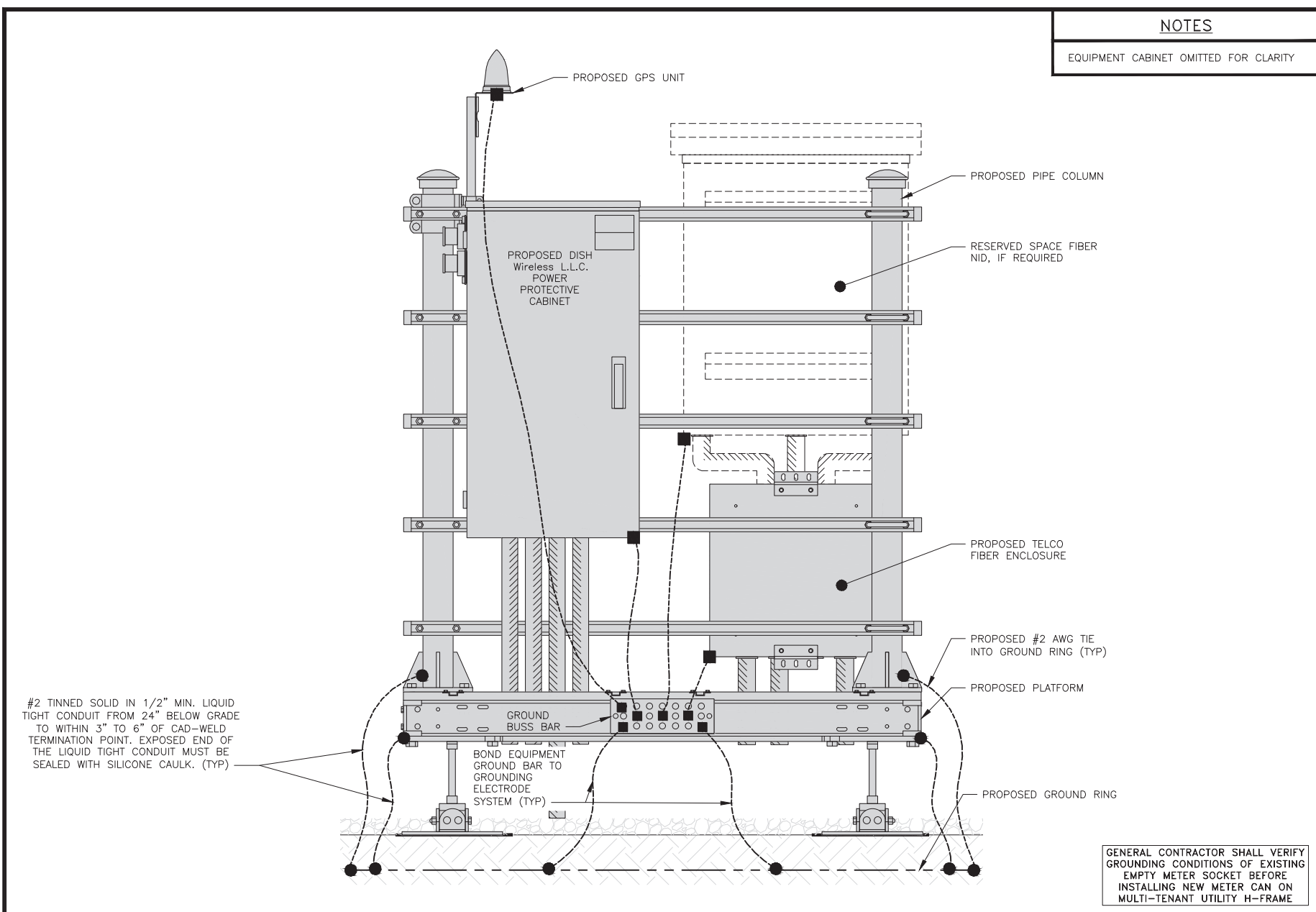
A&E PROJECT NUMBER  
153552.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00021A  
166 PAWCATUCK AVE  
STONINGTON, CT 06378

SHEET TITLE  
GROUNDING PLANS  
AND NOTES

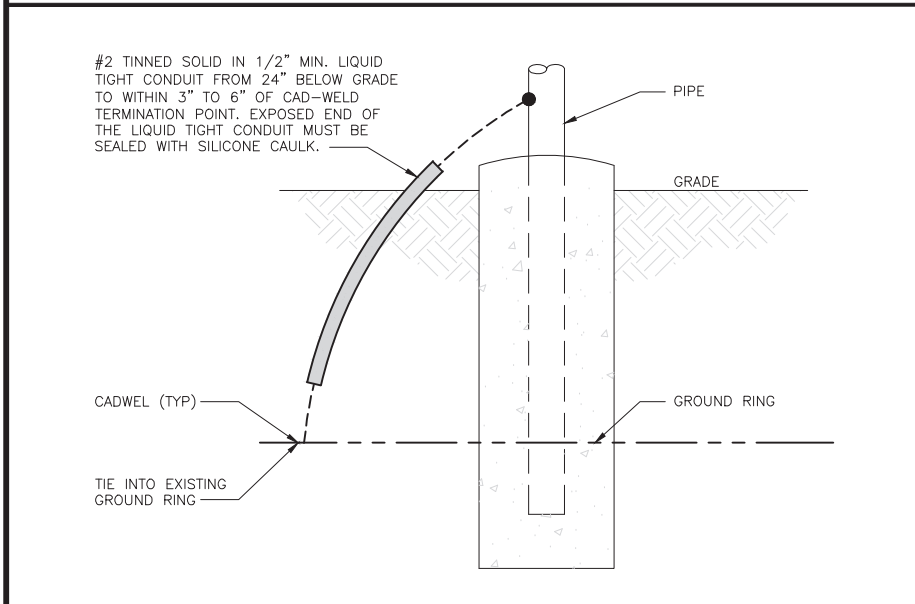
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**G-1**





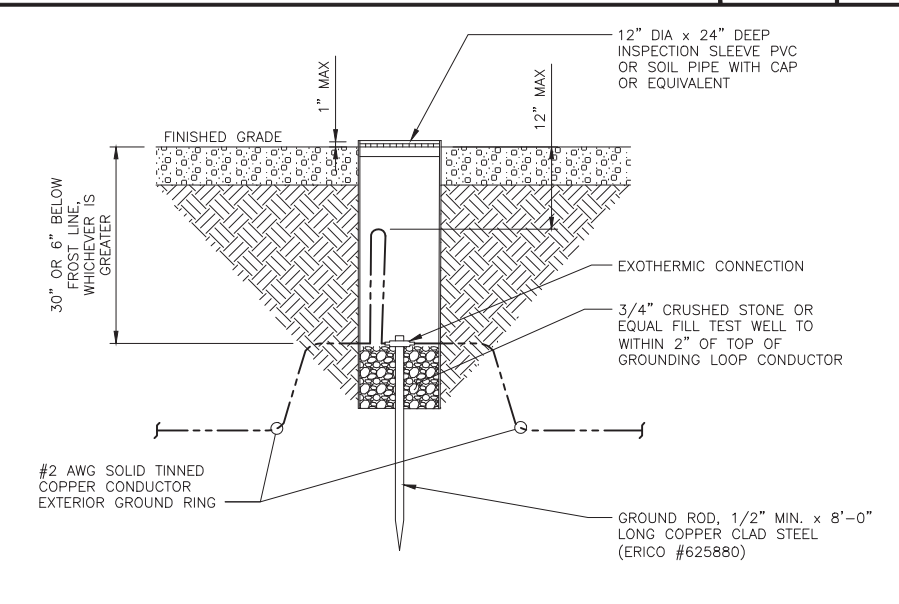
**H-FRAME GROUNDING DETAIL**

NO SCALE 1



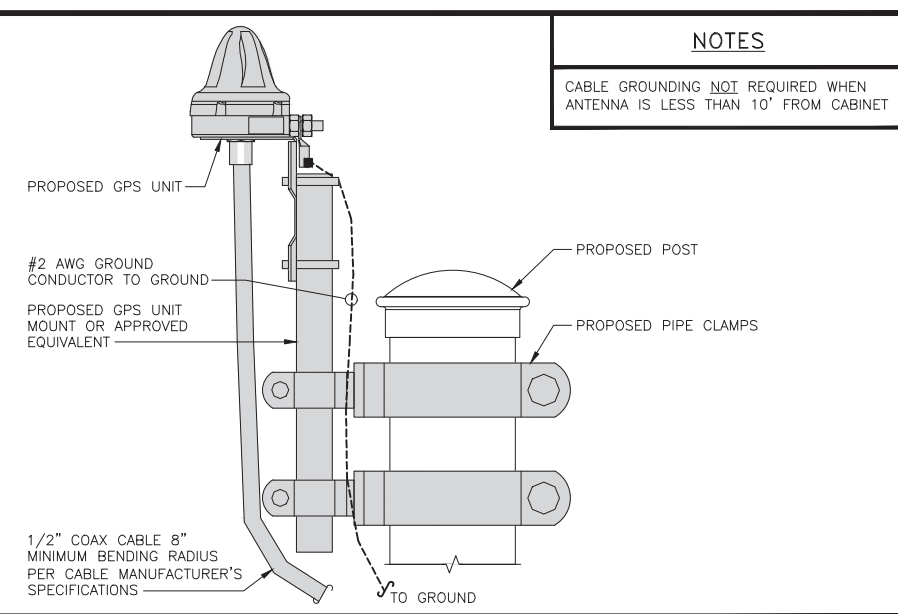
**TRANSITIONING GROUND DETAIL**

NO SCALE 4



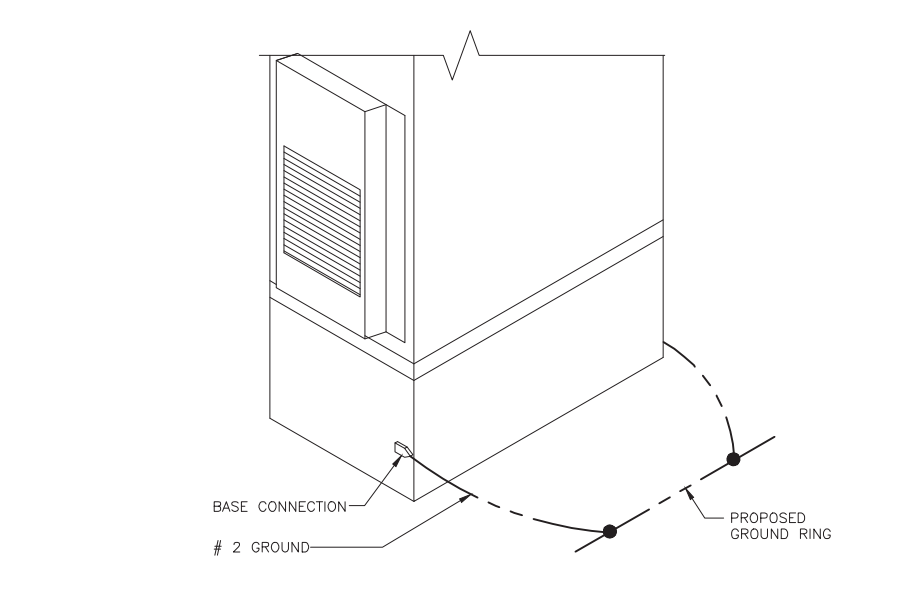
**TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE**

NO SCALE 5



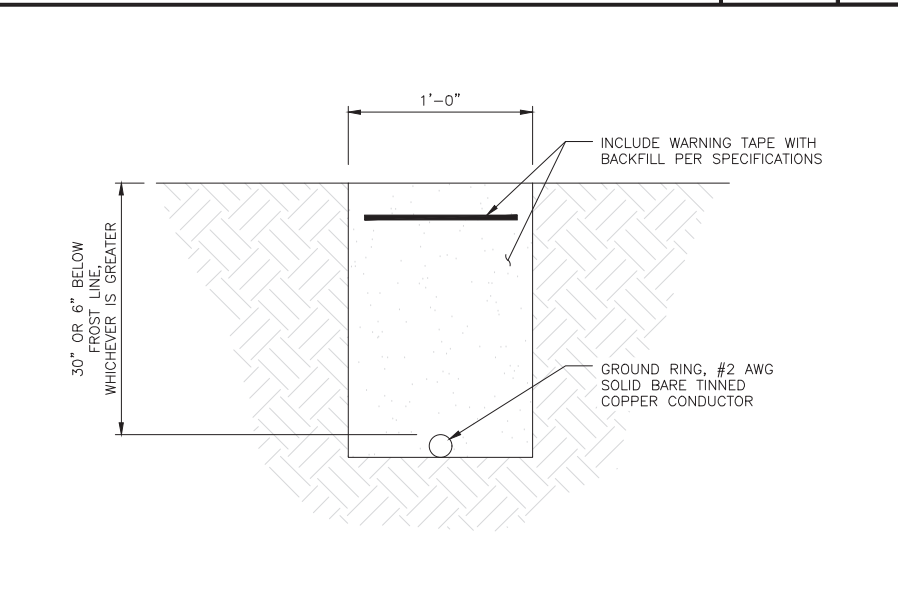
**TYPICAL GPS UNIT GROUNDING**

NO SCALE 2



**OUTDOOR CABINET GROUNDING**

NO SCALE 3



**TYPICAL GROUND RING TRENCH**

NO SCALE 6

**dish wireless.**

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**AMERICAN TOWER**  
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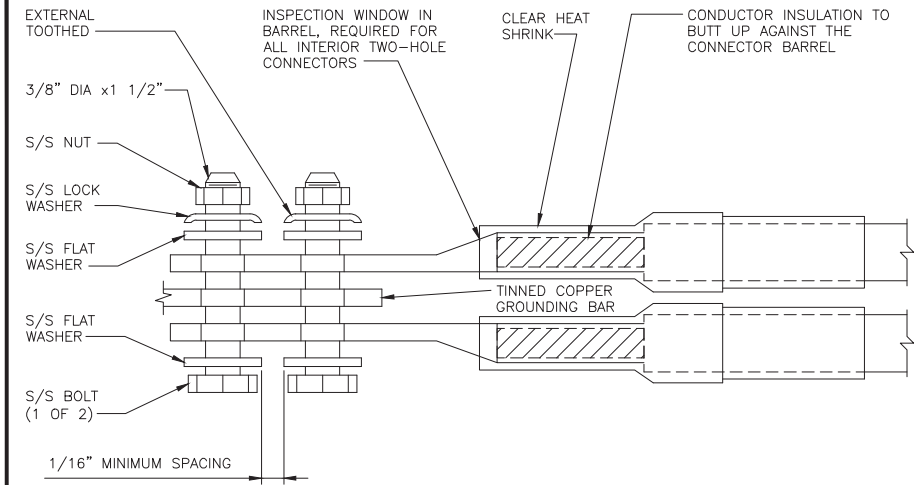
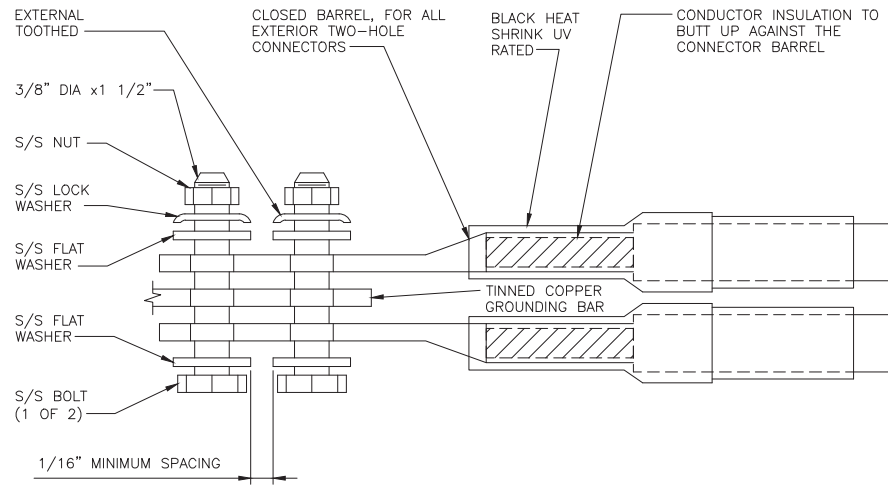
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PROJECT INFORMATION

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STONINGTON, CT 06378

SHEET TITLE  
GROUNDING DETAILS

SHEET NUMBER  
**G-2**

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



TYPICAL GROUNDING NOTES

NO SCALE

1

TYPICAL EXTERIOR TWO HOLE LUG

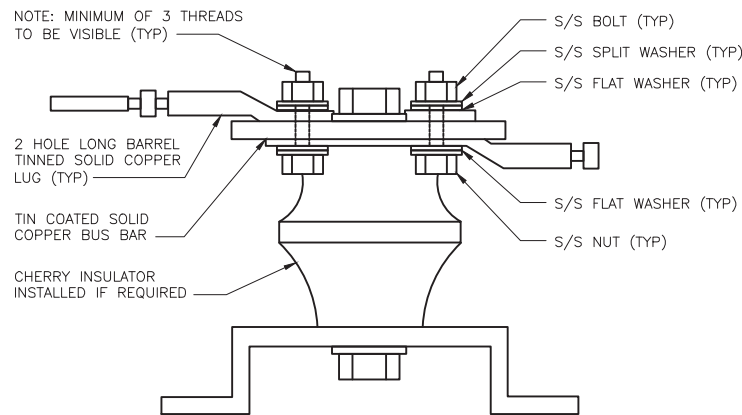
NO SCALE

2

TYPICAL INTERIOR TWO HOLE LUG

NO SCALE

3



LUG DETAIL

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9

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wireless.

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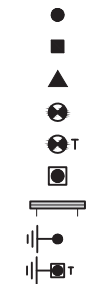
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GROUNDING DETAILS

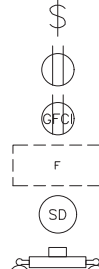
SHEET NUMBER  
**G-3**



EXOTHERMIC CONNECTION  
 MECHANICAL CONNECTION  
 BUSS BAR INSULATOR  
 CHEMICAL ELECTROLYTIC GROUNDING SYSTEM  
 TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM  
 EXOTHERMIC WITH INSPECTION SLEEVE  
 GROUNDING BAR  
 GROUND ROD  
 TEST GROUND ROD WITH INSPECTION SLEEVE



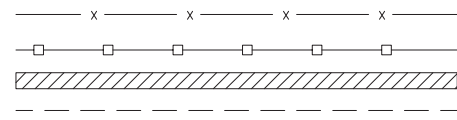
SINGLE POLE SWITCH  
 DUPLEX RECEPTACLE  
 DUPLEX GFCI RECEPTACLE  
 FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48-T8  
 SMOKE DETECTION (DC)  
 EMERGENCY LIGHTING (DC)



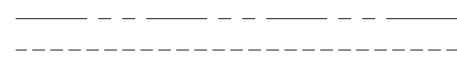
SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED-1-25A400/51K-SR4-120-PE-DOBXTD



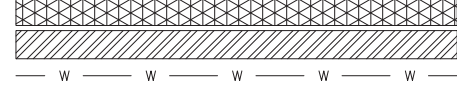
CHAIN LINK FENCE  
 WOOD/WROUGHT IRON FENCE  
 WALL STRUCTURE  
 LEASE AREA



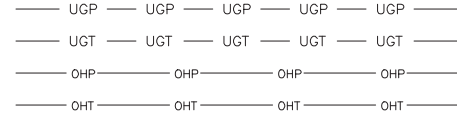
PROPERTY LINE (PL)  
 SETBACKS



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

ABBREVIATIONS



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DISH Wireless L.L.C.  
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 BOBOS00021A  
 166 PAWCATUCK AVE  
 STONINGTON, CT 06378

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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DISH Wireless L.L.C.  
PROJECT INFORMATION  
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**166 PAWCATUCK AVE**  
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SHEET TITLE  
**GENERAL NOTES**

SHEET NUMBER  
**GN-2**

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
  - #4 BARS AND SMALLER 40 ksi
  - #5 BARS AND LARGER 60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
  - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
  - CONCRETE EXPOSED TO EARTH OR WEATHER:
    - #6 BARS AND LARGER 2"
    - #5 BARS AND SMALLER 1-1/2"
  - CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
    - SLAB AND WALLS 3/4"
    - BEAMS AND COLUMNS 1-1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
  - 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
  - 4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. TIE WRAPS ARE NOT ALLOWED.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.



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DISH Wireless L.L.C.  
PROJECT INFORMATION  
**BOBOS00021A**  
**166 PAWCATUCK AVE**  
**STONINGTON, CT 06378**

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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