



DISH Wireless L.L.C. SITE ID:
CLFAY00349A

DISH Wireless L.L.C. SITE ADDRESS:
**723 LASTAR ROAD
BUNNLEVEL, NC 28323**

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 (3) PROPOSED ANTENNA SECTOR FRAMES
 - INSTALL PROPOSED JUMPERS
 - INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
 - INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
 - INSTALL (1) PROPOSED HYBRID CABLE

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

SITE INFORMATION	PROJECT DIRECTORY
PROPERTY OWNER: GRAINGER RONALD & GRAINGER ALAN ADDRESS: PO BOX 511 JAMESTOWN, NC 27282	APPLICANT: DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER TYPE: GUYED TOWER	TOWER OWNER: AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 01801 (781) 926-4500
TOWER CO SITE ID: 21272	SITE DESIGNER: B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
TOWER APP NUMBER: 13733077	SITE ACQUISITION: RYLEE DIXON rylee.dixon@dish.com
COUNTY: HARNETT	CONST. MANAGER: TONY HARVEY tony.harvey@dish.com
LATITUDE (NAD 83): 35° 16' 56.919" N 35.28247758 N	RF ENGINEER: JAYESHKUMAR PATEL jayeshkumar.patel@dish.com
LONGITUDE (NAD 83): 78° 54' 30.132" W 78.90836996 W	
ZONING JURISDICTION: HARNETT COUNTY	
ZONING DISTRICT: AGRICULTURAL	
PARCEL NUMBER: 6346748	
OCCUPANCY GROUP: U	
CONSTRUCTION TYPE: II-B	
POWER COMPANY: SOUTH RIVER EMC	
TELEPHONE COMPANY: T.B.D.	



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MTS ENGINEERING D.P.C.
LIC: P-2387
Expires 6/30/22

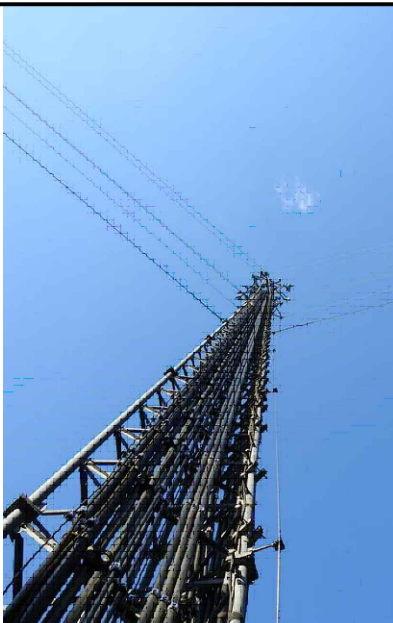
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NORTH CAROLINA CODE OF COMPLIANCE

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 NC BUILDING CODES/2015 IBC W/ AMENDMENTS
MECHANICAL	2018 NC MECHANICAL CODES/2015 IMC W/ AMENDMENTS
ELECTRICAL	2017 NC ELECTRICAL CODES/2017 NEC W/ AMENDMENTS

SITE PHOTO

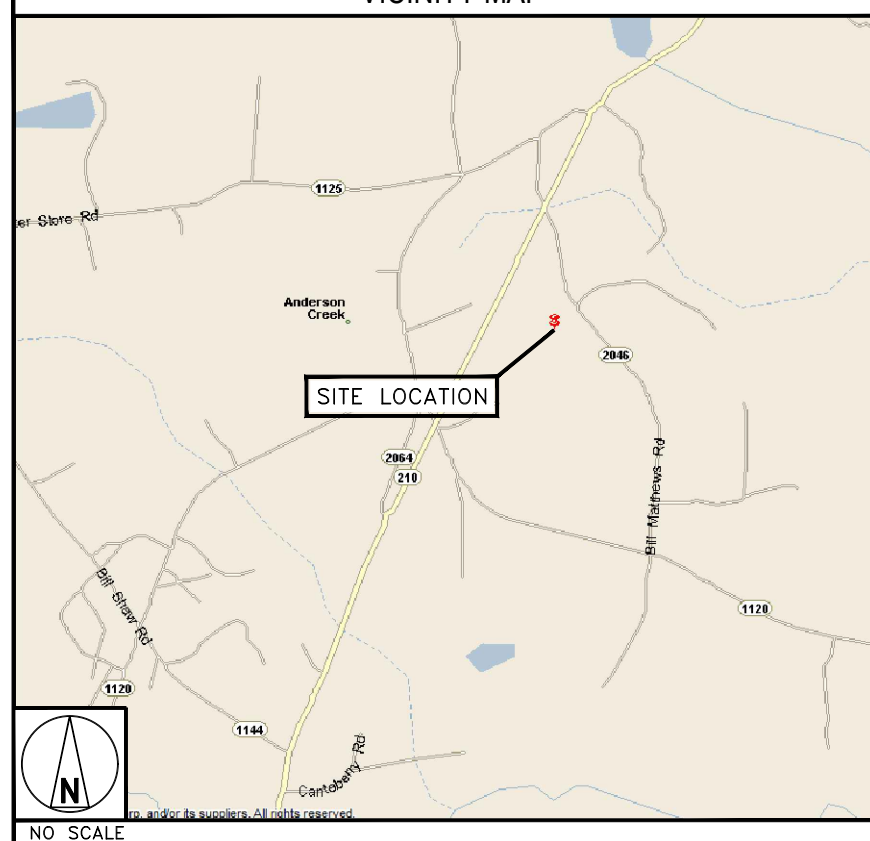


DIRECTIONS

DIRECTIONS FROM FAYETTEVILLE REGIONAL AIRPORT:

HEAD EAST ON 2260/AIRPORT RD TOWARD CONTROL TOWER RD, TAKE ALL AMERICAN FWY N AND NC-210 N TO LASATER RD IN BUNNLEVEL. TURN RIGHT TO STAY ON 2260/AIRPORT RD, CONTINUE ONTO BLACK AND DECKER RD. CONTINUE ONTO MID PINE RD, CONTINUE ONTO NATAL ST. TURN RIGHT ONTO CUMBERLAND RD, USE THE LEFT 2 LANES TO TURN SHARPLY LEFT ONTO OWEN DR. CONTINUE ONTO ALL AMERICAN FWY N (SIGNS FOR OWEN DR), TAKE THE NC-87 N/NC-210 W/MURCHISON RD EXIT. MERGE WITH NC-210 N/NC-24/NC-87/MURCHISON RD. USE THE RIGHT 2 LANES TO TURN RIGHT ONTO NC-210 N, TURN RIGHT ONTO LASATER RD, ARRIVE AT CLFAY00349A.

VICINITY MAP



SHEET INDEX

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A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
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E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
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NORTH CAROLINA 811
UTILITY NOTIFICATION CENTER OF NORTH CAROLINA
(800) 632-4949
WWW.NC811.ORG



CALL 3-12 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.

A&E PROJECT NUMBER
156787.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

CLFAY00349A
723 LASTAR ROAD
BUNNLEVEL, NC 28323

SHEET TITLE
TITLE SHEET

SHEET NUMBER

T-1

**2018 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)**
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: CLFAY00349A
Address: 723 LASTAR ROAD, BUNNLEVEL, NC Zip Code 28323
Owner/Authorized Agent: ATC Phone # () E-Mail
Owned By: City/County Private State
Code Enforcement Jurisdiction: City County HARNETT State

CONTACT:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural					
Civil					
Electrical					
Fire Alarm					
Plumbing					
Mechanical					
Sprinkler-Standpipe					
Structural					
Retaining Walls >5' High					
Other					

(*Others* should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC CODE FOR: New Construction Addition Renovation
 1st Time Interior Completion
 Shell/Core
 Phased Construction - Shell/Core
 Renovation

2018 NC EXISTING BUILDING CODE: Prescriptive Repair Chapter 14
Alteration: Level I Level II Level III
 Historic Property Change of Use

CONSTRUCTED:(date) ORIGINAL OCCUPANCY(S) (Ch. 3):
RENOVATED:(date) CURRENT OCCUPANCY(S) (Ch. 3):
RISK CATEGORY (table 1604.5) Current: I II III IV
Proposed: I II III IV

BASIC BUILDING DATA
Construction Type: I-A II-A III-A IV V-A
(check all that apply) I-B II-B III-B
Sprinklers: No Partial Yes NFPA 13 NFPA 13R NFPA 13D
Standpipes: No Yes Class I II III Wet Dry
Fire District: No Yes (Primary) **Flood Hazard Area:** No Yes
Special Inspections Required: No Yes

Gross Building Area:

FLOOR	COMPOUND EXISTING (SQ FT)	NEW (SQ FT)	PLATFORM/COMPOUND EXTENSION (SQ FT)	SUB-TOTAL
6th Floor				
5th Floor				
4th Floor				
3rd Floor				
2nd Floor				
Mezzanine	3,660 SF	0 SF	0 SF	3,660 SF
Basement				
TOTAL				3,660 SF

ALLOWABLE AREA

Primary Occupancy Classification: SELECT ONE

Assembly A-1 A-2 A-3 A-4 A-5
Business
Educational
Factory F-1 Moderate F-2 Low
Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health HPM
Institutional I-1 Condition I-2 I-3 Condition I-4
Mercantile
Residential R-1 R-2 R-3 R-4
Storage S-1 Moderate S-2 Low High-piled
 Parking Garage Open Enclosed Repair Garage
Utility and Miscellaneous

Accessory Occupancy Classification(s): _____
Incidental Uses (Table 509): _____
Special Uses (Chapter 4 - List Code Sections): _____
Special Provisions: (Chapter 5 - List Code Sections): _____
Mixed Occupancy: No Yes Separation: _____ Hr. Exception: _____
 Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.
 Separated Use (508.4) -
See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

$$+ \dots \leq 1.00$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.24 AREA	(C) AREA FOR FRONTAGE INCREASE(S)	(D) ALLOWABLE AREA PER STORY OR UNLIMITED(S)

1 Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase If = $100 \left[\frac{F}{P} - 0.25 \right] \times \frac{W}{30} =$ _____ (%)
2 Unlimited area applicable under conditions of Section 507.
3 Maximum Building Area = total number of stories in the building x D (or 3 stories) (506.2)
4 The maximum area of open parking garages must comply with Table 507.2
5 Frontage increase is based on the un-sprinklered area value in Table 507.2

ALLOWABLE

	ALLOWABLE (TABLE REFERENCE)
Building Height in Feet (Table 504.3)	504.3 or 504.4
Building Height in Stories (Table 504.4)	412.3.1
	406.5.4

1 Provide code reference if the "Show" is 504.3 or 504.4.
2 The maximum height of air traffic is 412.3.1
3 The maximum height of open is 406.5.4

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
		REQ'D	PROVIDED (W/REDUCTION)				
Structural Frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction Including supporting beams and joists							
Floor Ceiling Assembly							
Column Supporting Floors							
Roof Construction, including supporting beams and joists							
Roof Ceiling Assembly							
Column Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant Dwelling Unit/ Sleeping Unit Separation							
Incidental Use Separation							

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET FROM PROPERTY LINES)	DEGREES OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: No Yes
Exit Signs: No Yes
Fire Alarm: No Yes
Smoke Detection Systems: No Yes Partial _____
Carbon Monoxide Detection: No Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: _____

Fire and/or smoke rated wall locations (Chapter 7)
 Assumed and real property line locations (if not on the site plan)
 Exterior wall opening area with respect to distance to assumed property line (705.8)
 Occupancy types for each area as it relates to occupant load calculation (1004.1.2)
 Occupant loads for each area
 Exit access travel distances (1017)
 Common path of travel distances (1006.2.1 & 2006.3.2(1))
 Dead end lengths (1020.4)
 Clear exit widths for each exit door
 Maximum calculated occupant load capacity for each area (1005.3)
 Actual occupant load for each exit door
 A separate schematic plan indicating wall locations, occupancy separation and supporting structure is provided for purposes of occupancy separation and supporting structure (1005.3)
 Location of doors with panic hardware (1010.1.9.7)
 Location of doors with delay
 Location of doors with egress hardware
 Location of doors egress hardware
 Location of emergency exits
 The square footage of emergency exits
 The square footage of emergency exits
 Note any code exceptions.

Section/Tab/Note	Title

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
			REGULAR WITH 5' ACCESS AISLE	132" ACCESS AISLE	8' ACCESS AISLE	
TOTAL						

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	SPACE	WATERCLOSETS			URINALS			LAVATORIES			SHOWERS /TUBS	DRINKING FOUNTAINS		
		MALE	FEMALE	UNSEX	MALE	FEMALE	UNSEX	MALE	FEMALE	UNSEX		REGULAR	ACCESSIBLE	
EXIST'G														
NEW														
REQ'D														

SPECIAL APPROVAL

Special approval: (Local Jurisdiction, Department of Fire) _____ (describe below)



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LITTLETON, CO 80120



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LIC: P-2387
Expires 6/30/22

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DRAWN BY: SM CHECKED BY: ANP APPROVED BY: ANP

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	10/8/21	ISSUED FOR REVIEW
0	10/14/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
156787.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

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723 LASTAR ROAD
BUNNLEVEL, NC 28323

SHEET TITLE
APPENDIX B

SHEET NUMBER
T-2

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the North Carolina Energy Conservation Code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: No Yes (The remainder of this section is not applicable)

Exempt Building: No Yes (Provide Code or Statutory reference): _____

Climate Zone: 3A 4A 5A

Method of Compliance: Energy Code Performance ASHRAE 90.1 Performance Prescriptive (If "Other" specify source here) _____

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylight: _____
Total square footage of: _____

Exterior Walls (each assembly)
Description of assembly: _____
U-Value of assembly: _____
R-Value of insulation: _____
Opening: _____
U-Value of opening: _____
Solar Projection: _____
Door R-Value: _____

Walls below grade (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors over unconditioned space (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/Vertical requirement: _____
Slab Heated: _____

N/A
NO CHANGE

2018 NC ADMINISTRATIVE CODE AND POLICIES APPENDIX B FOR BUILDING 7

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)**

DESIGN LOADS:

Importance Factors: Snow (IS) _____
Seismic (IE) _____

Live Loads: Roof _____ psf
Mezzanine _____ psf
Floor _____ psf

Ground Snow Load: _____ psf

Wind Load: Ultimate Wind Speed _____
Exposure Category _____

SEISMIC DESIGN CATEGORY:
Provide the following Seismic Design Parameters:
Occupancy Category (Table 1607) _____
Spectral Response Acceleration Parameter (S_s) _____ %g
Site Classification (ASCE) _____
Soil Type _____
Seismic Design Category _____
Design Basis Earthquake (DBE) _____
Design Basis Earthquake (DBE) _____
Design Basis Earthquake (DBE) _____
Design Basis Earthquake (DBE) _____

Basic structural system: Dual w/ Special Moment Frame
 Dual w/ Intermediate R/C or Special Steel
 Inverted Pendulum
 Equivalent Lateral Force
 Dynamic

Analysis Procedure: Architectural, Mechanical, Electrical, Plumbing, Fire Protection, Life Safety, etc. _____
Seismic? Yes No

LATERAL DESIGN CONTROL: Seismic Wind

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) _____ psf
Presumptive Bearing capacity _____ psf
Pile size, type, and capacity _____

N/A
NO CHANGE

2018 NC ADMINISTRATIVE CODE AND POLICIES APPENDIX B FOR BUILDING 8

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)**

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb: _____
summer dry bulb: _____

Interior design conditions
winter dry bulb: _____
summer dry bulb: _____
relative humidity: _____

Building heating load: _____

Building cooling load: _____

Mechanical Spacing Conditioning System
Unitary description of unit:
heating efficiency: _____
cooling efficiency: _____
size category: _____

Boiler Size: _____
Chiller: _____

List equipment: _____

N/A
NO CHANGE

2018 NC ADMINISTRATIVE CODE AND POLICIES APPENDIX B FOR BUILDING 9

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)**

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Energy Code: Prescriptive Performance
ASHRAE 90.1: Prescriptive Performance

Lighting schedule (each fixture type)
lamp type required in fixture _____
number of lamps in fixture _____
ballast type used in the fixture _____
number of ballasts in fixture _____
total wattage per fixture _____
total interior wattage specified vs. allowed (w/ or w/o) _____
total exterior wattage specified vs. allowed _____

**Additional Efficiency Package Options
(When using the 2018 NCECC; not required)**
 C406.2 More Efficient Motor
 C406.3 Reduced Lighting
 C406.4 Enhanced Lighting
 C406.5 On-Site Renewable Energy
 C406.6 Dedicated Power
 C406.7 Reduced Power

N/A
NO CHANGE

2018 NC ADMINISTRATIVE CODE AND POLICIES APPENDIX B FOR BUILDING 10



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

July 2, 2021

Subject: ANSI Compliance Report

ATC Site Name: WESTS POND NC
ATC Site Number: 21272
Dish Wireless Site Number: CLFAY00349A
ATC Site Location: 723 LASTAR ROAD
BUNNLEVEL, NC 28323
ATC Site Coordinates: 35° 16' 56.919" N, 78° 54' 30.132" W

To whom it may concern,

This letter is to certify that all proposed modifications within the project scope of work for the telecommunications facility listed above are designed to meet or exceed all American National Standards Institute (ANSI) requirements. This scope of work includes the following:

- Installation of (3) new tower-mounted sector frames
- Installation of (3) new tower-mounted antennas
- Installation of (6) RRUs
- Installation of (1) OVP
- Installation of (1) Hybrid Cable

This scope of work will not increase the height of the existing tower.

Respectfully submitted by,
Brad Milanowski, P.E.

2018 NC ADMINISTRATIVE CODE AND POLICIES APPENDIX B FOR BUILDING 11



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DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	ANP	ANP

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

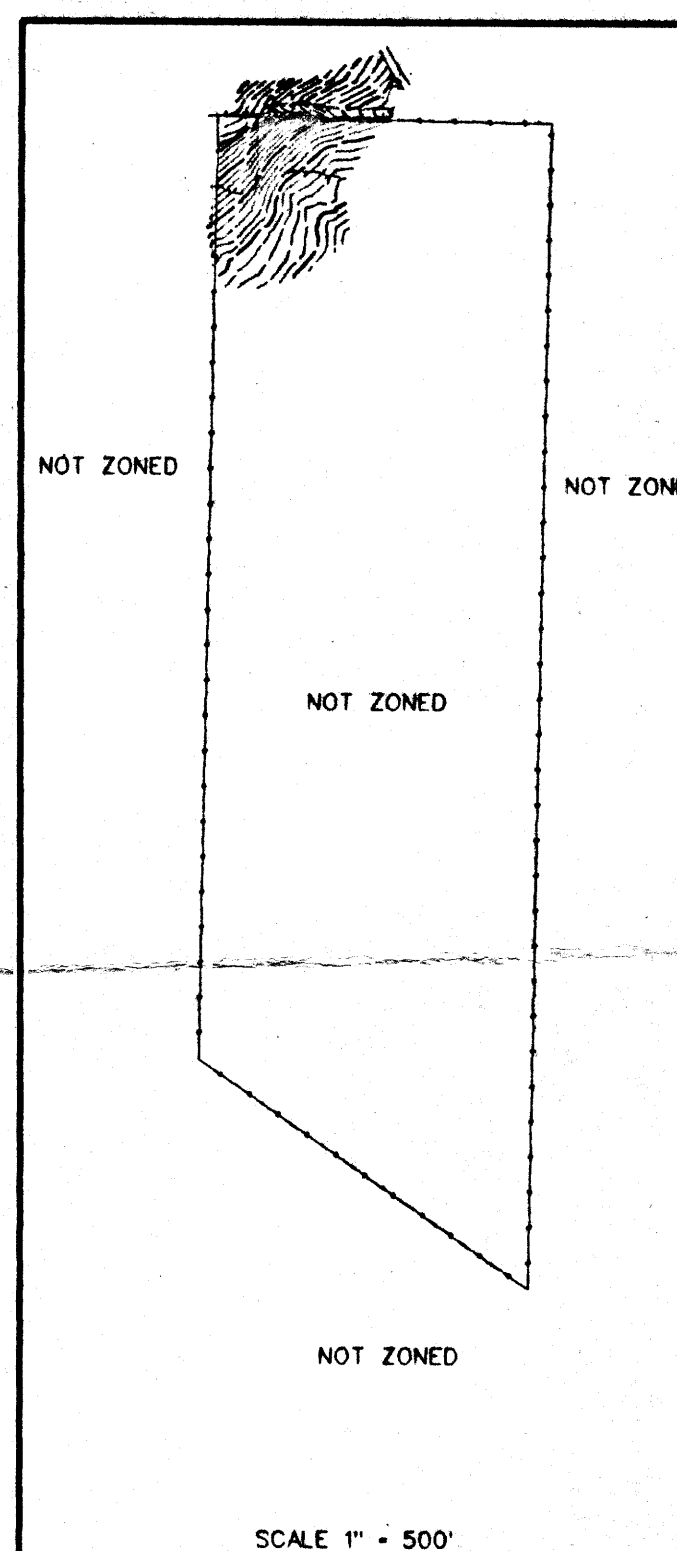
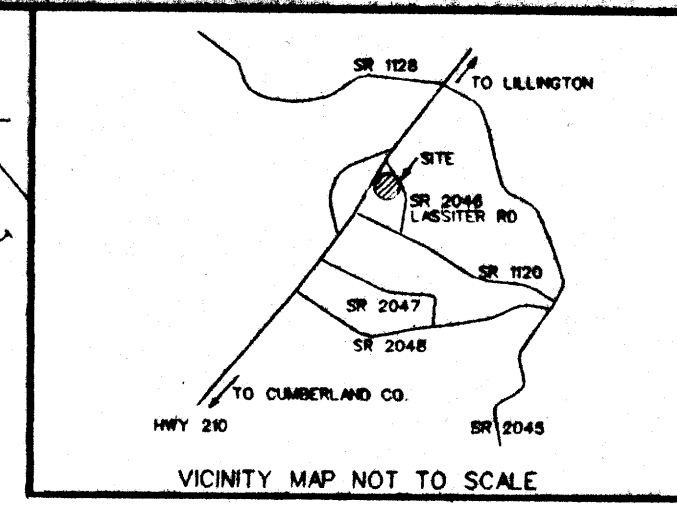
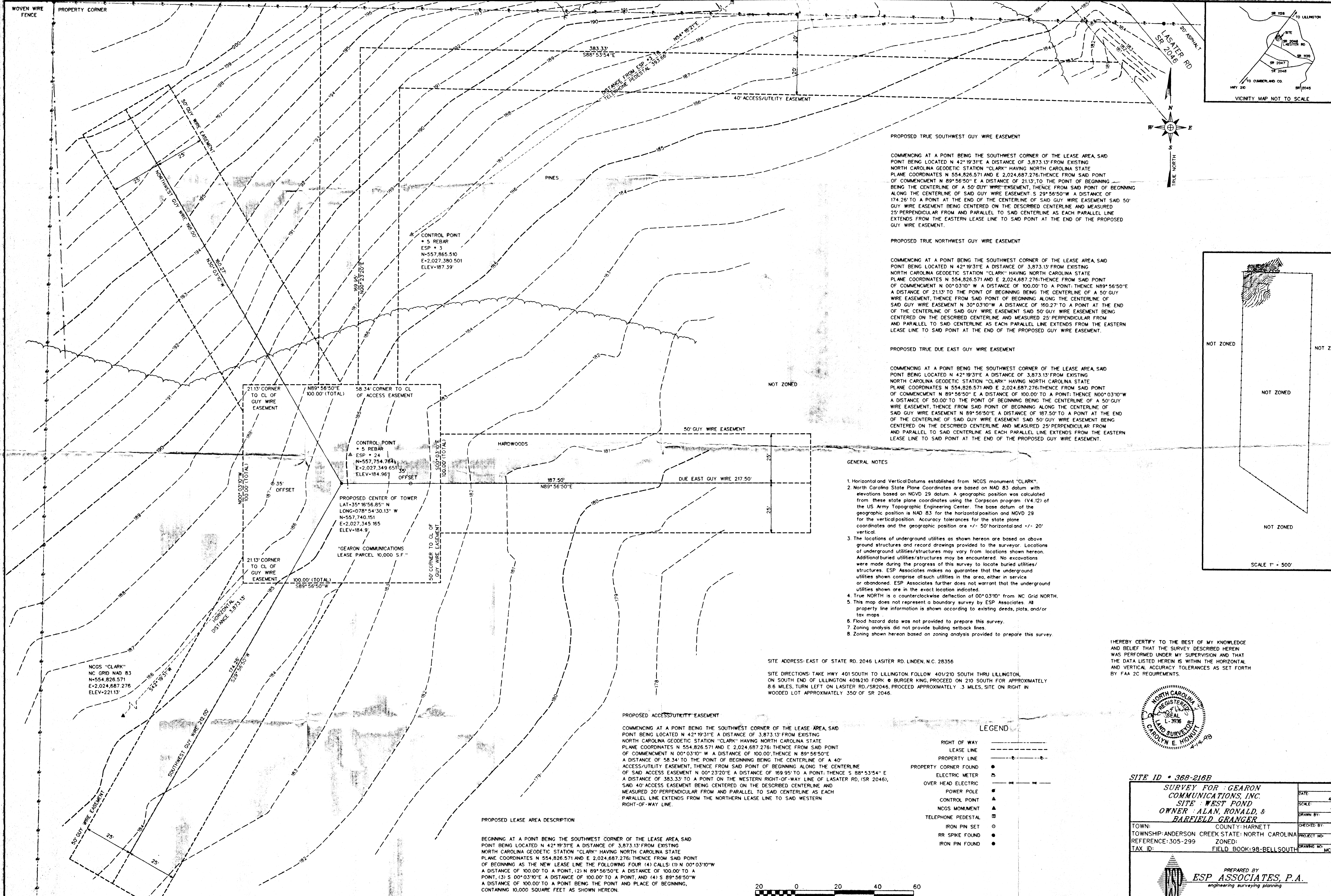
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SHEET TITLE
**APPENDIX B &
ANSI COMPLIANCE REPORT**

SHEET NUMBER
T-3



PROPOSED TRUE SOUTHWEST GUY WIRE EASEMENT

COMMENCING AT A POINT BEING THE SOUTHWEST CORNER OF THE LEASE AREA SAID POINT BEING LOCATED N 42°19'31"E A DISTANCE OF 3,873.13' FROM EXISTING NORTH CAROLINA GEODETIC STATION "CLARK" HAVING NORTH CAROLINA STATE PLANE COORDINATES N 554,826.571 AND E 2,024,687.276; THENCE FROM SAID POINT OF COMMENCEMENT N 89°56'50" E A DISTANCE OF 211.3' TO THE POINT OF BEGINNING BEING THE CENTERLINE OF A 50' GUY WIRE EASEMENT, THENCE FROM SAID POINT OF BEGINNING ALONG THE CENTERLINE OF SAID GUY WIRE EASEMENT S 29°58'50"W A DISTANCE OF 174.26' TO A POINT AT THE END OF THE CENTERLINE OF SAID GUY WIRE EASEMENT SAID 50' GUY WIRE EASEMENT BEING CENTERED ON THE DESCRIBED CENTERLINE AND MEASURED 25' PERPENDICULAR FROM AND PARALLEL TO SAID CENTERLINE AS EACH PARALLEL LINE EXTENDS FROM THE EASTERN LEASE LINE TO SAID POINT AT THE END OF THE PROPOSED GUY WIRE EASEMENT.

PROPOSED TRUE NORTHWEST GUY WIRE EASEMENT

COMMENCING AT A POINT BEING THE SOUTHWEST CORNER OF THE LEASE AREA SAID POINT BEING LOCATED N 42°19'31"E A DISTANCE OF 3,873.13' FROM EXISTING NORTH CAROLINA GEODETIC STATION "CLARK" HAVING NORTH CAROLINA STATE PLANE COORDINATES N 554,826.571 AND E 2,024,687.276; THENCE FROM SAID POINT OF COMMENCEMENT N 00°03'10" W A DISTANCE OF 100.00' TO A POINT; THENCE N89°56'50"E A DISTANCE OF 211.3' TO THE POINT OF BEGINNING BEING THE CENTERLINE OF A 50' GUY WIRE EASEMENT, THENCE FROM SAID POINT OF BEGINNING ALONG THE CENTERLINE OF SAID GUY WIRE EASEMENT N 30°03'10" W A DISTANCE OF 160.27' TO A POINT AT THE END OF THE CENTERLINE OF SAID GUY WIRE EASEMENT SAID 50' GUY WIRE EASEMENT BEING CENTERED ON THE DESCRIBED CENTERLINE AND MEASURED 25' PERPENDICULAR FROM AND PARALLEL TO SAID CENTERLINE AS EACH PARALLEL LINE EXTENDS FROM THE EASTERN LEASE LINE TO SAID POINT AT THE END OF THE PROPOSED GUY WIRE EASEMENT.

PROPOSED TRUE DUE EAST GUY WIRE EASEMENT

COMMENCING AT A POINT BEING THE SOUTHWEST CORNER OF THE LEASE AREA SAID POINT BEING LOCATED N 42°19'31"E A DISTANCE OF 3,873.13' FROM EXISTING NORTH CAROLINA GEODETIC STATION "CLARK" HAVING NORTH CAROLINA STATE PLANE COORDINATES N 554,826.571 AND E 2,024,687.276; THENCE FROM SAID POINT OF COMMENCEMENT N 89°56'50" E A DISTANCE OF 100.00' TO A POINT; THENCE N00°03'10" W A DISTANCE OF 50.00' TO THE POINT OF BEGINNING BEING THE CENTERLINE OF A 50' GUY WIRE EASEMENT, THENCE FROM SAID POINT OF BEGINNING ALONG THE CENTERLINE OF SAID GUY WIRE EASEMENT N 89°56'50"E A DISTANCE OF 187.50' TO A POINT AT THE END OF THE CENTERLINE OF SAID GUY WIRE EASEMENT SAID 50' GUY WIRE EASEMENT BEING CENTERED ON THE DESCRIBED CENTERLINE AND MEASURED 25' PERPENDICULAR FROM AND PARALLEL TO SAID CENTERLINE AS EACH PARALLEL LINE EXTENDS FROM THE EASTERN LEASE LINE TO SAID POINT AT THE END OF THE PROPOSED GUY WIRE EASEMENT.

- GENERAL NOTES**
- Horizontal and Vertical Datums established from NCGS monument "CLARK".
 - North Carolina State Plane Coordinates are based on NAD 83 datum with elevations based on NGVD 29 datum. A geographic position was calculated from these state plane coordinates using the Corpcor program (V4.12) of the US Army Topographic Engineering Center. The base datum of the geographic position is NAD 83 for the horizontal position and NGVD 29 for the vertical position. Accuracy tolerances for the state plane coordinates and the geographic position are +/- 50' horizontal and +/- 20' vertical.
 - The locations of underground utilities as shown hereon are based on above ground structures and record drawings provided to the surveyor. Locations of underground utilities/structures may vary from locations shown hereon. Additional buried utilities/structures may be encountered. No excavations were made during the progress of this survey to locate buried utilities/structures. ESP Associates makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. ESP Associates further does not warrant that the underground utilities shown are in the exact location indicated.
 - True NORTH is a counterclockwise deflection of 00°03'10" from NC Grid NORTH.
 - This map does not represent a boundary survey by ESP Associates. All property line information is shown according to existing deeds, plats, and/or tax maps.
 - Flood hazard data was not provided to prepare this survey.
 - Zoning analysis did not provide building setback lines.
 - Zoning shown hereon based on zoning analysis provided to prepare this survey.

SITE ADDRESS: EAST OF STATE RD. 2046 LASITER RD. LINDEN, N.C. 28356

SITE DIRECTIONS: TAKE HWY 401 SOUTH TO LILLINGTON FOLLOW 401/210 SOUTH THRU LILLINGTON, ON SOUTH END OF LILLINGTON 401&210 FORK @ BURGER KING, PROCEED ON 210 SOUTH FOR APPROXIMATELY 8.6 MILES, TURN LEFT ON LASITER RD./SR2046, PROCEED APPROXIMATELY .3 MILES, SITE ON RIGHT IN WOODED LOT APPROXIMATELY 350' OF SR 2046.

PROPOSED ACCESS/UTILITY EASEMENT

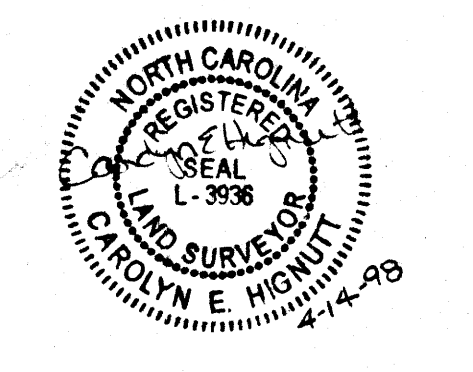
COMMENCING AT A POINT BEING THE SOUTHWEST CORNER OF THE LEASE AREA SAID POINT BEING LOCATED N 42°19'31"E A DISTANCE OF 3,873.13' FROM EXISTING NORTH CAROLINA GEODETIC STATION "CLARK" HAVING NORTH CAROLINA STATE PLANE COORDINATES N 554,826.571 AND E 2,024,687.276; THENCE FROM SAID POINT OF COMMENCEMENT N 00°03'10" W A DISTANCE OF 100.00'; THENCE N 89°56'50"E A DISTANCE OF 58.34' TO THE POINT OF BEGINNING BEING THE CENTERLINE OF A 40' ACCESS/UTILITY EASEMENT, THENCE FROM SAID POINT OF BEGINNING ALONG THE CENTERLINE OF SAID ACCESS EASEMENT N 00°23'20"E A DISTANCE OF 169.95' TO A POINT; THENCE S 88°53'54" E A DISTANCE OF 383.33' TO A POINT ON THE WESTERN RIGHT-OF-WAY LINE OF LASATER RD. (SR 2046), SAID 40' ACCESS EASEMENT BEING CENTERED ON THE DESCRIBED CENTERLINE AND MEASURED 20' PERPENDICULAR FROM AND PARALLEL TO SAID CENTERLINE AS EACH PARALLEL LINE EXTENDS FROM THE NORTHERN LEASE LINE TO SAID WESTERN RIGHT-OF-WAY LINE.

PROPOSED LEASE AREA DESCRIPTION

BEGINNING AT A POINT BEING THE SOUTHWEST CORNER OF THE LEASE AREA SAID POINT BEING LOCATED N 42°19'31"E A DISTANCE OF 3,873.13' FROM EXISTING NORTH CAROLINA GEODETIC STATION "CLARK" HAVING NORTH CAROLINA STATE PLANE COORDINATES N 554,826.571 AND E 2,024,687.276; THENCE FROM SAID POINT OF BEGINNING AS THE NEW LEASE LINE THE FOLLOWING FOUR (4) CALLS: (1) N 00°03'10" W A DISTANCE OF 100.00' TO A POINT, (2) N 89°56'50"E A DISTANCE OF 100.00' TO A POINT, (3) S 00°03'10"E A DISTANCE OF 100.00' TO A POINT, AND (4) S 89°56'50"W A DISTANCE OF 100.00' TO A POINT BEING THE POINT AND PLACE OF BEGINNING, CONTAINING 10,000 SQUARE FEET AS SHOWN HEREON.

- LEGEND**
- RIGHT OF WAY LEASE LINE
 - PROPERTY LINE
 - PROPERTY CORNER FOUND
 - ELECTRIC METER
 - OVER HEAD ELECTRIC
 - POWER POLE
 - CONTROL POINT
 - NCGS MONUMENT
 - TELEPHONE PEDESTAL
 - IRON PIN SET
 - RR SPIKE FOUND
 - IRON PIN FOUND

HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE SURVEY DESCRIBED HEREIN WAS PERFORMED UNDER MY SUPERVISION AND THAT THE DATA LISTED HEREIN IS WITHIN THE HORIZONTAL AND VERTICAL ACCURACY TOLERANCES AS SET FORTH BY FAA 2C REQUIREMENTS.

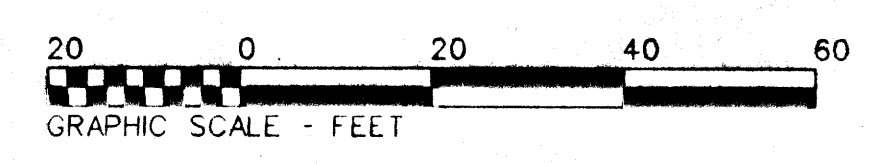


SITE ID • 368-216E

SURVEY FOR: GEARON COMMUNICATIONS, INC.		DATE: 4/3/98
SITE: WEST POND		SCALE: 1"=20'
OWNER: ALAN, RONALD, & BARFIELD GRANGER		DRAWN BY: JAD
TOWN: ANDERSON CREEK STATE: NORTH CAROLINA	COUNTY: HARNETT	CHECKED BY: CWH
REFERENCE: 305-299	ZONED:	PROJECT NO: MC58
TAX ID:	FIELD BOOK: 98-BELL SOUTH	DRAWING NO: MC58T20

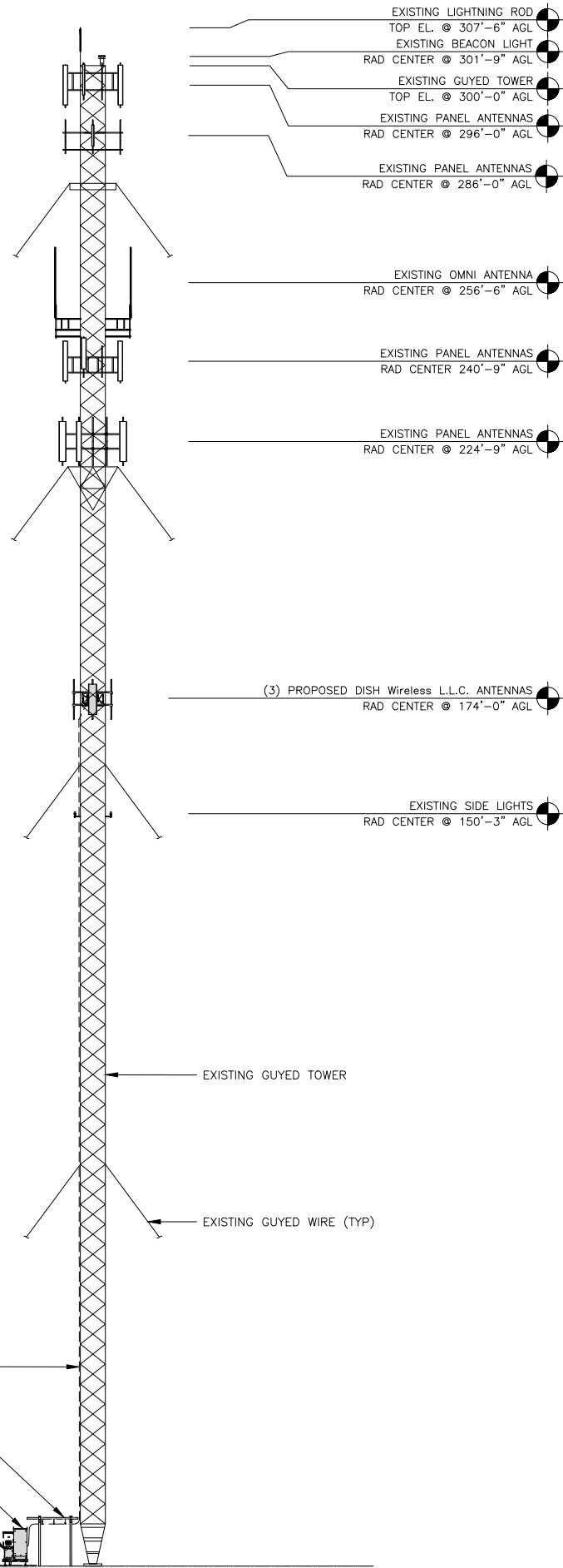
PREPARED BY
ESP ASSOCIATES, P.A.
engineering surveying planning

1150 S.E. WAYNARD ROAD, SUITE 240
CARY, NC 27511 (919) 467-9613

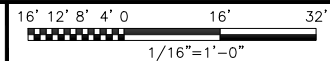


NOTES

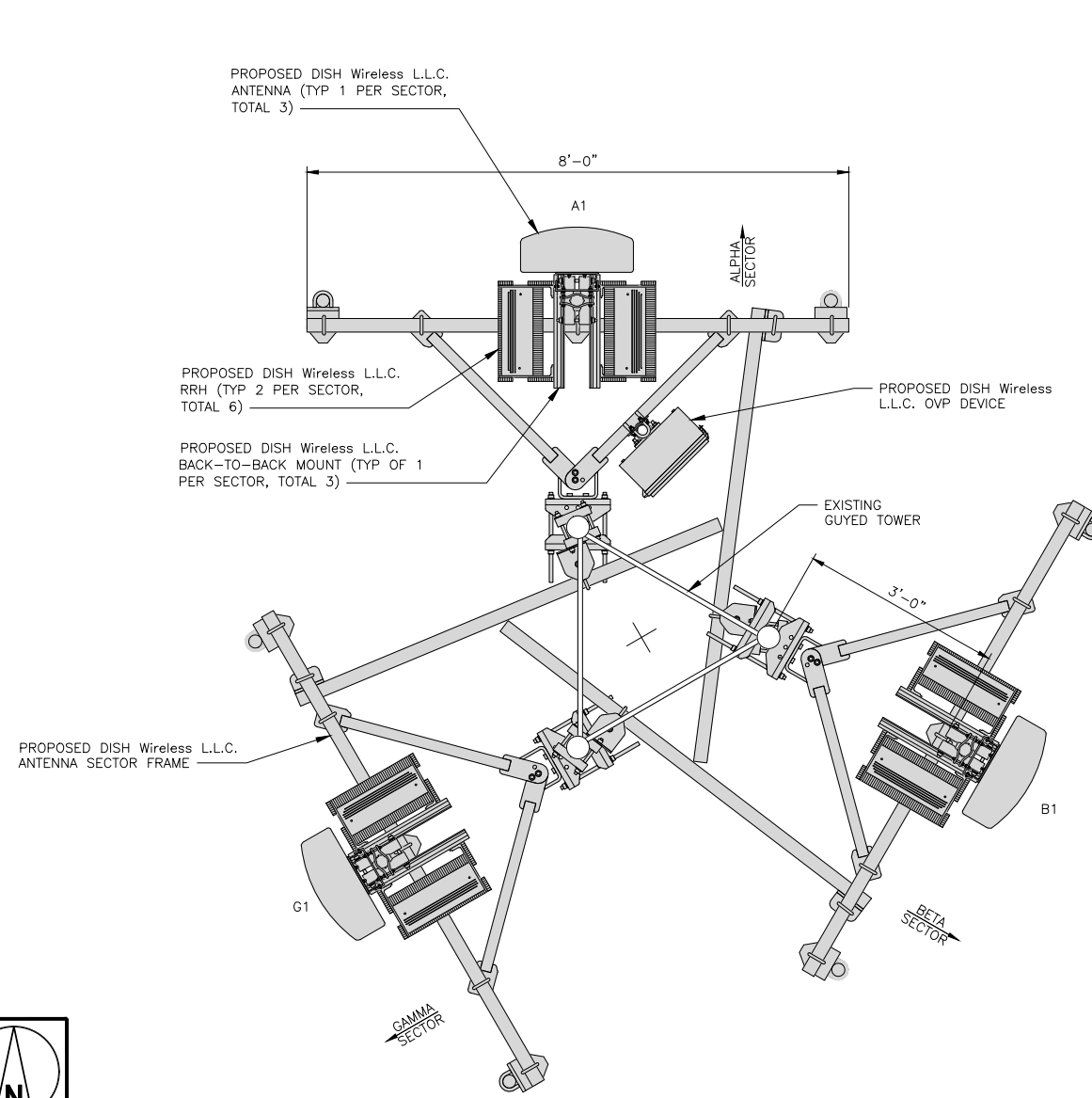
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



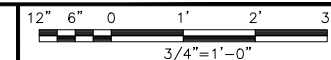
PROPOSED EAST ELEVATION



1



ANTENNA LAYOUT



2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA WIRELESS-MX08FRO665-21	5G	72.0" x 20.0"	0°	174'-0"	(1) HIGH-CAPACITY HYBRID CABLE (205' LONG)
BETA	B1	PROPOSED	JMA WIRELESS-MX08FRO665-21	5G	72.0" x 20.0"	120°	174'-0"	
GAMMA	G1	PROPOSED	JMA WIRELESS-MX08FRO665-21	5G	72.0" x 20.0"	240°	174'-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-B604	5G	
BETA	B1	FUJITSU - TA08025-B605	5G	
	B1	FUJITSU - TA08025-B604	5G	
GAMMA	G1	FUJITSU - TA08025-B605	5G	
	G1	FUJITSU - TA08025-B604	5G	

ANTENNA SCHEDULE

NO SCALE

3



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



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



MTS ENGINEERING D.P.C.
LIC: P-2387
Expires 6/30/22

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:	CHECKED BY:	APPROVED BY:
SM	ANP	ANP

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	10/8/21	ISSUED FOR REVIEW
0	10/14/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
156787.001.01

DISH Wireless L.L.C. PROJECT INFORMATION
CLFAY00349A
723 LASTAR ROAD
BUNNLEVEL, NC 28323

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-2



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
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CLFAY00349A
723 LASTAR ROAD
BUNNLEVEL, NC 28323

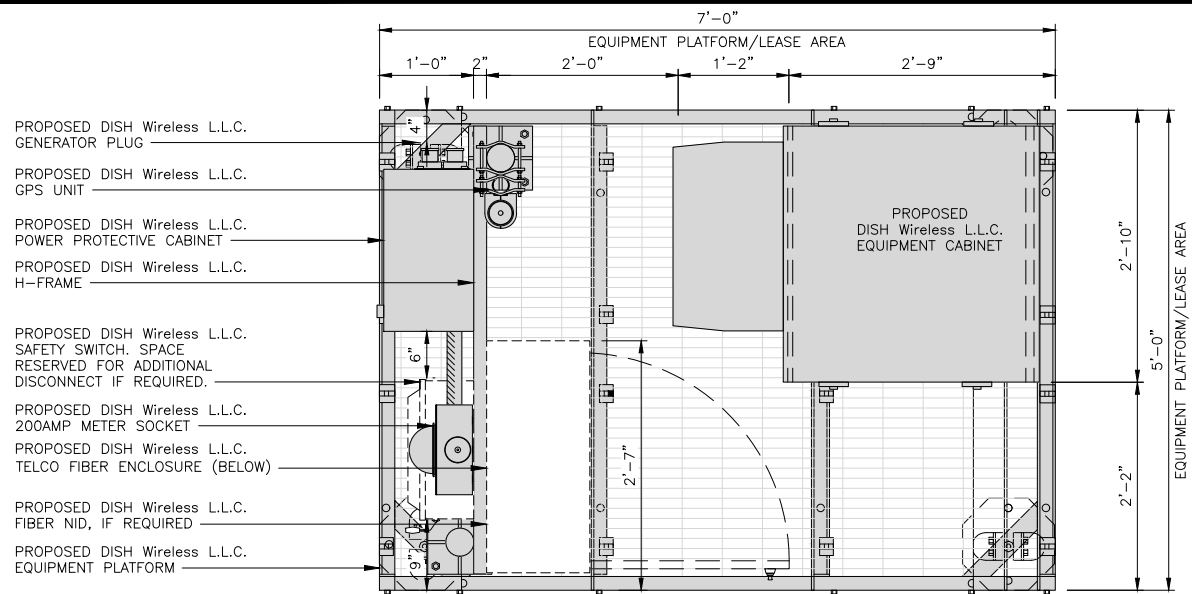
SHEET TITLE
**EQUIPMENT PLATFORM AND
H-FRAME DETAILS**

SHEET NUMBER

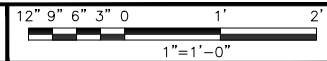
A-3

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



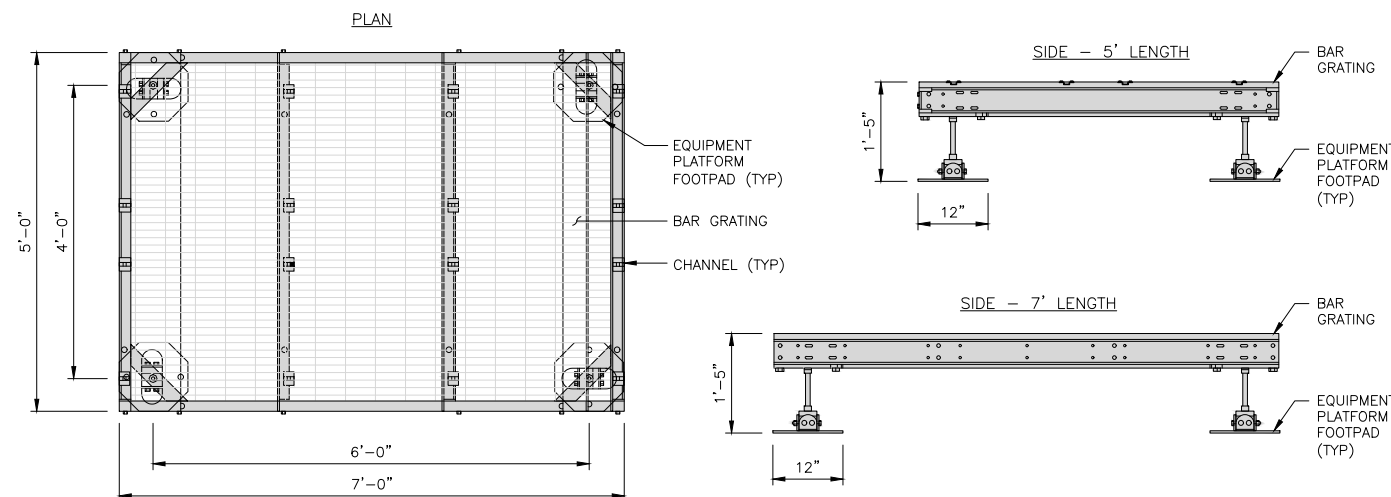
PLATFORM EQUIPMENT PLAN



1

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

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



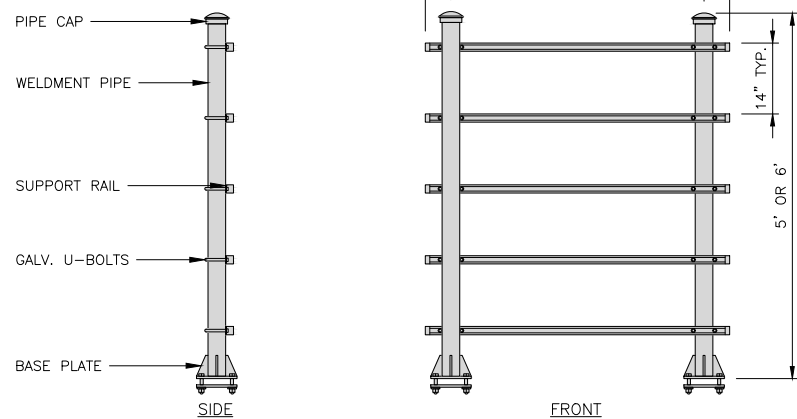
PLATFORM DETAIL

NO SCALE

2

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

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



H-FRAME DETAIL

NO SCALE

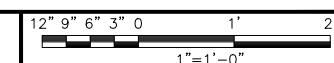
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NOT USED

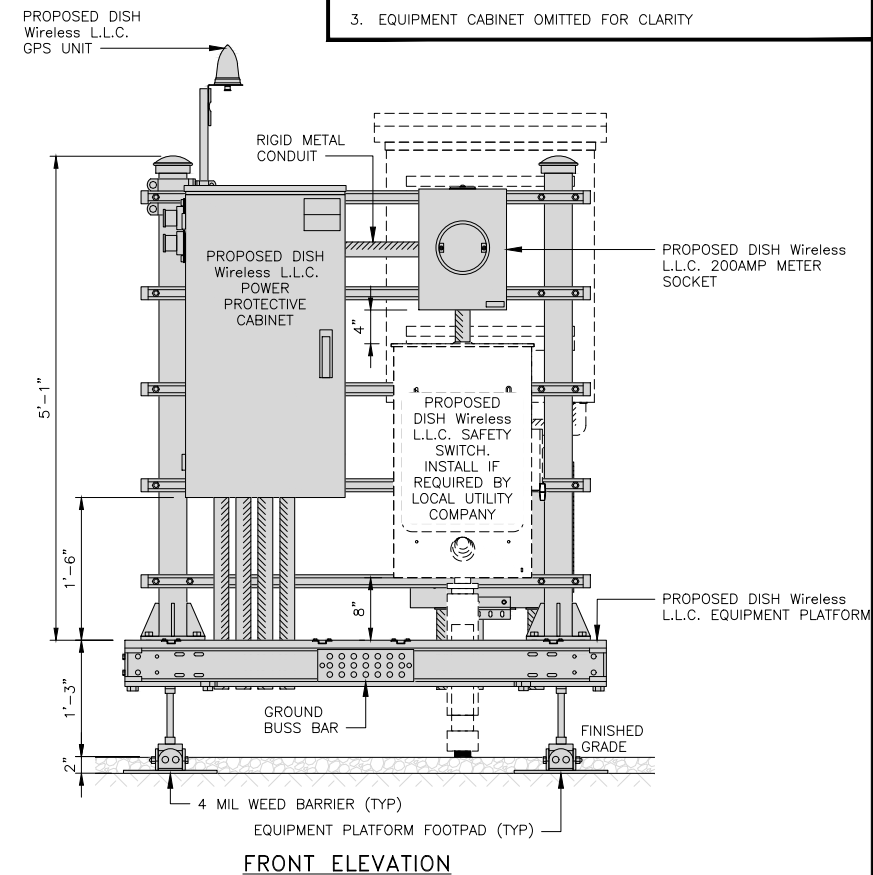
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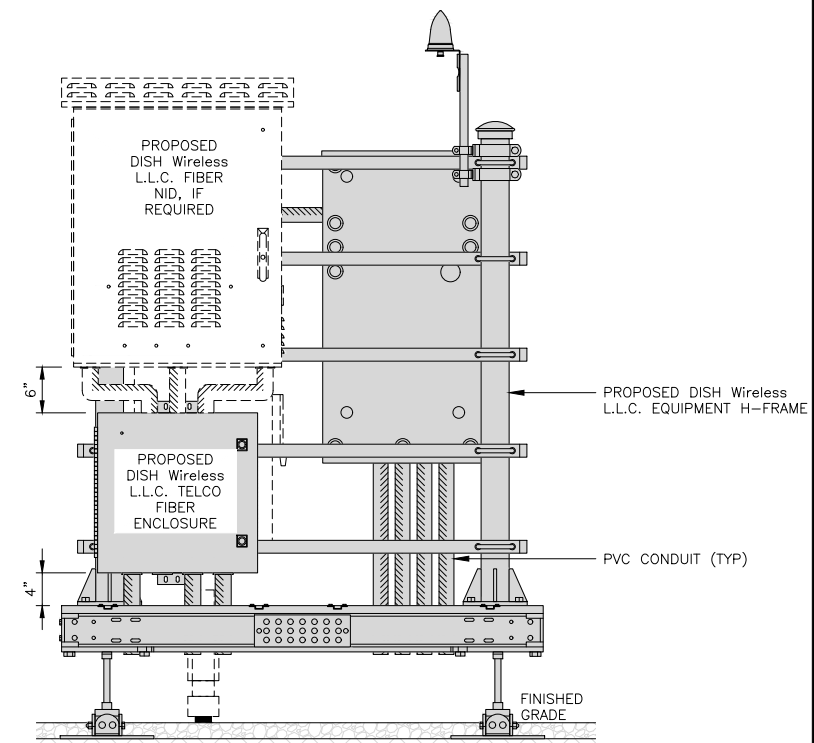
H-FRAME EQUIPMENT ELEVATION



5

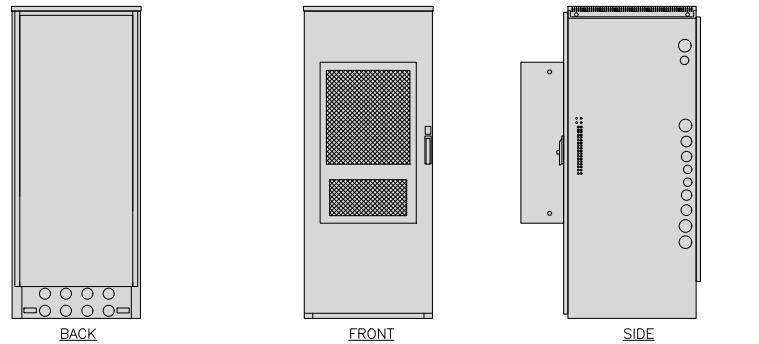
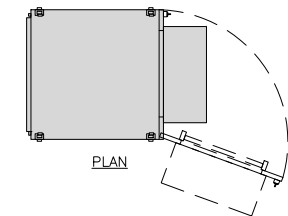


FRONT ELEVATION



BACK ELEVATION

ENERSYS HEX CABINET 2000005996	
DIMENSIONS (HxWxD):	73"x30"x32"
WEIGHT EMPTY:	376 lbs
HEATER	800W
POWER SYSTEM	-48V ALPHA/600A

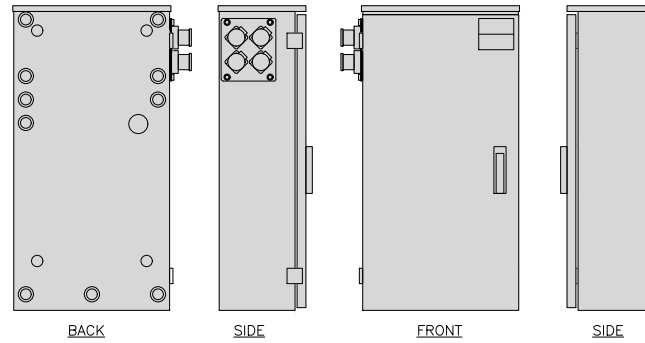
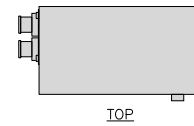


CABINET DETAIL

NO SCALE

1

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

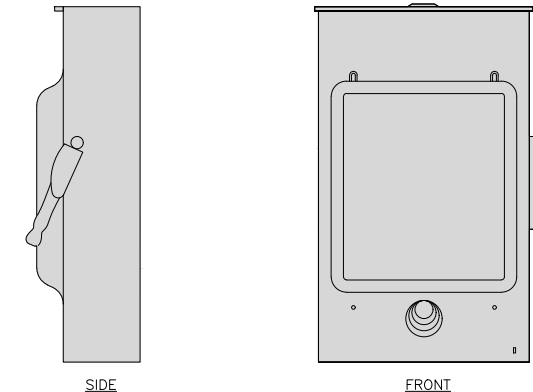
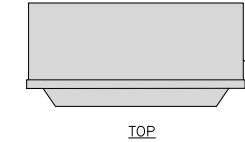


POWER PROTECTION CABINET (PPC) DETAIL

NO SCALE

2

SQUARE D SAFETY SWITCHES D224NRB	
ENCLOSURE DIM (HxWxD)	29.25"x19.00"x8.50"
ENCLOSURE TYPE	NEMA 3R RAINPROOF
UL LISTED	FILE E-2875

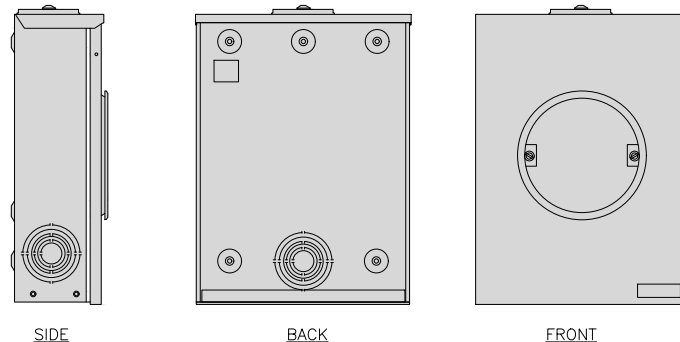
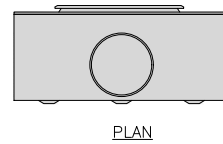


SAFETY SWITCH DETAIL

NO SCALE

3

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

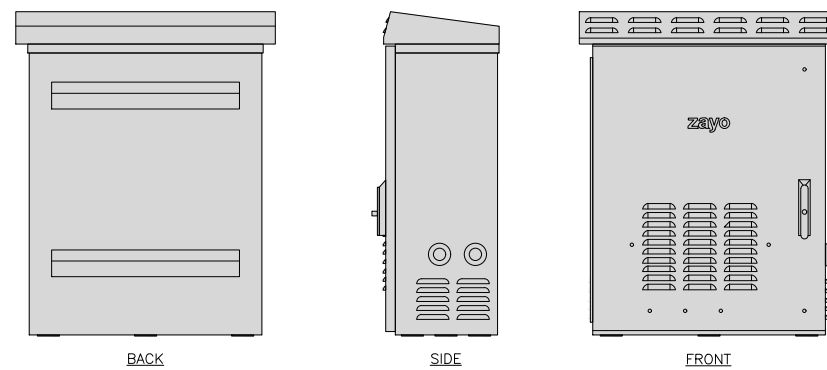
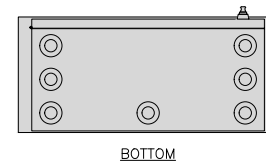


METER SOCKET DETAIL

NO SCALE

4

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

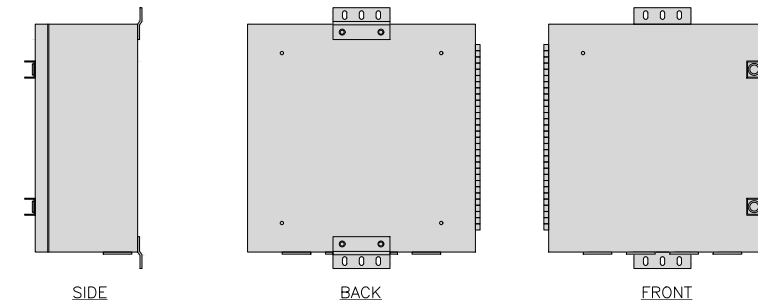
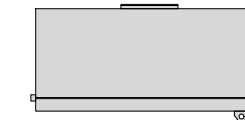


FIBER NID ENCLOSURE DETAIL

NO SCALE

5

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

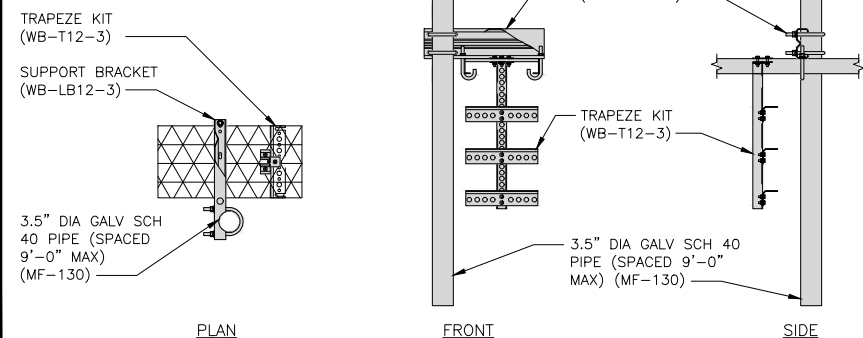


FIBER TELCO ENCLOSURE DETAIL

NO SCALE

6

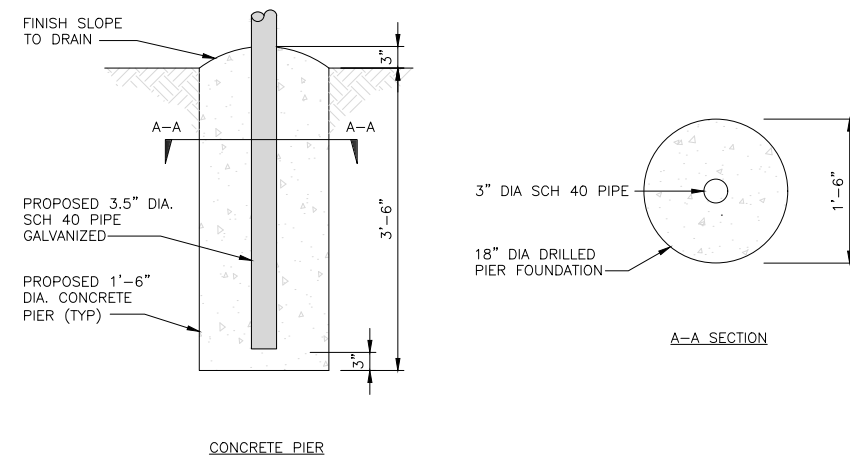
COMMSCOPE WB-K110-B WAVEGUIDE BRIDGE KIT		INCLUDED PRODUCTS:
DIMENSIONS (HxL)	160"x10"	WB-T12-3 TRAPEZE KIT, 3 RUNGS
WEIGHT/ VOLUME	325.0 LBS	WB-LB12-3 SUPPORT BRACKET
CABLE RUN (QTY)	12	MF-130 DIRECT BURIAL PIPE COLUMN, 13'-4"



ICE BRIDGE DETAIL

NO SCALE

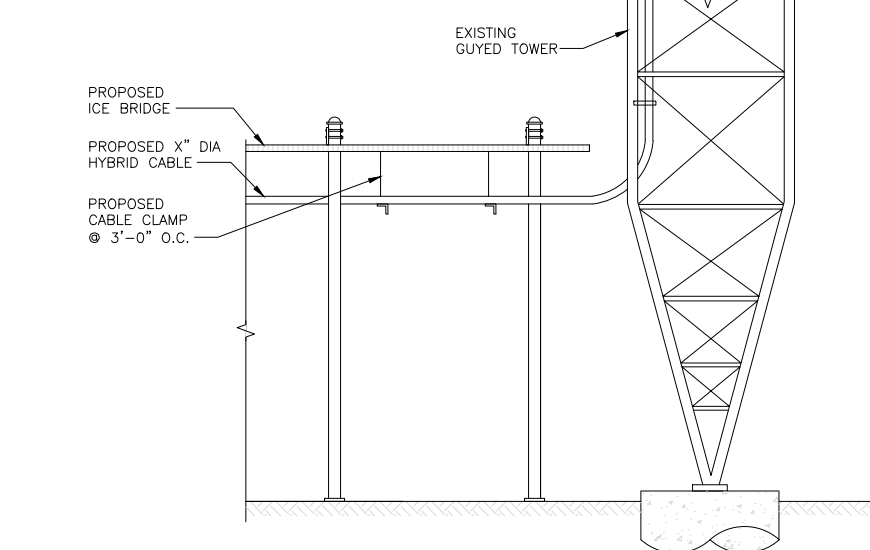
7



TYPICAL ICE BRIDGE CONCRETE PIER DETAIL

NO SCALE

8



HYBRID CABLE RUN

NO SCALE

9

dish
wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
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SM	ANP	ANP

RFDS REV #: 1.0

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SUBMITTALS		
REV	DATE	DESCRIPTION
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A&E PROJECT NUMBER
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DISH Wireless L.L.C.
PROJECT INFORMATION

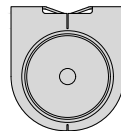
CLFAY00349A
723 LASTAR ROAD
BUNNLEVEL, NC 28323

SHEET TITLE
EQUIPMENT DETAILS

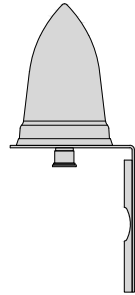
SHEET NUMBER

A-4

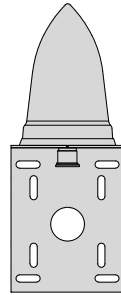
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



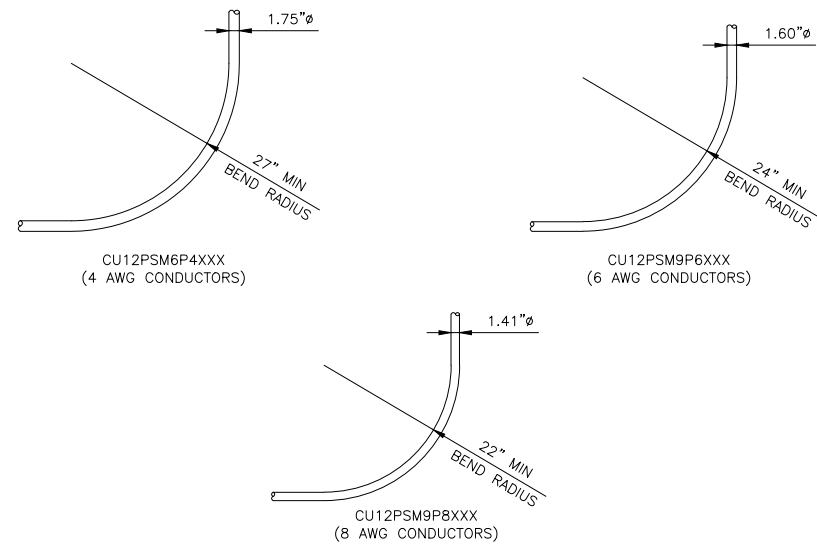
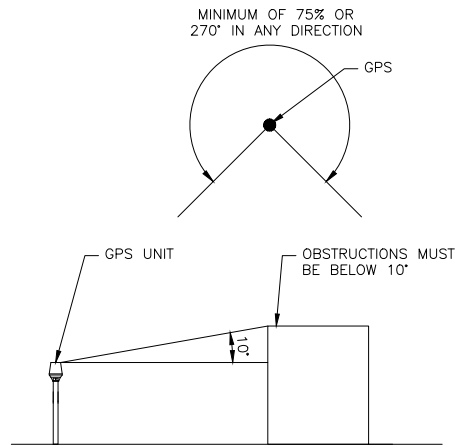
TOP



BACK



SIDE



GPS DETAIL

NO SCALE

1

GPS MINIMUM SKY VIEW REQUIREMENTS

NO SCALE

2

CABLES UNLIMITED HYBRID CABLE
MINIMUM BEND RADIUS

NO SCALE

3

NOT USED

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
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www.btgrp.com



MTS ENGINEERING D.P.C.
LIC: P-2387
Expires 6/30/22

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SM	ANP	ANP

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
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A&E PROJECT NUMBER
156787.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
CLFAY00349A
723 LASTAR ROAD
BUNNLEVEL, NC 28323

SHEET TITLE
EQUIPMENT DETAILS

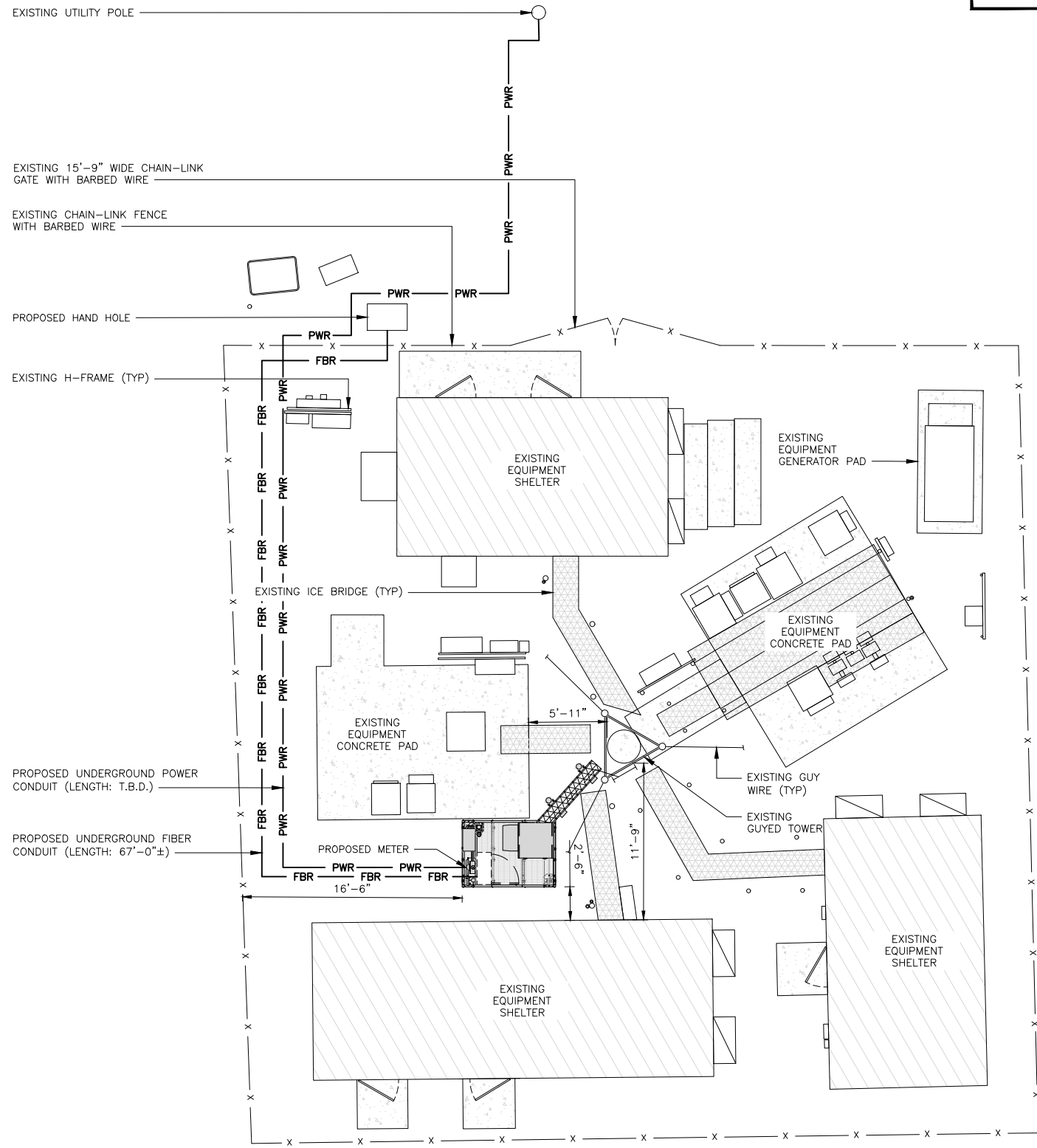
SHEET NUMBER
A-5

NOTES

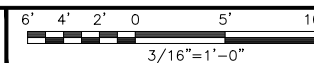
1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.

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

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



UTILITY ROUTE PLAN



1

ELECTRICAL NOTES

NO SCALE

2



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LITTLETON, CO 80120



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SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
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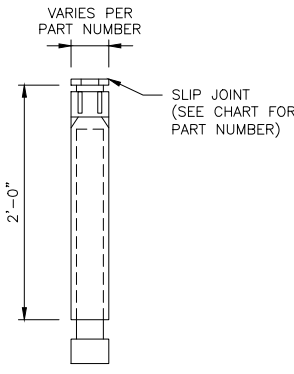
A&E PROJECT NUMBER
156787.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
CLFAY00349A
723 LASTAR ROAD
BUNNLEVEL, NC 28323

SHEET TITLE
ELECTRICAL/FIBER ROUTE
PLAN AND NOTES

SHEET NUMBER
E-1

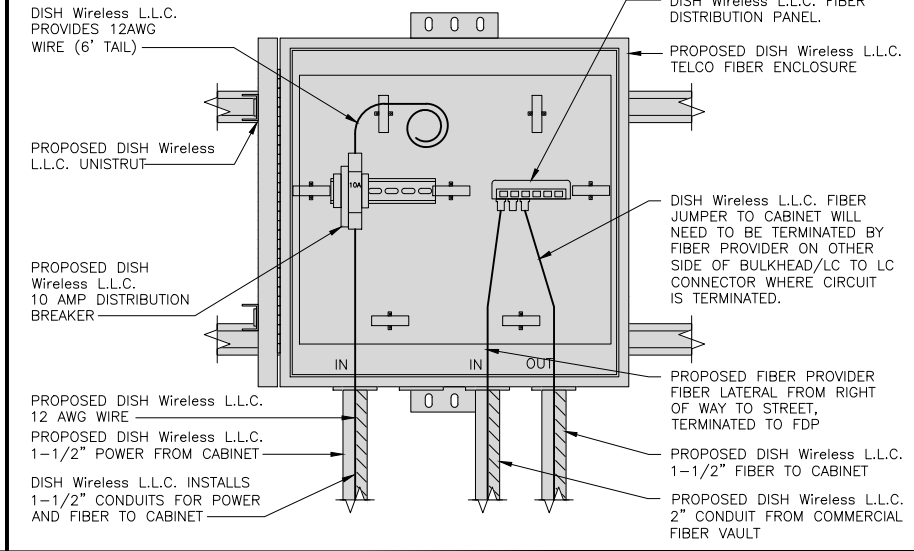
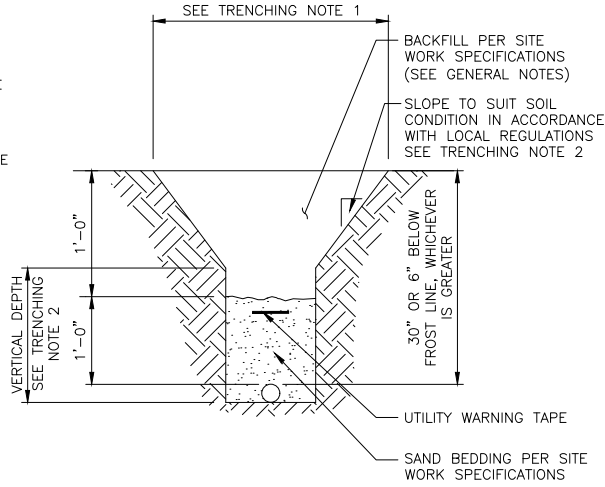
CARLON EXPANSION FITTINGS				
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
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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LITTLETON, CO 80120



1717 S. BOULDER SUITE 300
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EXPANSION JOINT DETAIL

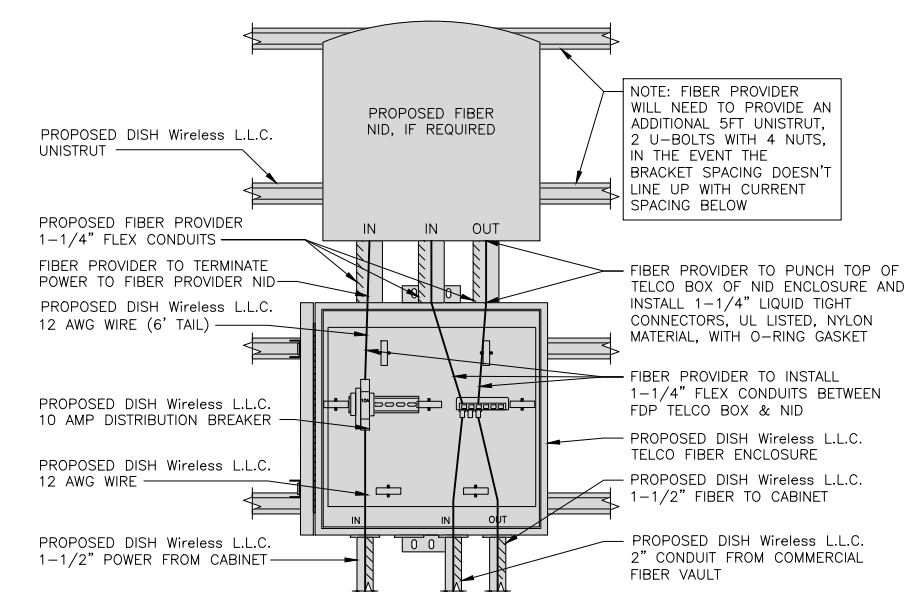
NO SCALE 1

TYPICAL UNDERGROUND TRENCH DETAIL

NO SCALE 2

DARK TELCO BOX – INTERIOR WIRING LAYOUT

NO SCALE 3



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL)

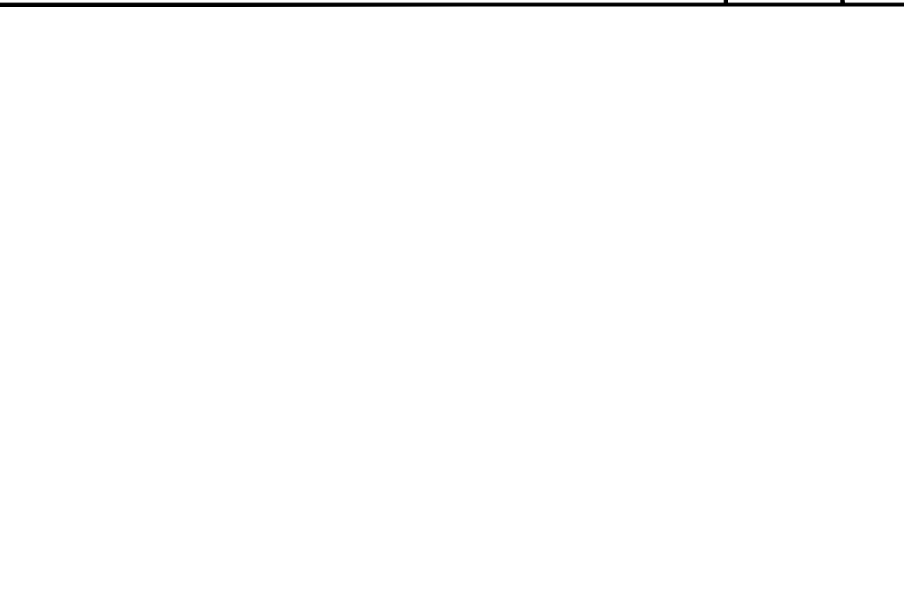
NO SCALE 4

NOT USED

NO SCALE 5

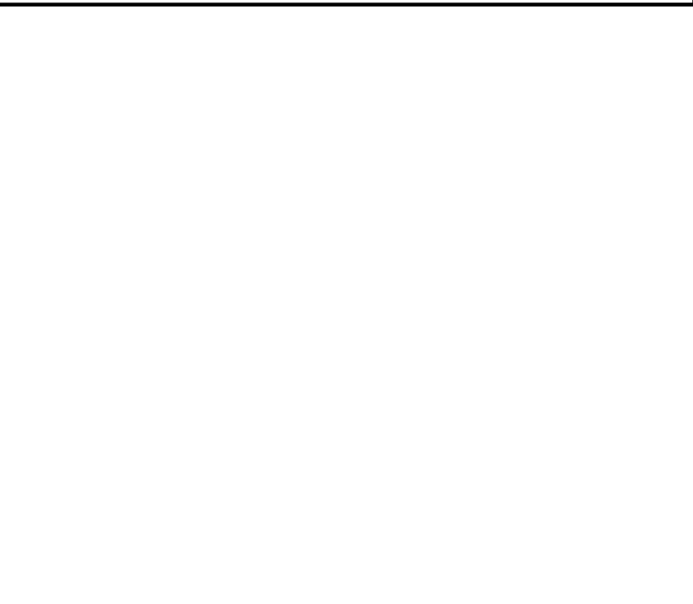
NOT USED

NO SCALE 6



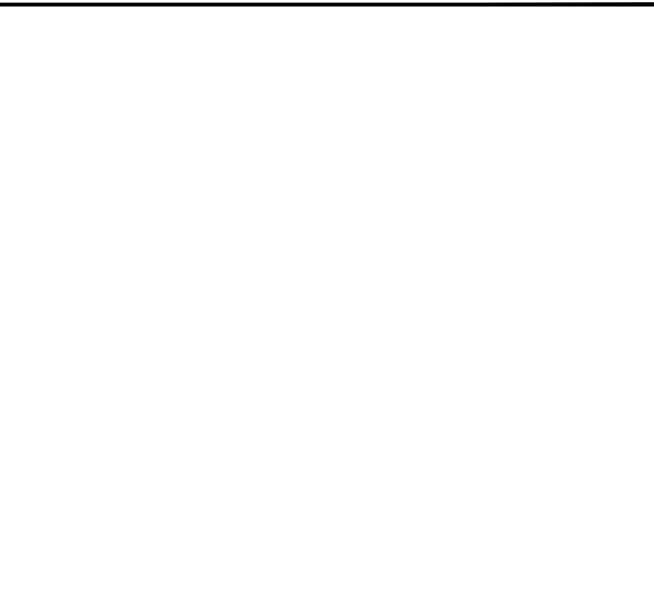
NOT USED

NO SCALE 7



NOT USED

NO SCALE 8



NOT USED

NO SCALE 9



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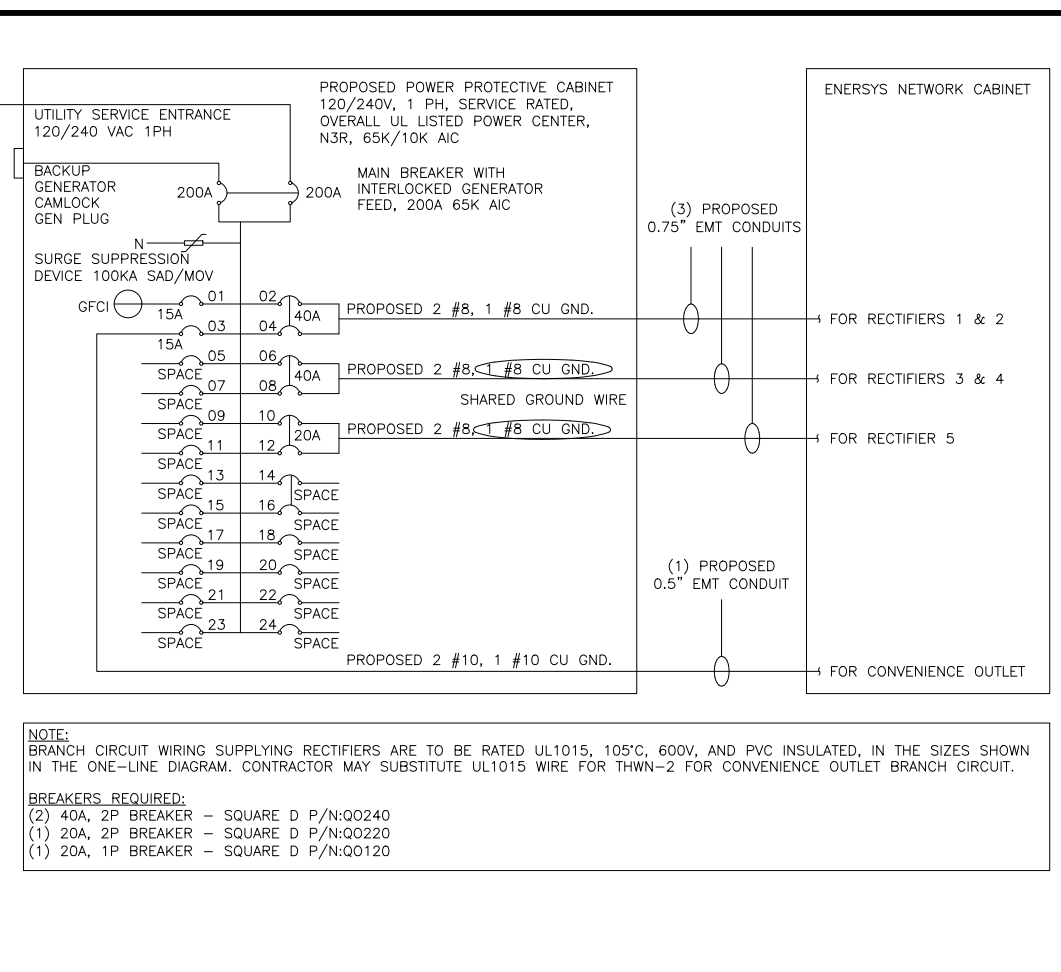
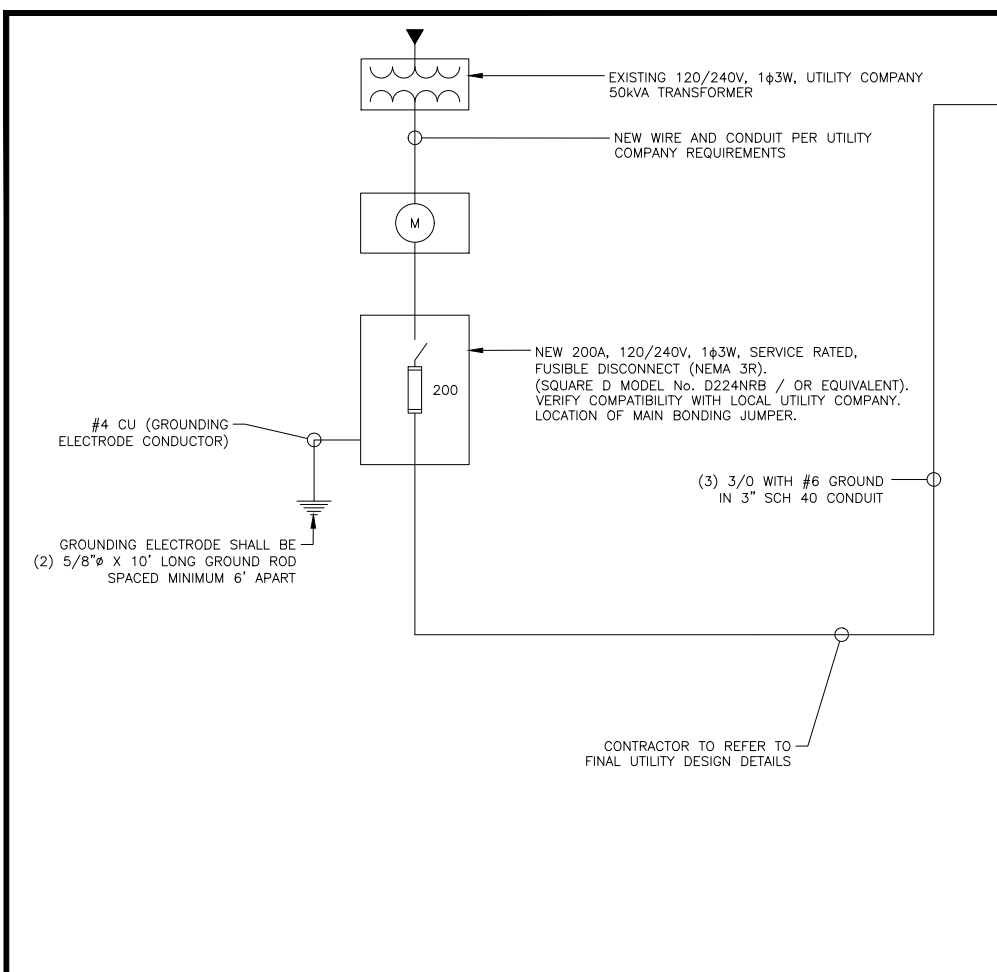
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PROJECT INFORMATION
CLFAY00349A
723 LASTAR ROAD
BUNNLEVEL, NC 28323

SHEET TITLE
ELECTRICAL
DETAILS

SHEET NUMBER
E-2



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.

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 (3 CONDUITS): USING UL1015, CU.

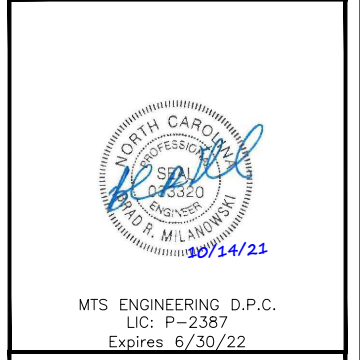
#8 - 0.0552 SQ. IN X 2 = 0.1103 SQ. IN
#8 - 0.0131 SQ. IN X 1 = 0.0131 SQ. IN <BARE GROUND
TOTAL = 0.1234 SQ. IN

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

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

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

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



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DISH Wireless L.L.C.
PROJECT INFORMATION
CLFAY00349A
723 LASTAR ROAD
BUNNLEVEL, NC 28323

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

SHEET NUMBER
E-3

PPC ONE-LINE DIAGRAM NO SCALE 1

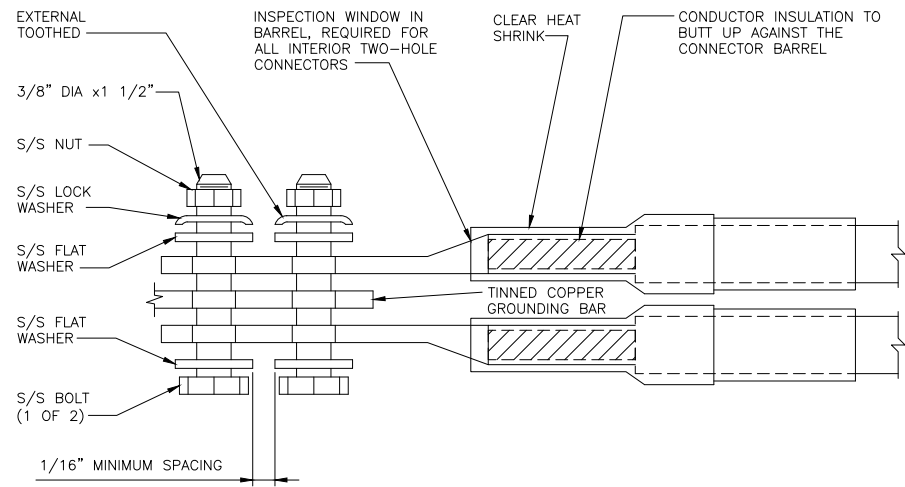
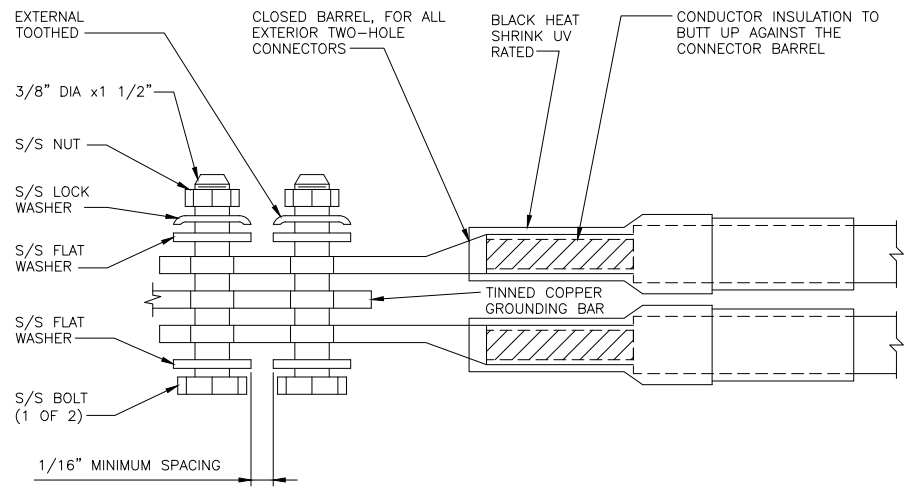
PROPOSED ENERSYS PANEL SCHEDULE											
LOAD SERVED	VOLT AMPS (WATTS)		TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS)		LOAD SERVED	
	L1	L2						L1	L2		
PPC GFCI OUTLET	180	180	15A	1	A	2	40A	3840	3840	ENERSYS ALPHA CORDEX RECTIFIERS 1 & 2	
ENERSYS GFCI OUTLET			15A	3	B	4	40A	3840	3840	ENERSYS ALPHA CORDEX RECTIFIER 3 & 4	
--SPACE--				5	A	6	40A	3840	3840	ENERSYS ALPHA CORDEX RECTIFIER 3 & 4	
--SPACE--				7	B	8	20A	1920	1920	ENERSYS ALPHA CORDEX RECTIFIER 5	
--SPACE--				9	A	10					
--SPACE--				11	B	12					
--SPACE--				13	A	14					
--SPACE--				15	B	16					
--SPACE--				17	A	18					
--SPACE--				19	B	20					
--SPACE--				21	A	22					
--SPACE--				23	B	24					
VOLTAGE AMPS	180	180						9500	9500		
200A MCB, 1 ϕ , 24 SPACE, 120/240V				L1	L2						
MB RATING: 65,000 AIC				9680	9680						
				81	81						
				81							
				102							

PANEL SCHEDULE NO SCALE 2

NOT USED

NO SCALE 3

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).



dish
wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

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

TYPICAL GROUNDING NOTES

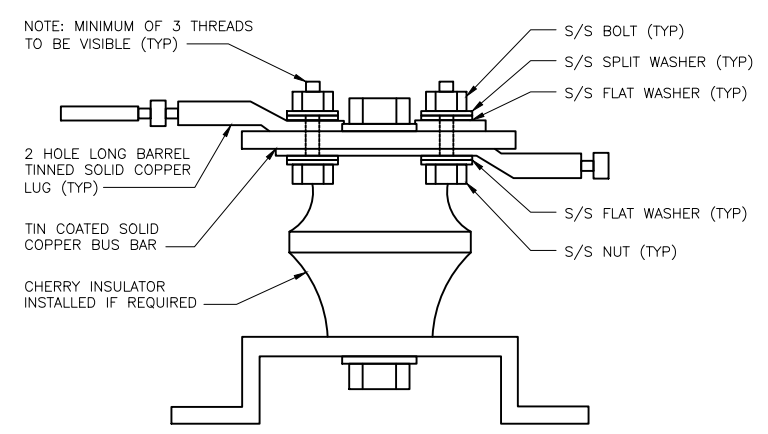
NO SCALE 1

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



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PROJECT INFORMATION

CLFAY00349A
723 LASTAR ROAD
BUNNLEVEL, NC 28323

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-3

NOT USED

NO SCALE 7

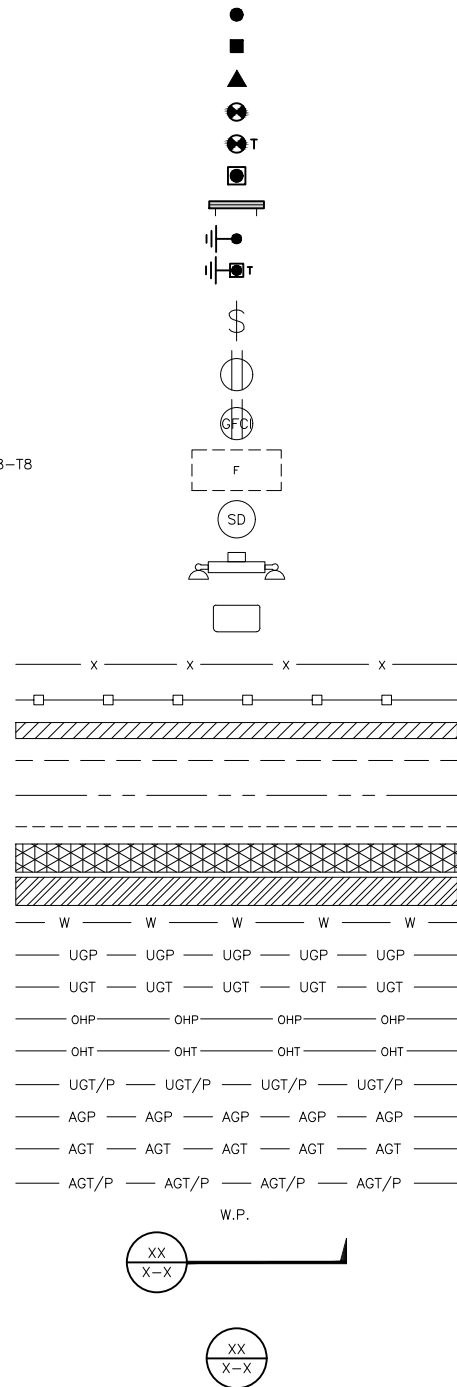
NOT USED

NO SCALE 8

NOT USED

NO SCALE 9

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

ABBREVIATIONS



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 OF A LICENSED PROFESSIONAL ENGINEER,
 TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
SM	ANP	ANP

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	10/8/21	ISSUED FOR REVIEW
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DISH Wireless L.L.C.
 PROJECT INFORMATION
CLFAY00349A
723 LASTAR ROAD
BUNNLEVEL, NC 28323

SHEET TITLE
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