

INSTALL AT&T CRAN EQUIPMENT ON A NEW METAL UTILITY POLE.

SCOPE OF WORK

DEPARTMENT	NAME / SIGNATURE	DATE
STRUCTURE OWNER		
AT¢T PM		
AT\$T EE		
AT\$T RF		
ANSCO PM		
ANGCO CM		

POLYGON NAME:

AMOES

STRUCTURE NUMBER:

33

FA LOCATION CODE:

14833068

2651A0L3S1

MRALM034206

PREPARED FOR:



PROJECT MANAGER:

ANSCO & ASSOCIATES, LLC. SPECIALIZED TELECOMMUNICATIONS SERVICES

PREPARED BY:



SUITE 210 ROSWELL, GA 30076 678-280-2325

PROJECT INFORMATION

ADJ 8477 FAIRHOPE AVE FAIRHOPE, AL 36532

LATITUDE: 30.523796°

-87.878251° LONGITUDE

BALDWIN COUNTY JURISDICTION:

ZONING:

STRUCTURE OWNER: CITY OF FAIRHOPE

APPLICANT: AT&T

> 1876 DATA DRIVE HOOVER, AL 35244

PROJECT MANAGER: ANSCO & ASSOCIATES, LLC

5250 TRIANGLE PKWY NW NORCROSS, GA 30092

ENGINEER:

1001 HOLCOMB WOODS PKWY STE. 210

ROSWELL, GA 30077 PATRICK MARHSALL, P.E.

678-280-2326

DRAWING INDEX

TITLE SHEET & PROJECT INFORMATION

C-I PROPOSED SITE PLAN

C-2 POLE ELEVATIONS & DETAILS

EQUIPMENT SPECIFICATIONS

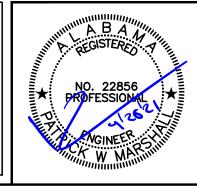
EQUIPMENT SPECIFICATIONS

GROUNDING DETAILS



CALL BEFORE YOU DIG ALABAMA ONE-CALL

http://www.al811.com/







AMOES

CITY OF FAIRHOPE

ADJ 8477 FAIRHOPE

30.523796°

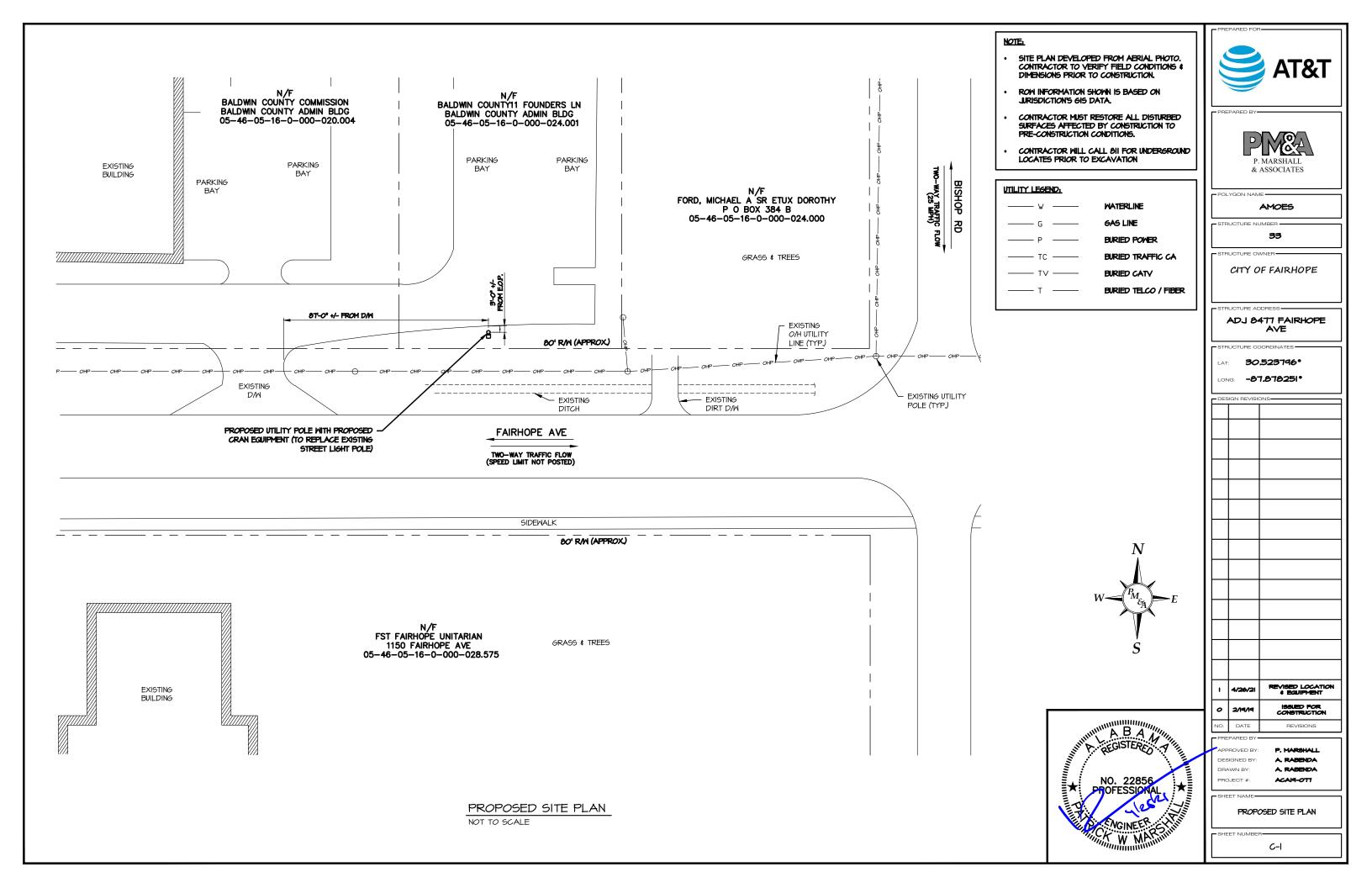
-87.878251°

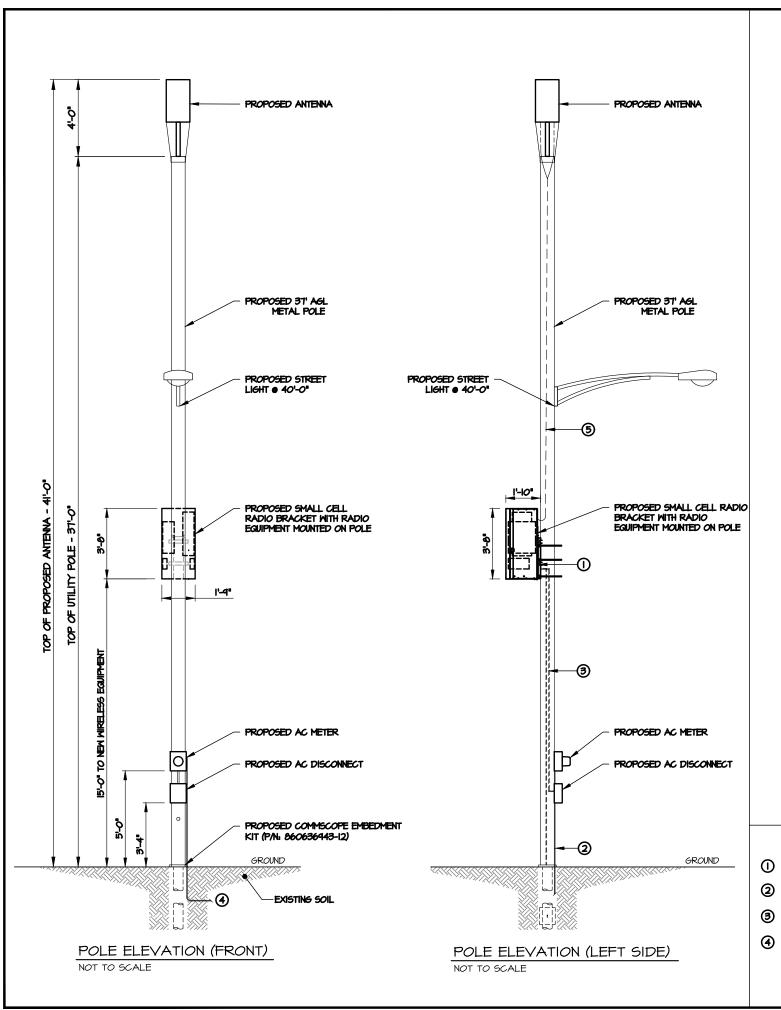
NO.	DATE	REVISIONS
0	2/14/14	ISSUED FOR CONSTRUCTION
ı	4/26/21	REVISED LOCATION 4 EQUIPMENT
- DES	IGN REVISION	ONS-

A. RABENDA ACAI9-OTT

TITLE SHEET & PROJECT INFORMATION

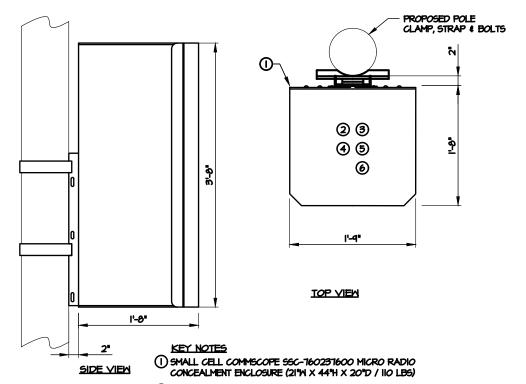
T-I





NOTES:

- FIBER TRANSPORT DELIVERY CABLE WILL BE BURIED TO THE POLE BY OTHERS AND ROUTED EXTERNALLY ALONG THE POLE.
- POWER TRANSPORT DELIVERY CABLE WILL BE BURIED TO THE POLE BY OTHERS AND ROUTED EXTERNALLY ALONG THE POLE.
- CONTRACTOR WILL COORDINATE POWER AND FIBER SERVICE REQUIREMENTS AND INSTALLATIONS WITH UTILITY COMPANIES.
- ALL CABLING/JIMPERS/COAX BETWEEN RADIOS, EQUIPMENT AND ANTENNA WILL BE ROUTED EXTERNALLY ALONG THE POLE.
- CONTRACTOR WILL INSTALL #6 GROUND WIRE AND GROUND ROD FOR POWER COMPANY.



- (2) ERICSSON 4449 (TYP I) (13.19"W x 17.9"H x 9.44"D)
- (3) ERICCSON 4415 (TYP 1) (13.19"W x 14.96"H x 5.39"D / 46 LBS)
- 4 ERICSSON PSU AC 02 (TYP I) (12.99"W x 2.60"H x 7.04"D / 11.64 LBS)
- (5) ERICSSON PSU AC 06 (TYP I) (10.74"W x 2.72"H x 7.04"D / 11.46 LBS)
- (1.00 LBS) (1.00 LBS)

OVERALL DIMENSIONS: I'-5"H x I'-11"W x I'-7"D OVERALL MEIGHT: 236.I LBS

CRAN ENCLOSURE CONFIGURATION

SCALE: |" = 2'-0"

- PROPOSED RAYCAP AC LOAD CENTER INSTALLED WITHIN RADIO ENCLOSURE
- 2) 1/2" UV RESISTANT SCH. 80 PVC CONDUIT FOR AC POWER SERVICE TO METER & DISCONNECT.
- 3) 3/4" NON-METALLIC FLEX CONDUIT FOR AC SERVICE FROM DISCONNECT TO RRU'S (TYP.).
- 2-1/2" UV RESISTANT SCH. 80 PVC CONDUIT FOR ALL COMMUNICATION CABLES. THE RISER SHALL HAVE A MINIMUM OF 2" SEPARATION FROM ANY THRU BOLT, METALLIC HARDWARE OR ELECTRICAL CONDUCTOR.





POLYGON NAME •

STRUCTURE OWNER



AMOES

STRUCTURE NUMBER

CITY OF FAIRHOPE

ADJ 8477 FAIRHOPE AVE

30.523796°

-87.878251°

ISSUED FOR CONSTRUCTION

P. MARSHALL

A. RABENDA PROJECT #: ACAI9-OTT

POLE ELEVATIONS & DETAILS

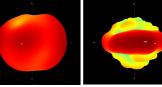




Electrical Specificat	ions					
Frequency Band [MHz]	698-896	1695-2180	2305-2360	2496-2690	3550-3700	5150-5925
Input Connector Type	4x 4.3-10(F)		4x 4.3-10(F)		4x 4.3-10(F)	2x 4.3-10(F)
Isolation (min.)	20 dB					
VSWR (max.) /RL (min.)	1.5:1 / 14.0 dB					
Impedance	50 Ω					
Polarization	Dual slant 45° (±45°)					
Horizontal Beamwidth	Omni (360°)					

VSWR (max.) /RL (min.)	1.5:1 / 14.0 dB					
Impedance	50 Ω					
Polarization	Dual slant 45° (±45°)					
Horizontal Beamwidth	Omni (360°)					
Vertical Beamwidth	68.7°	22.3°	19.0°	16.8°	23.2°	21.7°
Gain (max.)	4.9 dBi	8.6 dBi	9.7 dBi	8.8 dBi	7.7 dBi	5.0 dBi
Gain (avg.)	3.3 dBi	7.9 dBi	8.3 dBi	8.2 dBi	7.2 dBi	3.8 dBi
Downtilt	0° Fixed					
Max Power / Port	100 Watts			50 Watts	1 Watt	
PIM @ 2x43 dBm	<-153 dBc			N/A	N/A	

Operating Temperature	-40° to 158°F (-40° to +70°C)
Antenna Weight	30.9 lbs (14 kg)
Antenna Diameter	14.7" (374 mm)
Antenna Height	24,5" (622 mm)
Radome Material	ASA
Radome Color	Gray, Brown, Black, 3M™ Conceal Film
Ingress Protection	Outdoor (IP65)
Wind Survival Rating	150 mph (241 km/h)

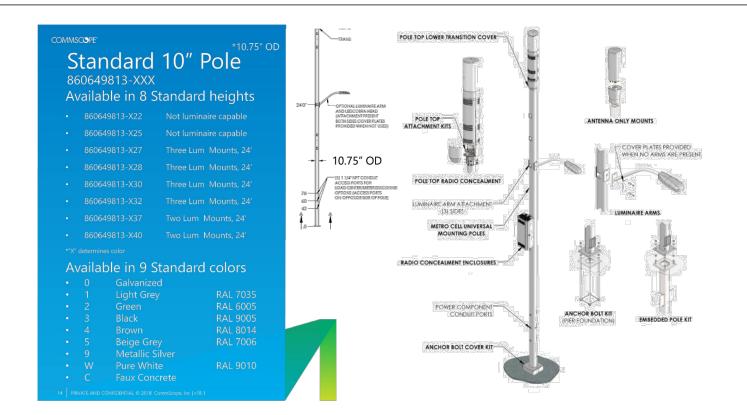








ANTENNA SPECIFICATIONS



POLE SPECIFICATIONS

UL 67

AC Disconnect with Integrated Surge Protection for Small Cell Radio Heads DATA SHEET

RSCAC-1333-P-240-A • RSCAC-1333-PS-240-A • RSCAC-1333-PH-240-A

The RSCAC-1333-P-240 is a Strikesorb Suitable for Use as Service Equipment (SUSE) without condition AC Disconnect with integrated surge protection. It is designed to provide robust overvoltage surge protection for the AC power circuits for today's small cell radio systems. It employs patented Strikesorb® 30-A-2CHV modules capable of withstanding direct surge currents up to 5kA (10/350 µs) and induced surge currents up to 60kA (8/20us) The BSCAC-1333 series provides dual (Line 1 to Neutral) (Line 2 to Neutral) protection BSCAC-1333-PS-240-A for ten AC circuits.

- 60A main breaker Suitable for Use as Service Equipment (SUSE) without condition per UL and NEC
- Four duplex branch breakers (2)15A, (2)20A are included
- 120/240VAC split phase configuration
- 120/240VAC split phase configuration
 Employs the Strikesorb 30-A-2CHV Surge Protective Device (SPD)
 The Strikesorb 30-A-2CHV is a Class I SPD, certified by VDE per the IEC 61643-11 standard as suitable for installation in areas where induced lightning exposure is expected
 Strikesorb 30-A-2CHV is able to withstand direct surge currents up to SkA (1035ups) and induced surge currents of up to 60kA (8/20)
 Provides low let through / clamping voltage as it does not employ spark gaps or other switching elements
 Strikesorb offers unique protection levels for wireless and small cell applications

- Comes with two compression fittings that can be replaced with 1.5" NPT conduit fittings Provides (Line 1 to Neutral, Line 2 to Neutral) protection for 120/240VAC split phase systems
- Compatible with double pole breakers
- Patent pending design
- Pole mount bracket facilitates mounting up to 4" diameter pole using existing clamps. Can also be banded to any diameter pole. Center mount holes (5/8") for center pole mount

- Offers unique maintenance free protection
- IP68 / NEMA 6&6P rated enclosure, allowing for installation in harsh environments · Lightweight design allows easy installation
- Up to ten circuits for individual power control and over current protection of up to ten small cell radio heads



RAYCAP SPECIFICATIONS



POLYGON NAME -



AMOES

STRUCTURE NUMBER

33

STRUCTURE OWNER

CITY OF FAIRHOPE

ADJ 8477 FAIRHOPE AVE

STRUCTURE COORDINATES

30.523796° LAT:

-87.878251° LONG:

- DESIGN REVISION 4/26/2 ISSUED FOR CONSTRUCTION 0 2/19/19

APPROVED BY: P. MARSHALL DESIGNED BY: A. RABENDA

A. RABENDA PROJECT #: ACAI9-OTT

EQUIPMENT SPECIFICATIONS

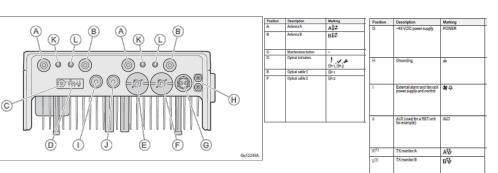
SHEET NUMBER

RRUS 4415 B25

- TX = 1930 1995 MHz
- RX = 1850 1915 MHz
- CPRI 2 ports x 2.5/4.9/9.8/10.1 Gbps. Install 1 SFP and connect 1 fiber pair to the RRUS 4415 during initial install.
- Only use Ericsson supplied and approved SFPs RDH10265/25
- 2 external alarm inputs
- Max wind load @ 50m/sec = 260N
- Breaker size = 20A, DC Power Consumption = 670 W (for dimensioning)
- 200mm horizontal separation required for side by side mounting
- > 200mm separation required from antenna backplane to radio 400mm vertical outdoor/indoor separation required between 2 radios
- 500mm vertical separation below antenna
- Min, Max DC cable size from squid to radio = 10,8 AWG - Adapter is required for 2-wire connection
- Shielded DC cable is required
- Ground cable size = 2AWG Dimensions (incl. handles, feet and sunshield, w/o fan unit)
- Height: 14.96" (380 mm)
- Width: 13.19" (335 mm)
- Depth: 5.39" (137 mm) > Weight, excl. mounting hardware = 46 lbs (21 kg)

RRUS 32 Datasheet for Turf Vendors | Commercial in confidence | Rev A | 2016-01-21 | Page 2

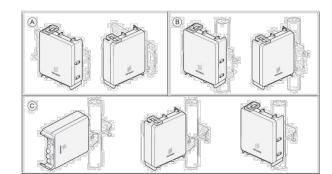
RRUS 4415 B25 CONNECTION INTERFACES



CPRI, RET/AISG port, and ALD port caps have lanyards attached to the radio. DC and RF ports have protective caps to be removed when DC, RF connected to radio.

RRUS 4415 MOUNTING OPTIONS

RRUS 4415



RRUS 32 Datasheet for Turf Vendors | Commercial in confidence | Rev A | 2016-01-21 | Page 4

- B5, B12 B5 TX = 869 894 MHz, B12 TX = 729 746 MHz

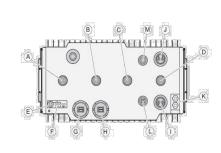
- B5 RX = 824 - 849 MHz, B12 RX = 699 - 716 MHz

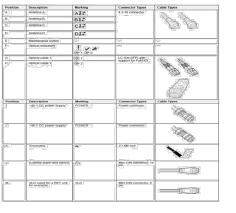
Both frequency bands are combined to transmit/receive out the same RF connectors

- PRI 2 ports x 2.5(4.9)9.8/10.1 Gbps. Install 2 SFP7s and connect 2 fiber pair to the RRUS 4449 during initial install. 2nd CPRI is reserved for 5G NR deployment later. Do not connect SFP7 to DUL20.
 Only use Ericsson supplied and approved SFP7s RDH10265/25.
- Install 2 SFP RDH 10265/3 for CPRI length 1.4 km 10 km
 Install SFP7 (pair): RDH 102 70/1 and RDH 102 70/2 (bi-directional SFP7 for CPRI length > 10 km 2 external alarm inputs
- Max wind load @ 50m/sec = 260 N
- > Breaker size = 2x25A, DC Power Consumption = 1440 W (for dimensioning). Both power connections must be connected and operational for the radio to operate.
- 40mm horizontal separation required for side by side mounting 200mm separation required from antenna backplane to radio
- 400mm vertical outdoor/indoor separation required between 2 radios
- 500mm vertical separation below antenna
- Min, Max DC cable size from squid to radio = 10,8 AWG
- Adapter is required for 2-wire connection
 Shielded DC cable is required
- Ground cable size = 2AWG Dimensions (incl. handles, feet and sunshield, w/o fan unit)
- Height: 17.9" (455 mm)
- Width: 13.19" (335 mm) - Depth: 9.44" (240 mm)
- Weight, excl. mounting hardware = 71 lbs (32 kg)

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RRUS 4449 B5,12 CONNECTION INTERFACES

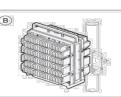




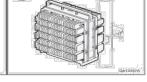
CPRI, RET/AISG port, and ALD port caps have lanyards attached to the radio. DC and RF ports have protective caps to be removed when DC, RF connected to radio

RRUS 4449 MOUNTING OPTIONS





RRUS 4449



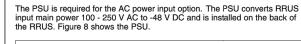
Description Wall installation Pole installation Pole installation with single pole clamp

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RADIO SPECIFICATIONS

RRUS 4449 B5, B12





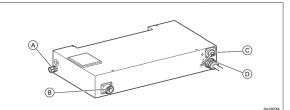


Figure 8 PSU AC 02

Table 12 PSU AC 02 Connection Interfaces

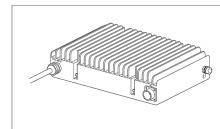
Position	Interface	
Α	Grounding interface	
В	AC power interface	
С	Interface for future use	
D	DC power interface	

PSU DESCRIPTION

MANUFACTURER: ERICSSON MODEL: PSU AC 02 2.68 IN **HEIGHT:** 12.99 IN DEPTH: 7.04 IN 11.64 LBS

PSU SPECIFICATIONS

• PSU AC 08 (100-250 V AC)



2.6 PSU AC 08

The PSU AC 08 converts AC power to -48 V DC power. Figure 4 shows the block diagram of the PSU AC 08.

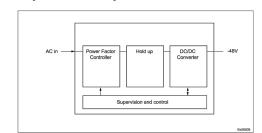


Figure 4 PSU AC 08 Block Diagram

PSU AC 08

Table 6 lists details for the external interfaces of PSU AC 08.

Table 6 PSU AC 08 Interfaces

Marking	Description	Location
~	AC in	Front
- 48 V	DC Out	Front
(±)	Grounding interface	Right-hand side

PSU SPECIFICATIONS





POLYGON NAME -AMOES

STRUCTURE NUMBER

STRUCTURE OWNER

CITY OF FAIRHOPE

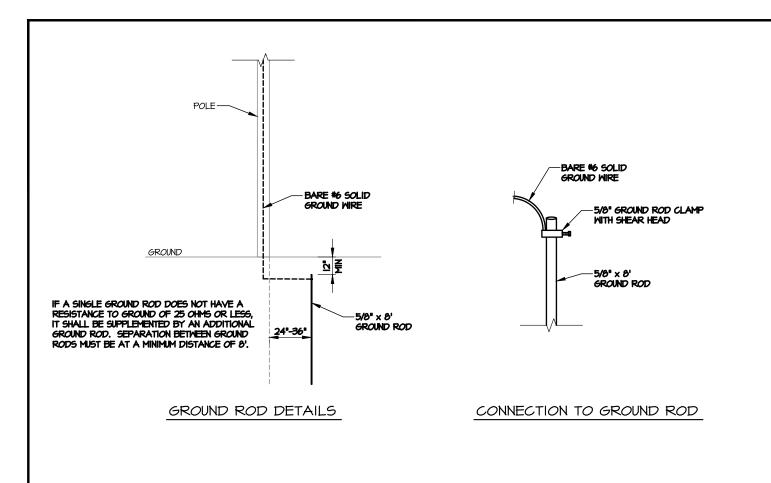
ADJ 8477 FAIRHOPE AVE

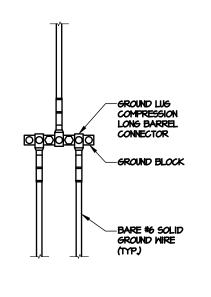
30.523796° -87.878251°

ISSUED FOR CONSTRUCTION 0 2/19/19

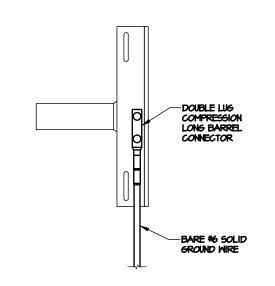
P. MARSHALL A. RABENDA A. RABENDA PROJECT #: ACAI9-OTT

EQUIPMENT SPECIFICATIONS

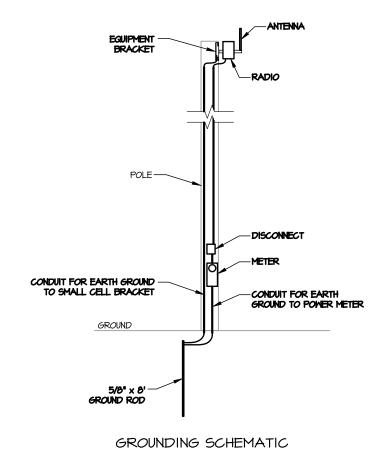


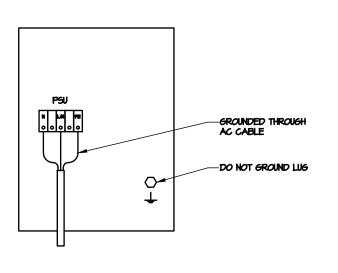


MULTIPLE GROUND CONNECTIONS



CONNECTION TO EQUIPMENT BRACKET





ERICSSON AC GROUNDING





AMOES

POLYGON NAME -

STRUCTURE OWNER

STRUCTURE NUMBER

CITY OF FAIRHOPE

ADJ 8477 FAIRHOPE

AVE

30.523796°

LONG: -87.878251°

ISSUED FOR CONSTRUCTION P. MARSHALL

DESIGNED BY: A. RABENDA A. RABENDA PROJECT #: ACAI9-OTT

A B A M

NO. 22856 PROFESSIONAL

GROUNDING DETAILS