

**Bechtel Communication on  
behalf of AT&T Mobility, LLC  
Site ID - CC0394\_CCU0394  
USID - 118367  
Site Name - Big Ranch Farms  
Site Compliance Report**

**2046 Big Ranch Road  
Napa, CA 94558**

Latitude: N38-19-36.45  
Longitude: W122-17-12.34  
Structure Type: Monopine

Report generated date: December 20, 2012  
Report by: Tony DeMattia  
Customer Contact: Tom McGuire

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**AT&T Mobility, LLC Will Be Compliant based on  
FCC Rules and Regulations.**

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**Bechtel Communication on behalf of AT&T  
Mobility, LLC  
Big Ranch Farms - CC0394\_CCU0394  
Radio Frequency (RF) Site Compliance Report**



**2046 Big Ranch Road, Napa, CA 94558**



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## 1 Executive Summary

Bechtel Communication on behalf of AT&T Mobility, LLC has contracted with Sitesafe, Inc. (Sitesafe), an independent Radio Frequency (RF) regulatory and engineering consulting firm, to determine whether the proposed communications site, CC0394\_CCU0394 - Big Ranch Farms, located at 2046 Big Ranch Road, Napa, CA, is in compliance with Federal Communication Commission (FCC) Rules and Regulations for RF emissions.

This report contains a detailed summary of the RF environment at the site including:

- diagram of the site;
- inventory of the make / model of all antennas
- theoretical MPE based on modeling.

**Project Description:** This is an application for a new unmanned AT&T Mobility LLC telecommunications facility, consisting of the installation and operation of antennas and associated equipment. AT&T Mobility LLC is proposing to install outdoor equipment shelter at ground level, 12 panel antennas are to be installed on the proposed monopine, six radio remote units (RRU-11) and two surge protector done units to be installed on the monopine.

This report addresses exposure to radio frequency electromagnetic fields in accordance with the FCC Rules and Regulations for all individuals, classified in two groups, "Occupational or Controlled" and "General Public or Uncontrolled." This **site will be compliant** with the FCC rules and regulations, as described in OET Bulletin 65.

This document and the conclusions herein are based on the information provided by AT&T Mobility, LLC.

If you have any questions regarding RF safety and regulatory compliance, please do not hesitate to contact Sitesafe's Customer Support Department at (703) 276-1100.

The following documents and information were used in the creation of this report:

CD: 25736-635-AA-CC0394 Z01-Rev0.pdf

RFDS: SF\_CCU0394\_NSB\_3701016468\_10150836\_090612\_Rev14.xlsx

ERP: Sitesafe assumed 60 watt transmit power output for the LTE technology and 40 watt transmit power output per carrier for UMTS.

## 2 Regulatory Basis

### 2.1 FCC Rules and Regulations

In 1996, the Federal Communication Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

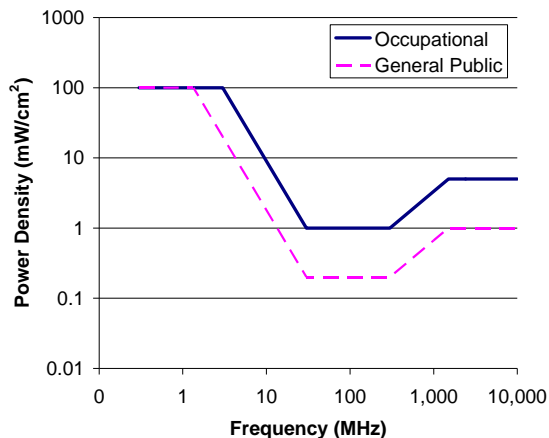
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:

**FCC Limits for Maximum Permissible Exposure (MPE)**  
Plane-wave Equivalent Power Density



**Limits for Occupational/Controlled Exposure (MPE)**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

**Limits for General Population/Uncontrolled Exposure (MPE)**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz      \*Plane-wave equivalent power density

**2.2 OSHA Statement**

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

### 3 Site Compliance

#### 3.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, Sitesafe has determined that:

This **site will be compliant** with the FCC rules and regulations, as described in OET Bulletin 65.

AT&T Mobility, LLC is predicted to contribute **greater than 5%** of the maximum permissible exposure (MPE) based on theoretical modeling using parameters supplied by the client. A detailed explanation of the 5% rule can be found in the Definition section of Appendix B.

The compliance determination is based on General Public MPE levels based on theoretical modeling, RF signage placement recommendations, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC's proposed deployment plan could result in the site being rendered non-compliant.

#### 3.2 Actions for Site Compliance

Based on common industry practice and our understanding of FCC and OSHA requirements, this section provides a statement of recommendations for site compliance. RF alert signage recommendations have been proposed based on theoretical analysis of MPE levels. Barriers can consist of locked doors, fencing, railing, rope, chain, paint striping or tape, combined with RF alert signage.

This site will be compliant with the FCC rules and regulations. However, because AT&T Mobility, LLC is predicted to contribute greater than 5% of the maximum permissible exposure (MPE), *should the site be subsequently deemed non-compliant for any reason*, any wireless operator(s) who contribute greater than 5% of the maximum permissible energy would be jointly liable for bringing the site into compliance.

Sitesafe found one or more issues that led to our determination. The site will be made compliant if the following changes are implemented:

- Posting RF signs that a person could read and understand the signs prior to accessing the site;

##### Site Access Location

Information Sign 1 required, in English.  
Information Sign 1 required, in Spanish.  
Yellow caution sign required.



## 4 Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

**General Maintenance Work:** Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

**Training and Qualification Verification:** All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

**Physical Access Control:** Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

**RF Signage:** Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

**Assume all antennas are active:** Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

**Maintain a 3 foot clearance from all antennas:** There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

**Site RF Emissions Diagram:** Section 5 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

## 5 Analysis

### 5.1 RF Emissions Diagram

The RF diagram(s) below display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as proscribed in OET Bulletin 65 and assumptions detailed in Appendix B.

The key at the bottom of each diagram indicates if percentages displayed are referenced to FCC Occupational or General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- a) Composite Exposure Levels
  - Areas indicated as Green are below 100% of the MPE limits.
  - Blue represents areas predicted to be between 100% and 500% of the MPE limits.
  - Yellow represents areas predicted to be between 500% and 5000% of the MPE limits.
  - Red areas indicated predicted levels greater than 5000% of the MPE limits.
  
- b) AT&T Mobility 5% Exposure Levels:
  - Areas indicated as Green are below 5% of the MPE limits.
  - Purple represents areas predicted to be greater than 5% of the MPE limits.

The theoretical analysis identified the maximum predicted MPE levels to be:

Maximum Theoretical General Public or Uncontrolled MPE level:	2.2%
Maximum Theoretical Occupational or Controlled MPE Level:	0.4%
AT&T Maximum Theoretical General Public or Uncontrolled MPE level:	2.2%
AT&T Maximum Theoretical Occupational or Controlled MPE level:	0.4%

General Population diagrams are specified when an area is accessible to the public; i.e. personnel that do not meet Occupational or RF Safety trained criteria, could gain access.

If trained occupational personnel require access to areas that are delineated as Red or above 100% of the limit, Sitesafe recommends that they utilize the proper personal protection equipment (RF monitors), coordinate with the carriers to reduce or shutdown power, or make real-time power density measurements with the appropriate power density meter to determine real-time MPE levels. This will allow the personnel to ensure that their work area is within exposure limits.

The key at the bottom also indicates the level or height of the modeling with respect to the main level. The origin is typically referenced to the main rooftop level, or ground level for a structure without access to the antenna level. For example:

Average from 0 feet above to 6 feet above origin

and

Average from 20 feet above to 26 feet above origin

The first indicates modeling at the main rooftop (or ground) level averaged over 6 feet. The second indicates modeling at a higher level (possibly a penthouse level) of 20 feet averaged over 6 feet.

**Abbreviations used in the RF Emissions Diagrams**

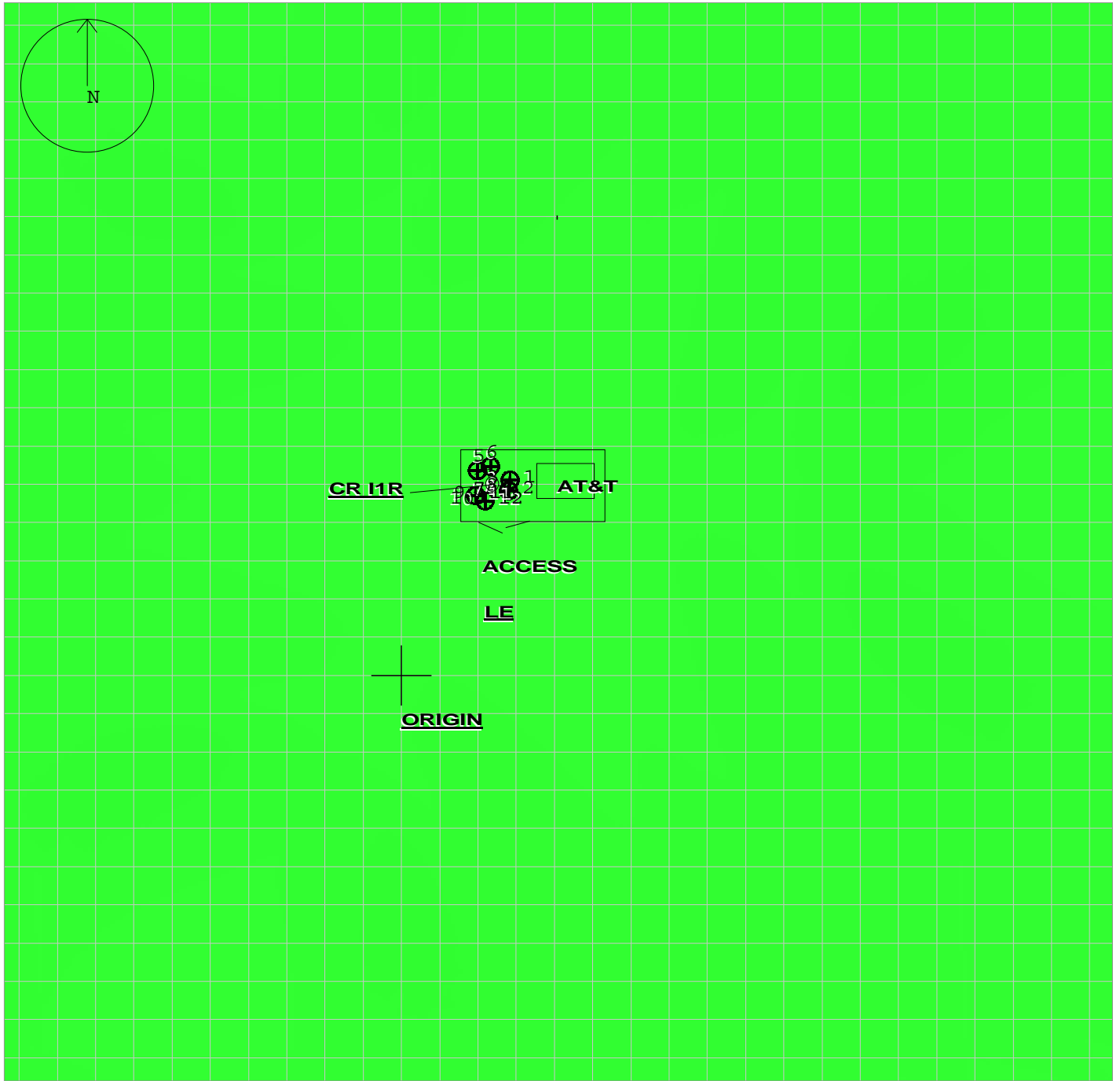
PH=##'	Penthouse at ## feet above main roof
--------	--------------------------------------

**Additional Information in the RF Emissions Diagrams Key**

The RF emissions diagram provides indications of RF signage, barriers and locked doors. The table below lists the abbreviations used to indicate locked doors, signs and barriers:

Table 1: RF Signage and Barrier Key					
RF Signage			Barriers		
Type	Existing Location	Recommended Location	Type	Existing Location	Recommended Location
Notice	<u>NE</u>	<u>NR</u>	Locked Door	<u>LE</u>	<u>LR</u>
Caution	<u>CE</u>	<u>CR</u>	Fencing	<u>RE</u>	<u>RR</u>
Warning	<u>WE</u>	<u>WR</u>	Rope Chain		
Info Sign 1	<u>I1E</u>	<u>I1R</u>	Paint Stripes		
Info Sign 2	<u>I2E</u>	<u>I2R</u>	Tape		
Info Sign 3	<u>I3E</u>	<u>I3R</u>			
Info Sign 4	<u>I4E</u>	<u>I4R</u>			

# RF Emissions Diagram for: Big Ranch Farms Ground Level



% of FCC Public Exposure Limit  
Average from 0 feet above to 6 feet above origin

- $5000 \leq X$
- $500 \leq X < 5000$
- $100 \leq X < 500$
- $X \leq 100$

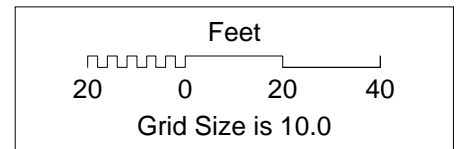


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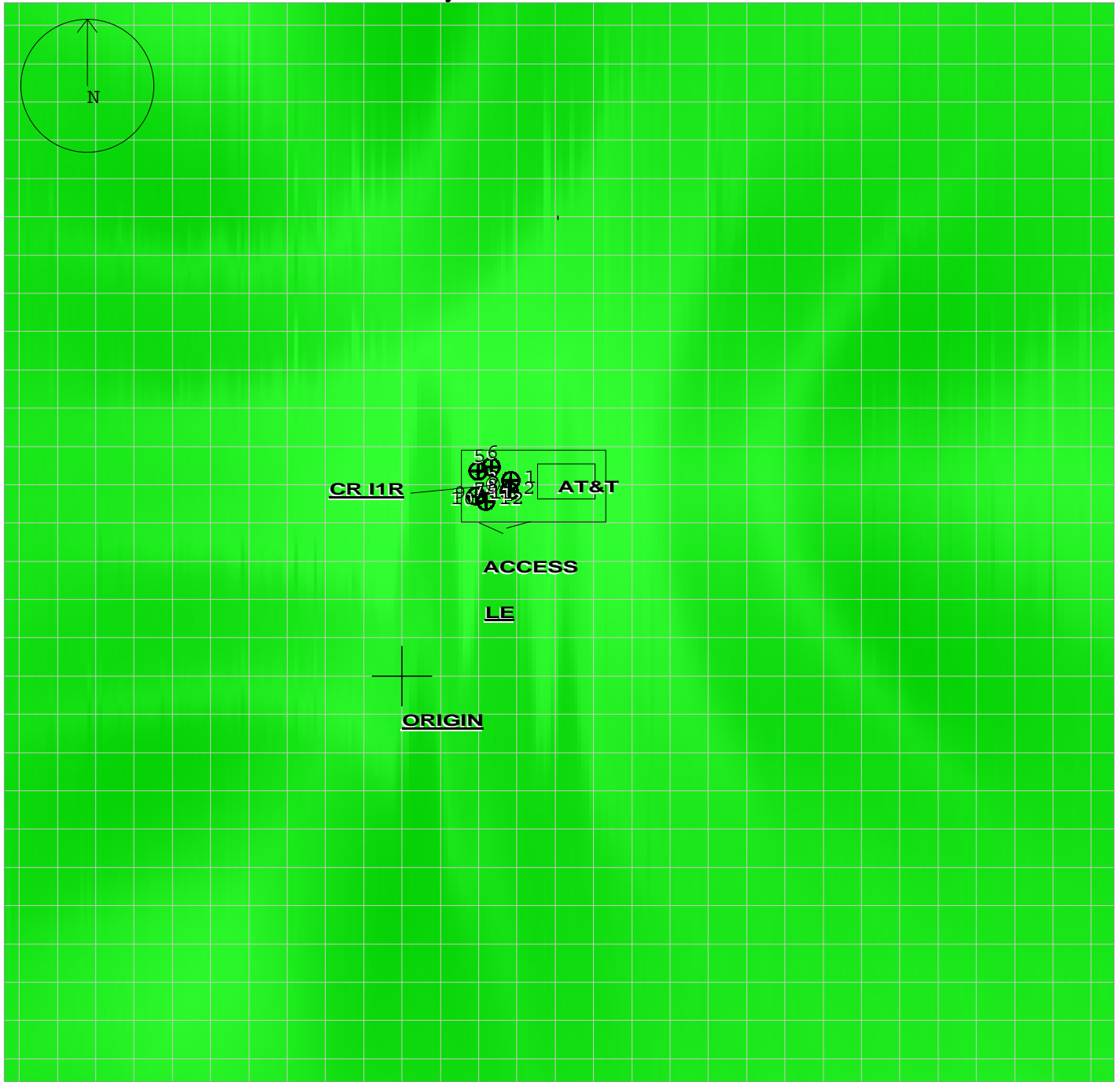
Sitesafe ID# 97473

Site Name: Big Ranch Farms

Sitesafe Inc. assumes no responsibility for modeling results not verified by Sitesafe personnel.  
Contact Sitesafe Inc. for modeling assistance (703) 276-1100.  
SitesafeTC Version Unavailable  
11/20/2012

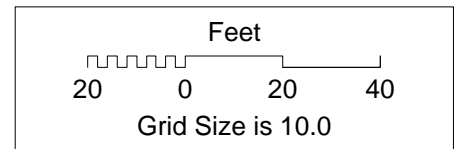


# RF Emissions Diagram for: Big Ranch Farms AT&T Mobility LLC Contribution Ground Level



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 Sitesafe ID# 97473  
 Site Name: Big Ranch Farms

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 11/20/2012



## 6 Antenna Inventory

There was no RF Advisory signage posted at any site access point. The Antenna Inventory shows all transmitting antennas at the site. This inventory was provided by the customer, and was utilized by Sitesafe to perform theoretical modeling of RF emissions. The inventory coincides with the site diagrams in this report, identifying each antenna's location at CC0394\_CCU0394 - Big Ranch Farms. The antenna information collected includes the following information:

- Licensee or wireless operator name
- Frequency or frequency band
- Transmitter power – Effective Radiated Power (“ERP”), or Equivalent Isotropic Radiated Power (“EIRP”) in Watts
- Antenna manufacturer make, model, and gain

For other carriers at this site, the use of “Generic” as an antenna model, or “Unknown” for an operator means the information with regard to carrier, their FCC license and/or antenna information was not available nor could it be secured while on site. Equipment, antenna models and nominal transmit power were used for modeling, based on past experience with radio service providers.



The following antenna inventory, on this and the following page, were provided by the customer and were utilized to create the site model diagrams:

Table 3: Antenna Inventory												
Ant #	Operated By	TX Freq (MHz)	ERP (Watts)	Antenna Gain (dBd)	Az (Deg)	Antenna Model	Ant Type	Len (ft)	Horizontal Half Power Beamwidth (Deg)	Location		
										X	Y	Z
1	AT&T Mobility LLC	737 (LTE)	973	12.10	90	Powerwave P65-16-XLH-RR-04ET (Proposed)	Panel	6	65	28'	51'	75'
2	AT&T Mobility LLC	1900 (UMTS 5C)	1283	15.06	90	Powerwave P65-16-XLH-RR-02ET (Proposed)	Panel	6	65	28'	48'	75'
3	AT&T Mobility LLC	850 (UMTS 4C)	867	13.36	90	Powerwave P65-16-XLH-RR-04ET (Proposed)	Panel	6	65	28'	51'	66'
3	AT&T Mobility LLC	1900 (UMTS 3C)	1283	15.06	90	Powerwave P65-16-XLH-RR-02ET (Proposed)	Panel	6	65	28'	51'	66'
4	AT&T Mobility LLC	850 (UMTS 1C)	867	13.36	90	Powerwave P65-16-XLH-RR-04ET (Proposed)	Panel	6	65	28'	48'	66'
4	AT&T Mobility LLC	1900 (UMTS 2C)	1283	15.06	90	Powerwave P65-16-XLH-RR-02ET (Proposed)	Panel	6	65	28'	48'	66'
5	AT&T Mobility LLC	737 (LTE)	973	12.10	330	Powerwave P65-16-XLH-RR-04ET (Proposed)	Panel	6	65	20'	54'	75'
6	AT&T Mobility LLC	1900 (UMTS 5C)	1283	15.06	330	Powerwave P65-16-XLH-RR-02ET (Proposed)	Panel	6	65	23'	55'	75'
7	AT&T Mobility LLC	850 (UMTS 4C)	867	13.36	330	Powerwave P65-16-XLH-RR-04ET (Proposed)	Panel	6	65	20'	54'	66'
7	AT&T Mobility LLC	1900 (UMTS 3C)	1283	15.06	330	Powerwave P65-16-XLH-RR-02ET (Proposed)	Panel	6	65	20'	54'	66'
8	AT&T Mobility LLC	850 (UMTS 1C)	867	13.36	330	Powerwave P65-16-XLH-RR-04ET (Proposed)	Panel	6	65	23'	55'	66'
8	AT&T Mobility LLC	1900 (UMTS 2C)	1283	15.06	330	Powerwave P65-16-XLH-RR-02ET (Proposed)	Panel	6	65	23'	55'	66'
9	AT&T Mobility LLC	737 (LTE)	973	12.10	210	Powerwave P65-16-XLH-RR-04ET (Proposed)	Panel	6	65	19'	47'	75'
10	AT&T Mobility LLC	1900 (UMTS 5C)	1283	15.06	210	Powerwave P65-16-XLH-RR-02ET (Proposed)	Panel	6	65	22'	46'	75'
11	AT&T Mobility LLC	850 (UMTS 4C)	867	13.36	210	Powerwave P65-16-XLH-RR-04ET (Proposed)	Panel	6	65	19'	47'	66'
11	AT&T Mobility LLC	1900 (UMTS 3C)	1283	15.06	210	Powerwave P65-16-XLH-RR-02ET (Proposed)	Panel	6	65	19'	47'	66'
12	AT&T Mobility LLC	850 (UMTS 1C)	867	13.36	210	Powerwave P65-16-XLH-RR-04ET (Proposed)	Panel	6	65	22'	46'	66'
12	AT&T Mobility LLC	1900 (UMTS 2C)	1283	15.06	210	Powerwave P65-16-XLH-RR-02ET (Proposed)	Panel	6	65	22'	46'	66'

NOTE: X, Y and Z indicate relative position of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates antenna height above the main site level unless otherwise indicated. ERP values provided by the client and used in the modeling may be greater than are currently deployed. For other carriers at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to carrier, their FCC license and/or antenna information was not available nor could it be secured while on site. Equipment, antenna models and nominal transmit power were used for modeling, based on past experience with radio service providers.



## 7 Engineer Certification

The professional engineer whose seal appears on the cover of this document hereby certifies and affirms that:

I am registered as a Professional Engineer in the jurisdiction indicated in the professional engineering stamp on the cover of this document; and

That I am an employee of Sitesafe, Inc., in Arlington, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio-frequency Radiation; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Tony DeMattia.

December 20, 2012





## Appendix A – Statement of Limiting Conditions

Sitesafe will not be responsible for matters of a legal nature that affect the site or property.

Due to the complexity of some wireless sites, Sitesafe performed this analysis and created this report utilizing best industry practices and due diligence. Sitesafe cannot be held accountable or responsible for anomalies or discrepancies due to actual site conditions (i.e., mislabeling of antennas or equipment, inaccessible cable runs, inaccessible antennas or equipment, etc.) or information or data supplied by AT&T Mobility, LLC, the site manager, or their affiliates, subcontractors or assigns.

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, observed during the survey of the subject property or that Sitesafe became aware of during the normal research involved in performing this survey. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data provided by a second party and physical data collected by Sitesafe, the physical data will be used.



## Appendix B – Assumptions and Definitions

### General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The site has been modeled with these assumptions to show the maximum RF energy density. Sitesafe believes this to be a *worst-case* analysis, based on best available data. Areas modeled to predict emissions greater than 100% of the applicable MPE level may not actually occur, but are shown as a *worst-case* prediction that could be realized real time. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Thus, at any time, if power density measurements were made, we believe the real-time measurements would indicate levels below those depicted in the RF emission diagram(s) in this report. By modeling in this way, Sitesafe has conservatively shown exclusion areas – areas that should not be entered without the use of a personal monitor, carriers reducing power, or performing real-time measurements to indicate real-time exposure levels.

### Use of Generic Antennas

For the purposes of this report, the use of “Generic” as an antenna model, or “Unknown” for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer’s published data regarding the antenna’s physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna’s range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

## Definitions

**5% Rule** – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

**Compliance** – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

**Decibel (dB)** – A unit for measuring power or strength of a signal.

**Duty Cycle** – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

**Effective (or Equivalent) Isotropic Radiated Power (EIRP)** – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

**Effective Radiated Power (ERP)** – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

**Gain (of an antenna)** – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

**General Population/Uncontrolled Environment** – Defined by the FCC, as an area where RFR exposure may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

**Generic Antenna** – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

**Isotropic Antenna** – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.



**Maximum Measurement** – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

**Maximum Permissible Exposure (MPE)** – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.

**Occupational/Controlled Environment** – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

**OET Bulletin 65** – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

**OSHA (Occupational Safety and Health Administration)** – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit [www.osha.gov](http://www.osha.gov).

**Radio Frequency Radiation** – Electromagnetic waves that are propagated from antennas through space.

**Spatial Average Measurement** – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy an average sized human body will absorb while present in an electromagnetic field of energy.

**Transmitter Power Output (TPO)** – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

## Appendix C – Rules & Regulations

### Explanation of Applicable Rules and Regulations

The FCC has set forth guidelines in OET Bulletin 65 for human exposure to radio frequency electromagnetic fields. Specific regulations regarding this topic are listed in Part 1, Subpart I, of Title 47 in the Code of Federal Regulations. Currently, there are two different levels of MPE - General Public MPE and Occupational MPE. An individual classified as Occupational can be defined as an individual who has received appropriate RF training and meets the conditions outlined below. General Public is defined as anyone who does not meet the conditions of being Occupational. FCC and OSHA Rules and Regulations define compliance in terms of total exposure to total RF energy, regardless of location of or proximity to the sources of energy.

It is the responsibility of all licensees to ensure these guidelines are maintained at all times. It is the ongoing responsibility of all licensees composing the site to maintain ongoing compliance with FCC rules and regulations. Individual licensees that contribute less than 5% MPE to any total area out of compliance are not responsible for corrective actions.

OSHA has adopted and enforces the FCC's exposure guidelines. A building owner or site manager can use this report as part of an overall RF Health and Safety Policy. It is important for building owners/site managers to identify areas in excess of the General Population MPE and ensure that only persons qualified as Occupational are granted access to those areas.

### Occupational Environment Explained

The FCC definition of Occupational exposure limits apply to persons who:

- are exposed to RF energy as a consequence of their employment;
- have been made aware of the possibility of exposure; and
- can exercise control over their exposure.

OSHA guidelines go further to state that persons must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

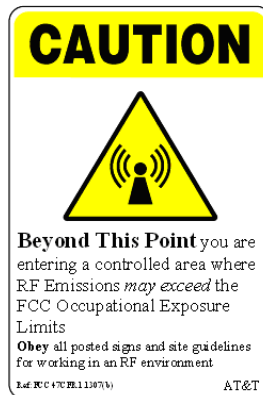
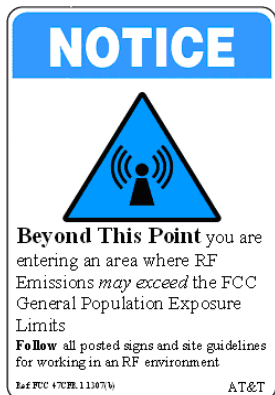
In order to consider this site an Occupational Environment, the site must be controlled to prevent access by any individuals classified as the General Public. Compliance is also maintained when any non-occupational individuals (the General Public) are prevented from accessing areas indicated as Red or Yellow in the attached RF Emissions diagram. In addition, a person must be aware of the RF environment into which they are entering. This can be accomplished by an RF Safety Awareness class, and by appropriate written documentation such as this Site Compliance Report.

All AT&T Mobility, LLC employees who require access to this site must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

## Appendix D – General Safety Recommendations

The following are *general recommendations* appropriate for any site with accessible areas in excess of 100% General Public MPE. These recommendations are not specific to this site. These are safety recommendations appropriate for typical site management, building management, and other tenant operations.

1. All individuals needing access to the main site (or the area indicated to be in excess of General Public MPE) should wear a personal RF Exposure monitor, successfully complete proper RF Safety Awareness training, and have and be trained in the use of appropriate personal protective equipment.
2. All individuals needing access to the main site should be instructed to read and obey all posted placards and signs.
3. The site should be routinely inspected and this or similar report updated with the addition of any antennas or upon any changes to the RF environment including:
  - adding new antennas that may have been located on the site
  - removing of any existing antennas
  - changes in the radiating power or number of RF emitters
4. Post the appropriate **NOTICE**, **CAUTION**, or **WARNING** sign at the main site access point(s) and other locations as required. Note: Please refer to RF Exposure Diagrams in Appendix B, to inform everyone who has access to this site that beyond posted signs there may be levels in excess of the limits prescribed by the FCC. The signs below are examples of signs meeting FCC guidelines.



5. Ensure that the site door remains locked (or appropriately controlled) to deny access to the general public if deemed as policy by the building/site owner.
6. For a General Public environment the four color levels identified in this analysis can be interpreted in the following manner:
  - a) Composite Exposure Levels
    - Areas indicated as Green are below 100% of the MPE limits or below.
    - Blue represents areas predicted to be between 100% and 500% of the MPE limits.



- Yellow represents areas predicted to be between 500% and 5000% of the MPE limits.
  - Red areas indicated predicted levels greater than 5000% of the MPE limits.
- b) AT&T Mobility 5% Exposure Levels:
- Areas indicated as Green are below 5% of the MPE limits or below.
  - Purple represents areas predicted to be greater than 5% of the MPE limits.

7. Use of a Personal Protective Monitor: When working around antennas, Sitesafe strongly recommends the use of a Personal Protective Monitor (PPM). Wearing a PPM will properly forewarn the individual prior to entering an RF exposure area.

Keep a copy of this report available for all persons who must access the site. They should read this report and be aware of the potential hazards with regards to RF and MPE limits.

### **Additional Information**

Additional RF information is available by visiting both [www.Sitesafe.com](http://www.Sitesafe.com) and [www.fcc.gov/oet/rfsafety](http://www.fcc.gov/oet/rfsafety). OSHA has additional information available at: <http://www.osha-slc.gov/SLTC/radiofrequencyradiation>.

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**USA NORTH**  
OF CENTRAL/NORTHERN CALIFORNIA  
AND NEVADA



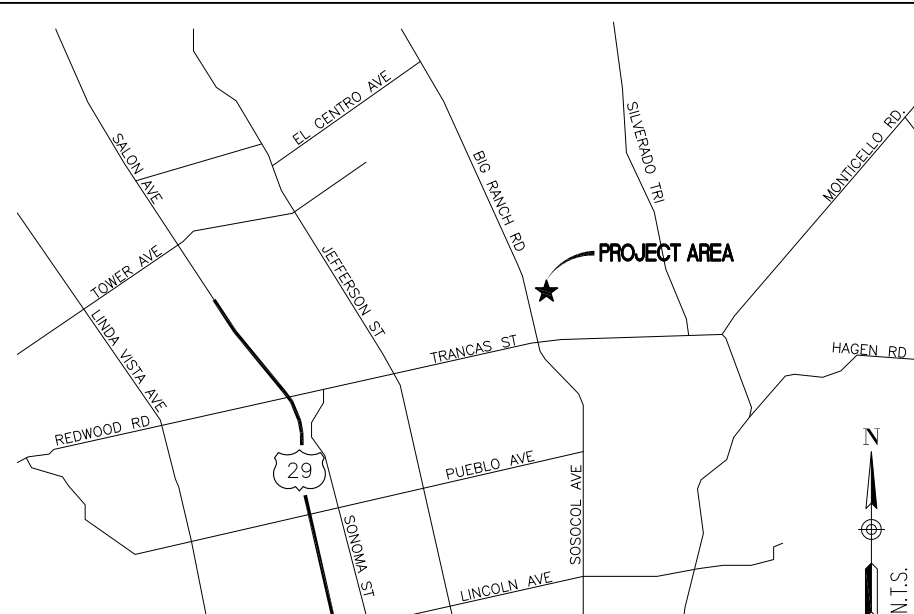


DIAL TOLL FREE  
1-800-227-2600

AT LEAST TWO WORKING  
DAYS BEFORE YOU DIG



**SITE NUMBER: CCU0394**  
**SITE NAME: SOSCOL AVE AND PUEBLO AVE**  
**2046 BIG RANCH RD.**  
**NAPA, CA 94558**

A/E DOCUMENT REVIEW STATUS			
Status Code			
1	<input checked="" type="checkbox"/>	Accepted - With minor or no comments, construction may proceed	
2	<input type="checkbox"/>	Not Accepted - Please resolve comments and resubmit	
Acceptance does not constitute approval of design details, calculations, analysis, test methods or materials developed or selected by the subcontractor and does not relieve subcontractor from full compliance obligations.			
	ENG	CONST	
Reviewed	<span style="border: 1px solid red; padding: 2px;">JD</span>	<span style="border: 1px solid red; padding: 2px;">N/A</span>	
Status By			Date

RF DATA SHEET	DIRECTIONS	PROJECT DESCRIPTION																												
CONSTRUCTION TO CONFIRM TO FINAL RFDS      DATE ISSUED: 09/06/12      REVISION: V1.4	<b>DIRECTIONS FROM PLEASANTON, CA:</b> 1. START OUT GOING EAST ON ROSEWOOD DR TOWARD OLD SANTA RITA RD. 2. TURN LEFT ONTO SANTA RITA RD. 3. STAY STRAIGHT TO GO ONTO TASSAJARA RD. 4. MERGE ONTO I-580 W TOWARD OAKLAND. 5. MERGE ONTO I-680 N VIA EXIT 44B TOWARD SACRAMENTO/WALNUT CREEK/CONCORD 6. MERGE ONTO I-80 W VIA THE EXIT ON THE LEFT TOWARD CA-12/NAPA/SAN FRANCISCO. 7. MERGE ONTO JAMESON CANYON RD/CA-12 TOWARD NAPA/SONOMA. 8. TURN SLIGHT RIGHT ONTO CA-29 N/CA-12 W. 9. TURN SLIGHT RIGHT TOWARD DOWNTOWN NAPA/LAKE BERRYESSA. 10. STAY STRAIGHT TO GO ONTO NAPA VALLEJO HWY/CA-221 N. 11. NAPA VALLEJO HWY/CA-221 N BECOMES SOSCOL AVE. 12. SOSCOL AVE BECOMES BIG RANCH RD. 13. 2046 BIG RANCH RD IS ON THE RIGHT.	THIS IS AN APPLICATION FOR A NEW, UNMANNED AT&T SERVICES FACILITY, CONSISTING OF THE INSTALLATION AND OPERATION OF ANTENNAS AND ASSOCIATED EQUIPMENT. AT&T IS PROPOSING TO INSTALL OUTDOOR EQUIPMENT SHELTER ON GROUND LEVEL, TWELVE (12) PANEL ANTENNAS ARE TO BE INSTALLED ON PROPOSED MONOPINE, SIX (6) RADIO REMOTE UNITS (RRUS-11) AND TWO (2) SURGE PROTECTOR DOME UNITS TO BE INSTALLED ALSO ON PROPOSED MONOPINE.																												
<b>DRAWING INDEX</b>	<b>VICINITY MAP</b>	<b>PROJECT INFORMATION</b>																												
<b>REV</b>		SITE ADDRESS: 2046 BIG RANCH ROAD NAPA, CA 94558  PROPERTY OWNER: MARK HABERGER BIG RANCH FARMS 2046 BIG RANCH ROAD NAPA, CA 94558  APPLICANT: AT&T 4430 ROSEWOOD DRIVE, BLDG. 3 PLEASANTON, CA 94588  LATITUDE: 38° 19' 36.58" N (NAD 83) LONGITUDE: 122° 17' 13.18" W (NAD 83) ELEVATION: ±44.60' AMSL HEIGHT OF STRUCTURE (TOP OF MONOPINE): ±85' AGL HEIGHT ANTENNAS (TOP ARRAY): ±78' AGL HEIGHT ANTENNAS (TOP ARRAY): ±69' AGL JURISDICTION: COUNTY OF NAPA APN NUMBER: 038-190-008 ZONING: --- PROPOSED USE: TELECOMMUNICATIONS FACILITY																												
25736-635-CCU0394-T01      TITLE SHEET, SITE INFORMATION AND VICINITY MAP      0 25736-635-CCU0394-LS1      SURVEY      0 25736-635-CCU0394-A01      SITE PLAN      0 25736-635-CCU0394-A02      PROPOSED ENLARGED SITE PLAN      0 25736-635-CCU0394-A03      PROPOSED ENLARGED COMPOUND PLAN      0 25736-635-CCU0394-A04      PROPOSED EQUIPMENT LAYOUT AND ANTENNA PLAN      0 25736-635-CCU0394-A05      PROPOSED SOUTH AND EAST ELEVATIONS      0 25736-635-CCU0394-D01      CONSTRUCTION DETAILS      0		<b>SITE QUALIFICATION PARTICIPANT</b>																												
<b>CODE COMPLIANCE</b>		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>NAME</th> <th>COMPANY</th> <th>CONTACT NUMBER</th> </tr> </thead> <tbody> <tr> <td>A/E</td> <td>SOHAIL A. SHAH (EOR)</td> <td>PDC CORPORATION</td> <td>(925) 606-5868</td> </tr> <tr> <td></td> <td>PAULO PUELIU</td> <td>PDC CORPORATION</td> <td>(510) 385-5541</td> </tr> <tr> <td>SAC</td> <td>CHRISTY BELTRAN ROBERTS</td> <td>THE CBR GROUP</td> <td>(415) 806-2323</td> </tr> <tr> <td>RF</td> <td>SON BUI</td> <td>AT&amp;T MOBILITY</td> <td>(571) 268-0137</td> </tr> <tr> <td>ZONING</td> <td>CHRISTY BELTRAN ROBERTS</td> <td>THE CBR GROUP</td> <td>(415) 806-2323</td> </tr> <tr> <td>LANDLORD</td> <td>MARK HABERGER</td> <td>BIG RANCH FARMS</td> <td>(707) 738-9852</td> </tr> </tbody> </table>		NAME	COMPANY	CONTACT NUMBER	A/E	SOHAIL A. SHAH (EOR)	PDC CORPORATION	(925) 606-5868		PAULO PUELIU	PDC CORPORATION	(510) 385-5541	SAC	CHRISTY BELTRAN ROBERTS	THE CBR GROUP	(415) 806-2323	RF	SON BUI	AT&T MOBILITY	(571) 268-0137	ZONING	CHRISTY BELTRAN ROBERTS	THE CBR GROUP	(415) 806-2323	LANDLORD	MARK HABERGER	BIG RANCH FARMS	(707) 738-9852
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ALL WORK AND MATERIALS SHALL BE PERFORMED AND 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 CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES.  1. 2010 CALIFORNIA ADMINISTRATIVE CODE 2. 2010 CALIFORNIA BUILDING CODE 3. 2010 CALIFORNIA ELECTRICAL CODE 4. 2010 CALIFORNIA MECHANICAL CODE 5. 2010 CALIFORNIA PLUMBING CODE 6. 2010 CALIFORNIA FIRE CODE 7. ANY LOCAL BUILDING CODE AMENDMENTS TO THE ABOVE 8. CITY/COUNTY ORDINANCES  HANDICAP REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED IN ACCORDANCE WITH CALIFORNIA ADMINISTRATIVE STATE CODE PART 2, TITLE 24, CHAPTER 11B, SECTION 1103B.																														
 1062 CONCANNON BLVD. LIVERMORE, CA 94550 TEL: (925) 606-5868	<b>SOSCOL AVE AND PUEBLO AVE</b> <b>CCU0394</b> 2046 BIG RANCH RD. NAPA, CA 94558	 4430 ROSEWOOD DRIVE, BLDG. #3, 2ND FLOOR PLEASANTON, CA 94588																												
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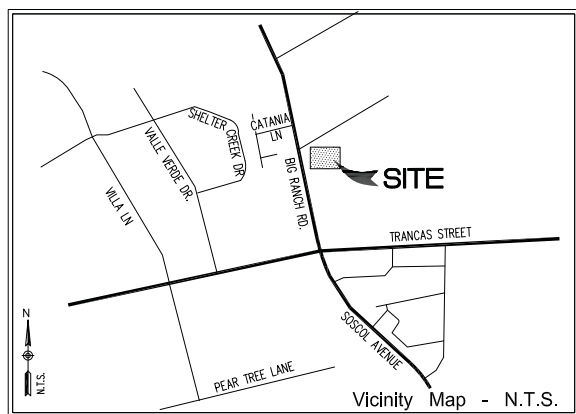
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SCALE: AS NOTED		DESIGNED BY:	DRAWN BY:		

SHEET TITLE			
<b>TITLE SHEET, SITE INFORMATION AND VICINITY MAP</b>			
JOB NUMBER	DRAWING NUMBER	SHEET NO.	REV
25736-635	CCU0394	T01	0

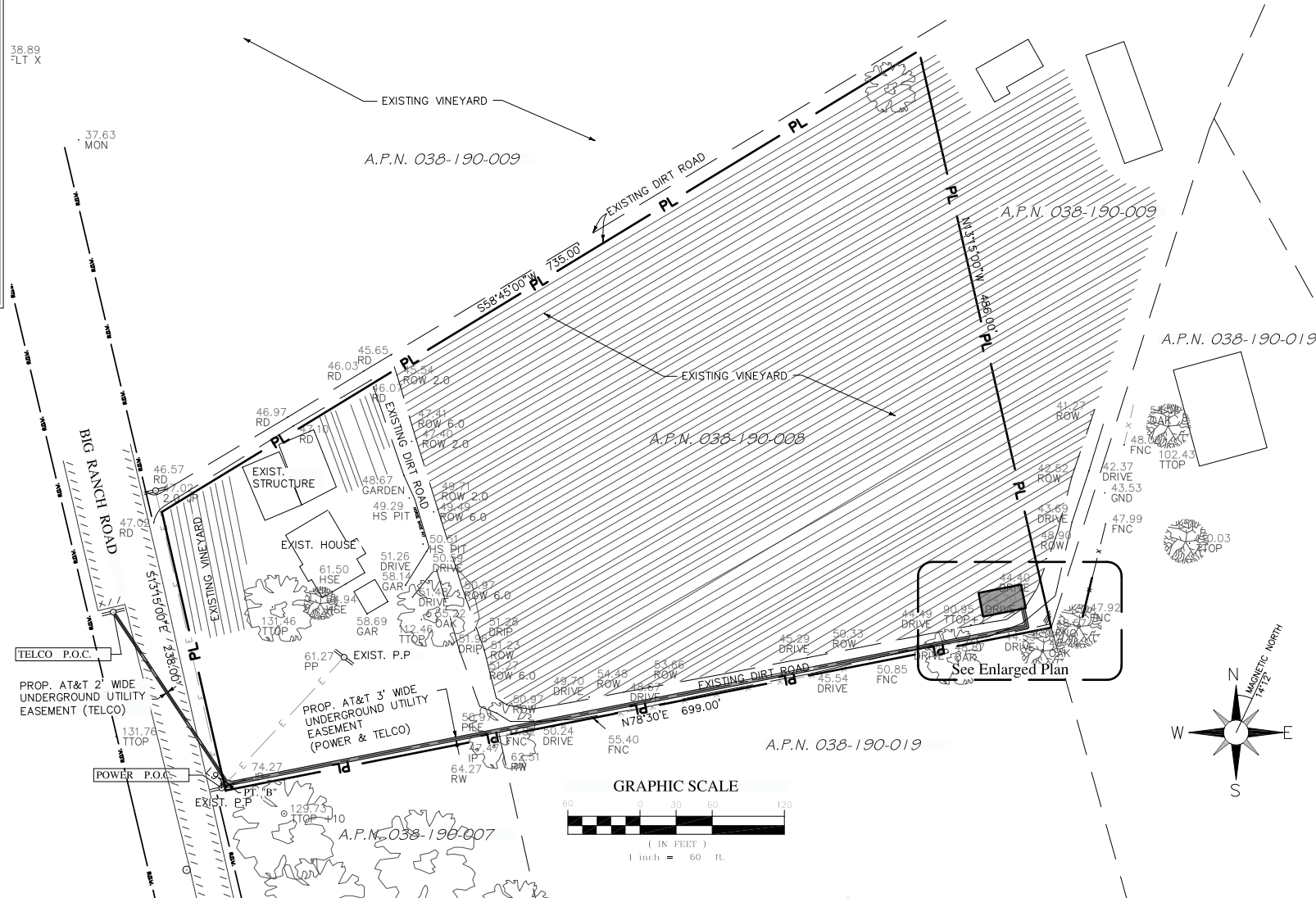
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B  
A



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Boundary and Overall Site plan  
SCALE: 1"=60'



**Proposed Lease Area**

A PORTION OF LAND LOCATED ALONG LOT 8 OF THE TRACT OF LAND CONVEYED TO LENORA M. LYTTLE BY DEED RECORDED IN BOOK 5 AT PAGE 215 OF OFFICIAL RECORDS OF NAPA COUNTY, AND IS DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEASTERLY PROPERTY CORNER OF THE PROPERTY DESCRIBED ABOVE; THENCE ALONG THE EASTERLY PROPERTY LINE NORTH 13°15' WEST 40.52 FEET; THENCE LEAVING THE EASTERLY PROPERTY LINE SOUTH 78°55' WEST 16.51 FEET MORE OR LESS TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 78°30' WEST 36.00 FEET; THENCE SOUTH 11°30' EAST 20.00 FEET; THENCE NORTH 78°30' EAST 33.92 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "A"; THENCE NORTH 78°30' EAST 2.08; THENCE NORTH 11°30' WEST 20.00' TO THE TRUE POINT OF BEGINNING.

CONTAINS 720 S.F. OF LAND MORE OR LESS.

**Proposed Utility Easement**

**A. POWER AND TELCO:**

A 3.00 FEET WIDE STRIP OF LAND LOCATED ALONG LOT 8 OF THE TRACT OF LAND CONVEYED TO LENORA M. LYTTLE BY DEED RECORDED IN BOOK 5 AT PAGE 215 OF OFFICIAL RECORDS OF NAPA COUNTY. THE SIDES OF SAID STRIP IS 1.50 FEET ON BOTH SIDES OF THE DESCRIBED CENTERLINE:

BEGINNING AT A POINT HEREINAFTER REFERRED TO AS POINT "A"; THENCE SOUTH 11°30' EAST 15.00 FEET; SOUTH 78°30' WEST 676.69 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "B"; THENCE SOUTH 78°30' WEST 5.68 FEET TO THE END OF SAID STRIP.

THE SIDES OF SAID STRIP CAN BE PROLONGED OR SHORTENED AT THE EXISTING POWER POLE AND THE SOUTHERLY LINE OF THE PROPOSED LEASE AREA.

APPROXIMATELY 697.37 LF IN LENGTH.

**B. TELCO:**

A 2.00 FEET WIDE STRIP OF LAND LOCATED ALONG BIG RANCH ROAD AS SHOWN ON RECORD OF SURVEY IN THE OFFICE OF THE NAPA VALLEY RECORDER. THE SIDES OF SAID STRIP IS 1.00 FEET ON BOTH SIDES OF THE DESCRIBED CENTERLINE:

BEGINNING AT A POINT HEREINAFTER REFERRED TO AS POINT "B"; THENCE NORTH 34°01'57" WEST 169.32 FEET TO THE END OF SAID STRIP.

THE SIDES OF SAID STRIP CAN BE PROLONGED OR SHORTENED AT THE EXISTING UTILITY POLE.

**Title Insurance Report**

PREPARED BY: FIRST AMERICAN TITLE COMPANY  
FILE NO.: T0014139  
DATED: AUGUST 02, 2012

**Assessor's Parcel No.**

038-190-008

**Legal Description**

THE LAND REFERRED TO IN THIS REPORT IS SITUATED IN THE UNINCORPORATED AREA OF THE COUNTY OF NAPA, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

APN: 038-190-008

COMMENCING AT THE POINT FORMED BY THE INTERSECTION OF THE EASTERLY LINE OF THE COUNTY ROAD COMMONLY KNOWN AS THE "BIG RANCH ROAD" WITH THE SOUTHERLY LINE OF THE TRACT OF LAND CONVEYED TO LENORA M. LYTTLE BY DEED RECORDED IN BOOK 5 AT PAGE 215 OF OFFICIAL RECORDS OF NAPA COUNTY; RUNNING THENCE ALONG THE SOUTHERLY LINE OF SAID TRACT NORTH 78°30' EAST 699.00 FEET TO THE SOUTHEASTERN CORNER THEREOF; THENCE ALONG THE LINE OF LAND CONVEYED TO LAUST LAND, ET UX, BY DEED RECORDED IN BOOK 114 AT PAGE 90 OF OFFICIAL RECORDS OF NAPA COUNTY, NORTH 13°15' WEST 486.00 FEET AND SOUTH 58°48' WEST 735.00 FEET TO A POINT ON THE EASTERLY LINE OF SAID ROAD, SOUTH 13°15' EAST 238.00 FEET TO A POINT OF COMMENCEMENT.

**Geographic Coordinates At Center Of Prop. Monopine**

LAT: 38°19'36.58" N LONG: 122°17'13.18" W (NAD83)

**Basis of Bearings**

THE BEARINGS SHOWN HEREON ARE BASED UPON THE STATE PLANE COORDINATE SYSTEM OF 1983 (NAD 83), CALIFORNIA ZONE 2.

**Benchmark:**

THE ELEVATIONS SHOWN HEREON ARE BASED UPON BENCHMARK No. NGS JT1689, ELEVATION=43.50 (NGVD 88).

**Surveyor Note**

THE BOUNDARY SHOWN HEREON IS PLOTTED FROM RECORD INFORMATION AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.

**Date of Survey**

AUGUST 27, 2012

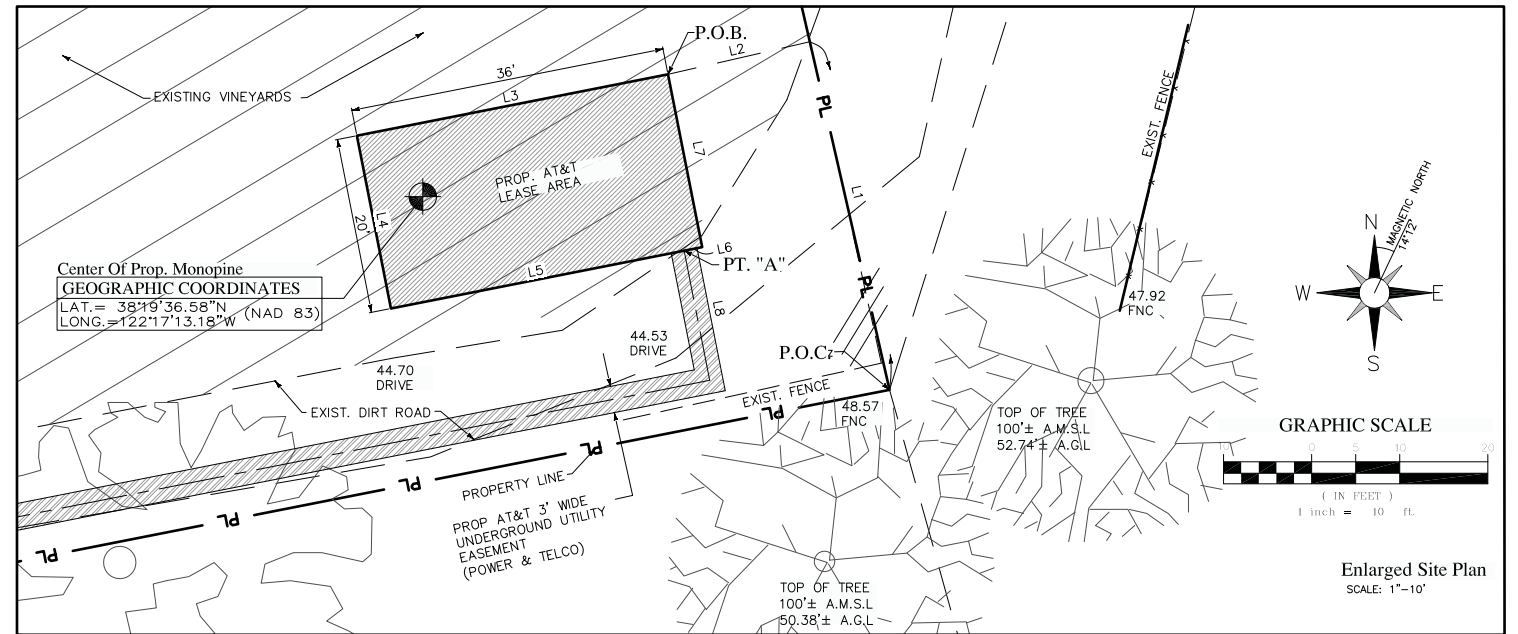
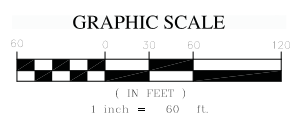
ROSS ALAN KINNIE  
PLS 7905 EXP. DATE 12-31-13

**Symbols - Legend**

FS FINISH SURFACE	ROW RIGHT-OF-WAY	RL ROW LINE
NG NATURAL GROUND	PBX UTILITY PULLBOX	PL PROPERTY LINE
FL FLOW LINE	GRND ELECTRIC GROUND	LL LOT LINE
LIP LIP OF CONCRETE	M METER	OL OLD RECORD MAPS LINE
CB CATCH BASIN	V VALVE	CL CENTER LINE
TC TOP OF CURB	VLT VAULT	EOP
TW TOP OF WALL	FO FIBER OPTIC	CLF CHAIN LINK FENCE
TOP TOP OF STRUCTURE	FM FOUND MONUMENT	WF WOOD FENCE
OHE OVERHEAD ELECTRIC CABLE	FH FIRE HYDRANT	IF IRON FENCE
RL RIDGE LINE	PP POWER POLE	EL ELECTRIC LINE
R ROOF ELEVATION	GATE/DOOR	OEL OVERHEAD ELECTRIC LINE
BTM BOTTOM OF STRUCTURE	SL STANDARD LIGHT	TEL TELECOM LINE
ARM ARM OF STRUCTURE	H HANDICAPPED	GL GAS LINE
HHOLE HAND HOLE	T TREE	WL WATER LINE
ANT ANTENNA	CONIFER TREE	SD STORM DRAIN LINE (D) (SD)
POB POINT OF BEGINNING	PALM TREE	FO FIBER OPTIC CABLE LINE
POC POINT OF COMMENCING	CONCRETE	SSL SANITARY SEWER LINE (SS)
POB (ON TR) POINT OF BEGINNING		
ELEVATIONS FIRST LEVEL		
PED UTILITY PEDESTAL		
CAB UTILITY CABINET		
LO LOWER SPOT ELEVATION		
DL/DI EDGE/TOP OF DIKE		

**Line Data Table**

LINE	LENGTH	BEARING
L1	40.52	N13°15'00"W
L2	16.51	S76°55'00"W
L3	36.00	S78°30'00"W
L4	20.00	S11°30'00"E
L5	33.92	N78°30'00"E
L6	2.08	N78°30'00"E
L7	20.00	N11°30'00"W
L8	15.00	S11°30'00"E
L9	5.68	S78°30'00"W



R.FRANCISCO & Associates  
Civil Engineering Surveying Land Development  
22994 TIMBER RIDGE CT.  
WILDOMAR, CA 92595  
Tel: (951) 973-8076  
EMAIL: rrf.associates@verizon.net

PDC CORPORATION  
**CID**  
1062 CONCANNON BLVD.  
LIVERMORE, CA 94558  
TEL: (925) 606-5868

**CC0394D**  
**SOSCUL AVENUE & PUEBLO AVENUE**  
2046 BIG RANCH ROAD  
NAPA, CA 94558

**at&t**  
AT&T MOBILITY  
4430 ROSEWOOD DRIVE, BUILDING 3  
PLEASANTON, CA 94588

NO.	DATE	DESCRIPTION	BY	CHK	APP'D
0	11/15/12	FINAL SUBMITTAL	FR	RF	RAK
B	10/01/12	REFLECT UTILITY ESMTS & LEASE AREA	FR	RF	RAK
A	08/30/12	PRELIM SUBMITTAL	FR	RF	RAK
NO.	DATE	DESCRIPTION	BY	CHK	APP'D
SCALE	AS SHOWN	DESIGNED	RF	DRAWN	FR

SHEET TITLE

**TOPOGRAPHIC SURVEY**

JOB NO.	DRAWING NO.	SHEET NO.	REV
<b>CC0394</b>		<b>LS-1</b>	0

SHEET 1 OF 1

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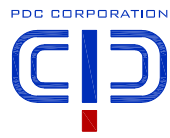
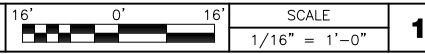
**SCALE NOTE:**  
 IF DIMENSIONS SHOWN ON PLAN DO NOT SCALE CORRECTLY, CHECK FOR REDUCTION OR ENLARGEMENT FROM ORIGINAL PLANS.



PROPOSED AT&T POWER AND TELCO POINTS OF CONNECTION  
 1  
 A02

1  
 A02 PROPOSED AT&T PROJECT AREA AT GRADE LEVEL

**SITE PLAN**



1062 CONCANNON BLVD.  
 LIVERMORE, CA 94550  
 TEL: (925) 606-5888

**SOSCOL AVE AND PUEBLO AVE**  
**CCU0394**  
 2046 BIG RANCH RD.  
 NAPA, CA 94558



4430 ROSEWOOD DRIVE, BLDG. #3, 2ND FLOOR  
 PLEASANTON, CA 94588

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	11/29/12	ISSUED FOR ZD REVIEW	MIF	MIF	SAS
SCALE: AS NOTED		DESIGNED BY:	DRAWN BY:		

SHEET TITLE			
<b>SITE PLAN</b>			
JOB NUMBER	DRAWING NUMBER	SHEET NO.	REV
25736-635	CCU0394	A01	0

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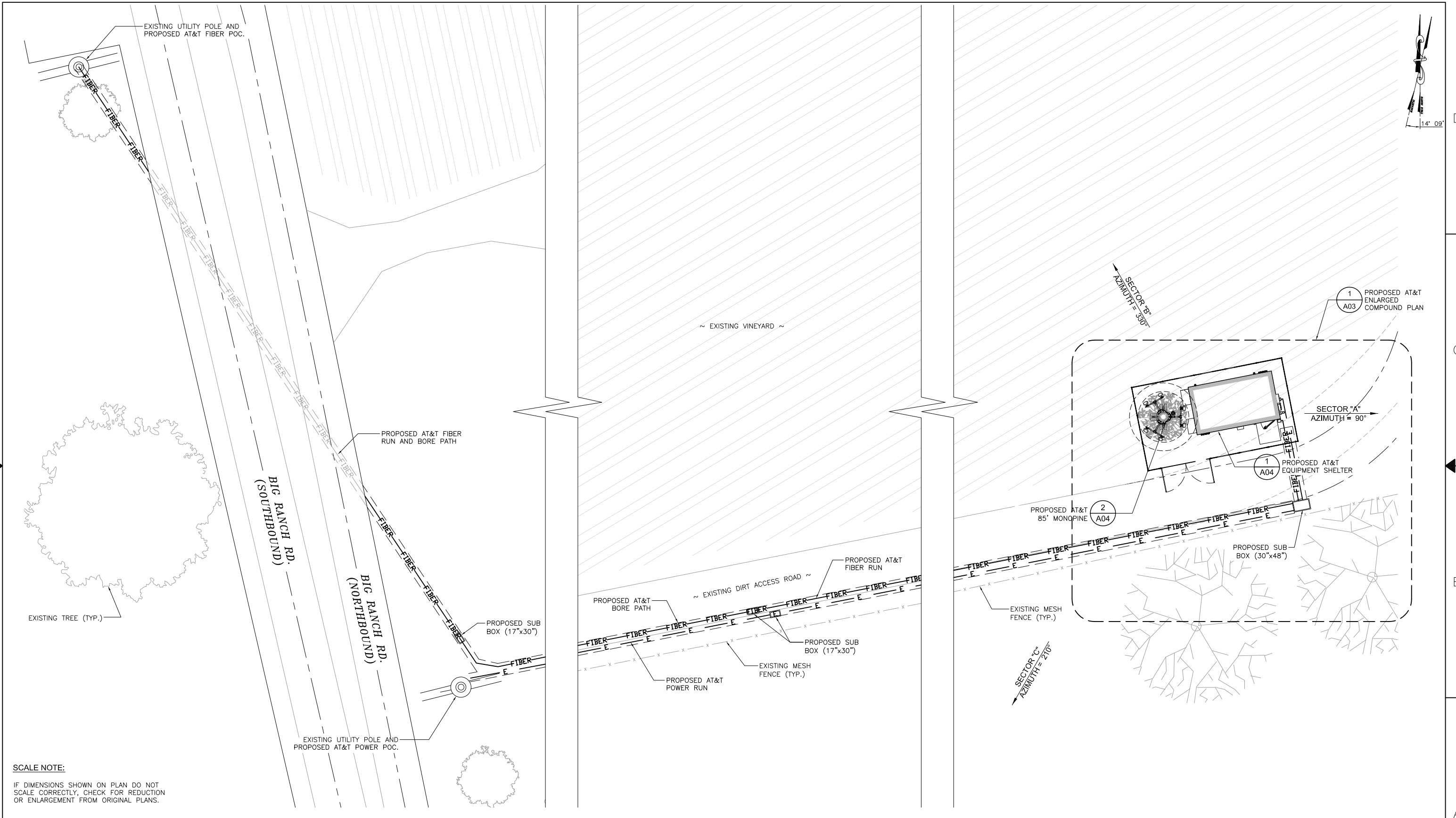
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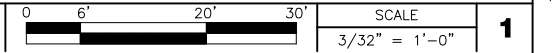
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**PROPOSED ENLARGED SITE PLAN**



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 LIVERMORE, CA 94550  
 TEL: (925) 606-5868

**SOSCOL AVE AND PUEBLO AVE**  
**CCU0394**  
 2046 BIG RANCH RD.  
 NAPA, CA 94558



4430 ROSEWOOD DRIVE, BLDG. #3, 2ND FLOOR  
 PLEASANTON, CA 94588

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	11/29/12	ISSUED FOR ZD REVIEW	MIF	MIF	SAS

SCALE: AS NOTED    DESIGNED BY:    DRAWN BY:

SHEET TITLE			
<b>PROPOSED ENLARGED SITE PLAN</b>			
JOB NUMBER	DRAWING NUMBER	SHEET NO.	REV
25736-635	CCU0394	<b>A02</b>	0

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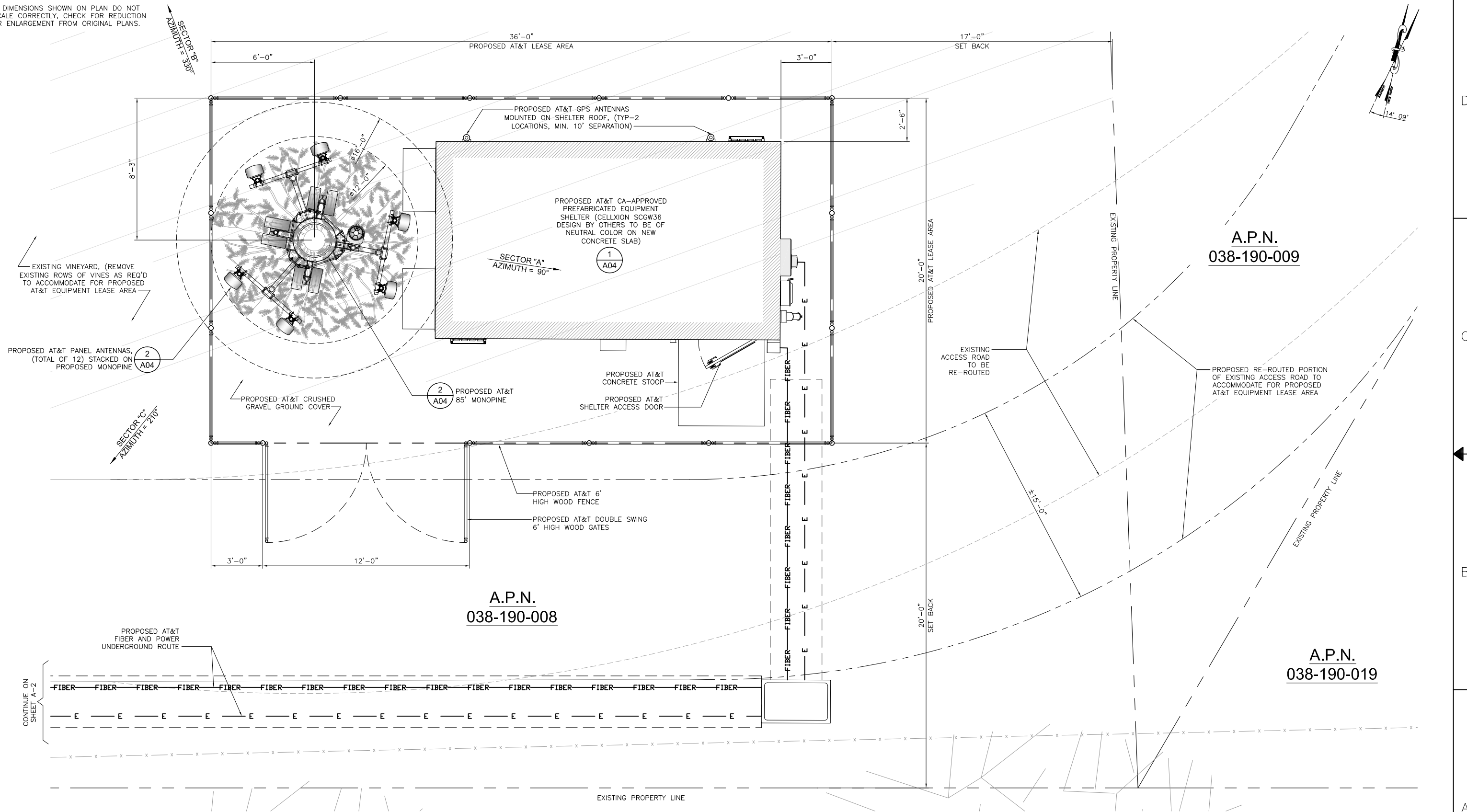
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D

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**PROPOSED ENLARGED COMPOUND PLAN**

0 1' 2' 4'	SCALE	<b>1</b>
	1/2" = 1'-0"	

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NO.	DATE	REVISIONS	BY	CHK	APP'D
0	11/29/12	ISSUED FOR ZD REVIEW	MIF	MIF	SAS

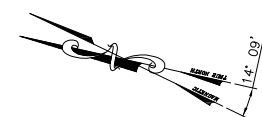
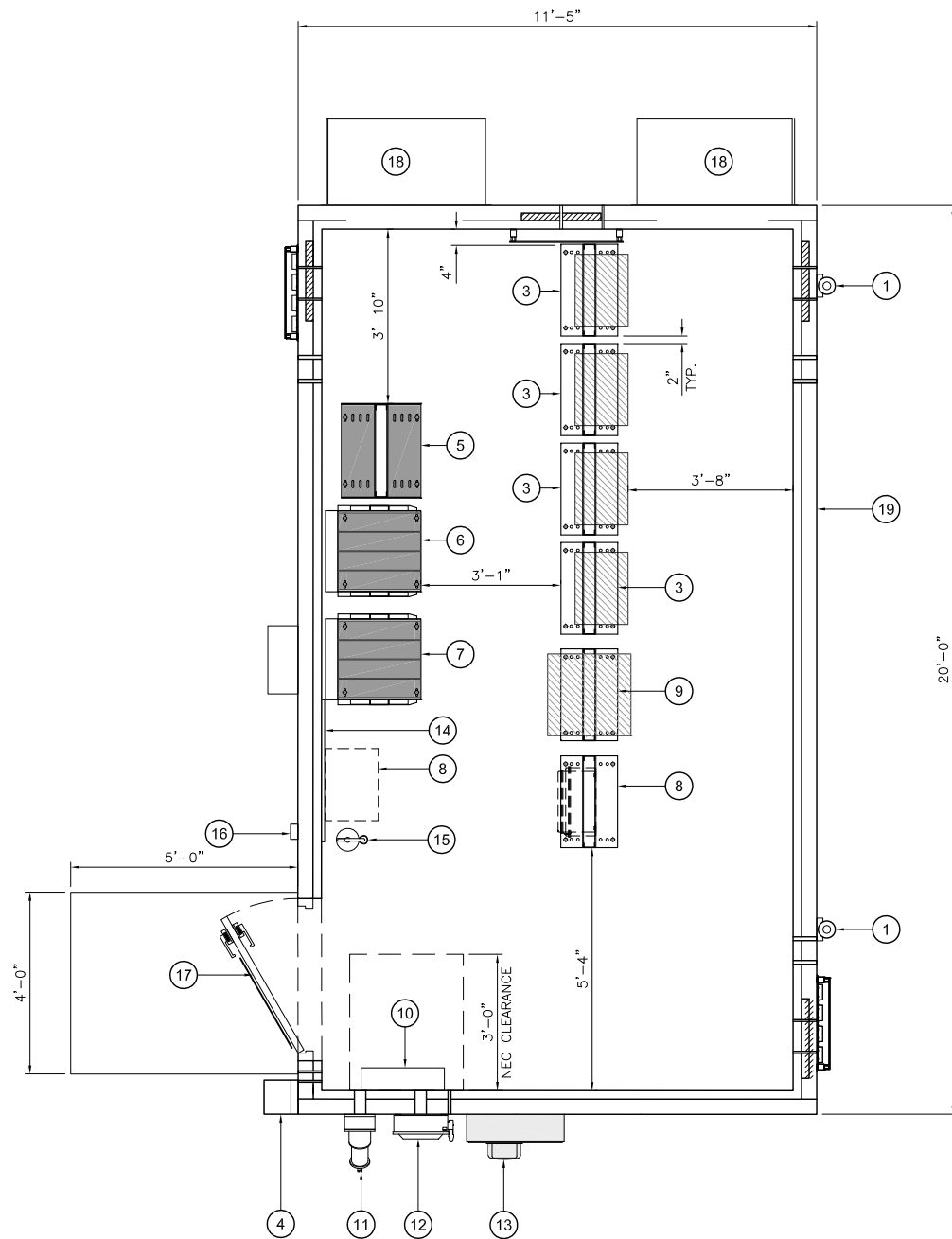
SCALE: AS NOTED    DESIGNED BY:    DRAWN BY:

SHEET TITLE			
<b>PROPOSED ENLARGED SITE PLAN</b>			
JOB NUMBER	DRAWING NUMBER	SHEET NO.	REV
25736-635	CCU0394	<b>A03</b>	0

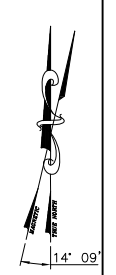
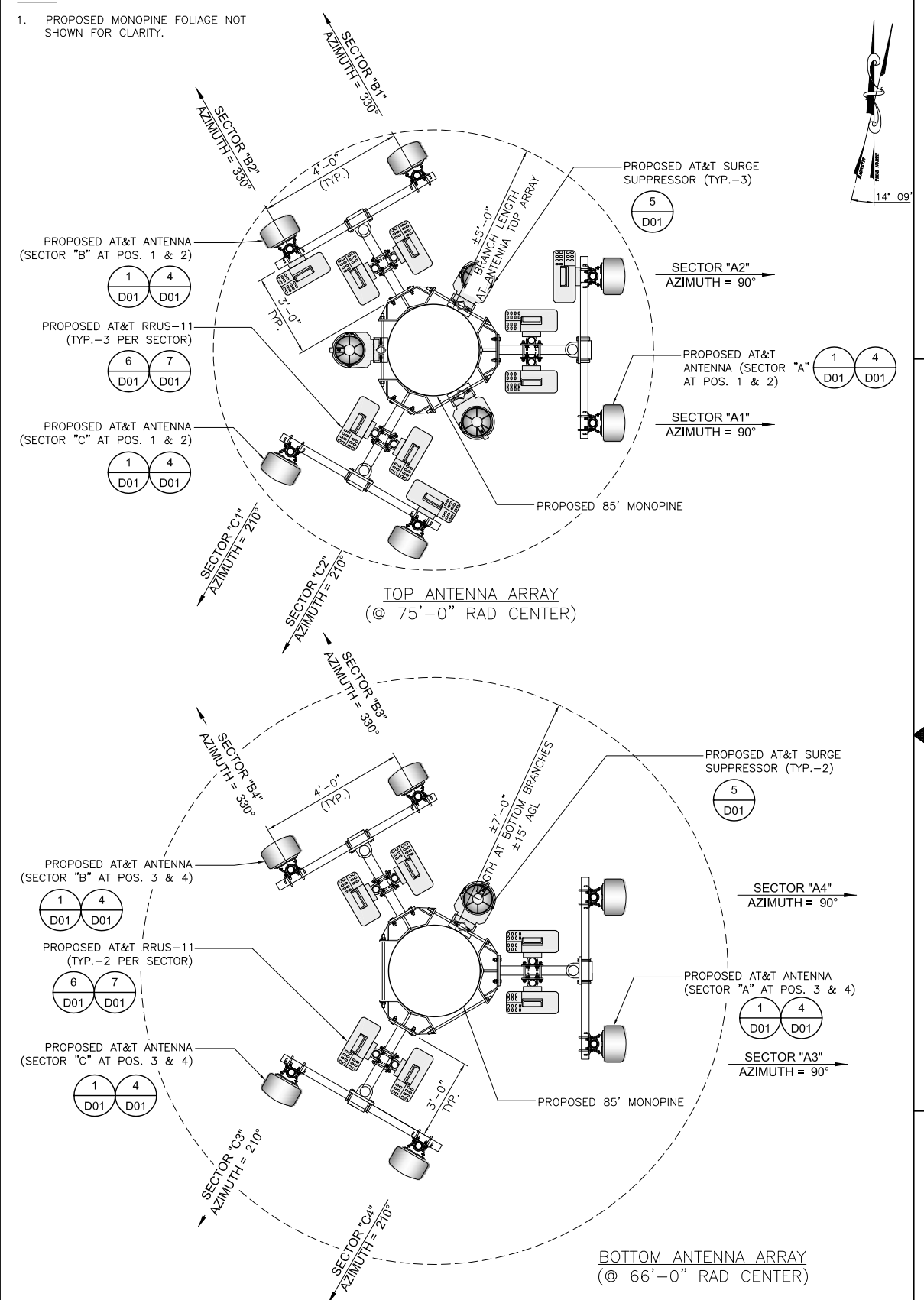
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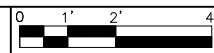
- KEYED NOTES:**
- ① PROPOSED AT&T GPS ANTENNA MOUNTED ON EQUIPMENT SHELTER ROOF
  - ② PROPOSED AT&T 23" RACK FOR RBS 6601 LTE [1.5U EACH]
  - ③ PROPOSED AT&T 23" RACK FOR RBS 6601 UMTS [1.5U EACH]
  - ④ PROPOSED EXTERIOR SERVICE LIGHT
  - ⑤ PROPOSED AT&T DC POWER PLANT
  - ⑥ PROPOSED AT&T BATTERY RACK
  - ⑦ PROPOSED AT&T BATTERY RACK
  - ⑧ OPTIONAL AT&T MUX AND FUTURE UAM/CIENA MOUNT ON WALL OR ON RACK
  - ⑨ PROPOSED AT&T EQUIPMENT RACK
  - ⑩ PROPOSED AT&T 200AMP ELECTRICAL PANEL (PROVIDED WITH SHELTER)
  - ⑪ PROPOSED SWITCH DISCONNECT WITH GENERATOR PLUG MOUNTED ON SHELTER
  - ⑫ PROPOSED AT&T ELEC. METER WITH DISCONNECT SWITCH WALL MOUNTED ON SHELTER
  - ⑬ PROPOSED AT&T ELEC. METER WALL MOUNTED ON SHELTER
  - ⑭ PROPOSED AT&T TELCO BOARD (PROVIDED WITH SHELTER)
  - ⑮ PROPOSED AT&T FIRE EXTINGUISHER
  - ⑯ PROPOSED FIRE DEPT KNOX KEY BOX
  - ⑰ PROPOSED AT&T EMERGENCY CONTACT INFORMATION SIGNAGE
  - ⑱ PROPOSED A/C UNIT (TYP.-2), PROVIDED WITH SHELTER
  - ⑳ PROPOSED AT&T CA-APPROVED PREFABRICATED EQUIPMENT SHELTER TO BE OF NEUTRAL COLOR. (DEIGN BY CELLXION)



**NOTE:**  
1. PROPOSED MONOPINE FOLIAGE NOT SHOWN FOR CLARITY.

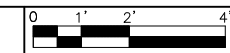


**PROPOSED EQUIPMENT LAYOUT**

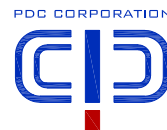


SCALE  
1/2" = 1'-0"

**PROPOSED ANTENNA PLAN**



SCALE  
1/2" = 1'-0"



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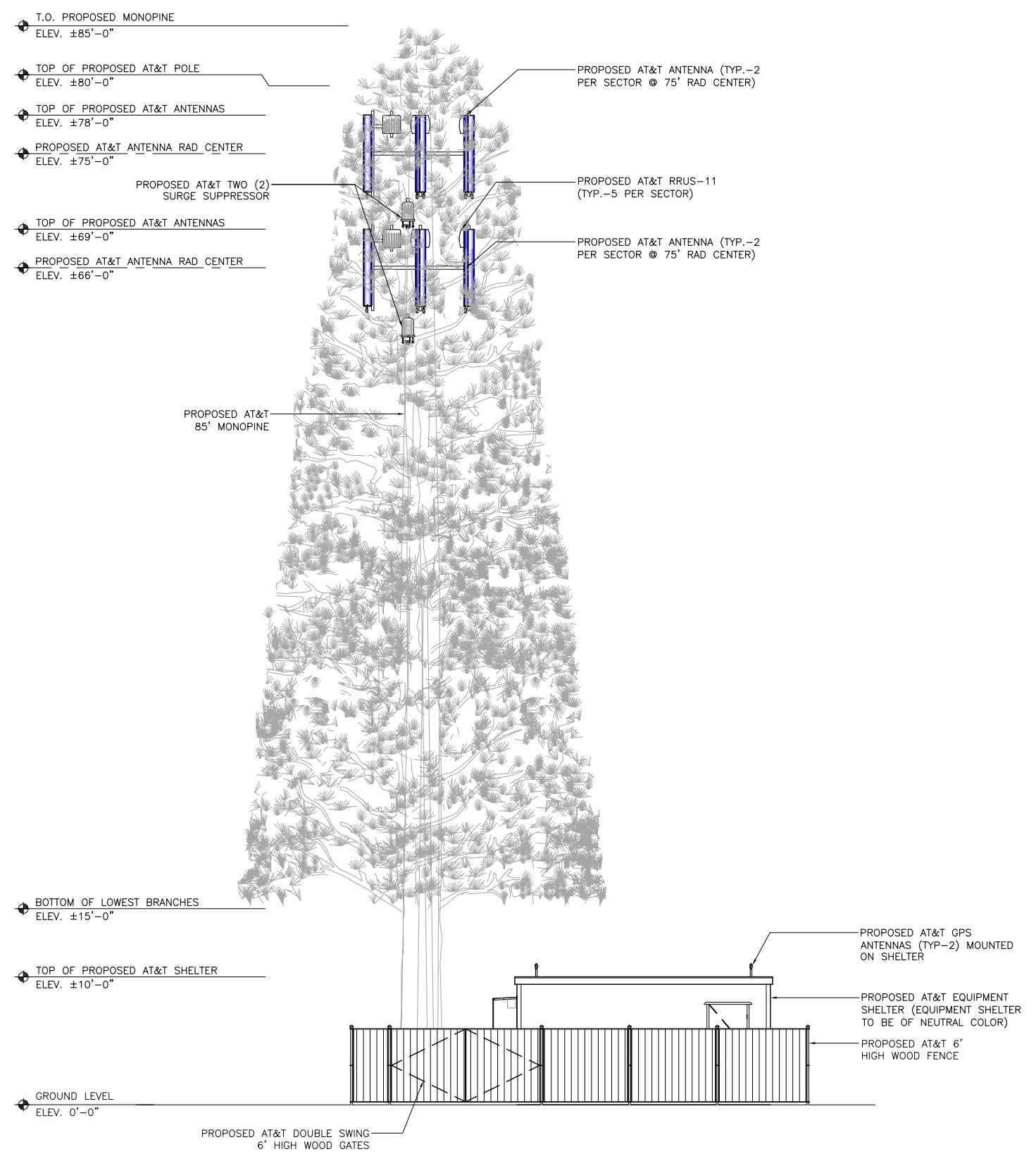
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0	11/29/12	ISSUED FOR ZD REVIEW	MIF	MIF	SAS

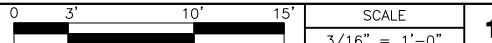
SCALE: AS NOTED    DESIGNED BY:    DRAWN BY:

SHEET TITLE			
PROPOSED EQUIPMENT LAYOUT AND ANTENNA PLAN			
JOB NUMBER	DRAWING NUMBER	SHEET NO.	REV
25736-635	CCU0394	A04	0

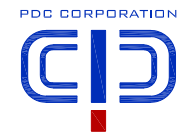
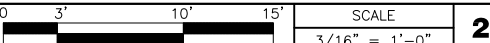
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**PROPOSED SOUTH ELEVATION**



**PROPOSED EAST ELEVATION**



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NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS NOTED    DESIGNED BY:    DRAWN BY:

SHEET TITLE			
<b>PROPOSED SOUTH AND EAST ELEVATIONS</b>			
JOB NUMBER	DRAWING NUMBER	SHEET NO.	REV
25736-635	CCU0394	A05	0

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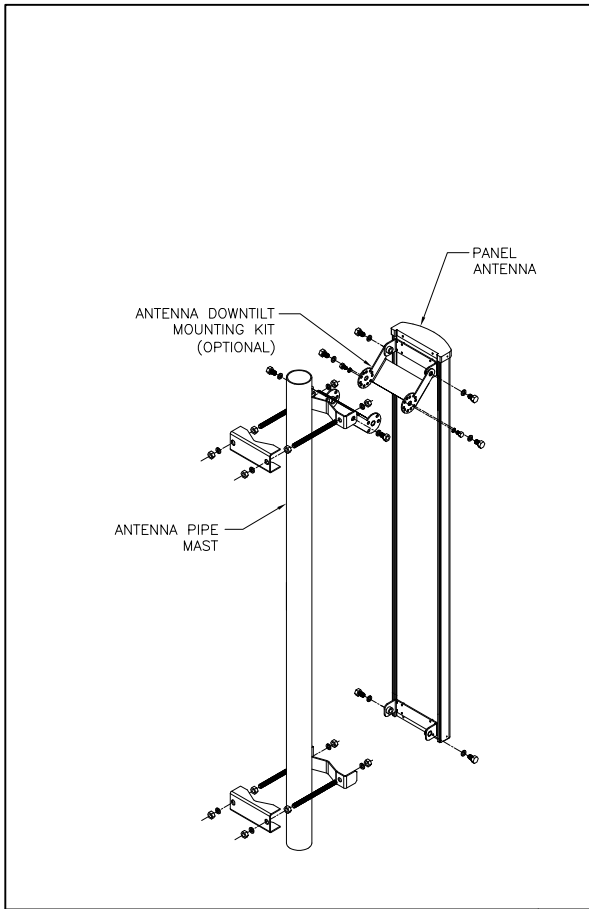
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### ERICSSON RBS 6601

DIMENSIONS, WxDxH: 66x483x350 mm (2.6"x19"x14")

TEMPERATURE: +41°F TO +122°F  
 HUMIDITY: 5% - 85%  
 POWER SUPPLY: -48 VDC  
 TOTAL WEIGHT: 16 LBS.

GPS ANTENNA (PROVIDED BY CONTRACTOR INSTALLED BY SUB-CONTRACTOR)

USE CABLE ENTRY PORT IF POSSIBLE OR PROVIDE PENETRATION AS SHOWN

COAX CABLE (AS REQUIRED BY ANTENNA MANUFACTURER)

DRIP LOOP 2 1/2"

6" MIN EDGE

1 1/4" HOLE

7/16" HOLE (2 PLCS)

BOLT

MOUNT PIPE & ANGLE

SECTION X - X

SOUTH FACE OF CONCRETE SHELTER OR BUILDING WALL

6" MIN. EDGE

3 1/2"

1 1/4"

1 1/4" HOLE IN MOUNT ANGLE FOR LDF4/FSJ4 COAX CABLE

BILL OF MATERIALS		
ITEM#	DESCRIPTION	QUANTITY (each)
①	1 1/2" O.D. x 1'-6" LG. GALV STEEL PIPE	1
②	L 3 1/2 X 3 1/2 x 1/4 x 0'-6" LG. GALV STEEL MOUNT ANGLE	1
③	HILTI KB TZ 3/8" W/ 4 1/2" MIN. EMB. (GALVANIZED) EXPANSION BOLTS	2

NOTES:

- LOCATION OF ANTENNA MUST HAVE CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE ANY BLOCKAGES EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.
- ALL GPS ANTENNA LOCATIONS MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF FOUR (4) SATELLITES. VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA.

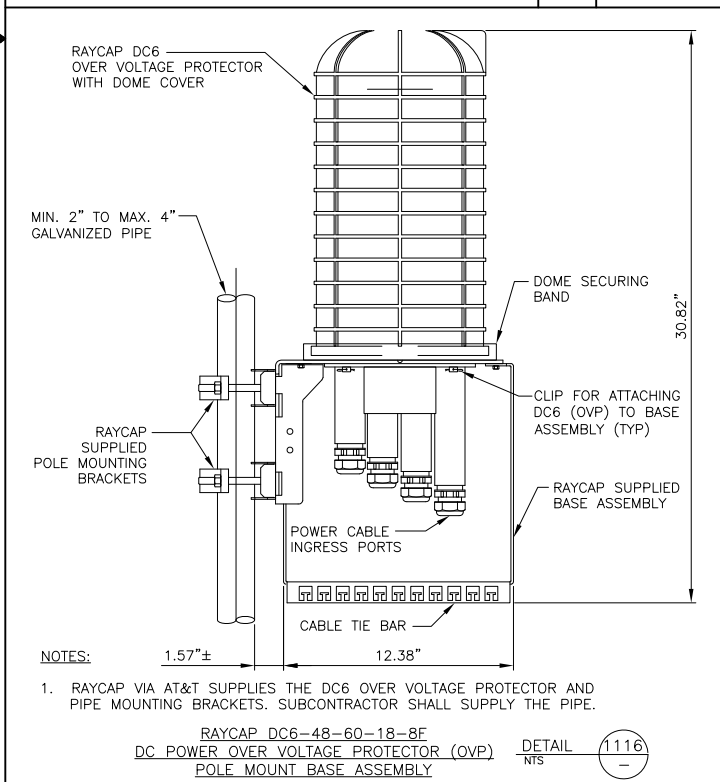
E911 - GPS ANTENNA WALL MOUNTING DETAIL FOR NEW BUILD

DETAIL 1324 NTS

DETAIL 1500 NTS

BAND	DUAL
FREQUENCIES, MHZ	698-894 1710-2170
POLARIZATION	DUAL
RET	INSTALLED
L, IN	73.4
W, IN	11.9
D, IN	7.1
WIGHT, LB	54

**ANTENNA MOUNTING DETAIL 1 RBS 6601 DETAIL 2 GPS ANTENNA MOUNTING DETAIL 3 ANTENNA SPECS 4**



SIZE AND WEIGHT TABLE

RRUS	WIDTH	DEPTH	HEIGHT W/O CABLE MANAGEMENT COVER	WEIGHT W/O BRACKET
RRUS01/RRUW WITHOUT SOLAR SHIELD	13.8"	4.4"	23.6"	39 LBS.
RRUS01/RRUW WITH SOLAR SHIELD	15.1"	6.7"	25.0"	44 LBS.
RRUS11 (700 MHz) WITHOUT SOLAR SHIELD	16.3"	5.8"	15.8"	44 LBS.
RRUS11 (700 MHz) SOLAR SHIELD	17.3"	7.2"	17.8"	50 LBS.
RRUS11 (AWS 1700/2100M MHz) SOLAR SHIELD	16.3"	5.8"	15.8"	50 LBS.
RRUS11 (AWS 1700/2100M MHz) SOLAR SHIELD	17.3"	7.2"	17.8"	44 LBS.

MINIMUM CLEARANCE TABLE FOR RRUS01/RRUW-INSTALL PER MANUFACTURER SPECIFICATIONS

RRU CABINET	CLEARANCES (INCHES)	COMMENTS
FRONT	36"	INSTALLATION ACCESS
REAR	0"	ZERO REAR CLEARANCE IS ALLOWED USING SUPPLIED MOUNTING BRACKETS
RIGHT	8"	AIR FLOW
LEFT	8"	AIR FLOW
ABOVE/TOP	16"	AIR FLOW
BOTTOM	12"	CONDUIT ROUTING/AIR FLOW

MINIMUM CLEARANCE TABLE FOR RRUS01/RRUW-INSTALL PER MANUFACTURER SPECIFICATIONS

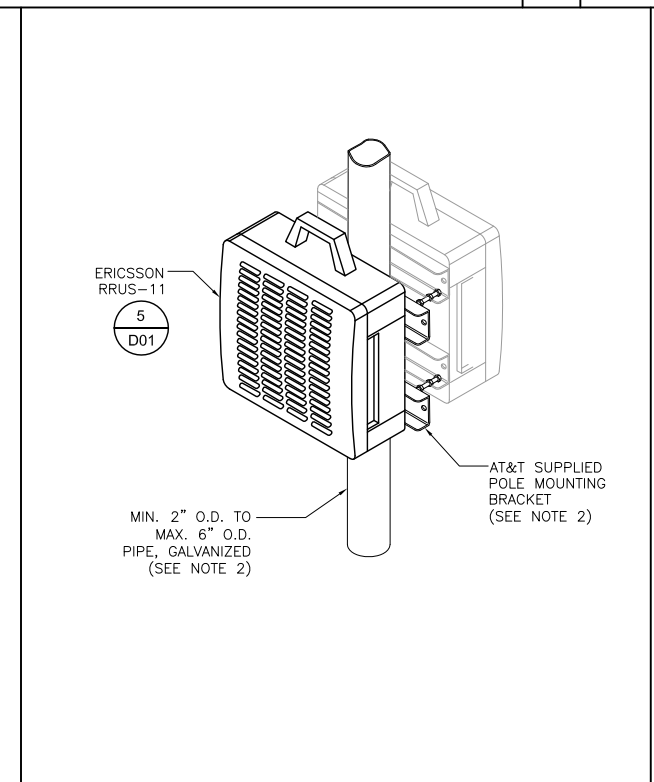
RRU CABINET	CLEARANCES (INCHES)	COMMENTS
FRONT	36"	INSTALLATION ACCESS
REAR	0"	ZERO REAR CLEARANCE IS ALLOWED USING SUPPLIED MOUNTING BRACKETS
RIGHT	8"	FROM SOLAR SHIELD
LEFT	8"	FROM SOLAR SHIELD
ABOVE/TOP	16"	FROM CEILING FOR AIR FLOW (NOTE1)
BOTTOM	12"	CONDUIT ROUTING/AIR FLOW

NOTES:

- WHEN STACKING RRU'S MINIMUM VERTICAL DISTANCE BETWEEN RRU'S IS 24".
- NO PAINTING OF RRU OR THE SOLAR SHIELD IS ALLOWED

ERICSSON REMOTE RADIO UNIT (RRU)

DETAIL 1131 NTS



RRUS-11 SPECS

**SURGE SUPPRESSOR DETAIL 5 RRUS-11 SPECS 6 RRUS-11 MOUNTING DETAIL 7**

PDC CORPORATION

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0	11/29/12	ISSUED FOR ZD REVIEW	MIF	MIF	SAS

SCALE: AS NOTED    DESIGNED BY:    DRAWN BY:

SHEET TITLE

**CONSTRUCTION DETAILS**

JOB NUMBER	DRAWING NUMBER	SHEET NO.	REV
25736-635	CCU0394	D01	0

# A/E DOCUMENT REVIEW STATUS

## Status Code

**1**

**Accepted – With minor or no comments, construction may proceed**

**2**

**Not Accepted – Please resolve comments and resubmit**

Acceptance does not constitute approval of design details, calculations, analysis, test methods or materials developed or selected by the subcontractor and does not relieve subcontractor from full compliance obligations.

ENG

CONST

Reviewed

Status By

Date