

## PLANNING COMMISSION

Agenda Item No.: G.1  
Date: August 13, 2013

**CASE NUMBER:** PHG 13-0019  
**APPLICANT:** AT&T  
**LOCATION:** 615 W. Citracado Parkway (APN 238-110-37)  
**TYPE OF PROJECT:** Modification to a Conditional Use Permit

**PROJECT DESCRIPTION:** A modification to a previously approved Conditional Use Permit (2006-58-CUP) to remove the existing AT&T wireless communication panel antennas located within an approximately 73-foot-high church steeple/cross at New Life Presbyterian Church and install nine new antenna panels within the structure.

**STAFF RECOMMENDATION:** Approval

**GENERAL PLAN DESIGNATION/TIER:** Suburban

**ZONING:** RE-20 (Residential Estate, 20,000 SF min. lot size)

### BACKGROUND/SUMMARY OF ISSUES:

A Conditional Use Permit was approved in 2007 (Case No. 2006-58-CUP) to install up to six wireless communication panel antennas within a 72'-6"-high cross tower at New Life Presbyterian Church for AT&T (formerly Cingular). Only four antennas were installed within the tower. An amendment to the Conditional Use Permit was approved by the Planning Commission in 2011 (File No. PHG 11-0026) for AT&T to replace the existing four 6'-7" tall panel antennas installed within the upper portion of the cross tower and replace them with nine new 8'-tall panel antennas. The applicant submitted building plans to construct the facility, but never finalized the building permit and the modification to the CUP subsequently expired. Therefore, a new Conditional Use Permit modification has been submitted. The additional antennas are requested to support AT&T's new 4G network. Any additional radio support equipment would be placed within the existing equipment enclosure located in the northwestern portion of the site.

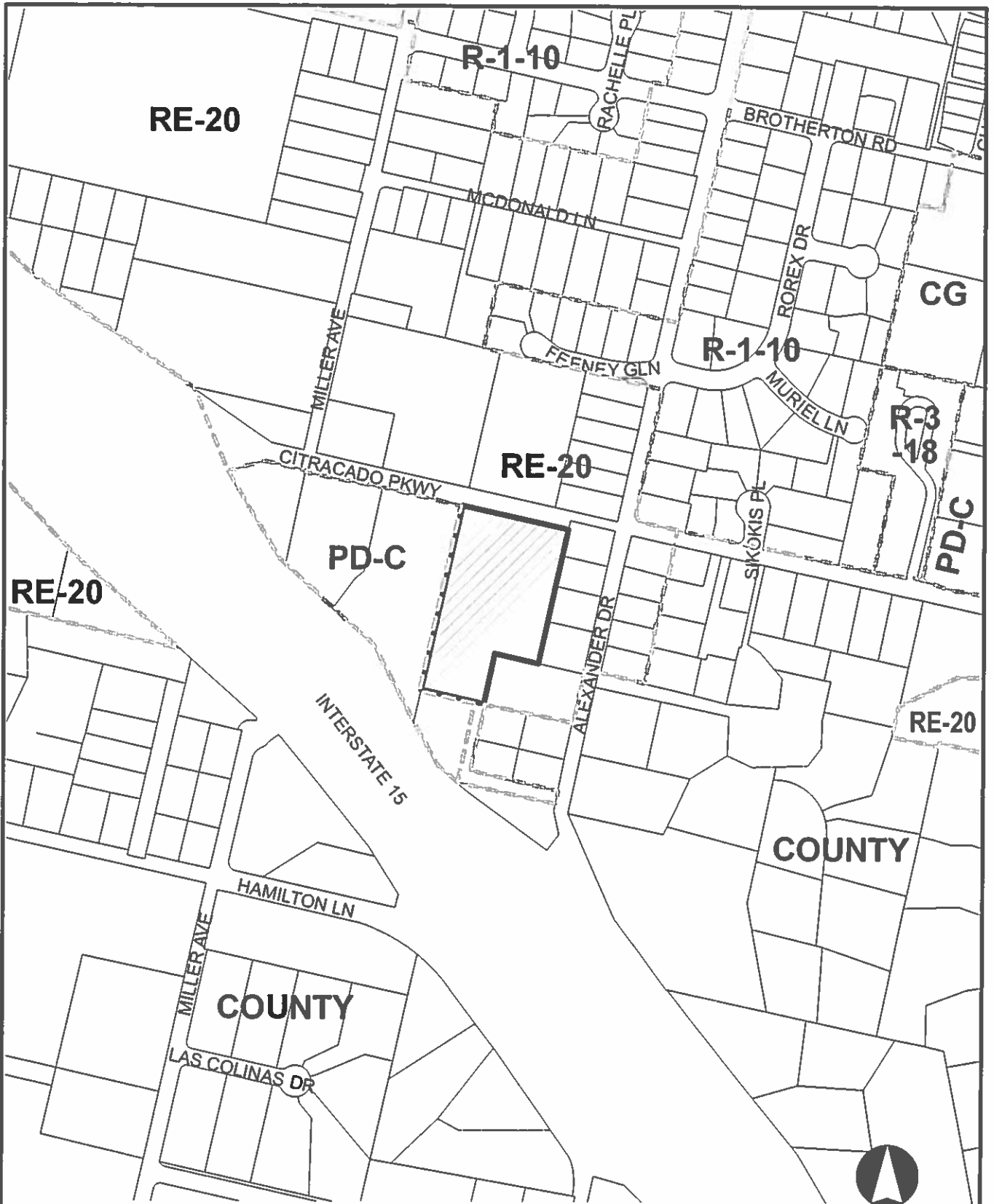
Staff has not identified any issues with this request.

### REASONS FOR STAFF RECOMMENDATION:

1. The proposed project would be consistent with the Communication Antennas Ordinance since the antenna panels would be located within an existing tower feature that was designed to accommodate wireless facilities, and any additional support equipment would be placed within an existing enclosure area. The facility would not result in any adverse visual impacts since the antenna panels would be completely screened within an existing structure rather than construction of an additional structure; the facility is located on a non-residential site in a residential zone that is sufficient in size to support the facility without negatively impacting adjacent properties; and the facility would be in conformance with FCC emission standards.

Respectfully Submitted,

  
Jay Paul  
Associate Planner

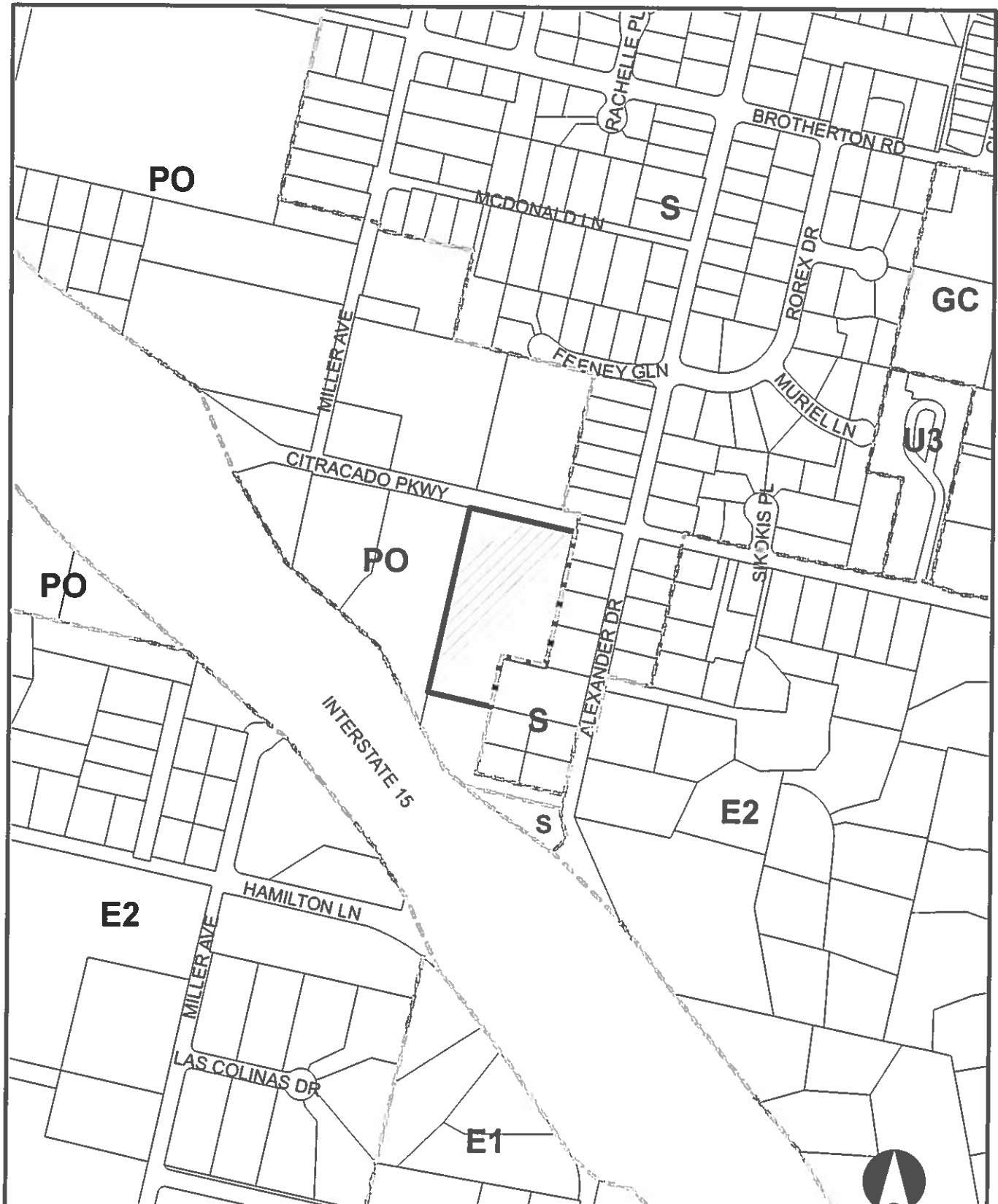


Portions of this DERIVED PRODUCT contains geographic information copyrighted by SanGIS. All rights reserved.

**PROPOSED PROJECT  
PHG 13-0019**



LOCATION/ZONING



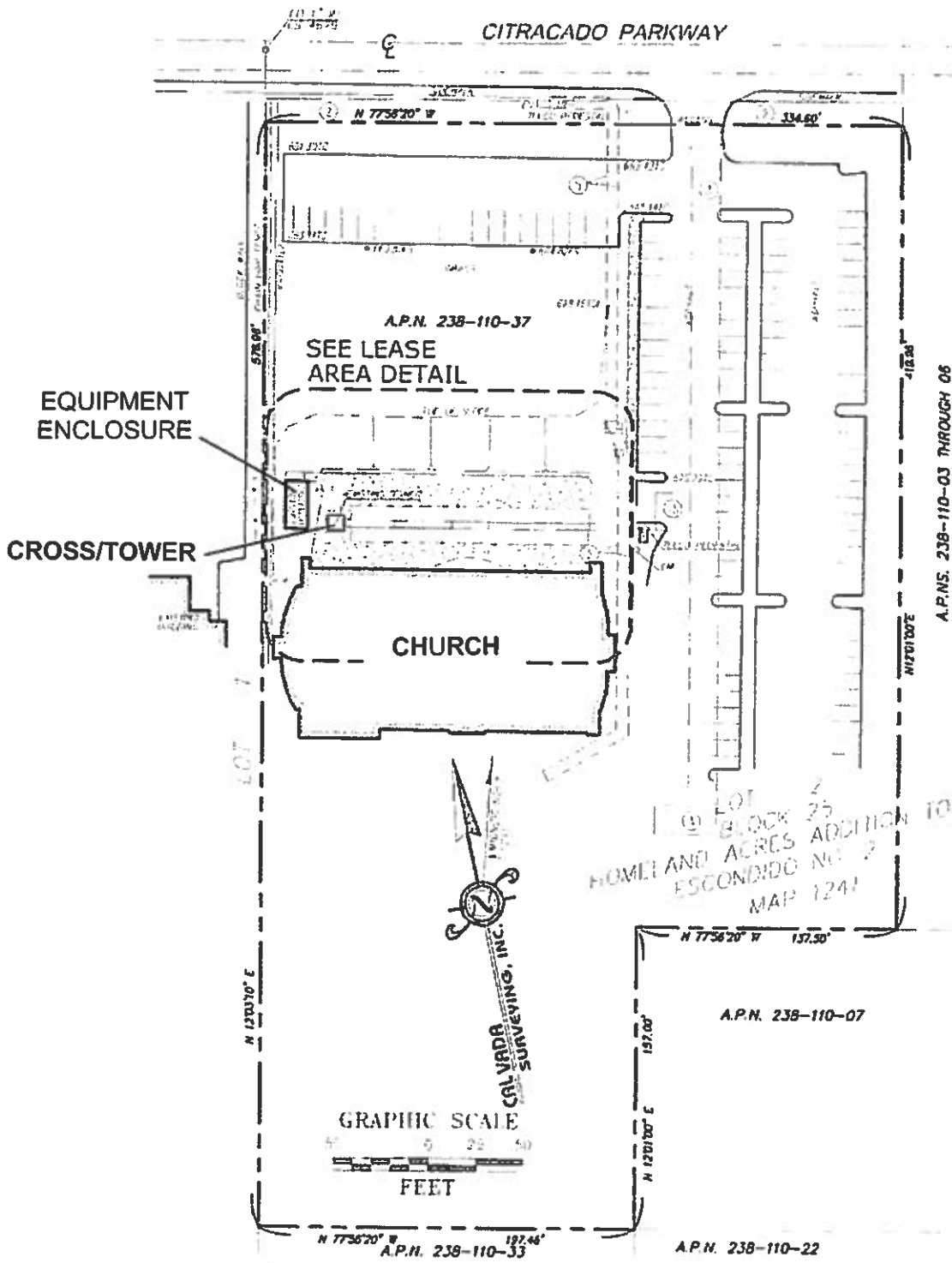
Portions of this DERIVED PRODUCT contains geographic information copyrighted by SanGis. All rights reserved.

**PROPOSED PROJECT  
PHG 13-0019**



GENERAL PLAN

Boundary Detail



**PROPOSED PROJECT  
PHG 13-0019**

DETAILS

**ENLARGED SITE PLAN KEYNOTES**

- 1 (E) BUILDING.
- 2 (H) AT&T ANTENNAS MOUNTED BEHIND (E) FRP SCREEN; SEE DETAIL 1/A-3.
- 3 (E) AT&T EQUIPMENT ENCLOSURE; SEE SHEET A-1.
- 4 (E) AT&T GPS ANTENNA.
- 5 (E) LTE AT&T GPS ANTENNA.

**EQUIPMENT ENCLOSURE**

**CROSS/TOWER**

**CHURCH**



**ENLARGED ROOF PLAN**

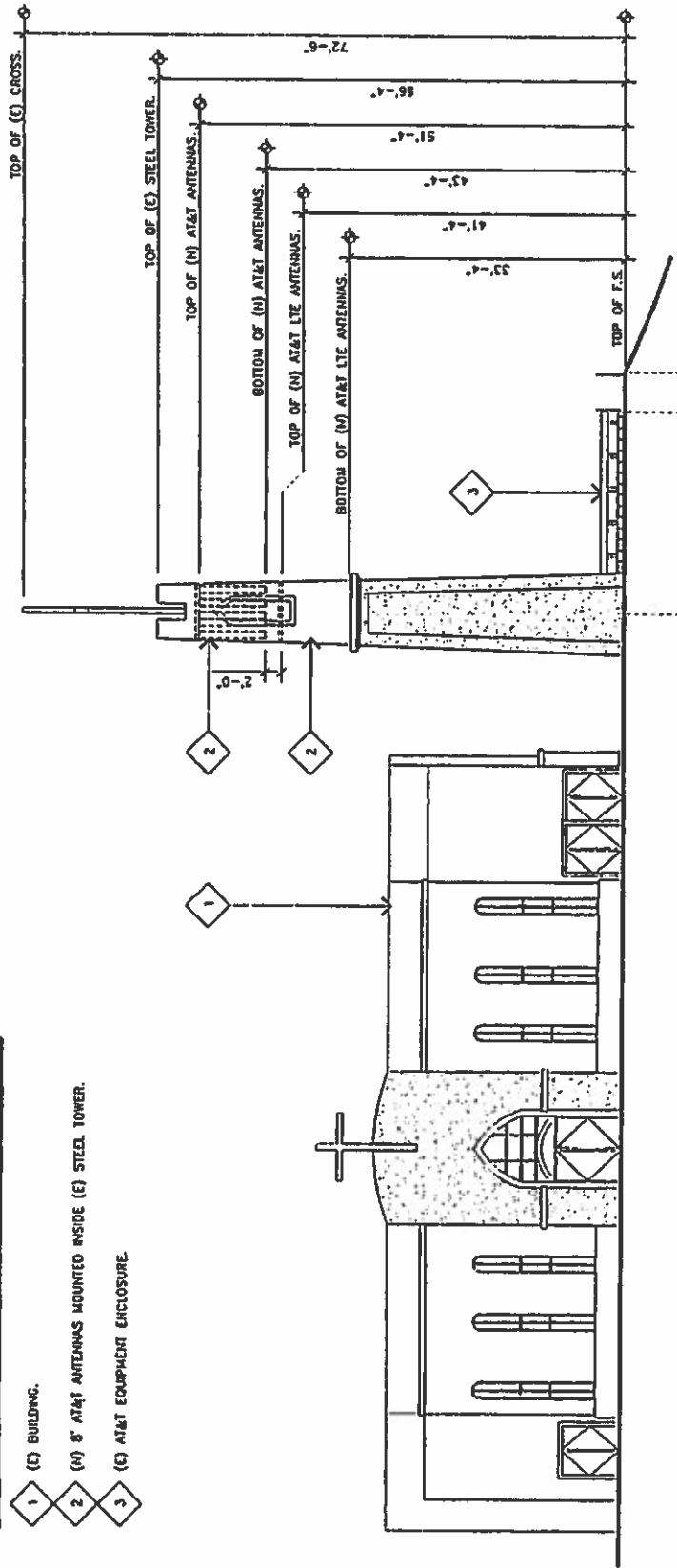
**PROPOSED PROJECT  
PHG 13-0019**



**ROOF PLAN**

**ELEVATION KEYNOTES**

- 1 (E) BUILDING.
- 2 (M) 8' AT&T ANTENNAS MOUNTED INSIDE (E) STEEL TOWER.
- 3 (E) AT&T EQUIPMENT ENCLOSURE.



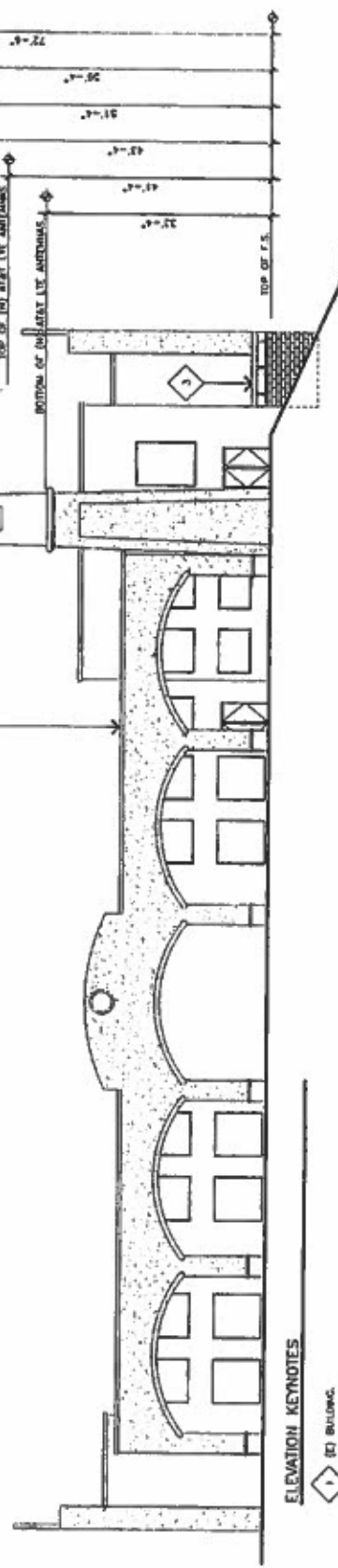
**EAST ELEVATION**

**PROPOSED PROJECT  
PHG 13-0019**



**ELEVATIONS**

**PROPOSED PROJECT  
PHG 13-0019**



**ELEVATION KEYNOTES**

- 1 (C) BUILDING
- 2 (M) 6' AIR AIRBORNE MOUNTED MOBILE (C) STEEL TOWER
- 3 (C) AIR AIRBORNE MOUNTED MOBILE (C) STEEL TOWER

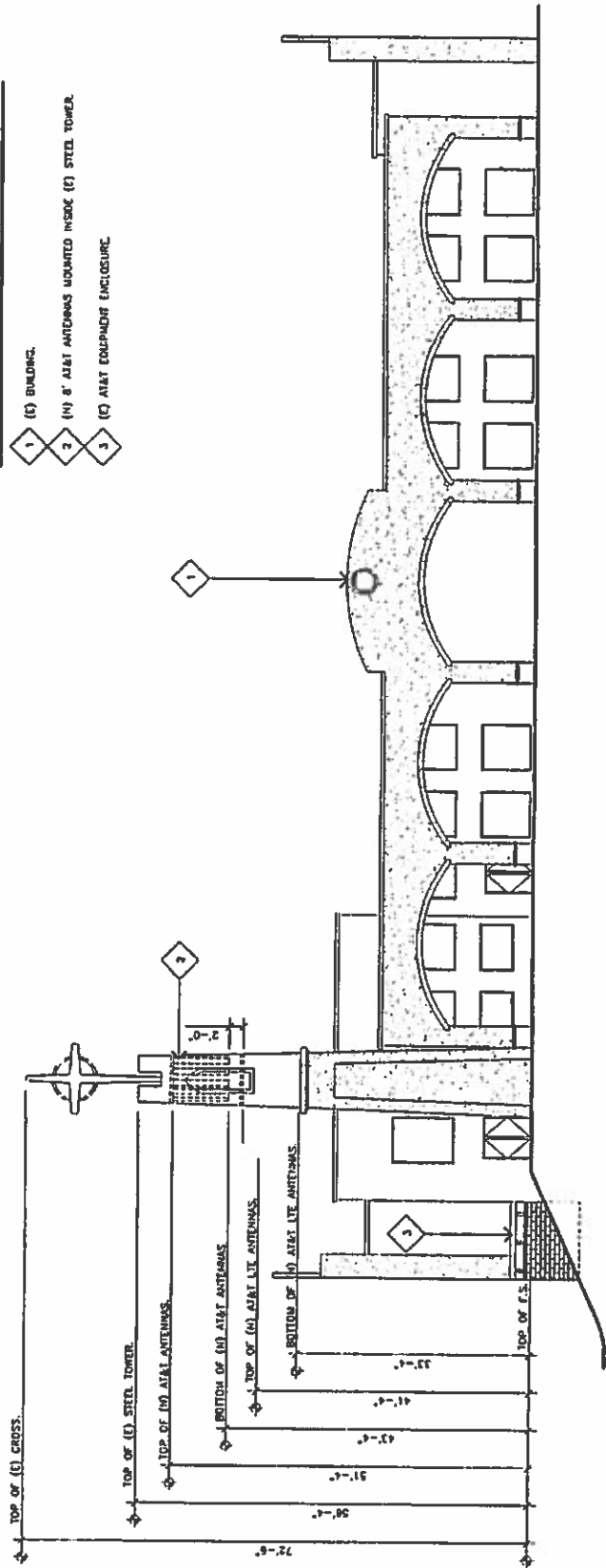
**NORTH ELEVATION**



ELEVATIONS

**ELEVATION KEYNOTES**

- 1 (E) BUILDING.
- 2 (H) 8' AXIAL ANTENNAS MOUNTED INSIDE (E) STEEL TOWER.
- 3 (C) AXIAL EQUIPMENT ENCLOSURE.



**SOUTH ELEVATION**

**PROPOSED PROJECT  
PHG 13-0019**

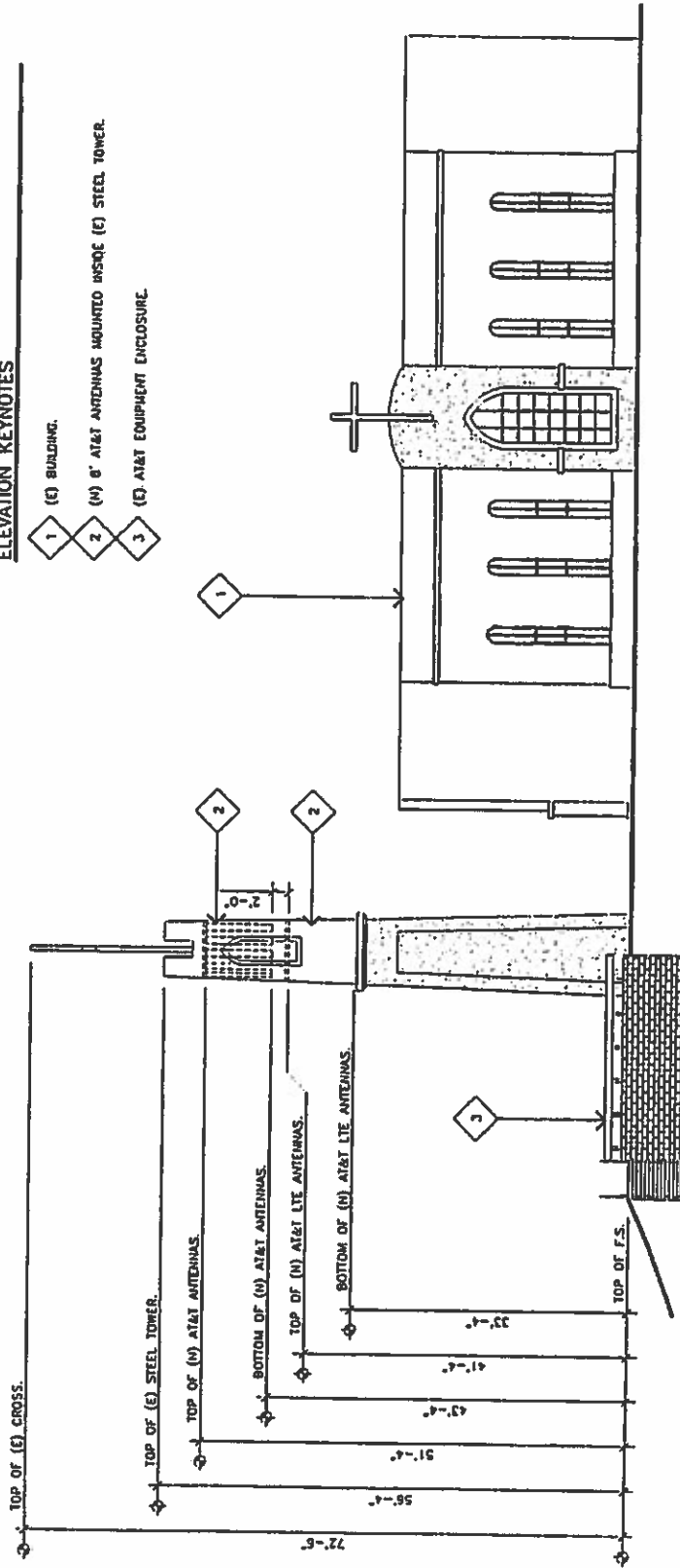


**ELEVATIONS**



**ELEVATION KEYNOTES**

- 1 (E) BUILDING.
- 2 (M) 8' AT&T ANTENNAS MOUNTED INSIDE (E) STEEL TOWER.
- 3 (E) AT&T EQUIPMENT ENCLOSURE.

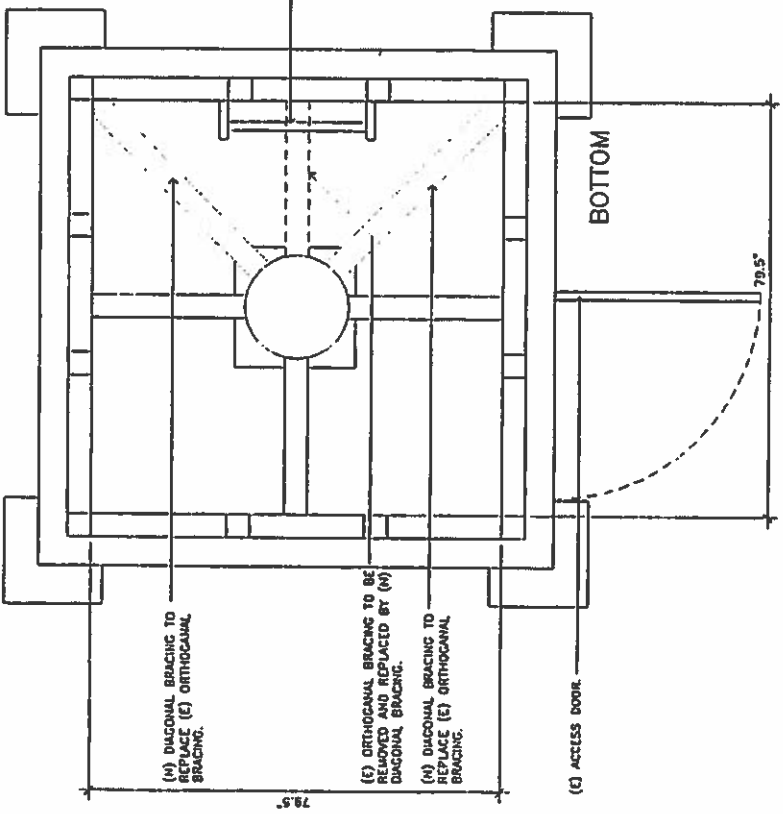
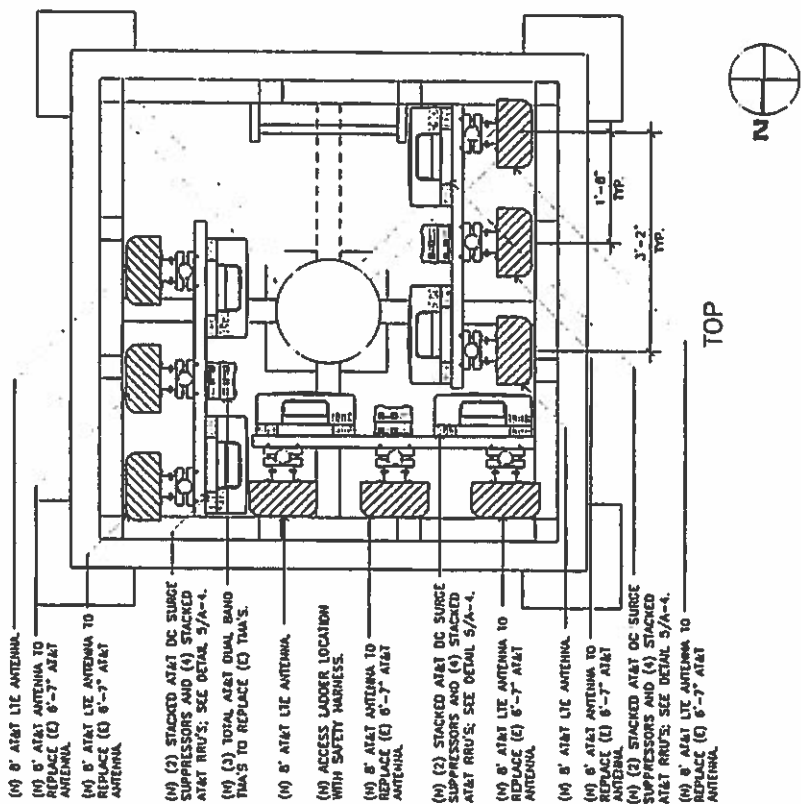


**WEST ELEVATION**

**PROPOSED PROJECT  
PHG 13-0019**



**ELEVATIONS**



ANTENNA PLAN

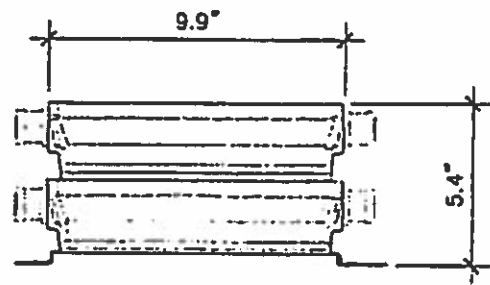
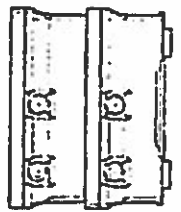
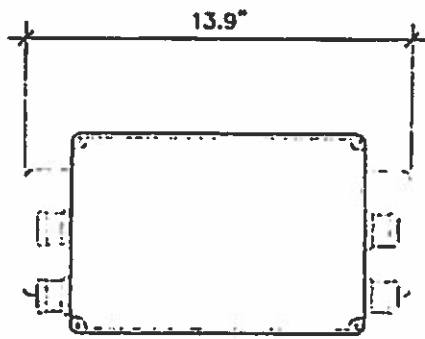
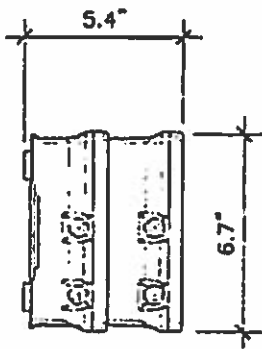
**PROPOSED PROJECT  
PHG 13-0019**



WEIGHT: <8KG (<18LBS)

RF CONNECTORS: DIN 7/16 FEMALE

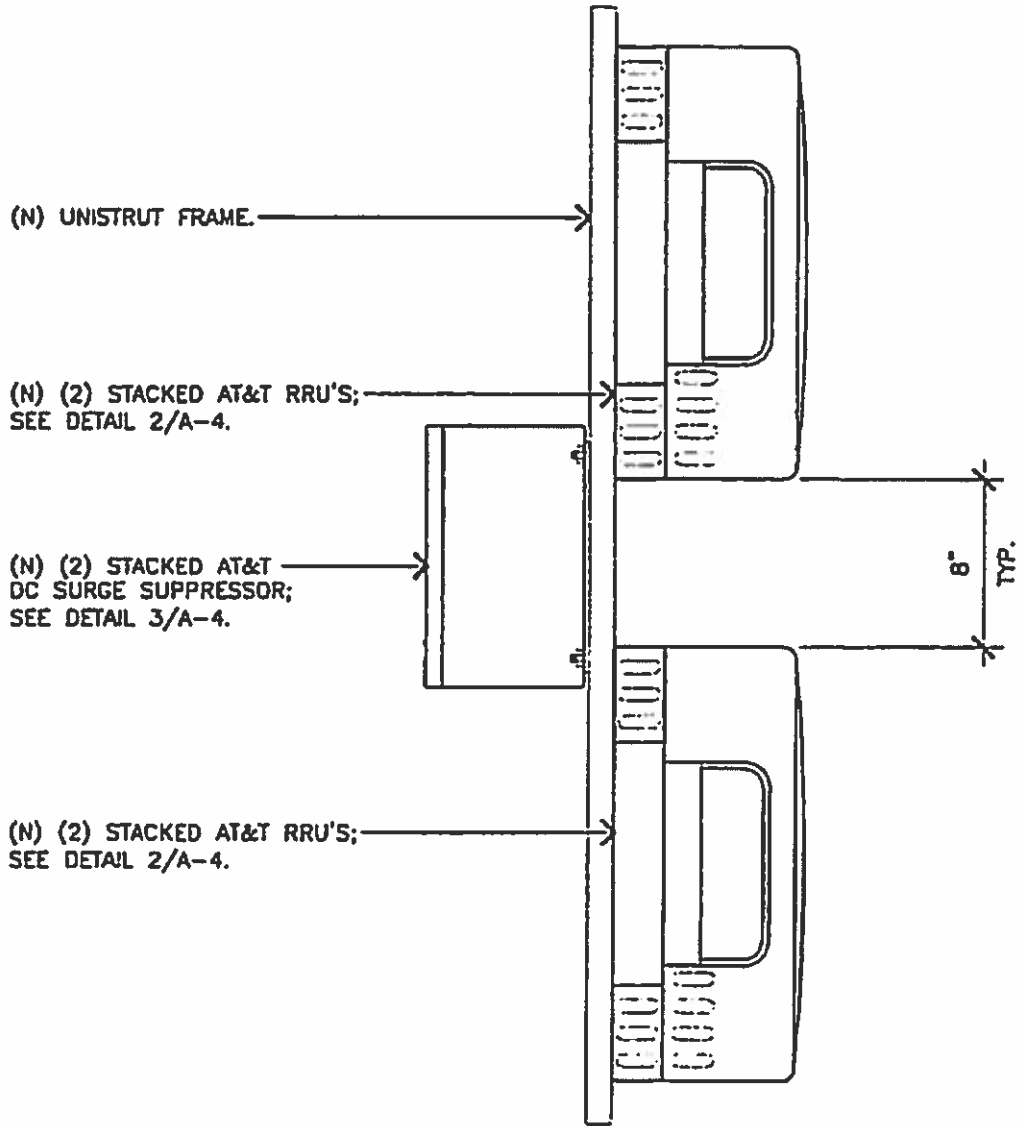
DIMENSIONS: 9.9"XR.7"X5.4"



## DUAL BAND TMA

**PROPOSED PROJECT  
PHG 13-0019**

DETAILS



# RRU PLAN

**PROPOSED PROJECT  
PHG 13-0019**

FLOOR PLAN

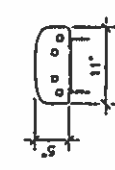
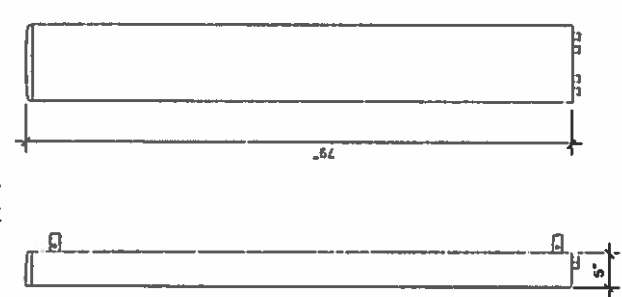
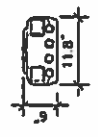
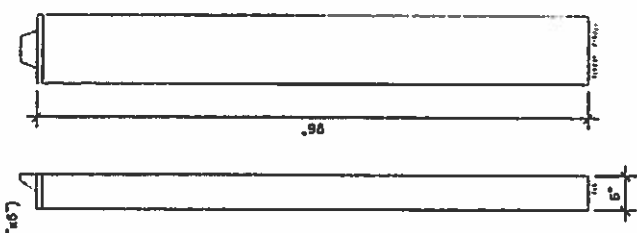
**PROPOSED PROJECT  
PHG 13-0019**

**ANTENNA MATERIAL:**  
**ANTENNA COLOR:**  
**DIMENSIONS, HxWxD:**  
**WEIGHT:**  
**WIND LOAD, FRONTAL/LATERAL/REAR:**  
**CONNECTOR:**

**ANTENNA COLOR:**  
**DIMENSIONS, HxWxD:**  
**WEIGHT, WITH PRE-MOUNTED BRACKETS:**  
**WIND LOAD, FRONTAL/LATERAL/REAR:**  
**CONNECTOR:**

**CRP**  
**LIGHT GREY**  
 2438x300x152mm (96"x11.6"x6")  
 61.7 lbs  
 7/16 DIN FEMALE

**LIGHT GREY**  
 2033x280x125mm (67"x11"x5")  
 44 lbs  
 528  
 (\*) 7/16 DIN FEMALE



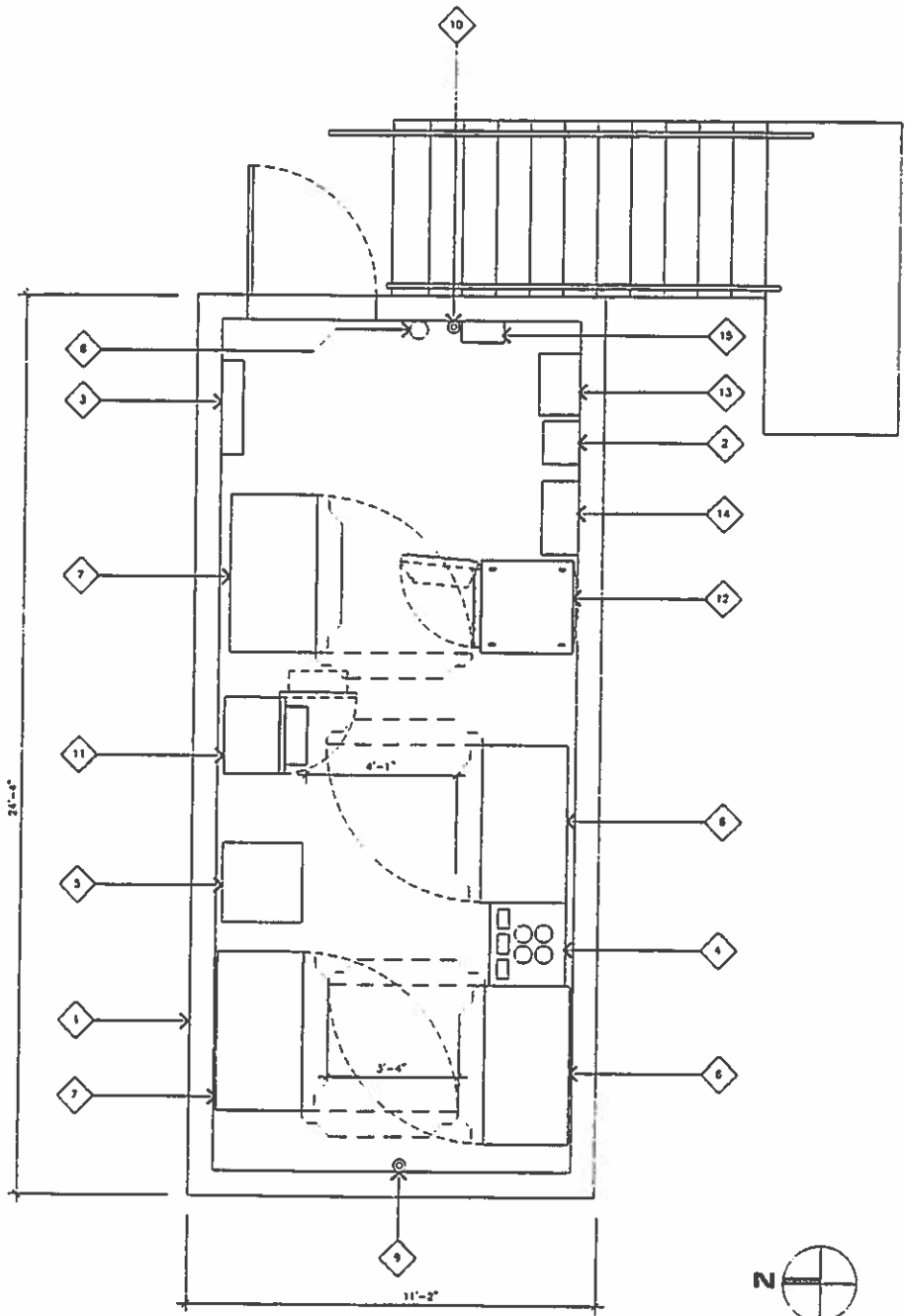
PER RFDS 12/8/09

**(N) ANTENNA SPECIFICATION**

**(E) ANTENNA SPECIFICATION**

**EQUIPMENT FLOOR PLAN KEYNOTES**

- 1 (E) AT&T EQUIPMENT ENCLOSURE.
- 2 (E) AT&T TELCO PANEL.
- 3 (E) AT&T BREAKER PANEL.
- 4 (E) DIPLEXER SHROUD.
- 5 (E) COAX ENTRY PORT SHROUD.
- 6 (E) AT&T OUTDOOR 2106 GSM EQUIPMENT CABINET.
- 7 (E) AT&T OUTDOOR 3108 UNITS CABINET WITH BDU.
- 8 (E) FIRE EXTINGUISHER.
- 9 (E) AT&T GPS ANTENNA.
- 10 (E) LTE AT&T GPS ANTENNA.
- 11 (E) AT&T LTE EQUIPMENT CABINET.
- 12 (E) AT&T POWER AND BATTERY CABINET MOUNTED ON  
(E) CONCRETE PAD.
- 13 (E) AT&T FIBER CABINET.
- 14 (E) AT&T PULLBOX.
- 15 (E) AT&T CEM.



**EQUIPMENT FLOOR PLAN**

**PROPOSED PROJECT  
PHG 13-0019**

FLOOR PLAN

# ANALYSIS

## A. LAND USE COMPATIBILITY/SURROUNDING ZONING

NORTH - RE-20 zoning (Residential Estate, 20,000 SF min. lot size) / Vacant residential land is located north of the church site across Citracado Parkway. Single-family homes are located to the northeast across Citracado Parkway.

SOUTH - PD-C zoning (Planned Development-Commercial) and County residential zoning / A paved parking area for the adjacent medical facility is located immediately to the south of the church property. Single-family residential homes are located immediately to the south and southeast.

EAST - RE-20 zoning (Residential Estate, 20,000 SF min. lot size) / Single-family residential homes are located east of the church site.

WEST - PD-C zoning (Planned Development-Commercial / Rady Children's Medical Facility and Acacia Animal Hospital are located west of the church property.

## B. ENVIRONMENTAL STATUS

The proposal is exempt from the requirements of the California Environmental Quality Act (CEQA) in conformance with Section 15301, "Existing Facilities" and a Notice of Exemption was prepared for the proposed project. In staff's opinion, the request does not have the potential for causing a significant effect on the environment since the antennas would be secured within an existing building, and generally would not be accessible to the general public. The proposed facility would not result in a potential health hazards to nearby residents since the Radio Frequency (RF) study prepared for the proposed project indicates the facility would be within maximum permissible exposure (MPE) limits and Federal Communication Commission (FCC) standards.

## C. GENERAL PLAN ANALYSIS:

General Plan - The requested Conditional Use Permit is consistent with the Suburban designation of the General Plan since communication facilities customarily are permitted when conditioned to observe the underlying zone requirements and any related ordinance restrictions; are in conformance with wireless design requirements; and when compatible with surrounding properties. The project is in substantial compliance with any relevant General Plan criteria and underlying RE-20 zone standards, as detailed in various sections of the staff report. The General Plan also contains specific policies (Policies 17.1 – 17.9) that encourage the City to work with service providers to enhance the delivery of public services; require compatible designs that are designed in a manner to minimize visual impacts on surrounding uses; and support innovation in the design and implementation of state-of-the art telecommunication technologies and facilities.

D. TELECOMMUNICATIONS ACT AND LEGAL REQUIREMENTS: In 1996, the U.S. Congress added a section to the Communications Act of 1934 to promote the expansion of personal wireless communications service, adding section 332(c)(7). This section preserves local zoning authority over the "placement, construction, and modification" of wireless facilities, while imposing certain federal requirements. Specifically, Section 332(c)(7) requires that state or local government decisions regarding wireless service facilities must not: 1) unreasonably discriminate between one cellular provider and another; or 2) prohibit or have the effect of prohibiting the provision of personal wireless services; or 3) be founded on "the environmental effects of radio frequency (RF) emissions *to the extent that such facilities comply* with the FCC's regulations" (emphasis added). Once the Commission is satisfied the project's RF emissions are within the federal thresholds, then the review must be based on otherwise applicable local zoning criteria. A denial of a proposed facility must not run afoul of the federal restrictions set forth as 1), 2) and 3) above.

## **E. PROJECT ANALYSIS**

### **Appropriateness of the Proposed Design and Whether the Proposed Wireless Facility Would Be in Conformance with the Communication Antennas Ordinance**

AT&T is proposing to remove the existing four, 6'-7" tall wireless communication panel antennas mounted within the upper portion of a 72'-6"-high cross tower located at New Life Presbyterian Church and install up to nine, 8'-tall panel antennas. The Conditional Use Permit request is a refiling of the same project that previously was approved by the Planning Commission and the Design Review Board in 2011. The existing cross tower is large enough to accommodate the additional panel antennas and no expansion of the structure is required. The exterior appearance of the tower would remain the same. Staff feels the proposed modification would be in conformance with the Wireless Facilities Guidelines since AT&T would incorporate the additional panel antennas into an existing wireless facility instead of installing a new structure; the appearance of the cross tower would remain the same; any new support equipment would be located within an existing equipment enclosure; and the facility would be in conformance with FCC emission standards.

### **Conformance with FCC Emission Requirements**

Operation of the facility would generate radio frequency energy emissions (RF). A radio frequency power density study was prepared for the project by Telnet, Inc., to determine whether the proposed communication facility complies with the FCC Radio Frequency Safety guidelines. The study assumes a worst case scenario at maximum capacity, and compares the figures to existing standards. The analysis indicated the anticipated MPE limits at ground level (areas of potential General Population Exposure to RF electromagnetic fields) from the proposed AT&T facility is approximately 3.0% of FCC exposure limits. The cumulative total from all carriers on the site (AT&T and T-Mobile) is 39.1% of FCC maximum exposure limits. The study contains recommendations regarding safety of anyone that is working on the antennas (Occupational/Controlled Exposure) or could come in contact with the panels (such as shut down procedures during repairs). Appropriate signage would be installed as required by AT&T safety policies and FCC requirements. A copy of the study has been attached to this report.



# SUPPLEMENT TO STAFF REPORT/DETAILS OF REQUEST

## A. PHYSICAL CHARACTERISTICS

The 3.94-acre site is developed with the New Life Presbyterian Church complex. The project site fronts onto and takes access from Citracado Parkway, which is classified as a Collector Street on the City's Circulation Element. There are several mature trees and citrus trees located throughout the site. The site does not contain any native, sensitive or protected habitat.

## B. SUPPLEMENTAL DETAILS OF REQUEST

1. Property Size: 3.94-acres
2. Steeple/Cross: Existing 72'-6" top of cross. 56'-4" top of tower
3. Panels:  
Existing: Approved for up to 6 existing antenna panels located within the tower. Four panels currently installed.  
Existing antennas: 6'-7" tall  
  
Proposed: Nine new panel antennas  
New antennas: 8' tall
4. Power Density: 39.1% of the FCC General Public Limit for Maximum Public Exposure (MPE) at ground level from all carriers (AT&T and T-Mobile). The AT&T facility is projected to generate approx. 3.0% of the total cumulative RF.
5. Equipment: Any additional supporting equipment to be installed in the existing AT&T equipment enclosure.
6. Hours of Operation  
Wireless Facility: 24 hours, unmanned

## C. CODE COMPLIANCE ANALYSIS

	<u>Existing</u>	<u>R-1-Zoning Requirements</u>
1. Setbacks		
Front:	190 feet	25 feet
Side:	10 feet 7 inches on west	10 feet
Rear:	580 feet	20 feet

# EXHIBIT "A"

## FINDINGS OF FACT PHG 13-0019

### Conditional Use Permit

1. The General Plan land-use designation on the site is Suburban, which calls for the area to be developed with residential uses, but also allows some non-residential uses subject to a Conditional Use Permit. A Conditional Use Permit previously was approved by the City of Escondido to allow the development of a religious facility on the subject site. A Conditional Use Permit also previously was approved to allow the placement of a wireless communication facility within an existing cross/tower feature located on the property in accordance with the City's Zoning Code (Article 34-Communication Antennas). General Plan Goal (17. Telecommunications, page III-50) encourages quality communication systems that enhance economic viability, government efficiency, and equitable access for all. The General Plan also contains specific policies (Policies 17.1 – 17.9) that encourage the City to work with service providers to enhance the delivery of public services; require compatible designs that are designed in a manner to minimize visual impacts on surrounding uses; and support innovation in the design and implementation of state-of-the-art telecommunication technologies and facilities. Granting this Conditional Use Permit to allow a personal wireless communication facility on the subject property would be in conformance with these Goals and Policies, and would be based on sound principles of land use since the use is in response to services required by the community and the facility would enhance communication services in the city without posing a health threat to the surrounding area. The facility would incorporate a stealthy type of design in conformance with the Communication Antennas Ordinance, which would minimize potential visual impacts from adjacent views. The ground equipment would be located within an existing masonry enclosure area, which would eliminate any potential visual and noise impacts to adjacent residents. The proposed facility would not result in a substantial alteration of the present or planned land use since the project site is developed as a religious facility and the new antennas would be located within an existing cross/tower. The facility also would not result in a potential health hazard to nearby residents since the facility would be within MPE (maximum permissible exposure) limits as indicated in the radio frequency analysis prepared for the project. The proposed facility would be in compliance with the City's Wireless Facility Guidelines, as discussed in the Planning Commission staff report.
2. The proposal would not cause deterioration of bordering land uses or result in any adverse visual impacts since the facility incorporates a stealthy type of design that would fit into the context of the existing architecture, and the associated equipment would be appropriately screened from surrounding views. The height of the proposed panels would be in conformance with the maximum height requirements for principle and exempt structures located within the RE-20 zone.
3. The proposed personal wireless communication facility would not be hazardous to the health of nearby residents since the radio frequency (FR) analysis prepared for the project by Telenet concluded the maximum operation levels of radiation for the facility would be within the MPE (Maximum Permissible Exposure) limit established by FCC requirements.
4. The proposal is exempt from the requirements of the California Environmental Quality Act in conformance with CEQA Section 15301, "Existing Facilities," and a Statement of Exemption was prepared for the proposed project. In staff's opinion, the request does not have the potential for causing a significant effect on the environment due to the relatively small size of the facility and the proposed development is located in the center of a large parking lot. The project will have a de minimis impact on fish and wildlife resources as no sensitive or protected habitat occurs within the project area or will be impacted by the proposed development.
5. The proposed Conditional Use Permit has been considered in relationship to its effect on the community, and the request would be in compliance with the General Plan Policies and the Wireless Facility Guidelines, and would not result in a negative impact to the adjacent neighborhood for the reasons stated above and detailed in the Planning Commission staff report and radio frequency analysis.

## EXHIBIT "B"

### CONDITIONS OF APPROVAL PHG 13-0019

#### General

1. All construction shall comply with all applicable requirements of the Escondido Zoning Code and requirements of the Planning Department, Director of Building, and the Fire Chief.
2. The legal description attached to the application has been provided by the applicant and neither the City of Escondido nor any of its employees assume responsibility for the accuracy of said legal description.
3. Prior to or concurrent with the issuance of building permits, the appropriate development fees and Citywide Facility fees shall be paid in accordance with the prevailing fee schedule in effect at the time of building permit issuance, to the satisfaction of the Director of Community Development.
4. All exterior lighting shall conform to the requirements of Article 1072, Outdoor Lighting (Ordinance No. 86-75).
5. All project generated noise shall conform to the City's Noise Ordinance (Ordinance 90-08).
6. All new utilities and utility runs shall be underground.
7. As proposed, the design, color and materials of the proposed facilities shall be in accordance with the Design Review Board recommendations, staff report, exhibits and the project's Details of Request, including the following to the satisfaction of the Planning Division.
8. All required landscaping shall be permanently maintained in a flourishing manner. All irrigation shall be maintained in fully operational condition. Any existing dead or missing landscaping shall be prior to final of the building permit for the project. The requirement shall be clearly noted on the plans.
9. As per Federal Communication Commission (FCC) guidelines and requirements, AT&T or any subsequent operator/lease holder of the wireless facility shall investigate any valid complaints related to interference with electronic equipment in the surrounding area as may be required by the FCC. If it has been determined AT&T is the cause of such interference, and if such interference is determined to be related to the signal emitted from the facilities approved by this use permit, AT&T or any subsequent operator/lease holder shall solve the problem in a timely manner. Additionally, any interference with public safety communications shall be corrected immediately, to the satisfaction of the City of Escondido.
10. If requested by the City of Escondido, AT&T, or any subsequent operator/lease holder of the facilities shall permit co-location of other wireless providers on its facility (subject to City of Escondido Approval) if it can be demonstrated that there would be no adverse effect on the existing facilities/operations.
11. In the event AT&T sells or leases its rights to a third party, AT&T shall submit current contact information to the Director of Community Development of such new owner in a timely manner to insure the City has the ability to interact with the new owner/lessee as to any use permit and compliance issues. Co-location of any new facilities not identified by this use permit shall require approval of the City of Escondido.
12. AT&T shall coordinate with the City of Escondido to select a qualified, independent third party consultant to conduct an actual power density measurement of the facility within 90 days after installation and under full operation of the facility. The results of the study shall be submitted to the Director of Community Development so that the theoretical power density study can be compared to the actual output.
13. AT&T or any subsequent operator/lease holder of the wireless facility shall be responsible for all maintenance of the facility, including the antennas and supporting equipment to ensure the condition of the facility does not appear weathered.
14. All communication facilities on the site shall be promptly removed upon non use of the facilities, to the satisfaction of the Planning Division and Building Department.

15. Any permanent, temporary or stand-by emergency generators must be in conformance with the City's Ordinance and regulations regarding electric generating facilities.
16. No additional antennas or expansion of this facility shall be permitted without a modification of the Conditional Use Permit and a public hearing before the Planning Commission. Minor changes within the approved size and design parameters may be permitted by the Director of Community Development.
17. A sign conforming to ANSI C95.2 color, symbol and content, and other markings as appropriate, should be placed close to the antennas with appropriate contact information in order to alert maintenance or other workers approaching the antennas to the presence of RF transmissions and to take precautions to avoid exposures in excess of FCC limits. The requirement for the appropriate signage/notice shall be indicated on the building plans.
18. The Conditional Use Permit shall be null and void if not utilized within twelve months of the effective date of approval.
19. This item may be referred back to the Planning Commission upon recommendation of the Director of Community Development for review and possible revocation or modification of the Conditional Use Permit upon receipt of nuisance complaints regarding the facility or non-compliance with the Conditions of Approval.
20. A copy of these Conditions of Approval shall be submitted with the submittal of the building plans indicating compliance with all of the Conditions and Details of Request and exhibits contained in the Planning Commission staff report.
21. The City of Escondido hereby notifies the applicant that the County Clerk's Office requires a documentary handling fee of \$50.00 in order to file a Notice of Exemption for the project (environmental determination for the project). The applicant shall remit to the City of Escondido Planning Division, within two working days of the final approval of the project (the final approval being the hearing date of the Planning Commission or City Council, if applicable) a check payable to the "San Diego County Clerk" in the amount of \$50.00. In accordance with California Environmental Quality Act (CEQA) section 15062, the filing of a Notice of Exemption and the posting with the County Clerk starts a 35 day statute of limitations period on legal challenges to the agency's decision that the project is exempt from CEQA. Failure to submit the required fee within the specified time noted above will result in the Notice of Exemption not being filed with the County Clerk, and a 180 day statute of limitations will apply.



CITY OF ESCONDIDO  
 PLANNING DIVISION  
 201 NORTH BROADWAY  
 ESCONDIDO, CA 92025-2798  
 (760) 839-4671

**Notice of Exemption**

To: San Diego County Recorder's Office  
 Attn: Deputy County Clerk  
 P.O. Box 121750  
 San Diego, CA 92112-1750

From: City of Escondido  
 201 North Broadway  
 Escondido, CA 92025

Project Title/Case No.: PHG 13-0019

Project Location - Specific: 615 West Citracado Parkway (APN 238-110-37)

Project Location - City: Escondido, Project Location - County: San Diego

Description of Project: A modification to a previously approved Conditional Use Permit (2006-58-CUP) to remove the existing four AT&T wireless communication panel antennas located within an approximately 73-foot-high church steeple/cross at New Life Presbyterian Church and install nine new antenna panels within the structure. New equipment cabinets are proposed to be placed within an existing equipment area.

Name of Public Agency Approving Project: City of Escondido

Name of Person or Agency Carrying Out Project:

Name AT&T (M&M Telecom agent for AT&T) Telephone (858) 205-9681  
 Address 6886 Mimosa Drive, Carlsbad, CA 92011

Private entity  School district  Local public agency  State agency  Other special district

Exempt Status: Categorical Exemption. Section 15301 "Existing Facilities."

**Reasons why project is exempt:**

1. The project only involves a modification to a previously approved Conditional Use Permit (2005-58-CUP) to remove the existing four panel antennas and add nine new panel antennas to an existing AT&T wireless communication facility (formerly Cingular). No physical expansion of the site or buildings is proposed.
2. The site is in an area where all public services and facilities are available to allow for the proposed use.
3. The site is within an area that currently is developed with a church facility and related structures/infrastructure. The proposed development/lease area is not in an area that is environmentally sensitive and the project would not have any direct impacts to any sensitive or protected resources since there are no resources located on the site.
4. The proposed facility would not be hazardous to the health of nearby residents or the general public since the facility would be within maximum permissible exposure (MPE) limits and Federal Communication Commission (FCC) standards.

Lead Agency Contact Person: Jay Paul, Planning Division Area Code/Telephone/Extension (760) 839-4537

Signature:  July 29, 2013  
 Jay Paul, Associate Planner Date

Signed by Lead Agency Date received for filing at OPR: N/A

# Electromagnetic Energy ("EME") Site Compliance Report



Prepared for



## Site Information

US ID: 92986  
Site Name: NEW LIFE PRESBYTERIAN  
CHURCH  
Address: 615 WEST CITRACADO PARKWAY,  
ESCONDIDO, CA, 92025

Report Date: July 22, 2011  
CASPR#: 3601003308

M-RFSC: Hector Manmano  
Site Type: Steeple



PHG 13-0019



AT&T

US ID: 92986- Site Name: NEW LIFE PRESBYTERIAN CHURCH  
**Electromagnetic Energy ("EME")**  
Measurement and Site Compliance Report



615 WEST CITRACADO PARKWAY, ESCONDIDO, CA, 92025



## TABLE OF CONTENT

<b>1</b>	<b>SUMMARY</b> .....	<b>4</b>
1.1	INTRODUCTION .....	4
1.2	STATEMENT OF COMPLIANCE .....	4
1.3	SAFETY RECOMMENDATIONS & SITE COMPLIANCE ACTIONS .....	5
1.3.1	LOCKOUT/TAGOUT PROCEDURES FOR ANTENNA, TRANSMISSION LINE AND POWER AMPLIFIER MAINTENANCE.....	6
1.3.2	LOCKOUT/TAGOUT PROCEDURE, LOCAL SHUTDOWN.....	6
1.3.3	LOCKOUT/TAGOUT PROCEDURE, REMOTE SHUTDOWN.....	6
1.4	SITE DRAWING .....	8
1.5	RF MODELING.....	9
<b>2</b>	<b>ANTENNA INVENTORY</b> .....	<b>13</b>
<b>3</b>	<b>MODELING SUMMARY AND ASSUMPTIONS</b> .....	<b>15</b>
3.1.1	GENERAL MODEL ASSUMPTIONS .....	15
3.1.2	USE OF GENERIC ANTENNAS .....	15
3.1.3	STATISTICAL SUMMARY.....	16
<b>4</b>	<b>ANALYSIS AND COMPUTATION</b> .....	<b>18</b>
4.1	ANALYSIS .....	18
<b>5</b>	<b>FCC LIMITS FOR MPE</b> .....	<b>19</b>
5.1	(A) LIMITS FOR OCCUPATIONAL/CONTROLLED EXPOSURE .....	19
5.2	(B) LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE .....	20
5.3	CONTROLLED AND UNCONTROLLED EXPOSURE LIMITS .....	20
<b>6</b>	<b>FCC STANDARD CERTIFICATION</b> .....	<b>21</b>
<b>7</b>	<b>GLOSSARY OF TERMS</b> .....	<b>22</b>





# 1 Summary

## 1.1 Introduction

AT&T has installed RF transmitting antennas at the following location (the "wireless telecommunications facility"):

**Street Address:** 615 WEST CITRACADO PARKWAY, ESCONDIDO, CA, 92025

**US ID:** 92986

**Latitude / Longitude:** 33.09100/ -117.07851

Telnet, Inc performed an RF computational analysis of the RF environment surrounding the facilities installed by AT&T at this location. The facility is located on a Steeple.

AT&T is licensed by the Federal Communications Commission ("FCC") to provide wireless communications services. As required by the FCC, wireless system operators perform an assessment of the potential human exposure to radio frequency emissions emanating from transmitting antennas at the site.

Antenna specifications presented herein are based on direct evidence from information from the site manager or building manager, information from the licensees, educated estimates by the field technician or a combination of some or all of these sources.

## 1.2 Statement of Compliance

A site is considered in compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards. Per AT&T's corporate policy, the FCC's general population limits are applicable to all rooftop sites, regardless of the level of access control. As presented in the sections below, based on worst-case predictive modeling, the worst-case emitted power density may exceed the FCC's general public limit.



### 1.3 Safety Recommendations & Site Compliance Actions

Since AT&T contributes more than 5% of the MPE, should this site be non-compliant for any reason, all other operators who contribute greater than 5 % would all be liable to bring the site into compliance.

Areas that require that action in order to meet AT&T corporate policy are listed below. No action means the location is compliant with AT&T policy. The RF hazard mitigation proposed for installation at this site complies with AT&T's RF exposure policy and therefore complies with FCC and OSHA requirements

#### Site Access Locations

Mount a Green Information Sign 1 at steeple's base (English/Spanish)

#### Alpha Sector Location

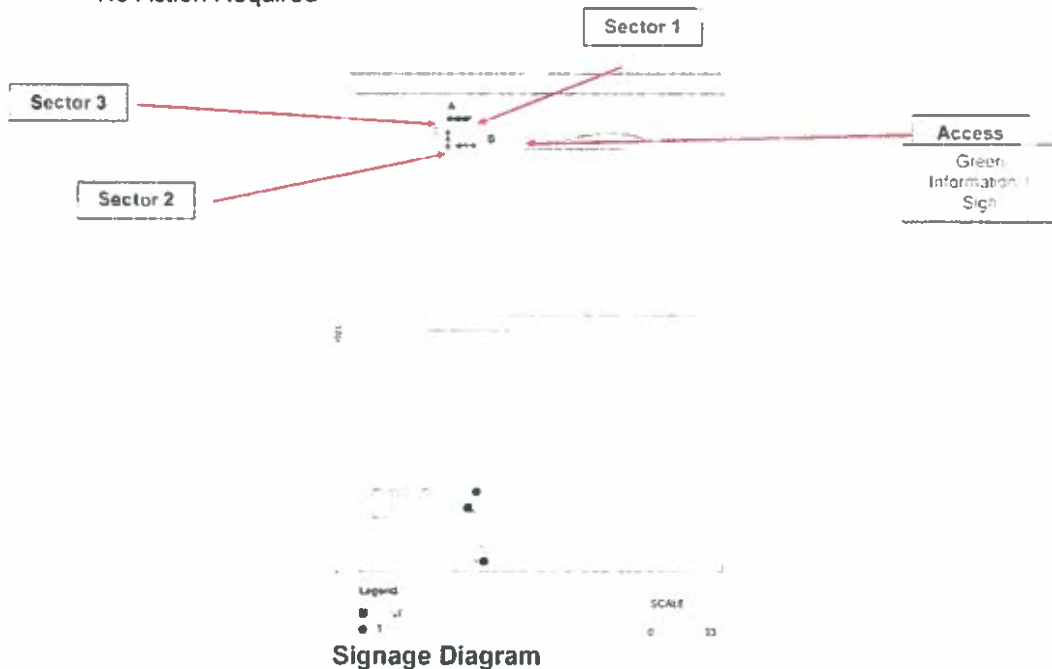
No Action Required

#### Beta Sector Location

No Action Required

#### Gamma Sector Location

No Action Required





### 1.3.1 Lockout/Tagout Procedures for Antenna, Transmission Line and Power Amplifier Maintenance

Whenever anyone is working on an antenna, transmission line, high power amplifier (HPA), or multi-channel power amplifier (MCPA), the transmitter (power amplifier) MUST be turned off. This can be accomplished either locally by flipping a circuit breaker(s) or remotely by command from the NMC/NOC.

The person initiating or requesting the transmitter shutdown is the ONLY person authorized to restore the transmitter to service. This person is responsible for making sure that ALL work has been completed, that ALL cables have been properly reconnected, and that EVERYONE is clear of the work area before the transmitter is reactivated. Generally, this person is considered to be the one actually performing the work. In the case of a contractor working at an active site, the FE/Technician may initiate the request on behalf of the contractor.

### 1.3.2 Lockout/Tagout Procedure, Local Shutdown

After securing permission to shut the transmitter down, the Field Engineer (FE)/Field Technician (FT) will turn off the circuit breaker and verify that the correct transmitter was deactivated. The FE/FT will then place a locking device(s) over the circuit breaker(s) to prevent accidental activation by an unauthorized person and place a TAG on, or in the immediate vicinity of, the circuit breaker(s). The tag should state "Do Not Operate." At the NMC/NOC the same note, including date and time and location, must be entered in the computer or a tag must be placed on the monitor frame in such a manner that the console operator will be made aware that the transmitter can not be activated without permission from the person who initiated the maintenance request.

The FE/FT will turn the key(s) over to the person performing the work. Upon completion of the work, this person performing the task will return the key(s). As a precautionary measure, prior to reactivating the transmitter, the FE/FT MUST verify, to the extent possible, that all connections have been made and that the work area is clear of personnel.

### 1.3.3 Lockout/Tagout Procedure, Remote Shutdown

After requesting the NMC/NOC to shut the transmitter down, the FE/FT will verify that the correct transmitter was deactivated. The FE/FT will then place a TAG on or in the immediate vicinity of transmitter. The tag should state "Do Not Operate." At the NMC/NOC the same note, including date/time, must be entered in the computer or a tag must be placed on the monitor frame in such a manner that the console operator will be made aware that the transmitter can not be activated unless the following conditions are met: 1) The tag has been removed by the person performing the work; and 2) Permission is provided by the person who initiated the maintenance request.

Upon completion of the work, the person performing the task will remove the tag and notify the FE/FT that the work is completed. As a precautionary measure, prior to requesting reactivation of the transmitter, the FE/FT MUST verify, to the extent possible, that all connections have been made and that the work area is clear of personnel.



Note: Even though normal procedures call for a remote shutdown, if it is possible to turn off the circuit breaker without causing a software reload or other similar problems the FE/FT should follow the local shut down procedure.



# 1.4 Site Drawing

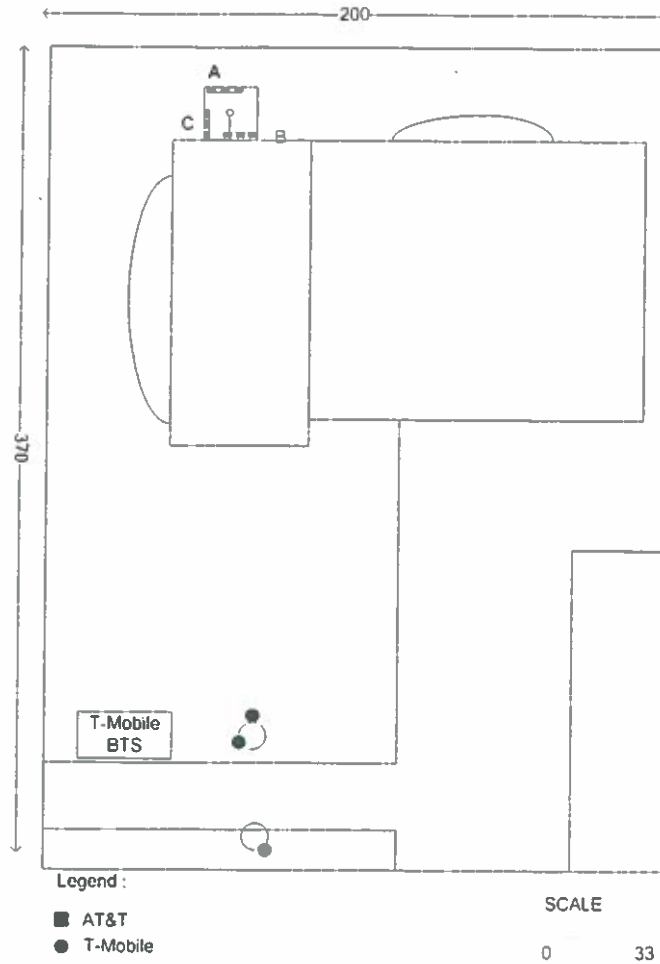


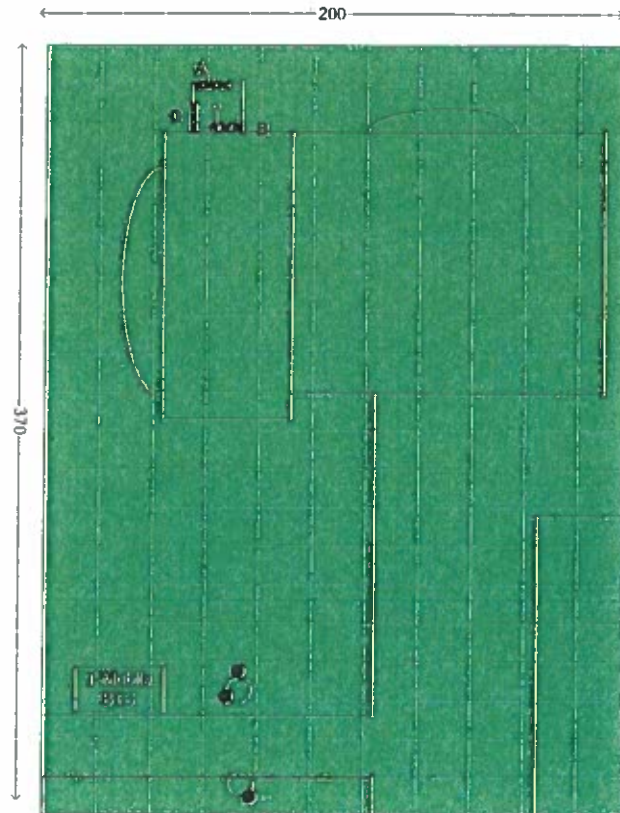
Figure 1  
Site layout



## 1.5 RF Modeling

The modeling calculations assume that the antennas are operating at 100% capacity; that all antenna channels are transmitting simultaneously and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the measurement conclusions.

At Ground Level



**Legend**

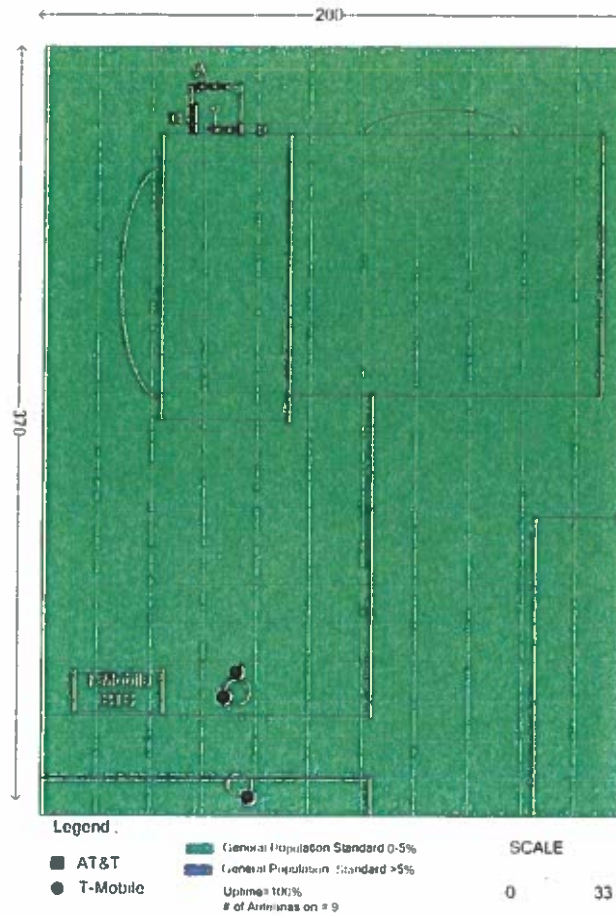
- AT&T
  - T-Mobile
  - General Population Standard 0-100%
  - General Population Standard 100-500%
  - General Population Standard 500-5000%
  - General Population Standard > 5000%
- Uptime > 100%  
# of Antennas on = 12

**SCALE**

0 33



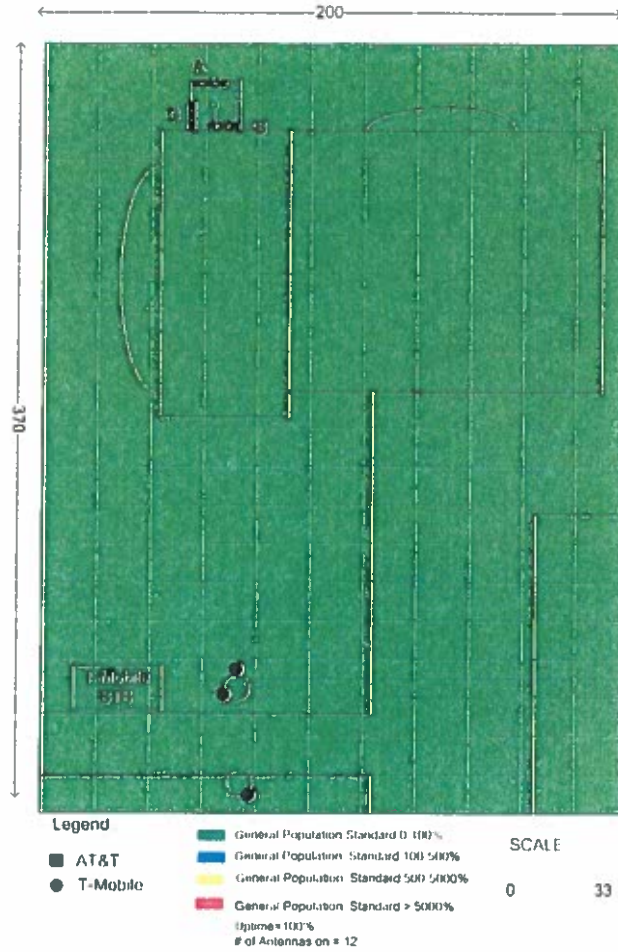
At Roof Level:



**Figure 2**  
**Percent of FCC General Population Exposure Limit**



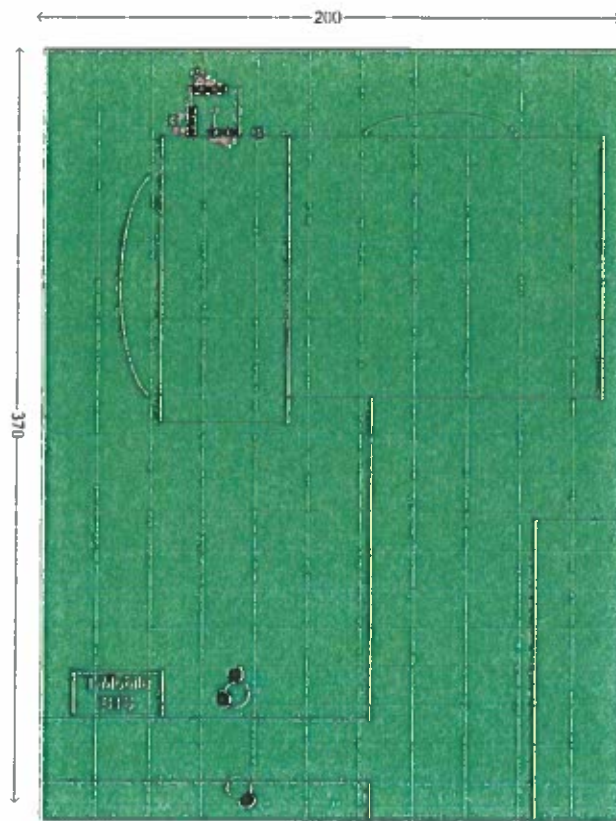
At Ground Level:







At Roof Level:



Legend .

- AT&T
- T-Mobile
- General Population Standard 0-5%
- General Population Standard >5%
- Uptime = 100%
- # of Antennas on = 9

SCALE

0 33

**Figure 3**  
**5% FCC Gneral Population Exposure Limit**



## 2 Antenna Inventory

The Antenna Inventory shows all transmitting antennas on the site (see Table 1). This inventory was verified on site and was used by Telnet to perform software modeling of RF emissions. The inventory coincides with the site diagrams on this report, identifying each antenna's location at the site.

For other carriers at the site, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information with regard to the 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.

Relevant administrative and compliance-related information about the antenna site rooftop area is summarized in the table below :

<b>Collocation Status</b>	Collocated
<b>Area Classification</b>	General Population



Antenna Number	Operator	Type	TX Freq (MHz)	ERP (Watts)	Gain (dBd)	Model	Azimuth (deg.)	Length (ft)	Radio Count	Horizontal Beam width (Deg.)	X	Y	Z Roof Level	Z Ground Level
1-a-1	AT&T	Panel	GSM 850	500	14.65	Kathrein 80010766	10	8.0	4	65	29.0	189.0	13.3	43.3
1-a-2	AT&T	Panel	GSM 1900	500	16.35	Kathrein 80010766	10	8.0	4	62	29.0	189.0	13.3	43.3
1-a-3	AT&T	Panel	UMTS 850	500	14.65	Kathrein 80010766	10	8.0	2	65	31.0	189.0	13.3	43.3
1-a-4	AT&T	Panel	UMTS 1900	500	16.35	Kathrein 80010766	10	8.0	2	62	31.0	189.0	13.3	43.3
1-a-5	AT&T	Panel	LTE 700	250	14.25	Kathrein 80010766	10	8.0	1	68	33.0	189.0	13.3	43.3
1-a-6	AT&T	Panel	LTE 700	250	14.25	Kathrein 80010766	10	8.0	1	68	33.0	189.0	13.3	43.3
1-b-1	AT&T	Panel	GSM 850	500	14.65	Kathrein 80010766	180	8.0	4	65	36.0	179.0	13.3	43.3
1-b-2	AT&T	Panel	GSM 1900	500	16.35	Kathrein 80010766	180	8.0	4	62	36.0	179.0	13.3	43.3
1-b-3	AT&T	Panel	UMTS 850	500	14.65	Kathrein 80010766	180	8.0	2	65	34.0	179.0	13.3	43.3
1-b-4	AT&T	Panel	UMTS 1900	500	16.35	Kathrein 80010766	180	8.0	2	62	34.0	179.0	13.3	43.3
1-b-5	AT&T	Panel	LTE 700	250	14.25	Kathrein 80010765	180	8.0	1	68	32.0	179.0	13.3	43.3
1-b-6	AT&T	Panel	LTE 700	250	14.25	Kathrein 80010765	180	8.0	1	68	32.0	179.0	13.3	43.3
1-c-1	AT&T	Panel	GSM 850	500	14.65	Kathrein 80010765	280	8.0	4	65	28.0	178.0	13.3	43.3
1-c-2	AT&T	Panel	GSM 1900	500	16.35	Kathrein 80010765	280	8.0	4	62	28.0	178.0	13.3	43.3
1-c-3	AT&T	Panel	UMTS 850	500	14.65	Kathrein 80010765	280	8.0	2	65	28.0	180.0	13.3	43.3
1-c-4	AT&T	Panel	UMTS 1900	500	16.35	Kathrein 80010765	280	8.0	2	62	28.0	180.0	13.3	43.3
1-c-5	AT&T	Panel	LTE 700	250	14.25	Kathrein 80010765	280	8.0	1	68	28.0	183.0	13.3	43.3
1-c-6	AT&T	Panel	LTE 700	250	14.25	Kathrein 80010765	280	8.0	1	68	28.0	183.0	13.3	43.3
2-a-1	T-Mobile	Panel	1900	632	15	Unknown	20	5.0	-	65	37.0	34.0	-11.5	18.5
2-a-2	T-Mobile	Panel	850	3162	15	Unknown	20	5.0	-	65	37.0	34.0	-11.5	18.5
2-b-1	T-Mobile	Panel	1900	632	15	Unknown	130	5.0	-	65	39.0	5.0	-11.5	18.5
2-b-2	T-Mobile	Panel	850	3162	15	Unknown	130	5.0	-	65	39.0	5.0	-11.5	18.5
2-c-1	T-Mobile	Panel	1900	632	15	Unknown	240	5.0	-	65	34.0	28.0	-11.5	18.5
2-c-2	T-Mobile	Panel	850	3162	15	Unknown	240	5.0	-	65	34.0	28.0	-11.5	18.5

Table 1  
Antenna Inventory



### **3 Modeling Summary and Assumptions**

#### **3.1.1 General Model Assumptions**

In this 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. Telnet, Inc 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. Telnet Inc believes this to be a worst case analysis, based on best available data.

If at any time power density measurements were to be made, Telnet Inc believes the real time measurements would indicate levels below those shown in this report. By modeling in this way, we have conservatively shown exclusion areas (areas not to be entered without a personal RF monitor, carriers reducing power or performing real time measurements to show real time exposure levels).

#### **3.1.2 Use of Generic Antennas**

For the purposes of this report, the use of 'Generic' as an antenna model, or 'Unknown' for a wireless carrier, means that the information about the 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, Telnet 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, remodeling of the site is recommended. 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.



3.1.3 Statistical Summary

At Ground Level:

Statistical Summary		
%MPE	SQ. FT	%SQ. FT.
	22000	100.00 % of total ROOF Area
0-100	22000	100.00 % of Selected Area
101 - 500	0	0.00 % of Selected Area
501 - 5000	0	0.00 % of Selected Area
> 5000	0	0.00 % of Selected Area
<b>RoofArea 22000 sq. ft.</b> <b>Max%MPE 39.1 %</b> <b>Min%MPE 0.0 %</b> <b>Using Near/Far Spatial Avg Model</b> <b>With FCC 1997 Public Standard</b>		

Table 2  
Percent of FCC General Population Exposure Limit, All Carriers

Statistical Summary		
%MPE	SQ. FT	%SQ. FT.
	22000	100.00 % of total ROOF Area
0-5	22000	100.00 % of Selected Area
6 - 500	0	0.00 % of Selected Area
501 - 5000	0	0.00 % of Selected Area
> 5000	0	0.00 % of Selected Area
<b>RoofArea 22000 sq. ft.</b> <b>Max%MPE 3.0 %</b> <b>Min%MPE 0.0 %</b> <b>Using Near/Far Spatial Avg Model</b> <b>With FCC 1997 Public Standard</b>		

Table 3  
Percent of FCC General Population Exposure Limit, Only AT&T



At Roof Level:

Statistical Summary		
%MPE	SQ. FT	%SQ. FT.
	22000	100.00 % of total ROOF Area
0-100	22000	100.00 % of Selected Area
101 - 500	0	0.00 % of Selected Area
501 - 5000	0	0.00 % of Selected Area
> 5000	0	0.00 % of Selected Area
<b>Roof Area 22000 sq. ft.</b> <b>Max %MPE 85.5 %</b> <b>Min %MPE 0.1 %</b> <b>Using Near/Far Spatial Avg Model</b> <b>With FCC 1997 Public Standard</b>		

Table 4  
Percent of FCC General Population Exposure Limit, All Carriers

Statistical Summary		
%MPE	SQ. FT	%SQ. FT.
	22000	100.00 % of total ROOF Area
0-5	21956	99.80 % of Selected Area
6 - 500	44	0.20 % of Selected Area
501 - 5000	0	0.00 % of Selected Area
> 5000	0	0.00 % of Selected Area
<b>Roof Area 22000 sq. ft.</b> <b>Max %MPE 11.2 %</b> <b>Min %MPE 0.0 %</b> <b>Using Near/Far Spatial Avg Model</b> <b>With FCC 1997 Public Standard</b>		

Table 5  
Percent of FCC General Population Exposure Limit, Only AT&T



## 4 Analysis and Computation

Based on emission patterns of the antennas at this location most of the energy emitted is spread towards the horizon. This assumes the antennas have a zero downtilt. If a mechanical downtilt other than zero is applied to the antennas then the maximum energy emitted will need to be calculated using the information below.

The following formulas can be used for calculating the power density.

Power density is calculated by dividing the surface area of the sphere or the unit area normal to the direction of the propagation. This information is usually shown in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ), milliwatt per square centimeters ( $\text{mW}/\text{cm}^2$ ), or watts per square meter ( $\text{W}/\text{m}^2$ ).

### 4.1 Analysis

$$S = \frac{(P \times K \text{Fact})}{(2\pi R h)}$$

where:

S = power density ( $\text{W}/\text{m}^2$ )

P = total power input to the antenna (W)

K = antenna gain or directivity (unitless) to find actual value use dBd

R = straight line distance of the antenna from the point (meters)

h = distance between the ground level and the center of the antenna (m) or the vertical distance from the top of the antenna to the ground level where a 6-foot human being is assumed standing directly from the antenna (also equal to R cos  $\theta$ )

MPE% = calculated exposure level as a percentage of the FCC MPE limit for continuous exposure of the general population



## 5 FCC Limits for MPE

The FCC guidelines for human exposure to RF electromagnetic fields were derived from the recommendations of two expert organizations, the National Council on Radiation Protection and Measurements ("NCRP") and the Institute of Electrical and Electronics Engineers ("IEEE"). The exposure guidelines are based on thresholds for known adverse effects and they incorporate appropriate margin of safety. The federal health and safety agencies such as: the Environmental Protection Agency ("EPA"), the Food and Drug Administration ("FDA"), the National Institute on Occupational Safety and Health ("NIOSH") and the Occupational Safety and Health Administration ("OSHA") have also been actively involved in monitoring and investigating issues related to RF exposure.

The FCC's MPE limits are based on exposure limits over a wide range of frequencies recommended by the NCRP and the exposure limits developed by the IEEE and adopted by the American National Standards Institute ("ANSI") to replace the 1982 ANSI guidelines. The limits for localized absorption are based on the recommendations of both the ANSI/IEEE and the NCRP. The potential hazard associated with the RF electromagnetic fields is discussed in OET Bulletin No. 56 "Questions and Answers about the Biological Effects and Potential Hazards of RF Electromagnetic Fields". This document can be obtained on the FCC website at <http://www.fcc.gov>.

Sections 5.1, 5.2 and 5.3 represent the FCC limits for both occupational and general population exposures to different radio frequencies:

### 5.1 (A) Limits for Occupational/Controlled Exposure

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





## 5.2 (B) Limits for General Population/Uncontrolled Exposure

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

NOTE 1: **Occupational/controlled** limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2: **General population/uncontrolled** exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

## 5.3 Controlled and Uncontrolled Exposure Limits

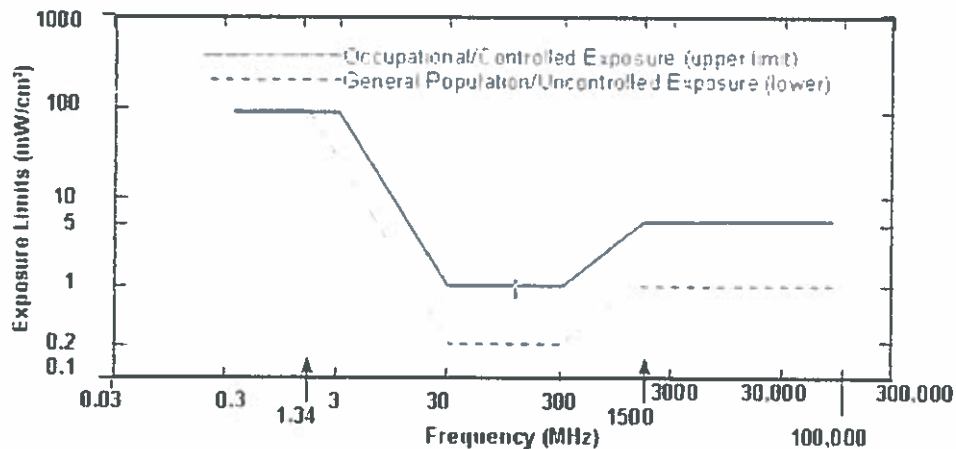


Figure 4



## 6 FCC Standard Certification

This report certifies that the site NEW LIFE PRESBYTERIAN CHURCH – 92986 is in compliance with the FCC rules and regulations under FCC OET Bulletin 65. Signage is recommended at the site as presented in Section 1.3.

Prepared by:  
Maryam Ovichi  
RF Engineer  
Telnet Inc.

Date: 07/22/11

Reviewed by:  
Boris Lublinsky  
Project Manager, EMF Specialist  
Telnet Inc.

Date: 07/22/11



## 7 Glossary of Terms

1. *Electromagnetic Field (energy density)* – the electromagnetic energy contained in an infinitesimal volume divided by that volume.
2. *Exposure* – Exposure occurs whenever and wherever a person is subjected to electric, magnetic or electromagnetic fields other than those originating from physiological processes in the body and other natural phenomena.
3. *General Population / Uncontrolled Exposure* – applies to human exposure to RF fields when the general public is exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.
4. *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 an acceptable safety factor.
5. *Occupational / Controlled Exposure* – applies to human exposure to RF fields when persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/controlled limits.
6. *Power Density (S)* – Power per unit area normal to the direction of propagation, usually expressed in units of watts per square meter ( $W/m^2$ ) or, for convenience, units such as milliwatts per square centimeter ( $mW/cm^2$ ) or microwatts per square centimeter ( $\mu W/cm^2$ ).
7. *Ionization* – a process by which electrons are stripped from atoms and molecules. This process can produce molecular changes that can lead to damage in biological tissue, includes effect on DNA, the genetic material. This process requires interaction with high levels of electromagnetic energy.
8. *Non-ionizing radiation* – a type of emission that is not great enough to cause ionization of atom and molecules. “RF and Microwave Emissions” are low-level energy which are not capable of ionization.