

PLANNING COMMISSION

Agenda Item No.: G.1
Date: August 9, 2011

CASE NUMBER: PHG 11-0026
APPLICANT: AT&T
LOCATION: 615 W. Citracado Parkway (APN 238-110-37)
TYPE OF PROJECT: Conditional Use Permit

PROJECT DESCRIPTION: 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.

STAFF RECOMMENDATION: Approval

GENERAL PLAN DESIGNATION/TIER: Suburban; Kit Carson Neighborhood - Tier 1

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). AT&T has submitted a request to modify the previous CUP to remove the existing panel antennas within the upper portion of the tower and install up to nine new panel antennas. There would be no change to the exterior appearance of the tower. 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.

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).

In summary, 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.

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.

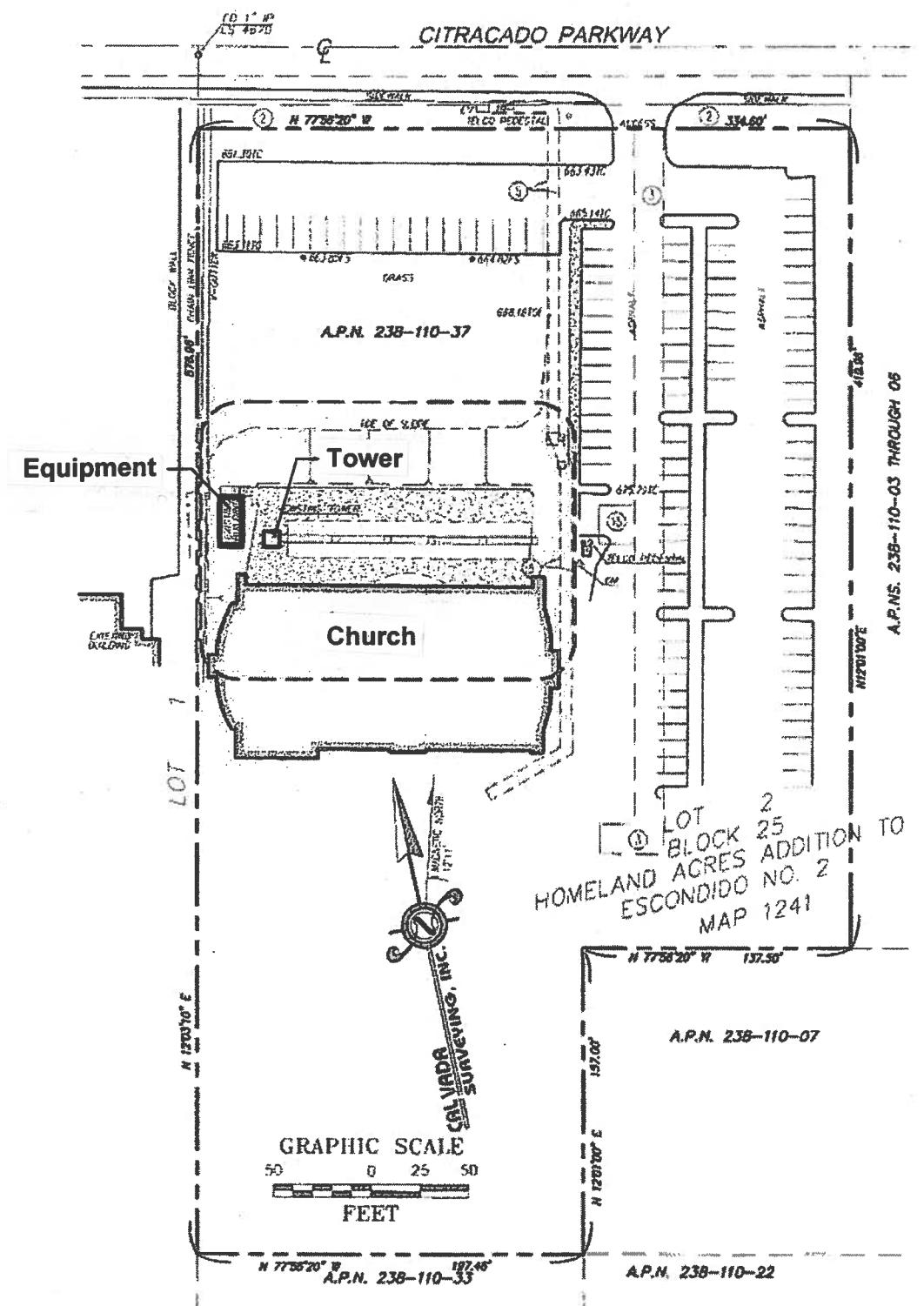
2. Staff feels the proposed facility would not result in a potential health hazards to nearby residents since the Radio Frequency (RF) study prepared for the proposed project indicates the facility would be within maximum permissible exposure (MPE) limits and Federal Communication Commission (FCC) standards.

Respectfully submitted,

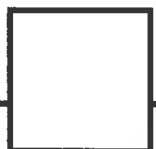
A handwritten signature in black ink, appearing to read 'JP', written in a cursive style.

Jay Paul
Associate Planner

Boundary Detail

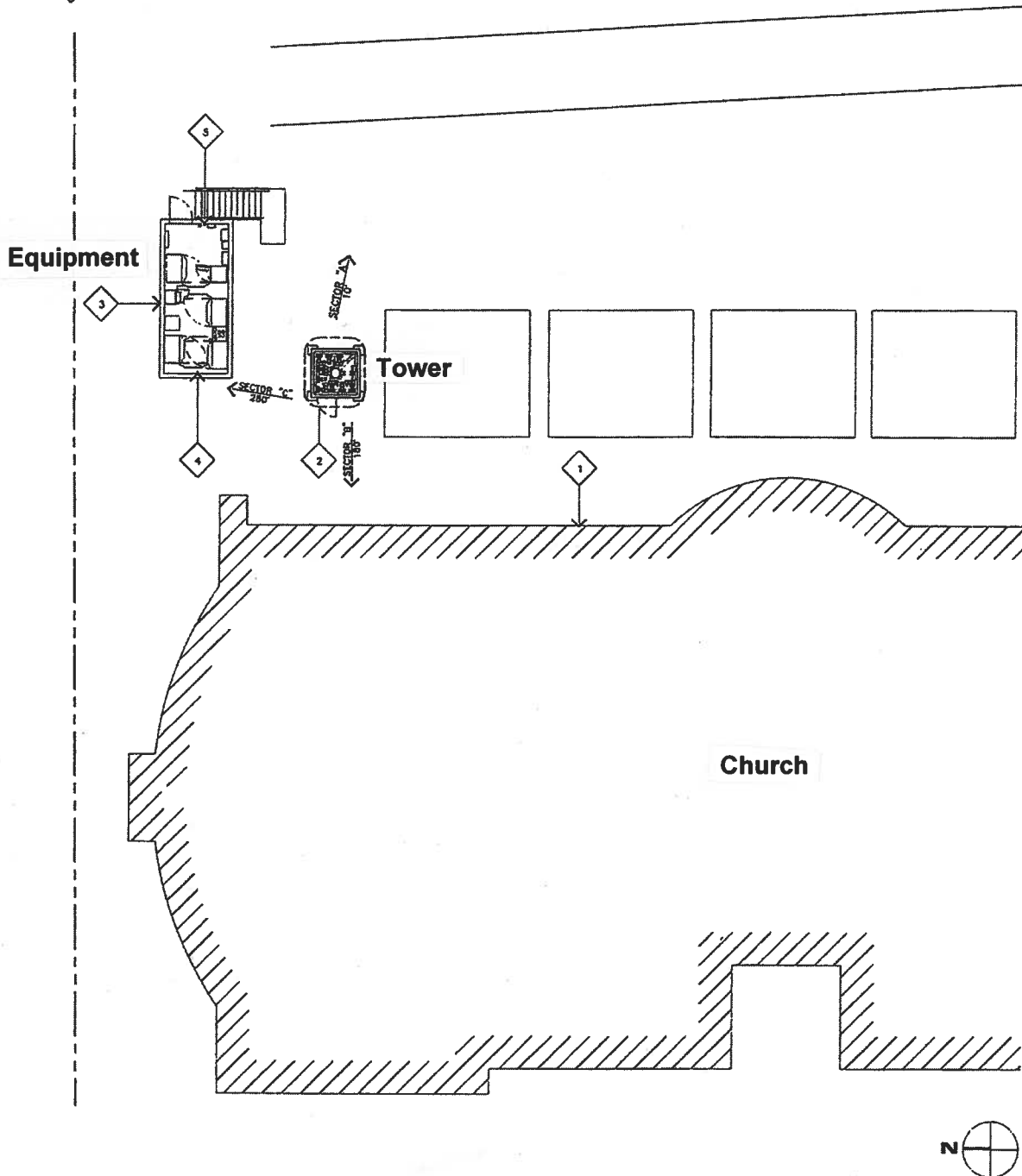


**PROPOSED PROJECT
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ENLARGED SITE PLAN KEYNOTES

- 1 (E) BUILDING.
- 2 (N) 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.



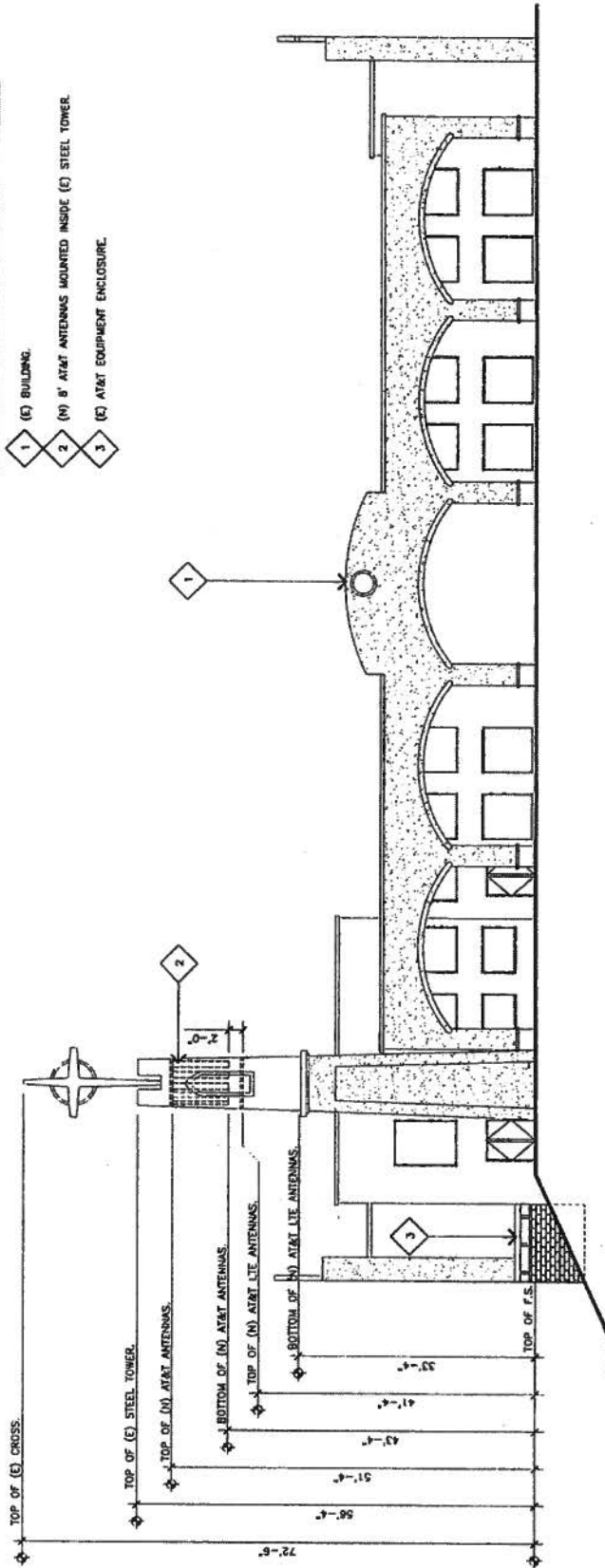
ENLARGED ROOF PLAN

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ELEVATION KEYNOTES

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



SOUTH ELEVATION

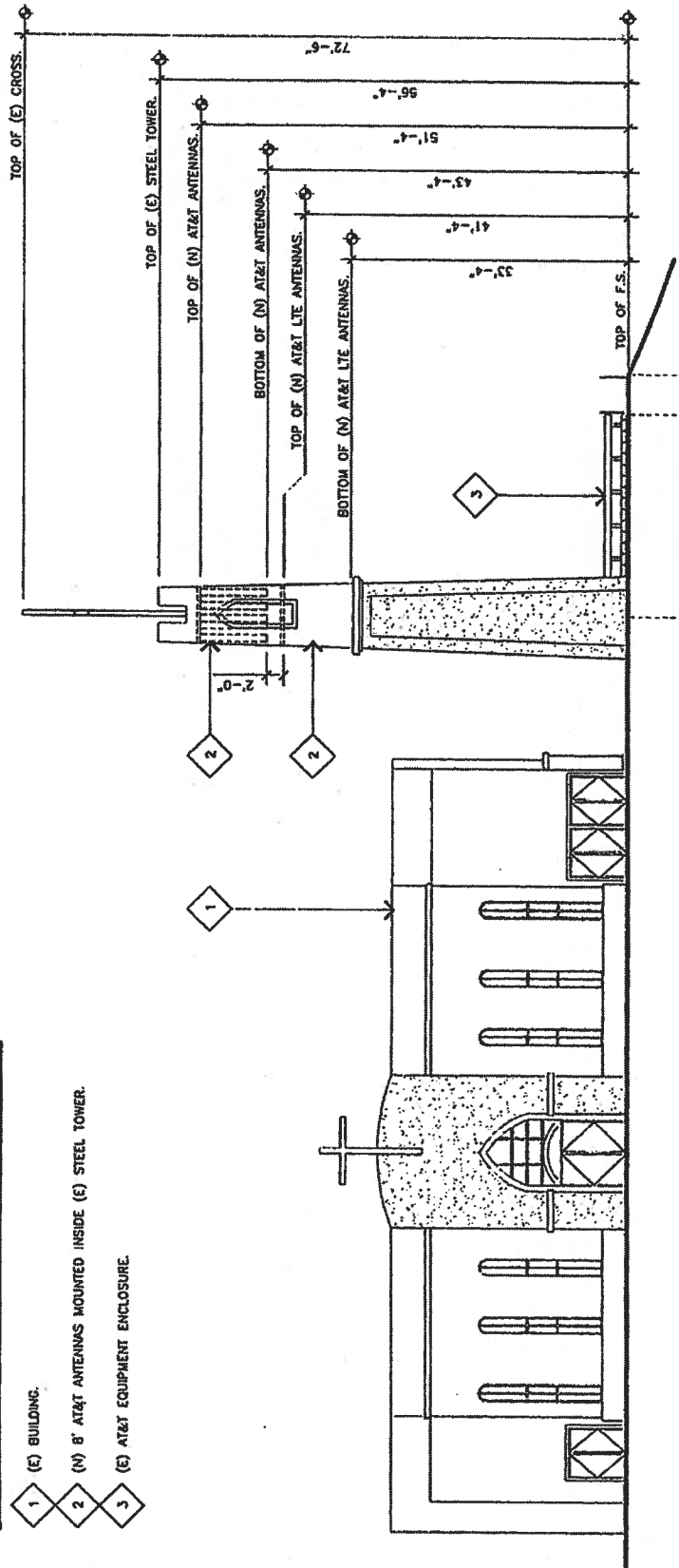
**PROPOSED PROJECT
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ELEVATIONS

ELEVATION KEYNOTES

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



EAST ELEVATION

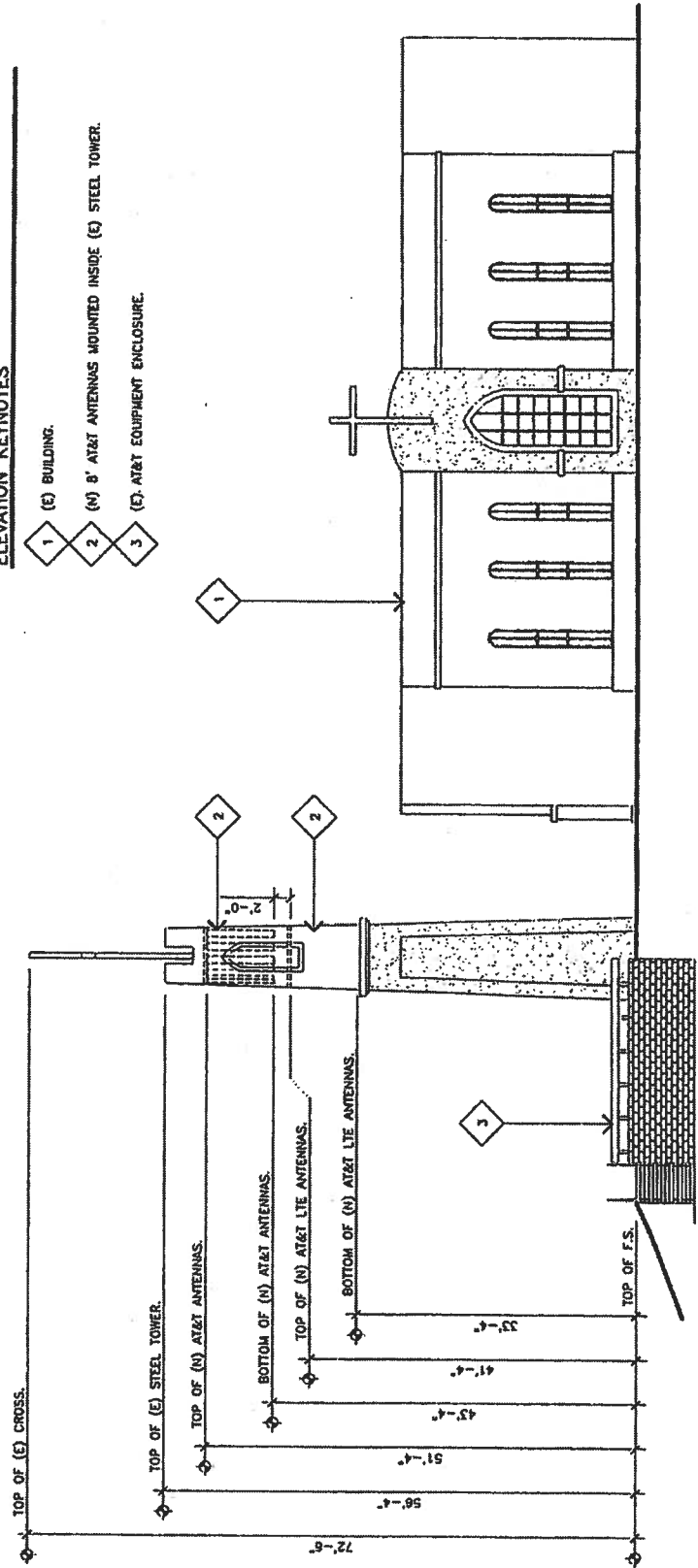
**PROPOSED PROJECT
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ELEVATIONS

ELEVATION KEYNOTES

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

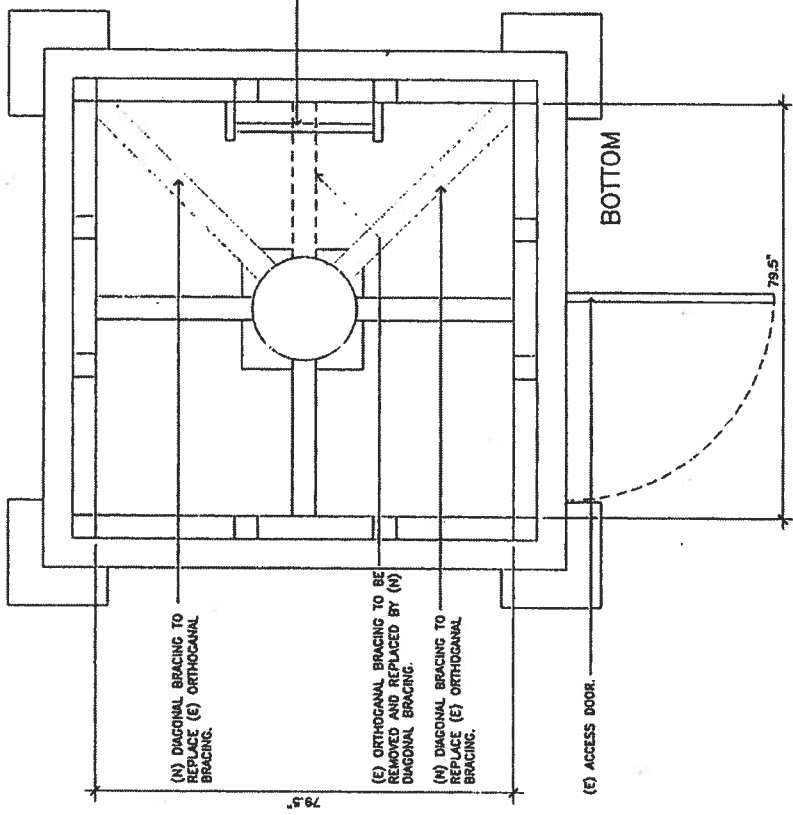
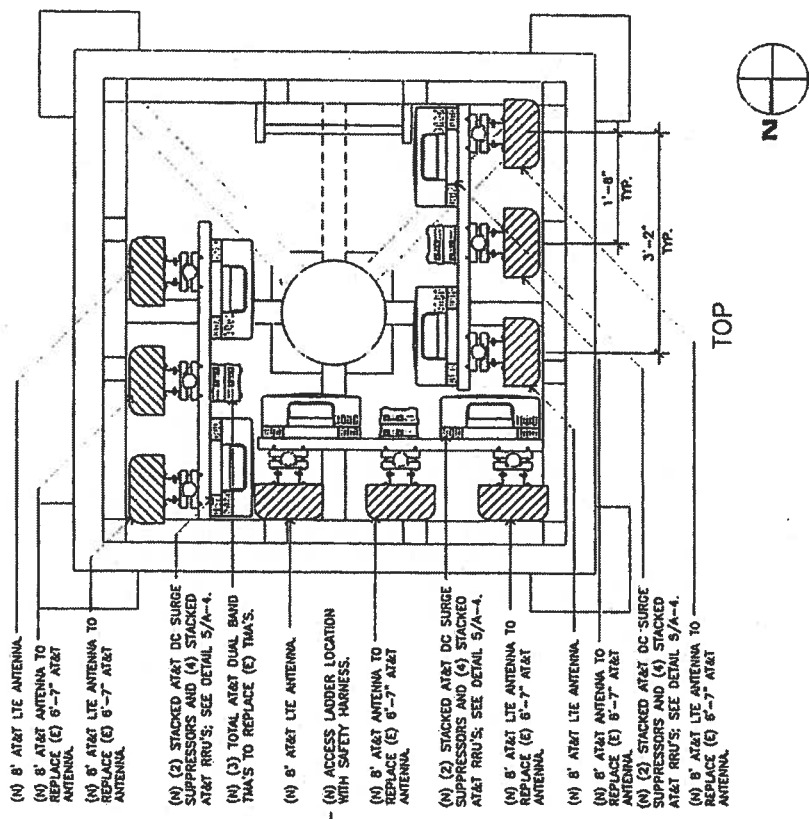


WEST ELEVATION

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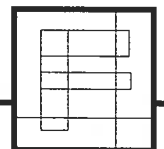


ELEVATIONS



ANTENNA PLAN

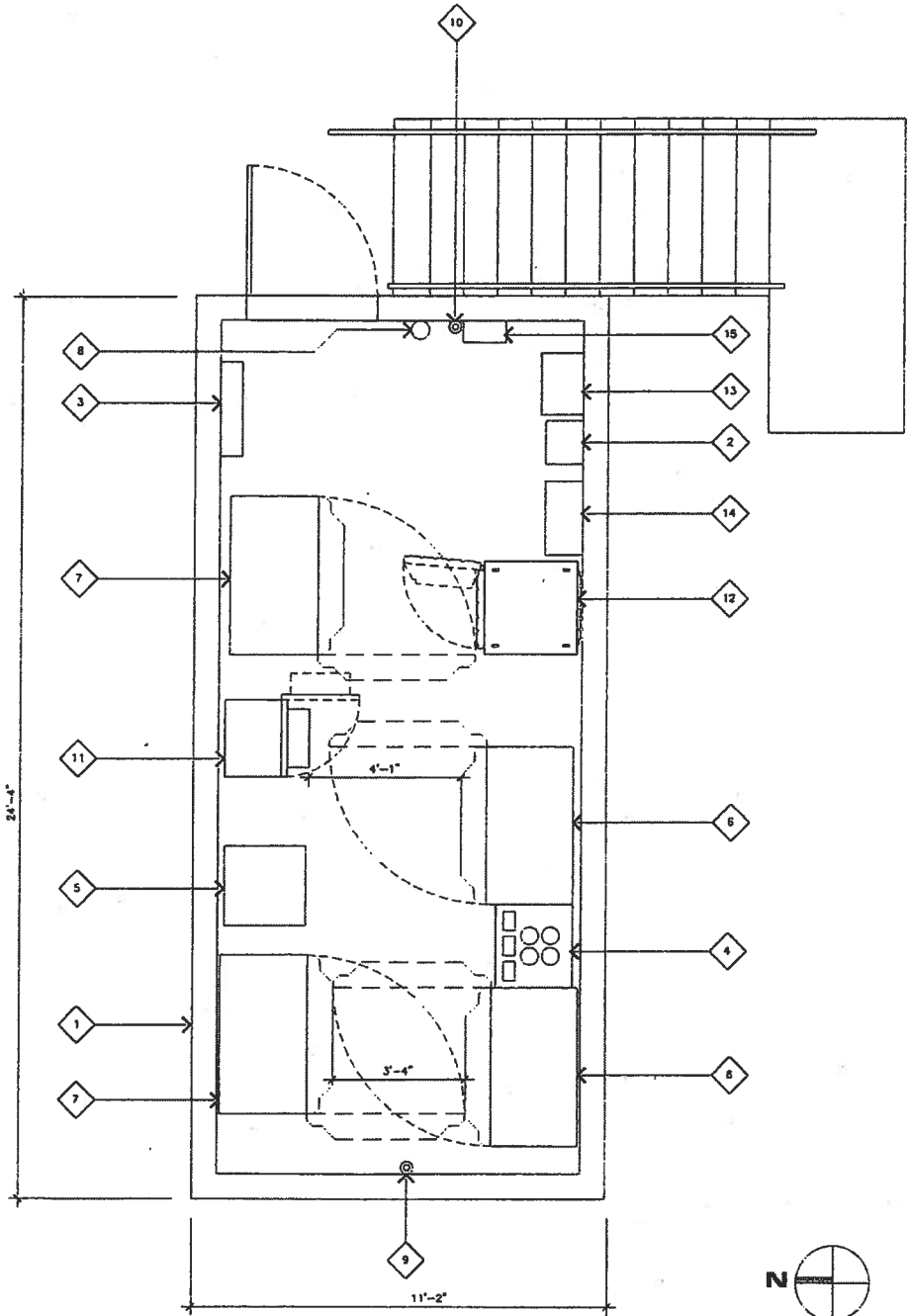
PROPOSED PROJECT
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FLOOR PLAN

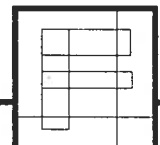
EQUIPMENT FLOOR PLAN KEYNOTES

- 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 210S GSM EQUIPMENT CABINET.
- 7 (E) AT&T OUTDOOR 310S UMTS CABINET WITH BBU.
- 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 CONCRETE PAD.
- 13 (E) AT&T FIBER CABINET.
- 14 (E) AT&T PULLBOX.
- 15 (E) AT&T CIENA.



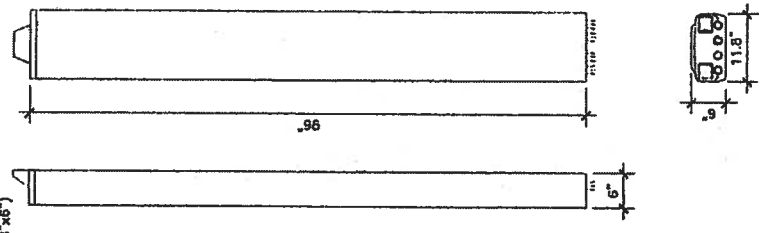
EQUIPMENT FLOOR PLAN

**PROPOSED PROJECT
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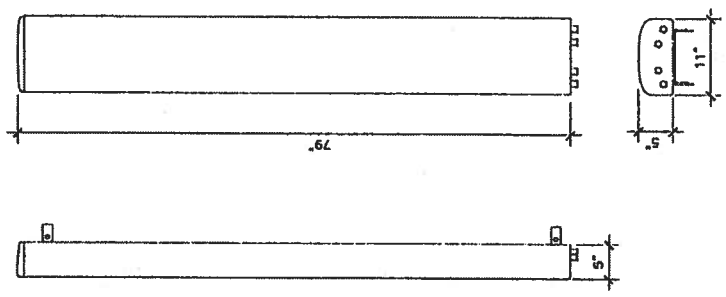


FLOOR PLAN

ANTENNA MATERIAL: GRP
 ANTENNA COLOR: LIGHT GREY
 DIMENSIONS, HxWxD: 2438x300x152mm (96"x11.8"x6")
 WEIGHT: 61.7 lbs
 WIND LOAD, FRONTAL/LATERAL/REAR: 286 lbf/ 61 lbf/ 355 lbf
 CONNECTOR: 7/16 DIN FEMALE



ANTENNA COLOR: LIGHT GREY
 DIMENSIONS, HxWxD: 2033x280x125mm (67"x11"x5")
 WEIGHT, WITH PRE-MOUNTED BRACKETS: 44 lbs
 WIND LOAD, FRONTAL/LATERAL/REAR: 628 lbf/ 141 lbf/ 355 lbf
 SIDE 42 m/s, Cd=1.0 (N)
 CONNECTOR: (4) 7/16 DIN FEMALE



PER RFDS 12/8/09

(N) ANTENNA SPECIFICATION

(E) ANTENNA SPECIFICATION

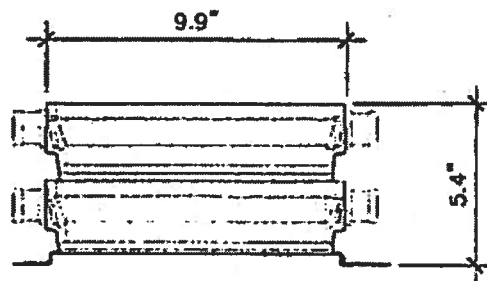
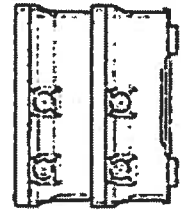
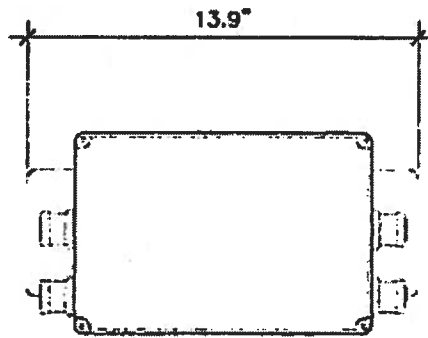
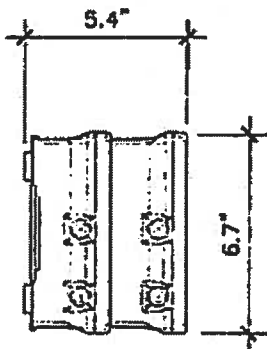
**PROPOSED PROJECT
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SPEC'S

WEIGHT: <8KG (<18LBS)

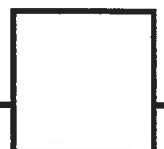
RF CONNECTORS; DIN 7/16 FEMALE

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



DUAL BAND TMA

PROPOSED PROJECT
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(N) UNISTRUT FRAME.

(N) (2) STACKED AT&T RRU'S;
SEE DETAIL 2/A-4.

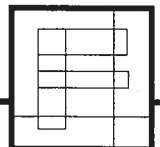
(N) (2) STACKED AT&T
DC SURGE SUPPRESSOR;
SEE DETAIL 3/A-4.

(N) (2) STACKED AT&T RRU'S;
SEE DETAIL 2/A-4.

8"
TYP.

RRU PLAN

**PROPOSED PROJECT
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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. AVAILABILITY OF PUBLIC SERVICES

1. Effect on Police Service - The Police Department expressed no concern regarding the proposed project and their ability to provide service to the site.
2. Effect on Fire Service - The Fire Department indicated that adequate services can be provided to the site and the proposed project would not impact levels of service.
3. Traffic – The Engineering Department indicated the project would not have any impacts to existing traffic or circulation within the area.
4. Utilities – The Engineering Department indicated the project would not result in a significant impact to public services or utilities.
5. Drainage – The Engineering Department determined the project would not materially degrade the levels of service of the existing drainage facilities.

C. ENVIRONMENTAL STATUS

1. 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 subject site does not contain any protected or sensitive habitat.
2. In staff's opinion, no significant issues remain unresolved through compliance with code requirements and the recommended conditions of approval. Staff feels 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. Public access to the cross tower and panel antennas is restricted and secured.
3. The project will have no impact on fish and wildlife resources as no sensitive or protected habitat occurs within the proposed development area or will be directly impacted/removed by the proposed development.

D. 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, 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.

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 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. Design Review Board review is not required since there are no proposed modifications to the exterior appearance of the structure.

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 with 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 11-0026

Conditional Use Permit

1. General Plan Residential Policy B2.1 (page II-17) states that residential neighborhoods shall be protected from the encroachment of incompatible activities which may have a negative impact on the residential living environment. Granting this Conditional Use Permit to allow a personal wireless communication facility on the subject property would not conflict with this policy 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 proposed wireless antenna panels would be integrated into an existing telecommunication facility, which would avoid potential visual impacts in conformance with the Communication Antennas Ordinance. The ground equipment would be located within an existing equipment building. The proposed facility would not result in a substantial alteration of the present or planned land use since the project site is developed with a church and contains existing wireless communication facilities. 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 by Telnet Inc. (dated 7-22-2011). The proposed facility would be in compliance with the City's Wireless Facility Guidelines, as discussed in the Planning Commission staff report.
2. The proposed personal wireless communication facility would be located within the RE-20 zone. Personal wireless communication facilities are permitted within this residential zone pursuant to approval of a Conditional Use Permit (CUP). The proposal would not cause deterioration of bordering land uses or create special problems in the area since the antenna panels would be incorporated into an existing wireless facility, and the location, number and size of the panels have been designed to integrate into the design and scale of the existing facility. The proposed facility would be consistent with the Communication Antennas Ordinance because the facility would be located within an existing communication facility and considered a stealthy design since the panels would be screened by the existing architecture of the tower; equipment cabinet(s) and other support equipment would be placed within an existing enclosure area; the proposed facility is located on a non-residential site in a residential zone; would use an existing facility to mount the panels rather than construction of an additional structure; and would be in conformance with FCC emission standards.
3. 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. Anticipated traffic generated by the project generally would be limited to approximately one routine maintenance trip per month. The antennas would be in conformance with FCC requirements for RF emissions.
4. 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 antennas would be in conformance with FCC requirements for RF emissions. The subject site does not contain any protected or sensitive habitat.

EXHIBIT "B"

CONDITIONS OF APPROVAL PHG 11-0026

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. The developer shall be required to pay all development fees of the City then in effect at the time and in such amounts as may prevail when building permits are issued, including any applicable City Wide Facilities Fees.
4. All exterior lighting shall conform to the requirements of Article 1072, Outdoor Lighting (Ordinance No. 86-75).
5. As proposed, the design, color and materials of the proposed facilities shall be in accordance with the staff report, exhibits and the project's Details of Request, to the satisfaction of the Planning Division.
6. Any new utility runs shall be placed underground, to the satisfaction of the Planning Division and the Engineering Department, unless as specifically approved by this permit.
7. All proposed signage associated with the project must comply with the City of Escondido Sign Ordinance (Ord. 92-47) and the exhibits included in the staff report(s), to the satisfaction of the Planning Division. Appropriate signs providing notice, caution or warning, and other necessary markings, shall be placed at appropriate access point(s) and other locations, as may be required, in order to alert the general public, 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.
8. AT&T or any subsequent operator/lease holder of the wireless facility agrees to investigate any complaints related to possible interference with electronic equipment in the surrounding area to determine the cause of the interference. Any interference shall be resolved in a timely manner to the satisfaction of the Director of Community Development. If the facility is determined to be the cause of the electronic interference, AT&T shall solve the problem in a timely manner to the satisfaction of the complainant and the Director of Community Development. In addition, any interference with public safety communications shall be corrected immediately, to the satisfaction of the City of Escondido.
9. All project generated noise shall conform to the City's Noise Ordinance (Ordinance 90-08).
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, and the new facilities can be appropriately integrated into the design of the existing facility.
11. AT&T shall select an independent third party consultant to conduct actual power density measurements 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 to ensure compliance with FCC requirements.
12. AT&T or any subsequent operator/lease holder of the wireless facility shall be responsible for all on-going maintenance of the facility, including the antennas and supporting equipment to ensure the condition of the facility does not appear weathered. Any required landscaping shall be permanently maintained in a flourishing manner. Any required irrigation shall be maintained in fully operational condition.
13. 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.

14. Any permanent, temporary or stand-by emergency generators must be in conformance with the City's Ordinance and regulations regarding electric generating facilities.
15. 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 design parameters may be permitted by the Director of Community Development after review by the Design Review Board, as may be required.
16. The Conditional Use Permit shall be null and void if not utilized within twelve months of the effective date of approval, as determined by the Planning Division.
17. This Conditional Use Permit only is for the installation of AT&T equipment on the existing facility located on the site. The number of antennas approved by this Conditional Use Permit shall be used solely for AT&T and not transferred or subleased to any other carriers unless approved by the City. No other additional carriers shall be allowed to be placed on the existing wireless communication facility, unless a new Conditional Use Permit is approved by the City.
18. Approval of this Conditional Use Permit does not supercede any previous approval(s) or conditions on the site, unless specifically modified herein. All previous conditions for 2006-58-CUP shall remain in effect, as determined by the Planning Division.
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. An inspection by the Planning Division will be required prior to operation of the project. Everything should be installed prior to calling for an inspection, although preliminary inspections may be requested. Contact the project planner at (760) 839-4671 to arrange a final inspection.
22. 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: Linda Kesian
 P.O. Box 121750
 San Diego, CA 92112-1750

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

Project Title/Case No.: PHG 10-0026

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 (Michelle Alves, Technology Assoc. agent for AT&T) Telephone (760) 805-5673
 Address 5738 Pacific Center Blvd., San Diego, CA 92121

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:  June 28, 2011
 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



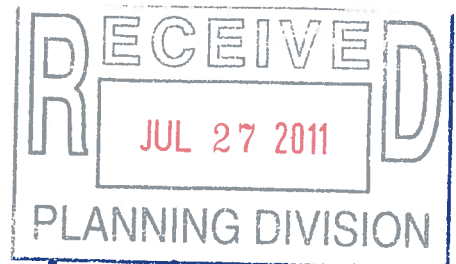
Site Information

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

REVISED

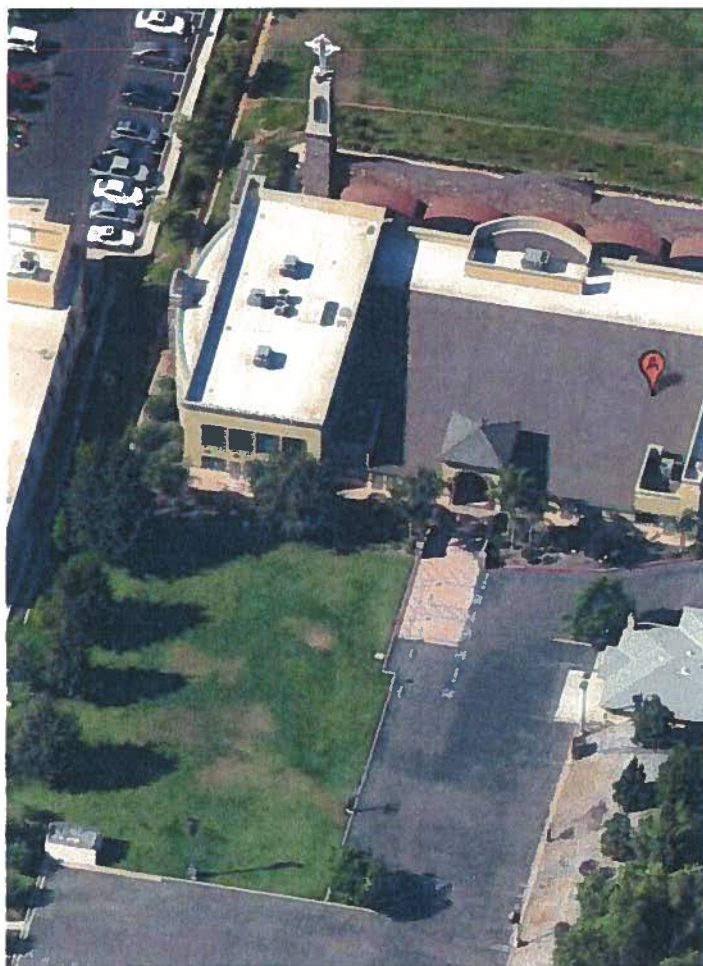


PHG 11-0026



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



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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

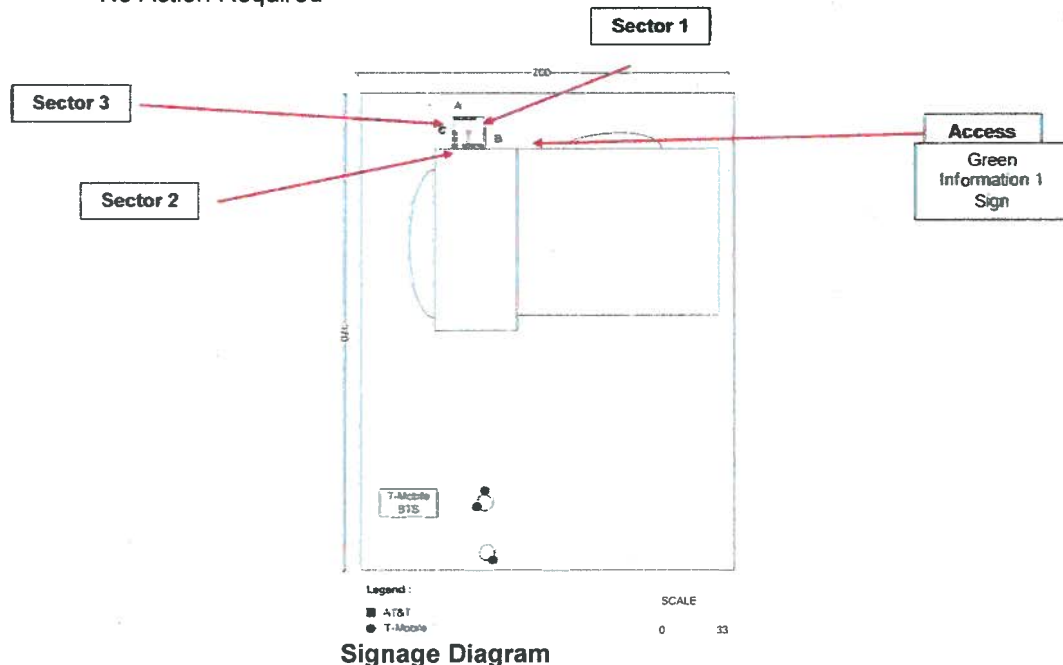
No Action Required

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

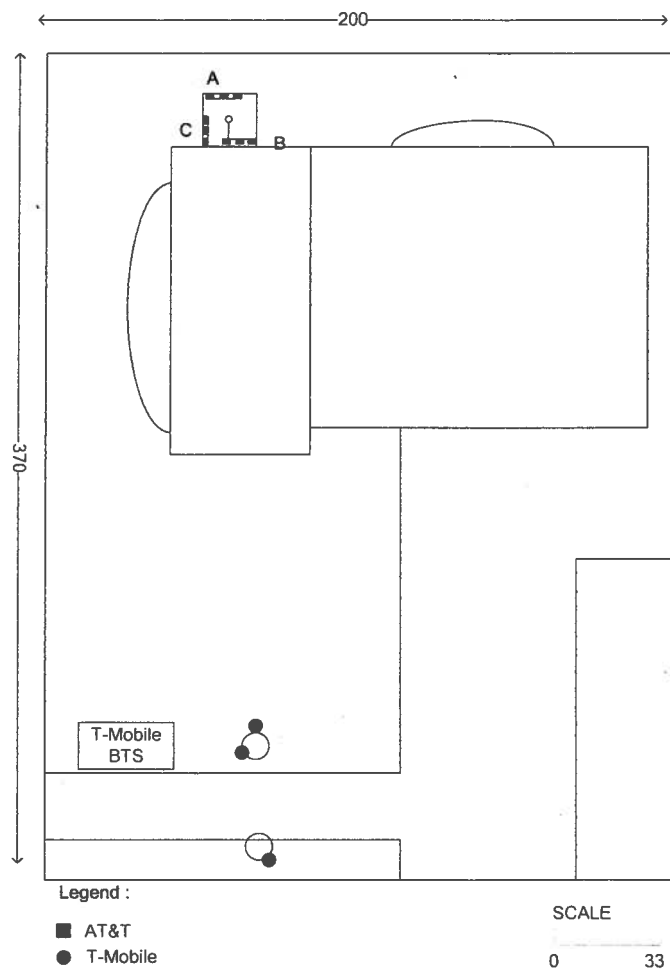


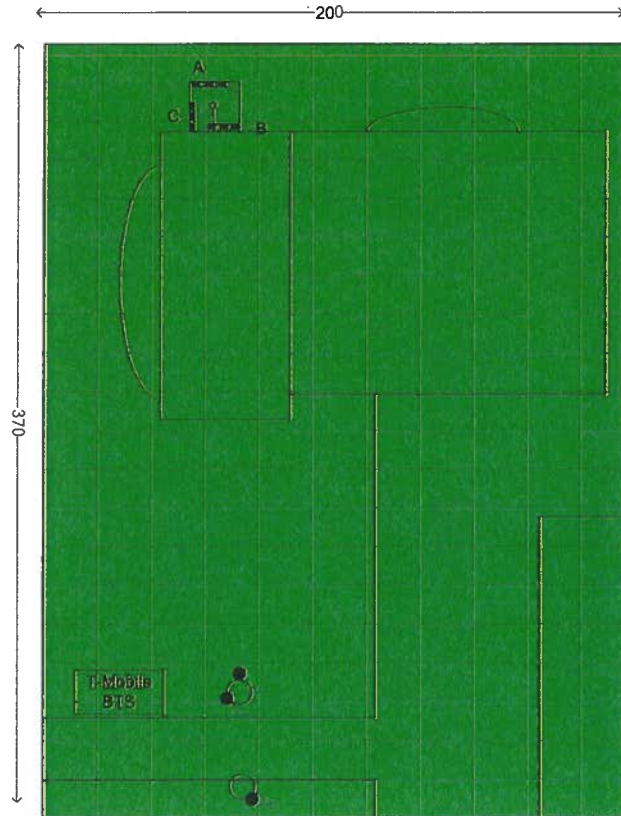
Figure 1
Site layout



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:

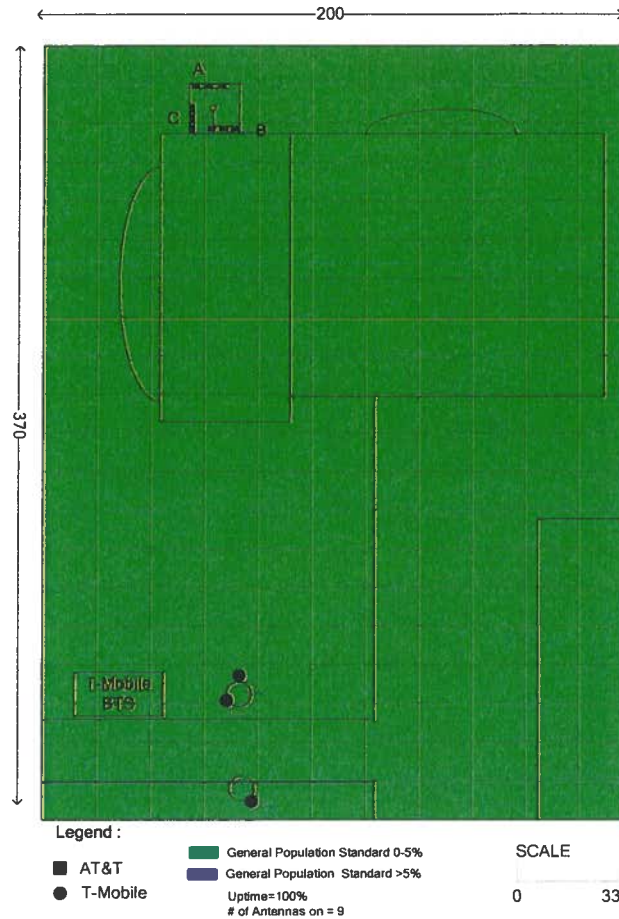
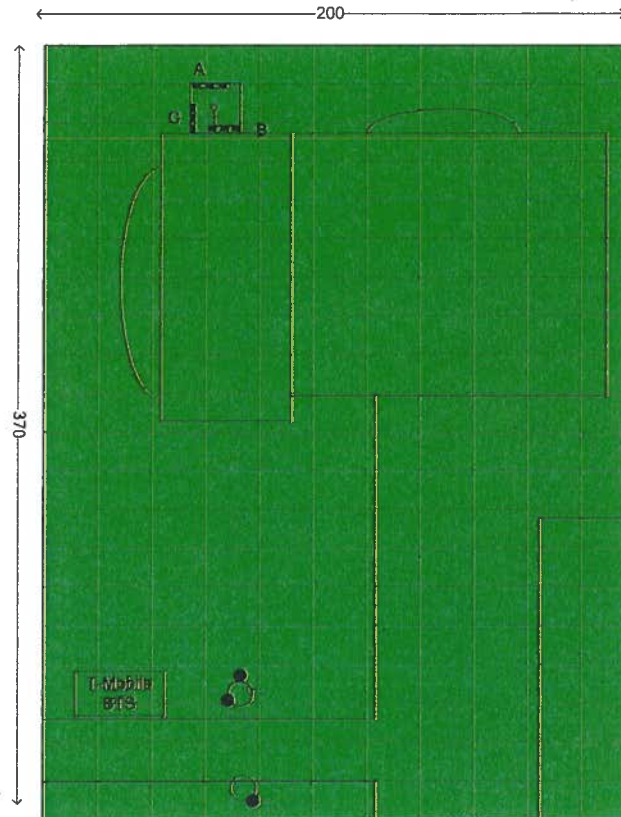


Figure 2
Percent of FCC General Population Exposure Limit



At Ground Level:



Legend :

- AT&T
- T-Mobile

- General Population Standard 0-100%
- General Population Standard 100-500%
- General Population Standard 500-5000%
- General Population Standard > 5000%

SCALE

0 33

Uptime=100%
of Antennas on = 12



At Roof Level:

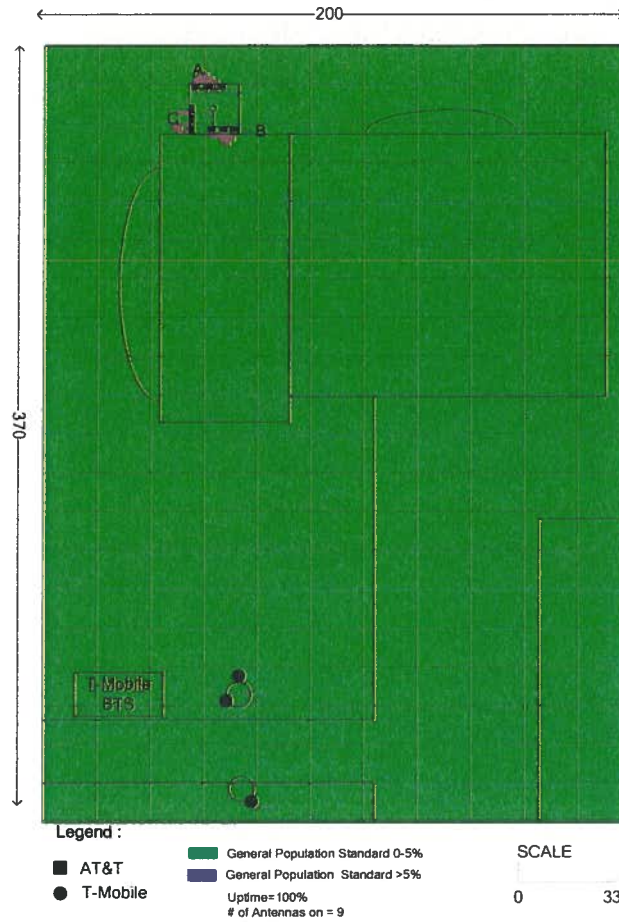


Figure 3
5% FCC General Population Exposure Limit



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 :

Collocation Status	Collocated
Area Classification	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
Roof Area 22000 sq. ft. Max %MPE 39.1 % Min %MPE 0.0 % Using Near/Far Spatial Avg Model With FCC 1997 Public Standard		

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
Roof Area 22000 sq. ft. Max %MPE 3.0 % Min %MPE 0.0 % Using Near/Far Spatial Avg Model With FCC 1997 Public Standard		

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
<p>Roof Area 22000 sq. ft. Max %MPE 85.5 % Min %MPE 0.1 % Using Near/Far Spatial Avg Model With FCC 1997 Public Standard</p>		

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
<p>Roof Area 22000 sq. ft. Max %MPE 11.2 % Min %MPE 0.0 % Using Near/Far Spatial Avg Model With FCC 1997 Public Standard</p>		

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 (mW/cm^2), or watts per square meter (W/m^2).

4.1 Analysis

$$S = \frac{(P \times KFact)}{(2\pi Rh)}$$

where:

S = power density (mW/cm^2)

P = total power input to the antenna (mW)

K = antenna correction factor / numeric factor for antenna discrimination

R = straight line distance of the antenna from a 6 ft. human (cm)

h = distance between the roof level and the bottom of the antenna (cm) or the vertical distance from the tip of the antenna to the roof level where a 6 ft. human being is assumed standing directly from the antenna (also equal to R at 0)

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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	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

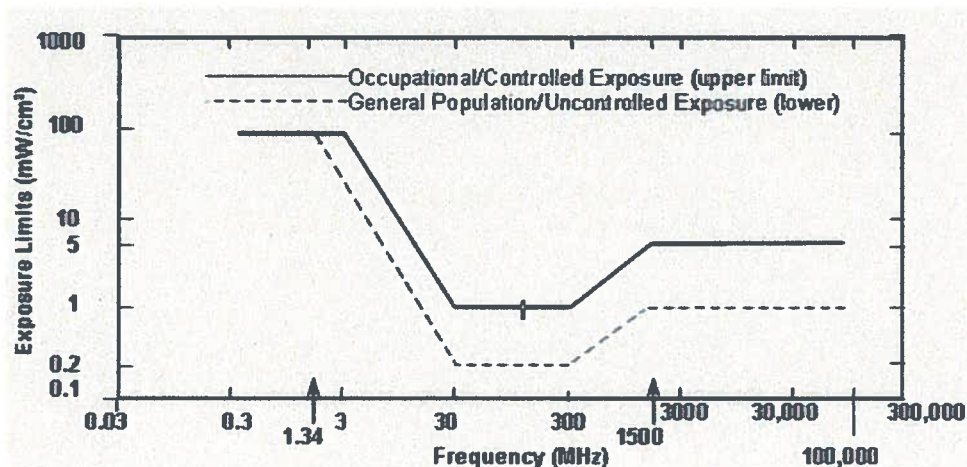


Figure 4



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:
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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.