



A G E N D A

GARDEN GROVE PLANNING COMMISSION

April 20, 2023 - 7:00 PM

COMMUNITY MEETING CENTER
11300 STANFORD AVENUE

COVID-19 Information: Masks are not required, however, please do not attend this meeting if you have had direct contact with someone who has tested positive for COVID-19, or if you are experiencing symptoms such as coughing, sneezing, fever, difficulty breathing or have other flu-like symptoms.

Meeting Assistance: Any person requiring auxiliary aids and services, due to a disability, to address the Planning Commission, should contact the Department of Community & Economic Development at (714) 741-5312 or email planning@ggcity.org 72 hours prior to the meeting to arrange for special accommodations. (Government Code §5494.3.2).

Agenda Item Descriptions: Are intended to give a brief, general description of the item. The Planning Commission may take legislative action deemed appropriate with respect to the item and is not limited to the recommended action indicated in staff reports or the agenda.

Documents/Writings: Any revised or additional documents/writings related to an item on the agenda distributed to all or a majority of the Planning Commission within 72 hours of a meeting, are made available for public inspection at the same time (1) in the Planning Services Division Office at 11222 Acacia Parkway, Garden Grove, CA 92840, during normal business hours; and (1) at the Community Meeting Center at the time of the meeting.

Public Comments: Members of the public who attend the meeting in-person and would like to address the Planning Commission are requested to complete a yellow speaker card indicating their name and address, and identifying the subject matter they wish to address. This card should be given to the Recording Secretary before the meeting begins. General comments are made during "Oral Communications" and are limited to three (3) minutes and to matters the Planning Commission has jurisdiction over. Persons wishing to address the Planning Commission regarding a Public Hearing matter will be called to the podium at the time the matter is being considered. Members of the public who wish to comment on matters before the Commission, in lieu of doing so in person, may submit comments by emailing public-comment@ggcity.org no later than 3:00 p.m. the day of the meeting. The comments will be provided to the Commission as part of the meeting record.

PLEASE SILENCE YOUR CELL PHONES DURING THE MEETING.

REGULAR MEETING AGENDA

ROLL CALL: CHAIR LINDSAY, VICE CHAIR CUNNINGHAM
COMMISSIONERS ARBGAST, MONTANO, PAREDES, PEREZ, RAMIREZ

PLEDGE OF ALLEGIANCE TO THE FLAG OF THE UNITED STATES OF AMERICA

- A. ORAL COMMUNICATIONS - PUBLIC
- B. APPROVAL OF MINUTES – [April 6, 2023](#)
- C. PUBLIC HEARING(S) (Authorization for the Chair to execute Resolution shall be included in the motion.)

C.1. [CONDITIONAL USE PERMIT NO. CUP-233-2023](#)

APPLICANT: SMARTLINK C/O AT&T MOBILITY

LOCATION: NORTHEAST CORNER OF LAMPSON AVENUE AND 9TH STREET AT 12432 9TH STREET

REQUEST: A request for Conditional Use Permit approval to allow the construction and operation of a 60'-0" tall, unmanned, wireless telecommunication facility disguised as a eucalyptus tree (mono-eucalyptus), along with a 375 square foot (25 feet x 15 feet) equipment enclosure, to be located on a site currently improved with a church, St. Olaf Church. The site is in the R-1 (Single-Family Residential) zone. In conjunction with the request, the Planning Commission will also consider a determination that the project is categorically exempt from the California Environmental Quality Act (CEQA) pursuant to Section 15303(c) – New Construction or Conversion of Small Structures – of the State CEQA Guidelines.

STAFF RECOMMENDATION: Approval of Conditional Use Permit No. CUP-233-2023, subject to the recommended conditions of approval.

C.2. [CONDITIONAL USE PERMIT NO. CUP-238-2023](#)

APPLICANT: PAUL PHAM

LOCATION: SOUTHEAST CORNER OF WESTMINSTER AVENUE AND EUCLID STREET AT 10882-B WESTMINSTER AVENUE

REQUEST: A request for Conditional Use Permit approval to operate a new billiards/pool hall at an existing 3,038 square foot tenant space. The billiard/pool hall formerly operated at 10902 Westminster Avenue, however, the business owner proposes to relocate the business to a new, smaller tenant space within the same shopping center. The site is at 10882-B Westminster Avenue in the C-2 (Community Commercial) zone. In conjunction with the request, the Planning Commission will also consider a determination that the project is categorically exempt from the California Environmental Quality Act (CEQA) pursuant to Section 15301 – Existing Facilities – of the State CEQA Guidelines.

STAFF RECOMMENDATION: Approval of Conditional Use Permit No. CUP-238-2023, subject to the recommended conditions of approval.

D. [MATTERS FROM COMMISSIONERS](#)

E. [MATTERS FROM STAFF](#)

F. [ADJOURNMENT](#)

GARDEN GROVE PLANNING COMMISSION
Community Meeting Center
11300 Stanford Avenue, Garden Grove, CA 92840

Meeting Minutes
Thursday, April 6, 2023

CALL TO ORDER: 7:01 p.m.

ROLL CALL:

Commissioner Arbgast
Commissioner Cunningham
Commissioner Lindsay
Commissioner Montano
Commissioner Paredes
Commissioner Perez
Commissioner Ramirez

Absent: Montano, Perez

PLEDGE OF ALLEGIANCE: Led by staff.

OATH OF OFFICE: The Deputy City Clerk administered the Oath of Office to those Planning Commissioners present.

SELECTION OF CHAIR:

Action: Commissioner Arbgast nominated Commissioner Lindsay for Chair with a second from Commissioner Ramirez.

Action: Motion approved with a 5-0 vote as follows:

Ayes: (5) Arbgast, Cunningham, Lindsay, Paredes, Ramirez

Noes: (0) None

Absent: (2) Montano, Perez

Commissioner Lindsay assumed the duties of Chair.

SELECTION OF VICE CHAIR:

Action: Commissioner Ramirez nominated Commissioner Cunningham for Vice Chair, with a second from Commissioner Lindsay.

Action: Motion approved with a 5-0 vote as follows:

Ayes: (5) Arbgast, Cunningham, Lindsay, Paredes, Ramirez
Noes: (0) None
Absent: (2) Montano, Perez

ORAL COMMUNICATIONS – PUBLIC – None.

March 2, 2023 MINUTES:

Action: Received and filed.

Motion: Lindsay Second: Arbgast

Ayes: (5) Arbgast, Cunningham, Lindsay, Paredes, Ramirez
Noes: (0) None
Absent: (2) Montano, Perez

ITEM FOR CONSIDERATION: Staff and the Assistant City Attorney, gave a presentation on, and a general discussion of, the role and jurisdiction of the Planning Commission, and laws generally applicable to Planning Commission meetings and decisions, including the Brown Act, the Political Reform Act, and the City's Code of Ethics.

MATTERS FROM COMMISSIONERS: Chair Lindsay asked staff for both a Zoning Map and Land Use Map in the 24 x 36 inch size. Staff would comply as soon as the Maps were updated.

MATTERS FROM STAFF: Planning and City staff relating to the Planning Commission were introduced after which staff gave a brief description of the upcoming items for the April 20th meeting.

ADJOURNMENT: At 8:31 p.m. to the next Meeting of the Garden Grove Planning Commission on Thursday, April 20, 2023, at 7:00 p.m. in the Community Meeting Center, 11300 Stanford Avenue, Garden Grove.

Judith Moore
Recording Secretary

COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT PLANNING STAFF REPORT

AGENDA ITEM NO.: C.1.	SITE LOCATION: Northeast corner of Lampson Avenue and 9 th Street, at 12432 9 th Street
HEARING DATE: April 20, 2023	GENERAL PLAN: Low Density Residential (LDR)
CASE NO.: Conditional Use Permit No. CUP-233-2023	ZONE: R-1 (Single-Family Residential)
APPLICANT: Smartlink (c/o AT&T Mobility)	APN: 090-521-25
PROPERTY OWNER: St. Olaf Church	CEQA DETERMINATION: Exempt 15303 – New Construction or Conversion of Small Structures

REQUEST:

The applicant is requesting Conditional Use Permit approval to allow for the construction and operation of a 60'-0" tall, unmanned, wireless telecommunications facility disguised as a eucalyptus tree (mono-eucalyptus), along with a 375 square-foot (25 feet x 15 feet) equipment enclosure, on a site located at 12432 9th Street (Assessor's Parcel No. 090-521-25).

BACKGROUND:

The subject site is approximately 3.37 acres and is located on the northeast corner of Lampson Avenue and 9th Street, at 12432 9th Street. The site is improved with the existing St. Olaf Lutheran Church facility and is comprised of eight (8) pad buildings. The site is improved with the main sanctuary building, pre-school and daycare facilities, outdoor play areas, a basketball court, and existing wireless telecommunications facilities.

The subject property has a General Plan Land Use designation of Low Density Residential (LDR) and is zoned R-1 (Single-Family Residential). The property abuts R-1 (Single-Family Residential) zoned properties to the north, east, across 9th Street, to the west, and across Lampson Avenue, to the south. Existing surrounding uses include a mix of single-family residences and multi-family residential developments.

In 1982, the City of Garden Grove approved Conditional Use Permit No. CUP-107-82, which allowed the construction of a 4,620 square foot, two-story building to establish additional pre-school facilities and an educational hall, located toward the northeast corner of the church facility. The approval required the church

site to maintain 145 parking spaces. The church site currently has 160 parking spaces.

On July 9, 2007, the City of Garden Grove approved Director's Review No. DR-23-07, which allowed the installation of building-mounted cellular antennas in the existing tower located on the subject site. On June 12, 2008, the City of Garden Grove approved Conditional Use Permit No. CUP-234-08, which allowed the construction of a 50'-0" mono-pine wireless facility, located within a planter in the southerly parking lot (entrance from Lampson Avenue), and its associated detached 407 square-foot equipment enclosure, located 68'-0" west of the mono-pine wireless facility.

The applicant, Smartlink c/o AT&T Mobility, is requesting approval to construct a new 60'-0" tall wireless telecommunications facility disguised as a eucalyptus tree (mono-eucalyptus), along with related equipment to be installed within an eight-foot (8'-0") tall, twenty-five foot (25'-0") by fifteen-foot (15'-0") equipment enclosure. A Conditional Use Permit is required to allow the construction of a new wireless telecommunications facility.

According to the applicant, a new facility is needed by AT&T Mobility in order to close a significant gap in coverage to relieve network traffic congestion, and ensure reliable levels of service due to AT&T's existing and surrounding wireless facilities becoming overloaded beyond their capacity when more enhanced voice and data services are used (5G and other high-speed data services). Pursuant to Chapter 9.24 of the Garden Grove Municipal Code, approval of a new Conditional Use Permit is required for construction of the proposed mono-eucalyptus wireless telecommunications facility.

Zoning Administrator Meeting

Conditional Use Permit applications for new stealth wireless facilities are typically heard by the Zoning Administrator. On February 23, 2023, the Zoning Administrator held a public hearing to consider Conditional Use Permit No. CUP-233-2023. There were five (5) speakers from the public who spoke in opposition to the project. Additionally, the City received three (3) comment letters from the public that also spoke in opposition to the project. The letters and comments received from the public cited concerns with the following:

- The proposed wireless telecommunications facility's close proximity to the church, school, and adjacent residential backyard areas;
- Maintenance of existing wireless telecommunications facilities on the subject property;
- Noise nuisances currently generated from an existing wireless telecommunications facility (buzzing noise), and from anticipated future noise nuisances from workers conducting maintenance on the proposed emergency generator supporting the new facility;
- Safety and health risks from the effects of 5G (5th generation) RF (radio frequency) radiation exposure;
- Safety of the seismic loading of the proposed tower facility;

- Negative impacts to nearby property values;
- That additional research, studies, and tests are needed to study the impacts from 5G technology.

Because some concerns were raised in the public comments received, the Zoning Administrator elevated the case (CUP-233-2023) to the Planning Commission for its consideration.

In an effort to address concerns raised from the public, the Applicant has prepared the following:

- Applicant's written responses to public comments received that expressed concerns with the project (Attachment 3).
- A noise study (Attachment 4) to evaluate potential impacts related to noise generated from the proposed emergency generator equipment;
- A Radio Frequency (RF) Emission Compliance Assessment Report (Attachment 5) addressing compliance with FCC (Federal Communications Commission) Rules and Regulations for wireless telecommunications facilities.

Further discussion regarding the Noise Study and the RF Emission Compliance Assessment Report are providing in the proceeding Discussion Section.

DISCUSSION:

The applicant is proposing to lease 375 square feet of land area, directly east of an existing classroom building, to install a new sixty-foot (60'-0") tall wireless telecommunications facility disguised as a eucalyptus tree (mono-eucalyptus), along with related equipment to be installed within an eight-foot (8'-0") tall, twenty-five foot (25'-0") by fifteen-foot (15'-0") equipment enclosure. The equipment enclosure is proposed as a block wall painted to match the color of the existing block walls. The proposed equipment enclosure will house ground-mounted equipment, which will include one (1) DC power plant, two (2) Purcell cabinets (stacked), one (1) generator, and four (4) surge suppression units, in addition to other smaller mechanical equipment.

The proposed structure(s) will be supplemented with a 12'-0" wide AT&T non-exclusive access route (for underground power and fiber conduits), along with an AT&T non-exclusive maintenance parking space. The proposed equipment enclosure will be located primarily within an existing planter area, with minor modifications to the existing parking area immediately adjacent to the enclosure. There is an existing drive aisle adjacent to (just north of) the proposed equipment enclosure, which will remain clear and unobstructed and will not be affected by the proposed wireless facility. One (1) existing tree will be removed to construct the equipment enclosure.

As part of the approval of Conditional Use Permit No. CUP-107-82, it was identified that the church site is required to maintain a minimum of 145 parking spaces. Currently the site provides 160 parking spaces, resulting in the surplus of fifteen 15 parking spaces. The location of the proposed equipment enclosure, which will also

house the mono-eucalyptus wireless facility, is within an existing planter adjacent to a driveway aisle and will result in the elimination of four (4) existing parking spaces. Therefore, subsequent to the development of the project, the site will maintain 156 parking spaces, which exceeds the minimum parking required. In addition, Conditions of Approval, under CUP-233-2023, will require that all existing parking lot areas, inclusive of parking lot modifications proposed under this project, will be adequately striped and maintained at all times.

With exception to the aforementioned modifications to the existing parking area immediately adjacent to the enclosure, the remaining existing parking areas, existing landscape planters, and vehicular and pedestrian access to the church building(s) will remain unaffected.

The new sixty-foot (60'-0") tall mono-eucalyptus will be installed within the equipment enclosure. The proposed mono-eucalyptus will consist of nine (9) eight-foot (8'-0") tall panel antennas (three sectors with three (3) panel antennas per sector) mounted at the 53'-0" antenna centerline, and six (6) 31-inch tall air antennas (two (2) stacked air antennas per sector) mounted at the 55'-0" antenna centerline. Each sector will be attached to the pole of the mono-eucalyptus by a four-foot (4'-0") long T-arm antenna mount. Six (6) surge suppression units will be attached to each T-arm antenna mount along with 36 remote radio units (RRUs) (three-sectors with twelve (12) radios per sector). One four-foot (4'-0") microwave antenna will be installed and attached to the main pole of the mono-eucalyptus at the 42'-0" microwave antenna centerline. Conditions of approval have been incorporated that will ensure the mono-eucalyptus will maintain a natural appearance. All attached equipment (i.e., antennas, T-arm antenna mounts, and other attached equipment) will be sufficiently screened and remain stealth by the foliage of mono-eucalyptus branches. The proposed mono-eucalyptus facility will blend with the existing trees on the site and will not have any negative aesthetic impacts.

Municipal Code Chapter 8.47.060, Special Noise Sources, limits the use or operation of machines that produce sound in such a manner as to disturb the peace, quiet, and comfort of any person of normal sensitiveness residing in the area, between the hours of 10:00 P.M. and 7:00 A.M. The same timeframe is applicable for maintenance or repair work. To address the public's concerns regarding noise, the applicant has agreed to a condition of approval that limits the routine maintenance and repair of the proposed wireless facility to occur within the hours of 8:00 A.M and 8:00 P.M.

According to the applicant, the additional telecommunications facility will help expand AT&T's coverage area within the City, and help fill gaps that currently exist in their network. *Figure A - Propagation Site Plots*, provided by the applicant, purports to demonstrate areas with significant gaps-in-coverage within the network before and after the subject wireless facility is installed. The increased coverage will help expand the service provider's coverage area, so customers can make and maintain calls as they travel through the City, with the calls transferred from one facility to another. Situating this facility at this location will also help reduce the

burden on the provider's network and accommodate an increase in customer demand.

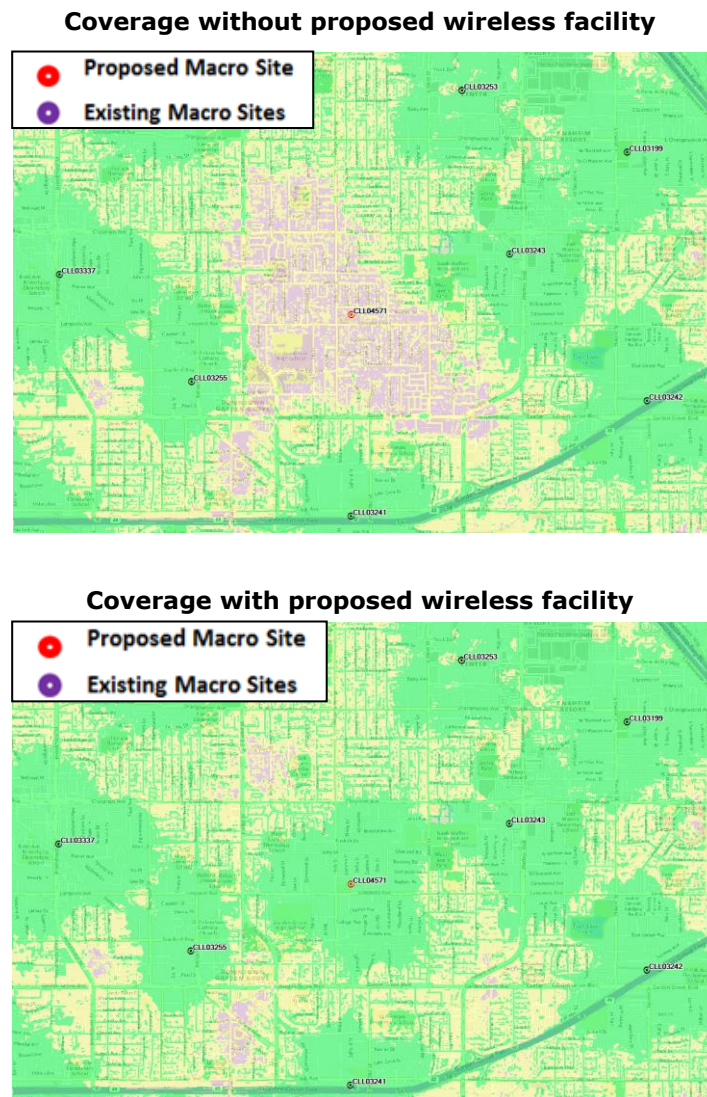


Figure A - Propagation Site Plots

The applicant has prepared a Noise Study and RF Emissions Compliance Assessment Report to demonstrate that the proposed wireless telecommunications facility complies with the City's Noise Ordinance and FCC Rules and Regulations. The following discussion provides additional details of the technical studies conducted by the applicant.

Noise Study:

The applicant acquired the services of MD Acoustic, LLC, to complete a noise assessment for the proposed wireless telecommunications facility. The study assessed the future/proposed diesel generator noise level projections to the nearest sensitive receptors, which are the two (2) nearest residential properties denoted by

areas 1 and 2, in *Figure B – Future Operational Noise Levels* and compared them to the City’s applicable noise limits as outlined in the City’s Municipal Code. Chapter 8.47.040 of the Municipal Code outlines the ambient base noise levels for residential use as 55 dBA (A-weighted decibels - the relative loudness of sounds as perceived by the human ear) from 7:00 A.M. to 10:00 P.M. and 50 dBA from 10:00 P.M. to 7:00 A.M. For ambient base noise levels, the Municipal Code permits any noise level that does not exceed either the ambient base noise level or the actual measured ambient noise level by 5 dB(A), as measured at the property line of the noise generation property. The findings of the noise study, as shown in *Figure B*, reveal that noise levels at areas 1 and 2, upon the operation of the emergency generator, are 49 dBA and 45 dBA, respectively, which does not exceed the ambient base noise levels, of 55 dBA, for residential uses. It should also be noted that the baseline noise level will only change under a power loss (emergency) situation or during routine maintenance. Therefore, the study concludes that the project will operate in compliance with the City’s applicable noise limits.

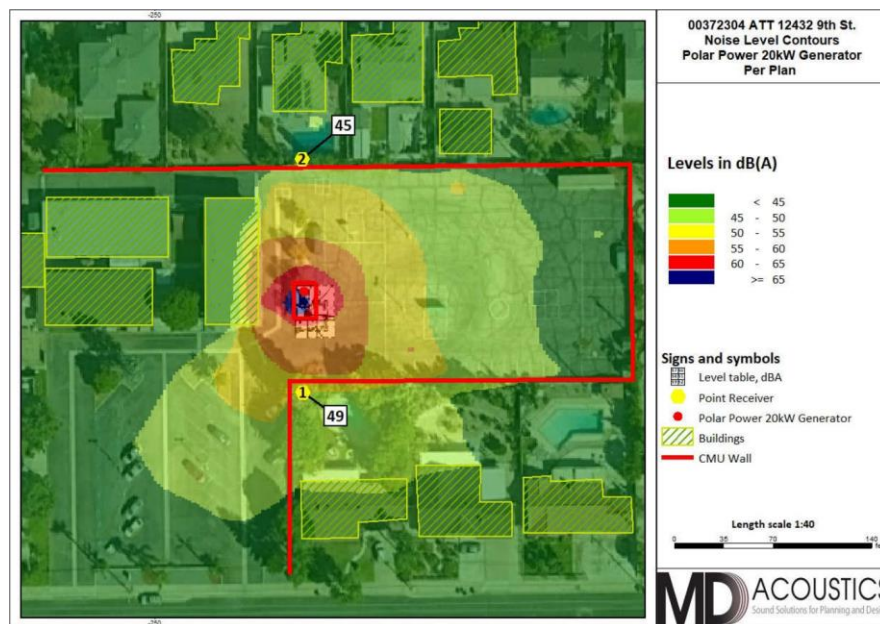


Figure B – Future Operational Noise Levels

Radio Frequency (RF) Emission Compliance Assessment Report:

The applicant acquired the services of GCB Services to complete an RF Emissions Compliance Assessment Report. The report calculates maximum permissible exposure (MPE) to RF emissions at varying heights of the wireless facility, and assumes a worst-case scenario (i.e., assuming all antennas are operating at full power at all times). The report also refers to OET (Office of Engineering and Technology) Bulletin 56 – Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields (Attachment 6), published by the FCC (Federal Communications Commission). The Bulletin, on page 21, states that "measurements made near typical cellular and PCS installations, especially those with tower-mounted antennas, have shown that ground-level power densities are well below limits recommended by RF/microwave safety

standards". Furthermore, the document also states that "calculations corresponding to a 'worst-case' situation (all transmitters operating simultaneously and continuously at the maximum licensed power power) show that in order to be exposed to levels near the FCC's limits for cellular frequencies, an individual would essentially have to remain in the main transmitting beam (at the height of the antenna) and within a few feet of the antenna" which makes it "extremely unlikely that a member of the general public could be exposed to RF levels in excess of these guidelines due to cellular base station transmitters". The report concludes that the proposed project will operate in compliance with the Federal Communications Commission (FCC) Rules and Regulations for wireless service/telecommunications facilities.

As long as a wireless facility operates within the FCC's guidelines, federal law prohibits the City from regulating the facility on the basis of its RF emission levels. Section 332(c)(7) of the federal Telecommunications Act of 1996 states, in pertinent part:

"(iv) No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's (FCC) regulations concerning such emissions."

Consistent with the limits imposed on the City by federal law, the Conditions of Approval, under Condition No. 40, will address radio emissions, by requiring the following:

40. *In order to address concerns regarding radio emissions, the following conditions shall be complied with:*
 - a. *Radio frequency emissions shall not exceed the radio frequency emission guidelines of the Federal Communication Commission (FCC); as such guidelines may be amended from time to time.*
 - b. *Prior to January 1, 2024, and each January 1st thereafter, the operator shall file with the City of Garden Grove Community and Economic Development Department for approval, a certification of compliance prepared by an independent third party, qualified to measure radio frequency emissions.*

California Environmental Quality Act (CEQA)

Staff believes the proposed development is exempt from review under the California Environmental Quality Act ("CEQA") pursuant to CEQA's Class 3 exemption, New Construction or Conversion of Small Structures (CEQA Guidelines §15303). Subsection (c) of this exemption includes the construction of a store, motel, office, restaurant, or similar structure not involving the use of significant amounts of hazardous substances, and not exceeding 2,500 square feet in floor area. In urbanized areas, this exemption also applies to up to four (4) such commercial

buildings not exceeding 10,000 square feet in floor area within an urbanized area, and in a zone that allows for such a use, if not involving the use of significant amounts of hazardous substances where all necessary public services and facilities are available and the surrounding area is not environmentally sensitive (CEQA Guidelines §15303.(c)). The proposed wireless telecommunications facility is located in an urbanized area, is less than 10,000 square feet in floor area, does not involve the use of a significant amount of hazardous materials, and is a permitted improvement in the R-1 (Single-Family Residential) zoning district. Therefore, staff recommends that the Planning Commission determine the project to be exempt from CEQA.

The Community and Economic Development Department has reviewed the request and is supporting the proposal. All appropriate Conditions of Approval that apply to a new wireless facility will apply.

RECOMMENDATION:

Staff recommends that the Planning Commission take the following action:

- Adopt the attached Resolution approving Conditional Use Permit No. CUP-233-2023, subject to the recommended Conditions of Approval.



Maria Parra
Planning Services Manager



By: Shehriyar Khan
Contract Planner

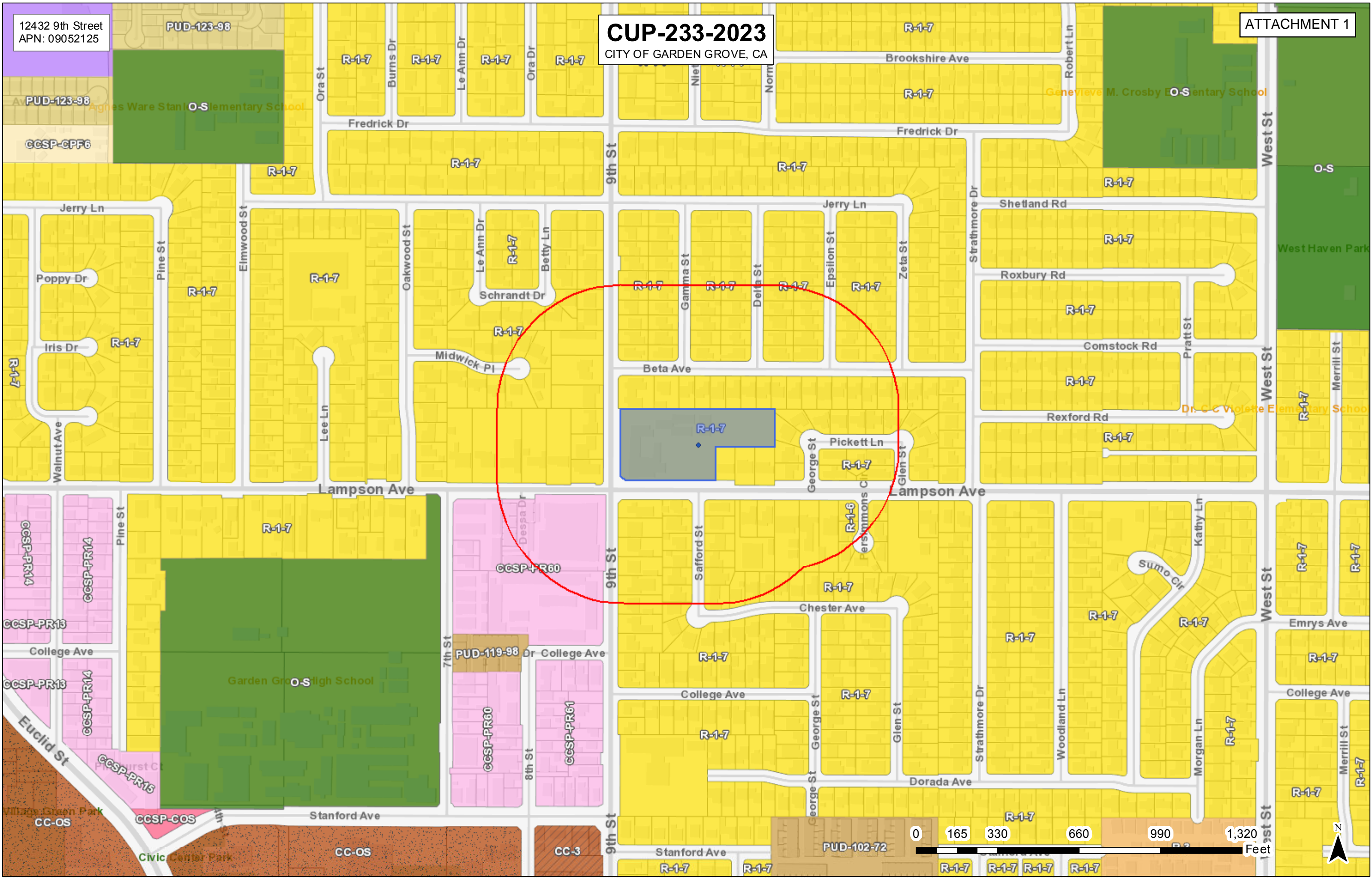
Attachment 1: Vicinity Map
Attachment 2: Plans
Attachment 3: Applicant Response to Zoning Administrator Public Comment
Attachment 4: Noise Study
Attachment 5: RF Emissions Report
Attachment 6: FCC OET Bulletin 56
Attachment 7: Zoning Administrator Staff Report and Minute Excerpt, February 23, 2023

12432 9th Street
APN: 09052125

CUP-233-2023

CITY OF GARDEN GROVE, CA

ATTACHMENT 1





SITE NUMBER: CLL04571

SITE NAME: ST. OLAF LUTHERAN CHURCH

12432 9TH ST., GARDEN GROVE, CA 92840

PACE #: MRLOS094227, USID: TBD, PTN #: 3551A12TDS, FA #: 12844777



SITE INFORMATION

PROPERTY OWNER: ST. OLAF EVANGELICAL LUTHERAN CHURCH OF GARDEN GROVE, A CORPORATION
CONTACT: JOE DOOLEY
PHONE: (714) 906-9296

APPLICANT ADDRESS: AT&T MOBILITY
1452 EDINGER AVE.
TUSTIN, CA 92780

APPLICANT REPRESENTATIVE ADDRESS: SMARTLINK
3300 IRVINE AVENUE, SUITE 300
NEWPORT BEACH, CA 92660

LATITUDE (NAD 83): N 33° 46' 55.83" (33.782175)
LONGITUDE(NAD 83): W 117° 55' 51.42" (-117.930950)
GROUND ELEVATION: 100.34' AMSL
APN #: 090-521-25
ZONING JURISDICTION: CITY OF GARDEN GROVE
CURRENT ZONING: R-1-7
PROPOSED USE: UNMANNED TELECOMMUNICATIONS FACILITY
LEASE SPACE: ±375 SQ. FT.
AERIAL LEASE SPACE: ±220 SQ. FT.
EMERGENCY CONTACT: AT&T NETWORK OPERATIONS CENTER (NOC)
CONTACT: IVAN OCEGUEDA
PHONE: (562) 210-9855

PROJECT TEAM

PROJECT MANAGER: SMARTLINK
CONTACT: TYLER KENT
PHONE: (949) 701-2444
EMAIL: tyler.kent@smartlinkgroup.com

LAND USE PLANNER: SMARTLINK
CONTACT: JERMAINE TAYLOR
PHONE: (909) 917-1727
EMAIL: jtlecom@gmail.com

CONSTRUCTION MANAGER: AT&T MOBILITY SERVICES LLC
CONTACT: GREG EATON
PHONE: (310) 753-0691
EMAIL: ge2767@att.com

A/E MANAGER: CELLSITE CONCEPTS
16885 VIA DEL CAMPO CT., SUITE 318
SAN DIEGO, CA 92127
CONTACT: SEV FRANCISCO
PHONE: (858) 432-4112
EMAIL: sfrancisco@cellsite.net

SITE ACQUISITION: SMARTLINK
CONTACT: KRIS SANDERS
PHONE: (760) 218-4847
EMAIL: kris.sanders@hannahconsulting.com

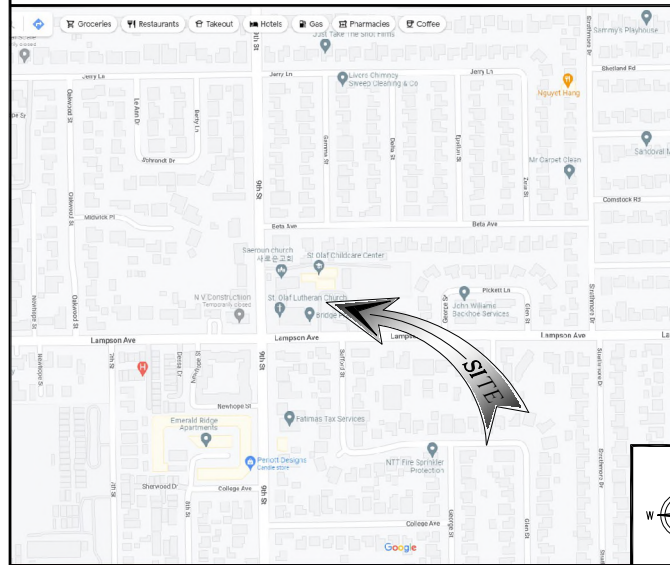
DO NOT SCALE DRAWINGS

SUBCONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS & FIELD CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

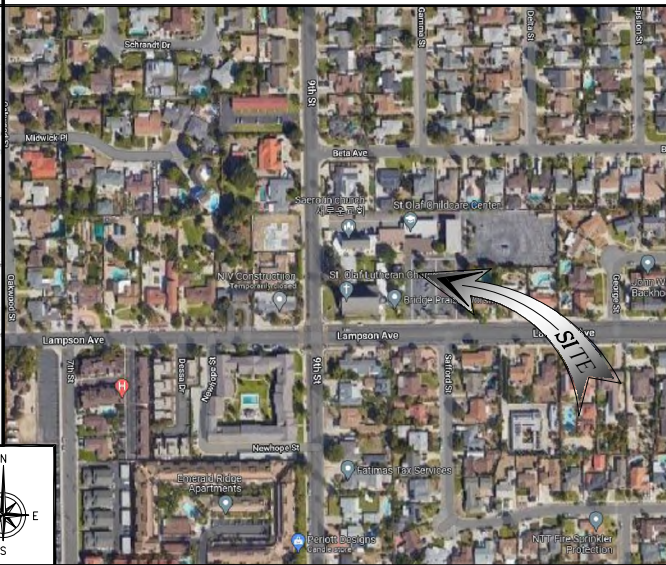


LOCATION MAPS

VICINITY MAP



LOCAL MAP



PROJECT DESCRIPTION

AT&T MOBILITY PROPOSES TO CONSTRUCT AN UNMANNED WIRELESS COMMUNICATION FACILITY. THE SCOPE WILL CONSIST OF THE FOLLOWING:

- ANTENNA LEVEL:**
- PROPOSED (1) 60'-0" HIGH MONOEUCALYPTUS.
 - PROPOSED (15) PANEL ANTENNAS MOUNTED ON PROPOSED MONOEUCALYPTUS (5 PER SECTOR).
 - PROPOSED (36) RRUS MOUNTED BEHIND PANEL ANTENNAS. (12 PER SECTOR).
 - PROPOSED (1) 4' MICROWAVE ANTENNA MOUNTED ON PROPOSED MONOEUCALYPTUS.
 - PROPOSED (6) DC9 SURGE SUPPRESSION UNITS MOUNTED NEAR RRUS.
 - PROPOSED (18) DC POWER TRUNKS ROUTED UNDER GROUND AND INSIDE PROPOSED MONOEUCALYPTUS.
 - PROPOSED (6) FIBER TRUNKS ROUTED INSIDE PROPOSED MONOEUCALYPTUS.

- EQUIPMENT LEVEL:**
- PROPOSED 15'X25'X8" HIGH CMU WALL ENCLOSURE PAINTED TO MATCH (E) BLOCK WALL ON SITE.
 - PROPOSED (1) DC POWER PLANT MOUNTED ON PROPOSED CONCRETE PAD.
 - PROPOSED (2) PURCELL CABINETS (STACKED) MOUNTED ON PROPOSED CONCRETE PAD.
 - PROPOSED (1) 20KW STANDBY GENERATOR WITH 54 GALLON FUEL TANK ON CONCRETE PAD.
 - PROPOSED (4) DC12 SURGE SUPPRESSION UNITS MOUNTED ON PROPOSED WALL.
 - PROPOSED (4) FIBER WINDER BOXES MOUNTED ON ON PROPOSED WALL.
 - PROPOSED (1) GPS ANTENNA MOUNTED ON PROPOSED CMU WALL ENCLOSURE.
 - PROPOSED (1) TELCO BOX AND CIENA BOX MOUNTED ON PROPOSED H-FRAME.
 - PROPOSED (1) PTLC WITH ATS & MTS PANEL WITH CAMLOK MOUNTED ON PROPOSED H-FRAME.
 - PROPOSED (1) METER PEDESTAL MOUNTED ON CONCRETE PAD.
 - PROPOSED (1) FIBER MEET-ME-POINT PULLBOX.
 - PARKING LOT TO BE RE-STRIPE. USE GREEN COLORED STRIP TO MAINTAIN THE OUTDOOR PLAY AREA COURTS.

DRAWING INDEX

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
LS-1	TOPOGRAPHIC SURVEY
LS-2	TOPOGRAPHIC SURVEY
A-1	SITE PLAN
A-2	ENLARGED SITE PLAN
A-3	EQUIPMENT LAYOUT AND ANTENNA PLAN
A-4	ELEVATIONS
A-5	ELEVATIONS

SIGNATURE BLOCK

PRINT NAME	SIGNATURE	DATE
AT&T RF:	_____	_____
AT&T PM:	_____	_____
AT&T CM:	_____	_____
SMARTLINK PM:	_____	_____
SMARTLINK ZM:	_____	_____
SMARTLINK SAQ:	_____	_____
SMARTLINK CM:	_____	_____

CUP-233-2023

DRIVING DIRECTIONS

- DIRECTION FROM AT&T OFFICE (1452 EDINGER AVE., TUSTIN, CA 92780):
1. START OUT GOING SOUTHEAST ON EDINGER AVE TOWARD RED HILL AVE.
 2. TURN LEFT ONTO RED HILL AVE.
 3. TURN LEFT ONTO SYCAMORE AVE.
 4. MERGE ONTO CA-55 N TOWARD RIVERSIDE.
 5. MERGE ONTO I-5 N VIA EXIT 10B TOWARD SANTA ANA.
 6. MERGE ONTO GARDEN GROVE FWY/CA-22 W VIA EXIT 106 TOWARD LONG BEACH.
 7. TAKE THE HASTER ST EXIT, EXIT 13.
 8. TURN RIGHT ONTO HASTER ST.
 9. TURN LEFT ONTO LAMPSON AVE.
 10. TURN RIGHT ONTO 9TH ST.
 11. DESTINATION IS ON THE RIGHT.

CODE COMPLIANCE

- ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.
- CALIFORNIA ADMINISTRATIVE CODE (INCL TITLE 24 & 25)
 - 2022 CALIFORNIA BUILDING CODE
 - 2022 CALIFORNIA MECHANICAL CODE
 - 2022 CALIFORNIA PLUMBING CODE
 - 2022 CALIFORNIA ELECTRICAL CODE
 - 2022 CALIFORNIA FIRE CODE
 - 2022 LOCAL BUILDING CODE
 - BUILDING OFFICIALS & CODE ADMINISTRATORS (BOCA)
 - CITY/COUNTY ORDINANCES
 - ANSI/TIA-222-H
 - LIFE SAFETY CODE NFPA-101

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH THE 2022 CALIFORNIA BUILDING CODE. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS NEW.

ACCESSIBILITY NOTE

THE TELECOMMUNICATIONS EQUIPMENT SPACE SHOWN ON THESE PLANS IS NOT CUSTOMARILY OCCUPIED. WORK TO BE PERFORMED IN THIS FACILITY CANNOT REASONABLY BE PERFORMED BY PERSONS WITH A SEVERE IMPAIRMENT: MOBILITY, SIGHT, AND/OR HEARING. THEREFORE, PER 2022 CALIFORNIA BUILDING CODE SECTION 1105B.3.4, AND/OR 11B-203.5 OF 2022 CALIFORNIA BUILDING CODE, EXCEPTION 1, THIS FACILITY SHALL BE EXEMPTED FROM ALL TITLE 24 ACCESS REQUIREMENTS.

REV	DATE	DESCRIPTION
4	03/13/2023	PLANNING COMMENTS
3	01/18/2023	REVISED LOCATION OF LEASE AREA
2	11/17/2022	REVISED ANTENNA CONFIG.
1	10/25/2022	PLANNING COMMENTS
0	08/26/2022	100% ZDS
A	07/22/2022	90% ZD'S FOR REVIEW

ISSUED DATE: 03/13/2023

ISSUED FOR: PLANNING SUBMITTAL

LICENSURE:

PROJECT INFORMATION:
CLL04571
ST. OLAF LUTHERAN CHURCH
12432 9TH ST.,
GARDEN GROVE, CA 92840

DRAWN BY: AXN
CHECKED BY: SVF

SHEET TITLE: TITLE SHEET

SHEET NUMBER: T-1



VICINITY MAP

APN
090-521-25

SITE ADDRESS
12432 9TH ST., GARDEN GROVE, CA 92840

TITLE REPORT

TITLE REPORT WAS PREPARED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY WITH ORDER NUMBER 92017748-920-CMM-CM8 AND GUARANTEE NUMBER CA-SFXFC-IMP-81G28-1-22-92017748 DATED APRIL 21, 2022

BASIS OF BEARING
BEARINGS SHOWN HEREON ARE BASED UPON U.S. STATE PLANE NAD83 COORDINATE SYSTEM CALIFORNIA STATE PLANE COORDINATE ZONE SIX, DETERMINED BY GPS OBSERVATIONS.

BENCHMARK
ELEVATIONS ARE BASED ON CRTN (CSRC) NETWORK BROADCAST COORDINATES.

FLOODZONE
SITE IS LOCATED IN FLOOD ZONE "X" AS PER F.I.R.M. MAP NO. 06059C0141J EFFECTIVE DATE 12/3/2009.

- NOTES:**
- THIS IS NOT A BOUNDARY SURVEY. THIS IS A SPECIALIZED TOPOGRAPHIC MAP. THE PROPERTY LINES AND EASEMENTS SHOWN HEREON ARE FROM RECORD INFORMATION AS NOTED HEREON. CELLSITE CONCEPTS TRANSLATED THE TOPOGRAPHIC SURVEY TO RECORD INFORMATION USING FOUND MONUMENTS SHOWN HEREON. THE LOCATION OF PROPERTY LINES SHOWN HEREON ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY. THEY ARE NOT TO BE RELIED UPON AS THE ACTUAL BOUNDARY LINES.
 - ANY CHANGES MADE TO THE INFORMATION ON THIS PLAN, WITHOUT THE WRITTEN CONSENT OF CELLSITE CONCEPTS, RELIEVES CELLSITE CONCEPTS OF ANY AND ALL LIABILITY.
 - THE HEIGHTS AND ELEVATIONS FOR THE TREES, BUSHES AND OTHER LIVING PLANTS SHOWN HEREON, SHOULD BE CONSIDERED APPROXIMATE (+/-) AND ONLY FOR THE DATE OF THIS SURVEY. THEY ARE PROVIDED AS A GENERAL REFERENCE AND SHOULD NOT BE USED FOR DESIGN PURPOSES.
 - WRITTEN DIMENSIONS SHALL TAKE PREFERENCE OVER SCALED & SHALL BE VERIFIED ON THE JOB SITE. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE SURVEYOR PRIOR TO COMMENCEMENT OF ANY WORK.
 - FIELD SURVEY COMPLETED ON JULY 06, 2022

LEGAL DESCRIPTION
ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 1:
THE WEST HALF OF THE SOUTH HALF OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 10 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THE EAST 350.00 FEET OF THE SOUTH 175.00 FEET THEREOF.
SAID LAND IS INCLUDED WITHIN THE AREA SHOWN ON A MAP FILED IN BOOK 14, PAGE 47 OF RECORD OF SURVEYS ON A MAP FILED IN BOOK 14, PAGE 47 OF RECORD OF SURVEYS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL 2:
THE WEST 110 FEET OF THE EAST 350.00 FEET OF THE SOUTH 175.00 FEET OF THE WEST HALF OF THE SOUTH HALF OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SAID NORTHEAST QUARTER IS SHOWN ON A MAP FILED IN BOOK 14, PAGE 47 OF RECORD OF SURVEYS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN: 090-521-25

PROPERTY LINES DERIVED FROM:
TRACT NO. 2694 BK. 80 PG. 13-14 DATED SEPTEMBER 29, 1955
TRACT NO. 2125 BK. 62 PG. 10 DATED SEPTEMBER 10, 1954
TRACT NO. 1793 BK. 54 PG. 16 DATED OCTOBER 22, 1953

SCHEDULE B (EXCEPTIONS)

ITEMS A & B ARE TAX RELATED
ITEMS C & D ARE LIENS RELATED
ITEMS 1 & 17 ARE RIGHTS RELATED
ITEMS 9, 10, ARE AGREEMENT RELATED
ITEM 12 IS ASSIGNMENT & AGREEMENT RELATED
ITEM 13 IS MEMORANDUM RELATED
ITEM 15 IS NOTICE RELATED
ITEM 16 IS ADVISORY RELATED

EASEMENTS:

ITEM 2 IS NOT PLOTTED. THE EXACT LOCATION AND EXTENT OF SAID EASEMENT IS NOT DISCLOSED OF RECORD.

3 EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
IN FAVOR OF: COUNTY OF ORANGE
PURPOSE: STREET AND INCIDENTAL PURPOSES
RECORDING DATE: FEBRUARY 15, 1912
RECORDING NO: BOOK 209, PAGE 280 OF DEEDS
AFFECTS: A PORTION OF SAID LAND

4 EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
PURPOSE: PIPE LINES AND INCIDENTAL PURPOSES
RECORDING DATE: JUNE 21, 1928
RECORDING NO: BOOK 655, PAGE 371 OF DEEDS
AFFECTS: A PORTION OF SAID LAND

5 EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
PURPOSE: HIGHWAY AND INCIDENTAL PURPOSES
RECORDING DATE: MARCH 11, 1953
RECORDING NO: BOOK 2468, PAGE 444 OF OFFICIAL RECORDS
AFFECTS: A PORTION OF SAID LAND

6 EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
PURPOSE: HIGHWAY AND INCIDENTAL PURPOSES
RECORDING DATE: MAY 7, 1956
RECORDING NO: BOOK 3500, PAGE 588 OF OFFICIAL RECORDS
AFFECTS: A PORTION OF SAID LAND

8 EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
PURPOSE: PUBLIC STREET AND HIGHWAY AND INCIDENTAL PURPOSES
RECORDING DATE: MAY 29, 1967
RECORDING NO: 17222, BOOK 8265, PAGE 114 OF OFFICIAL RECORDS
AFFECTS: A PORTION OF SAID LAND

11 EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
IN FAVOR OF: SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION
PURPOSE: UNDERGROUND ELECTRICAL SUPPLY SYSTEMS AND COMMUNICATION SYSTEMS AND INCIDENTAL PURPOSES
RECORDING DATE: JANUARY 15, 2009
RECORDING NO: 2009-18758 OF OFFICIAL RECORDS
AFFECTS: A PORTION OF SAID LAND

14 MATTERS CONTAINED IN THAT CERTAIN DOCUMENT ENTITLED: EASEMENT AGREEMENT
DATED: JUNE 3, 2013
EXECUTED BY: ST. OLAF LUTHERAN CHURCH OF GARDEN GROVE, A CORPORATION AND SBA MONARCH TOWERS I, LLC, A DELAWARE LIMITED LIABILITY COMPANY
RECORDING DATE: DECEMBER 31, 2013
RECORDING NO: 2013-716162 OF OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

THE DOCUMENT ENTITLED "AMENDMENT TO EASEMENT AGREEMENT"
RECORDING DATE: FEBRUARY 10, 2015
RECORDING NO.: 2015-63107 OF OFFICIAL RECORDS

12 FEET WIDE NON-EXCLUSIVE ACCESS EASEMENT CENTERLINE DESCRIPTION:

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

THE WEST HALF OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 10 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

A STRIP OF LAND FOR THE PURPOSES OF ACCESS EASEMENT FOR THE LAND REFERRED TO HEREIN SITUATED IN THE CITY OF RIVERSIDE, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

AN ACCESS EASEMENT BEING TWELVE (12.00) FEET IN WIDTH AND LYING SIX (6.00) FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE TO WIT:

COMMENCING AT THE CENTERLINE INTERSECTION OF 9TH ST. AND LAMPSON AVE., AS SHOWN ON THAT TRACT NO. 2694 FILED IN THE OFFICE OF THE COUNTY RECORDER OF ORANGE COUNTY ON SEPTEMBER 29, 1955 IN BOOK 80, PAGES 13 THROUGH 14; THENCE EASTERLY ALONG SAID CENTERLINE OF LAMPSON AVE., NORTH 89°15'44" EAST, A DISTANCE OF 391.91 FEET; THENCE LEAVING SAID CENTERLINE, NORTH 00°44'16" WEST A DISTANCE OF 40.00 TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF SAID LAMPSON AVE., ALSO BEING THE POINT OF BEGINNING OF THIS CENTERLINE ROUTE;

THENCE NORTH 00°44'02" WEST, A DISTANCE OF 149.78 FEET;
THENCE NORTH 55°48'33" EAST, A DISTANCE OF 43.44 FEET;
THENCE NORTH 89°15'58" EAST, A DISTANCE OF 18.39 FEET;
THENCE NORTH 00°44'02" WEST, A DISTANCE OF 25.00 FEET;
THENCE SOUTH 89°15'58" WEST, A DISTANCE OF 6.00 FEET TO THE EASTERLY SIDE OF THE PROPOSED AT&T LEASE SPACE, BEING THE TERMINUS POINT OF THIS CENTERLINE ROUTE DESCRIPTION.

THE SIDE LINES OF SAID TWELVE (12.00) FEET WIDE ACCESS ROUTE IS TO BE EXTENDED AND/OR SHORTENED TO TERMINATE IN THE LANDS OF THE GRANTOR AND SHALL BE JOINED AT ALL ANGLE POINTS.

SUBJECT TO ALL EASEMENTS AND/OR RIGHT-OF-WAY RECORDS.

SEE ACCESS ROUTE ON SHEETS LS-2

LEGEND

- CENTER LINE
- - - - - PROPERTY LINE
- x - x - CHAIN-LINK FENCE
- o - o - WROUGHT IRON FENCE
- ▬ CMU WALL
- FS FINISH SURFACE
- TC TOP OF CURB
- TP TOP OF POLE
- TW TOP OF WALL
- TCO TOP OF CONTAINER
- RE ROOF EDGE
- GUY WIRE
- UTILITY POLE
- FIRE HYDRANT
- TREE



REV	DATE	DESCRIPTION
3	01/10/2023	LEGAL DESCRIPTION REVISION
2	08/26/2022	FINAL SURVEY
1	07/21/2022	PRELIMINARY SURVEY

ISSUED DATE:
JANUARY 10, 2023

ISSUED FOR:
FINAL SURVEY

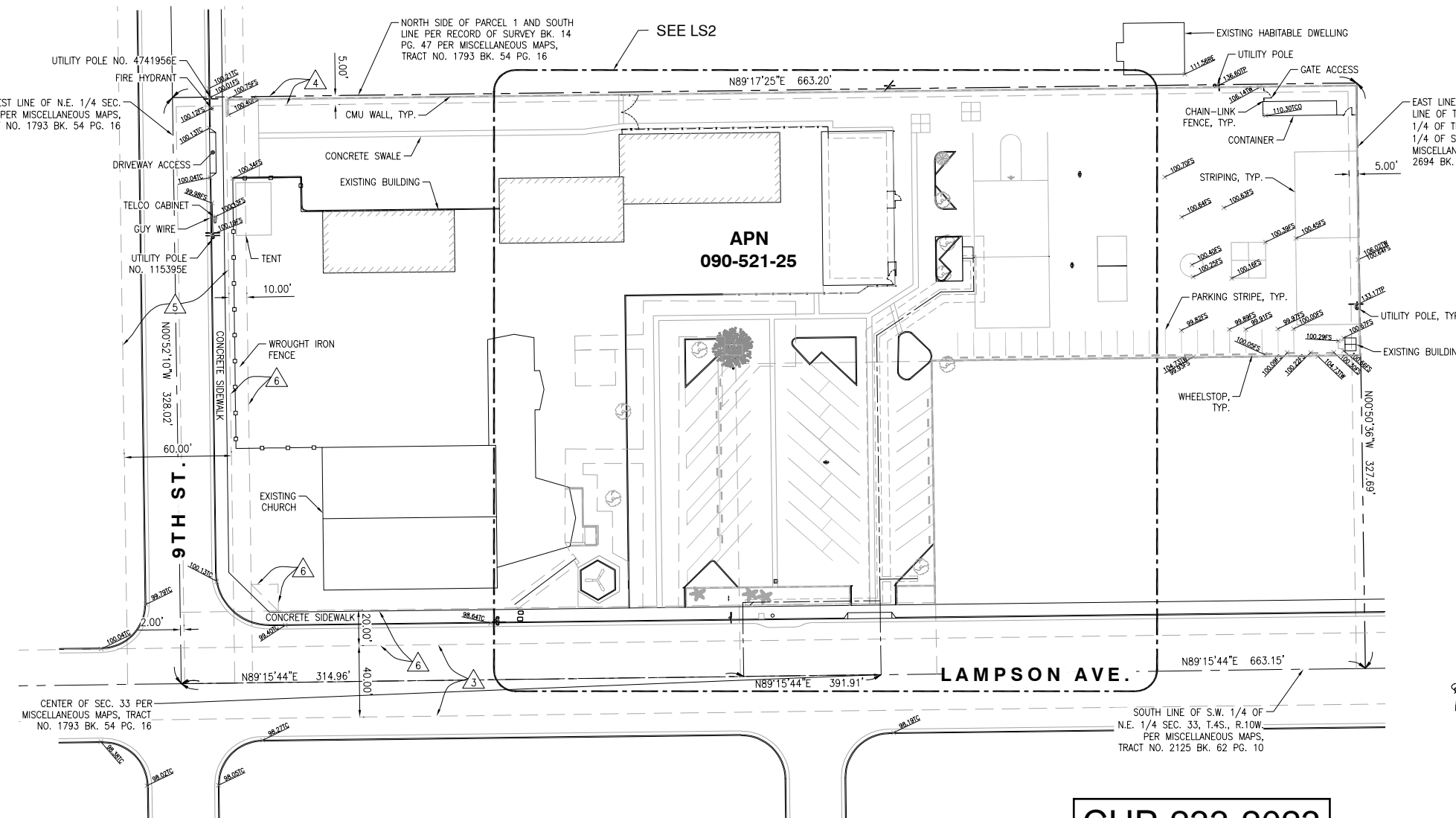


PROJECT INFORMATION:
CLL04571
ST. OLAF LUTHERAN CHURCH
12432 9TH ST.,
GARDEN GROVE, CA 92840

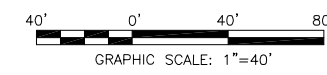
DRAWN BY: MEA
CHECKED BY: RH

SHEET TITLE:
TOPOGRAPHIC SURVEY

SHEET NUMBER:
LS-1



CUP-233-2023





3 FEET WIDE UTILITY EASEMENT CENTERLINE DESCRIPTION (STRIP #1):

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:
 THE WEST HALF OF THE SOUTH HALF OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 10 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

A STRIP OF LAND FOR THE PURPOSES OF UTILITY EASEMENT FOR THE LAND REFERRED TO HEREIN SITUATED IN THE CITY OF RIVERSIDE, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

A THREE (3.00) FEET IN WIDTH EASEMENT FOR THE PURPOSES OF FIBER & POWER UTILITY ROUTES, LYING ONE AND A HALF (1.50) FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE TO WIT:

COMMENCING AT THE CENTERLINE INTERSECTION OF 9TH ST. AND LAMPSON AVE., AS SHOWN ON THAT TRACT NO. 2694 FILED IN THE OFFICE OF THE COUNTY RECORDER OF ORANGE COUNTY ON SEPTEMBER 29, 1955 IN BOOK 80, PAGES 13 THROUGH 14; THENCE EASTERLY ALONG SAID CENTERLINE OF LAMPSON AVE., NORTH 89°15'44" EAST, A DISTANCE OF 314.96 FEET; THENCE LEAVING SAID CENTERLINE, NORTH 00°44'16" WEST A DISTANCE OF 40.00 TO THE NORTHERLY RIGHT-OF-WAY LINE OF SAID LAMPSON AVE.; THENCE NORTH 00°44'16" WEST, A DISTANCE OF 1.43 FEET; THENCE NORTH 89°15'58" EAST, A DISTANCE OF 1.55 FEET TO THE POINT OF BEGINNING OF THIS CENTERLINE ROUTE;

THENCE NORTH 89°15'58" EAST, A DISTANCE OF 1.00 FEET;
 THENCE NORTH 89°18'07" EAST, A DISTANCE OF 3.38 FEET TO A POINT REFERRED TO HEREINAFTER AS "POINT A";
 THENCE NORTH 89°18'07" EAST, A DISTANCE OF 71.01 FEET;
 THENCE NORTH 00°44'02" WEST, A DISTANCE OF 12.05 FEET TO A POINT REFERRED TO HEREINAFTER AS "POINT B";
 THENCE NORTH 00°44'02" WEST, A DISTANCE OF 136.35 FEET;
 THENCE NORTH 55°48'33" EAST, A DISTANCE OF 43.44 FEET;
 THENCE NORTH 89°15'58" EAST, A DISTANCE OF 18.39 FEET;
 THENCE NORTH 00°44'02" WEST, A DISTANCE OF 18.65 FEET;
 THENCE SOUTH 89°15'58" WEST, A DISTANCE OF 6.00 FEET TO A POINT ON THE EASTERLY SIDE OF THE PROPOSED AT&T LEASE AREA, REFERRED TO HEREINAFTER AS "POINT C", ALSO BEING THE TERMINUS POINT OF THIS CENTERLINE ROUTE.

THE SIDE LINES OF SAID THREE (3.00) FEET WIDE UTILITY ROUTE IS TO BE EXTENDED AND/OR SHORTENED TO TERMINATE IN THE LANDS OF THE GRANTOR AND SHALL BE JOINED AT ALL ANGLE POINTS.

SUBJECT TO ALL EASEMENTS AND/OR RIGHT-OF-WAY RECORDS.

3 FEET WIDE UTILITY EASEMENT CENTERLINE DESCRIPTION (STRIP #2):

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:
 THE WEST HALF OF THE SOUTH HALF OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 10 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

A STRIP OF LAND FOR THE PURPOSES OF UTILITY EASEMENT FOR THE LAND REFERRED TO HEREIN SITUATED IN THE CITY OF RIVERSIDE, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

A THREE (3.00) FEET IN WIDTH EASEMENT FOR THE PURPOSES OF FIBER & POWER UTILITY ROUTES, LYING ONE AND A HALF (1.50) FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE TO WIT:

BEGINNING AT SAID "POINT A";
 THENCE SOUTH 49°28'35" WEST, A DISTANCE OF 2.24 FEET TO THE POINT OF TERMINUS OF THIS CENTERLINE ROUTE.

THE SIDE LINES OF SAID THREE (3.00) FEET WIDE UTILITY ROUTE IS TO BE EXTENDED AND/OR SHORTENED TO TERMINATE IN THE LANDS OF THE GRANTOR AND SHALL BE JOINED AT ALL ANGLE POINTS.

SUBJECT TO ALL EASEMENTS AND/OR RIGHT-OF-WAY RECORDS.

3 FEET WIDE UTILITY EASEMENT CENTERLINE DESCRIPTION (STRIP #3):

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:
 THE WEST HALF OF THE SOUTH HALF OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 10 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

A STRIP OF LAND FOR THE PURPOSES OF UTILITY EASEMENT FOR THE LAND REFERRED TO HEREIN SITUATED IN THE CITY OF RIVERSIDE, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

A THREE (3.00) FEET IN WIDTH EASEMENT FOR THE PURPOSES OF FIBER & POWER UTILITY ROUTES, LYING ONE AND A HALF (1.50) FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE TO WIT:

BEGINNING AT SAID "POINT B";
 THENCE NORTH 89°15'58" EAST, A DISTANCE OF 21.28 FEET TO THE POINT OF TERMINUS OF THIS CENTERLINE ROUTE.

THE SIDE LINES OF SAID THREE (3.00) FEET WIDE UTILITY ROUTE IS TO BE EXTENDED AND/OR SHORTENED TO TERMINATE IN THE LANDS OF THE GRANTOR AND SHALL BE JOINED AT ALL ANGLE POINTS.

SUBJECT TO ALL EASEMENTS AND/OR RIGHT-OF-WAY RECORDS.

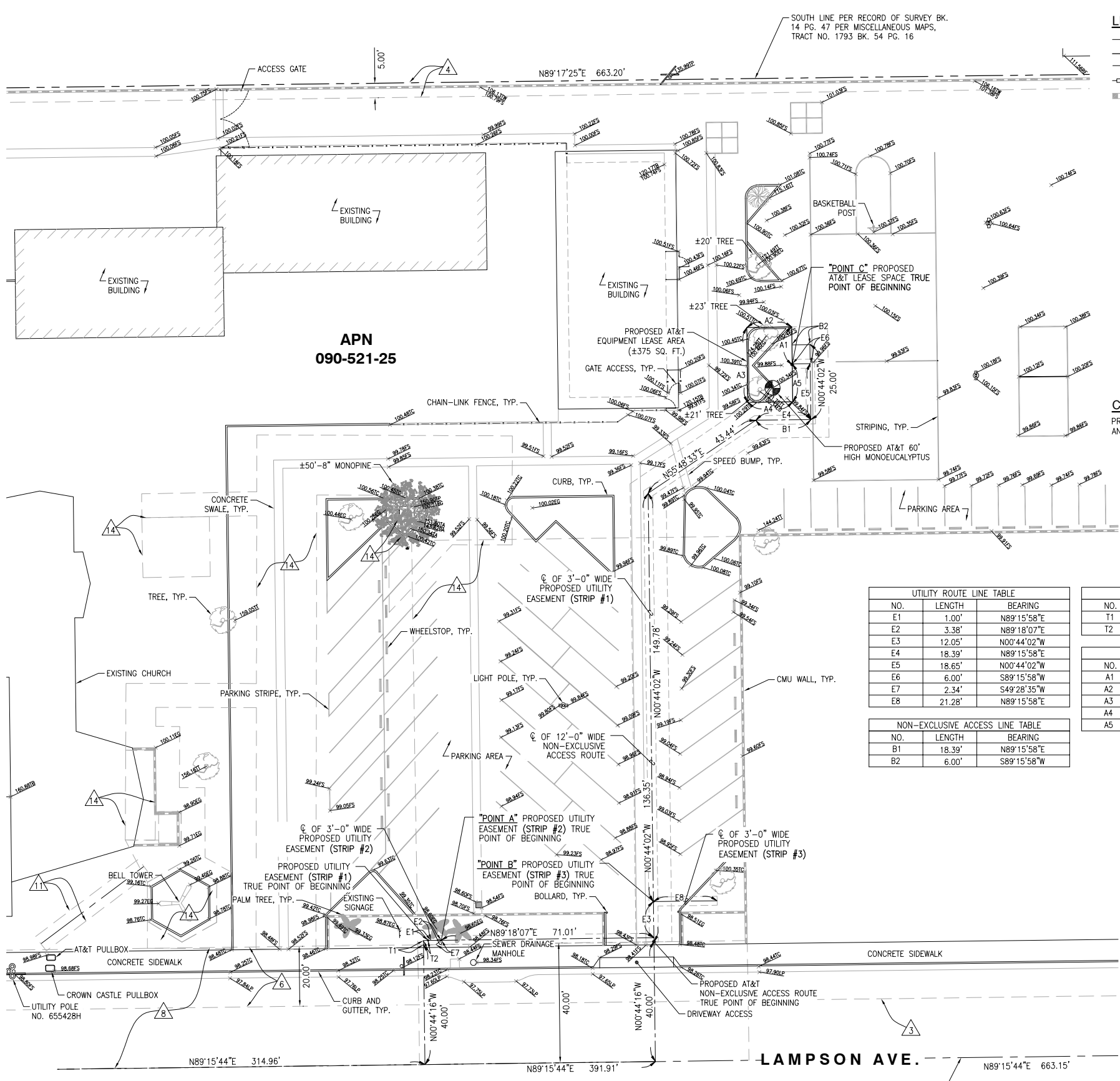
PROPOSED AT&T LEASE SPACE DESCRIPTION:

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:
 THE WEST HALF OF THE SOUTH HALF OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 33, TOWNSHIP 4 SOUTH, RANGE 10 WEST, IN THE RANCHO LAS BOLSAS, IN THE CITY OF GARDEN GROVE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 51, PAGE 10 OF MISCELLANEOUS MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

A STRIP OF LAND FOR THE PURPOSES OF AT&T LEASE SPACE WITH STRIP OF LAND BEING DESCRIBED AS FOLLOWS TO WIT:

BEGINNING AT SAID "POINT C";
 THENCE NORTH 00°44'02" WEST, A DISTANCE OF 12.35 FEET;
 THENCE SOUTH 89°15'58" WEST, A DISTANCE OF 15.00 FEET;
 THENCE SOUTH 00°44'02" EAST, A DISTANCE OF 25.00 FEET;
 THENCE NORTH 89°15'58" EAST, A DISTANCE OF 15.00 FEET;
 THENCE NORTH 00°44'02" WEST, A DISTANCE OF 12.65 FEET TO THE POINT OF BEGINNING OF THIS PROPOSED AT&T LEASE SPACE.

CONTAINING 375 SQUARE FEET MORE OR LESS.
 SUBJECT TO ALL EASEMENTS AND/OR RIGHT-OF-WAY RECORDS.



LEGEND

- CENTER LINE
- - - PROPERTY LINE
- x - CHAIN-LINK FENCE
- o - WROUGHT IRON FENCE
- ▬ CMU WALL
- EG EXISTING GRADE
- FS FINISH SURFACE
- LP LIP OF GUTTER
- TC TOP OF CURB
- TP TOP OF POLE
- RE ROOF EDGE
- TT TOP OF TREE
- TA TOP OF ANTENNA
- BA BOT. OF ANTENNA
- TW TOP OF WALL
- TB TOP OF BUILDING
- EXISTING SIGNAGE
- GUY WIRE
- CATCH BASIN
- UTILITY POLE
- PALM TREE
- TREE

COORDINATES

PROPOSED AT&T LEASE AREA AND MONOEUCALYPTUS

LATITUDE: 33°46'55.83"N (33.782175)
 LONGITUDE: 117°55'51.42"W (-117.930950)

UTILITY ROUTE LINE TABLE

NO.	LENGTH	BEARING
E1	1.00'	N89°15'58"E
E2	3.38'	N89°18'07"E
E3	12.05'	N00°44'02"W
E4	18.39'	N89°15'58"E
E5	18.65'	N00°44'02"W
E6	6.00'	S89°15'58"W
E7	2.34'	S49°28'35"W
E8	21.28'	N89°15'58"E

TIE LINE TABLE

NO.	LENGTH	BEARING
T1	1.43'	N00°44'16"W
T2	1.55'	N89°15'58"E

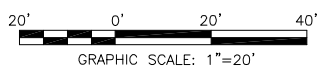
LEASE AREA LINE TABLE

NO.	LENGTH	BEARING
A1	12.35'	N00°44'02"W
A2	15.00'	S89°15'58"W
A3	25.00'	S00°44'02"E
A4	15.00'	N89°15'58"E
A5	12.65'	N00°44'02"W

NON-EXCLUSIVE ACCESS LINE TABLE

NO.	LENGTH	BEARING
B1	18.39'	N89°15'58"E
B2	6.00'	S89°15'58"W

CUP-233-2023

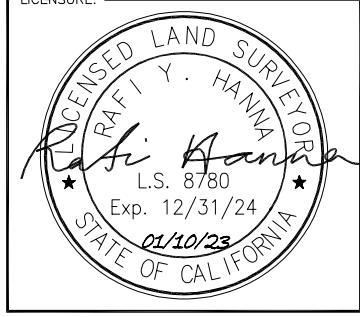


PROPERTY LINES DERIVED FROM:
 TRACT NO. 2694 BK. 80 PG. 13-14 DATED SEPTEMBER 29, 1955
 TRACT NO. 2125 BK. 62 PG. 10 DATED SEPTEMBER 10, 1954
 TRACT NO. 1793 BK. 54 PG. 16 DATED OCTOBER 22, 1953

REV	DATE	DESCRIPTION
3	01/10/2023	LEGAL DESCRIPTION REVISION
2	08/26/2022	FINAL SURVEY
1	07/21/2022	PRELIMINARY SURVEY

ISSUED DATE: **JANUARY 10, 2023**

ISSUED FOR: **FINAL SURVEY**



PROJECT INFORMATION:
CLL04571
ST. OLAF LUTHERAN CHURCH
12432 9TH ST.,
GARDEN GROVE, CA 92840

DRAWN BY: MEA
 CHECKED BY: RH

SHEET TITLE:
TOPOGRAPHIC SURVEY

SHEET NUMBER:
LS-2

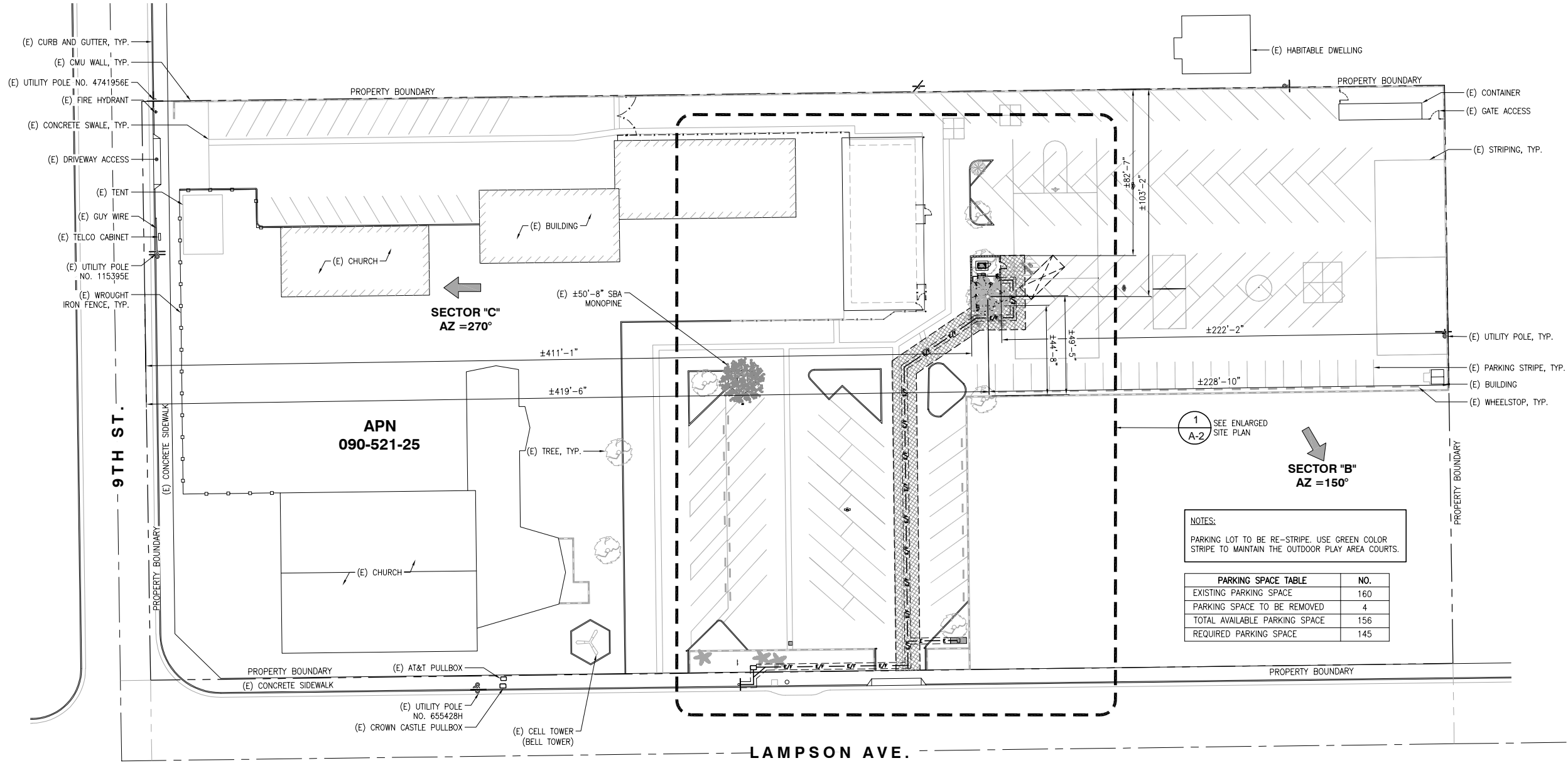
NOTES:
 PROPOSED POWER AND TELCO PLAN IS PRELIMINARY
 AND SUBJECT TO CHANGE PENDING FINAL DESIGN FROM
 THE UTILITY COMPANY.

↑
 PROPOSED AT&T 4' Ø
 MICROWAVE ANTENNA
 AZ = TBD°

↗
 SECTOR "A"
 AZ = 30°

↘
 SECTOR "B"
 AZ = 150°

←
 SECTOR "C"
 AZ = 270°



NOTES:
 PARKING LOT TO BE RE-STRIPED. USE GREEN COLOR STRIPE TO MAINTAIN THE OUTDOOR PLAY AREA COURTS.

PARKING SPACE TABLE	NO.
EXISTING PARKING SPACE	160
PARKING SPACE TO BE REMOVED	4
TOTAL AVAILABLE PARKING SPACE	156
REQUIRED PARKING SPACE	145



REV	DATE	DESCRIPTION
4	03/13/2023	PLANNING COMMENTS
3	01/18/2023	REVISED LOCATION OF LEASE AREA
2	11/17/2022	REVISED ANTENNA CONFIG.
1	10/25/2022	PLANNING COMMENTS
0	08/26/2022	100% ZDS
A	07/22/2022	90% ZD'S FOR REVIEW

ISSUED DATE:
 03/13/2023

ISSUED FOR:
 PLANNING SUBMITTAL

LICENSURE:

PROJECT INFORMATION:
 CLLO4571
 ST. OLAF LUTHERAN CHURCH
 12432 9TH ST.,
 GARDEN GROVE, CA 92840

DRAWN BY: AXN
 CHECKED BY: SVF

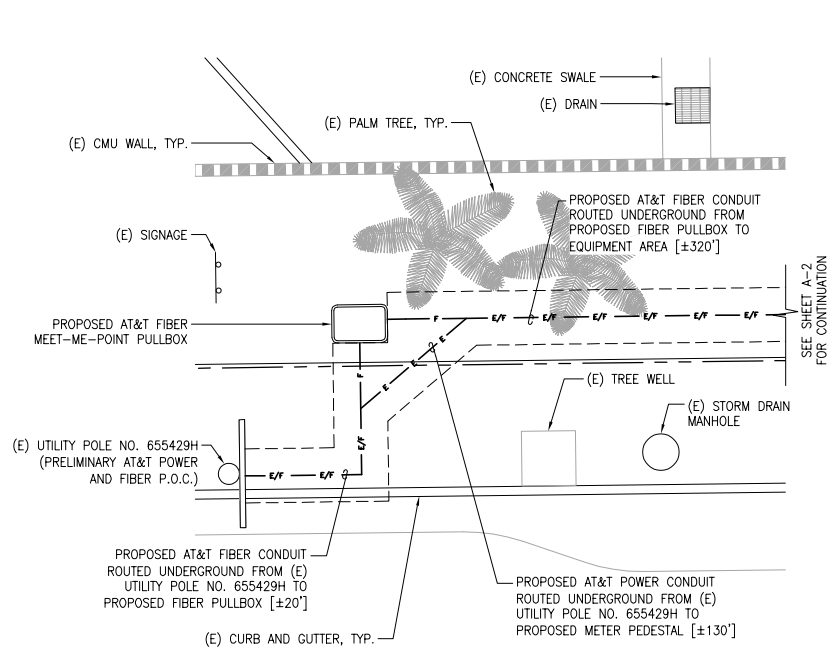
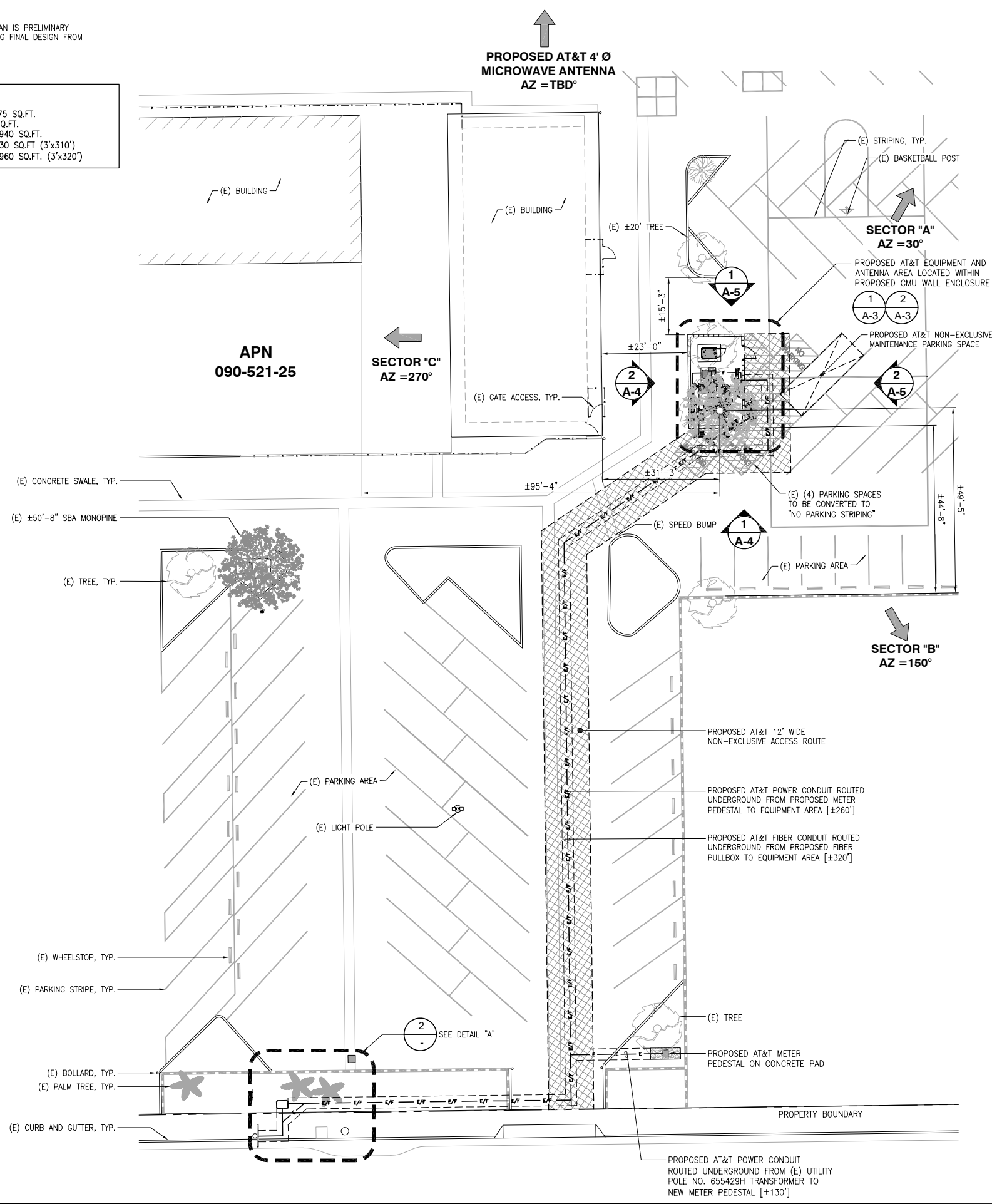
SHEET TITLE:
 SITE PLAN

SHEET NUMBER:
 A-1



NOTES:
 PROPOSED POWER AND TELCO PLAN IS PRELIMINARY
 AND SUBJECT TO CHANGE PENDING FINAL DESIGN FROM
 THE UTILITY COMPANY.

LEASE AREA CALCULATION:
 EQUIPMENT LEASE AREA: ±375 SQ.FT.
 AERIAL LEASE AREA: ±220 SQ.FT.
 NON EXCLUSIVE ACCESS: ±2940 SQ.FT.
 FIBER UTILITY EASEMENT: ±930 SQ.FT. (3'x310')
 POWER UTILITY EASEMENT: ±960 SQ.FT. (3'x320')



24"x36" SCALE: 3/16" = 1'-0"
 11"x17" SCALE: 3/32" = 1'-0"

NOTES:
 PARKING LOT TO BE RE-STRIPED. USE GREEN COLOR STRIPE TO MAINTAIN THE OUTDOOR PLAY AREA COURTS.

PARKING SPACE TABLE	NO.
EXISTING PARKING SPACE	160
PARKING SPACE TO BE REMOVED	4
TOTAL AVAILABLE PARKING SPACE	156
REQUIRED PARKING SPACE	145



REV	DATE	DESCRIPTION
4	03/13/2023	PLANNING COMMENTS
3	01/18/2023	REVISED LOCATION OF LEASE AREA
2	11/17/2022	REVISED ANTENNA CONFIG.
1	10/25/2022	PLANNING COMMENTS
0	08/26/2022	100% ZDS
A	07/22/2022	90% ZD'S FOR REVIEW

ISSUED DATE:
 03/13/2023

ISSUED FOR:
 PLANNING SUBMITTAL

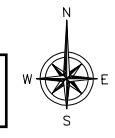
LICENSURE:

PROJECT INFORMATION:
 CLLO4571
 ST. OLAF LUTHERAN CHURCH
 12432 9TH ST.,
 GARDEN GROVE, CA 92840

DRAWN BY: AXN
 CHECKED BY: SVF

SHEET TITLE:
 ENLARGED SITE PLAN

SHEET NUMBER:
 A-2





REV	DATE	DESCRIPTION
4	03/13/2023	PLANNING COMMENTS
3	01/18/2023	REVISED LOCATION OF LEASE AREA
2	11/17/2022	REVISED ANTENNA CONFIG.
1	10/25/2022	PLANNING COMMENTS
0	08/26/2022	100% ZDS
A	07/22/2022	90% ZD'S FOR REVIEW

ISSUED DATE: 03/13/2023

ISSUED FOR: PLANNING SUBMITTAL

LICENSURE:

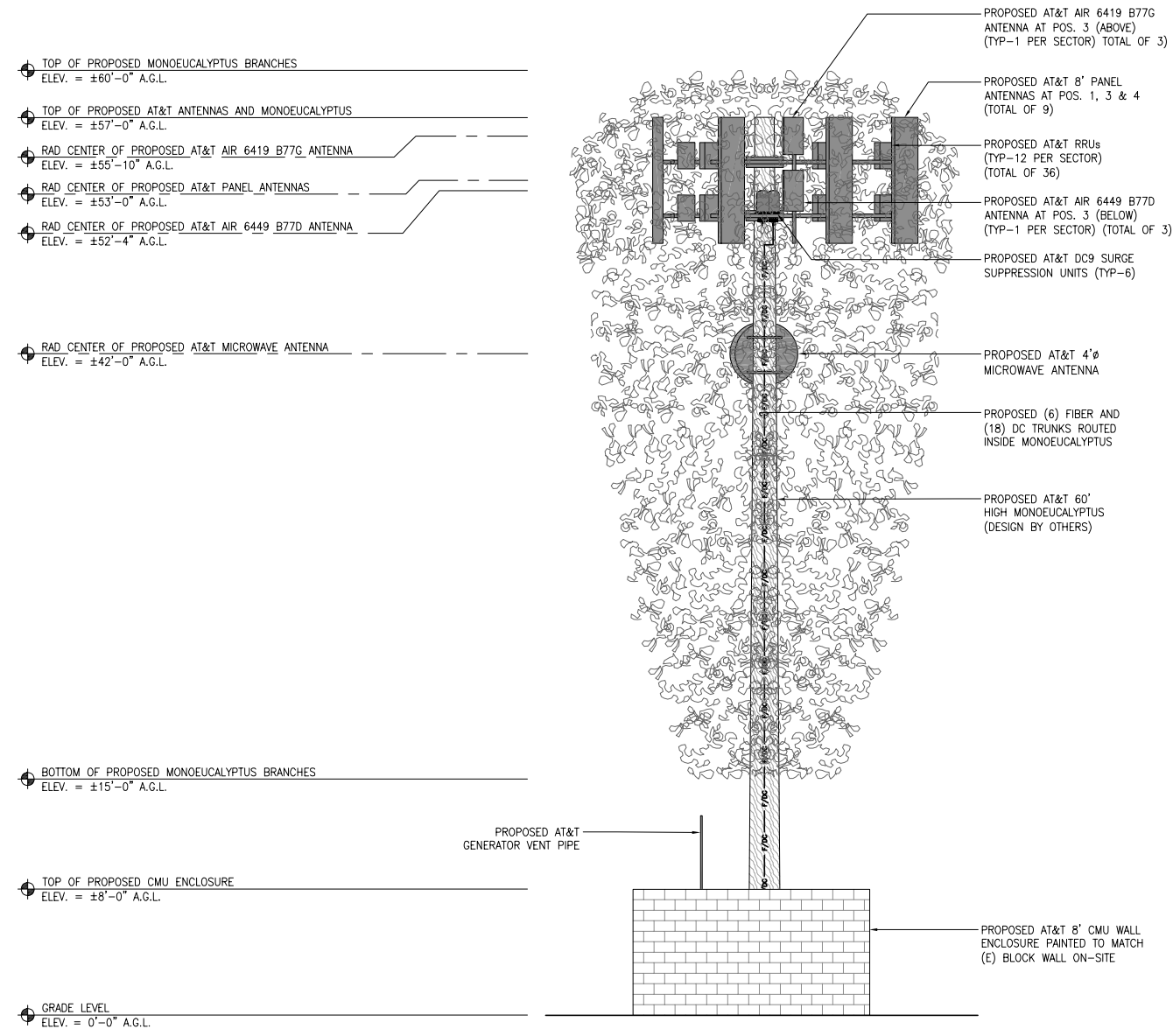
PROJECT INFORMATION:
CLL04571
ST. OLAF LUTHERAN CHURCH
12432 9TH ST.,
GARDEN GROVE, CA 92840

DRAWN BY: AXN
CHECKED BY: SVF

SHEET TITLE: ELEVATIONS

SHEET NUMBER: A-4

- NOTES:
1. THE PROPOSED LAYOUT IS PRELIMINARY AND SUBJECT TO CHANGE PENDING FULL STRUCTURAL ANALYSIS.
 2. PROPOSED AT&T ANTENNAS, RRUS, SURGE SUPPRESSION UNITS AND ANTENNA MOUNTING KIT TO BE PAINTED GREEN FOR CONCEALMENT. COVER ANTENNAS WITH RF-FRIENDLY LEAF SOCKS.



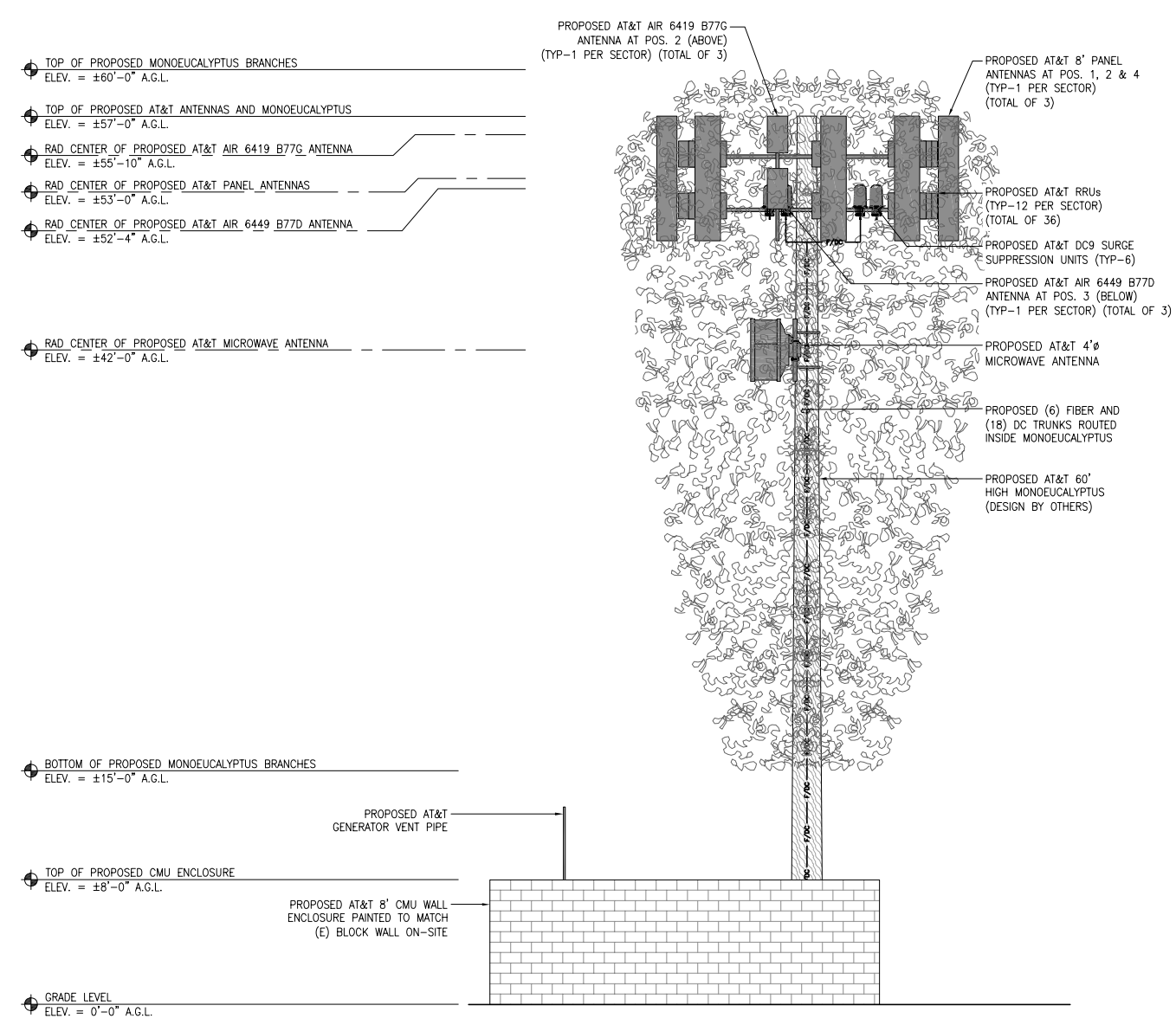
PROPOSED SOUTH ELEVATION

24"x36" SCALE: 3/16" = 1'-0"
11"x17" SCALE: 3/32" = 1'-0"



1

- NOTES:
1. THE PROPOSED LAYOUT IS PRELIMINARY AND SUBJECT TO CHANGE PENDING FULL STRUCTURAL ANALYSIS.
 2. PROPOSED AT&T ANTENNAS, RRUS, SURGE SUPPRESSION UNITS AND ANTENNA MOUNTING KIT TO BE PAINTED GREEN FOR CONCEALMENT. COVER ANTENNAS WITH RF-FRIENDLY LEAF SOCKS.



PROPOSED WEST ELEVATION

24"x36" SCALE: 3/16" = 1'-0"
11"x17" SCALE: 3/32" = 1'-0"

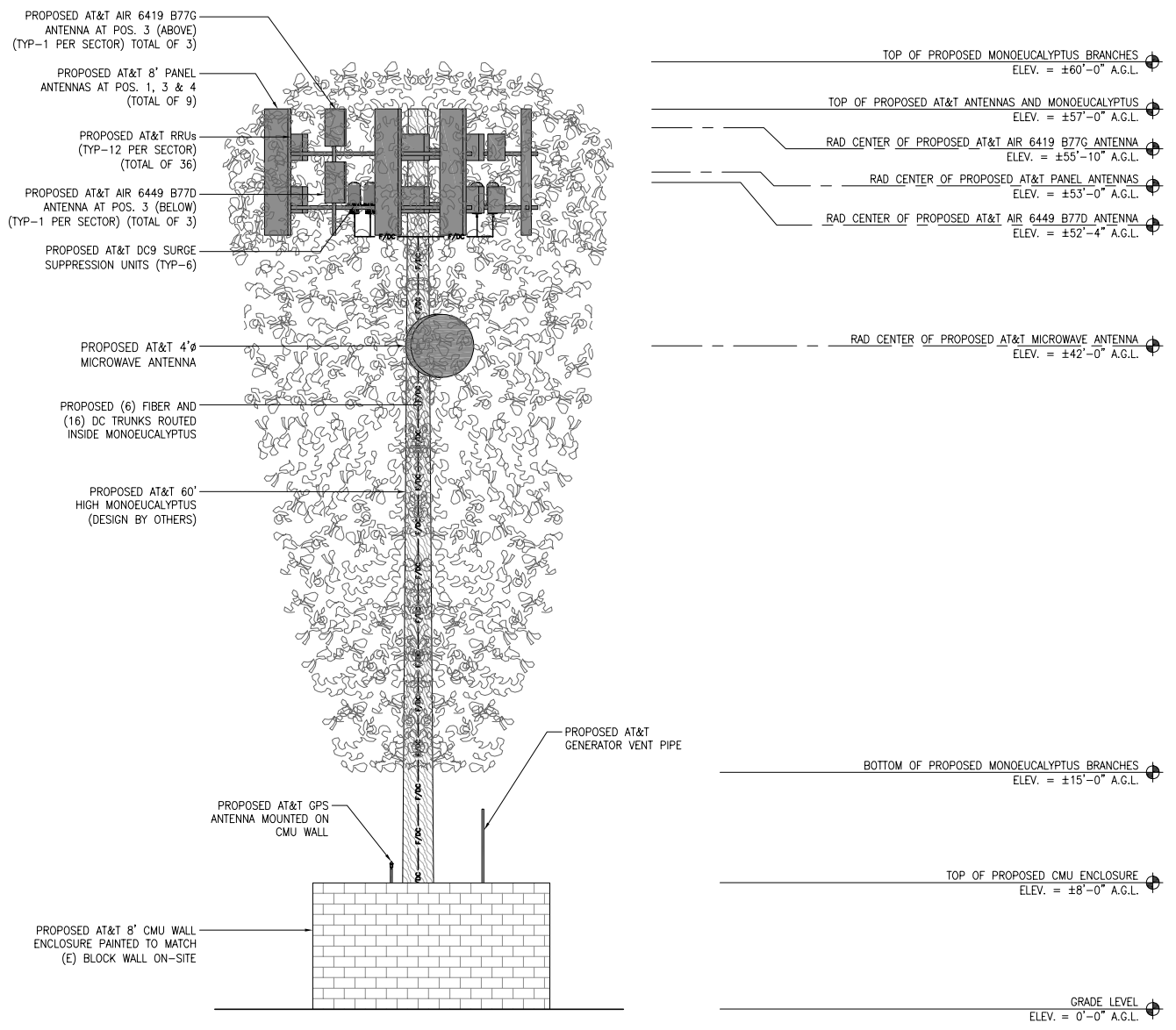


2

CUP-233-2023

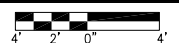


- NOTES:
1. THE PROPOSED LAYOUT IS PRELIMINARY AND SUBJECT TO CHANGE PENDING FULL STRUCTURAL ANALYSIS.
 2. PROPOSED AT&T ANTENNAS, RRUS, SURGE SUPPRESSION UNITS AND ANTENNA MOUNTING KIT TO BE PAINTED GREEN FOR CONCEALMENT. COVER ANTENNAS WITH RF-FRIENDLY LEAF SOCKS.

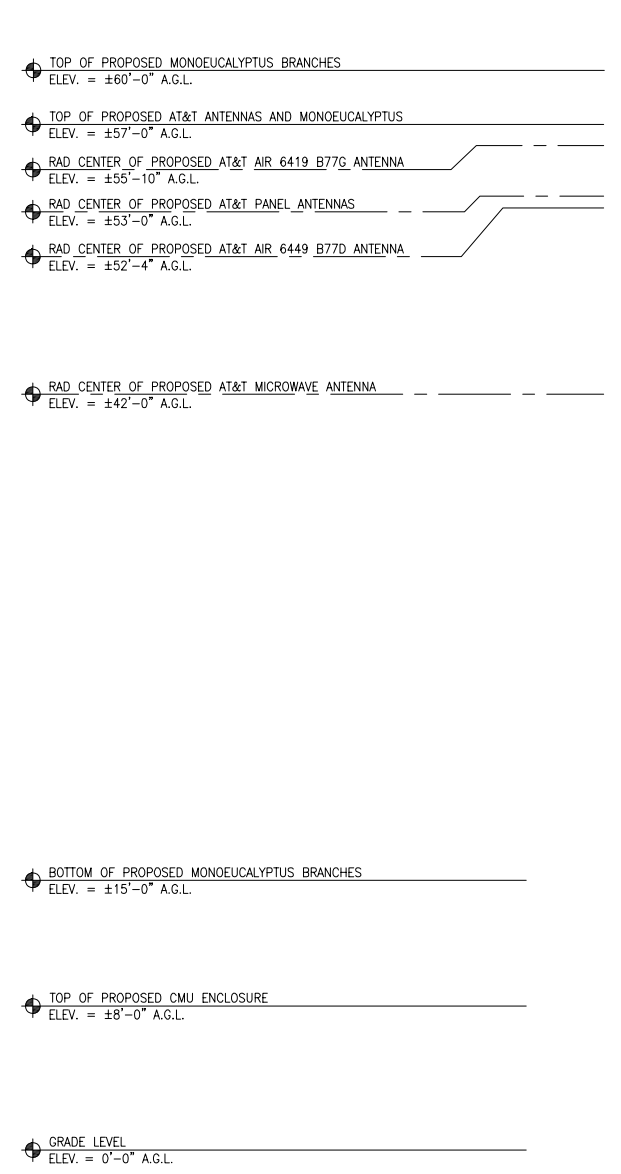


PROPOSED NORTH ELEVATION

24"x36" SCALE: 3/16" = 1'-0"
11"x17" SCALE: 3/32" = 1'-0"

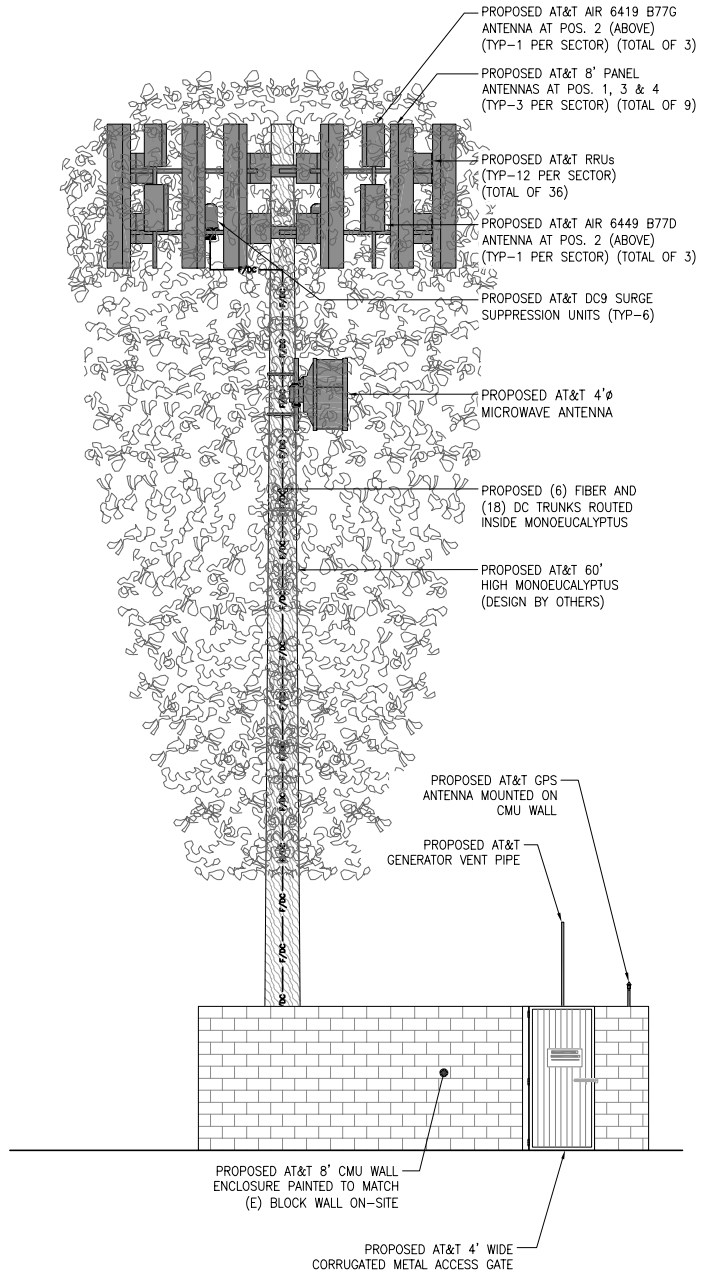


- NOTES:
1. THE PROPOSED LAYOUT IS PRELIMINARY AND SUBJECT TO CHANGE PENDING FULL STRUCTURAL ANALYSIS.
 2. PROPOSED AT&T ANTENNAS, RRUS, SURGE SUPPRESSION UNITS AND ANTENNA MOUNTING KIT TO BE PAINTED GREEN FOR CONCEALMENT. COVER ANTENNAS WITH RF-FRIENDLY LEAF SOCKS.



PROPOSED EAST ELEVATION

24"x36" SCALE: 3/16" = 1'-0"
11"x17" SCALE: 3/32" = 1'-0"



CUP-233-2023

REV	DATE	DESCRIPTION
4	03/13/2023	PLANNING COMMENTS
3	01/18/2023	REVISED LOCATION OF LEASE AREA
2	11/17/2022	REVISED ANTENNA CONFIG.
1	10/25/2022	PLANNING COMMENTS
0	08/26/2022	100% ZDS
A	07/22/2022	90% ZD'S FOR REVIEW

ISSUED DATE: 03/13/2023

ISSUED FOR: PLANNING SUBMITTAL

LICENSURE:

PROJECT INFORMATION:
CLLO4571
ST. OLAF LUTHERAN CHURCH
12432 9TH ST.,
GARDEN GROVE, CA 92840

DRAWN BY: AXN
CHECKED BY: SVF

SHEET TITLE: ELEVATIONS

SHEET NUMBER: A-5

**APPLICANT'S WRITTEN RESPONSE
TO ZONING ADMINISTRATOR PUBLIC COMMENT
FROM FEBRUARY 23, 2023**



Applicant Written Responses to Public Comment

City of Garden Grove Tuesday, February 21, 2023 at 3:04 PM

Ticket #423590

Status	Open	Name	Kaye Monachelli
Priority	Normal	Email	kayemonachelli@gmail.com
Department	Public Comment	Phone	
Create Date	2/19/23 5:39 PM	Source	Email
Assigned To	Shehriyar Khan	Help Topic	Public Comments
SLA Plan	Default SLA	Last Response	2/21/23 3:04 PM
Due Date	2/21/23 5:39 PM	Last Message	2/19/23 5:39 PM

Ticket Details

Request for conditional use permit approval for construction and operation of a 60 foot tall cell phone tower by AT&T at the northeast corner of Lampson and 9th Street at 12432 9th Street

2/19/23 5:39 PM Request for conditional use permit approval for construction and operation of a 60 foot tall cell ... Kaye Monachelli

QUESTIONS AND CONCERNS OF KAYE MONACHELLI CHRISTOPHER , MONACHELLI AND GRACE MONACHELLI

11571 LAMPSON

GARDEN GROVE, CA 92840

AUTHOR OF THIS DOCUMENT: KAYE MONACHELLI

1. Why was the site at St.Olaf's Church and Preschool chosen for this cell tower construction?

This location meets the City Requirements\Ordinance and has existing Wireless Facilities.

2. Why was the placement chosen to build approximately 20 feet from the back of the preschool classroom where my grandson who is 3 1/2 years old is learning and playing both inside and outside alongside other children from babies to 5 year olds?

This location has the available space for the Facility and meets the City Requirements.

3. Was any consideration given to the fact that another cell phone tower was built on the same property some time ago. This would mean two towers within approximately 100 feet of each other both right on



top of where children play February 21, 2023 at 3:04 PM

Yes, this was considered. The existing sites can't accommodate the requirements for AT&T.

4. How much testing has been done on health risks from the new much stronger 5G towers?

The 5G upgrade for Wireless is Nation Wide. Testing has been provided for the Garden Grove location.

5, What happens when a powerful generator develops maintenance problems?

A Stand By Generator runs for 30-45 minutes every 4-6 weeks during business hours.

6. Are generator problems sometimes considered a Hazmat situation?

No, Generators are for emergency purposes only if there is a power outage.

7. How strongly are these towers built in the event of an earthquake? My property line is between 20 and 30 feet from the proposed site and the church is also within the same distance. Both properties would be within the fall line.

Every Tower has to provide Structural information for the Building Permit to be issued by the City.

8. Will all maintenance workers be required to have background checks before being allowed on the school's grounds?

The Maintenance workers will comply with the same rules and regulations for the existing sites.

9. Will all maintenance be done at night?

No, The Maintenance will not be done at night and the hours will be scheduled with the City.

10. Will large noisy teams of workers and lift trucks and equipment be allowed to work all night not allowing the residents to sleep?

No, The Maintenance will not be done at night and the hours will be scheduled with the City.

11. If loud high pitched buzzing sounds begin to show that the equipment is malfunctioning, how long a wait will the residents have before maintenance is done?

The source of sound will need to be determined. The sound concern is from an existing issue.

12. What will happen when the Euclyptus tree starts looking bad after a few years? Will it be upgraded so it is not an eyesore for the neighborhood?

The visual of the Stealth Tree can be addressed if requested by the City.

13. If the cell tower is not adequate, will up to 20 feet be added without a public hearing?

The proposed Tower is at the Maximum Height, so that decision will be made by the City.

14. Will these two cell towers have an effect on my neighbors and my property value?

If the Facility is not located on your property, it will not effect your property or show on the Title.

15. What is the expectation of the percentage of drop of property value in a 1/2 mile radius of the proposed cell tower?

There will be no drop in Property Value. Any change is an increase due to better coverage.

16. Are you aware of the new FHA rules that an appraiser must indicate whether a property is within the easement of a cell tower installation and comment on the marketability of the home being appraised?

There will be no Easement or anything additional needed from another property for this project.

17. Do you know that the California Realtors Association's Seller's Questionnaire now asks that the sellers must note that they live in an area with a cell phone tower installation?

That information is from a Questionnaire, and not required Per City Ordinance.

18. HAVE YOU READ THE FOLLOWING ARTICAL "YOUR NEW NEIGHBOR, A CELL PHONE TOWER MAY IMPACT THE VALUE OF YOUR HOME? NATIONAL BUSINESS 2022

No, I have not read the Article.

19. Property values may devalue from 2.46 to 20 % but I could find no information on having two in our neighborhood.

Property Values are personal information, and there are (2) existing sites in the Neighborhood.

20. It is often pointed out that the benefits of having a close cell tower will give great internet access, however, my neighbor has been having alot of trouble with her internet. She called and after a lengthy tour of fixing the problem over the phone, the agent asked her if there was a cell tower near her home. When she said yes. The person said that was the likely problem and couldn't help her. Her provider is AT&T!!

Wireless Service vs Landline Service are different. It all depends on the Customer Service received.

Kaye Monachelli 714-457-5404



AZ Office
4960 S. Gilbert Rd, Suite 1-461
Chandler, AZ 85249
p. (602) 774-1950

CA Office
1197 Los Angeles Ave, Suite C-256
Simi Valley, CA 93065
p. (805) 426-4477

www.mdacoustics.com

March 10, 2023

Mr. Gavin Leaver
Environmental Assessment Specialists, Inc.
Mission Hills, CA 91345

Subject: AT&T – CLL04571 St. Olaf Lutheran Church – Noise Evaluation – Garden Grove, CA

Dear Mr. Leaver:

MD Acoustics, LLC (MD) has completed a noise assessment for the AT&T – CLL04571 St. Olaf Lutheran Church project located at 12432 9th St., Garen Grove, CA 92840. The site plan utilized for the project is located in Exhibit A (page 3 of this report). The project assessed the future diesel generator noise level projections to the nearest sensitive receptors and compared them to the City’s applicable noise limits as outlined in the City’s Municipal Code. The project proposes to install a Polar Power 20kW Diesel Generator. A glossary of acoustical terms is located in Appendix A.

1.0 Acoustics Requirements

The City of Garden Grove Municipal Code, Chapter 8.47.040 outlines noise limits for residential zoning within the City. The exterior noise limit during daytime hours (7am to 10pm) is 55 dBA and 50 dBA during nighttime (10pm to 7am). The noise Ordinance is provided in Appendix B.

Therefore, this study evaluates the telecommunications worst-case noise levels and compares the results to the City’s 50 dBA nighttime noise standard.

2.0 Study Method and Procedure

The future telecommunication equipment noise level was modeled using SoundPlan 3D (SP) acoustic modeling software. SP is capable of evaluating stationary noise sources (e.g. point sources such as fan’s, and exhaust from cabinets) at various receptor locations. SP’s software utilizes algorithms (based on inverse square law and reference equipment noise level data) to calculate the noise projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography and noise sensitive receptors. The model assumes the implementation of a 20kW Polar Power Diesel Generator with an operating reference of 69 dBA at 7meters (see Appendix C). Appendix D provides the model’s inputs and outputs, and also includes photos, the field sheet, and measured local ambient noise data.

3.0 Findings

A total of two (2) receptor was modeled to accurately evaluate the future operational noise levels at and/or adjacent to the project site. A receptor is denoted by a yellow dot. The dot represents either a property line, a sensitive receptor such as an outdoor sensitive area/building façade, or a calibration point (the point where sound pressure levels are confirmed to match the manufacturer’s noise data). Receptor 1 and 2 represents the nearest neighboring residential zoning. Noise levels at R1 and R2 are 49 dBA and 45 dBA respectively which does not exceed code.

AT&T – CLL04571 St. Olaf Lutheran Church
Noise Evaluation
Garden Grove, CA

It should be noted that the baseline noise level will only change under a power loss (emergency) situation or during routine maintenance.

4.0 Conclusion

MD is pleased to provide this noise evaluation for this project. The project will comply with the City's applicable noise allowable limits based on the proposed design. If you have any questions regarding this letter, please call our office at (805) 426-4477.

Sincerely,
MD Acoustics, LLC



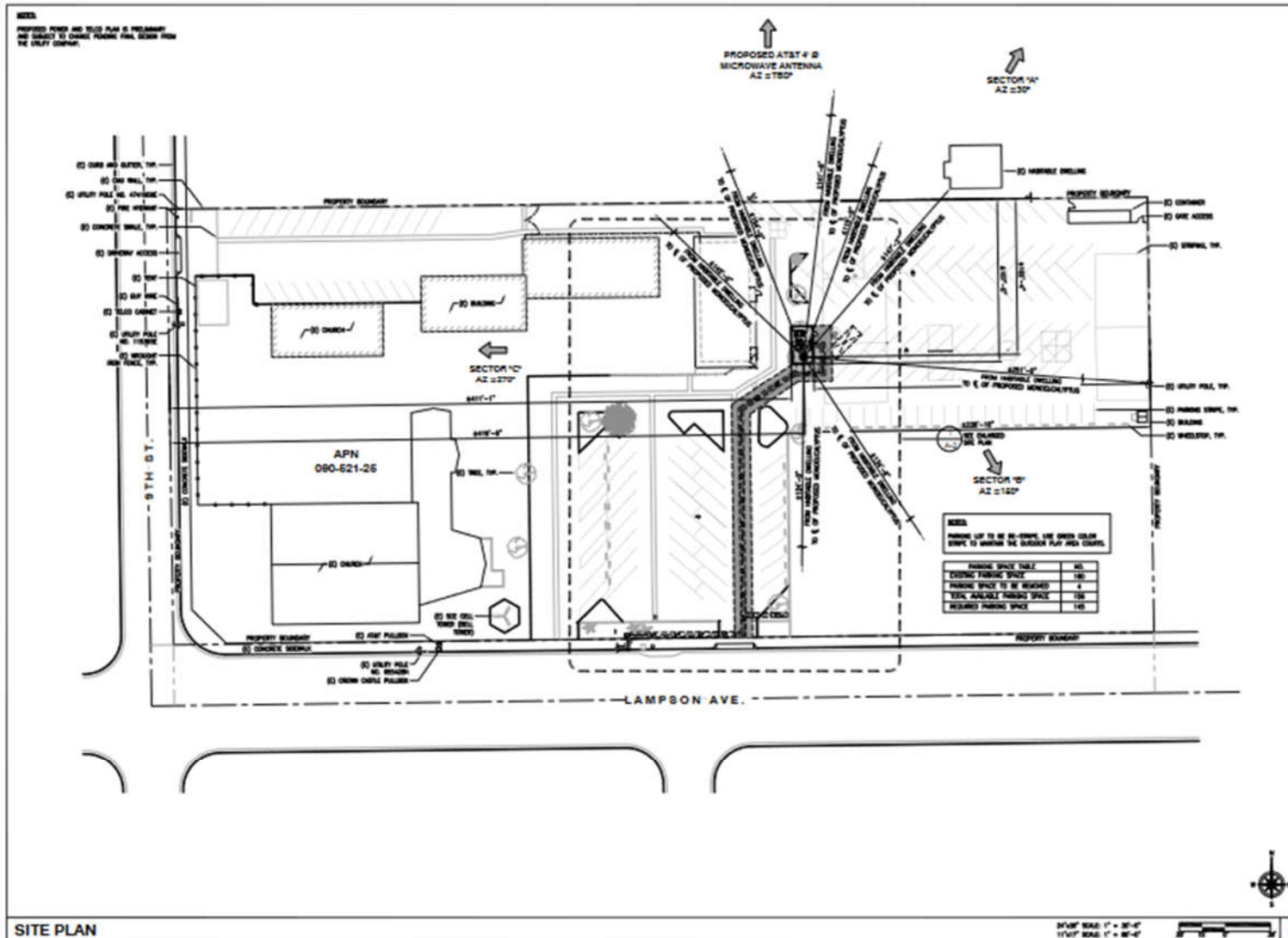
Robert Pearson
Acoustical Consultant



Jordan Trubakoff
Design and Acoustical Consultant

AT&T – CLL04571 St. Olaf Lutheran Church
 Noise Evaluation
 Garden Grove, CA

Exhibit A
 Site Plan





1435 REDWOOD AVENUE
SUNNYVALE, CA 95088



2200 BROAD AVENUE, SUITE 200
SHERMAN OAKS, CA 91060



1000 W. 14TH AVENUE, SUITE 200
DENVER, CO 80202
TEL: 303-733-7777 FAX: 303-733-4007

REV	DATE	DESCRIPTION
1	01/18/2023	REVISED LOCATION OF GROUND
2	01/18/2023	REVISED ANTENNA CORNER
3	01/18/2023	PLANNING COMMENTS
4	01/18/2023	ISSUE SET
5	01/18/2023	ISSUE SET FOR REVIEW

ISSUED DATE: 01/18/2023

ISSUED FOR: PLANNING SUBMITTAL

LOCATION:

PROJECT INFORMATION:

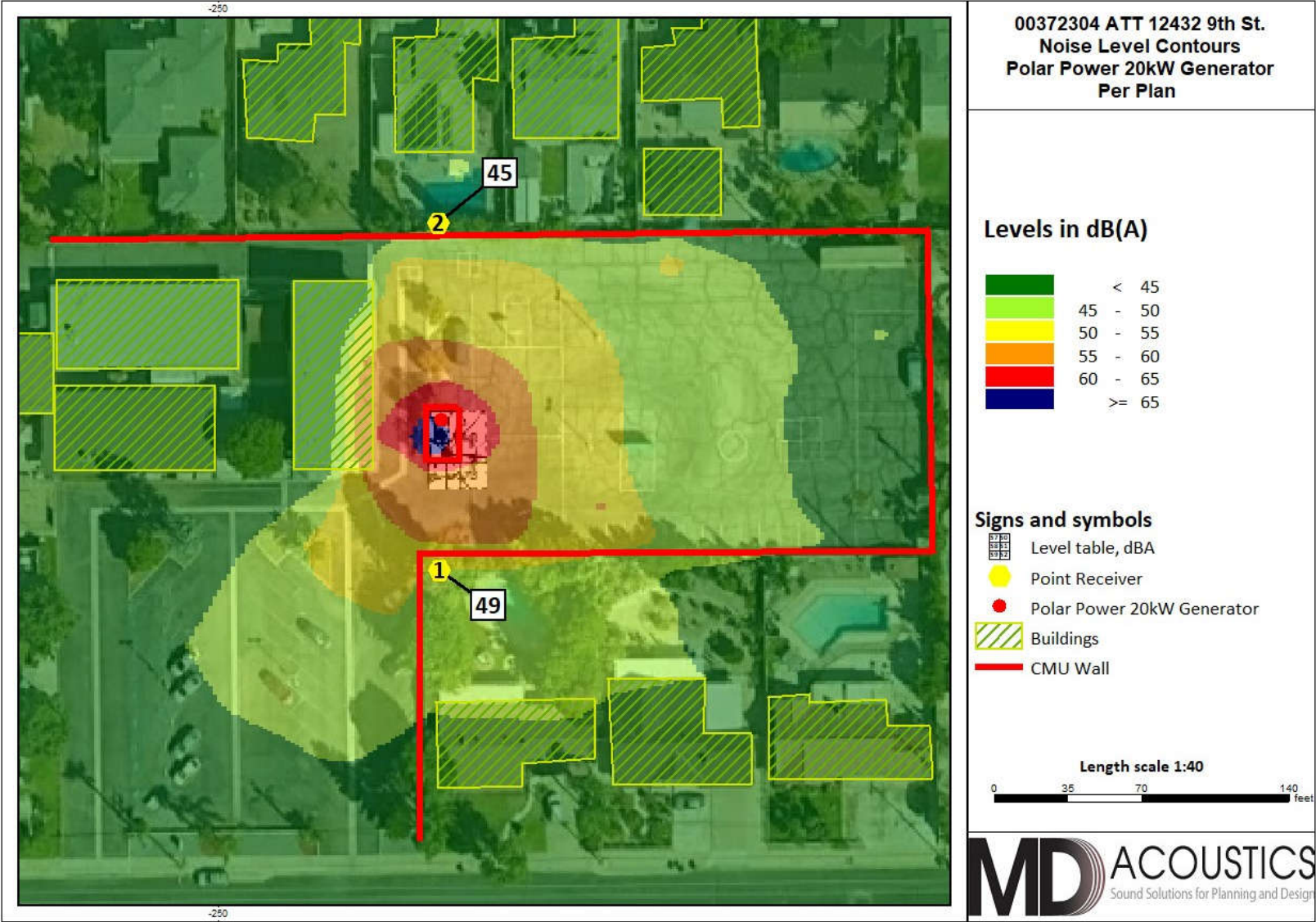
CLL04571
 ST. OLAF LUTHERAN CHURCH
 12432 9TH ST.,
 GARDEN GROVE, CA 92840

DRAWN BY: AGH
 CHECKED BY: SHF

SHEET TITLE: SITE PLAN

SHEET NUMBER: A-1

Exhibit B
Future Operational Noise Levels



Appendix A
Glossary of Acoustical Terms

Glossary of Terms

A-Weighted Sound Level: The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

Ambient or Background Noise Level: The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Decibel (dB): A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A): A-weighted sound level (see definition above).

Equivalent Sound Level (LEQ): The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level. The energy average noise level during the sample period.

Field Sound Transmission Class (FSTC): The field sound transmission class (FSTC) rating is used for in situ wall and floor/ceiling sound isolation performance assessment. The standard requires the measurement of sound transmission loss and includes required procedure to show that the FSTC rating, as it has been determined by the test procedure, was not influenced by flanking of sound around the partition intended to be tested. Sound transmission class and FSTC ratings are intended by standard to be equivalent; however, practical experience indicates that FSTC ratings tend to be up to five ratings points less than laboratory-measured STC ratings.

Day-Night Level (LDN or DNL): LDN is the average noise level over a 24-hour period. The noise between the hours of 10PM to 7AM is artificially increased by 10 dB. This noise is weighted to take into account the decrease in community background noise of 10 dB during this period.

Noise: Any unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

Noise Isolation Class (NIC): The noise isolation class (NIC) rating is similar to STC and FSTC. However, the standard STC rating contour is applied to the one-third octave band noise reduction measured in a field situation, rather than the transmission losses measured in the field. No correction to the measured noise reduction data is made to account for partition size, receiving room absorption, or sound flanking. Like the STC and FSTC ratings, the field measured NIC rating of a noise reduction spectrum is equal to the value of the contour crossing at 500 Hz. In the absence of sound flanking, the NIC is generally within five points of the laboratory STC rating for typical building partition constructions. The NIC rating is used to assess the sound isolation performance of in situ partition construction, especially complicated ones that involve

multiple sound transmission paths that are not suited for laboratory testing. The NIC rating is often used in lieu of STC and FSTC.

Normalized Noise Isolation Class (NNIC): The normalized noise isolation class (NNIC) is the same as the NIC rating except the receiving room absorption is normalized to correspond to a 0.5-s reverberation time.

Sound Level (Noise Level): The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

Sound Level Meter: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

Sound Transmission Class (STC): To quantify STC, a Transmission Loss (TL) measurement is performed in a laboratory over a range of 16 third-octave bands between 125 – 4,000 Hertz (Hz). The average human voice creates sound within the 125 – 4,000 Hz 1/3rd octave bands.

STC is a single-number rating given to a particular material or assembly. The STC rating measures the ability of a material or an assembly to resist airborne sound transfer over the specified frequencies (see ASTM International Classification E413 and E90). In general, a higher STC rating corresponds with a greater reduction of noise transmitting through a partition.

STC is highly dependent on the construction of the partition. The STC of a partition can be increased by: adding mass, increasing or adding air space, adding absorptive materials within the assembly. The STC rating does not assess low frequency sound transfer (e.g. sounds less than 125 Hz). Special consideration must be given to spaces where the noise transfer concern has lower frequencies than speech, such as mechanical equipment and or/or music. The STC rating is a lab test that does not take into consideration weak points, penetrations, or flanking paths.

Even with a high STC rating, any penetration, air-gap, or “flanking path can seriously degrade the isolation quality of a wall. Flanking paths are the means for sound to transfer from one space to another other than through the wall. Sound can flank over, under, or around a wall. Sound can also travel through common ductwork, plumbing or corridors. Noise will travel between spaces at the weakest points. Typically, there is no reason to spend money or effort to improve the walls until all weak points are controlled first.

Appendix B
City of Garden Grove
Noise Ordinance

Garden Grove, California Municipal Code

Title 8 PEACE, SAFETY AND MORALS

Chapter 8.47 NOISE CONTROL

8.47.040 Ambient Base Noise Levels

The ambient base noise levels contained in the following chart shall be utilized as the basis for determining noise levels in excess of those allowed by this chapter unless the actual measured ambient noise level occurring at the same time as the noise under review is being investigated exceeds the ambient base noise level contained in the chart. When the actual measured ambient noise level exceeds the ambient base noise level, the actual measured ambient noise level shall be utilized as the basis for determining whether or not the subject noise exceeds the level allowed by this section. In situations where two adjoining properties exist within two different use designations, the most restrictive ambient base noise level will apply. This section permits any noise level that does not exceed either the ambient base noise level or the actual measured ambient noise level by 5 dB(A), as measured at the property line of the noise generation property.

USE CATEGORIES	USE DESIGNATIONS	AMBIENT BASE NOISE LEVELS	TIME OF DAY
Sensitive	Residential Use	55 dB(A)	7:00 a.m.—10:00 p.m.
		50 dB(A)	10:00 p.m.—7:00 a.m.
Conditionally Sensitive	Institutional Use	65 dB(A)	Any Time
	Office-Professional Use	65 dB(A)	Any Time
	Hotels & Motels	65 dB(A)	Any Time
Non-Sensitive	Commercial Uses	70 dB(A)	Any Time
	Commercial/ Industrial Uses within 150 feet of Residential	65 dB(A)	7:00 a.m.—10:00 p.m.
		50 dB(A)	10:00 p.m.—7:00 a.m.
	Industrial Use	70 dB(A)	Any Time

(2802 § 1, 2011; 2660 § 2, 2005)

Appendix C
Manufacturer Noise Data

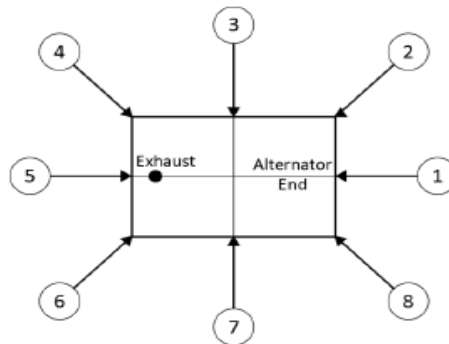
SOUND TEST RESULTS @ 20kW



Type of Test	Sound Test	Serial No.	010420200151
Test Description	360-amp load, 55 volts, 2848 rpm	Controller serial No.	2019092719
Generator model	8220-100-D-20-03-V	Observer	M. Haworth, E. Sanchez, Y. Lucas
Enclosure model	Horizontal All Weather	Date	5/1/2020

Sound Pressure Levels in dB(A)

Position	Overall Level	Frequency Spectrum Levels								
		Center Frequency (Hz)								
		31.5	63	125	250	500	1000	2000	4000	8000
1	67.5		47.9	52.8	52.1	51.8	55.2	51.4	46.9	49.3
2	67.6		53.5	45.4	52.4	54.4	56.1	53.8	50.5	52.5
3	70.1		58.9	48.2	55	56.2	58	50.7	48.6	51.4
4	69.6	32.1	54.3	42.7	54.1	56.3	64.1	49.7	51.2	53
5	69.9		52.5	47.5	59.6	52.5	58.2	52.7	49.8	47.5
6	70.8		54	41.6	57.1	59.6	60.2	51.4	53.3	51.7
7	69.9		55	50.6	57.3	54.1	60.2	53.8	50.7	53.4
8	68.8		53.4	47.9	55.6	57.9	56	52.7	52.3	54.3
Average	69.28	32.10	53.69	47.09	55.40	55.35	58.50	52.03	50.41	51.64



Notes: No "T" exhaust used on test.

1. Generator operating at 55 volts with 50-amp load resulting in an rpm of approximately 2312
2. Generator configuration includes quiet exhaust system but no "T" exhaust tip.
3. All measurement positions are 7 m (23 ft.) from center of generator set and 1 m (3.3 ft.) height
4. Test conducted outside on concrete surface, temperature 64°F, humidity 79%, wind SSW 2 mph, barometer 29.92 inHg.
5. Meter used - Phonic PAA2, Serial No. OGA0H80208
6. Controller powered by 12-volt system and using firmware 3.0.0.19

Appendix D
SoundPlan Input/Output

ATT 12432 9th St Garden Grove
Contribution level - Situation 1 - Per Plan - SP

9

Source	Source type	Leq,n dB(A)	A dB	
Receiver -218,165 Fl G Lr,lim dB(A) Leq,n 49.0 dB(A)				
Polar Power 20kW Generator 8220-100-D-20-03-V	Point	49.0	0.0	
Receiver 1 Fl G Lr,lim dB(A) Leq,n 45.0 dB(A)				
Polar Power 20kW Generator 8220-100-D-20-03-V	Point	45.0	0.0	

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ATT 12432 9th St Garden Grove
3rd octave spectra of the sources in dB(A) - Situation 1 - Per Plan - SP

4

Name	I or A	Li	R'w	L'w	Lw	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	200Hz	250Hz	315Hz	400Hz	500Hz	630Hz	800Hz	1kHz	1.25kHz	1.6kHz	2kHz	2.5kHz	3.15kHz	4kHz	5kHz	6.3kHz	8kHz	10kHz
	m,m²	dB(A)	dB	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
Polar Power 20kW Generator 8220-100-D-20- 03-V				96.4	96.4	82	82.1	82.1	75.5	75.5	75.5	83.8	83.8	83.8	83.8	83.8	83.8	86.9	86.9	86.9	80.4	80.4	80.4	78.8	78.8	78.8	80.1	80.1	80.1

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**ATT 12432 9th St Garden Grove
Contribution spectra - Situation 1 - Per Plan - SP**

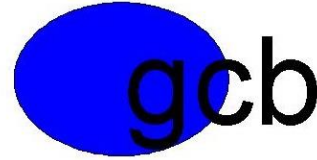
Source	Time slice	Sum dB(A)	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)	
Receiver -218,165 Ft,lim dB(A) Leq,n 49.0 dB(A)											
Polar Power 20kW Generator 8220-100-D-20-03-V	Leq,n	49.0	45.6	35.0	42.3	39.6	40.8	32.8	27.3	23.9	
Receiver 1 Ft,lim dB(A) Leq,n 45.0 dB(A)											
Polar Power 20kW Generator 8220-100-D-20-03-V	Leq,n	45.0	41.2	29.3	36.7	33.8	39.3	31.0	25.9	22.1	

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Radio Frequency Emission Compliance Report

GCB Services



Delivering solutions for your success

Site Name: ST. OLAF LUTHERAN CHURCH (CLL04571)

Site Address: 12432 9TH STREET, GARDEN GROVE, CA: 92840

USID: 321598

FA Location: 12844777

Site Type: MONOEUCALYPTUS

Latitude & Longitude: 33.782036, -117.931365

Report Date: 03/22/2023

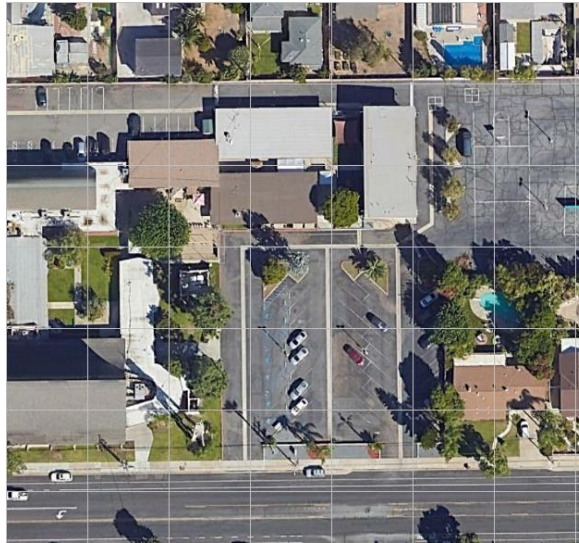


Image to show distance to surrounding buildings on 60' Grid

Report Preparer

Pawan Kumar

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1. Executive Summary

AT&T has contracted with GCB Services, an independent Radio Frequency consulting firm, to conduct a Radio Frequency Exposure (RFE) Compliance Assessment of the **ST. OLAF LUTHERAN CHURCH (CLL04571)** cell site. The following report contains a detailed summary of the Radio Frequency environment as it relates to Federal Communications Commission (FCC) and Occupational Safety & Health Administration (OSHA) Rules and Regulations for all individuals.

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. GCB believes this to be a worst-case analysis, based on best available data.

Radio Frequency Emissions: Modifications to existing facilities shall submit a completed radio frequency (RF) emissions exposure guidelines checklist contained in Appendix A of the FCC's "A Local Government Official's Guide to Transmitting Antenna RF Emission Safety" to determine if the facility is categorically excluded.

MPE Modeling Program: ROOFMASTER 35.5.26.2022

The simulation plots show the spatial predicted power exposure as a percentage of the General Population Standard. Please note that 100% MPE of General Population corresponds to 20% of the Occupational Standard.

Proposed Mitigation:

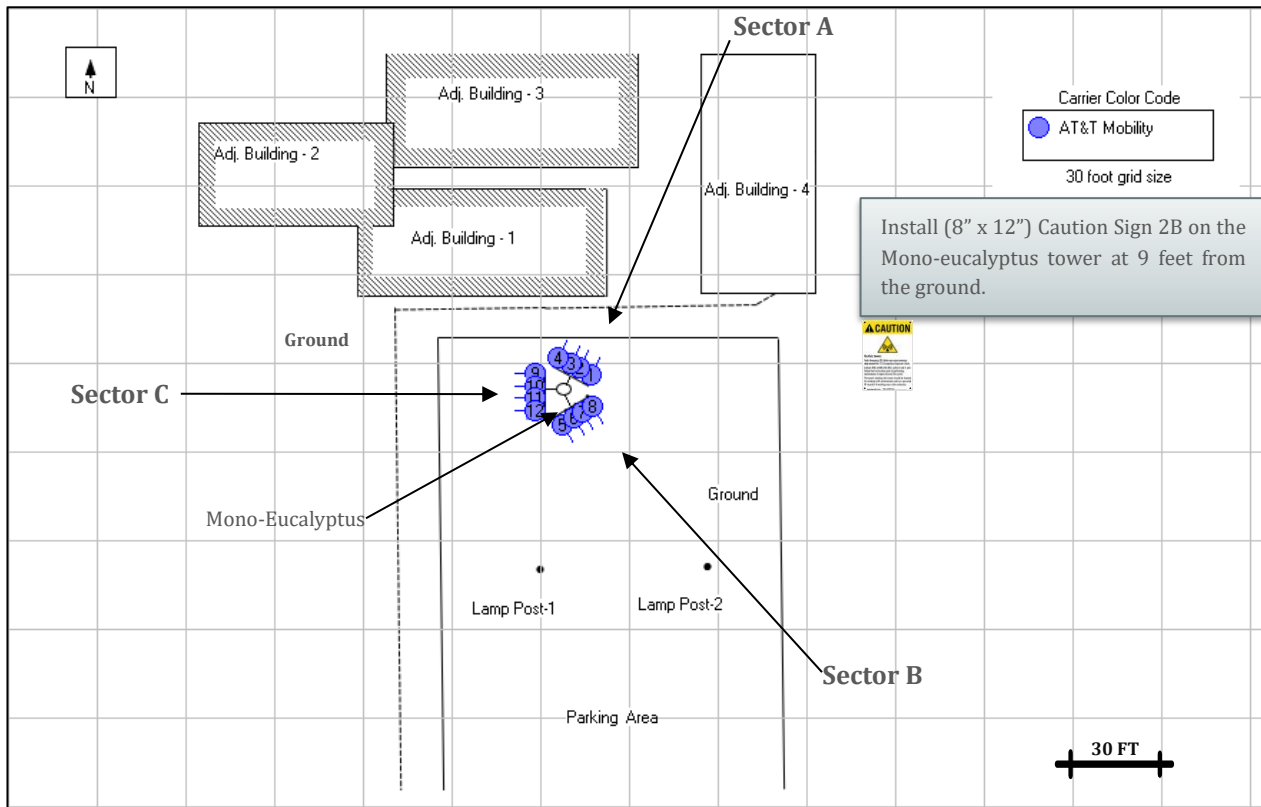
On the Mono-Eucalyptus: Install (8" x 12") Caution Sign 2B on the Mono-eucalyptus tower at 9 feet from the ground.

2. Compliance Statement

AT&T Mobility Compliance Statement: Based on the information collected, AT&T Mobility will be Compliant with FCC Rules and Regulations at the nearest walking surface if recommendations proposed in the Executive Summary are implemented.

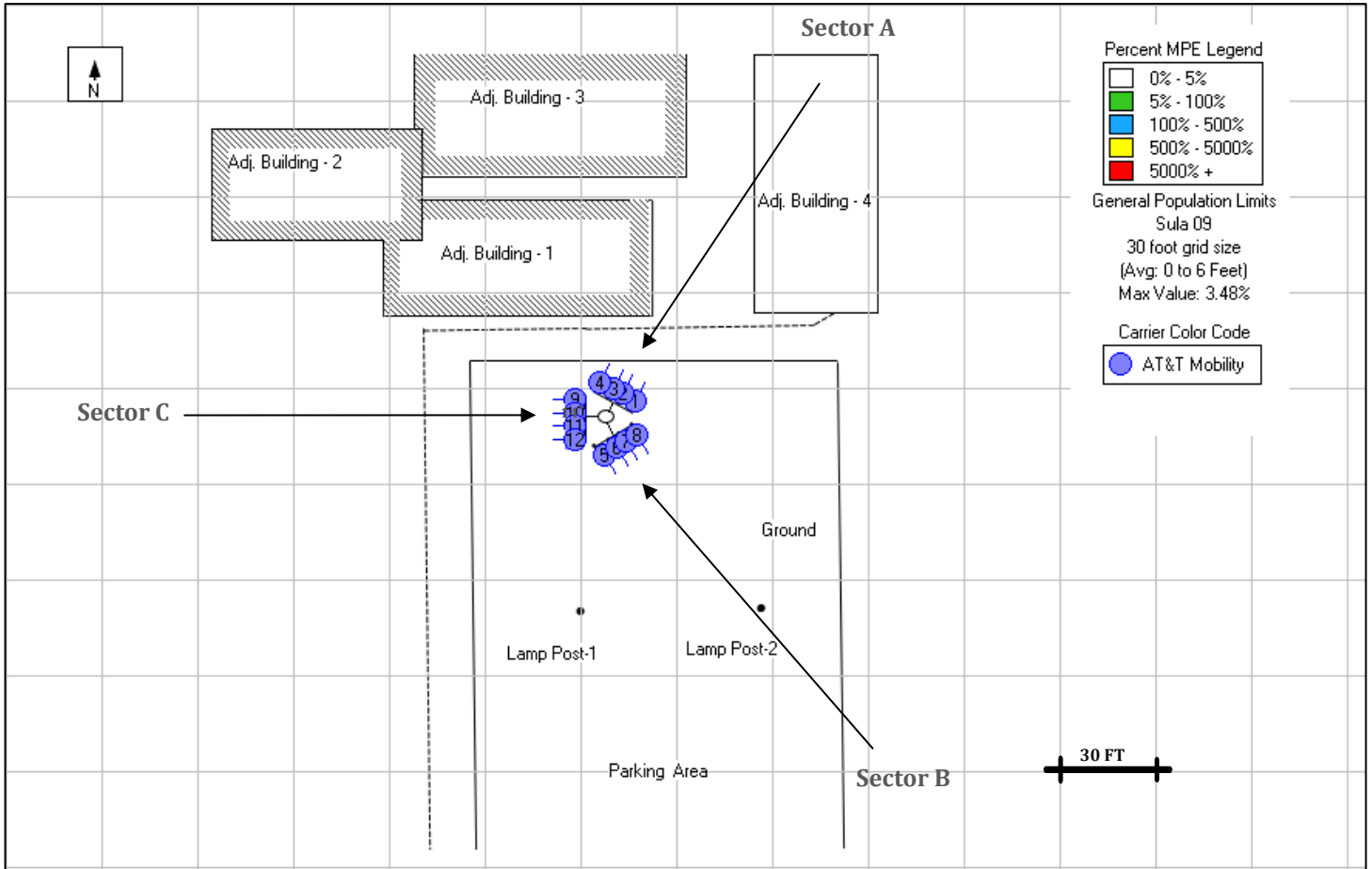
RF Exposure level checked at:

- Ground Level
- Adjacent Building-1,2,3 & 4 Rooftop Level
- Top of Lamp Post-1 & 2 Level



3. Computer Modeling Result

3.1. ALL CARRIERS TRANSMITTING AT GROUND LEVEL

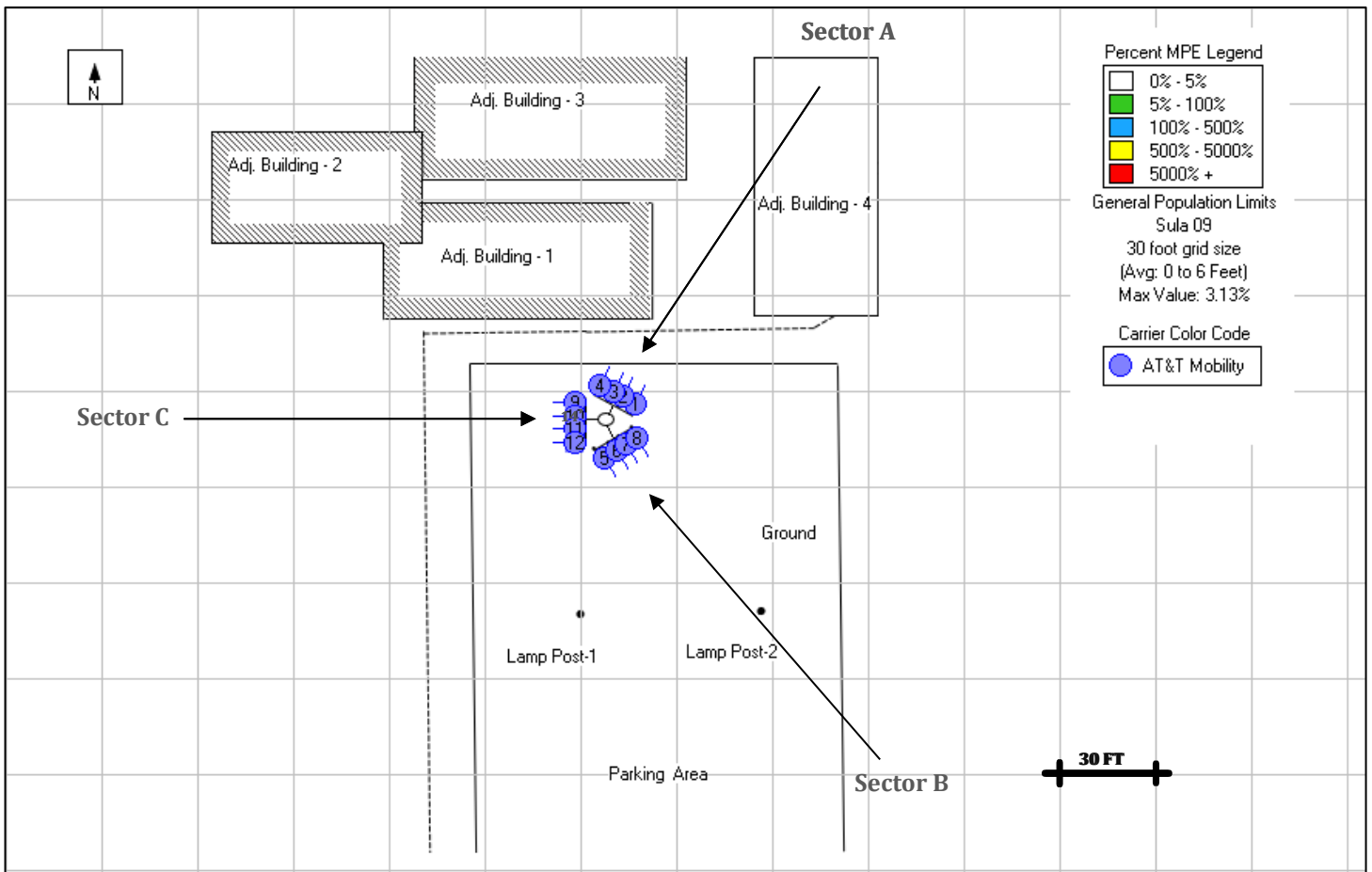


■ 5% - 100% MPE ■ 100% - 500% MPE ■ 500% - 5000%. MPE ■ ≥ 5000% MPE

Max MPE: 3.48% General Public



3.2. ALL CARRIERS TRANSMITTING AT ADJ. BUILDING-1 SLANTED ROOFTOP LEVEL

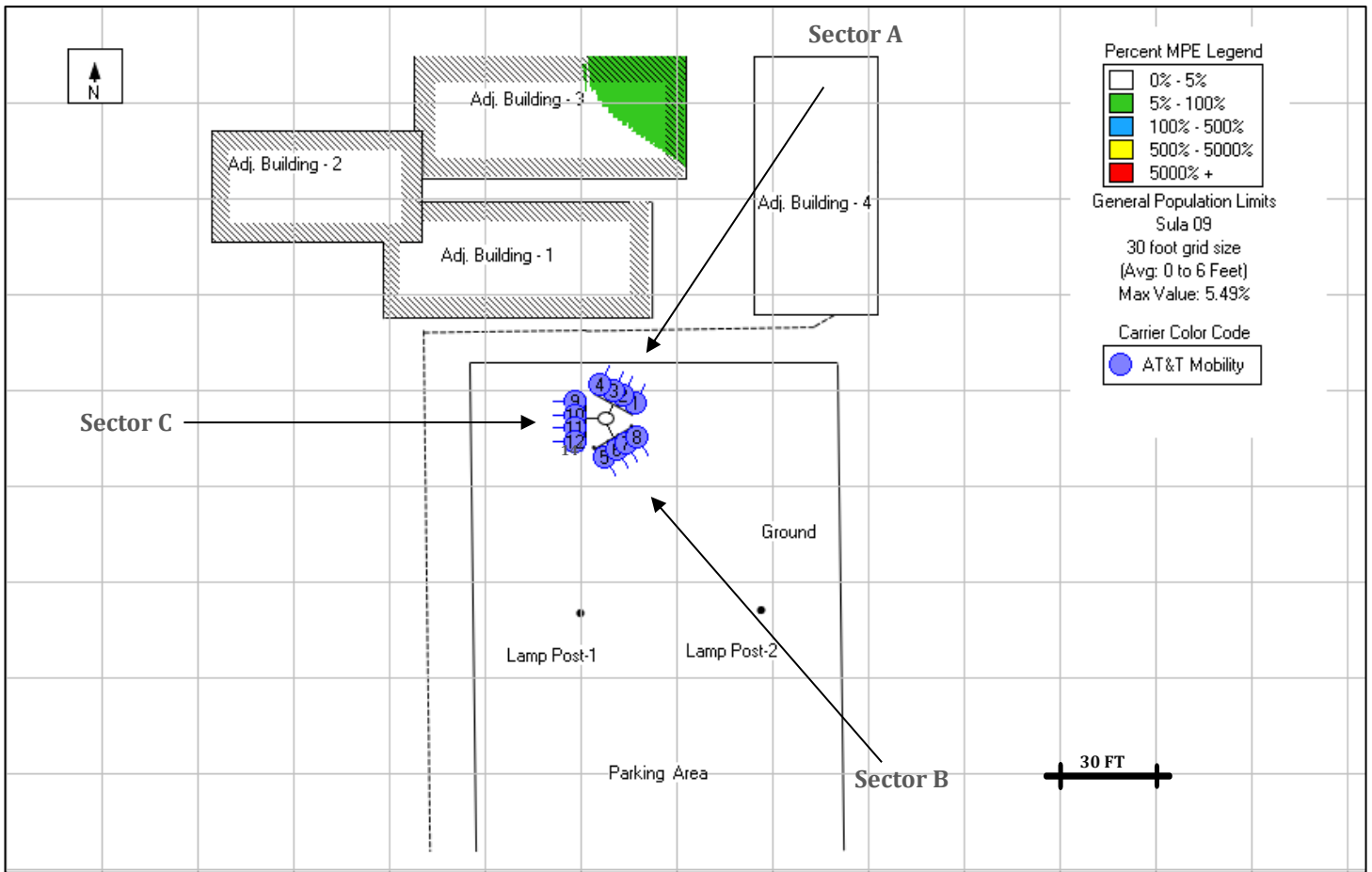


■ 5% - 100% MPE ■ 100% - 500% MPE ■ 500% - 5000%. MPE ■ ≥ 5000% MPE

Max MPE: 3.13% General Public



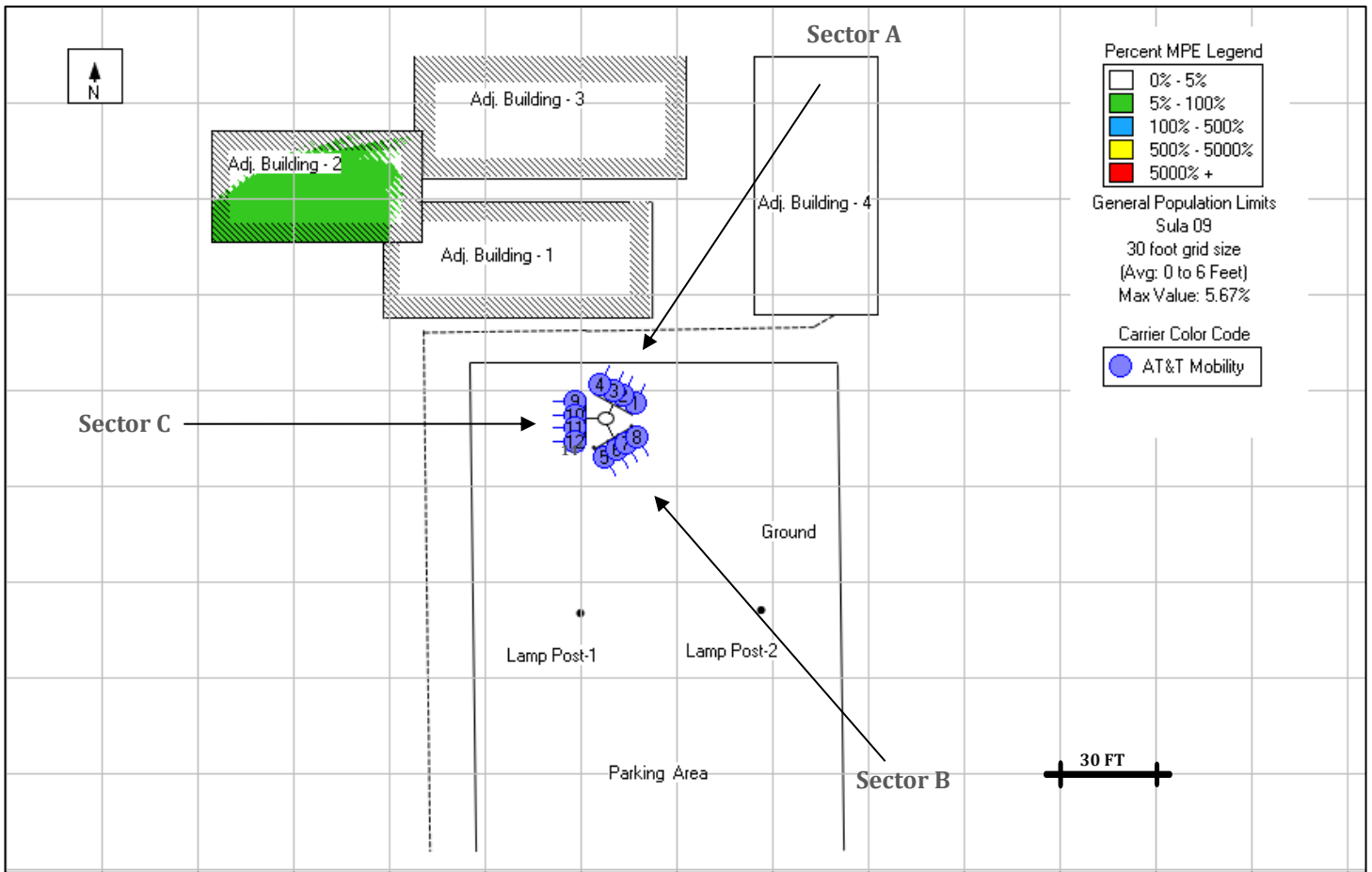
3.3. ALL CARRIERS TRANSMITTING AT ADJ. BUILDING-3 SLANTED ROOFTOP LEVEL



■ 5% - 100% MPE ■ 100% - 500% MPE ■ 500% - 5000% MPE ■ ≥ 5000% MPE

Max MPE: 5.49% General Public

3.4. ALL CARRIERS TRANSMITTING AT ADJ. BUILDING-2 SLANTED ROOFTOP LEVEL

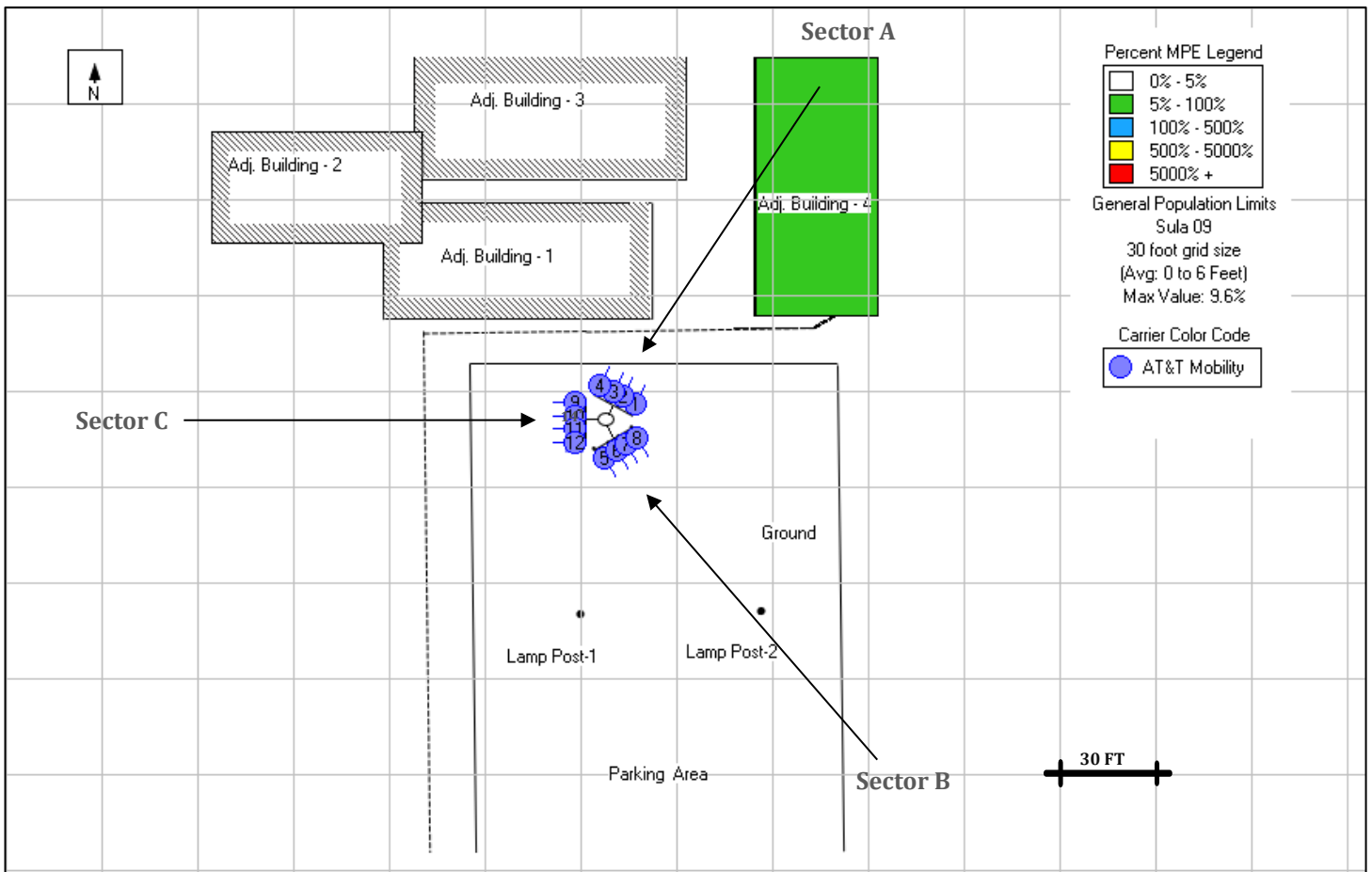


■ 5% - 100% MPE ■ 100% - 500% MPE ■ 500% - 5000% MPE ■ ≥ 5000% MPE

Max MPE: 5.67% General Public



3.5. ALL CARRIERS TRANSMITTING AT ADJ. BUILDING-4 ROOFTOP LEVEL

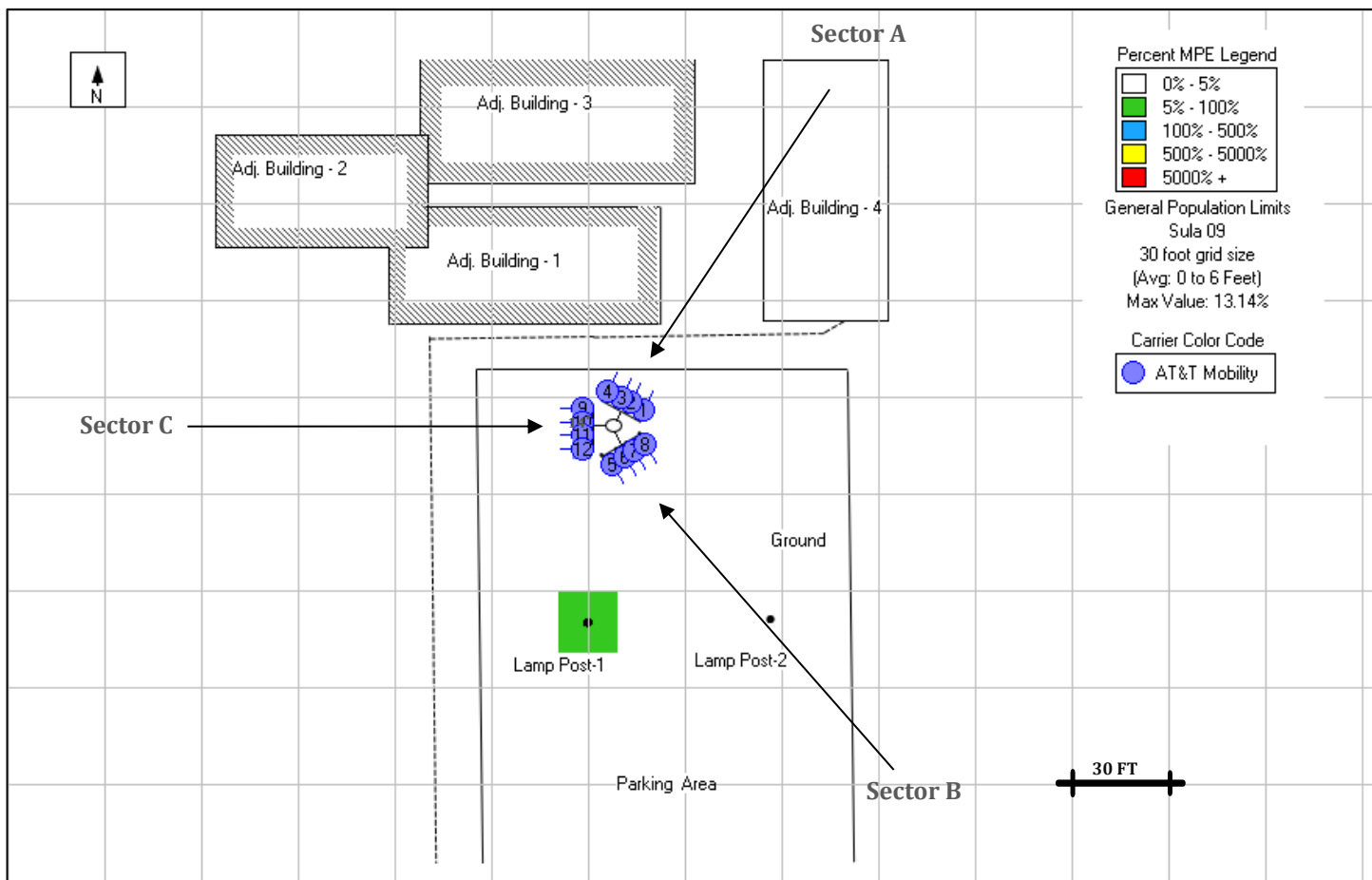


■ 5% - 100% MPE ■ 100% - 500% MPE ■ 500% - 5000% MPE ■ ≥ 5000% MPE

Max MPE: 9.6% General Public



3.6. ALL CARRIERS TRANSMITTING AT TOP OF LAMP POST-1 LEVEL

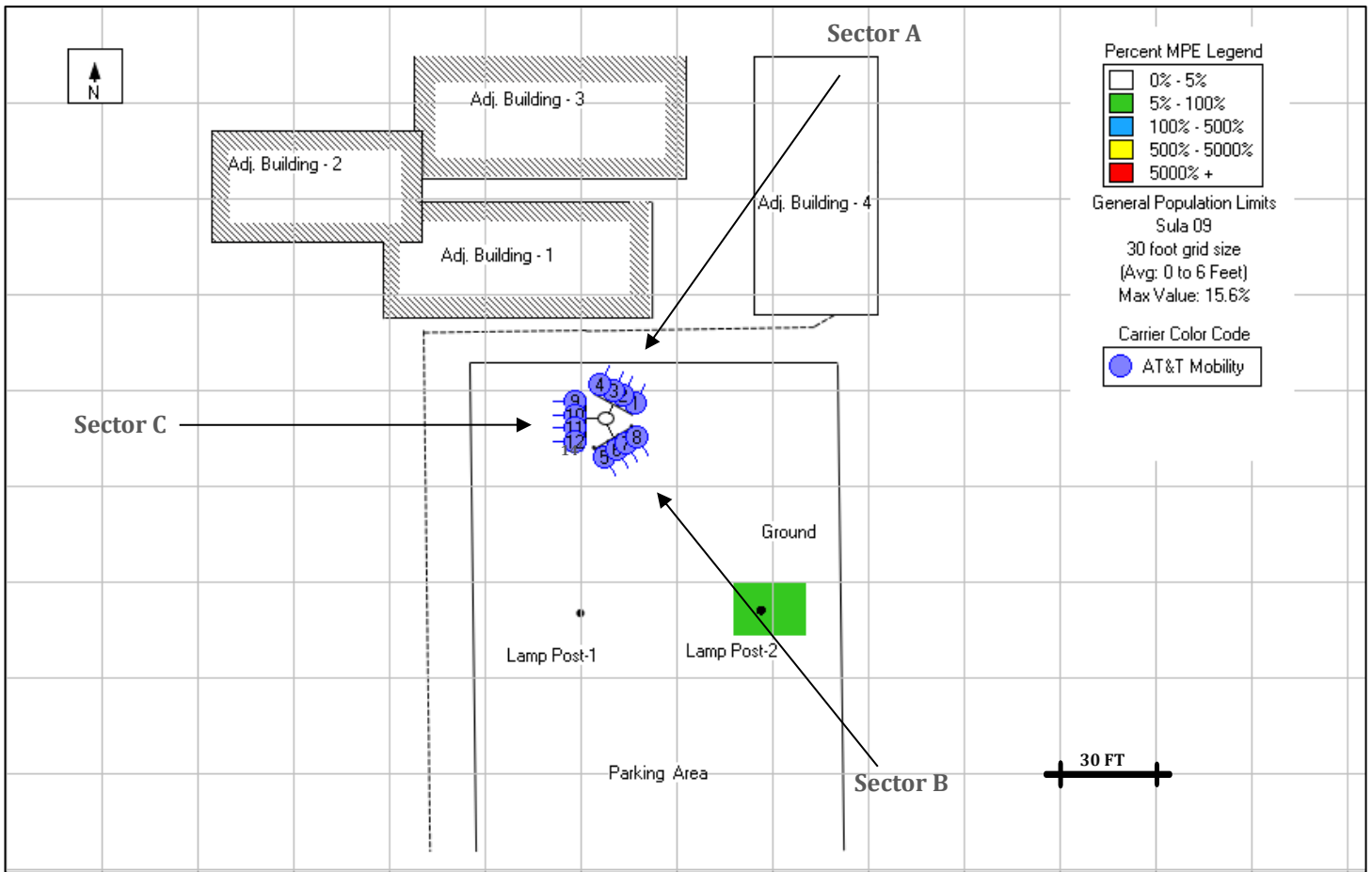


■ 5% - 100% MPE ■ 100% - 500% MPE ■ 500% - 5000% MPE ■ ≥ 5000% MPE

Max MPE: 13.14% General Public



3.7. ALL CARRIERS TRANSMITTING AT TOP OF LAMP POST-2 LEVEL



■ 5% - 100% MPE ■ 100% - 500% MPE ■ 500% - 5000% MPE ■ ≥ 5000% MPE

Max MPE: 15.6% General Public

Report has been prepared by:

PREPARER	REVIEWER
Pawan Kumar	Gyan Sharma
RF Associate	RF Engineer

4. Appendix

4.1 FCC LIMITS FOR MPE

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. 65 "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>.

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

Limits for General Population /Uncontrolled Exposure:

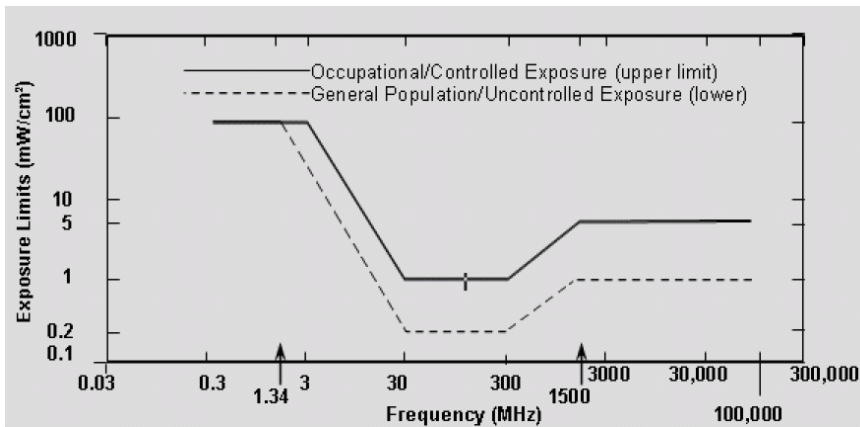
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

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 cannot exercise control over their exposure.



4.2 ANALYSIS AND COMPUTATION

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 (uW/cm²), mill watt per square centimeters (mW/cm2), or watts per square meter (W/m²).

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

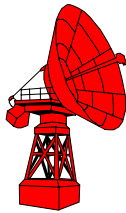
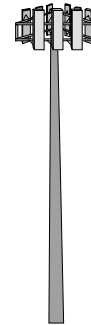
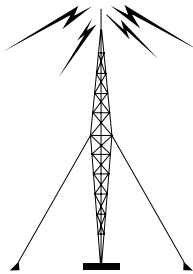
where :

- S = power density (mW/cm²)
- 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



*Federal Communications Commission
Office of Engineering & Technology*

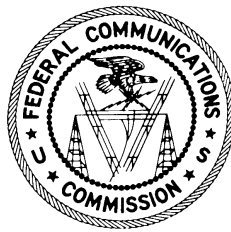
Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields



OET BULLETIN 56
Fourth Edition

August 1999

*Questions and Answers about Biological
Effects and Potential Hazards of
Radiofrequency Electromagnetic Fields*



OET BULLETIN 56
Fourth Edition

August 1999

Authors

**Robert F. Cleveland, Jr.
Jerry L. Ulcek**

**Office of Engineering and Technology
Federal Communications Commission
Washington, D.C. 20554**

INTRODUCTION

Many consumer and industrial products and applications make use of some form of electromagnetic energy. One type of electromagnetic energy that is of increasing importance worldwide is radiofrequency (or "RF") energy, including radio waves and microwaves, which is used for providing telecommunications, broadcast and other services. In the United States the Federal Communications Commission (FCC) authorizes or licenses most RF telecommunications services, facilities, and devices used by the public, industry and state and local governmental organizations. Because of its regulatory responsibilities in this area the FCC often receives inquiries concerning whether there are potential safety hazards due to human exposure to RF energy emitted by FCC-regulated transmitters. Heightened awareness of the expanding use of RF technology has led some people to speculate that "electromagnetic pollution" is causing significant risks to human health from environmental RF electromagnetic fields. This document is designed to provide factual information and to answer some of the most commonly asked questions related to this topic.¹

WHAT IS RADIOFREQUENCY ENERGY?

Radio waves and microwaves are forms of electromagnetic energy that are collectively described by the term "radiofrequency" or "RF." RF emissions and associated phenomena can be discussed in terms of "energy," "radiation" or "fields." Radiation is defined as the propagation of energy through space in the form of waves or particles. Electromagnetic "radiation" can best be described as waves of electric and magnetic energy moving together (i.e., radiating) through space as illustrated in **Figure 1**. These waves are generated by the movement of electrical charges such as in a conductive metal object or antenna. For example, the alternating movement of charge (i.e., the "current") in an antenna used by a radio or television broadcast station or in a cellular base station antenna generates electromagnetic waves that radiate away from the "transmit" antenna and are then intercepted by a "receive" antenna such as a rooftop TV antenna, car radio antenna or an antenna integrated into a hand-held device such as a cellular telephone. The term "electromagnetic field" is used to indicate the presence of electromagnetic energy at a given location. The RF field can be described in terms of the electric and/or magnetic field strength at that location.²

Like any wave-related phenomenon, electromagnetic energy can be characterized by a wavelength and a frequency. The wavelength (λ) is the distance covered by one complete

¹ Exposure to low-frequency electromagnetic fields generated by electric power transmission has also been the subject of public concern. However, because the FCC does not have regulatory authority with respect to power-line electromagnetic fields, this document only addresses questions related to **RF** exposure. Information about exposure due to electrical power transmission can be obtained from several sources, including the following Internet World Wide Web site: <http://www.niehs.nih.gov/emfrapid>

² The term "EMF" is often used to refer to electromagnetic fields, in general. It can be used to refer to either power-line frequency fields, radiofrequency electromagnetic fields or both.

electromagnetic wave cycle, as shown in **Figure 1**. The frequency is the number of electromagnetic waves passing a given point in one second. For example, a typical radio wave transmitted by an FM radio station has a wavelength of about three (3) meters and a frequency of about 100 million cycles (waves) per second or "100 MHz." One "hertz" (abbreviated "Hz") equals one cycle per second. Therefore, in this case, about 100 million RF electromagnetic waves would be transmitted to a given point every second.

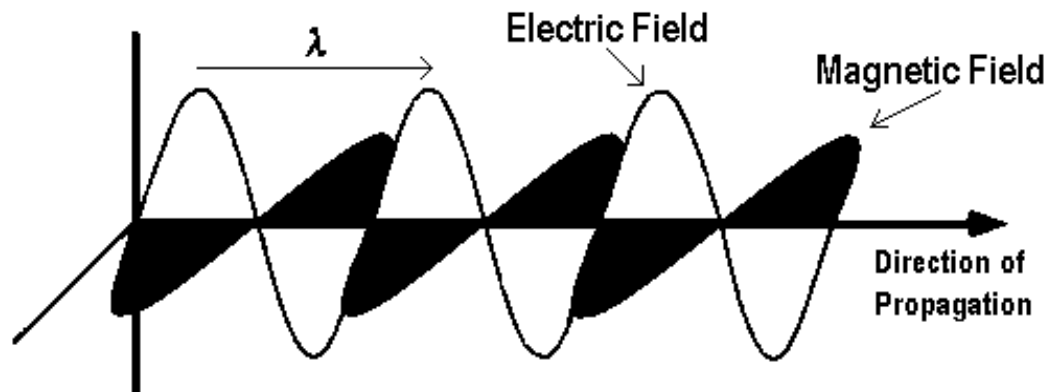


FIGURE 1. *Electromagnetic Wave*

Electromagnetic waves travel through space at the speed of light, and the wavelength and frequency of an electromagnetic wave are inversely related by a simple mathematical formula: frequency (f) times wavelength (λ) = the speed of light (c), or $f \times \lambda = c$. This simple equation can also be expressed as follows in terms of either frequency or wavelength:

$$f = \frac{c}{\lambda} \quad \text{or} \quad \lambda = \frac{c}{f}$$

Since the speed of light in a given medium or vacuum does not change, high-frequency electromagnetic waves have short wavelengths and low-frequency waves have long wavelengths. The electromagnetic "spectrum" (**Figure 2**) includes all the various forms of electromagnetic energy from extremely low frequency (ELF) energy, with very long wavelengths, to X-rays and gamma rays, which have very high frequencies and correspondingly short wavelengths. In between these extremes are radio waves, microwaves, infrared radiation, visible light, and ultraviolet radiation, in that order. The RF part of the electromagnetic spectrum is generally defined as that part of the spectrum where

electromagnetic waves have frequencies in the range of about 3 kilohertz to 300 gigahertz. One kilohertz (kHz) equals one thousand hertz, one megahertz (MHz) equals one million hertz, and one gigahertz (GHz) equals one billion hertz. Thus, when you tune your FM radio to 101.5, it means that your radio is receiving signals from a radio station emitting radio waves at a frequency of 101.5 million cycles (waves) per second, or 101.5 MHz.

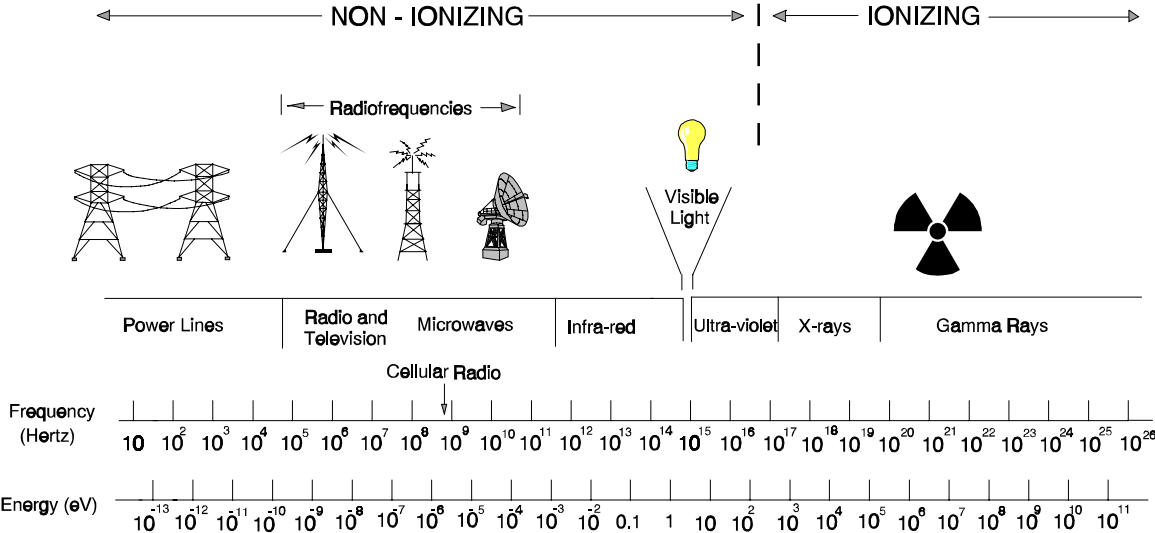


FIGURE 2. *The Electromagnetic Spectrum*

HOW DO WE USE RADIOFREQUENCY ENERGY?

Probably the most important use for RF energy is in providing telecommunications services to the public, industry and government. Radio and television broadcasting, cellular telephones, personal communications services (PCS), pagers, cordless telephones, business radio, radio communications for police and fire departments, amateur radio, microwave point-to-point radio links and satellite communications are just a few of the many applications of RF energy for telecommunications.

Microwave ovens and radar are examples of non-communications uses of RF energy. Also important are uses of RF energy in industrial heating and sealing where electronic devices generate RF radiation that rapidly heats the material being processed in the same way that a microwave oven cooks food. RF heaters and sealers have many uses in industry,

including molding plastic materials, gluing wood products, sealing items such as shoes and pocketbooks, and processing food products.

There are a number of medical applications of RF energy, including a technique called *diathermy*, that take advantage of the ability of RF energy to rapidly heat tissue below the body's surface. Tissue heating ("hyperthermia") can be beneficial in the therapeutic treatment of injured tissue and cancerous tumors (*see* References 17 & 18).

WHAT ARE MICROWAVES?

Microwaves are a specific category of radio waves that can be defined as radiofrequency radiation where frequencies range upward from several hundred megahertz (MHz) to several gigahertz (GHz). One of the most familiar and widespread uses of microwave energy is found in household microwave ovens, which operate at a frequency of 2450 MHz (2.45 GHz).

Microwaves are also widely used for telecommunications purposes such as for cellular radio, personal communications services (PCS), microwave point-to-point communication, transmission links between ground stations and orbiting satellites, and in certain broadcasting operations such as studio-to-transmitter (STL) and electronic news gathering (ENG) radio links. Microwave radar systems provide information on air traffic and weather and are extensively used in military and police applications. In the medical field microwave devices are used for a variety of therapeutic purposes including the selective heating of tumors as an adjunct to chemotherapy treatment (microwave hyperthermia).

Radiofrequency radiation, especially at microwave frequencies, efficiently transfers energy to water molecules. At high microwave intensities the resulting energetic water molecules can generate heat in water-rich materials such as most foods. The operation of microwave ovens is based on this principle. This efficient absorption of microwave energy via water molecules results in rapid heating throughout an object, thus allowing food to be cooked more quickly than in a conventional oven.

WHAT IS NON-IONIZING RADIATION?

As explained earlier, electromagnetic radiation is defined as the propagation of energy through space in the form of waves or particles. Some electromagnetic phenomena can be most easily described if the energy is considered as waves, while other phenomena are more readily explained by considering the energy as a flow of particles or "photons." This is known as the "wave-particle" duality of electromagnetic energy. The energy associated with a photon, the elemental unit of an electromagnetic wave, depends on its frequency (or

wavelength). The higher the frequency of an electromagnetic wave (and the shorter its corresponding wavelength), the greater will be the energy of a photon associated with it. The energy content of a photon is often expressed in terms of the unit "electron-volt" or "eV".

Photons associated with X-rays and gamma rays (which have very high electromagnetic frequencies) have a relatively large energy content. At the other end of the electromagnetic spectrum, photons associated with low-frequency waves (such as those at ELF frequencies) have many times less energy. In between these extremes ultraviolet radiation, visible light, infrared radiation, and RF energy (including microwaves) exhibit intermediate photon energy content. For comparison, the photon energies associated with high-energy X-rays are billions of times *more* energetic than the energy of a 1-GHz microwave photon. The photon energies associated with the various frequencies of the electromagnetic spectrum are shown in the lower scale of **Figure 2**.

Ionization is 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, including effects on DNA, the genetic material. This process requires interaction with photons containing high energy levels, such as those of X-rays and gamma rays. A single quantum event (absorption of an X-ray or gamma-ray photon) can cause ionization and subsequent biological damage due to the high energy content of the photon, which would be in excess of 10 eV (considered to be the minimum photon energy capable of causing ionization). Therefore, X-rays and gamma rays are examples of *ionizing* radiation. Ionizing radiation is also associated with the generation of nuclear energy, where it is often simply referred to as "radiation."

The photon energies of RF electromagnetic waves are not great enough to cause the ionization of atoms and molecules and RF energy is, therefore, characterized as *non-ionizing* radiation, along with visible light, infrared radiation and other forms of electromagnetic radiation with relatively low frequencies. It is important that the terms "ionizing" and "non-ionizing" not be confused when discussing biological effects of electromagnetic radiation or energy, since the mechanisms of interaction with the human body are quite different.

HOW ARE RADIOFREQUENCY FIELDS MEASURED?

Because an RF electromagnetic field has both an electric and a magnetic component (electric field and magnetic field), it is often convenient to express the intensity of the RF field in terms of units specific for each component. The unit "volts per meter" (V/m) is often used to measure the strength ("field strength") of the electric field, and the unit "amperes per meter" (A/m) is often used to express the strength of the magnetic field.

Another commonly used unit for characterizing an RF electromagnetic field is "power density." Power density is most accurately used when the point of measurement is far enough

away from the RF emitter to be located in what is commonly referred to as the "far-field" zone of the radiation source, e.g., more than several wavelengths distance from a typical RF source. In the far field, the electric and magnetic fields are related to each other in a known way, and it is only necessary to measure one of these quantities in order to determine the other quantity or the power density. In closer proximity to an antenna, i.e., in the "near-field" zone, the physical relationships between the electric and magnetic components of the field are usually complex. In this case, it is necessary to determine both the electric and magnetic field strengths to fully characterize the RF environment. (Note: In some cases equipment used for making field measurements displays results in terms of "far-field equivalent" power density, even though the measurement is being taken in the near field.) At frequencies above about 300 MHz it is usually sufficient to measure only the electric field to characterize the RF environment if the measurement is not made too close to the RF emitter.

Power density is defined as power per unit area. For example, power density can be expressed in terms of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). One mW equals 0.001 watt of power, and one μW equals 0.000001 watt. With respect to frequencies in the microwave range and higher, power density is usually used to express intensity since exposures that might occur would likely be in the far-field. More details about the physics of RF fields and their analysis and measurement can be found in References 2, 3, 8, 21, 33, 34 and 35.

WHAT BIOLOGICAL EFFECTS CAN BE CAUSED BY RF ENERGY?

A biological effect occurs when a change can be measured in a biological system after the introduction of some type of stimuli. However, the observation of a biological effect, in and of itself, does not necessarily suggest the existence of a biological *hazard*. A biological effect only becomes a safety hazard when it "causes detectable impairment of the health of the individual or of his or her offspring" (Reference 25).

There are many published reports in the scientific literature concerning possible biological effects resulting from animal or human exposure to RF energy. The following discussion only provides highlights of current knowledge, and it is not meant to be a complete review of the scientific literature in this complex field. A number of references are listed at the end of this document that provide further information and details concerning this topic and some recent research reports that have been published (References 1, 3, 6, 7, 9, 14, 15-19, 21, 25, 26, 28-31, 34, 36, 39-41, 47, 49 and 53).

Biological effects that result from heating of tissue by RF energy are often referred to as "thermal" effects. It has been known for many years that exposure to high levels of RF radiation can be harmful due to the ability of RF energy to heat biological tissue rapidly. This is the principle by which microwave ovens cook food, and exposure to very high RF power densities, i.e., on the order of $100 \text{ mW}/\text{cm}^2$ or more, can clearly result in heating of

biological tissue and an increase in body temperature. Tissue damage in humans could occur during exposure to high RF levels because of the body's inability to cope with or dissipate the excessive heat that could be generated. Under certain conditions, exposure to RF energy at power density levels of 1-10 mW/cm² and above can result in measurable heating of biological tissue (but not necessarily tissue damage). The extent of this heating would depend on several factors including radiation frequency; size, shape, and orientation of the exposed object; duration of exposure; environmental conditions; and efficiency of heat dissipation.

Two areas of the body, the eyes and the testes, are known to be particularly vulnerable to heating by RF energy because of the relative lack of available blood flow to dissipate the excessive heat load (blood circulation is one of the body's major mechanisms for coping with excessive heat). Laboratory experiments have shown that short-term exposure (e.g., 30 minutes to one hour) to very high levels of RF radiation (100-200 mW/cm²) can cause cataracts in rabbits. Temporary sterility, caused by such effects as changes in sperm count and in sperm motility, is possible after exposure of the testes to high-level RF radiation (or to other forms of energy that produce comparable increases in temperature).

Studies have shown that environmental levels of RF energy routinely encountered by the general public are *far below* levels necessary to produce significant heating and increased body temperature (References 32, 37, 45, 46, 48 and 54). However, there may be situations, particularly workplace environments near high-powered RF sources, where recommended limits for safe exposure of human beings to RF energy could be exceeded. In such cases, restrictive measures or actions may be necessary to ensure the safe use of RF energy.

In addition to intensity, the frequency of an RF electromagnetic wave can be important in determining how much energy is absorbed and, therefore, the potential for harm. The quantity used to characterize this absorption is called the "specific absorption rate" or "SAR," and it is usually expressed in units of watts per kilogram (W/kg) or milliwatts per gram (mW/g). In the far-field of a source of RF energy (e.g., several wavelengths distance from the source) whole-body absorption of RF energy by a standing human adult has been shown to occur at a maximum rate when the frequency of the RF radiation is between about 80 and 100 MHz, depending on the size, shape and height of the individual. In other words, the SAR is at a maximum under these conditions. Because of this "resonance" phenomenon, RF safety standards have taken account of the frequency dependence of whole-body human absorption, and the most restrictive limits on exposure are found in this frequency range (the very high frequency or "VHF" frequency range).

Although not commonly observed, a microwave "hearing" effect has been shown to occur under certain very specific conditions of frequency, signal modulation, and intensity where animals and humans may perceive an RF signal as a buzzing or clicking sound. Although a number of theories have been advanced to explain this effect, the most widely-accepted hypothesis is that the microwave signal produces thermoelastic pressure within the head that is perceived as sound by the auditory apparatus within the ear. This effect is not recognized as a health hazard, and the conditions under which it might occur

would rarely be encountered by members of the public. Therefore, this phenomenon should be of little concern to the general population. Furthermore, there is no evidence that it could be caused by telecommunications applications such as wireless or broadcast transmissions.

At relatively low levels of exposure to RF radiation, i.e., field intensities lower than those that would produce significant and measurable heating, the evidence for production of harmful biological effects is ambiguous and unproven. Such effects have sometimes been referred to as "non-thermal" effects. Several years ago publications began appearing in the scientific literature, largely overseas, reporting the observation of a wide range of low-level biological effects. However, in many of these cases further experimental research was unable to reproduce these effects. Furthermore, there has been no determination that such effects might indicate a human health hazard, particularly with regard to long-term exposure.

More recently, other scientific laboratories in North America, Europe and elsewhere have reported certain biological effects after exposure of animals ("*in vivo*") and animal tissue ("*in vitro*") to relatively low levels of RF radiation. These reported effects have included certain changes in the immune system, neurological effects, behavioral effects, evidence for a link between microwave exposure and the action of certain drugs and compounds, a "calcium efflux" effect in brain tissue (exposed under very specific conditions), and effects on DNA.

Some studies have also examined the possibility of a link between RF and microwave exposure and cancer. Results to date have been inconclusive. While some experimental data have suggested a possible link between exposure and tumor formation in animals exposed under certain specific conditions, the results have not been independently replicated. In fact, other studies have failed to find evidence for a causal link to cancer or any related condition. Further research is underway in several laboratories to help resolve this question.

In general, while the possibility of "non-thermal" biological effects may exist, whether or not such effects might indicate a human health hazard is not presently known. Further research is needed to determine the generality of such effects and their possible relevance, if any, to human health. In the meantime, standards-setting organizations and government agencies continue to monitor the latest experimental findings to confirm their validity and determine whether alterations in safety limits are needed in order to protect human health.

WHAT RESEARCH IS BEING DONE ON RF BIOLOGICAL EFFECTS?

For many years research into possible biological effects of RF energy has been carried out in government, academic and industrial laboratories all over the world, and such research is continuing. Past research has resulted in a very large number of scientific publications on this topic, some of which are listed in the reference section of this document. For many years the U.S. Government has sponsored research into the biological effects of RF energy. The majority of this work has been funded by the Department of Defense, due, in part, to the

extensive military interest in using RF equipment such as radar and other relatively high-powered radio transmitters for routine military operations. In addition, some U.S. civilian federal agencies responsible for health and safety, such as the Environmental Protection Agency (EPA) and the U.S. Food and Drug Administration (FDA), have sponsored and conducted research in this area in the past, although relatively little civilian-sector RF research is currently being funded by the U.S. Government. At the present time, much of the non-military research on biological effects of RF energy in the U.S. is being funded by industry organizations such as Motorola, Inc. In general, relatively more research is being carried out overseas, particularly in Europe.

In 1996, the World Health Organization (WHO) established a program (the International EMF Project) designed to review the scientific literature concerning biological effects of electromagnetic fields, identify gaps in knowledge about such effects, recommend research needs, and work towards international resolution of health concerns over the use of RF technology. (*see* Reference 40) The WHO and other organizations maintain Internet Web sites that contain additional information about their programs and about RF biological effects and research (see list of Web sites in **Table 3** of this bulletin). The FDA, the EPA and other federal agencies responsible for public health and safety are working with the WHO and other organizations to monitor developments and identify research needs related to RF biological effects. For example, in 1995 the EPA published the results of a conference it sponsored to assess the current state of knowledge of RF biological effects and to address future research needs in this area (Reference 53).

WHAT LEVELS ARE SAFE FOR EXPOSURE TO RF ENERGY?

Development of Exposure Guidelines

Exposure standards and guidelines have been developed by various organizations and countries over the past several decades. In North America and most of Europe exposure standards and guidelines have generally been based on exposure levels where effects considered harmful to humans occur. Safety factors are then incorporated to arrive at specific levels of exposure to provide sufficient protection for various segments of the population.

Not all standards and guidelines throughout the world have recommended the same limits for exposure. For example, some published exposure limits in Russia and some eastern European countries have been generally more restrictive than existing or proposed recommendations for exposure developed in North America and other parts of Europe. This discrepancy may be due, at least in part, to the possibility that these standards were based on exposure levels where it was believed no biological effects *of any type* would occur. This philosophy is inconsistent with the approach taken by most other standards-setting bodies which base limits on levels where recognized hazards may occur and then incorporate appropriate safety margins to ensure adequate protection.

In the United States, although the Federal Government has never itself developed RF exposure standards, the FCC has adopted and used recognized safety guidelines for evaluating RF environmental exposure since 1985. Federal health and safety agencies, such as the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the National Institute for 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. For example, the FDA has issued guidelines for safe RF emission levels from microwave ovens, and it continues to monitor exposure issues related to the use of certain RF devices such as cellular telephones. NIOSH conducts investigations and health hazard assessments related to occupational RF exposure.

In 1971, a federal RF radiation protection guide for workers was issued by OSHA based on the 1966 American National Standards Institute (ANSI) RF exposure standard. However, the OSHA regulation was later ruled to be advisory only and not enforceable. Presently, OSHA enforcement actions related to RF exposure of workers are undertaken using OSHA's "general duty clause," which relies on the use of widely-supported voluntary "consensus" standards such as those discussed below.³

U.S. federal, state and local governmental agencies and other organizations have generally relied on RF exposure standards developed by expert non-government organizations such as ANSI, the Institute of Electrical and Electronics Engineers (IEEE) and the National Council on Radiation Protection and Measurements (NCRP).⁴ For example, in 1966, 1974, and 1982, ANSI issued protection guides for RF exposure developed by committees of experts. These earlier ANSI standards recommended limits for exposure of the public that were the same as those recommended for exposure of workers.

In 1986, the NCRP issued exposure criteria for the workplace that were the same as the 1982 ANSI recommended levels, but the NCRP also recommended more restrictive limits for exposure of the general public. Therefore, the NCRP exposure criteria included *two* tiers of recommended limits, one for the general population and another for occupational exposure. In 1987, the ANSI committee on RF exposure standards (Standards Coordinating Committee 28) became a committee of the IEEE, and, in 1991, revised its earlier standard and issued its own two-tiered standard that had been developed over a period of several years.

³ For information about OSHA RF-related activities and RF protection programs for workers, see the OSHA Internet Web site (case sensitive): www.osha-slc.gov/SLTC/ (select subject: "radiofrequency radiation").

⁴ ANSI is a non-profit, privately funded, membership organization that coordinates development of voluntary national standards. The IEEE is a non-profit technical and professional engineering society. The NCRP is a non-profit corporation chartered by the U.S. Congress to develop information and recommendations concerning radiation protection. Several government agencies, including the FCC, and non-government organizations have established relationships with NCRP as "Collaborating Organizations."

The ANSI/IEEE standards have been widely used and cited and have served as the basis for similar standards in the United States and in other countries. Both the NCRP and ANSI/IEEE guidelines were developed by scientists and engineers with a great deal of experience and knowledge in the area of RF biological effects and related issues. These individuals spent a considerable amount of time evaluating published scientific studies relevant to establishing safe levels for human exposure to RF energy.

In addition to NCRP and ANSI/IEEE, other organizations and countries have issued exposure guidelines. For example, several European countries are basing guidelines on exposure criteria developed by the International Committee on Nonionizing Radiation Protection (ICNIRP, Reference 25). The ICNIRP guidelines are also derived from an SAR threshold of 4 W/kg (for adverse effects) and are similar to the 1992 ANSI/IEEE and NCRP recommendations with certain exceptions. For example, ICNIRP recommends somewhat different exposure levels in the lower and upper frequency ranges and for localized exposure due to such devices as hand-held cellular telephones. Many, but not all, countries have based exposure recommendations on the same general concepts and thresholds as those used by the NCRP, ANSI/IEEE and ICNIRP. Because of differences in international standards, the World Health Organization (WHO), as part of its EMF Project (discussed earlier), has initiated a program to try and develop an international framework for RF safety standards.

FCC Exposure Guidelines

In 1985, the FCC adopted the 1982 ANSI guidelines for purposes of evaluating exposure due to RF transmitters licensed and authorized by the FCC. This decision was in response to provisions of the National Environmental Policy Act of 1969 requiring all Federal Government agencies to evaluate the impact of their actions on the "quality of the human environment."⁵ In 1992, ANSI adopted the 1991 IEEE standard as an American National Standard (a revision of its 1982 standard) and designated it ANSI/IEEE C95.1-1992.⁶

In 1993, the FCC proposed to update its rules and adopt the new ANSI/IEEE guidelines. After a lengthy period to allow for the filing of comments and for deliberation the FCC decided, in 1996, to adopt a modified version of its original proposal.⁷ The FCC's

⁵ The National Environmental Policy Act of 1969, 42 USC Section 4321, *et seq.*

⁶ ANSI/IEEE C95.1-1992 (originally issued as IEEE C95.1-1991), "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," (Reference 3).

⁷ *See Report and Order and Second Memorandum Opinion and Order and Notice of Proposed Rulemaking*, ET Docket 93-62, (References 55 and 56). In 1997, the FCC released a technical bulletin entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," OET Bulletin 65 (Reference 57) that contains detailed information on methods for compliance with FCC guidelines. These documents can be accessed at the FCC's Web site: <http://www.fcc.gov/oet/rfsafety>.

action also fulfilled requirements of the Telecommunications Act of 1996 for adopting new RF exposure guidelines.⁸

The FCC considered a large number of comments submitted by industry, government agencies and the public. In particular, the FCC considered comments submitted by the EPA, FDA, NIOSH and OSHA, which have primary responsibility for health and safety in the Federal Government. The guidelines the FCC adopted were based on the recommendations of those agencies, and they have sent letters to the FCC supporting its decision and endorsing the FCC's guidelines as protective of public health.

In its 1996 Order, the FCC noted that research and analysis relating to RF safety and health is ongoing and changes in recommended exposure limits may occur in the future as knowledge increases in this field. In that regard, the FCC will continue to cooperate with industry and with expert agencies and organizations with responsibilities for health and safety in order to ensure that the FCC's guidelines continue to be appropriate and scientifically valid.

The FCC's guidelines are based on recommended exposure criteria issued by the NCRP and ANSI/IEEE. The NCRP exposure guidelines are similar to the ANSI/IEEE 1992 guidelines except for differences in recommended exposure levels at the lower frequencies and higher frequencies of the RF spectrum. Both ANSI/IEEE and NCRP recommend two different tiers of exposure limits. The NCRP designates one tier for occupational exposure and the other for exposure of the general population while ANSI/IEEE designates exposure tiers in terms of "environments," one for "controlled" environments and the other for "uncontrolled" environments. Over a broad range of frequencies, NCRP exposure limits for the public are generally one-fifth those for workers in terms of power density.⁹

The NCRP and ANSI/IEEE exposure criteria identify the same threshold level at which harmful biological effects may occur, and the values for Maximum Permissible Exposure (MPE) recommended for electric and magnetic field strength and power density in

⁸ The Telecommunications Act of 1996, enacted on February 8, 1996, required that: "Within 180 days after the enactment of this Act, the Commission shall complete action in ET Docket 93-62 to prescribe and make effective rules regarding the environmental effects of radio frequency emissions." See Section 704(b) of the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996).

⁹ The FCC adopted limits for field strength and power density that are based on Sections 17.4.1 and 17.4.2, and the time-averaging provisions of Sections 17.4.1.1 and 17.4.3, of "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86, for frequencies between 300 kHz and 100 GHz (Reference 34). With the exception of limits on exposure to power density above 1500 MHz, and limits for exposure to lower frequency magnetic fields, these MPE limits are also based on the guidelines developed by the IEEE and adopted by ANSI. See Section 4.1 of ANSI/IEEE C95.1-1992, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" (Reference 3).

both documents are based on this threshold level.¹⁰ In addition, both the ANSI/IEEE and NCRP guidelines are frequency dependent, based on findings (discussed earlier) that whole-body human absorption of RF energy varies with the frequency of the RF signal. The most restrictive limits on exposure are in the frequency range of 30-300 MHz where the human body absorbs RF energy most efficiently when exposed in the far field of an RF transmitting source. Although the ANSI/IEEE and NCRP guidelines differ at higher and lower frequencies, at frequencies used by the majority of FCC licensees the MPE limits are essentially the same regardless of whether ANSI/IEEE or NCRP guidelines are used.

Most radiofrequency safety limits are defined in terms of the electric and magnetic field strengths as well as in terms of power density. For lower frequencies, limits are more meaningfully expressed in terms of electric and magnetic field strength values, and the indicated power densities are actually "far-field equivalent" power density values. The latter are listed for comparison purposes and because some instrumentation used for measuring RF fields is calibrated in terms of far-field or plane-wave equivalent power density. At higher frequencies, and when one is actually in the "far field" of a radiation source, it is usually only necessary to evaluate power density. In the far field of an RF transmitter power density and field strength are related by standard mathematical equations.¹¹

The exposure limits adopted by the FCC in 1996 expressed in terms of electric and magnetic field strength and power density for transmitters operating at frequencies from 300 kHz to 100 GHz are shown in **Table 1**. The FCC also adopted limits for localized ("partial body") absorption in terms of SAR, shown in **Table 2**, that apply to certain portable transmitting devices such as hand-held cellular telephones.¹²

¹⁰ These exposure limits are based on criteria quantified in terms of specific absorption rate (SAR). SAR is a measure of the rate at which the body absorbs RF energy. Both the ANSI/IEEE and NCRP exposure criteria are based on a determination that potentially harmful biological effects can occur at an SAR level of 4 W/kg as averaged over the whole-body. Appropriate safety factors have been incorporated to arrive at limits for both whole-body exposure (0.4 W/kg for "controlled" or "occupational" exposure and 0.08 W/kg for "uncontrolled" or "general population" exposure, respectively) and for partial-body (localized SAR), such as might occur in the head of the user of a hand-held cellular telephone. The new MPE limits are more conservative in some cases than the limits specified by ANSI in 1982. However, these more conservative limits do not arise from a fundamental change in the SAR threshold for harm, but from a precautionary desire to add an additional margin of safety for exposure of the public or exposure in "uncontrolled" environments.

¹¹ See OET Bulletin 65 (Reference 57) for details.

¹² These guidelines are based on those recommended by ANSI/IEEE and NCRP. See Sections 4.2.1 and 4.2.2 of ANSI/IEEE C95.1-1992 and Section 17.4.5 of NCRP Report No. 86. For purposes of evaluation, the FCC has designated these devices as either "portable" or "mobile" depending on how they are to be used. Portable devices are normally those used within 20 centimeters of the body and must be evaluated with respect to SAR limits. Mobile devices are normally used 20 centimeters or more away from the body and can be evaluated in terms of either SAR or field intensity. Detailed information on FCC requirements for evaluating portable and mobile devices can be found in OET Bulletin 65 and in the FCC's Rules and Regulations, 47 CFR 2.1091 and 2.1093.

Time Averaging of Exposure

The NCRP and ANSI/IEEE exposure criteria and most other standards specify "*time-averaged*" MPE limits. This means that it is permissible to exceed the recommended limits for short periods of time as long as the *average* exposure (over the appropriate period specified) does not exceed the limit. For example, Table 1 shows that for a frequency of 100 MHz the recommended power density limit is 1 mW/cm² with an averaging time of six minutes (any six-minute period) for occupational/controlled exposure.

The time-averaging concept can be illustrated as follows for exposure in a workplace environment. The sum of the product (or products) of the actual exposure level(s) multiplied by the actual time(s) of exposure must not be greater than the allowed (average) exposure limit times the specified averaging time. Therefore, for 100 MHz, exposure at 2 mW/cm² would be permitted for three minutes in any six-minute period as long as during the remaining three minutes of the six-minute period the exposure was at or near "zero" level of exposure. Therefore, in this example:

$$(2 \text{ mW/cm}^2) \times (3 \text{ min.}) + (0 \text{ mW/cm}^2) \times (3 \text{ min.}) = (1 \text{ mW/cm}^2) \times (6 \text{ min.})$$

Of course, other combinations of power density and time are possible. It is *very important* to remember that time averaging of exposure is only necessary or relevant for situations where temporary exposures might occur that are *in excess of* the absolute limits for power density or field strength. These situations usually only occur in workplace environments where exposure can be monitored and controlled. For general population/uncontrolled exposures, say in a residential neighborhood, it is seldom possible to have sufficient information or control regarding how long people are exposed, and averaging of exposure over the designated time period (30 minutes) is normally not appropriate. For such public exposure situations, the MPE limits normally apply for continuous exposure. In other words, as long as the absolute limits are not exceeded, indefinite exposure is allowed.

Induced and Contact Currents

In addition to limits on field strength, power density and SAR, some standards for RF exposure have incorporated limits for currents induced in the human body by RF fields. For example, the 1992 ANSI/IEEE standard (Reference 3), includes specific restrictions that apply to "induced" and "contact" currents (the latter, which applies to "grasping" contact, is more related to shock and burn hazards). The limits on RF currents are based on experimental data showing that excessive SAR levels can be created in the body due to the presence of these currents. In its 1996 Order adopting new RF exposure guidelines the FCC declined to adopt limits on induced and contact currents due primarily to the difficulty of reliably determining compliance, either by prediction methods or by direct measurement. However, the FCC may reconsider this decision in the future because of the development of new instrumentation and analytical techniques that may be more reliable indicators of exposure.

Table 1. FCC Limits for Maximum Permissible Exposure (MPE)**(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

(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.

Table 2. FCC Limits for Localized (Partial-body) Exposure

Specific Absorption Rate (SAR)	
Occupational/Controlled Exposure (100 kHz - 6 GHz)	General Uncontrolled/Exposure (100 kHz - 6 GHz)
<p>< 0.4 W/kg whole-body</p> <p>≤ 8 W/kg partial-body</p>	<p>< 0.08 W/kg whole-body</p> <p>≤ 1.6 W/kg partial-body</p>

WHY HAS THE FCC ADOPTED GUIDELINES FOR RF EXPOSURE?

The FCC authorizes and licenses devices, transmitters and facilities that generate RF and microwave radiation. It has jurisdiction over all transmitting services in the U.S. except those specifically operated by the Federal Government. However, the FCC’s primary jurisdiction does not lie in the health and safety area, and it must rely on other agencies and organizations for guidance in these matters.

Under the National Environmental Policy Act of 1969 (NEPA), the FCC has certain responsibilities to consider whether its actions will "significantly affect the quality of the human environment." Therefore, FCC approval and licensing of transmitters and facilities must be evaluated for significant impact on the environment. Human exposure to RF radiation emitted by FCC-regulated transmitters is one of several factors that must be considered in such environmental evaluations.

Major RF transmitting facilities under the jurisdiction of the FCC, such as radio and television broadcast stations, satellite-earth stations, experimental radio stations and certain cellular, PCS and paging facilities are required to undergo routine evaluation for RF compliance whenever an application is submitted to the FCC for construction or modification of a transmitting facility or renewal of a license. Failure to comply with the FCC’s RF exposure guidelines could lead to the preparation of a formal Environmental Assessment, possible Environmental Impact Statement and eventual rejection of an application. Technical

guidelines for evaluating compliance with the FCC RF safety requirements can be found in the FCC's OET Bulletin 65 (Reference 57).

Low-powered, intermittent, or inaccessible RF transmitters and facilities are normally "categorically excluded" from the requirement for *routine* evaluation for RF exposure. These exclusions are based on calculations and measurement data indicating that such transmitting stations or devices are unlikely to cause exposures in excess of the guidelines under normal conditions of use.¹³ The FCC's policies on RF exposure and categorical exclusion can be found in Section 1.1307(b) of the FCC's Rules and Regulations.¹⁴ It should be emphasized, however, that these exclusions are *not* exclusions from compliance, but, rather, only exclusions from routine evaluation. Furthermore, transmitters or facilities that are otherwise categorically excluded from evaluation may be required, on a case-by-case basis, to demonstrate compliance when evidence of potential non-compliance of the transmitter or facility is brought to the Commission's attention [*see* 47 CFR §1.1307(c) and (d)].

The FCC's policies with respect to environmental RF fields are designed to ensure that FCC-regulated transmitters do not expose the public or workers to levels of RF radiation that are considered by expert organizations to be potentially harmful. Therefore, if a transmitter and its associated antenna are regulated by the FCC, they must comply with provisions of the FCC's rules regarding human exposure to RF radiation. In its 1997 Order, the FCC adopted a provision that all transmitters regulated by the FCC, regardless of whether they are excluded from routine evaluation, are expected to be in compliance with the new guidelines on RF exposure by September 1, 2000 (Reference 56).

In the United States some local and state jurisdictions have also enacted rules and regulations pertaining to human exposure to RF energy. However, the Telecommunications Act of 1996 contained provisions relating to federal jurisdiction to regulate human exposure to RF emissions from certain transmitting devices.. In particular, Section 704 of the Act states that, "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions." Further information on FCC policy with respect to facilities siting is available in a factsheet from the FCC's Wireless Telecommunications Bureau.¹⁵

¹³ The Council on Environmental Quality, which has oversight responsibility with regard to NEPA, permits federal agencies to categorically exclude certain actions from routine environmental processing when the potential for individual or cumulative environmental impact is judged to be negligible (40 CFR §§ 1507, 1508.4 and "Regulations for Implementing the Procedural Provisions of NEPA, 43 Fed. Reg. 55,978, 1978).

¹⁴ 47 Code of Federal Regulations 1.1307(b).

¹⁵ "Fact Sheet 2", September 17, 1997, entitled, "*National Wireless Facilities Siting Policies*," from the FCC's Wireless Telecommunications Bureau. This factsheet can be viewed and downloaded from the bureau's Internet World Wide Web Site: <http://www.fcc.gov/wtb/>.

ARE EMISSIONS FROM RADIO AND TELEVISION ANTENNAS SAFE?

Radio and television broadcast stations transmit their signals via RF electromagnetic waves. There are currently approximately 14,000 radio and TV stations on the air in the United States. Broadcast stations transmit at various RF frequencies, depending on the channel, ranging from about 550 kHz for AM radio up to about 800 MHz for some UHF television stations. Frequencies for FM radio and VHF television lie in between these two extremes. Operating powers ("effective radiated power") can be as little as a few hundred watts for some radio stations or up to millions of watts for certain television stations. Some of these signals can be a significant source of RF energy in the local environment, and the FCC requires that broadcast stations submit evidence of compliance with FCC RF guidelines.

The amount of RF energy to which the public or workers might be exposed as a result of broadcast antennas depends on several factors, including the type of station, design characteristics of the antenna being used, power transmitted to the antenna, height of the antenna and distance from the antenna. Since energy at some frequencies is absorbed by the human body more readily than energy at other frequencies, the frequency of the transmitted signal as well as its intensity is important. Calculations can be performed to predict what field intensity levels would exist at various distances from an antenna.

Public access to broadcasting antennas is normally restricted so that individuals cannot be exposed to high-level fields that might exist near antennas. Measurements made by the FCC, EPA and others have shown that ambient RF radiation levels in inhabited areas near broadcasting facilities are typically well below the exposure levels recommended by current standards and guidelines (References 32, 46, 48, 51, 52). There have been a few situations around the country where RF levels in publicly accessible areas have been found to be higher than those recommended by applicable safety standards (e.g., see Reference 50). But, in spite of the relatively high operating powers of many stations, such cases are unusual, and members of the general public are unlikely to be exposed to RF levels from broadcast towers that exceed FCC limits. Wherever such situations have arisen corrective measures have been undertaken to ensure that areas promptly come into compliance with the applicable guidelines.

In cases where exposure levels might pose a problem, there are various steps a broadcast station can take to ensure compliance with safety standards. For example, high-intensity areas could be posted and access to them could be restricted by fencing or other appropriate means. In some cases more drastic measures might have to be considered, such as re-designing an antenna, reducing power, or station relocation.

Antenna maintenance workers are occasionally required to climb antenna structures for such purposes as painting, repairs, or beacon replacement. Both the EPA and OSHA have reported that in these cases it is possible for a worker to be exposed to high levels of RF energy if work is performed on an active tower or in areas immediately surrounding a

radiating antenna (e.g., see Reference 42, 43, 45, and 51). Therefore, precautions should be taken to ensure that maintenance personnel are not exposed to unsafe RF fields. Such precautions could include temporarily lowering power levels while work is being performed, having work performed only when the station is not broadcasting, using auxiliary antennas while work is performed on the main antenna, and establishing work procedures that would specify the minimum distance that a worker should maintain from an energized antenna.

HOW SAFE ARE MICROWAVE AND SATELLITE ANTENNAS?

Point-to-Point Microwave Antennas

Point-to-point microwave antennas transmit and receive microwave signals across relatively short distances (from a few tenths of a mile to 30 miles or more). These antennas are usually rectangular or circular in shape and are normally found mounted on a supporting tower, on rooftops, sides of buildings or on similar structures that provide clear and unobstructed line-of-sight paths between both ends of a transmission path or link. These antennas have a variety of uses such as transmitting voice and data messages and serving as links between broadcast or cable-TV studios and transmitting antennas.

The RF signals from these antennas travel in a directed beam from a transmitting antenna to a receiving antenna, and dispersion of microwave energy outside of the relatively narrow beam is minimal or insignificant. In addition, these antennas transmit using very low power levels, usually on the order of a few watts or less. Measurements have shown that ground-level power densities due to microwave directional antennas are normally a thousand times or more below recommended safety limits. (e.g., see Reference 38) Moreover, as an added margin of safety, microwave tower sites are normally inaccessible to the general public. Significant exposures from these antennas could only occur in the unlikely event that an individual were to stand directly in front of and very close to an antenna for a period of time.

Satellite-Earth Stations

Ground-based antennas used for satellite-earth communications typically are parabolic "dish" antennas, some as large as 10 to 30 meters in diameter, that are used to transmit ("uplinks") or receive ("downlinks") microwave signals to or from satellites in orbit around the earth. The satellites receive the signals beamed up to them and, in turn, retransmit the signals back down to an earthbound receiving station. These signals allow delivery of a variety of communications services, including long distance telephone service. Some satellite-earth station antennas are used only to **receive** RF signals (i.e., just like a rooftop television antenna used at a residence), and, since they do not transmit, RF exposure is not an issue.

Since satellite-earth station antennas are directed toward satellites above the earth, transmitted beams point skyward at various angles of inclination, depending on the particular satellite being used. Because of the longer distances involved, power levels used to transmit these signals are relatively large when compared, for example, to those used by the microwave point-to-point antennas discussed above. However, as with microwave antennas, the beams used for transmitting earth-to-satellite signals are concentrated and highly directional, similar to the beam from a flashlight. In addition, public access would normally be restricted at station sites where exposure levels could approach or exceed safe limits.

Although many satellite-earth stations are "fixed" sites, portable uplink antennas are also used, e.g., for electronic news gathering. These antennas can be deployed in various locations. Therefore, precautions may be necessary, such as temporarily restricting access in the vicinity of the antenna, to avoid exposure to the main transmitted beam. In general, however, it is unlikely that a transmitting earth station antenna would routinely expose members of the public to potentially harmful levels of microwaves.

ARE CELLULAR AND PCS TOWERS AND ANTENNAS SAFE? WHAT ABOUT CAR PHONES AND HAND-HELD PHONES?

Base Stations

Cellular radio systems use frequencies between 800 and 900 megahertz (MHz). Transmitters in the Personal Communications Service (PCS) use frequencies in the range of 1850-1990 MHz. The antennas for cellular and PCS transmissions are typically located on towers, water tanks or other elevated structures including rooftops and the sides of buildings. The combination of antennas and associated electronic equipment is referred to as a cellular or PCS "base station" or "cell site." Typical heights for free-standing base station towers or structures are 50-200 feet. A cellular base station may utilize several "omni-directional" antennas that look like poles, 10 to 15 feet in length, although these types of antennas are becoming less common in urban areas.

In urban and suburban areas, cellular and PCS service providers now more commonly use "sector" antennas for their base stations. These antennas are rectangular panels, e.g., about 1 by 4 feet in dimension, typically mounted on a rooftop or other structure, but they are also mounted on towers or poles. The antennas are usually arranged in three groups of three each. One antenna in each group is used to transmit signals to mobile units (car phones or hand-held phones), and the other two antennas in each group are used to receive signals from mobile units.

The FCC authorizes cellular and PCS carriers in various service areas around the country. At a cell site, the total RF power that could be transmitted from each transmitting antenna at a cell site depends on the number of radio channels (transmitters) that have been

authorized and the power of each transmitter. Typically, for a cellular base station, a maximum of 21 channels per sector (depending on the system) could be used. Thus, for a typical cell site utilizing sector antennas, each of the three transmitting antennas could be connected to up to 21 transmitters for a total of 63 transmitters per site. When omnidirectional antennas are used, up to 96 transmitters could be implemented at a cell site, but this would be unusual. While a typical base station could have as many as 63 transmitters, not all of the transmitters would be expected to operate simultaneously thus reducing overall emission levels. For the case of PCS base stations, fewer transmitters are normally required due to the relatively greater number of base stations.

Although the FCC permits an *effective radiated power* (ERP) of up to 500 watts per channel (depending on the tower height), the majority of cellular base stations in urban and suburban areas operate at an ERP of 100 watts per channel or less. An ERP of 100 watts corresponds to an *actual* radiated power of about 5-10 watts, depending on the type of antenna used (ERP is not equivalent to the power that is radiated but, rather, is a quantity that takes into consideration transmitter power and antenna directivity). As the capacity of a system is expanded by dividing cells, i.e., adding additional base stations, lower ERPs are normally used. In urban areas, an ERP of 10 watts per channel (corresponding to a radiated power of 0.5 - 1 watt) or less is commonly used. For PCS base stations, even lower radiated power levels are normally used.

The signal from a cellular or PCS base station antenna is essentially directed toward the horizon in a relatively narrow pattern in the vertical plane. The radiation pattern for an omnidirectional antenna might be compared to a thin doughnut or pancake centered around the antenna while the pattern for a sector antenna is fan-shaped, like a wedge cut from a pie. As with all forms of electromagnetic energy, the power density from a cellular or PCS transmitter decreases rapidly (according to an inverse square law) as one moves away from the antenna. Consequently, normal ground-level exposure is much less than exposures that might be encountered if one were very close to the antenna and in its main transmitted beam.

Measurements made near typical cellular and PCS installations, especially those with tower-mounted antennas, have shown that ground-level power densities are well below limits recommended by RF/microwave safety standards (References 32, 37, and 45). For example, for a base-station transmitting frequency of 869 MHz the FCC's RF exposure guidelines recommend a Maximum Permissible Exposure level for the public ("general population/uncontrolled" exposure) of about 580 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). This limit is many times greater than RF levels found near the base of typical cellular towers or in the vicinity of lower-powered cellular base station transmitters, such as might be mounted on rooftops or sides of buildings. Measurement data obtained from various sources have consistently indicated that "worst-case" ground-level power densities near typical cellular towers are on the order of $1 \mu\text{W}/\text{cm}^2$ or less (usually significantly less). Calculations corresponding to a "worst-case" situation (all transmitters operating simultaneously and continuously at the maximum licensed power) show that in order to be exposed to levels near the FCC's limits for cellular frequencies, an individual would essentially have to remain in

the main transmitting beam (at the height of the antenna) and within a few feet from the antenna. This makes it extremely unlikely that a member of the general public could be exposed to RF levels in excess of these guidelines due to cellular base station transmitters. For PCS base station transmitters, the same type of analysis holds, except that at the PCS transmitting frequencies (1850-1990 MHz) the FCC's exposure limits for the public are 1000 $\mu\text{W}/\text{cm}^2$. Therefore, there would typically be an even greater safety margin between actual public exposure levels and recognized safety limits.

When cellular and PCS antennas are mounted at rooftop locations it is possible that ambient RF levels greater than 1 $\mu\text{W}/\text{cm}^2$ could be present on the rooftop itself. However, exposures approaching or exceeding the safety guidelines are only likely to be encountered very close to or directly in front of the antennas. For sector-type antennas RF levels to the side and in back of these antennas are insignificant.

Even if RF levels were higher than desirable on a rooftop, appropriate restrictions could be placed on access. Factoring in the time-averaging aspects of safety standards could also be used to reduce potential exposure of workers who might have to access a rooftop for maintenance tasks or other reasons. The fact that rooftop cellular and PCS antennas usually operate at lower power levels than antennas on free-standing towers makes excessive exposure conditions on rooftops unlikely. In addition, the significant signal attenuation of a building's roof minimizes any chance for persons living or working within the building itself to be exposed to RF levels that could approach or exceed applicable safety limits.

Vehicle-Mounted Antennas

Vehicle-mounted antennas used for cellular communications normally operate at a power level of 3 watts or less. These cellular antennas are typically mounted on the roof, on the trunk, or on the rear window of a car or truck. Studies have shown that in order to be exposed to RF levels that approach the safety guidelines it would be necessary to remain very close to a vehicle-mounted cellular antenna for an extended period of time (Reference 20).

Studies have also indicated that exposure of vehicle occupants is reduced by the shielding effect of a vehicle's metal body. Some manufacturers of cellular systems have noted that proper installation of a vehicle-mounted antenna is an effective way to maximize this shielding effect and have recommended antenna installation either in the center of the roof or the center of the trunk. With respect to rear-window-mounted cellular antennas, a minimum separation distance of 30-60 cm (1 to 2 feet) has been suggested to minimize exposure to vehicle occupants that could result from antenna mismatch.

Therefore, properly installed, vehicle-mounted, personal wireless transceivers using up to 3 watts of power result in maximum exposure levels in or near the vehicle that are well below the FCC's safety limits. This assumes that the transmitting antenna is at least 15 cm

(about 6 inches) or more from vehicle occupants. Time-averaging of exposure (as appropriate) should result in even lower values when compared with safety guidelines.

Mobile and Portable Phones and Devices

The FCC's exposure guidelines, and the ANSI/IEEE and NCRP guidelines upon which they are based, specify limits for human exposure to RF emissions from hand-held RF devices in terms of *specific absorption rate (SAR)*. For exposure of the general public, e.g., exposure of the user of a cellular or PCS phone, the FCC limits RF absorption (in terms of SAR) to 1.6 watts/kg (W/kg), as averaged over one gram of tissue. Less restrictive limits, e.g., 2 W/kg averaged over 10 grams of tissue, are specified by guidelines used in some other countries (Reference 25).

Measurements and computational analysis of SAR in models of the human head and other studies of SAR distribution using hand-held cellular and PCS phones have shown that the 1.6 W/kg limit is unlikely to be exceeded under normal conditions of use (References 4, 16, 27). The same can be said for cordless telephones used in the home. Lower frequency (46-49 MHz) cordless telephones operate at very low power levels that could not result in exposure levels that even come close to the 1.6 W/kg level. Higher frequency cordless phones operating near 900 MHz (near the frequencies used for cellular telephones) operate with power levels similar to or less than those used for cell phones. They are also unlikely to exceed the SAR limits specified by the FCC under normal conditions of use.

In any case, compliance with the 1.6 W/kg safety limit must be demonstrated before FCC approval can be granted for marketing of a cellular or PCS phone. Testing of hand-held phones is normally done under conditions of maximum power usage. However, normal power usage is less since it depends on distance of the user from the base station transmitter. Therefore, typical exposure to a user would actually be expected to be less than that indicated by testing for compliance with the limit.

In recent years, publicity, speculation, and concern over claims of possible health effects due to RF emissions from hand-held wireless telephones prompted industry-sponsored groups to initiate research programs to investigate whether there is any risk to users of these devices. Organizations such as Wireless Technology Research (funded by the cellular radio service industry) and wireless equipment manufacturers, such as Motorola, Inc., have been investigating potential health effects from the use of hand-held cellular telephones and other wireless telecommunications devices.

In 1994, the U.S. General Accounting Office (GAO) issued a report that addressed the status of research on the safety of cellular telephones and encouraged U.S. Government agencies to work closely with industry to address wireless safety issues (Reference 59). In that regard, the Federal Government has been monitoring the results of ongoing research through an inter-agency working group led by the EPA and the FDA's Center for Devices and

Radiological Health. In a 1993 "Talk Paper," the FDA stated that it did not have enough information at that time to rule out the possibility of risk, but if such a risk exists, "it is probably small" (Reference 58). The FDA concluded that there is no proof that cellular telephones can be harmful, but if individuals remain concerned several precautionary actions could be taken, including limiting conversations on hand-held cellular telephones and making greater use of telephones with vehicle-mounted antennas where there is a greater separation distance between the user and the radiating antennas.

HOW SAFE ARE FIXED AND MOBILE RADIO TRANSMITTERS USED FOR PAGING AND "TWO-WAY" COMMUNICATIONS?

"Land-mobile" communications include a variety of communications systems which require the use of portable and mobile RF transmitting sources. These systems operate in narrow frequency bands between about 30 and 1000 MHz. Radio systems used by the police and fire departments, radio paging services and business radio are a few examples of these communications systems. They have the advantage of providing communications links between various fixed and mobile locations.

As with cellular and PCS communications, there are three types of RF transmitters associated with land-mobile systems: base-station transmitters, vehicle-mounted transmitters, and hand-held transmitters. The antennas used for these various transmitters are adapted for their specific purpose. For example, a base-station antenna must radiate its signal to a relatively large area, and, therefore, its transmitter generally has to use much higher power levels than a vehicle-mounted or hand-held radio transmitter.

Although these base-station antennas usually operate with higher power levels than other types of land-mobile antennas, they are normally inaccessible to the public since they must be mounted at significant heights above ground to provide for adequate signal coverage. Also, many of these antennas transmit only intermittently. For these reasons, such base-station antennas have generally not been of concern with regard to possible hazardous exposure of the public to RF radiation. However, studies at rooftop locations have indicated that high-powered paging antennas may increase the potential for exposure to workers or others with access to such sites, e.g., maintenance personnel (Reference 12). This could be a concern especially when multiple transmitters are present. In such cases, restriction of access or other corrective actions may be necessary.¹⁶

Transmitting power levels for vehicle-mounted land-mobile antennas are generally less than those used by base-station antennas but higher than those used for hand-held units. As with cellular transmitters, some manufacturers recommend that users and other nearby

¹⁶ Methods and techniques for controlling exposure are discussed in OET Bulletin 65 (Reference 57).

individuals maintain a minimum distance (e.g., 1 to 2 feet) from a vehicle-mounted antenna during transmission or mount the antenna in such a way as to provide maximum shielding for vehicle occupants. Studies have shown that this is probably a conservative precaution, particularly when the "duty factor" (percentage of time an antenna is actually radiating) is taken into account since safety standards are "time-averaged." Unlike cellular telephones, which transmit continuously throughout a call, two-way radios normally transmit only when the "press-to-talk" button is depressed. The extent of any possible exposure would also depend on the actual power level and frequency used by the vehicle-mounted antenna. In general, there is no evidence that there would be a safety hazard associated with exposure from vehicle-mounted, two-way antennas when the manufacturer's recommendations are followed.

Hand-held "two-way" portable radios such as walkie-talkies are low-powered devices used to transmit and receive messages over relatively short distances. Because of the relatively low power levels used (usually no more than a few watts) and, especially, because of the intermittency of transmissions (low duty factor) these radios would normally not be considered to cause hazardous exposures to users. As with vehicle-mounted mobile units, time averaging of exposure can normally be considered when evaluating two-way radios for compliance with safety limits, since these units are "push to talk.". Laboratory measurements have been made using hand-held radios operating at various frequencies to determine the amount of RF energy that might be absorbed in the head of a user. In general, the only real possibility of a potential hazard would occur in the unlikely event that the tip of the transmitting antenna were to be placed directly at the surface of the eye, contrary to manufacturers' recommended precautions, or if for some reason continuous exposure were possible over a significant period of time, which is unlikely. If hand-held radios are used properly there is no evidence that they could cause hazardous exposure to RF energy (References 5, 11, 13, and 27).

ARE RF EMISSIONS FROM AMATEUR RADIO STATIONS HARMFUL?

There are hundreds of thousands of amateur radio operators ("hams") worldwide. Amateur radio operators in the United States are licensed by the FCC. The Amateur Radio Service provides its members with the opportunity to communicate with persons all over the world and to provide valuable public service functions, such as making communications services available during disasters and emergencies. Like all FCC licensees, amateur radio operators are expected to comply with the FCC's guidelines for safe human exposure to RF fields. Under the FCC's rules, amateur operators can transmit with power levels of up to 1500 watts. However, most hams use considerably less power than this. Studies by the FCC and others have shown that most amateur radio transmitters would not normally expose persons to RF levels in excess of safety limits. This is primarily due to the relatively low operating powers used by most amateurs, the intermittent transmission characteristics typically used and the relative inaccessibility of most amateur antennas. As long as appropriate

distances are maintained from amateur antennas, exposure of nearby persons should be well below safety limits. This has been demonstrated by studies carried out by the FCC and others (Reference 54). If there were any opportunity for significant RF exposure, it would most likely apply to the amateur operator and his or her immediate household. To help ensure compliance of amateur radio facilities with RF exposure guidelines, both the FCC and American Radio Relay League (ARRL) have developed technical publications to assist operators in evaluating compliance of their stations (References 23 and 57).

CAN IMPLANTED ELECTRONIC CARDIAC PACEMAKERS BE AFFECTED BY NEARBY RF DEVICES SUCH AS MICROWAVE OVENS OR CELLULAR TELEPHONES?

Over the past several years there has been concern that signals from some RF devices could interfere with the operation of implanted electronic pacemakers and other medical devices. Because pacemakers are electronic devices, they could be susceptible to electromagnetic signals that could cause them to malfunction. Some allegations of such effects in the past involved emissions from microwave ovens. However, it has never been shown that signals from a microwave oven are strong enough to cause such interference.

The FDA requires pacemaker manufacturers to test their devices for susceptibility to electromagnetic interference (EMI) over a wide range of frequencies and to submit the results as a prerequisite for market approval. Electromagnetic shielding has been incorporated into the design of modern pacemakers to prevent RF signals from interfering with the electronic circuitry in the pacemaker. The potential for the "leads" of pacemakers to be susceptible to RF radiation has also been of some concern, but this does not appear to be a serious problem.

Recently there have been reports of possible interference to implanted cardiac pacemakers from digital RF devices such as cellular telephones. An industry-funded organization, Wireless Technology Research, LLC (WTR), working with the FDA, sponsored an investigation as to whether such interference could occur, and, if so, what corrective actions could be taken. The results of this study were published in 1997 (*see* Reference 24), and WTR and the FDA have made several recommendations to help ensure the safe use of wireless devices by patients with implanted pacemakers. One of the primary recommendations is that digital wireless phones be kept at least six inches from the pacemaker and that they not be placed directly over the pacemaker, such as in the breast pocket, when in the "on" position. Patients with pacemakers should consult their physician or the FDA if they believe that they may have a problem related to RF interference.

WHICH OTHER FEDERAL AGENCIES HAVE RESPONSIBILITIES RELATED TO POTENTIAL RF HEALTH EFFECTS?

Various agencies in the Federal Government have been involved in monitoring, researching or regulating issues related to human exposure to RF radiation. These agencies include the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the National Telecommunications and Information Administration (NTIA) and the Department of Defense (DOD).

By authority of the Radiation Control for Health and Safety Act of 1968, the Center for Devices and Radiological Health (CDRH) of the FDA develops performance standards for the emission of radiation from electronic products including X-ray equipment, other medical devices, television sets, microwave ovens, laser products and sunlamps. The CDRH established a product performance standard for microwave ovens in 1971 limiting the amount of RF leakage from ovens. However, the CDRH has not adopted performance standards for other RF-emitting products. The FDA is, however, the lead federal health agency in monitoring the latest research developments and advising other agencies with respect to the safety of RF-emitting products used by the public, such as cellular and PCS phones.

The FDA's microwave oven standard is an *emission* standard (as opposed to an *exposure* standard) that allows leakage (measured at five centimeters from the oven surface) of 1 mW/cm² at the time of manufacture and a maximum level of 5 mW/cm² during the lifetime of the oven.¹⁷ The standard also requires ovens to have two independent interlock systems that prevent the oven from generating microwaves the moment that the latch is released or the door of the oven is opened. The FDA has stated that ovens that meet its standards and are used according to the manufacturer's recommendations are safe for consumer and industrial use.

The EPA has, in the past, considered developing federal guidelines for public exposure to RF radiation. However, EPA activities related to RF safety and health are presently limited to advisory functions. For example, the EPA now chairs an Inter-agency Radiofrequency Working Group, which coordinates RF health-related activities among the various federal agencies with health or regulatory responsibilities in this area.

OSHA is responsible for protecting workers from exposure to hazardous chemical and physical agents. In 1971, OSHA issued a protection guide for exposure of workers to RF radiation [29 CFR 1910.97]. The guide, covering frequencies from 10 MHz to 100 GHz, stated that exposure of workers should not exceed a power density of ten milliwatts per square centimeter (10 mW/cm²) as averaged over any 6-minute period of the workday. However, this guide was later ruled to be only advisory and not mandatory. Moreover, it was

¹⁷ 21 Code of Federal Regulations 1030.10.

based on an earlier (1966) American National Standards Institute (ANSI) RF protection guide that has been superseded by revised versions in 1974, 1982 and 1992 (see previous discussion of standards). OSHA personnel have recently stated that OSHA uses the ANSI/IEEE 1992 guidelines for enforcement purposes under OSHA's "general duty clause" (see OSHA's Internet Web Site, listed in Table 3, for further information).

NIOSH is part of the U.S. Department of Health and Human Services. It conducts research and investigations into issues related to occupational exposure to chemical and physical agents. NIOSH has, in the past, undertaken to develop RF exposure guidelines for workers, but final guidelines were never adopted by the agency. NIOSH conducts safety-related RF studies through its Physical Agents Effects Branch.

The NTIA is an agency of the U.S. Department of Commerce and is responsible for authorizing Federal Government use of the RF electromagnetic spectrum. Like the FCC, the NTIA also has NEPA responsibilities and has considered adopting guidelines for evaluating RF exposure from U.S. Government transmitters such as radar and military facilities.

The Department of Defense (DOD) has conducted research on the biological effects of RF energy for a number of years. This research is now conducted primarily at the DOD facility at Brooks Air Force Base, Texas. In addition, the DOD uses the ANSI/IEEE 1992 standard as a guide for protecting military personnel from excessive exposure to RF electromagnetic fields.

WHERE CAN I OBTAIN INFORMATION ON RF EXPOSURE AND HEALTH EFFECTS?

Although relatively few offices or agencies within the Federal Government routinely deal with the issue of human exposure to RF fields, it is possible to obtain information and assistance on certain topics from the following federal agencies. Most of these agencies also have Internet Web sites.

FDA: For information about radiation from microwave ovens and other consumer and industrial products contact: Center for Devices and Radiological Health (CDRH), Food and Drug Administration, Rockville, MD 20857.

EPA: The Environmental Protection Agency's Office of Radiation and Indoor Air is responsible for monitoring potential health effects due to public exposure to RF fields. Contact: Environmental Protection Agency, Office of Radiation and Indoor Air, 401 M Street, S.W., Washington, D.C. 20460.

OSHA: The Occupational Safety and Health Administration's (OSHA) Health Response Team (1781 South 300 West, Salt Lake City, Utah 84165) has been involved in studies related to occupational exposure to RF radiation. OSHA also maintains an Internet World

Wide Web site that may be of interest. The URL (case sensitive) is: <http://www.osha-slc.gov/SLTC/> (select subject: radiofrequency radiation).

NIOSH: The National Institute for Occupational Safety and Health (NIOSH) monitors RF-related safety issues as they pertain to the workplace. Contact: NIOSH, Physical Agents Effects Branch, Mail Stop C-27, 4676 Columbia Parkway, Cincinnati, Ohio 45226. Toll-free number: 1-800-35-NIOSH (1-800-356-4674).

DOD: Questions regarding Department of Defense activities related to RF safety and its biological research program can be directed to the Radio Frequency Radiation Branch, Air Force Research Laboratory, Brooks Air Force Base, TX 78235.

FCC: Questions regarding potential RF hazards from FCC-regulated transmitters can be directed to the RF Safety Program, Office of Engineering and Technology, Technical Analysis Branch, Federal Communications Commission, 445 Twelfth Street, S.W., Washington, D.C. 20554. The telephone number for inquiries on RF safety issues is: 1-202-418-2464. Calls for routine information can also be directed to the FCC's toll-free number: 1-888-CALL-FCC (225-5322). Another source of information is the FCC's RF Safety Internet Web site (<http://www.fcc.gov/oet/rfsafety>) where FCC documents and notices can be viewed and downloaded. Questions can also be sent via e-mail to: rfsafety@fcc.gov.

In addition to government agencies, there are other sources of information and possible assistance regarding environmental RF energy. Some states also maintain non-ionizing radiation programs or, at least, some expertise in this field, usually in a department of public health or environmental control. The list of references at the end of this bulletin can be consulted for detailed information on specific topics, and **Table 3** provides a list of some relevant Internet Web sites.

TABLE 3. INTERNET WEB SITES FOR FURTHER INFORMATION

Note: All Internet addresses below preceded by "http://".

Also, some URL's may be case sensitive

American Radio Relay League: www.arrl.org
American National Standards Institute: www.ansi.org
Bioelectromagnetics Society: www.bioelectromagnetics.org
COST 244 (Europe): www.radio.fer.hr/cost244
DOD: www.brooks.af.mil/AFRL (select radiofrequency radiation)
European Bioelectromagnetics Association: www.ebea.org
Electromagnetic Energy Association: www.elecenergy.com
Federal Communications Commission: www.fcc.gov/oet/rfsafety
ICNIRP (Europe): www.icnirp.de
IEEE: www.ieee.org
IEEE Committee on Man & Radiation: www.seas.upenn.edu/~kfoster/comar.htm
International Microwave Power Institute: www.impi.org
Microwave News: www.microwavenews.com
J.Moulder, Med.Coll.of Wisc.: www.mcw.edu/gcrc/cop/cell-phone-health-FAQ/toc.html
National Council on Radiation Protection & Measurements: www.ncrp.com
NJ Dept Radiation Protection: www.state.nj.us/dep/rpp (select non-ionizing radiation)
Richard Tell Associates: www.radhaz.com
US OSHA: www.osha-slc.gov/SLTC (select subject: radiofrequency radiation)
Wireless Industry (CTIA): www.wow-com.com
Wireless Industry (PCIA): www.pcia.com
World Health Organization EMF Project: www.who.ch/peh-emf

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COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT PLANNING STAFF REPORT

AGENDA ITEM NO.: 2.a.	SITE LOCATION: Northeast corner of Lampson Avenue and 9 th Street, at 12432 9 th Street
HEARING DATE: February 23, 2023	GENERAL PLAN: Low Density Residential (LDR)
CASE NO.: Conditional Use Permit No. CUP-233-2023	ZONE: R-1 (Single-Family Residential)
APPLICANT: Smartlink (c/o AT&T Mobility)	APN: 090-521-25
PROPERTY OWNER: St. Olaf Church	CEQA DETERMINATION: Exempt 15303 – New Construction or Conversion of Small Structures

REQUEST:

The applicant is requesting Conditional Use Permit approval to allow for the construction and operation of a 60'-0" tall, unmanned, wireless telecommunication facility disguised as a eucalyptus tree (mono-eucalyptus), along with a 375 square-foot (25 feet x 15 feet) equipment enclosure, on a site located at 12432 9th Street (Assessor's Parcel No. 090-521-25).

BACKGROUND:

The subject site is approximately 3.37 acres and is located on the northeast corner of Lampson Avenue and 9th Street, at 12432 9th Street. The site is improved with the existing St. Olaf Lutheran Church facility and is comprised of eight (8) pad buildings. The site is improved with the main sanctuary building, pre-school and daycare facilities, outdoor play areas, a basketball court, and existing wireless telecommunication facilities.

The subject property has a General Plan Land Use designation of Low Density Residential (LDR) and is zoned R-1 (Single-Family Residential). The property abuts R-1 (Single-Family Residential) zoned properties to the north, east, across 9th Street, to the west, and across Lampson Avenue, to the south. Existing surrounding uses include a mix of single-family residences and multi-family residential developments.

In 1982, the City of Garden Grove approved Conditional Use Permit No. CUP-107-82, which allowed the construction of a 4,620 square foot, two-story building to establish additional pre-school facilities and an educational hall, located toward the northeast corner of the church facility. The approval required the church

site to maintain 145 parking spaces. The church site currently has 160 parking spaces.

On July 9, 2007, the City of Garden Grove approved Director's Review No. DR-23-07, which allowed the installation of building-mounted cellular antennas in the existing tower located on the subject site. On June 12, 2008, the City of Garden Grove approved Conditional Use Permit No. CUP-234-2008, which allowed the construction of a 50'-0" mono-pine wireless facility, located within a planter in the southerly parking lot (entrance from Lampson Avenue), and its associated detached 407 square-foot equipment enclosure, located 68'-0" west of the mono-pine wireless facility.

The applicant, Smartlink c/o AT&T Mobility, is requesting approval to construct a new 60'-0" tall wireless telecommunication facility disguised as a eucalyptus tree (mono-eucalyptus), along with related equipment to be installed within an eight-foot (8'-0") tall, twenty-five foot (25'-0") by fifteen-foot (15'-0") equipment enclosure. A Conditional Use Permit is required to allow the construction of a new wireless telecommunication facility.

A new facility is needed by AT&T Mobility in order to close a significant gap in coverage to relieve network traffic congestion, and ensure reliable levels of service due to AT&T's existing and surrounding wireless facilities becoming overloaded beyond their capacity when more enhanced voice and data services are used (5G and other high-speed data services). In order to allow the construction of the proposed mono-eucalyptus wireless telecommunication facility, approval of a new Conditional Use Permit is required.

DISCUSSION:

The applicant is proposing to lease 375 square feet of land area, directly east of an existing classroom building, to install a new sixty-foot (60'-0") tall wireless telecommunication facility disguised as a eucalyptus tree (mono-eucalyptus), along with related equipment to be installed within an eight-foot (8'-0") tall, twenty-five foot (25'-0") by fifteen-foot (15'-0") equipment enclosure. The equipment enclosure is proposed as a block wall painted to match the color of the existing block walls. The proposed equipment enclosure will house ground-mounted equipment, which will include one (1) DC power plant, two (2) Purcell cabinets (stacked), one (1) generator, and four (4) surge suppression units, in addition to other smaller mechanical equipment.

The proposed structure(s) will be supplemented with a 12'-0" wide AT&T non-exclusive access route (for underground power and fiber conduits), along with an AT&T non-exclusive maintenance parking space. The proposed equipment enclosure will be located primarily within an existing planter area, with minor modifications to the existing parking area immediately adjacent to the enclosure. There is an existing drive aisle adjacent to (just north of) the proposed equipment enclosure, which will remain clear and unobstructed and will not be affected by the proposed wireless facility. One (1) existing tree will be removed to construct the equipment enclosure.

As part of the approval of Conditional Use Permit No. CUP-107-82, it was identified that the church site is required to maintain a minimum of 145 parking spaces. Currently the site provides 160 parking spaces, resulting in the surplus of fifteen 15 parking spaces. The location of the proposed equipment enclosure, which will also house the mono-eucalyptus wireless facility, is within an existing planter adjacent to a driveway aisle and will result in the elimination of four (4) existing parking spaces. Therefore, subsequent to the development of the project, the site will maintain 156 parking spaces, which exceeds the minimum parking required. In addition, Conditions of Approval, under CUP-233-2023, will require that all existing parking lot areas, inclusive of parking lot modifications proposed under this project, will be adequately striped and maintained at all times.

With exception to the aforementioned modifications to the existing parking area immediately adjacent to the enclosure, the remaining existing parking areas, existing landscape planters, and vehicular and pedestrian access to the church building(s) will remain unaffected.

The new sixty-foot (60'-0") tall mono-eucalyptus will be installed within the equipment enclosure. The proposed mono-eucalyptus will consist of nine (9) eight-foot (8'-0") tall panel antennas (three sectors with three (3) panel antennas per sector) mounted at the 53'-0" antenna centerline, and six (6) 31-inch tall air antennas (two (2) stacked air antennas per sector) mounted at the 55'-0" antenna centerline. Each sector will be attached to the pole of the mono-eucalyptus by a four-foot (4'-0") long T-arm antenna mount. Six (6) surge suppression units will be attached to each T-arm antenna mount along with 36 remote radio units (RRUs) (three-sectors with twelve (12) radios per sector). One four-foot (4'-0") microwave antenna will be installed and attached to the main pole of the mono-eucalyptus at the 42'-0" microwave antenna centerline. Conditions of approval have been incorporated that will ensure the mono-eucalyptus will maintain a natural appearance. All attached equipment (i.e., antennas, T-arm antenna mounts, and other attached equipment) will be sufficiently screened and remain stealth by the foliage of mono-eucalyptus branches. The proposed mono-eucalyptus facility will blend with the existing trees on the site and will not have any negative aesthetic impacts.

The additional telecommunication facility will help expand AT&T's coverage area within the City, and help fill gaps that currently exist in their network. Figure A and B- "Propagation Site Plots", provided by the applicant, demonstrate areas with significant gaps-in-coverage within the network before and after the subject wireless facility is installed. The increased coverage will help expand the service provider's coverage area, so customers can make and maintain calls as they travel through the City, with the calls transferred from one facility to another. Situating this facility at this location will also help reduce the burden on the provider's network and accommodate an increase in customer demand.

Coverage without proposed wireless facility

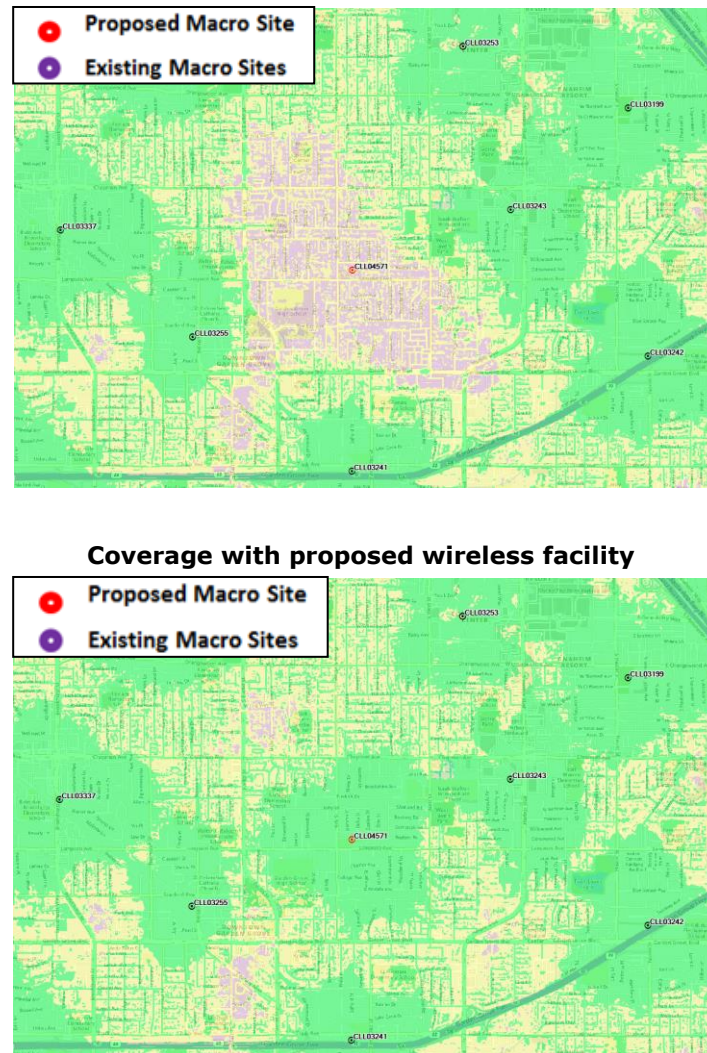


Figure A: *Propagation Site Plots*

California Environmental Quality Act (CEQA):

Staff believes the proposed development is exempt from review under the California Environmental Quality Act ("CEQA") pursuant to CEQA's Class 3 exemption, New Construction or Conversion of Small Structures (CEQA Guidelines §15303). Subsection (c) of this exemption includes the construction of a store, motel, office, restaurant, or similar structure not involving the use of significant amounts of hazardous substances, and not exceeding 2,500 square feet in floor area. In urbanized areas, this exemption also applies to up to four (4) such commercial buildings not exceeding 10,000 square feet in floor area within an urbanized area, and in a zone that allows for such a use, if not involving the use of significant amounts of hazardous substances where all necessary public services and facilities are available and the surrounding area is not environmentally sensitive (CEQA Guidelines §15303.(c)). The proposed wireless telecommunication facility is located in an urbanized area, is less than 10,000 square feet in floor area, does not involve the use of a significant amount of hazardous materials, and is a permitted

improvement in the R-1 (Single-Family Residential) zoning district. Therefore, staff recommends that the Zoning Administrator determine the project to be exempt from CEQA.

The Community and Economic Development Department has reviewed the request and is supporting the proposal. All appropriate Conditions of Approval that apply to a new wireless facility will apply.

RECOMMENDATION:

Staff recommends that the Zoning Administrator take the following action:

- Adopt Decision No. 1835-23 approving Conditional Use Permit No. CUP-233-2023, subject to the recommended Conditions of Approval.

Maria Parra
Planning Services Manager

By: Shehriyar Khan
Contract Planner

[Attachment 1:](#) [Vicinity Map](#)
[Attachment 2:](#) [Plans](#)

MINUTE EXCERPT

GARDEN GROVE ZONING ADMINISTRATOR

PUBLIC HEARING - CONDITIONAL USE PERMIT NO. CUP-233-2023

Applicant: Smartlink (c/o AT&T Mobility)
Location: 12432 9th Street
Date: February 23, 2023

Request: Conditional Use Permit approval to allow the construction and operation of a 60'-0" tall, unmanned, wireless telecommunication facility disguised as a eucalyptus tree (mono-eucalyptus), along with a 375 square foot (25 feet x 15 feet) equipment enclosure, to be located on a site currently improved with a church, St. Olaf Church. The site is in the R-1 (Single-Family Residential) zone. In conjunction with the request, the Zoning Administrator will also consider a determination that the project is categorically exempt from the California Environmental Quality Act (CEQA) pursuant to Section 15303(c) – New Construction or Conversion of Small Structures – of the State CEQA Guidelines.

Action: Public Hearing Held. Speaker(s): Jermaine Taylor, Kaye Monachelli, Alissa Munoz, Jose Dias, Melissa Lopez, Charles Lee. Three letters of opposition were received from Kaye Monachelli, Linda Maher, and Roy and Pat Amelang. The letters and speakers cited concerns with the cell tower’s proximity to the church, school, and residential backyards, along with concerns with the existing cell tower including maintenance, noise pollution from workers at night, the generator, and the tower itself (buzzing causing lack of sleep). General concerns included general safety, and health risk safety in regard to the effects of 5G RF radiation exposure causing mental health issues in adults and children; the tower possibly falling in an earthquake; the lowering of property values; that two existing facilities are already in the vicinity; and more research, studies, and tests are needed in regard to 5G technology.

Action: In light of the concerns, the Zoning Administrator remanded CUP-233-2023 to the Planning Commission hearing body, to a date uncertain, in order to allow the applicant to conduct and present further studies on past and current cell tower technology for the benefit of the residents. The Planning Commission meeting would be duly noticed.

RESOLUTION NO. 6060-23

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF GARDEN GROVE APPROVING CONDITIONAL USE PERMIT NO. CUP-233-2023, FOR A PROPERTY LOCATED AT 12432 9th STREET, ASSESSOR'S PARCEL NO. 090-521-25.

BE IT RESOLVED that the Planning Commission of the City of Garden Grove does hereby approve Conditional Use Permit No. CUP-233-2023, for the construction and operation of wireless telecommunications facility, on a property located on the northeast of corner of Lampson Avenue and 9th Street, at 12432 9th Street, Assessor's Parcel No. 090-521-25.

BE IT FURTHER RESOLVED in the matter of Conditional Use Permit No. CUP-233-2023, the Planning Commission of the City of Garden Grove does hereby report as follows:

1. The subject case was initiated by Smartlink c/o AT&T Mobility, with the authorization of the property owner, St. Olaf Church.
2. The applicant is requesting Conditional Use Permit (CUP) approval to allow for the construction and operation of a 60'-0" tall, unmanned wireless telecommunications facility disguised as a eucalyptus tree (mono-eucalyptus), along with a 375 square-foot (25 feet x 15 feet) equipment enclosure, on a site located at 12432 9th Street (Assessor's Parcel No. 090-521-25).
3. The proposed project is categorically exempt from the California Environmental Quality Act ("CEQA") pursuant to Section 15303(c) (New Construction or Conversion of Small Structures) of the CEQA Guidelines (14 Cal. Code Reg., Section 15303).
4. The property has a General Plan Land Use designation of Low Density Residential (LDR), and is zoned R-1 (Single-Family Residential). The site is improved with the St. Olaf Lutheran Church of Garden Grove.
5. Existing land use, zoning, and General Plan designation of property within the vicinity of the subject property have been reviewed.
6. Report submitted by City Staff was reviewed.
7. Pursuant to a legal notice, public hearings were held on February 23, 2023, before the Zoning Administrator, and April 20, 2023, before the Planning Commission, and all interested persons were given an opportunity to be heard.
8. The Planning Commission gave due and careful consideration to the matter during its meeting of April 20, 2023.

BE IT FURTHER RESOLVED, FOUND AND DETERMINED that the facts and reasons supporting the conclusion of the Planning Commission, as required under Municipal Code Section 9.32.030, are as follows:

FACTS:

The subject property is a 3.37 acre site located on the northeast corner of Lampson Avenue and 9th Street, at 12432 9th Street. The site is improved with the existing St. Olaf Lutheran Church facility and is comprised of eight (8) pad buildings. The site is improved with the main sanctuary building, pre-school and daycare facilities, outdoor play areas, a basketball court, existing wireless facilities.

The subject property has a General Plan Land Use designation of Low Density Residential (LDR) and is zoned R-1 (Single-Family Residential). The property abuts R-1 (Single-Family Residential) zoned properties to the north, east, across 9th Street, to the west, and across Lampson Avenue, to the south. Existing surrounding uses include a mix of single-family residences and multi-family residential developments.

The City of Garden Grove approved Conditional Use Permit No. CUP-107-82, which allowed the construction of a two-story building to establish additional pre-school facilities. The City of Garden Grove also approved Director's Review No. DR-23-07, which allowed the installation of building-mounted cellular antennas in the existing tower located on the subject site, and Conditional Use Permit No. CUP-234-08, which allowed the construction of a 50'-0" mono-pine wireless telecommunication facility and a 407 square foot equipment enclosure.

The applicant, Smartlink, is requesting to construct and operate a new, unmanned, 60'-0" tall mono-eucalyptus wireless telecommunication facility directly east of the existing two-story classroom building, within an existing parking lot. The location of the proposed equipment enclosure is within an existing planter adjacent to a driveway aisle and will result in the elimination of four (4) parking spaces. With the proposed elimination of parking spaces, the Church will maintain 156 parking spaces, which exceeds the required 145 parking spaces.

A new facility is needed by AT&T Mobility in order to close a significant gap in coverage to relieve network traffic congestion, and ensure reliable levels of service due to AT&T's existing and surrounding wireless facilities becoming overloaded beyond their capacity when more enhanced voice and data services are used (5G and other high-speed data services). In order to allow the construction of the proposed mono-eucalyptus wireless telecommunication facility, approval of a new Conditional Use Permit is required.

On February 23, 2023, the Zoning Administrator held a public hearing to consider Conditional Use Permit No. CUP-233-2023. There were five (5) speakers from the public who spoke in opposition to the project. Additionally, the City received three (3) comment letters from the public that also spoke in opposition to the project.

Due to the concerns raised from the public comments received, the Zoning Administrator elevated the case (CUP-233-2023) to the Planning Commission for its consideration. In an effort to address concerns raised from the public, the Applicant prepared a noise study; a Radio Frequency (RF) Emission Compliance Assessment Report; provided written responses to public comments received that expressed concerns with the project; and has agreed to a condition of approval that limits the hours of when maintenance and repair will occur to the proposed wireless facility.

FINDINGS AND REASONS:

1. The proposed use will be consistent with the City's adopted General Plan.

The property on which the new stealth wireless telecommunications facility will be constructed has a General Plan Land Use designation of Low Density Residential (LDR), and is zoned R-1 (Single-Family Residential). The Low Density Residential (LDR) designation is intended to create, maintain, and enhance residential areas characterized by detached, single unit structures, and single-family residential neighborhoods that provide access to schools, parks, and other community services, such as churches. According to the General Plan Land Use element, future development within the Low Density Residential designation should remain residential in character and allow for compatible uses. The City Council has determined that new stealth wireless telecommunication facilities are such a compatible use, and new stealth wireless telecommunication facilities are thus conditionally permitted in the R-1 zone. Historically, the City has permitted stealth wireless facilities on properties developed with churches subject to Conditional Use Permit approval. Although there is currently an existing wireless telecommunication facility, and building-mounted cellular antennas on the subject property, Garden Grove Municipal Code does not prohibit a new wireless facility to be installed on the site. The applicant proposes to construct a new mono-eucalyptus wireless telecommunication facility in order to improve the service coverage area for AT&T Mobility customers. The proposed mono-eucalyptus is compatible with the surrounding uses, and through its mono-eucalyptus design, the facility will maintain a natural appearance, with all attached equipment adequately screened by foliage, and will blend with the existing trees on the site, and will not have negative aesthetic impacts.

The proposed wireless telecommunication facility is designed to comply with the development standards set forth by Title 9 of the Municipal Code, including height and maintaining a natural appearance through its stealth design.

2. That the requested use at the location proposed will not: adversely affect the health, peace, comfort, or welfare of the persons residing or working in the surrounding area, or unreasonably interfere with the use, enjoyment, or valuation of the property of other persons located in the vicinity of the site,

or jeopardize, endanger, or otherwise constitute a menace to public health, safety, or general welfare.

AT&T Mobility proposes a new mono-eucalyptus stealth wireless facility on the subject site in order to improve its coverage area to close a significant gap in coverage to relieve network traffic congestion, and ensure reliable levels of service due to AT&T's existing and surrounding wireless facilities becoming overloaded beyond their capacity when more enhanced voice and data services are used (5G and other high-speed data services). The project will improve local connectivity for AT&T Mobility customers as they travel through the City. The proposed stealth facility has been designed to comply with all applicable City development standards and to maintain a natural appearance, disguised as a eucalyptus tree (mono-eucalyptus), which is similar size and scale as existing trees in the immediate area, while ensuring that all attached equipment will be sufficiently screened and remain stealth by the foliage of mono-eucalyptus branches. The proposed mono-eucalyptus facility will blend with the existing trees on the site, including existing trees in the surrounding neighborhood, and will not have any negative aesthetic impacts.

Municipal Code Chapter 8.47.060, Special Noise Sources, limits the use or operation of machines that produce sound in such a manner as to disturb the peace, quiet, and comfort of any person of normal sensitiveness residing in the area, between the hours of 10:00 P.M. and 7:00 A.M. The same timeframe is applicable for maintenance or repair work. To address the public's concerns regarding noise, the applicant has agreed to a condition of approval that limits the routine maintenance and repair of the proposed wireless facility to occur within the hours of 8:00 A.M and 8:00 P.M.

The wireless telecommunication facility, including all associated antennas and equipment, are required to adhere to all FCC regulations prohibiting such facilities from interfering with public safety.

All appropriate conditions of approval have been incorporated to minimize impacts to adjacent properties. Provided the conditions of approval are adhered to for the life of the project, the use will not adversely affect the health, peace, comfort, or welfare of the persons residing or working in the surrounding area, or unreasonably interfere with the use, enjoyment, or valuation of the property of other persons located in the vicinity of the site, or jeopardize, endanger, or otherwise constitute a menace to public health, safety, or general welfare.

3. That the proposed site is adequate in size and shape to accommodate the yards, walls, fences, parking and loading facilities, landscaping and other development features prescribed in this title or as is otherwise required in order to integrate such use with the uses in the surrounding area.

The site, with the existing site improvements and modifications, is of adequate size to integrate the proposed mono-eucalyptus in the surrounding area. AT&T Mobility is proposing to lease 375 square feet of land area behind (to the east of) an existing church building, to install a new sixty-foot (60'-0") tall wireless telecommunication facility disguised as a eucalyptus tree, along with related equipment to be installed within an eight-foot (8'-0") tall, twenty-five foot (25'-0") by fifteen-foot (15'-0") equipment enclosure. The equipment enclosure is proposed as a block wall painted to match the color of the existing block walls. The proposed equipment enclosure will be located primarily within an existing planter area, with minor modifications to the existing parking area immediately adjacent to the enclosure, which includes the elimination of four (4) parking spaces, and paint re-striping. There is an existing drive aisle adjacent to (just north of) the proposed equipment enclosure, which will remain clear and unobstructed and will not be affected by the proposed wireless facility. One (1) existing tree will be removed to construct the equipment enclosure. With exception to the proposed minor modifications to the existing parking area immediately adjacent to the enclosure, the remaining existing parking areas, existing landscape planters, and vehicular and pedestrian access to the church building(s) will remain unaffected.

4. That the proposed site is adequately served: by highways or streets or sufficient width and improved as necessary to carry the kind and quantity of traffic such as to be generated, and by other public or private service facilities as required.

The subject site is located on the northeast corner of Lampson Avenue and 9th Street. The subject site is adequately accessed by two (2) driveways along Lampson Avenue, and one (1) driveway along 9th Street, providing both ingress and egress. On-site circulation is adequate to serve all uses on the property. The site is also sufficiently served by the public service facilities required, such as gas, electric, water, and sewer facilities. With exception to the proposed minor modifications to the existing parking area immediately adjacent to the enclosure, the remaining existing parking areas, existing landscape planters, and vehicular and pedestrian access to the church building(s) will remain unaffected. Therefore, the subject site will continue to be sufficiently served by all existing highways, streets, and other public and private service facilities.

INCORPORATION OF FACTS AND REASONS SET FORTH IN STAFF REPORT

In addition to the foregoing, the Planning Commission incorporates herein by this reference, the facts and reasons set forth in the staff report.

BE IT FURTHER RESOLVED that the Planning Commission does conclude:

1. The Conditional Use Permit does possess characteristics that would indicate justification of the request in accordance with Municipal Code Section 9.32.030 (Conditional Use Permits).
2. In order to fulfill the purpose and intent of the Municipal Code and thereby promote the health, safety, and general welfare, the following Conditions of Approval, attached as Exhibit "A", shall apply to Conditional Use Permit No. CUP-233-2023.

EXHIBIT "A"

Conditional Use Permit No. CUP-233-2023

12432 9th Street

CONDITIONS OF APPROVAL

General Conditions

1. Each owner of the property shall execute, and the applicant shall record, a "Notice of Discretionary Permit Approval and Agreement with Conditions of Approval," as prepared by the City Attorney's Office, on the property within 30 days of approval. This Conditional Use Permit runs with the land and is binding upon the property owner, his/her/its heirs, assigns, and successors in interest.
2. All Conditions of Approval set forth herein shall be binding on and enforceable against each of the following, and whenever used herein, the term "applicant" shall mean and refer to the project applicant, Smartlink c/o AT&T Mobility, the owner(s) and tenant(s) of the property, and each of their respective successors and assigns, including all subsequent purchasers and/or tenants. The applicant and subsequent owner/operators of such business shall adhere to the conditions of approval for the life of the project, regardless of property ownership. Any changes of the conditions of approval require approval by the applicable City hearing body, except as otherwise provided herein.
3. Approval of this Conditional Use Permit shall not be construed to mean any waiver of applicable and appropriate zoning and other regulations; and wherein not otherwise specified, all requirements of the City of Garden Grove Municipal Code shall apply.
4. Minor modifications to the approved site plan and/or these Conditions of Approval may be approved by the Department Director, in his or her discretion. Proposed modifications to the approved site plan or Conditions of Approval that would result in the intensification of the project or create impacts that have not been previously addressed, and which are determined by the Department Director not to be minor in nature, shall be subject to approval of new and/or amended land use entitlements by the applicable City hearing body.
5. All conditions of approval shall be implemented at the applicant's expense, except where specified in the individual condition.

Building and Safety Division

6. All work shall comply with the latest California Building Standards Code (CBC) and American National Standards Institute/Electronic Industries

- Alliance (ANSI/EAI) -222 at time of building permit application.
7. Soils report complying with CBC Chapter 18 is required and shall be submitted at time of building permit application.
 8. Applicant shall submit complete foundation/anchorage designs and details at time of building permit application.
 9. Applicant shall submit complete tower analysis and all connection details at time of building permit application.
 10. Applicant shall provide complete details for underground trenching and conduits.
 11. Applicant shall provide complete designs and details for masonry enclosure and equipment foundation/anchors.

Orange County Fire Authority (OCFA)

12. The applicant shall comply with the requirements of Orange County Fire Authority (OCFA), including but not limited to, a Fire Master Plan.

Public Works Engineering Division

13. The applicant shall obtain an encroachment permit from the City prior to any construction in the public right-of-way.
14. Permit fees shall be calculated based on the current fee schedule at the time of permit issuance.
15. Any required lane closures should occur outside of peak travel periods.
16. The applicant shall submit traffic lane closure permits along with a vehicular traffic control plan for approval.
17. For any wireless telecommunications facility(ies) that are deemed discontinued or abandoned, pursuant to Municipal Code Section 9.24.100 (Wireless Facility Abandonment), the applicant shall comply with the requirements of said section and shall dismantle and remove any existing abandoned wireless telecommunication facility(ies), including poles, associated fixtures, equipment, sub-structure, and concrete foundation.
18. No at or above-ground meter and/or equipment shall be placed on the City of Garden Grove public right-of-way.
19. Construction activities shall adhere to SCAQMD Rule 403 (Fugitive Dust), which includes dust minimization measures, using electricity from power poles rather than diesel or gasoline powered generators, and using methanol,

natural gas, propane or butane vehicles instead of gasoline or diesel powered equipment, where feasible, using solar or low-emission water heaters, and using low-sodium parking lot lights, to ensure compliance with Title 24.

20. New utilities shall have a minimum two-foot (2'-0") horizontal clearance from driveway approaches and curbs.

Public Works Traffic Engineering Division

21. The applicant shall submit plans and pole specifications to include the material of the pole for Public Works Traffic Division approval.

Public Works Water Services Division

22. New utilities shall have a minimum five-foot (5'-0") horizontal and a minimum one-foot (1'-0") vertical clearance from water main and appurtenances.
23. Any new or existing water valve located within new concrete sidewalk improvements shall be reconstructed per City Standard B-753.
24. Any existing meter and services that need to be relocated within the project area shall be relocated at applicant's expense.

Police Department

25. In order to facilitate the City's rules of the regulation, placement, and construction of, and its interaction with, the City's Public Safety Communications Equipment Operation of the Wireless Communications Facilities ("WCF"), the applicant and all successors shall agree as follows:
 - a. The applicant recognizes that the frequencies used by the WCF located at 12432 9th Street may be close to the frequencies used by the City of Garden Grove for public safety. This proximity will require extraordinary "comprehensive advanced planning and frequency coordination" engineering measures to prevent interference, especially in the choice of frequencies and radio ancillary hardware. This is encouraged in the "Best Practices Guide" published by the Association of Public-Safety Communications Officials-International, Inc. (APCO) and as endorsed by the Federal Communications Commission (FCC). Applicant shall comply with such Good Engineering Practices as may be amended from time to time by the FCC in its Rules and Regulations and shall comply with all FCC regulations regarding susceptibility to radio frequency interference, frequency coordination requirements, general technical standards for power, antenna, bandwidth limitations, frequency stability, transmitter measurements, operating requirements, and any and all other federal statutory and regulatory requirements relating to radio frequency interference (RFI).

- b. In the event the WCF is identified as causing radio frequency interference with the City's Public Safety Communications Equipment, the following steps shall be taken:
 - i. Upon notification by the City of interference with Public Safety Communications equipment, the applicant (Smartlink c/o AT&T Mobility) shall utilize the hierarchy and procedures set forth in the Best Practices Guide. If the applicant (Smartlink c/o AT&T Mobility) fails to cooperate with the City in applying the procedures set forth in the Best Practices Guide in order to eliminate the interference, then the City may take such steps under law, including the initiation of appropriate proceedings with the FCC, to eliminate the interference.
 - ii. If there is a determination of radio frequency interference with the City's Public Safety Communications Equipment, the party which caused the interference shall be responsible for reimbursing the City for all costs associated with ascertaining and resolving the interference, including but not limited to any engineering studies obtained by the City to determine the source of the interference.
26. The applicant shall provide a 24-hour phone number to which interference problems can be reported. This condition will also apply to all existing facilities operated by the provider in the City of Garden Grove.
27. The applicant shall provide a "single point of contact" in its Engineering and Maintenance Departments to ensure continuity on all interference issues. The name, telephone number, fax number, and e-mail address of that person shall be provided to the City's designated representative upon activation of the facility.
28. The applicant shall ensure that any lessee or other users of the WCF shall comply with the terms and conditions of this permit and the applicant shall be responsible for the failure of any lessee or other users under the control of the applicant to comply.
29. The applicant will provide the Police Department with emergency information for a responsible person, with authority to act for ownership group.

Community and Economic Development Department

30. The applicant shall be responsible for maintenance and up-keep of the wireless telecommunications facility.
31. The applicant and the property owner shall be responsible for maintaining free from debris, and litter, those areas of the site that are adjacent to the premises over which he/she has control.

32. The applicant and/or property owner shall abate all graffiti vandalism within the premises, the applicant/property owner shall implement best management practices to prevent and abate graffiti vandalism within the premises throughout the life of the project, including , but not limited to, timely removal of all graffiti, the use of graffiti resistant coatings and surfaces, the installation of vegetation screening of frequent graffiti sites, and the installation of signage, lighting, and/or security cameras, as necessary. Graffiti shall be removed/eliminated by the applicant/property owner as soon as reasonably after it is discovered, but not later than 72 hours after discovery.

33. The antenna structure shall be designed and disguised as a eucalyptus tree (mono-eucalyptus). The antennas shall not exceed 57'-0" in height, measured to the top of the antennas (53'-0" and 55'-0" to the centerline of the panel and air antennas, respectively), and the branches shall not exceed 60'-0" in height. The antennas shall not exceed the height of the wireless communications pole. The mono-eucalyptus will consist of nine (9) eight-foot (8'-0") tall antennas (three sectors with three (3) antennas per sector) mounted at 53'-0" antenna centerline, and six (6) 31-inch tall air antennas (two (2) stacked air antennas per sector) mounted at the 55'-0" centerline. Each sector will be attached to the pole of the mono-eucalyptus by a four-foot (4'-0") long T-arm antenna mount. Six (6) surge suppression units will be attached to each T-arm antenna mount along with 36 remote radio units (three-sectors with twelve (12) radios per sector). One four-foot (4'-0") microwave antenna will be installed and attached to the main pole of the mono-eucalyptus at the 42'-0" microwave antenna centerline. All attached equipment (i.e., antennas, T-arm antenna mounts, and other attached equipment) will be sufficiently screened and remain stealth by the foliage of the branches and leaves. In order to maintain a natural appearance, the following conditions shall apply:
 - a. The mono-eucalyptus is required to have a minimum branch count of 100 (minimum of 25 branches for every 10'-0") that is spaced and designed to hide the antennas.
 - b. Branches for the mono-eucalyptus shall begin at a height of no less than 15'-0" above the ground.
 - c. Vertical and horizontal spacing of the branches shall be such that the majority of the trunk of the mono-eucalyptus, above the lowest branch, shall not be visible.
 - d. The extent of the spread shall be approximately 24'-0", as proposed.
 - e. The branches of the mono-eucalyptus shall angle upward 15 to 20 degrees.
 - f. Synthetic eucalyptus branch lengths shall vary to maintain a natural appearance.

- g. The trunk shall be covered in textured rubber to look like real bark.
 - h. The antennas and dishes are required to be painted green to match the color of the foliage.
 - i. There shall be no climbing pegs on the mono-eucalyptus below a height of 15'-0", except when temporarily installed to service the antennas.
 - j. Any proposed antenna dishes shall be designed as a microwave flat panel.
 - k. Sleeves shall be installed to camouflage the antennas.
34. An eight-foot (8'-0") high block wall shall be constructed around the perimeter of the equipment enclosure designated area for the ground-mounted equipment related to the mono-eucalyptus, and shall be painted to match the color of the existing block walls. There shall be no barb and/or razor wire on the enclosure. Fencing shall be placed across the top of enclosure to prevent access into the enclosure.
35. The equipment shall not extend above the top of the equipment enclosure.
36. The applicant shall submit a material sample of the bark and the leaves to the Planning Services Division for review and approval as part of the plan check submittal application.
37. The Conditional Use Permit (CUP) grants the right to the applicant to construct and use a telecommunications facility on the premises. The City, however, has concerns about the potential adverse aesthetic and other health and safety impacts of the antennas, and utility and/or mechanical equipment on the surrounding community. It is possible that future technological improvements may make the proposed telecommunication facility unnecessary or obsolete or outdated aesthetically, therefore, the particular antenna and related equipment shall be reviewed ten years from the date of this approval. At that time, the wireless provider operating the site shall agree to and update the facility as may be required by the Department Director or his/her designee.
38. The City reserves the right to periodically reevaluate the antennas, and utility and/or mechanical equipment in terms of the continued need for these structures in their current size, height, and configuration, and the actual impacts on the neighborhood, community, and environment.
39. If deemed necessary by the Community and Economic Development Director, the Conditional Use Permit may be reviewed within five (5) years of this approval, and every five (5) years thereafter, in order to determine compliance with the conditions of approval.

40. In order to address concerns regarding radio emissions, the following conditions shall be complied with:
 - a. Radio frequency emissions shall not exceed the radio frequency emission guidelines of the Federal Communication Commission (FCC); as such guidelines may be amended from time to time.
 - b. Prior to January 1, 2024, and each January 1st thereafter, the operator shall file with the City of Garden Grove Community and Economic Development Department for approval, a certification of compliance prepared by an independent third party, qualified to measure radio frequency emissions.
41. The operator/property owner shall make the antenna structure available for co-location for other service providers. If an additional wireless provider proposes to locate on the subject facility, the new appurtenances (including, but not limited to: antennas, microwave dishes, T-arm mounts, and other related wireless attachments) shall be fully screened in order to maintain the facility's stealth design.
42. In the case of collocation of telecommunication facilities, the applicant, together with the owner of the subject site, shall provide a composite analysis of all users of the site to determine that the applicant's proposed facilities will not cause radio frequency interference with the City's Public Safety Communications Equipment.
43. Hours and days of construction shall be as set forth in the City of Garden Grove's Municipal Code Section 8.47, referred to as the Noise Control Ordinance.
44. The applicant shall ensure that the operation, maintenance and repair of the wireless telecommunications facility will comply with the City of Garden Grove Noise Control Ordinance Section 8.47, except that maintenance and repair of the facility shall take place only within the hours set forth in the following condition.
45. Hours of maintenance or repair shall be within the hours of 8:00 A.M. and 8:00 P.M., Monday through Friday.
46. The applicant and the property owner shall submit signed letters acknowledging receipt of the decision approving Conditional Use Permit No. CUP-233-2023, and their agreement with all conditions of the approval.
47. There shall be no other antennas or mechanical equipment installed on the approved wireless telecommunications facility without obtaining approval from the Planning Services Division, including, but not limited to, any necessary building permits from the City.

48. Unless a time extension is granted pursuant to Section 9.32.030.D.9 of Title 9 of the Municipal Code, the use authorized by this approval of Conditional Use Permit No. CUP-233-2023 shall become null and void if the subject use or construction necessary and incidental thereto is not commenced within one (1) year of the expiration of the appeal period and thereafter diligently advanced until completion of the project.
49. The applicant shall, as a condition of project approval, at its sole expense, defend, indemnify and hold harmless the City, its officers, employees, agents and consultants from any claim, action, or proceeding against the City, its officers, agents, employees and/or consultants, which action seeks to set aside, void, annul or otherwise challenge any approval by the City Council, Planning Commission, or other City decision-making body, or City staff action concerning CUP-233-2023. The applicant shall pay the City's defense costs, including attorney fees and all other litigation related expenses, and shall reimburse the City for court costs, which the City may be required to pay as a result of such defense. The applicant shall further pay any adverse financial award, which may issue against the City, including, but not limited to, any award of attorney fees to a party challenging such project approval. The City shall retain the right to select its counsel of choice in any action referred to herein.
50. The applicant shall comply with the Migratory Bird Treaty Act (MBTA), and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code, which require the protection of active nests of all bird species, prior to the removal of any on-site landscaping, including the removal of existing trees.
51. During construction, if paleontological or archaeological resources are found, all attempts will be made to preserve in place or leave in an undisturbed state. In the event that fossil specimens or cultural resources are encountered on the site during construction and cannot be preserved in place, the applicant shall contact and retain, at applicant's expense, a qualified paleontologist or archaeologist, as applicable, acceptable to the City to evaluate and determine appropriate treatment for the specimen or resource, and work in the vicinity of the discovery shall halt until appropriate assessment and treatment of the specimen or resource is determined by the paleontologist or archeologist (work can continue elsewhere on the project site). Any mitigation, monitoring, collection, and specimen/resource treatment measures recommended by the paleontologist/archaeologist shall be implemented by the applicant at its own cost.
52. It shall be the applicant's responsibility to verify that any project improvements do not impermissibly interfere with any recorded (or non-recorded) easements or required utility clearances on the subject property.
53. The applicant shall ensure that all existing parking lot areas, inclusive of parking lot modifications, proposed under this project, will be adequately striped and maintained at all times.

54. The property owner shall be responsible for investigating the source of any noise complaints received by the City's Code Enforcement Office relating to the wireless facilities on the property. The property owner shall investigate if the applicant is the source of the noise complaint, and if determined to be the source, the property owner shall contact and coordinate with the applicant to resolve the issue(s). If it is determined that the applicant is not the source of the noise complaint, the property owner shall investigate the other wireless carriers on the site and coordinate with those carriers accordingly to address the complaint.

COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT PLANNING STAFF REPORT

AGENDA ITEM NO.: C.2.	SITE LOCATION: Southeast corner of Westminster Avenue and Euclid Street at 10882 Westminster Avenue, Unit B.
HEARING DATE: April 20, 2023	GENERAL PLAN: Light Commercial
CASE NO.: Conditional Use Permit No. CUP-238-2023	ZONE: C-2 (Community Commercial)
APPLICANT: Paul Pham	CEQA DETERMINATION: Exempt – Section 15301 – Existing Facilities
PROPERTY OWNER: HMZ Retail, L.P.	APN: 099-181-91

REQUEST:

A request for Conditional Use Permit approval to operate a new billiards/pool hall, Billiard Thanh Tam, within an existing 3,038 square foot commercial tenant space, located at 10882 Westminster Avenue, Unit B.

BACKGROUND:

The subject site is approximately seven (7) acres and is improved with a multi-tenant commercial shopping center, Saigon Square, comprised of three (3) multi-tenant commercial buildings. The subject tenant space is 3,083 square feet and is located on the southwestern end of the shopping center, at 10882 Westminster Avenue, Unit B. The subject shopping center is currently occupied by a variety of commercial uses, including offices, restaurants, personal service businesses, and a grocery store.

The subject property has a General Plan Land Use Designation of Light Commercial (LC), and is zoned C-2 (Community Commercial). The subject shopping center is adjacent to C-1 (Neighborhood Commercial) and R-2 (Limited Multiple Residential) zoned properties to the north, across Westminster Avenue, R-3 (Multiple-Family Residential) zoned properties to the west and south, and properties within the City of Santa Ana to the east, across Euclid Street. Existing surrounding uses include a mix of multi-family residences and various commercial uses.

The subject business, Billiard Thanh Tam, formerly operated within the same shopping center in an approximately 5,000 square foot tenant space, located at 10902 Westminster Avenue, which is located two (2) tenant spaces over to the east of the subject tenant space (10882 Westminster Ave, Unit B). According to Business Tax and License Division records, the prior billiards/pool hall (also known as “pool room”) business, at 10902 Westminster Avenue, ceased operations in October of 2022. City records indicate that the prior billiards/pool hall business had been

operating at 10902 Westminster Avenue since 1987, without the benefit of a Conditional Use Permit (CUP) as the business was established prior to the Municipal Code requirement of a Conditional Use Permit to operate a billiards/pool hall. The subject request was initiated due to the property owner requiring the applicant to vacate the former tenant space, in favor of a new tenant operating an administrative office.

According to Business Tax and License records, the subject tenant space, 10882 Westminster Avenue Unit B, was previously occupied by a bridal retail store, Amy Bridal. The previous business closed in 2014, and the subject tenant space has remained vacant since. Billiard Thanh Tam, is proposing to occupy the vacant tenant space and operate a new billiards/pool hall business.

The applicant is requesting Conditional Use Permit approval to operate the new billiards/pool hall. Title 9 of the Garden Grove Municipal Code requires approval of a Conditional Use Permit to conduct a billiards/pool hall business.

DISCUSSION:

The proposed 3,038 square foot billiards/pool hall will typically operate with two (2) employees and the floor plan will consist of a service counter, an open billiard area with fourteen (14) billiard tables, a unisex restroom, and a storage area. According to the applicant, four (4) chairs near the reception area will be used by customers for sitting purposes only. No food will be prepared and no alcohol will be served on premises. Customers may purchase bottled water and bottled/canned carbonated drinks, which will be stored within the storage area at the rear of the tenant space, behind the reception area. Cue sticks will be stored on racks behind the service counter. In order to play, customers will be required to pay to receive cue sticks and racks of billiard balls at the service counter. In addition, the use will be for open play (i.e., no appointments will be required), and no tournaments or special events will take place. Furthermore, one (1) small lottery machine will be placed on the edge of the reception counter.

Due to the change of occupancy from the former retail use to the proposed billiard/pool hall use, a building permit for tenant improvements will be required, which the applicant is currently preparing documents for. In addition, it should be noted, during the plan check review process, the Building & Safety Division will review the plans to ensure compliance with applicable requirements of the California Building Standards Code for the proposed occupancy of the facility, which may impact components of the business, including, but may not be limited to: the maximum occupancy for the establishment, the maximum number of billiard tables the subject space can accommodate; and minimum restroom/plumbing fixtures required.

Billiard Thanh Tam will have hours of operation from 9:00 a.m. to 10:00 p.m., Sunday through Thursday, and from 9:00 a.m. to 12:00 a.m., on Friday and Saturday, which is consistent with the permissible hours of operation pursuant to Municipal Code Chapter 5.40 for pool rooms (billiards/pool halls). The Police Department is supportive of these operating hours.

The proposed billiards/pool hall business, including details of the proposed floor plan, demonstrate compliance with the requirements and conditions of Chapter 5.40, Pool Rooms (billiards/pool halls), of the Municipal Code, including but not limited to, having clear and unobstructed windows and entrances, and a single room without partitions.

The site is improved with a multi-tenant commercial shopping center with sufficient parking that will serve the proposed business and the existing businesses. Municipal Code parking requirements for a billiard/pool hall use requires a minimum of one (1) parking space per 200 square feet of gross floor area for the C-2 zone. The existing tenant space was previously occupied by a clothing retail store, which is subject to a minimum parking ratio of one (1) parking space per 200 square feet of gross floor area. Due to the fact that the parking requirement for the proposed use is equal to the parking requirement of the former retail use, additional parking is not required to accommodate the proposed billiard/pool hall.

The Community and Economic Development Department and the Police Department have reviewed the request and are supporting the proposal. All appropriate conditions of approval for a billiards/pool hall will apply.

California Environmental Quality Act (CEQA):

CEQA's Class 1 exemption applies to the operation, repair, maintenance, permitting, leasing, licensing, and minor alterations of existing facilities, with negligible or no expansion of use (CEQA Guidelines §15301). The subject request for a new billiards/pool hall does not involve any expansion. Therefore, the proposed project is exempt from CEQA.

RECOMMENDATION:

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Staff recommends that the Planning Commission take the following action:

1. Adopt the attached Resolution approving Conditional Use Permit No. CUP-238-2023, subject to the recommended Conditions of Approval.

MARIA PARRA
Planning Services Manager

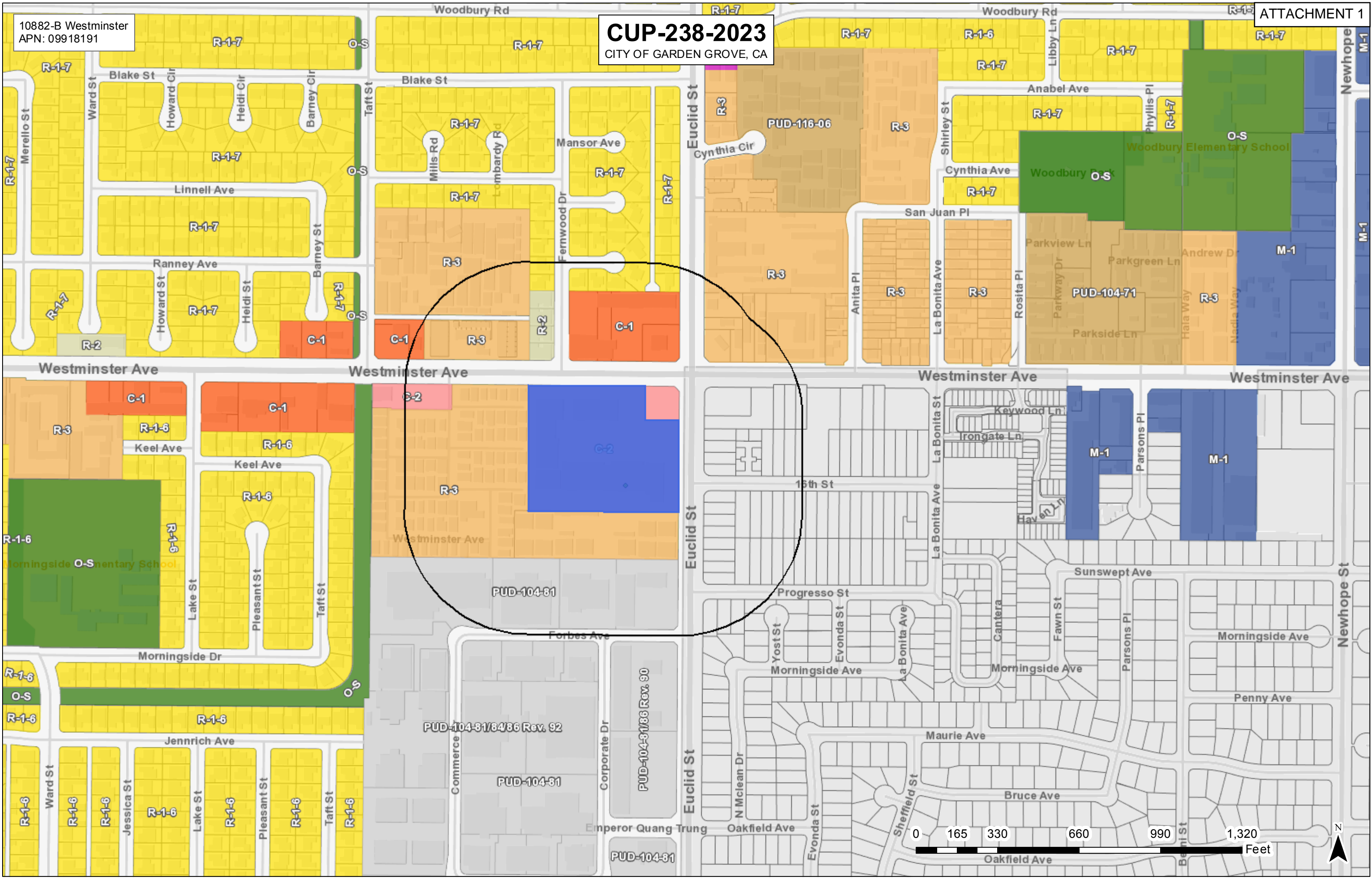
By: Shehriyar Khan
Contract Planner

[Attachment 1](#) [Vicinity Map](#)
[Attachment 2](#) [Plans](#)

10882-B Westminster
APN: 09918191

CUP-238-2023

CITY OF GARDEN GROVE, CA



TENANT IMPROVEMENT FOR RELOCATE

10882-b Westminster Ave Garden Grove, CA 92843

BILIARD THANH TAM

(NO FOOD)

ATTACHMENT 2

CHAU NGUYEN
15626 LEMOLI AVE GARDENA
PHONE : 714.657.9321
MAIL : CHAUARC@GMAIL.COM

ARCHITECTURAL REFERENCE SYMBOLS

DETAIL

DETAIL NUMBER
DRAWING WHERE DETAIL IS FOUND

AREA OF DETAIL CUT PERPENDICULAR TO VIEW

DETAIL ON SAME SHEET

DETAIL NUMBER

HYPHENS INDICATE DETAIL IS SHOWN ON SAME SHEET AS WHERE REFERENCED

DETAIL

AREA OF DETAIL CUT PARALLEL TO VIEW

DETAIL PLAN / ELEVATION

AREA OF ENLARGED PLAN OR ENLARGED ELEVATION

SINGLE ELEVATION

DIRECTION OF VIEW

ELEVATION NUMBER

DRAWING WHERE ELEVATION IS FOUND

MULTIPLE ELEVATIONS

NAME OF VIEW

DIRECTION OF VIEW(S)

SECTION

SECTION NUMBER

DRAWING WHERE SECTION IS FOUND

LINE OF SECTION CUT

DIRECTION OF VIEW

EQUIPMENT MARK

EQUIPMENT ITEM MARK - SEE CORRESPONDING MARK IN SPECIFICATIONS

SIGNAGES MARK

HANDICAPPED SIGNAGES REFER TO 10.0 FOR TYPES

REVISION

REVISION NUMBER - SEE REVISION HISTORY ON TITLE BLOCK OF EACH SHEET

EXTENT OF REVISION

REVISION SYMBOL IS INSIDE INSIDE EXTENT OF CURRENT REVISION AND REFERENCED TO IT

MATCH LINE

DRAWING WHERE CONTINUATION IS FOUND

DRAWING SIDE

GRID OR COLUMN LINES

MAJOR GRID LINE

INTERMEDIATE GRID LINE

GRID LINE DEFINING NEW CONSTRUCTION (CIRCLE SHAPE)

90° TYP. UNCL

KEY NOTE

SEE CORRESPONDING NUMBERED KEY NOTE DEFINED ON THE SAME SHEET WHERE THE REFERENCE OCCURS

LEVEL LINE

SECOND LEVEL
EL 15'-6"

INDICATES HEIGHT ABOVE PROJECT DATUM. SEE "ARCHITECTURAL GENERAL NOTES" (SHEET A0.1) FOR DEFINITION OF DATUM.

DIMENSION POINT

INDICATES POINT ON DIMENSION STRING TO WHICH A POINT ON RELATED DRAWING IS ALSO DIMENSIONED.

PARTITION TYPE MARK

SEE "PARTITION SCHEDULE" FOR ADDITIONAL INFORMATION

LEAD SHIELDING DESIGNATION

SEE "LEAD SHIELDING REQUIREMENTS" ON DWGS A7.1.B1 & A7.1.B2

PROJECT DATA

BUILDING CODES:
2019 CALIFORNIA BUILDING CODE (TITLE 24)
2019 CALIFORNIA MECHANICAL CODE
2019 CALIFORNIA PLUMBING CODE
2019 CALIFORNIA FIRE CODE
2019 CALIFORNIA ELECTRICAL CODE
2019 NON-RESIDENTIAL CEC ENERGY STANDARDS

OCCUPANCY: a-3 GAME ROOM
CONSTRUCTION TYPE: V - B

FLOOR AREA:
RECEPTION SERVICE AREA: 100 SF
STORAGE AREA: 380 SF
SERVICE AREA: 2558 SF
TOTAL: 3038 SF

OCCUPANT LOAD:
CUSTOMER SEATING/SERVICE: 2558 SF / 50 OCC. = 51.6
STORGE: 380 SF / 200 OCC. = 1.6
RECEPTION: 100 SF / 200 OCC. = 0.5
TOTAL OCCUPANTS: = 53.7 = 58

PLUMBING FIXTURE REQUIREMENTS:
1 RESTROOM PROVIDED

PROJECT SCOPE

ARCHITECTURE: RELOCATE BILIARD POOL TABLE

ELECTRICAL: NO CHANGE
MECHANICAL: NO CHANE
PLUMBING: NO CHANGE

SHEET INDEX

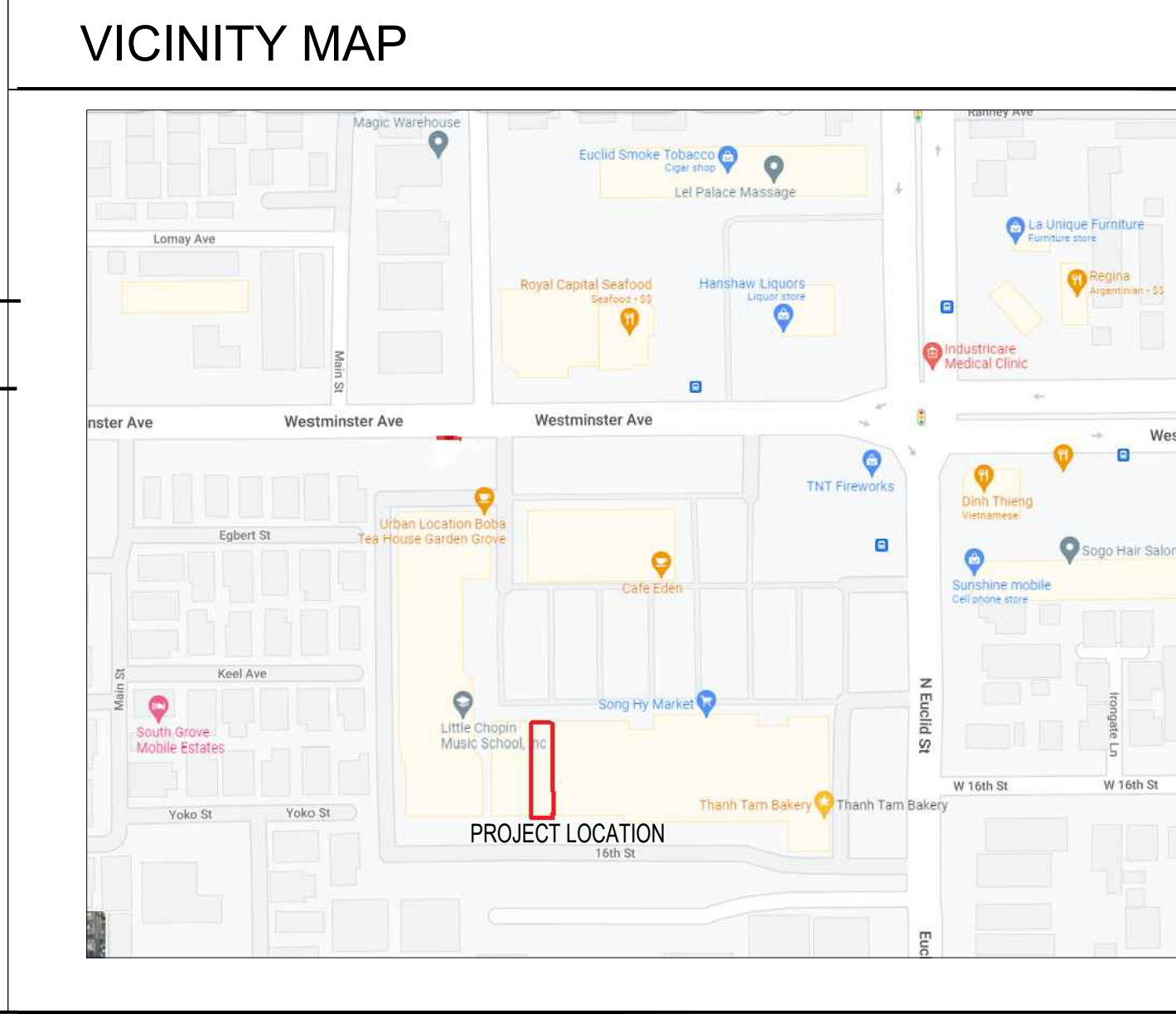
TS TITLE SHEET/ SITE PLAN

ARCHITECTURAL:
A-0 FLOOR PLAN EXISTING LOCATION
A-1 FLOOR PLAN / ROOM FINISH NEW LOCATION
T-001 GENERAL NOTES
T-104 ACCESSIBILITY DETAILS
T-105 ACCESSIBILITY DETAILS

EXIT ANALYSIS

EXITING ANALYSIS	
SPRINKLERED: NO	NUMBER OF OCCUPANTS: 58
OCCUPANCY: M	EXIT PROVIDED: 3
EXIT REQUIRED: 1	WIDTH OF EXIT PROVIDED: 72" + 36"
WIDTH OF EXIT REQUIRED: 44 X 0.3 = 13.2"	

EXIT ACCESS TRAVEL DISTANCE (TABLE 1016.2)	
PATH A	72' < 200' REQUIRED
PATH B	32' < 200' REQUIRED



DIRECTORY

BUILDING OWNER : SAI GON SQUARE

TENANT: PAUL PHAM
PHONE: 714 422 8697

DESIGNER: CHAU NGUYEN
15626 LEMOLI GARDENA
CA 90249
CHAUARC@GMAIL.COM
(714) 657- 9321

ABBREVIATIONS

ACoust.	ACOUSTICAL	E.FTR	EXISTING FINISH TO REMAIN	MAS.	MASONRY	STOR.	STORAGE
ACT.	ACTUAL	E.J.	EXPANSION JOINT	MAT.	MATERIAL	STRUCT.	STRUCTURAL
ADDL.	ADDITIONAL	E.P.	ELECTRIC PANEL	MAX.	MAXIMUM	SURF.	SURFACE
ADJ.	ADJUSTABLE/ADJUST	EL.	ELEVATION	MECH.	MECHANICAL	SUSP.	SUSPENDED
A.F.F.	ABOVE FINISH FLOOR	ELEC.	ELECTRICAL	MEMB.	MEMBRANE	SW.G.B.	SWING DOWN GRAB BAR
AGGR.	AGGREGATE	EMER.	EMERGENCY	MTL.	METAL	T	TREAD
A/C	AIR CONDITIONING	ENCL.	ENCLOSURE	MFR.	MANUFACTURER	T.B.	TOWEL BAR
		ENGR.	ENGINEER	MIN.	MINIMUM	TEL.	TELEPHONE
		EQ.	EQUAL	MISC.	MISCELLANEOUS	T&G	TONGE AND GROOVE
ALT.	ALTERNATE	EQUIP.	EQUIPMENT	MTD.	MOUNTED	THK.	THICK
ALUM.	ALUMINUM	EXH.	EXHAUST	MILL.	MILLION	T.P.D.	TOILET PAPER DISPENSER
L	ANGLE	EX.	EXISTING	N.	NORTH	TYP.	TYPICAL
ARCH.	ARCHITECTURE	EXP.	EXPOSED	N _o	NUMBER	U	UNDERCUT
APPROX.	APPROXIMATE	EXPN.	EXPANSION	N.T.S.	NOT TO SCALE	UL	UNDERWRITERS
@	AT	EXT.	EXTERIOR	N.I.C.	NOT IN CONTRACT	UR.	URINAL
B'	BOTTOM OF ...	F.A.	FIRE ALARM	O.C.	ON CENTER	UR.	URINAL
BD.	BOARD	F.A.P.	FIRE ALARM PANEL	O.D.	OUTSIDE DIAMETER	UNFIN.	UNFINISHED
BLDG.	BUILDING	FDN.	FOUNDATION	OPNG.	OPENING	V.C.T.	RESILIENT TILE FLOORING
BLKG.	BLOCKING	F.E.	FIRE EXTINGUISHER	OPP.	OPPOSITE	V.B.	VENTIL BASE
BM.	BEAM	F.F.	FACTORY FINISH			VERT.	VERTICAL
BOT.	BOTTOM	FIN.	FINISH	PN	PANIC	V.F.	VERIFY IN FIELD
BR.	BRASS	FIN. FL.	FINISHED FLOOR	P	PAINT	VEST.	VESTIBULE
B.P.L.	BEARING PLATE/BASE PLATE	FIXT.	FIXTURE			WC.	WALLCOVERING
CAB.	CABINET	FLASH.	FLASHING	PART.	PARTITION	W	WEST
C.F.A.	CALL FOR AID	FLEX.	FLEXIBLE	PAS.	PASSAGE	W	WITH
CEM.	CEMENT	FMS	FLOOR MOUNTED STOP	P.LAM.	PLASTIC LAMINATE	WC	WATER CLOSET
CER.	CERAMIC	F.N.D.	FEMENINE NAPKIN DISPENSER	PLY.WD.	PLYWOOD	WD	WOOD
C.G.	CEILING	F.N.R.	FEMENINE NAPKIN RECEPTACLE	PR.	PAIR	WIND.	WINDOW
C.G. HT.	CEILING HEIGHT	F.O.F.	FACE OF FINISH	PTD.	PAINTED	W.R.	WASTE RECEPTACLE
CLC.	CENTER LINE	F.O.G.	FACE OF GYPSUM BOARD	P.T.D.	PAPER TOWEL DISPENSER	WMS.	WALL MOUNTED STOP
CLO.	CLOSET	F.O.M.	FACE OF MASONRY	R	RISER	SHWR.	SHOWER
C.M.U.	CONCRETE MASONRY UNITS	F.O.S.	FACE OF STUD	RECP.T.	RECEPTACLE	SHW.	SHOWER
COL.	COLUMN	FT.	FOOT OR FEET	REF.	REFERENCE	SPEC.	SPECIFICATION
COMP.	COMPACTED (COMPOSITION)	FUR.	FURRING	REFL.	REFLECTED/REFLECTIVE	SPRKL.R.	SPRINKLER
C.	CONCRETE	GA.	GAUGE	REIN.	REINFORCING	SG.	SQUARE
CONN.	CONNECTION	GALV.	GALVANIZED	REQU.	REQUIRED	INCL.	INCLUDE
CONSTR.	CONSTRUCTION	G.B.	GRAB BAR	REV.	REVISION	INSUL.	INSULATION
COORD.	COORDINATE	GL.	GLASS	RM.	ROOM	INT.	INTERIOR
CORR.	CORRIDOR	G.W.B.	GYPSUM WALL BOARD	R.H.	ROBE HOOK	JT.	JOINT
CNTR.	COUNTER	H.C.	HANDICAPPED	R.O.	ROUGH OPENING	D.O.	DOOR OPENING
CP.	CARPET	H.C.	HOLLOW CORE	R.V.	ROOF VENT	DR.	DOOR
C.R.	CEILING REGISTER	HD.	HEAD	S	SOUTH	DMS	DOOR MOUNTED STOP
DET.	DETAIL	H.M.	HOLLOW METAL	S.C.	SOLID CORE	DWG.	DRAWING
DIAM.	DIAMETER	HOR.	HORIZONTAL	S.C.D.	SEAT COVER DISPENSER	S.F.	SQUARE FOOT
DM.	DIMENSION	HTG.	HEATING	SCHED.	SCHEDULE	I.F.	INSIDE FACE
DISP.	DISPENSER	HT.	HEIGHT	S.D.	SOAP DISPENSER	DN.	DOWN
DIV.	DIVISION						

SITE PLAN

10882-B Westminister Ave

Handicap Access

NEW LOCATION 3038 SF

EXISTING LOCATION

EUCLID ST

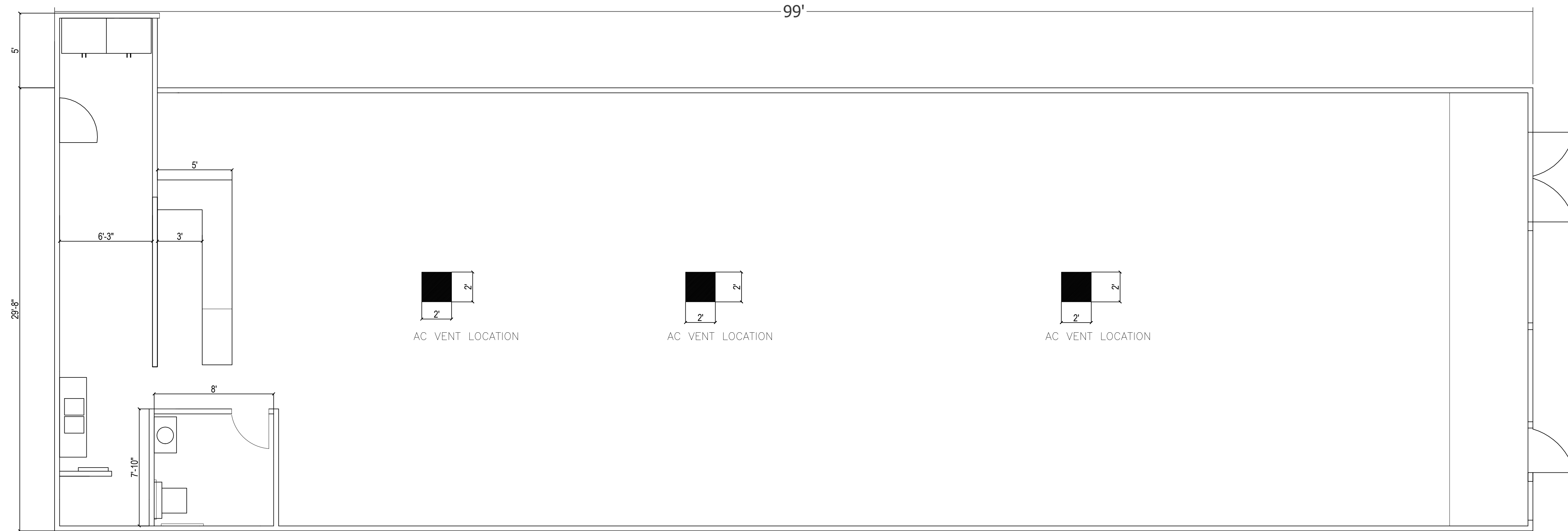
TITLE SHEET
SITE PLAN

TENANT IMPROVEMENT RELOCATE
10882-b Westminister Ave Garden Grove, CA 92843
BILIARD THANH TAM

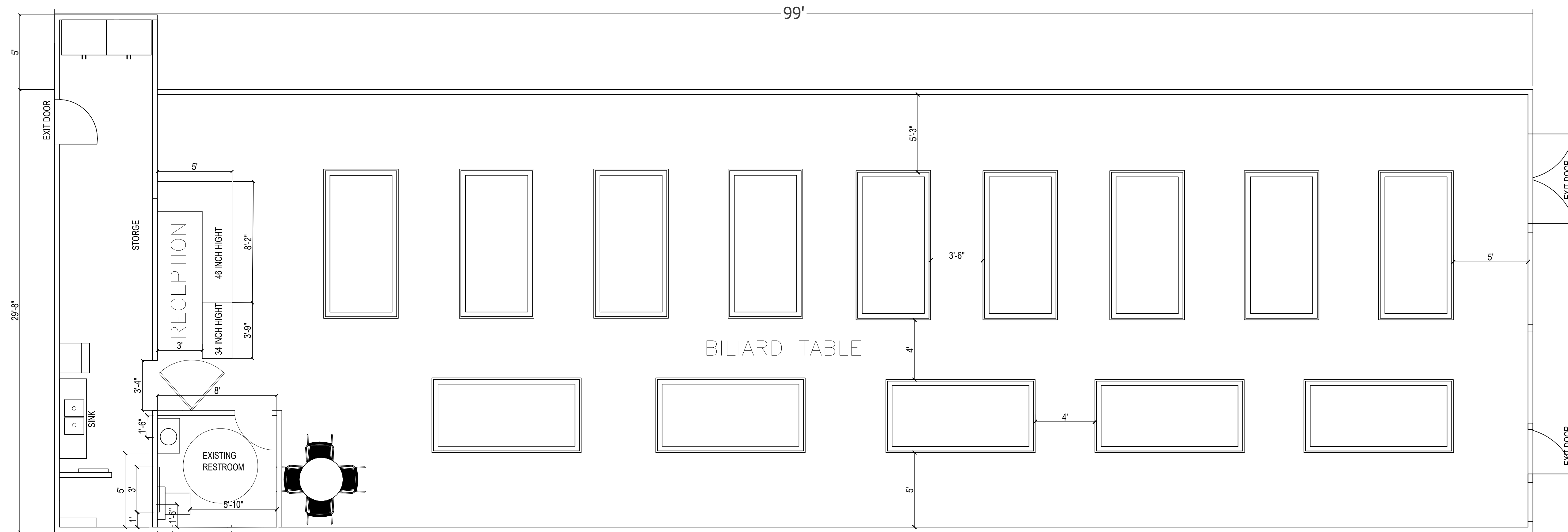
SCALE	AS NOTED
DRAWN BY	TN
CHECKED BY	TN
PLAN DATE	
PRINT DATE	03-25-2021
PROJECT No.	
SHEET No.	

CUP-238-2023

TS



EXISTING FLOOR PLAN AND AC VENT LOCATION
SCALE: 1/4" = 1'-0"



PROPOSED PLAN
SCALE: 1/4" = 1'-0"

CHAU NGUYEN
15626 LEMOLI AVE GARDENA
PHONE : 714.657.9321
MAIL : CHAUARC@GMAIL.COM

REV.	DESCRIPTION	DATE

FLOOR PLAN
ROOM FINISH SCHEDULE

TENANT IMPROVEMENT RELOCATE
10862-b Westminster Ave Garden Grove, CA 92843
BILIARD THANH TAM

SCALE AS NOTED

DRAWN BY

CHECKED BY

PLAN DATE

PRINT DATE 08-06-2021

PROJECT No.

SHEET No.

REV.	DESCRIPTION	DATE



FRONT ELEVATION

SCALE: 1/8" = 1'-0"

ELEVATION PLAN

TENANT IMPROVEMENT RELOCATE
10882-1/2 Westminster Ave Gardena Grove, CA 92843
BILLIARD THANH TAM

SCALE AS NOTED

DRAWN BY

CHECKED BY

PLAN DATE

PRINT DATE

08-06-2021

PROJECT No.

SHEET No.

RESOLUTION NO. 6061-23

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF GARDEN GROVE APPROVING CONDITIONAL USE PERMIT NO. CUP-238-2023 FOR PROPERTY LOCATED AT 10882 WESTMINSTER AVENUE, UNIT B, ASSESSOR'S PARCEL NO. 099-181-91.

BE IT RESOLVED that the Planning Commission of the City of Garden Grove, in a regular session assembled on April 20, 2023, hereby approves Conditional Use Permit No. CUP-238-2023 to permit operation of a new billiards/pool hall, Billiard Thanh Tam, on a property located on the southeast corner of Westminster Avenue and Euclid Street at 10882 Westminster Avenue, Unit B, Assessor's Parcel No. 099-181-91.

BE IT FURTHER RESOLVED in the matter of Conditional Use Permit No. CUP-238-2023, the Planning Commission of the City of Garden Grove does hereby report as follows:

1. The subject case was initiated by Paul Pham, with authorization from the property owner, HMZ Retail, L.P.
2. The applicant is requesting Conditional Use Permit approval to operate a new billiards/pool hall, Billiard Thanh Tam, within an existing 3,038 square foot commercial tenant space, located at 10882 Westminster Avenue, Unit B.
3. The City of Garden Grove Planning Commission hereby determines that this project is exempt pursuant to Article 19, Section 15301, Existing Facilities, of the California Environmental Quality Act.
4. The property has a General Plan Land Use Designation of Light Commercial (LC) and is zoned C-2 (Community Commercial). The site is improved with a multi-tenant commercial shopping center.
5. Existing land use, zoning, and General Plan designation of property within the vicinity of the subject property have been reviewed.
6. Report submitted by City Staff was reviewed.
7. Pursuant to a legal notice, a public hearing was held on April 20, 2023, and all interested persons were given an opportunity to be heard.
8. The Planning Commission gave due and careful consideration to the matter at its meeting on April 20, 2023.

BE IT FURTHER RESOLVED, FOUND AND DETERMINED that the facts and reasons supporting the conclusion of the Planning Commission, as required under Municipal Code Section 9.32.30, are as follows:

FACTS:

The subject property has a General Plan Land Use Designation of Light Commercial (LC), and is zoned C-2 (Community Commercial). Existing surrounding uses include a mix of multi-family residences and various commercial uses.

The subject business, Billiard Thanh Tam, formerly operated within the same shopping center in an approximately 5,000 square foot tenant space, located at 10902 Westminster Avenue, which is located two (2) tenant spaces over to the east of the subject tenant space (10882 Westminster Ave, Unit B).

According to Business Tax and License Division records, the prior billiards/pool hall (also known as "pool room") business, at 10902 Westminster Avenue, ceased operations in October of 2022. City records indicate that the prior billiards/pool hall business had been operating at 10902 Westminster Avenue since 1987, without the benefit of a Conditional Use Permit (CUP) as the business was established prior to the Municipal Code requirement of a Conditional Use Permit to operate a billiards/pool hall. The subject request was initiated due to the property owner requiring the applicant to vacate the former tenant space, in favor of a new tenant operating an administrative office.

Billiard Thanh Tam will have hours of operation from 9:00 a.m. to 10:00 p.m., Sunday through Thursday, and from 9:00 a.m. to 12:00 a.m., on Friday and Saturday, which is consistent with the permissible hours of operation pursuant to Municipal Code Chapter 5.40 for pool rooms (billiards/pool halls). The Police Department is supportive of these operating hours.

The proposed billiards/pool hall business, including details of the proposed floor plan, demonstrate compliance with the requirements and conditions of Chapter 5.40, Pool Rooms (billiards/pool halls), of the Municipal Code, including but not limited to, having clear and unobstructed windows and entrances, and a single room without partitions.

Title 9 of the Municipal Code requires approval of a Conditional Use Permit in order to operate a billiards/pool hall at the proposed location.

FINDINGS AND REASONS:

1. The proposed use will be consistent with the City's adopted General Plan and redevelopment plan.

The subject property has a General Plan Land Use Designation of Light Commercial (LC), and is zoned C-2 (Community Commercial). Billiard/pool halls are conditionally permitted in the C-2 zone. Provided that the conditions of approval are complied with, the use will be consistent with the General Plan. The Light Commercial General Plan Land Use designation allows

for a range of commercial activities that serve local residential neighborhoods and the larger community. In particular, the subject proposal is consistent with the following goals, policies and implementation programs of the General Plan:

Policy LU-1.4 Encourage a wide variety of retail and commercial services, such as restaurants and cultural arts / entertainment, in appropriate locations. The subject tenant space is located at the southeast intersection of Westminster Avenue and Euclid Street, a prominent commercial area of the City, in an area developed with existing restaurants, retail, and other commercial services. The subject property is zoned C-2 (Community Commercial) and has a General Plan Land Use Designation of Light Commercial. Billiards/pool halls are conditionally permitted uses in the C-2 zone. Billiard Thanh Tam will be an additional entertainment amenity to the area which will enhance the recreational experiences of the local community.

Goal LU-5 Economically viable, vital, and attractive commercial centers throughout the City that serve the needs of the community. Entertainment uses such as billiards/pool halls can enhance the vitality of the City's commercial centers. The requested Conditional Use Permit would allow for the operation of a billiards/pool hall. This enhances the community, by providing another unique recreational opportunity.

Policy LU-6.2 Encourage a mix of retail and commercial services along the major corridors and in centers to meet the community's needs. The subject request for a Conditional Use Permit to operate Billiard Thanh Tam would enhance the appeal of the shopping center which is situated at the intersection of Westminster Avenue and Euclid Street, a prominent commercial area of the City. The area surrounding the subject restaurant features a wide variety of existing commercial uses. With the subject request, the proposed use will further enhance the variety of uses in the area.

Policy LU-6.3 Encourage properties along corridors and in centers to be improved through maintenance or rehabilitation to prevent decline or encourage redevelopment. The subject request for a Conditional Use Permit to allow the operation of a new billiards/pool hall, would involve tenant improvements to a tenant space that has remained vacant since 2014. Associated improvements to the tenant space will prevent the decline of the Saigon Center shopping center that is situated along major arterial corridors of Westminster Avenue and Euclid Street. Billiard Thanh Tam will be an additional entertainment amenity to the area which will enhance the recreational experiences of the local community.

2. The requested use at the location proposed will not: adversely affect the health, peace, comfort, or welfare of the persons residing or working in the

surrounding area, or unreasonably interfere with the use, enjoyment, or valuation of the property of other persons located in the vicinity of the site, or jeopardize, endanger, or otherwise constitute a menace to public health, safety, or general welfare.

The proposed billiard/pool hall would be located within a multi-tenant commercial shopping center in a prominent commercial area, at the intersection of two major commercial corridors, Westminster Avenue and Euclid Street. Currently, the businesses operating at the shopping center include eating establishments, a driving school, a grocery supermarket, a liquor store, a travel agency, a real estate office, and personal service businesses. Billiard/pool hall businesses are subject to Chapter 5.40 of the Garden Grove Municipal Code, which requires persons engaging in such a business to obtain a permit from the Police Chief and to comply with specified building and operational requirements. Permitted hours of operation for the proposed billiard hall will be limited from 9:00 a.m. to 10:00 p.m. Sunday through Thursday, and from 9:00 a.m. to 12:00 a.m., on Friday and Saturday, which is consistent with the hours allowed for pool rooms under Chapter 5.40 of the Municipal Code. Alcoholic beverages will not allowed to be brought in, served, or sold on the premises. No live entertainment, including disc-jockey, dancing, karaoke, live bands, or gaming machines will be permitted. No sound from any amplified music may be audible from outside of the premises. The conditions of approval will minimize potential impacts to the adjoining area. Provided the conditions of approval are adhered to for the life of the project, the use will not adversely affect the health, peace, comfort, or welfare of the persons residing or working in the surrounding area, or unreasonably interfere with the use, enjoyment, or valuation of the property of other persons located in the vicinity of the site, or jeopardize, endanger, or otherwise constitute a menace to public health, safety, or general welfare.

3. The proposed site is adequate in size and shape to accommodate the yards, walls, fences, parking and loading facilities, landscaping and other development features prescribed in this title or as is otherwise required in order to integrate such use with the uses in the surrounding area.

The site is improved with a multi-tenant commercial shopping center with sufficient parking that will serve the proposed business and the existing businesses. Municipal Code parking requirements for a billiard/pool hall use requires a minimum of one (1) parking space per 200 square feet of gross floor area for the C-2 zone. The existing tenant space was previously occupied by a clothing retail store, which is subject to a minimum parking ratio of one (1) parking space per 200 square feet of gross floor area. Due to the fact that the parking requirement for the proposed use is equal to the parking requirement of the former retail use, additional parking is not

required to accommodate the proposed billiard/pool hall. The site will continue to be of adequate size and shape to accommodate the existing uses, the proposed use, and all other on-site improvements, and will continue to integrate with the uses in the surrounding area.

4. The proposed site is adequately served: by highways or streets or sufficient width and improved as necessary to carry the kind and quantity of traffic such as to be generated, and by other public or private service facilities as required.

The subject site is located at the intersection of Westminster Avenue and Euclid Street. The commercial center is adequately accessed by two (2) driveways along Westminster Avenue, and three (3) driveways along Euclid Street. On-site circulation is adequate to serve all the uses in the commercial center. The site is also adequately served by the public service facilities required such as public utilities: gas, electric, water, and sewer facilities. As a part of this request, no changes are proposed for the design and function of the shopping center. Therefore, the site will continue to be adequately served by all existing highways, streets, and other public and private service facilities

INCORPORATION OF FACTS AND REASONS SET FORTH IN STAFF REPORT

In addition to the foregoing, the Planning Commission incorporates herein by this reference, the facts and reasons set forth in the staff report.

BE IT FURTHER RESOLVED that the Planning Commission does conclude:

1. The Conditional Use Permit does possess characteristics that would indicate justification of the request in accordance with Municipal Code Section 9.32.030 (Conditional Use Permits).
2. In order to fulfill the purpose and intent of the Municipal Code and thereby promote the health, safety, and general welfare, the following Conditions of Approval, attached as Exhibit "A", shall apply to Conditional Use Permit No. CUP-238-2023.

EXHIBIT "A"

Conditional Use Permit No. CUP-238-2023

10882 Westminster Avenue, Unit B

CONDITIONS OF APPROVAL

General Conditions

1. Each owner of the property shall execute, and the applicant shall record against the property, a "Notice of Discretionary Permit Approval and Agreement with Conditions of Approval," as prepared by the City Attorney's Office, within 30 days of approval. This Conditional Use Permit runs with the land and is binding upon the property owner, his/her/its heirs, assigns, and successors in interest.
2. All Conditions of Approval set forth herein shall be binding on and enforceable against each of the following, and whenever used herein, the term "applicant" shall mean and refer to each of the following: the project applicant, Paul Pham, LLC, the developer of the project, the owner(s) and tenants(s) of the property, and each of their respective successors and assigns. The applicant and subsequent owner/operators of such business shall adhere to the conditions of approval for the life of the project, regardless of property ownership. Any changes of the conditions of approval require approval by the applicable City hearing body, except as otherwise provided herein.
3. Approval of this Conditional Use Permit shall not be construed to mean any waiver of applicable and appropriate zoning and other regulations; and wherein not otherwise specified, all requirements of the City of Garden Grove Municipal Code shall apply.
4. This Conditional Use Permit only authorizes the operation of a 3,038 square foot billiard/pool hall as identified on the floor plan attached to these Conditions of Approval. Approval of this Conditional Use Permit shall not be construed to mean any waiver of applicable and appropriate zoning and other regulations; and wherein not otherwise specified, all requirements of the City of Garden Grove Municipal Code shall apply.
5. Minor modifications to the approved site plan, floor plan, and/or these Conditions of Approval may be approved by the Department Director, in his or her discretion. Proposed modifications to the approved floor plan, site plan, or Conditions of Approval that would result in the intensification of the project or create impacts that have not been previously addressed, and which are determined by the Department Director not to be minor in nature shall be subject to approval of new and/or amended land use entitlements by the applicable City hearing body.

6. All conditions of approval shall be implemented at the applicant's expense, except where specified in the individual condition.

Police Department

7. There shall be no gaming tables or gaming machines, as outlined in City Code Sections 8.20.010 and 8.20.050, on the premises at any time.
8. Hours of operation shall be permitted from 9:00 a.m. to 10:00 p.m., Sunday through Thursday, and from 9:00 a.m. to 12:00 a.m., on Friday and Saturday. The hours of operation shall be applicable to the entire premises. The City of Garden Grove reserves the right to reduce hours of operation by order of the Chief of the Police Department, in the event problems arise due to noise, disturbances or other problems that may be resolved by modifying the hours of operation.
9. There shall be no customers or patrons in or about the premises when the establishment is closed.
10. There shall be no live entertainment, dancing, karaoke, sport bar, or disc jockey entertainment permitted on the premises at any time. Amplified music from a jukebox may be permitted provided the sound emitted is not audible from outside the premises.
11. There shall be no more than fourteen (14) billiard/pool tables on the premises at any time. During the plan check review process, the Building & Safety Division will review the plans to ensure compliance with applicable requirements of the California Building Standards Code for the proposed occupancy of the facility, which may impact the number of billiard/pool tables that the subject space can accommodate. During the plan check process, the Building Division will determine the exact number of pool tables that shall be allowed on the premises based on complying with the occupancy requirements for an assembly use. The Department Director shall be authorized to reduce the maximum number of permitted billiard/pool tables as a result of this analysis, and may in such case issue an addendum to these Conditions of Approval, which shall supersede the maximum number of tables set forth in this Condition No. 11 and be enforceable as a Condition of Approval.
12. There shall be no more than (3) incidental amusement devices on the premises at any time.

13. The use shall comply with all provisions of Title 5 Chapter 40 (Pool Rooms) (also known as "Billiards/Pool Hall") of the Garden Grove Municipal Code.
14. No person under eighteen (18) years of age shall be permitted to enter into or remain in any pool room, except when such person is accompanied by his or her parent or legal guardian. Persons under the age of eighteen (18) years shall not be permitted inside the establishment unless accompanied by a parent.
15. All pool cues shall be located within a secure place, under the control of the owner/employees, and available to patrons through a checkout system.
16. There shall be one primary service counter area from which customers may checkout cue sticks and balls, and pay for services.
17. The tenant space store front, including windows and doors, shall be kept clear, transparent, and unobstructed, so that all parts of the room are visible at all times. Prior to commencement of operation, the existing window tint film shall be removed to provide clear visibility into the tenant space.
18. The interior of the establishment shall provide adequate interior lighting to provide clear visibility into the tenant space at all times. Dim lighting will not be allowed.
19. Alcoholic Beverages shall not be brought into, served, or sold on the premises.
20. In the event security problems occur, and at the request of the Police Department, the permittee, at his own expense, shall provide a California licensed, uniformed security guard(s) on the premises during such hours as requested by the Police Department.
21. Any violations or noncompliance with the conditions of approval may result in the issuance of an Administrative Citation of up to \$1,000 pursuant to GGMC 1.22.010 (a).
22. Prior to commencement of operation of the billiards/pool hall ("pool room") business, and prior to approval of a business license for said business, in accordance with the requirements of Municipal Code Chapter 5.40 (Pool Rooms), the applicant shall obtain approval of a permit, from the Garden Grove Police Department, to operate said business at the subject location.

Building & Safety Division

23. Prior to the operation of the billiards/pool hall business, and prior to approval of a business license at the subject location, the applicant shall obtain all necessary permits, including, but may not be limited to, a building permit for a change in occupancy, including any proposed tenant improvements. The applicant shall verify the proposed business complies with all applicable requirements of the California Building Standards Code for matters relating to, but not be limited to: Ensuring the existing building can accommodate the new occupancy; verifying the allowable floor area; verifying occupancy separation; and other code requirements in accordance with the applicable occupancy type.

Orange County Fire Authority

24. The applicant shall comply with all applicable Orange County Fire Authority requirements, including, but not limited to the Fire Master Plan.

Public Works Water Services Division

25. New water service installations 2" and smaller, may be installed by the City of Garden Grove at owner's/developer's expense. Installation shall be scheduled upon payment of applicable fees, unless otherwise noted. Fire services and larger water services 3" and larger, shall be installed by developer/owner's contractor per City Standards.
26. Water meters shall be located within the City right-of-way. Fire services and large water services 3" and larger, shall be installed by contractor with class A or C-34 license, per City water standards and inspected by approved Public Works inspection.
27. A Reduced Pressure Principle Device (RPPD) backflow prevention device shall be installed for meter protection. The landscape system shall also have RPPD device. Any carbonation dispensing equipment shall have a RPPD device. Installation shall be per City Standards and shall be tested by a certified backflow device tester immediately after installation. Cross connection inspector shall be notified for inspection after the installation is completed. Owner shall have RPPD device tested once a year thereafter by a certified backflow device tester and the test results to be submitted to Public Works, Water Services Division. Property owner must open a water account upon installation of RPPD device.

28. New utilities shall have a minimum 5-foot horizontal and a minimum 1-foot vertical clearance from water main and appurtenances.
29. If any modifications, alterations or addition to the existing fire sprinkler system are proposed, the fire service shall be upgraded with an above-ground backflow device with a double-check valve assembly. Device shall be tested immediately after installation and once a year thereafter by a certified backflow device tester and the results to be submitted to Public Works, Water Services Division. Device shall be on private property and is the responsibility of the property owner. The above-ground assembly shall be screened from public view as required by the Planning Division.
30. If needed, owner shall install new sewer lateral with clean out connecting to existing private sewer system on site. It is the responsibility of the owner to install appropriate size sewer lateral.
31. Contractor shall abandon any existing unused sewer lateral(s) on the property owner's side in accordance with California Plumbing Code.

Community and Economic Development Department

32. No outside storage or displays shall be permitted at any time.
33. A prominent, permanent sign stating "NO LOITERING IS ALLOWED ON OR IN FRONT OF THE PREMISES" shall be posted in a place that is clearly visible to patrons of the licensee. The sign lettering shall be four (4) to six (6) inches high with black letters on a white background. The sign shall be displayed near or at the business entrance, and shall also be visible to the public.
34. There shall be no uses or activities permitted of an adult-oriented nature as outlined in City Code Section 9.16.20.070 (Adult Entertainment Uses).
35. There shall be no deliveries to or from the premises before 8:00 a.m. and after 10:00 p.m., seven days a week.
36. Litter shall be removed daily from the premises, including from adjacent public sidewalks, and all parking areas under the control of the licensee. These areas shall be swept or cleaned, either mechanically or manually, on a weekly basis to control debris.
37. All trash bins shall be kept inside the trash enclosure, with the gates closed at all times, except during disposal and pick-up. Trash pick-up shall be at least three (3) times a week.

38. The applicant/property owner shall abate all graffiti vandalism within the premises. The applicant/property owner shall implement best management practices to prevent and abate graffiti vandalism within the premises throughout the life of the project, including, but not limited to, timely removal of all graffiti, the use of graffiti resistant coatings and surfaces, the installation of vegetation screening of frequent graffiti sites, and the installation of signage, lighting, and/or security cameras, as necessary. Graffiti shall be removed/eliminated by the applicant/property owner as soon as reasonably possible after it is discovered, but not later than 72 hours after discovery.
39. The applicant is advised that the establishment is subject to the provisions of State Labor Code Section 6404.5 (ref: State Law AB 13), which prohibits smoking inside the establishment as of January 1, 1995.
40. No roof-mounted mechanical equipment, including exhaust vents, shall be permitted unless a method of screening complementary to the architecture of the building is approved by the Community and Economic Development Department, Planning Division. Said screening shall block visibility of any roof-mounted mechanical equipment from view of public streets and surrounding properties.
41. No satellite dish antennas shall be installed on said premises unless, and until, plans have been submitted to and approved by the Community and Economic Development Department, Planning Division. No advertising materials shall be placed thereon.
42. Permits from the City of Garden Grove shall be obtained prior to displaying any temporary advertising (i.e., banners).
43. Signs shall comply with the City of Garden Grove sign requirements.
44. No window signage shall be allowed at any time.
45. Any modifications to existing signs or the installation of new signs shall require approval by the Community and Economic Development Department, Planning Services Division prior to issuance of a building permit.
46. The exterior of the premises, including adjacent public sidewalks and all parking lots under the control of the applicant, operator, or property owner, shall be illuminated during the hours of darkness the establishment is open at a minimum of two-foot candles on the parking lot surface, and with a minimum of one-foot candles of light during all other hours of darkness.

- Lighting in the parking area shall be directed, positioned, or shielded in such a manner so as not to unreasonably illuminate the window area of nearby residences.
47. The Conditional Use Permit may be called for review by City staff, the City Council, or Planning Commission, if noise or other complaints are filed and verified as valid by the Code Enforcement office or other City department concerning the violation of approved conditions, the Garden Grove Municipal Code, or any other applicable provisions of law.
 48. A copy of the decision approving Conditional Use Permit No. CUP-238-2023 shall be kept on the premises at all times.
 49. The applicant shall submit a signed letter acknowledging receipt of the decision approving Conditional Use Permit No. CUP-238-2023, and his/her agreement with all conditions of the approval.
 50. If deemed necessary by the Department Director, the Conditional Use Permit may be reviewed within one year from the date of this approval, and every three (3) years thereafter, in order to determine if the business is operating in compliance.
 51. The applicant shall, as a condition of project approval, at its sole expense, defend, indemnify and hold harmless the City, its officers, employees, agents and consultants from any claim, action, or proceeding against the City, its officers, agents, employees and/or consultants, which action seeks to set aside, void, annul or otherwise challenge any approval by the City Council, Planning Commission, or other City decision-making body, or City staff action concerning Conditional Use Permit No. CUP-238-2023. The applicant shall pay the City's defense costs, including attorney fees and all other litigation related expenses, and shall reimburse the City for court costs, which the City may be required to pay as a result of such defense. The applicant shall further pay any adverse financial award, which may issue against the City including but not limited to any award of attorney fees to a party challenging such project approval. The City shall retain the right to select its counsel of choice in any action referred to herein.
 52. Unless a time extension is granted pursuant to Section 9.32.030.D.9 of Title 9 of the Municipal Code, the use authorized by this approval of Conditional Use Permit No. CUP-238-2023 shall become null and void if the subject use or construction necessary and incidental thereto is not commenced within one (1) year of the expiration of the appeal period and thereafter diligently advanced until completion of the project.