AGENDA

CITY OF ANTIOCH ZONING ADMINISTRATOR

THURSDAY, SEPTEMBER 12, 2019
3:00 P.M.

REGULAR MEETING

CITY HALL SECOND FLOOR CONFERENCE ROOM
200 "H" STREET

APPEAL

All items that can be appealed under Section 9-5.2705 of the Antioch Municipal Code must be appealed within five (5) working days of the date of the decision. The final appeal date of decisions made at this meeting is 5:00 PM on **THURSDAY, SEPTEMBER 19, 2019.**

PUBLIC COMMENTS

NEW PUBLIC HEARING

1. **UP-19-06, AR-19-09 – Contra Loma PG&E Tower Wireless Facility –** Complete Wireless Consulting, on behalf of Verizon, requests approval of a use permit and design review for a new wireless telecommunications facility consisting of a six antennas mounted at a centerline of 90 feet on top of an existing 84.8-foot-tall PG&E tower, associated equipment, a six-foot-tall fence for an equipment enclosure under the PG&E tower, and access road improvements. The subject property is located at 3915 Contra Loma Boulevard **(APN 071-241-001).** This project has been determined to be exempt from CEQA pursuant to Section 15303 – New Construction or Conversion of Small Structures.

ORAL COMMUNICATIONS

WRITTEN COMMUNICATIONS

ADJOURNMENT

Notice of Availability of Reports

This agenda is a summary of the actions proposed to be taken by the Zoning Administrator. For almost every agenda item, materials have been prepared by the City staff for the Zoning Administrator's consideration. These materials include staff reports which explain in detail the item before the Zoning Administrator and the reason for the recommendation. The materials may also

include resolutions or ordinances which are proposed to be adopted. Other materials, such as maps and diagrams, may also be included. All of these materials are available at the Community Development Department located on the 2nd floor of City Hall, 200 "H" Street, Antioch, California, 94509, between the hours of 8:00 a.m. and 5:00 p.m. Monday through Friday for inspection and copying (for a fee) or on our website at: https://www.antiochca.gov/fc/community-development/planning/Project-Pipeline.pdf.

Questions on these materials may be directed to the staff member who prepared them, or to the Community Development Department, who will refer you to the appropriate person.

STAFF REPORT TO THE ZONING ADMINISTRATOR
FOR CONSIDERATION AT THE MEETING OF SEPTEMBER 12, 2019

Prepared by: Zoe Merideth, Associate Planner
Brandon Northart, Contract Planner

Reviewed by: Alexis Morris, Planning Manager

Date: **September 6, 2019**

Subject: **UP-19-06, AR-19-09 – Contra Loma PG&E Tower Wireless Facility**

RECOMMENDATION

It is recommended that the Zoning Administrator **APPROVE** a use permit and design review of a new wireless facility at 3195 Contra Loma Boulevard (APN 071-241-001), subject to the conditions contained in the attached resolution.

REQUEST

Complete Wireless, the applicant on behalf of Verizon Wireless, requests that the Zoning Administrator approve an application for a use permit and design review for a new wireless telecommunications facility consisting of six antennas mounted at a centerline of 90 feet on top of an existing 84.8-foot-tall PG&E tower, associated equipment, a six-foot-tall fence for equipment enclosure under the PG&E tower, and access road improvements. The proposed project is located in the middle of the parcel identified as 3195 Contra Loma Boulevard (APN 071-241-001).

ENVIRONMENTAL

The project is Categorically Exempt from the provisions of CEQA, pursuant to section 15303 – New Construction or Conversion of Small Structures. This section of CEQA exempts projects that involve construction of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure.

ANALYSIS

Issue #1: Project Overview

The proposed project seeks to provide a wireless telecommunications facility in the general area that Verizon Wireless previously sought approval for a monopine at a vacant parcel at Putnam Street and Contra Loma Boulevard (UP-16-15, AR-16-09). Antioch Planning staff was not supportive of the previous submittal due to the height of the monopine and the potential for a collocation on a nearby PG&E tower rather than building a new facility. The project was scheduled to be heard at the April 5, 2017 Planning Commission meeting. Staff had prepared a staff report with a recommendation of denial. At the meeting, the Planning Commission approved a six-month project extension and provided direction to the applicant to provide additional information, including alternate site locations and to conduct a drive test. Ultimately, the applicant withdrew the application and did not return to Planning Commission.

On June 4, 2019, the applicant submitted a new application on behalf of Verizon for a use permit and design review for six new antennas mounted on top of an existing PG&E tower approximately 1,100 feet to the southeast of the previous site. The applicant provided a detailed project description and photo simulations, which are attached as Attachments B and C. The proposed site currently contains a PG&E tower, vacant land, and a parking lot for First Family Church, which owns the subject parcel and has a church on the adjacent parcel to the north. The project site is accessed from Longview Road, using the church's main entrance.

The new design would use a 12-foot-tall "top hat" design, which places the antennas on top of the tower using a support system that sits on top of the existing tower that matches the existing lattice tower design. The existing tower is 84.8 feet tall. The antennas would be mounted at a centerline of 90 feet and measure 6 feet in total height. The total height of the PG&E tower after the facility's installation would be 96.8 feet. The top hat and antennas would be painted to match the existing tower. Lower down the PG&E tower, at centerlines ranging from 34 feet to 39.5 feet, two rows of remote radio head (RRH) units and a surge protector would be mounted on the tower's leg.

The ground equipment would be housed in a 15-foot by 15-foot area surrounded by a six-foot-tall wooden fence that would screen the equipment area. This equipment area would

be entirely within the footprint of the existing PG&E tower's base. Access to the site would be provided via a road that follows PG&E's access rights across the property and the property to the north. This road is accessed from the western edge of the parking lot for First Family Church. This existing dirt road would be improved and paved with concrete and gravel shoulders. The proposed design also includes reducing the maximum access road grade to 20%, as well as the addition of an improved emergency vehicle turnaround near the base of the PG&E tower.

The proposed design is located at a site with a large PG&E tower already. The cumulative aesthetic impact to the site after the addition of the antennas and associated equipment would be minimal. The proposed dark brown composite wooden fence would screen the ground mounted equipment and be designed to blend into the surrounding landscape.

This project was deemed complete prior to the adoption of the new wireless telecommunications ordinance that went into effect on July 25, 2019. Any future modifications to the site would be subject to the requirements of the new wireless telecommunications ordinance.

Issue #2: General Plan, Zoning Consistency, and Land Use

The General Plan designation of the project site is Medium Low Density Residential, and the zoning is Single Family Residential (R-6). The Single Family Residential (R-6) zoning district allows wireless communications facilities with the issuance of a use permit.

The surrounding land uses and zoning designations are noted below.

North:	Church/Medium-High Density Residential (R-20)
South:	Single family homes/Single Family Residential (R-6)
East:	Church Parking Lot/Single Family Residential (R-6)
West:	Contra Loma Blvd, Shopping Center/Neighborhood Community Commercial (C-2)

ATTACHMENTS

A. Resolution
B. Project Description
C. Photo Simulations
D. RF Analysis

ATTACHMENT “A”

CITY OF ANTIOCH ZONING ADMINISTRATOR
RESOLUTION NO. 2019-**

RESOLUTION OF THE CITY OF ANTIOCH ZONING ADMINISTRATOR APPROVING A USE PERMIT AND DESIGN REVIEW (UP-19-06, AR-19-09) FOR A WIRELESS FACILITY AT 3195 CONTRA LOMA BLVD (APN: 071-241-001)

WHEREAS, Complete Wireless Consulting, on behalf of Verizon Wireless, requests approval of a use permit and design review to install a wireless antenna facility consisting of six antennas with associated equipment and an access road at a PG&E tower. The subject property is located at 3195 Contra Loma Blvd (APN 071-241-001); and,

WHEREAS, this project is Categorically Exempt from the provisions of CEQA, pursuant to section 15303; and,

WHEREAS, the Zoning Administrator duly gave notice of public hearing as required by law; and,

WHEREAS, the Zoning Administrator on September 12, 2019, duly held a public hearing and received and considered evidence, both oral and documentary; and,

WHEREAS, the Zoning Administrator does determine:

1. The granting of such Use Permit will not be detrimental to the public health or welfare or injurious to the property or improvements in such zone or vicinity.

   The proposed wireless antennas will not be detrimental to the surrounding property or improvements because based upon the conditions imposed, the proposed use will not create adverse impacts to the surrounding businesses and residents. The ground mounted equipment will be enclosed by a wooden fence and shielded from public view. The subject site will benefit public welfare by providing improved wireless services to the area, such as mobile telephone services, emergency 911 services, and data transfer. In addition, the proposed facility demonstrates planned compliance with applicable Federal Communications Commission regulations for exposure to radio frequency emissions.

2. The use applied at the location indicated is properly one for which a Use Permit is authorized.

   The site is located in a Single Family Residential (R-6) zoning district. The placement of telecommunications facilities and equipment are allowed in this district upon approval of a use permit.

3. That the site for the proposed use is adequate in size and shape to accommodate such use, and all parking, and other features required.

The proposed wireless antennas and associated improvements will be placed on an existing PG&E tower and will require minimal improvements to the site. The proposed use is an unattended wireless facility that will not require additional parking.

4. That the site abuts streets and highways adequate in width and pavement type to carry the kind of traffic generated by the proposed use.

   It is anticipated that an unattended wireless facility will generate very little traffic and would only result in the occasional maintenance of the equipment. The project site is currently served by a PG&E access road that the applicant will further improve, which will be adequate in width and pavement type to carry the minimal traffic generated by the proposed use.

5. The granting of such Use Permit will not adversely affect the comprehensive General Plan.

   The use will not adversely affect the comprehensive General Plan because the project is consistent with the General Plan designation of Medium Low Density Residential.

NOW THEREFORE BE IT RESOLVED, the Zoning Administrator of the City of Antioch does hereby **APPROVE** a use permit and design review, to allow six antennas with associated equipment and an access road to be installed at 3195 Contra Loma Blvd (APN 071-241-001), subject to the following conditions.

A. GENERAL CONDITIONS

1. The project shall comply with the Antioch Municipal Code. All construction shall conform to the requirements of the California Building Code and City of Antioch standards.

2. The project shall be implemented as indicated on the application form and accompanying materials provided to the City and in compliance with the Antioch Municipal Code, or as amended by the Zoning Administrator.

3. City staff shall inspect the site for compliance with the conditions of approval prior to final building inspection.

4. No permits or approvals, whether discretionary or mandatory, shall be considered if the applicant is not current on fees, reimbursement payments and any other payments that are due.

5. An encroachment permit shall be required for all work in the public right of way or easement.

6. This approval supersedes previous approvals that have been granted for this site.

7. All required easements or rights-of-way for offsite improvements shall be obtained by the applicant at no cost to the City of Antioch. Advance permission shall be obtained from any property or easement holders for any work done within such property or easements.

B. <u>DESIGN REQUIREMENTS</u>

1. Driveway widths, slope percentages, pavement section/finished surface and turnaround shall comply with the Contra Costa Fire Protection District design standards, as approved by the City Engineer.

2. All on-site curbs, gutters, sidewalks and concrete driveways shall be constructed of Portland cement concrete.

3. Asphalt paving shall be designed for a maximum traffic index (TI) of 6.5 (due to anticipated truck traffic) or as a determined during the engineering design process and shall have a minimum slope of 2%. Concrete paving shall have a minimum slope of 0.75%.

4. The applicant shall show a turning template on the site plan verifying that trucks can safely ingress, egress, and successfully maneuver throughout the site.

C. <u>GRADING/WALL REQUIREMENTS</u>

1. The grading operation shall take place at a time and in a manner so as not to allow erosion and sedimentation. The slopes shall be landscaped and reseeded as soon as possible after the grading operation ceases. Erosion measures shall be implemented during all construction phases in accordance with an approved erosion and sedimentation control plan.

2. The final grading plan for this development shall be approved by the City Engineer and signed by a California licensed civil engineer. No grading is allowed without a grading permit issued by the Building Department.

3. All elevations shown on the grading and improvement plans shall be on the USGS 1929 sea level datum or NAVD 88 with conversion information, or as approved by the City Engineer.

4. All slopes shall drain to approved drainage facilities as approved by the City Engineer.

5. Wall and fence locations and elevations shall be included on the grading plan.

6. All grading shall be accomplished in a manner that precludes surface water drainage across any property line.

7. All off-site grading is subject to the coordination and approval of the affected property owners and the City Engineer. The developer shall submit written authorization to "access, enter, or grade" adjacent properties prior to performing any work.

8. Retaining walls shall be of masonry construction, feature fall protection per the California Building Code, and shall be reduced in height to the maximum extent practicable.

D. <u>UTILITIES</u>

1. A 16" diameter asbestos concrete water pipe bisects the site from east to west. All public utilities shall be protected in place or relocated under an encroachment permit from the City and at the owner's expense, as approved by the City Engineer.

2. All existing and proposed utilities (e.g. transformers and PMH boxes) shall be undergrounded and subsurface in accordance with the Antioch Municipal Code, except existing P.G.& E. towers, if any, or as approved by the City Engineer.

3. All storm water flows shall be collected onsite and discharged into an approved public storm drain system.

4. All proposed drainage facilities, including open ditches, shall be constructed of Portland Concrete Cement or as approved by the City Engineer.

E. <u>CONSTRUCTION CONDITIONS</u>

1. The use of construction equipment shall be as outlined in the Antioch Municipal Code. The use of construction equipment shall be restricted to weekdays between the hours 8:00 A.M. and 5:00 P.M., or as approved in writing by the City Manager.

2. The Project shall be in compliance with and supply all the necessary documentation for AMC6-3.2: Construction and Demolition Debris Recycling.

3. Standard dust control methods and designs shall be used to stabilize the dust generated by construction activities. The applicant shall post dust control signage with a contact number of the applicant, City staff, and the air quality control board.

4. Driveway access to neighboring properties shall be maintained at all times during construction.

C. FIRE REQUIREMENTS

1. All requirements of the Contra Costa County Fire Protection District shall be met.

D. FEES

1. The applicant shall pay all fees as required by the City Council and as required by the Antioch Municipal Code.

2. The applicant shall pay all required fees at the time of building permit issuance.

E. PROPERTY MAINTENANCE

1. No illegal signs, pennants, banners, balloons, flags, or streamers shall be used on this site at any time.

2. No signs shall be installed on this site without prior City approval.

3. The site shall be kept clean of all debris (boxes, junk, garbage, etc.) at all times.

F. STANDARD WIRELESS CONDITIONS

1. **Compliance with Approved Plans.** Before the permittee submits any applications to the Building Division required to commence construction in connection with this permit, the permittee must incorporate this permit, all conditions associated with this permit and the approved photo simulations into the project plans (the "Approved Plans"). The permittee must construct, install and operate the wireless facility in substantial compliance with the Approved Plans. Any alterations, modifications or other changes to the Approved Plans, whether requested by the permittee or required by other departments or public agencies with jurisdiction over the wireless facility, must be submitted in a written request subject to the Director's prior review and approval, who may refer the request to the original approval authority if the Director finds that the requested alteration, modification or other change substantially deviates from the Approved Plans or implicates a significant or substantial land-use concern.

2. **Build-Out Period.** This permit will automatically expire one (1) year from the approval or deemed-granted date unless the permittee obtains all other permits and approvals required to install, construct and/or operate the approved wireless facility, which includes without limitation any permits or approvals required by the any federal, state or local public agencies with jurisdiction over the subject property, the wireless facility or its use. The Zoning Administrator may grant one

written extension to a date certain, but not to exceed one (1) additional year, when the permittee shows good cause to extend the limitations period in a written request for an extension submitted at least 30 days prior to the automatic expiration date in this condition.

3. **Site Maintenance.** The permittee shall keep the site, which includes without limitation any and all improvements, equipment, structures, access routes, fences and landscape features, in a neat, clean and safe condition in accordance with the Approved Plans and all conditions in this permit. The permittee shall keep the site area free from all litter and debris at all times. The permittee, at no cost to the City, shall remove and remediate any graffiti or other vandalism at the site within 48 hours after the permittee receives notice or otherwise becomes aware that such graffiti or other vandalism occurred.

4. **Compliance with Laws.** The permittee shall maintain compliance at all times with all federal, state and local statutes, regulations, orders or other rules that carry the force of law ("Laws") applicable to the permittee, the subject property, the wireless facility or any use or activities in connection with the use authorized in this permit, which includes without limitation any Laws applicable to human exposure to RF emissions. The permittee expressly acknowledges and agrees that this obligation is intended to be broadly construed and that no other specific requirements in these conditions are intended to reduce, relieve or otherwise lessen the permittee's obligations to maintain compliance with all Laws. In the event that the City fails to timely notice, prompt or enforce compliance with any applicable provision in the Antioch Municipal Code, any permit, any permit condition or any applicable law or regulation, the applicant or permittee will not be relieved from its obligation to comply in all respects with all applicable provisions in the Antioch Municipal Code, any permit, any permit condition or any applicable law or regulation.

5. **Adverse Impacts on Other Properties.** The permittee shall use all reasonable efforts to avoid any and all unreasonable, undue or unnecessary adverse impacts on nearby properties that may arise from the permittee's or its authorized personnel's construction, installation, operation, modification, maintenance, repair, removal and/or other activities on or about the site. The permittee shall not perform or cause others to perform any construction, installation, operation, modification, maintenance, repair, removal or other work that involves heavy equipment or machines except during normal construction work hours authorized by the Antioch Municipal Code. The restricted work hours in this condition will not prohibit any work required to prevent an actual, immediate harm to property or persons, or any work during an emergency declared by the City or other state or federal government agency or official with authority to declare a state of emergency within the City. The Director or the Director's designee may issue a stop work order for any activities that violates this condition in whole or in part.

6. **Inspections; Emergencies.** The permittee expressly acknowledges and agrees that the City's officers, officials, staff or other designees may enter onto the site and inspect the improvements and equipment upon reasonable prior notice to the permittee, or at any time during an emergency. The City's officers, officials, staff or other designees may, but will not be obligated to, enter onto the site area without prior notice to support, repair, disable or remove any improvements or equipment in emergencies or when such improvements or equipment threatens actual, imminent harm to property or persons. The City and its designated officials may make an attempt to contact the permittee, utilizing the contact information posted on the site and/or on-file prior to entering the site. The permittee, if present, may observe the City's officers, officials, staff or other designees while any such inspection or emergency access occurs.

7. **Permittee's Contact Information.** The permittee shall furnish the Director with accurate and up-to-date contact information for a person responsible for the wireless facility, which includes without limitation such person's full name, title, direct telephone number, facsimile number, mailing address and email address. The permittee shall keep such contact information up-to-date at all times and immediately provide the Director with updated contact information in the event that either the responsible person or such person's contact information changes.

8. **Indemnification.** The permittee and, if applicable, the property owner upon which the wireless facility is installed shall defend, indemnify and hold harmless the City, City Council and City boards, commissions, agents, officers, officials, employees and volunteers from any and all (1) damages, liabilities, injuries, losses, costs and expenses and from any and all claims, demands, law suits, writs and other actions or proceedings ("Claims") brought against the City or its agents, officers, officials, employees or volunteers to challenge, attack, seek to modify, set aside, void or annul the City's approval of this permit, and (2) other Claims of any kind or form, whether for personal injury, death or property damage, that arise from or in connection with the permittee's or its agents', directors', officers', employees', contractors', subcontractors', licensees', or customers' acts or omissions in connection with this permit or the wireless facility. In the event the City becomes aware of any Claims, the City will use best efforts to promptly notify the permittee and the private property owner and shall reasonably cooperate in the defense. The permittee expressly acknowledges and agrees that the City shall have the right to approve, which approval shall not be unreasonably withheld, the legal counsel providing the City's defense, and the property owner and/or permittee (as applicable) shall promptly reimburse City for any costs and expenses directly and necessarily incurred by the City in the course of the defense. The permittee expressly acknowledges and agrees that the permittee's indemnification obligations under this condition are a material consideration that motivates the City to approve this permit, and that such indemnification obligations will survive the expiration or revocation of this permit.

9. **Permit Revocation.** In accordance with Antioch Municipal Code § 9-5.2707.1, the approval authority may recall this permit for review at any time due to complaints about noncompliance with applicable laws or any approval conditions attached to this permit. At a duly noticed public hearing and in accordance with all applicable laws, the approval authority may revoke this permit or amend these conditions as the approval authority deems necessary or appropriate to correct any such noncompliance.

10. **Record Retention.** The permittee must maintain complete and accurate copies of all permits and other regulatory approvals issued in connection with the wireless facility, which includes without limitation this approval, the approved plans and photo simulations incorporated into this approval, all conditions associated with this approval and any ministerial permits or approvals issued in connection with this approval. In the event that the permittee does not maintain such records as required in this condition, any ambiguities or uncertainties that would be resolved through an inspection of the missing records will be construed against the permittee. The permittee may keep electronic records; provided, however, that hard copies or electronic records kept in the City's regular files will control over any conflicts between such City-controlled copies or records and the permittee's electronic copies, and complete originals will control over all other copies in any form.

11. **Abandoned Wireless Facilities.** The wireless facility authorized under this permit shall be deemed abandoned if not operated for any continuous six-month period. Within 90 days after a wireless facility is abandoned or deemed abandoned, the permittee and/or property owner shall completely remove the wireless facility and all related improvements and shall restore all affected areas to a condition compliant with all applicable laws, which includes without limitation the Antioch Municipal Code. In the event that neither the permittee nor the property owner complies with the removal and restoration obligations under this condition within said 90-day period, the City shall have the right (but not the obligation) to abate the nuisance by removal and restoration, store or sell the facility or any part thereof, with or without notice, and the permittee and property owner shall be jointly and severally liable for all costs and expenses incurred by the City in connection with such removal, storage and/or restoration activities. In accordance with Antioch Municipal Code Title 5, Chapter 1, Article 3, all costs associated with the abatement in connection with a facility on real property shall be assessed against the property as a lien to be recorded with the County of Contra Costa Recorder's Office. Within 60 calendar days after the lien amount is fully satisfied including costs and interest, the City shall cause the lien to be released with the County of Contra Costa Recorder's Office.

G. PROJECT SPECIFIC REQUIREMENTS

1. The proposed antennas located on the top of the PG&E tower shall be of a color similar to that of the supporting structure and shall be clearly identified in the building permit submittal.

2. The proposed composite wood fencing around the mechanical equipment shall be a dark brown color and shall be clearly identified in the building permit.

3. Gates shall be installed at toe of slope to prohibit unauthorized vehicular access to the access road. Gates and fencing shall be required to comply with all applicable Antioch Municipal Code requirements related to fencing. Design details, including color and material information, shall be identified in the building permit submittal.

* * * * * * * * *

I HEREBY CERTIFY that the foregoing resolution was passed and adopted by the Zoning Administrator of the City of Antioch at a regular meeting thereof held on the 12th of September, 2019.

FORREST EBBS
ZONING ADMINISTRATOR

ATTACHMENT “B”

PROJECT SUPPORT STATEMENT
VERIZON WIRELESS

Site Name: Contra Loma Longview
Location: 3195 Contra Loma Blvd., Antioch, CA 94509
APN: 071-241-001-8

Introduction
Verizon Wireless is seeking to improve communications service to residences, businesses, public services, and area travelers in the City of Antioch. Verizon maintains a strong customer base Antioch, and Contra Costa County generally, and strives to improve coverage for both existing and potential customers. The proposed facility is needed to improved wireless communication coverage and capacity relief to existing Verizon facilities in central Antioch, along Contra Loma Blvd. This project will expand Verizon's existing network and improve call quality, signal strength, and wireless connection services in Antioch. The improved wireless service will benefit residents, local businesses, public services, and roadway safety throughout the region.

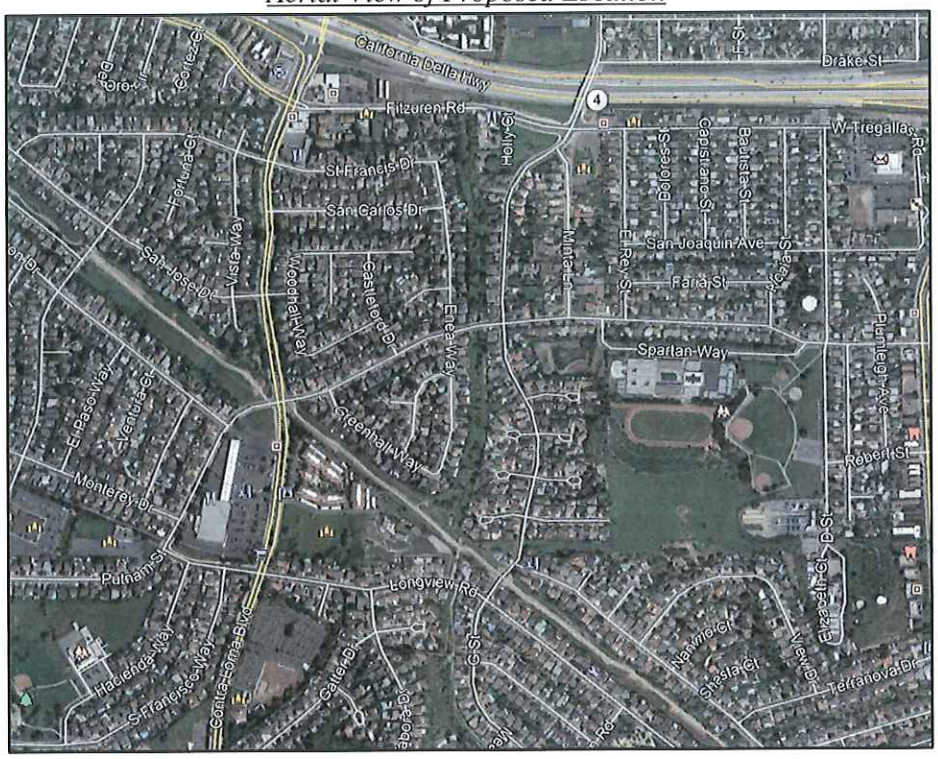
History
Verizon's current Use Permit application seeks to provide improved communications and wireless service to the same generalized target area as depicted in a previous City of Antioch Planning application, UP-16-15, AR-16-09. That project, proposed on a previous location at Putnam Street and Contra Loma Boulevard (APN: 076-550-002), was a 62' tall faux-pine tree (or monopine) with all associated equipment enclosed behind a 6' tall fence at its base.

Though the proposed monopine was located in a preferred Neighborhood Commercial (C-2) zone on an undeveloped lot, the project was met with opposition from Antioch Planning due to the existing PG&E transmission towers in the area. That project was eventually scheduled for an April 5, 2017 hearing before the Antioch Planning Commission with staff's recommendation of denial. In order to fully take into consideration the concerns of the City's Planning Department, Verizon allowed that application to lapse and instead sought to find an alternative location that may satisfy the City's design requirements as well as its zoning code and still meet Verizon's coverage and capacity needs in the area.

Verizon now returns to Antioch City Planning with a new location above the conductors of an existing PG&E transmission tower, approximately 1,100' to the southeast, to provide the services needed to the surrounding Antioch community.

B1

Aerial View of Proposed Location



Project Description

The proposed PG&E collocation is located at 3195 Contra Loma Boulevard on APN: 071-241-001-8). The parcel is zoned Medium Density Residential (R-20). The approximately 2-acre parcel contains a church, First Family Church, and its corresponding parking lot, but the western portion of the parcel is undeveloped. There are existing PG&E transmission towers that run west-to-east along the southern property line. These existing PG&E towers are located behind single-family homes that front Longview Road.

The proposed facility consists of 6 Verizon Wireless panel antennas, to be mounted at a centerline of 90' on a proposed "top hat" above the existing 84.8'-tall PG&E tower. The proposed PG&E collocation will extend the height of the tower to 96.8'. The 15' x 15' ground equipment area will have a 6'-tall wood fence at the perimeter and will house all associated equipment for the antennas within the footprint of the existing PG&E tower. The 6-foot tall wood fence along the perimeter of the equipment compound be constructed so that the slats are overlapping by a minimum of 2" and screwed into the framing rather than nailed. Access to the site will come from Longview Road and follows PG&E's access rights. The unmanned facility will provide enhanced wireless network coverage 24 hours a day, 7 days a week.

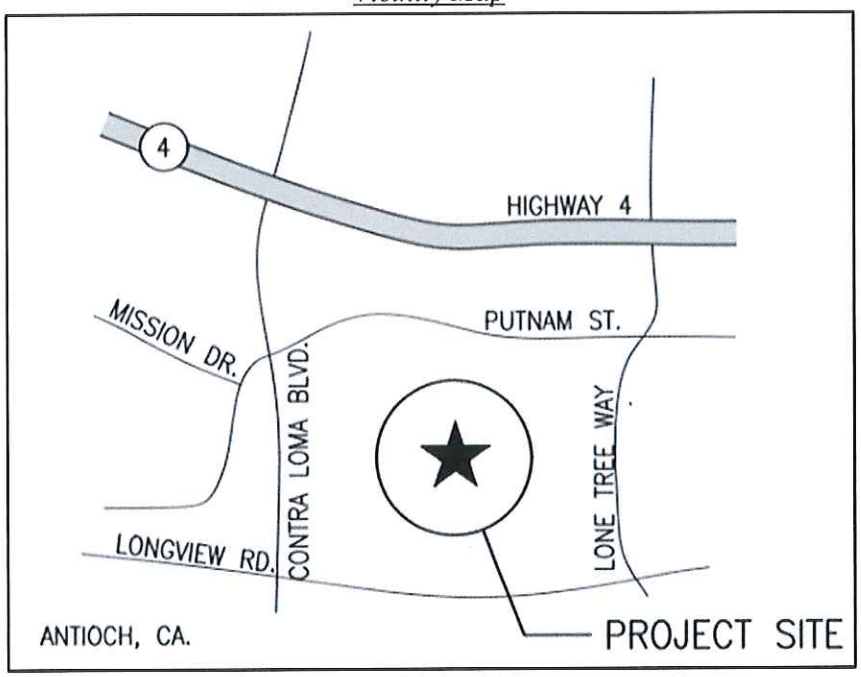
Site Selection

Selecting a location for a wireless telecommunications facility needed to improve service and provide reliable coverage depends on many factors, such as: topography, zoning regulations, existing structures, collocation opportunities, available utilities, access, and the existence of a willing landlord. Wireless communication utilizes a line-of-sight technology that requires facilities to be in relative close proximity to the wireless handsets to be served. Each proposed site is unique and must be investigated and evaluated on its own terms.

The proposed coverage area consists entirely of single-family homes with a small pocket of commercial and retail parcels contained within the triangle of Longview Road, Contra Loma Boulevard, and Putnam Street. Initial investigation began at the commercially-zoned parcels. However, due to the existing PG&E towers in the vicinity, collocation on the existing towers were visually preferred to a stealthed freestanding facility, even though the PG&E towers are located on parcels that are residentially-zoned. Verizon strives to minimize the visual and acoustic impacts of each facility and seeks to preserve and incorporate the local community character to the greatest extent feasible at all stages of site selection and design process and, at the recommendations of Antioch Planning, collocations on PG&E towers were vigorously evaluated.

The facility is needed to improve wireless communication coverage to residential Antioch, along Contra Loma Blvd. and south of Hwy 4. The proposed location best serves the interest of the City of Antioch and the local community because it is the least intrusive means available to improve service to the area. The process that Verizon implements to identify the least intrusive location is outlined below.

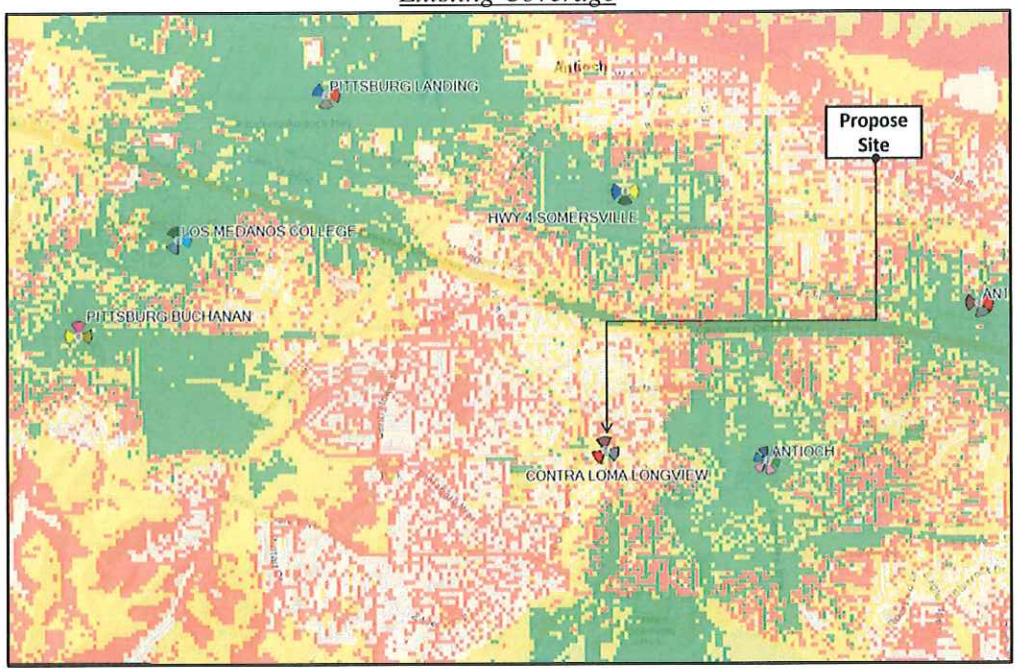
Vicinity Map



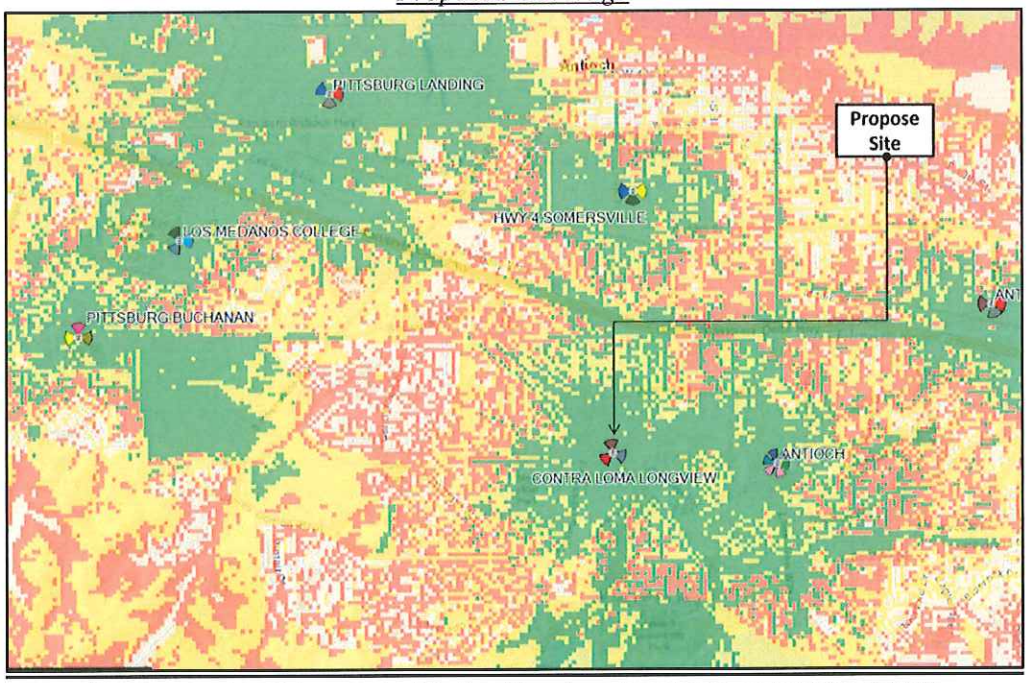
COVERAGE AREA

Below, please see the comparison of the two coverage maps. The first map shows the target area currently lacking wireless coverage on the Verizon Wireless network. The second map show what the coverage will be like upon activation of the proposed facility. The area shown in red shows inadequate outdoor and indoor coverage, the area marked in yellow shows some indoor coverage and good outdoor coverage, and the area marked in green indicates good indoor, in-car, and outdoor coverage. Please note that much of the red and yellow areas are replaced by green following activation of the proposed facility.

Existing Coverage



Proposed Coverage



Please see enclosed Coverage Justification Maps for enlarged maps and additional detail.

ADDITIONAL INFORMATION FROM APPLICANT

Public Benefits of Improved Wireless Service

Modern life has become increasingly dependent upon wireless communications. Wireless access is critical to many facets of everyday life, such as safety, recreation, and commerce. This site will allow current and

future Verizon Wireless customers to have access to wireless services in the areas shown on the Coverage Justification Maps included in this application. Additionally, this site will serve as a backup to the existing landline service in the area and will provide improved wireless communication, which is essential to first responders, community safety, local businesses and area residents. As a backup system to traditional landline phone service, mobile phones have proven to be extremely important during natural disasters and other catastrophes.

Safety Benefits of Improved Wireless Service

Verizon Wireless offers its customers multiple services such as voice calls, text messaging, mobile email, picture/video messaging, mobile web, navigation, broadband access, V CAST, and E911 services. Mobile phone use has become an extremely important tool for first responders and serves as a backup system in the event of a natural disaster.

Maintenance and Battery Backup

Verizon Wireless installs batteries at all of its cell sites. The batteries play a vital role in Verizon's emergency and disaster preparedness plan. In the event of a power outage, Verizon Wireless communications equipment will transition to the back-up batteries. The batteries can run the site for a several hours depending on the demand placed on the equipment. Back-up batteries allow Verizon Wireless' communications sites to continue providing valuable communications services in the event of a power outage, natural disaster or other emergency. Following construction, the security fence will include a small sign indicating the facility owner and a 24-hour emergency telephone number. The equipment area will be surrounded by a 6' wood fence for additional security.

Construction Schedule

The construction of the facility will be in compliance with all local rules and regulations. The crew size will range from two to ten individuals. The construction phase of the project will last approximately two months and will not exceed acceptable noise levels.

Lighting

Unless tower lighting is required by the FAA, the only lighting on the facility will be a hooded and down-titled security light near the equipment cabinets.

Compliance with FCC Standards

This project will not interfere with any TV, radio, telephone, satellite, or other signals. Any interference would be against federal law and a violation of Verizon Wireless's FCC license. An RF report prepared by Hammett & Edison, Inc. verifying compliance with FCC guidelines is included with this submittal.

Notice of Actions Affecting Development Permit

In accordance with California Government Code Section 65945(a), Verizon Wireless requests notice of any proposal to adopt or amend the: general plan, specific plan, zoning ordinance, ordinance(s) affecting building or grading permits that would in any manner affect this development permit. Any such notice may be sent to 2009 V Street, Sacramento, CA 95818.

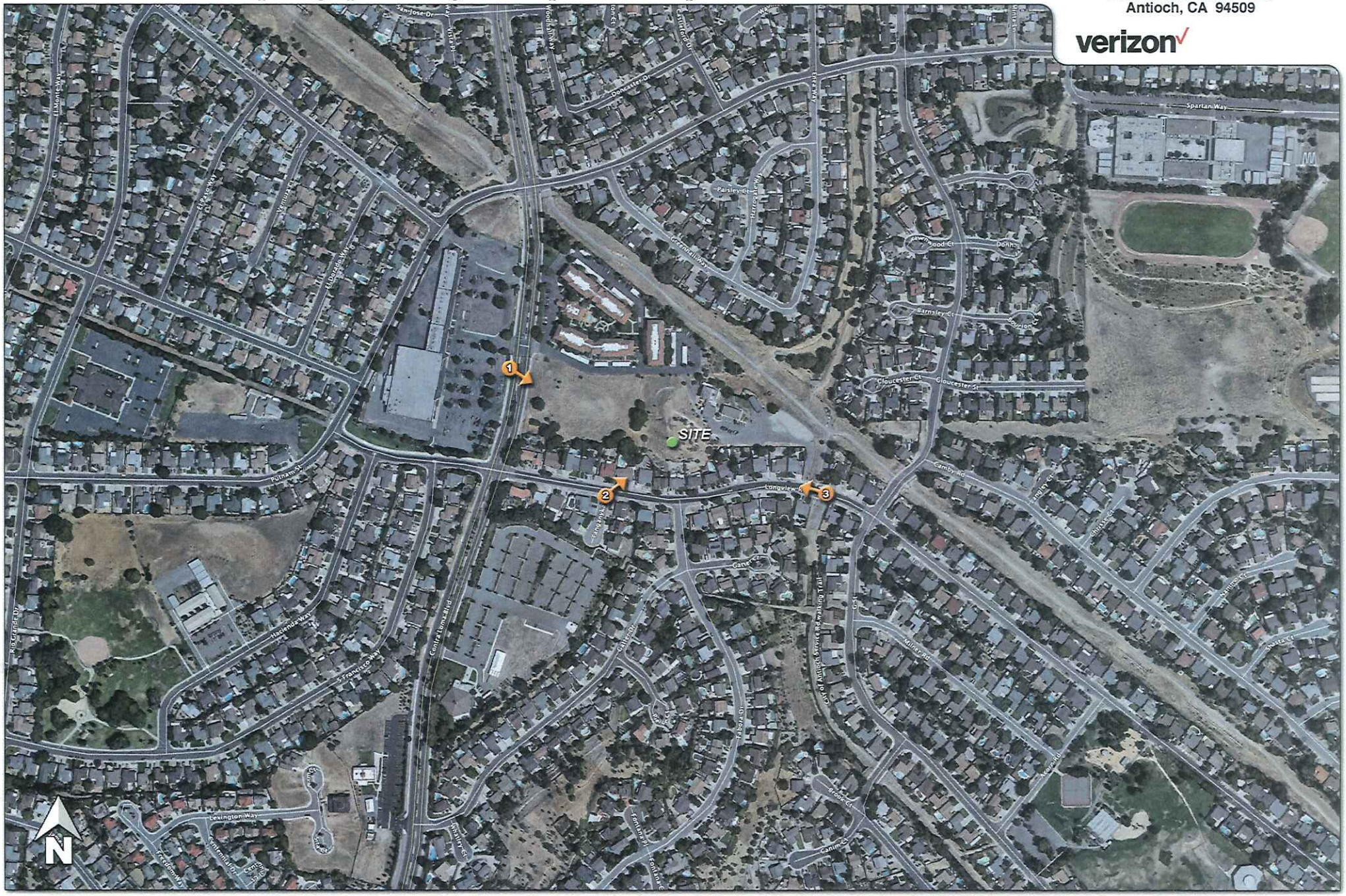
ATTACHMENT “C”

Contra Loma Longview

3195 Contra Loma Blvd.
Antioch, CA 94509

verizon

Aerial photograph showing the viewpoints for the photosimulations.

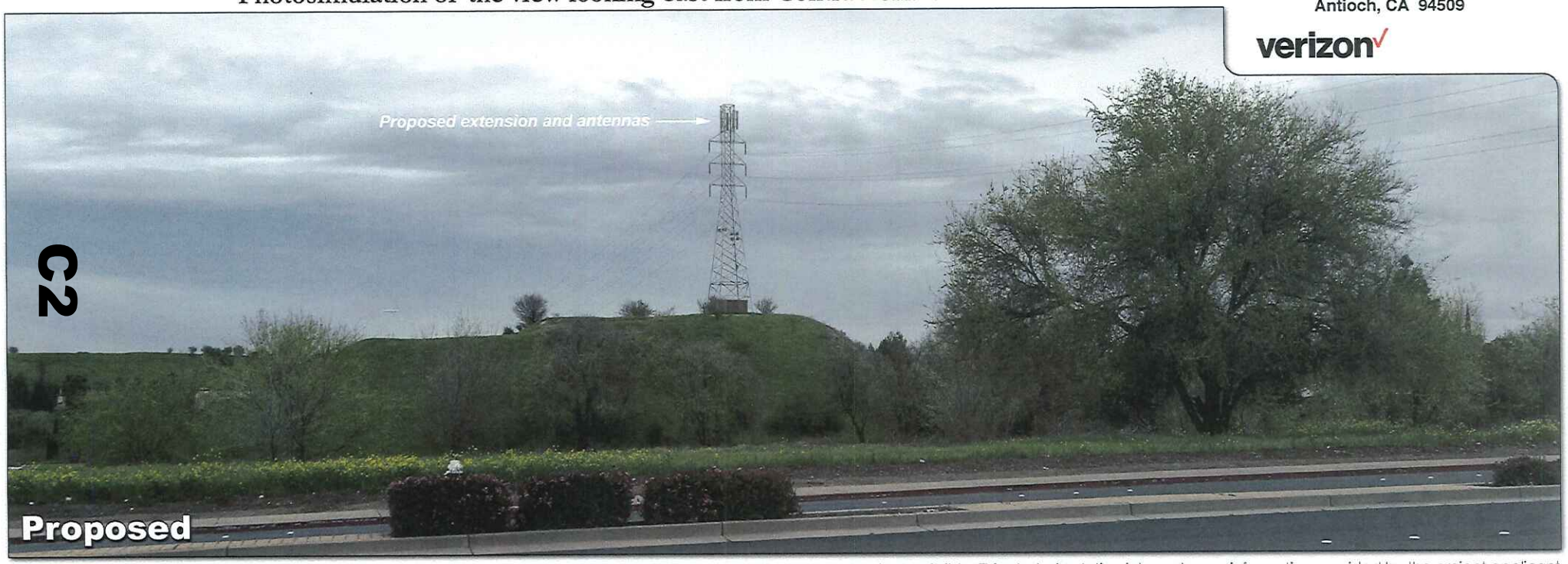


Version Date: February 22, 2019

Contra Loma Longview
3195 Contra Loma Blvd.
Antioch, CA 94509

verizon

Photosimulation of the view looking east from Contra Loma Blvd.



Photosimulation of the view looking northeast from Longview Road at Tanganyka Court.

Contra Loma Longview
3195 Contra Loma Blvd.
Antioch, CA 94509

verizon

Version Date: February 22, 2019

Contra Loma Longview
3195 Contra Loma Blvd.
Antioch, CA 94509

verizon

Photosimulation of the view looking west along Longview Road.

ATTACHMENT “D”

Verizon Wireless • Proposed Base Station (Site No. 299354 "Contra Loma Longview")
3195 Contra Loma Boulevard • Antioch, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. 299354 "Contra Loma Longview") proposed to be located at 3195 Contra Loma Boulevard in Antioch, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Verizon proposes to install directional panel antennas on top of the tall PG&E lattice tower sited on the hill near First Family Church, located at 3195 Contra Loma Boulevard in Antioch. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive limit for exposures of unlimited duration at several wireless service bands are as follows:

Wireless Service Band	Transmit Frequency	"Uncontrolled" Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm^2	5.0 mW/cm^2
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
BRS (Broadband Radio)	2,490 MHz	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
[most restrictive frequency range]	30–300	0.20	1.0

Power line frequencies (60 Hz) are well below the applicable range of these standards, and there is considered to be no compounding effect from simultaneous exposure to power line and radio frequency fields.

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by Verizon, including zoning drawings by MST Architects, Inc., dated April 12, 2019, it is proposed to install six CommScope Model NHH-65B directional panel antennas on a 12-foot extension above the existing 85-foot PG&E lattice tower sited on the hill southwest of First Family Church, located at 3195 Contra Loma Boulevard in Antioch. The antennas would employ up to 4° downtilt, would be mounted at an effective height of about 90 feet above ground, and would be oriented in pairs at about 120° spacing, to provide service in all directions. The maximum effective radiated power in any direction would be 32,900 watts, representing simultaneous operation at 12,030 watts for AWS, 10,000 watts for PCS, 5,500 watts for cellular, and 5,370 watts for 700 MHz service. There are reported no other wireless telecommunications base stations at the site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.035 mW/cm^2, which is 3.6% of the applicable public exposure limit. The maximum calculated level at the top floor elevation of any nearby building* is 1.6% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

No Recommended Mitigation Measures

Due to their mounting locations and height, the Verizon antennas would not be accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that PG&E already takes adequate precautions to ensure that there is no unauthorized access to its tower and that all personnel receive appropriate training to prevent exposures in excess of the occupational limit.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by Verizon Wireless at 3195 Contra Loma Boulevard in Antioch, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

* Including the residences located at least 125 feet away, based on photographs from Google Maps.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2021. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

REGISTERED PROFESSIONAL ENGINEER
WILLIAM F. HAMMETT
E-13026
M-20676
Exp. 6-30-2021
ELECTRICAL
MECHANICAL
STATE OF CALIFORNIA

William F. Hammett, P.E.
707/996-5200

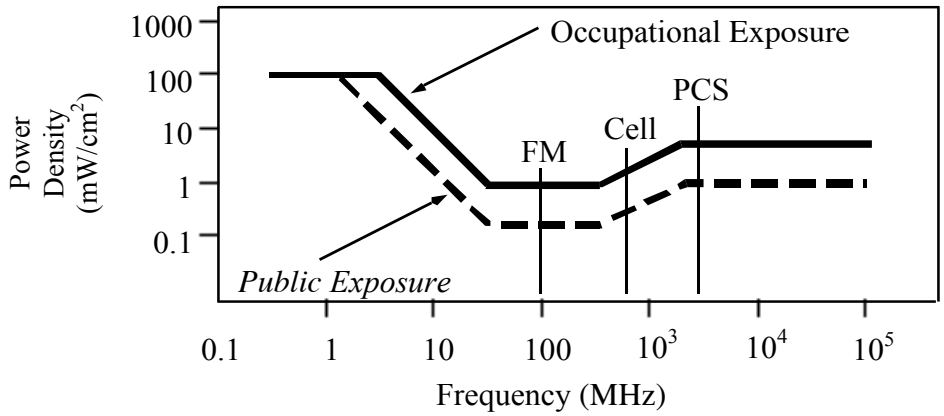
June 20, 2019

FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency	Electromagnetic Fields (f is frequency of emission in MHz)					
Applicable Range (MHz)	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm^2)	
0.3 – 1.34	614	*614*	1.63	*1.63*	100	*100*
1.34 – 3.0	614	*823.8/ f*	1.63	*2.19/ f*	100	*180/ f^2*
3.0 – 30	1842/ f	*823.8/ f*	4.89/ f	*2.19/ f*	900/ f^2	*180/ f^2*
30 – 300	61.4	*27.5*	0.163	*0.0729*	1.0	*0.2*
300 – 1,500	$3.54\sqrt{f}$	*$1.59\sqrt{f}$*	$\sqrt{f}/106$	*$\sqrt{f}/238$*	f/300	*f/1500*
1,500 – 100,000	137	*61.4*	0.364	*0.163*	5.0	*1.0*



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.
Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm^2,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm^2,

where θ_{BW} = half-power beamwidth of antenna, in degrees,
P_{net} = net power input to antenna, in watts,
D = distance from antenna, in meters,
h = aperture height of antenna, in meters, and
η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.
OET-65 gives this formula for calculating power density in the far field of an individual RF source:

$$\text{power density } S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}, \text{ in } mW/cm^2,$$

where ERP = total ERP (all polarizations), in kilowatts,
RFF = three-dimensional relative field factor toward point of calculation, and
D = distance from antenna effective height to point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula is used in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program also allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings, to obtain more accurate projections.