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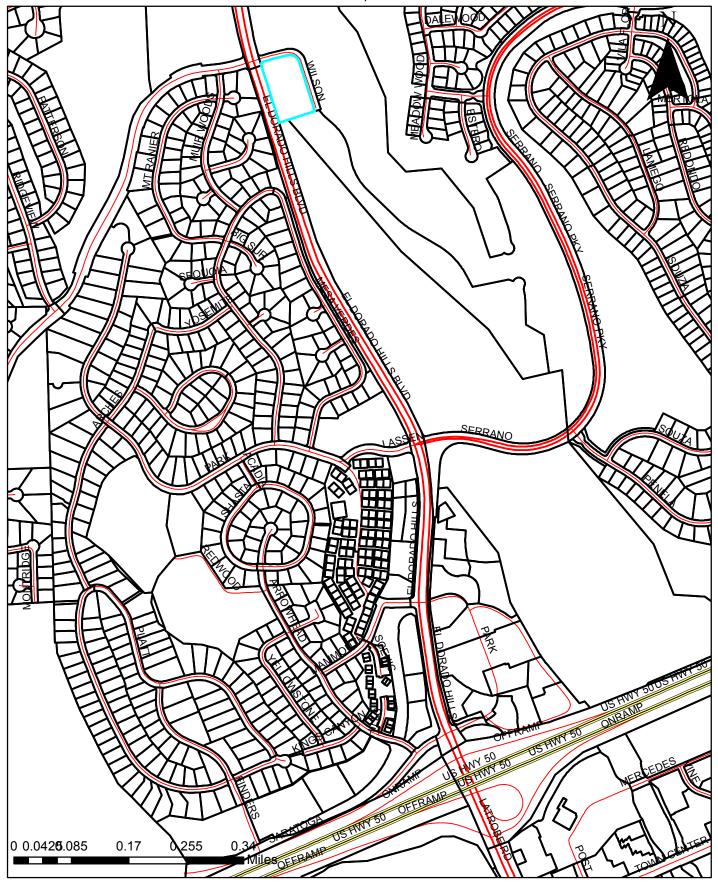


Exhibit A-Location Map

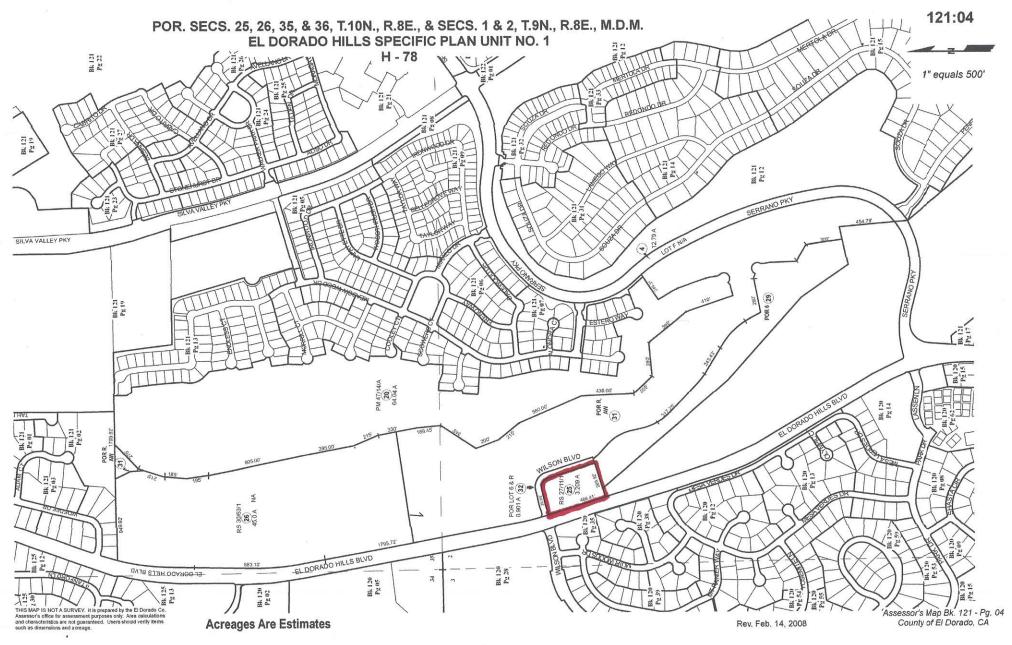


Exhibit B-Assessor's Parcel Map

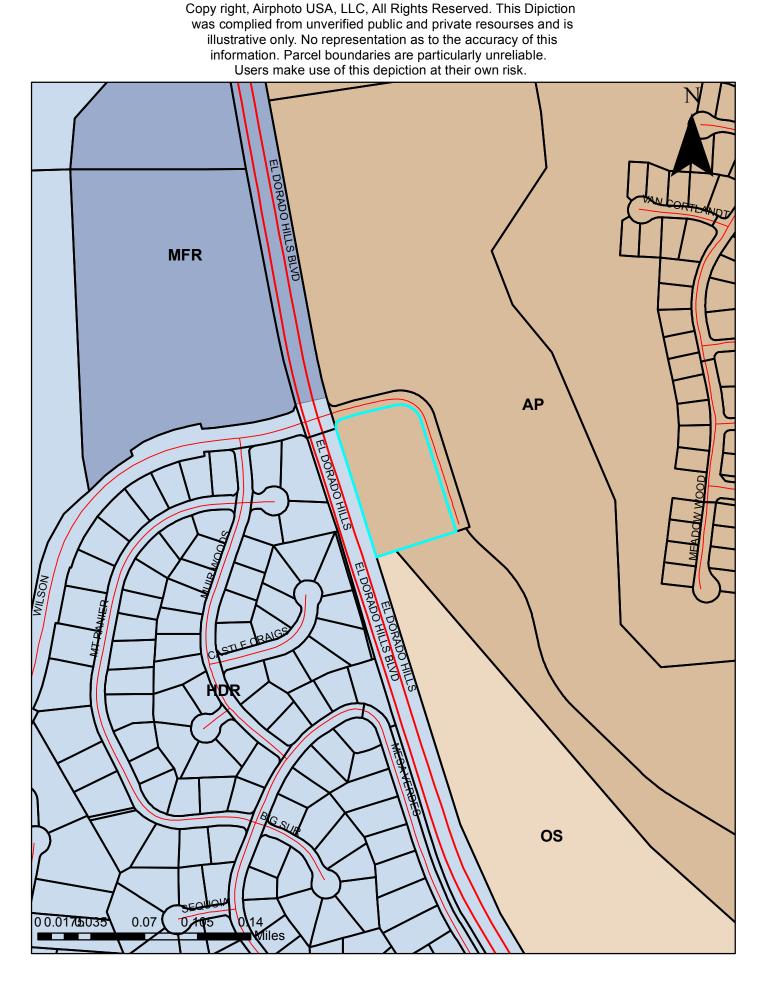


Exhibit C-Land Use Designation Map 19-0803 D 3 of 26

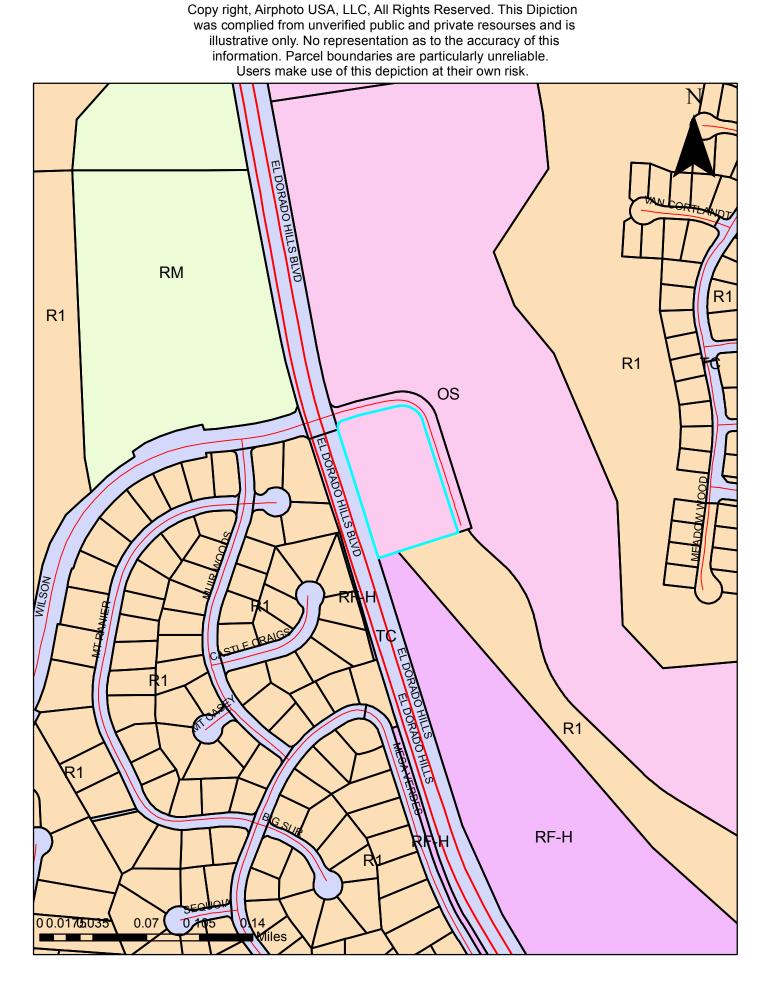


Exhibit D-Zoning Designation Map 19-0803 D 4 of 26 Copy right, Airphoto USA, LLC, All Rights Reserved. This Dipiction was complied from unverified public and private resourses and is illustrative only. No representation as to the accuracy of this information. Parcel boundaries are particularly unreliable. Users make use of this depiction at their own risk.

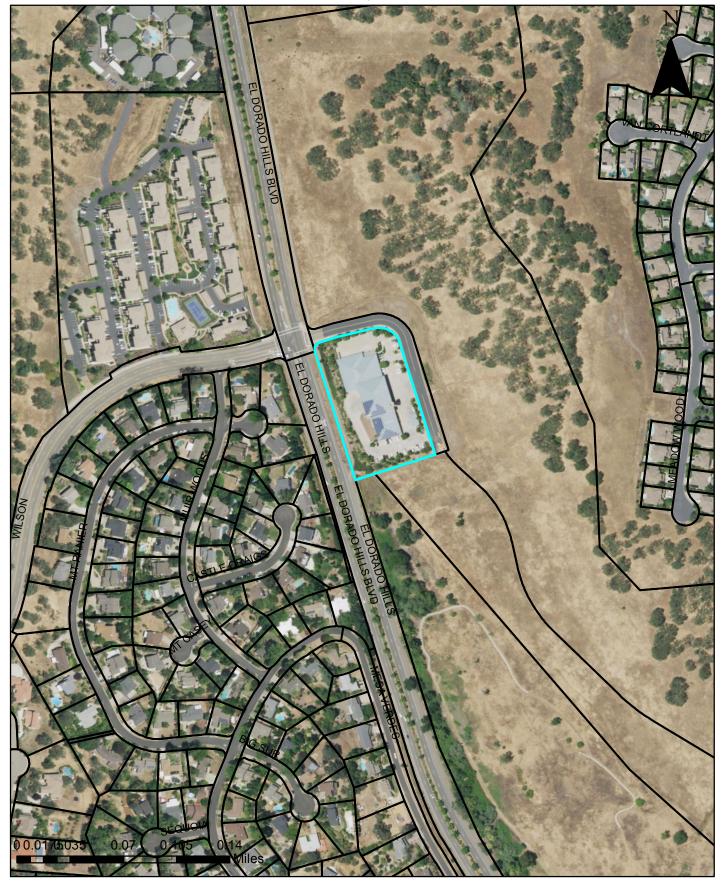
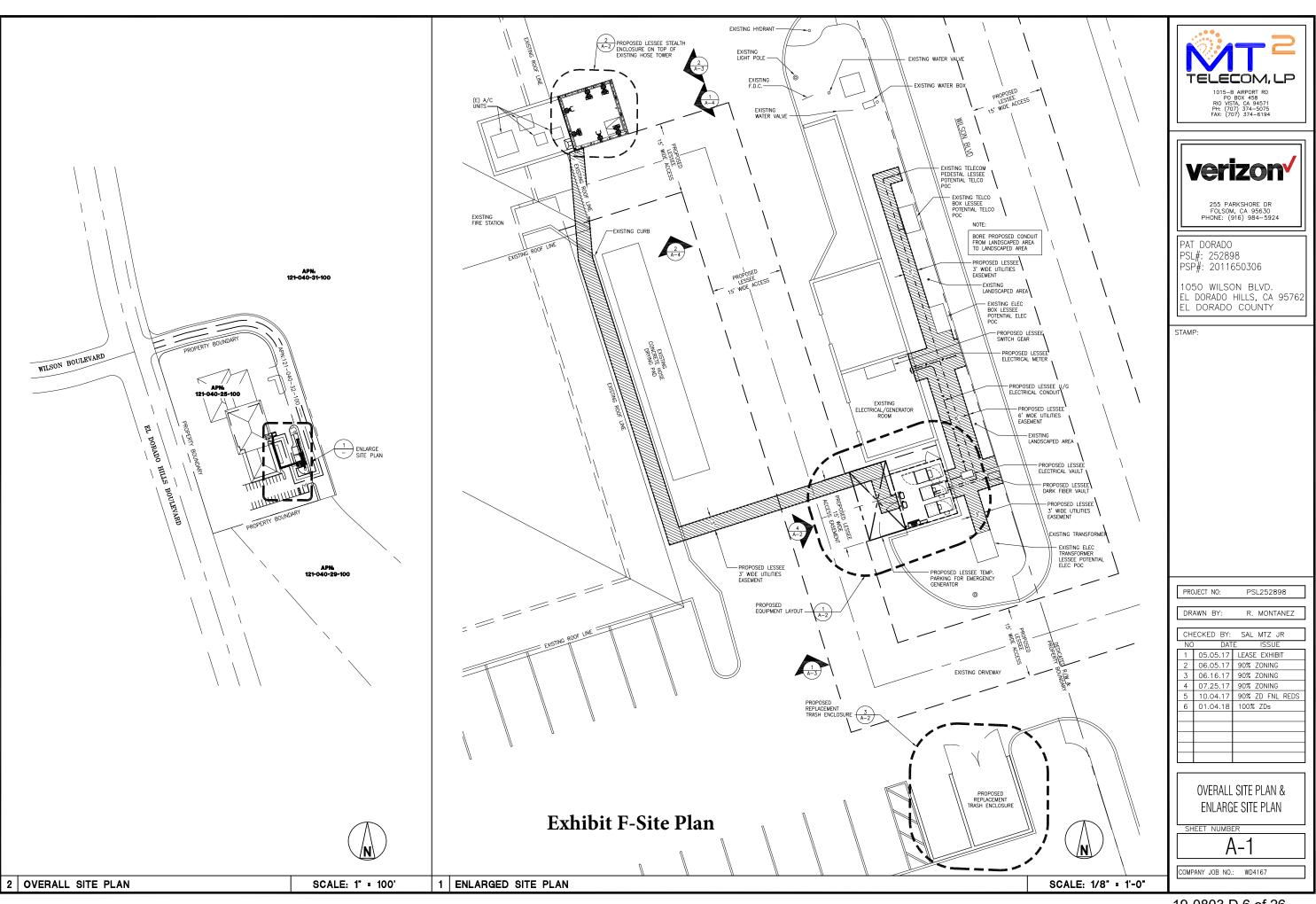
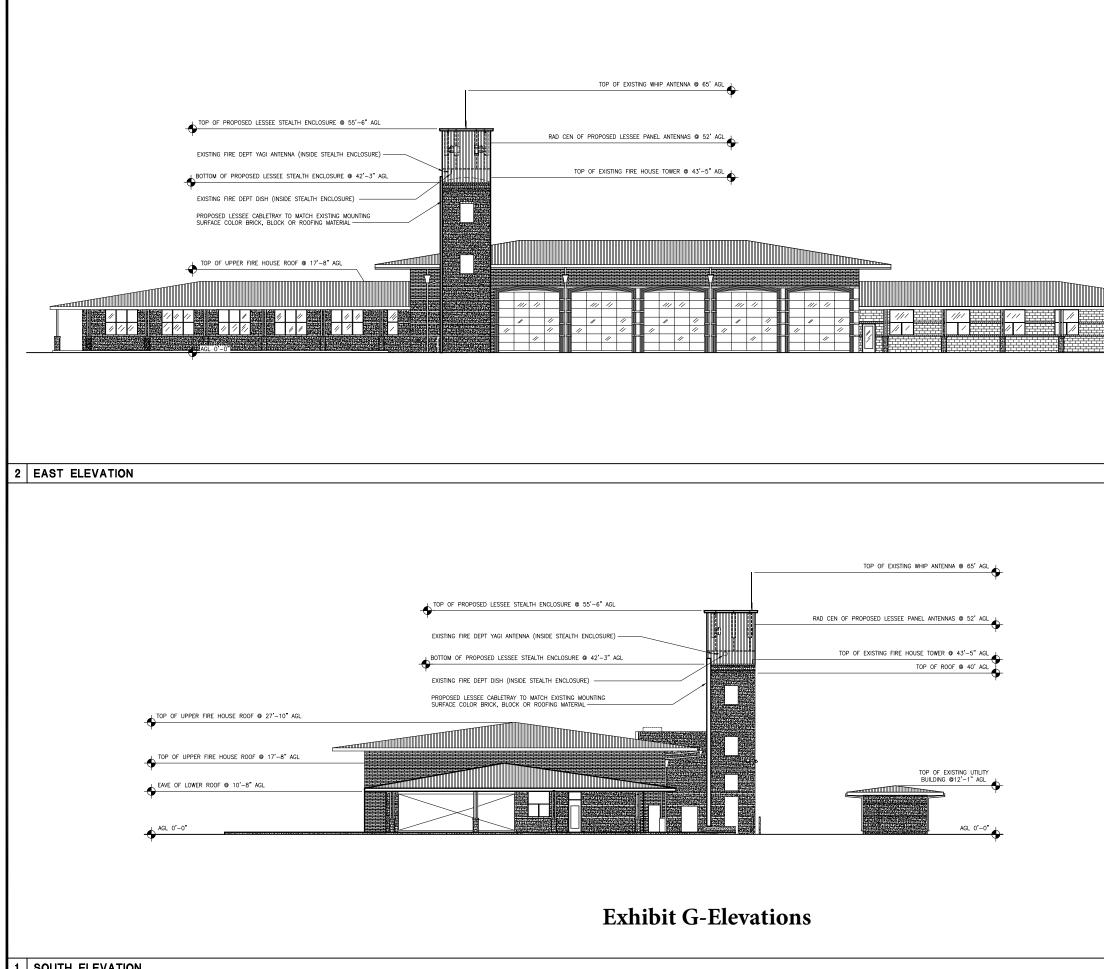
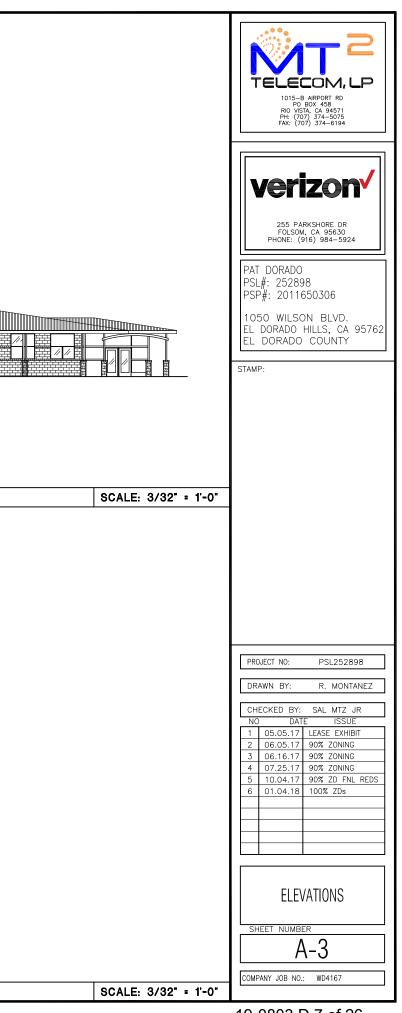


Exhibit E-Aerial Map

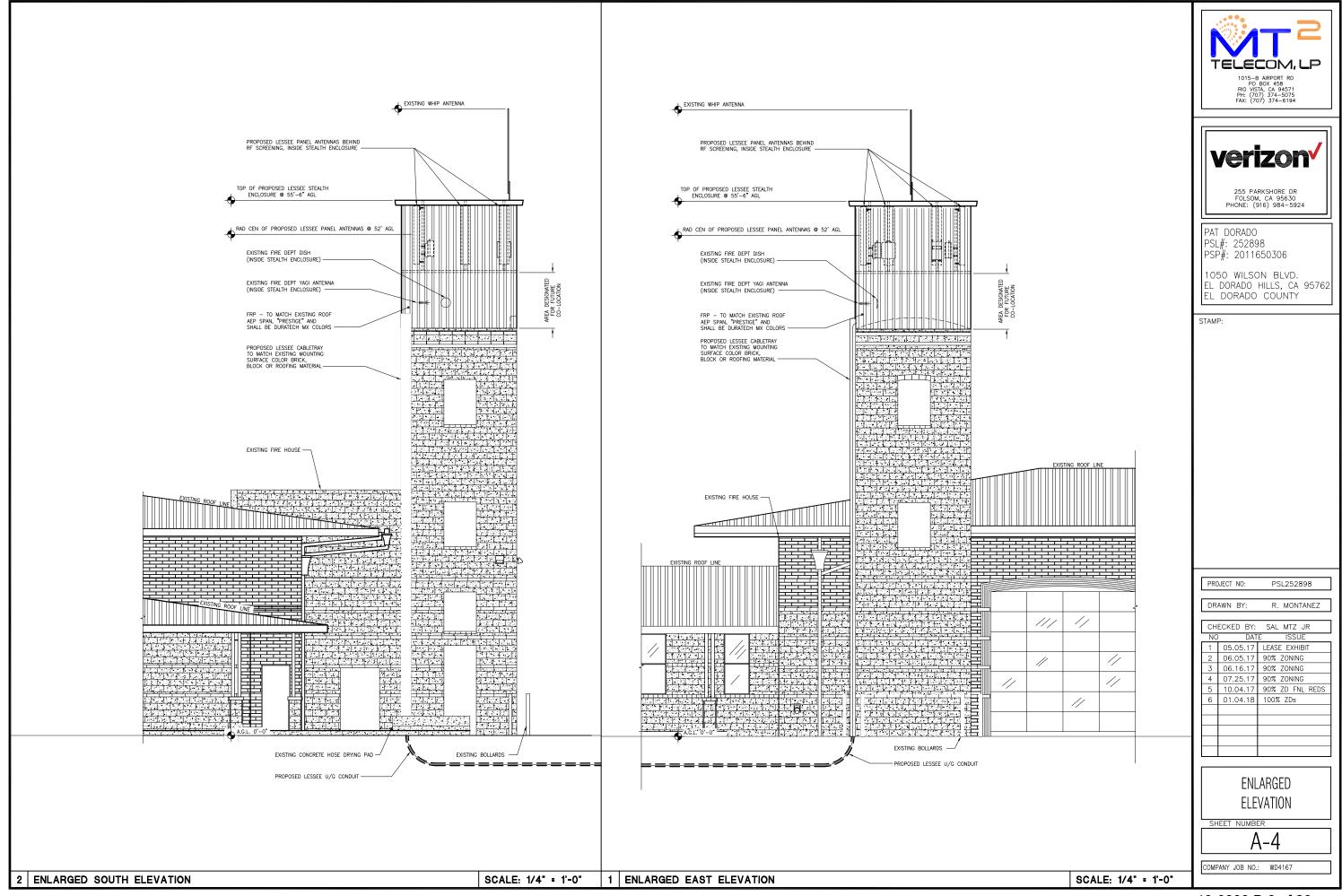


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Proposed

Pat Dorado Site # 252898

Looking Southeast from Wilson Blvd.

12/21/17

verizon[/]

1050 Wilson Blvd. El Dorado Hills, CA

Exhibit H-Visual Simulations View #2 19-0803 Dpge Of a 26 on 510 914-0500





verizon

12/21/17

Pat Dorado Site # 252898

1050 Wilson Blvd. El Dorado Hills, CA Looking Northwest from Wilson Blvd.

Exhibit I-Radio Frequency Report Verizon Wireless • Proposed Base Station (Site No. 252898 "Pat Dorado") 1050 Wilson Boulevard • El Dorado Hills, 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. 252898 "Pat Dorado") proposed to be located at 1050 Wilson Boulevard in El Dorado Hills, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Verizon proposes to install directional panel antennas at the El Dorado Hills Fire Station No. 85, located at 1050 Wilson Boulevard in El Dorado Hills. 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 FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5–80 GHz	5.00 mW/cm^2	1.00 mW/cm ²
WiFi (and unlicensed uses)	2–6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30-300	1.00	0.20

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



HAMMETT & EDISON, INC. CONSULTING ENGINEERS SAN FRANCISCO

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Verizon Wireless • Proposed Base Station (Site No. 252898 "Pat Dorado") 1050 Wilson Boulevard • El Dorado Hills, California

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 MT2 Telecom, dated January 4, 2018, it is proposed to install six CommScope Model NHH-65B directional panel antennas within a 12-foot extension to be constructed on top of the 43½-foot hose tower at the El Dorado Hills Fire Station No. 85, located at 1050 Wilson Boulevard in the El Dorado Hills area of unincorporated El Dorado County. The antennas would employ up to 4° downtilt, would be mounted at an effective height of about 52 feet above ground, 28 feet above the main roof of the fire station, and would be oriented in groups of three toward 160°T, 250°T, and 340°T. The maximum effective radiated power in any direction would be 27,900 watts, representing simultaneous operation at 12,030 watts for AWS, 5,000 watts for PCS, 5,500 watts for cellular, and 5,370 watts for 700 MHz service. Although there are reported no other wireless telecommunications base stations at the site or nearby, there is an omnidirectional "whip" antenna to be relocated to the top of the extension, presumably in intermittent, low-power operation at 150 MHz for radio communication use by the fire department, and 5 SMR antenna.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.089 mW/cm^2 , which is 9.1% of the applicable public exposure limit. The contribution from the several radio services presently at the site would not be significant, in terms of compliance with the prevailing standards. The maximum calculated level at the second-floor elevation



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Verizon Wireless • Proposed Base Station (Site No. 252898 "Pat Dorado") 1050 Wilson Boulevard • El Dorado Hills, California

of any nearby building^{*} is 5.8% 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.

Recommended Mitigation Measures

Due to their mounting location 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. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use and lockout/tagout procedures, be provided to all authorized personnel who have access to the tower, including employees and contractors of Verizon and of the fire department. No access within 44 feet directly in front of the Verizon antennas themselves, such as might occur during certain maintenance activities high on the tower, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs[†] be posted at the roof access hatch in the tower and on the enclosure in front of the antennas, readily visible from any angle of approach to persons who might need to work within that distance.

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 1050 Wilson Boulevard in El Dorado Hills, 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. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

[†] Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health authority, or appropriate professionals may be required.



^{*} Including the residences located at least 350 feet away, across Wilson Boulevard, based on photographs from Google Maps.

Verizon Wireless • Proposed Base Station (Site No. 252898 "Pat Dorado") 1050 Wilson Boulevard • El Dorado Hills, California

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, 2019. 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.

E-13026 M-20676 William F. Hammett, P.E. Exp. 6-30-2019 707/996-5200

April 16, 2018



HAMMETT & EDISON, INC. CONSULTING ENGINEERS SAN FRANCISCO

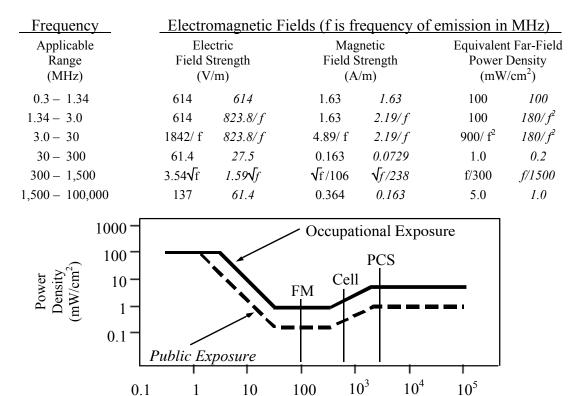
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FCC Radio Frequency Protection Guide

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:



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.

Frequency (MHz)

HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

FCC Guidelines Figure 1

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/cm²,

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/cm²,

where θ_{BW} = half-power beamwidth of the antenna, in degrees, and

 P_{net} = net power input to the antenna, in watts,

D = distance from antenna, in meters,

h = aperture height of the 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:

power density
$$S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$$
, in mW/cm²,

where ERP = total ERP (all polarizations), in kilowatts,

RFF = relative field factor at the direction to the actual point of calculation, and

D = distance from the center of radiation to the 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 ($1.6 \times 1.6 = 2.56$). 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 has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.



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Methodology Figure 2 **Exhibit J-Alternative Site Analysis**



Alternative Site Analysis

Verizon Wireless Telecommunications Facility "Pat Dorado"

Colocation on El Dorado Hills County Water District Fire Tower Fire Station 85 1050 Wilson Blvd., El Dorado Hills, CA 95762 <u>APN: 121-040-25-100</u>

Summary of Site Selection and Technical Evidence Conducted by On Air, LLC (agent for Verizon Wireless)

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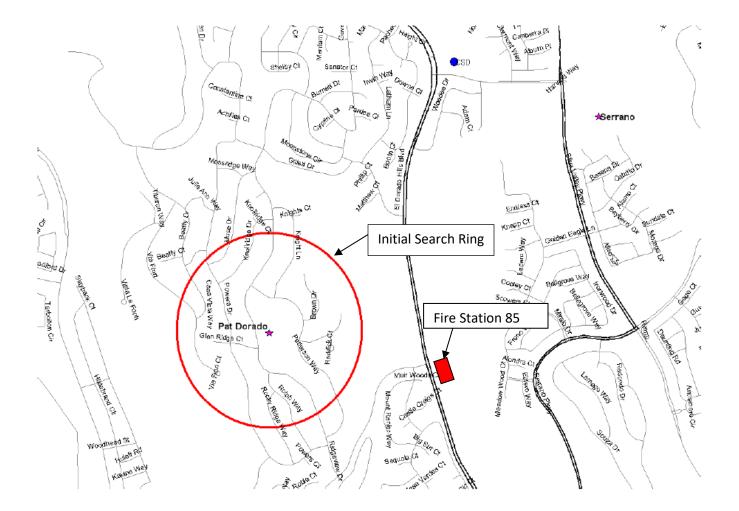
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•	Service Gap Summary (Coverage Maps)	4 - 5
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•	Benefits to the Community	8
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I. <u>Coverage Objective</u>

On Air, LLC has been contracted by Verizon Wireless to find an appropriate site location that will provide coverage and capacity to neighborhoods in El Dorado Hills which have been a source of customer complaints. The coverage objective is along El Dorado Hills Blvd.

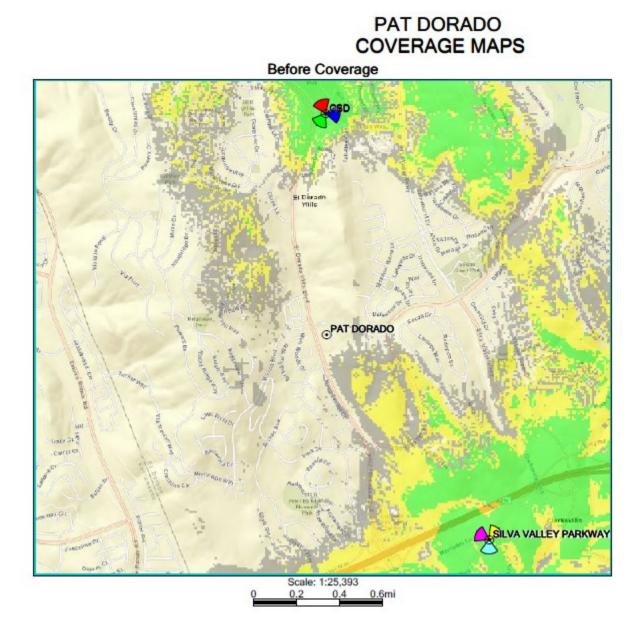
II. Published Search Ring Information

The search ring is centered over an affluent, residential area that consists mostly of homes and a few small parks. Most of the area is subject to highly restrictive CC&Rs which have made placement of cell towers here very difficult. After several unsuccessful attempts to appropriately place a new cell tower, Verizon finally found a co-location opportunity on El Dorado Hills Fire Station 85; this parcel is not subject to restrictive CC&Rs.



III. Service Gap Summary

The "Before Coverage" map below shows the existing coverage along El Dorado Hills Blvd.



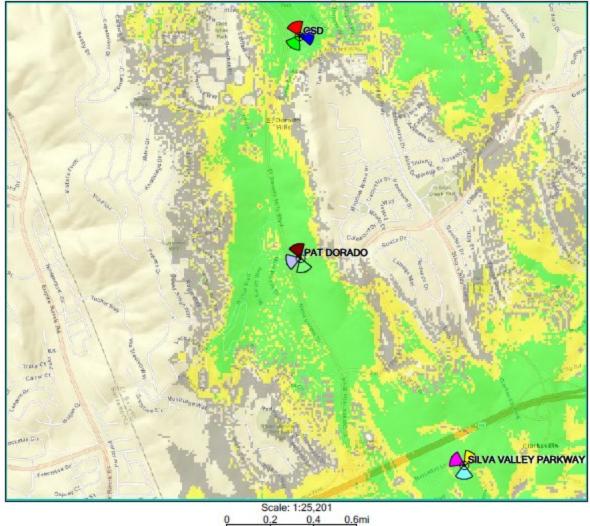
In the depiction "Before Coverage" above:

- The gray "bulls-eye" with the note "PAT DORADO" indicates the proposed site location.
- The Green areas indicate strong outdoor coverage and in-building service.
- The Yellow indicates outdoor coverage and almost no in-building service.
- The Gray indicates little to no coverage.

The "After Coverage" map below shows the improvement in coverage and capacity along El Dorado Hills Blvd.

PAT DORADO COVERAGE MAPS

After Coverage



In the depiction "After Coverage" above:

- The green/blue/brown star with the note "PAT DORADO" indicates a new cell tower in place at Fire Station 85.
- The new coverage to the area is indicated as follows:
 - The Green areas indicate strong outdoor coverage and in-building service.
 - The Yellow indicates outdoor coverage and almost no in-building service.
 - The Gray indicates little to no coverage.

IV. <u>Methodology</u>

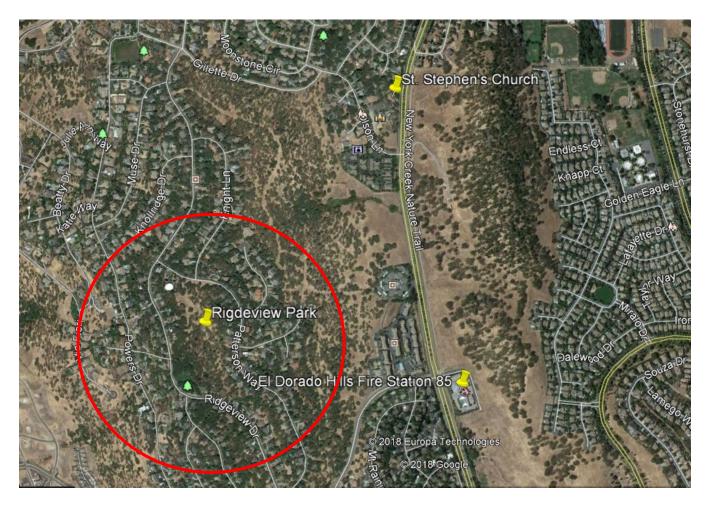
On Air and Verizon Wireless always look to the local zoning codes and general plans to identify the sites that will have the least impact to the community while still providing the

wireless communication services that the public desires. Per the zoning code of El Dorado County, and discussions with Planners, co-locations on existing infrastructure are valued above building new towers on raw land. Visual impact is also a primary concern, and Verizon Wireless always cooperates with the local jurisdiction and the community to mitigate a site's impact, if possible, through stealthing techniques and careful site selection. In addition to these considerations a viable site candidate must have a willing land owner, feasibility of construction, road access, and available telephone and electrical utilities.

El Dorado Hills Fire Station 85 meets all of the provisions discussed above.

Other candidates were vetted as potential locations for the cell tower. The following is a map of disqualified candidates and a description of why each candidate was eventually disqualified.

Map of Site Investigations



In the depiction "Map of Sites Investigations" above:

• The red circle is the approximate search ring. It is centered directly over Ridgeview Park because the ridge line would have provided good coverage of El Dorado Hills Blvd., the coverage objective area.

• The yellow pins indicate places where we investigated cell tower placements.

Site Investigation Analysis:

Ridgeview Park:

Address: Patterson Way, El Doroado Hills, CA 95762 APN: 120-166-29-10

Two locations were investigated at Ridge View Park by Verizon and by SBA Towers (with Verizon as a co-locator). This location could have supported a tree-pole with equipment on the ground. However, there was tremendous community backlash against placing a cell tower at Ridgeview Park and El Dorado Hills Community Service District eventually decided they could not allow a cell tower to be built on this parcel. **This site was disqualified.**

St. Stephen's Church

Address: 1001 Olson Ln., El Dorado Hills, CA 95762 APN: 125-131-17-100

This site could have supported a tree-pole or a cross-type structure with equipment on the ground. However, the CC&Rs in this area prohibit antennas. Verizon determined that even though it was likely this site could be accepted in planning, the CC&R issue would still present a material risk because there is no protection from future law suits should residents decide to enforce the outright prohibition on antennas in the CC&Rs. **This site was disqualified.**

El Dorado Hills Fire Station 85

Address: 1050 Wilson Blvd., El Dorado Hills, CA 95762

APN: 121-040-25-100

This is the only site that provides co-location opportunities; is close enough to the search ring to provide adequate coverage; is zoned in such a way as to allow cell towers; and is not affected by restrictive CC&Rs. **This site is Verizon's chosen candidate.**

V. Site Design

Verizon Wireless is proposing to add a 12' x 12' stealth 4th story to the existing fire tower at Fire Station 85. The addition will be enclosed with fiber-reinforced plastic (aka FRP material) to match the existing roof of Fire Station 85. The addition will reach 55'-6" above ground level (AGL). Inside the enclosure, Verizon proposes to install six (6) antennas (2 per sector), and nine (9) RRUS (3 per sector), and three (3) Raycap surge protectors. The proposed center line for VZW's antennas is 52' AGL.

In a 134 SF ground equipment area (currently a trash enclosure) Verizon proposes install three (3) ground mounted equipment cabinets [one (1) proposed battery cabinet; one (1) proposed power/misc. cabinet; and one (1) future cabinet], a utility panel for telco and GPS antennas, and an H-frame for two (2) Raycap surge protectors. The ground equipment area will be enclosed with a CMU block wall and chain link, locked security gates. A new trash enclosure will be built in the southwest corner of the parking lot as well as the addition of a 9' x 18' sand pit next to the trash enclosure to benefit the Fire Department.

No generator is planned for this site. The site is backed up with batteries installed in a purpose built cabinet. For extended power outages, provisions are made to support a portable generator to maintain the site operation.

The only lighting VZW is proposing to install is "full cut-off" exterior work lighting, on a timer, to support ground based equipment maintenance.

VI. Benefits to the Community

- 1. The increased coverage from the site will improve emergency communications services to residents in El Dorado Hills and to travelers throughout the area.
- 2. The site will provide the El Dorado Hills residents, schools, local businesses, and their customers with reliable in-building and in-vehicle voice, high-speed data, and internet service capabilities.
- 3. The tower complies with the jurisdiction's preference to allow future co-location opportunities. There is space within the stealth enclosure where a future 2nd carrier may place their equipment (as shown on page A-4 of the drawings). The 2nd carrier will need to secure their own planning and building approvals, as well as lease their ground space direct from the landlord.

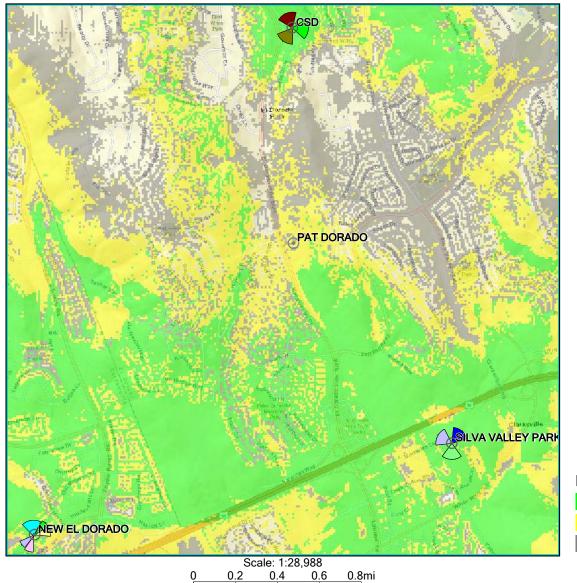
VII. Conclusion:

The location of the proposed site offers coverage benefits for portions of El Dorado Hills which have not had access to higher quality wireless communications services. Verizon is complying with El Dorado County's Development Code which prefers carriers co-locate on existing infrastructure first, before building new towers on raw land. On Air believes this proposed facility will have the least impact to the community since it is a co-location on an existing fire tower and it will be hidden behind a full enclosure of FRP material matching the Fire Station roof. No antennas will be visible to passersby.

Exhibit K-Site Coverage Maps

PAT DORADO Coverage Maps

Before Coverage



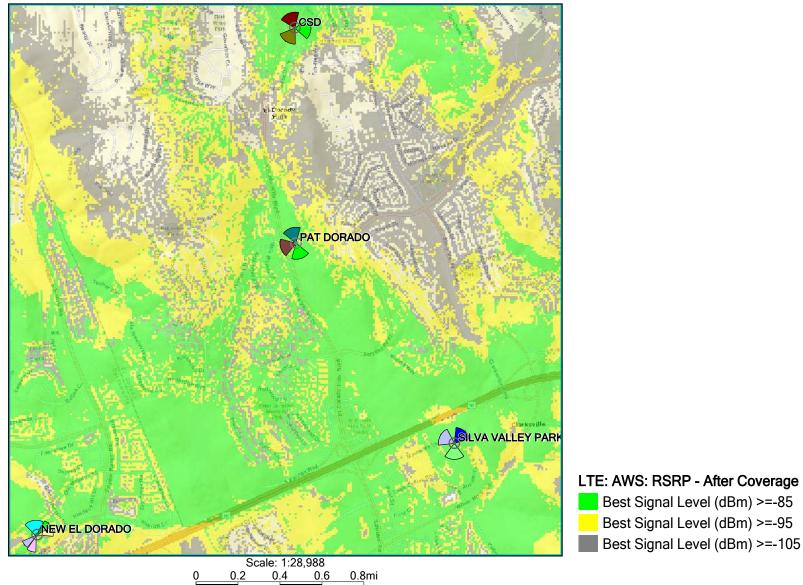
verizon

LTE: AWS: RSRP - Existing Coverage

Best Signal Level (dBm) >=-85
 Best Signal Level (dBm) >=-95
 Best Signal Level (dBm) >=-105

PAT DORADO Coverage Maps

After Coverage



verizon