APPENDIX TO THE PINOLE VERIZON WIRELESS FACILITY PROJECT
INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

PROJECT NAME:	**Pinole Verizon Wireless Facility Project**	
SITE ADDRESS:	2518 Pfeiffer Lane Pinole, CA	APN: 360-131-036
APPLICANT:	Pamela Nobel Verizon Wireless 2010 Crow Canyon Place, Suite 355 San Ramon, CA 94583	PHONE: (925) 904-3533

BACKGROUND:

An Initial Study / Mitigated Negative Declaration (IS/MND) was previously completed for the Pinole Verizon Wireless Facility Project in October 2015 and routed to the public for review and comment from October 1, 2015 to October 30, 2015. The proposed (2015) project consists of a replacement site for the previous proposal at 1270 Adobe Road in order to provide Verizon service coverage for the Pinole Valley and Pinole Valley Road areas. The proposed (2015) project includes the installation of nine panel antennas mounted within a new 34-foot tall faux water tank on a concrete pad foundation adjacent to an existing detached garage associated with the residence located at 2518 Pfeiffer Lane, Pinole, CA. An approximately 567-square-foot equipment area, located about the base of the faux water tank would be fenced with redwood fencing and would include outdoor equipment cabinets and a new stand-by 30 kilowatt (kW) diesel generator with a UL 142 fire-rated 132-gallon diesel fuel tank. Grapevine plantings would also be included for partial screening purposes. The total disturbed area for the proposed project would be approximately 4,483 square feet, which included the driveway modifications, utility trenches, and equipment area.

The Pinole Planning Commission conducted a public hearing on the proposed (2015) project on November 16, 2015, and denied the Conditional Use Permit application (CUP 14-13) and Design Review application (DR 14-26) requests. Subsequently, the applicant filed an appeal with the City of Pinole, contesting the Planning Commission's denial of the CUP and DR applications. In response to concerns raised at the November 16, 2015 Planning Commission hearing, the applicant has proposed an alternative modified Verizon Wireless Facility Project, which has been scheduled before the City Council consideration on appeal, for February 9, 2016. The proposed alternative project design is the subject of this Addendum.

The intent of the analysis contained herein is to confirm the adequacy of the original IS/MND with respect to whether it sufficiently addresses the potential impacts of the proposed alternative project design.

PROJECT DESCRIPTION:

The new project design includes the installation of six panel antennas mounted within a new faux chimney/cupola affixed to the existing rooftop of the detached garage associated with the residence located at 2518 Pfeiffer Lane, Pinole, CA (see Figure 1, Alternative (2016) Site Plan). The original project design included nine panel antennas within a faux water tank. The backup power source for the antennas will no longer be a diesel generator, but rather an eight-hour battery pack, installed within the equipment cabinets in the equipment area, and supplied with AC power.

The proposed equipment/lease area for the redesigned project is approximately 252 square feet, which is a reduction in area of 315 square feet, compared to the original project design (252 square feet vs. 567 square feet) (see Figure 2, Equipment Plan). Similar to the original design the equipment area would be enclosed with redwood fencing consisting of a 6-foot solid fence with a two-foot lattice cap. Landscaping would also be included on two sides of a proposed redwood fence area for partial screening purposes (see Figure 3, West Elevation, Figure 4, North Elevation, and Figure 5, East Elevation). The location of the equipment area and antenna structure has also been adjusted such that these features are now setback approximately 30 feet from the steep existing westerly slope (e.g., the slope leading to Pinole Creek) of the project property, thus eliminating the need for any retaining walls. In order to place the structures at this location, a small, existing shed will be demolished as part of the project. The alternative project design also replaces the faux free-standing water tower design used to hide the project antennas with a faux chimney design that is mounted to the roof of an existing detached garage on the property.

Other aspects of the modified project alternative remain the same as the original project, such as the incorporation of a bioswale to treat runoff from the equipment area, on-site Fire Department turnaround, pervious driveway pavers, and installation of Verizon Wireless utility lines underground leading up to the proposed faux chimney. An existing shed is located between the

proposed Verizon Wireless equipment area and the existing detached garage. This shed will be demolished as part of the proposed project and also as part of the alternative faux chimney modified design.
DETERMINATION: The analysis contained in the below environmental comparison demonstrates that the modified project alternative design would not result in new significant impacts or increase in the severity of a previously identified impact for the project, and as such, recirculation is not required pursuant to CEQA Guidelines Section 15073.5. The original 2015 IS/MND remains adequate to evaluate the potential impacts associated with both project options. In addition, this analysis has also determined that Mitigation Measure VI-1 is not required for the redesigned project.

Figure 1
Alternative (2016) Site Plan

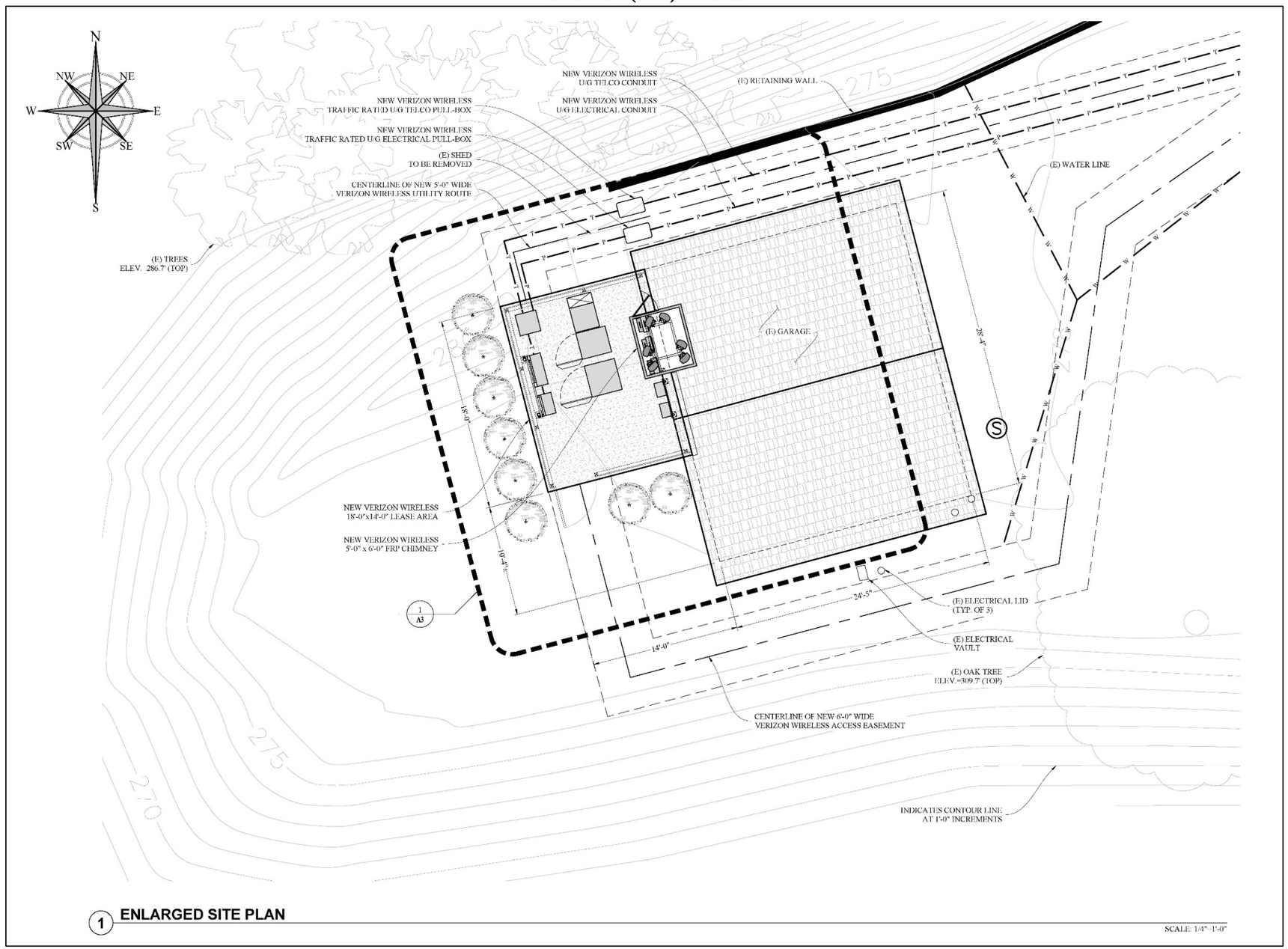


Figure 2
Alternative Equipment Plan

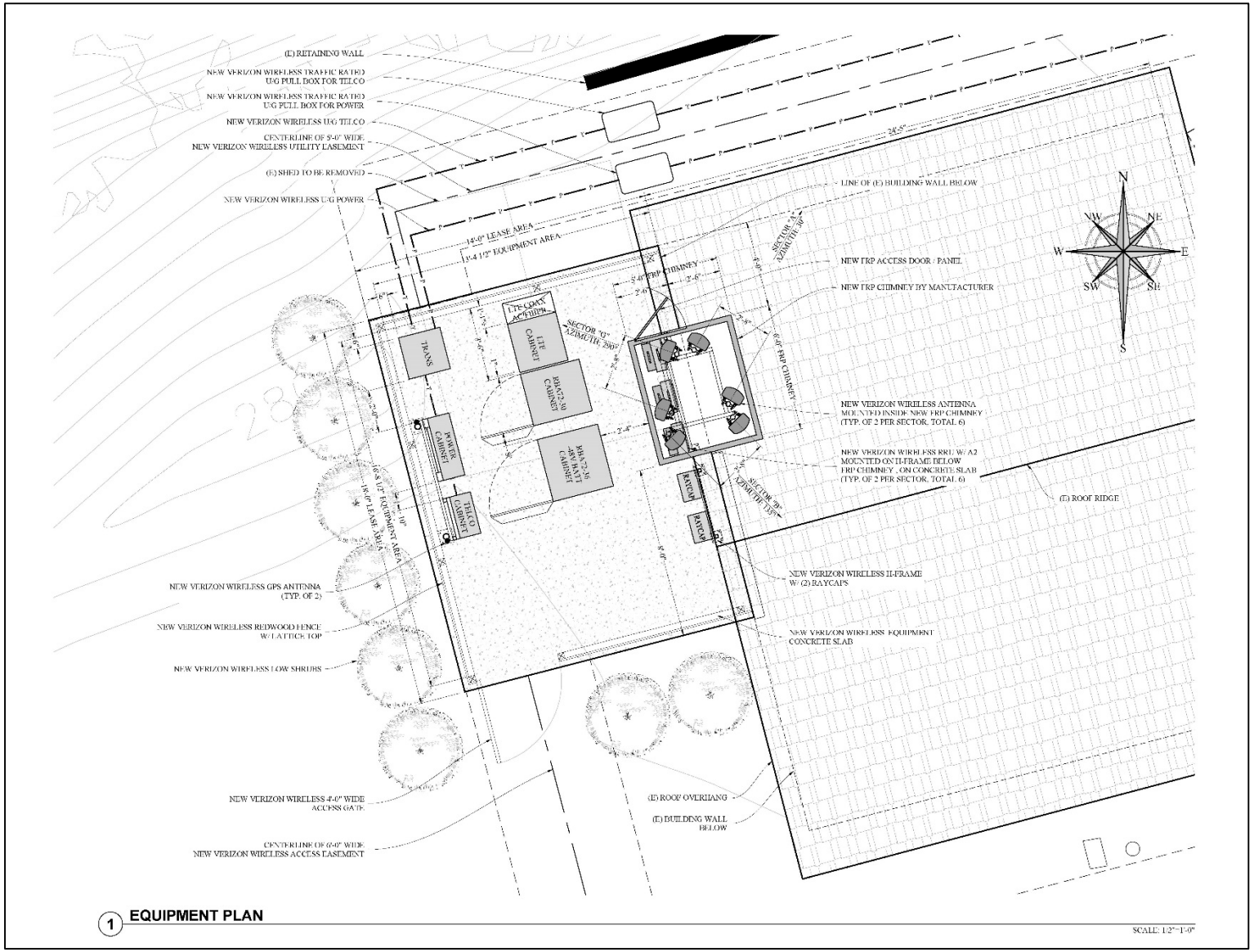


Figure 3
West Elevation – Alternative Design

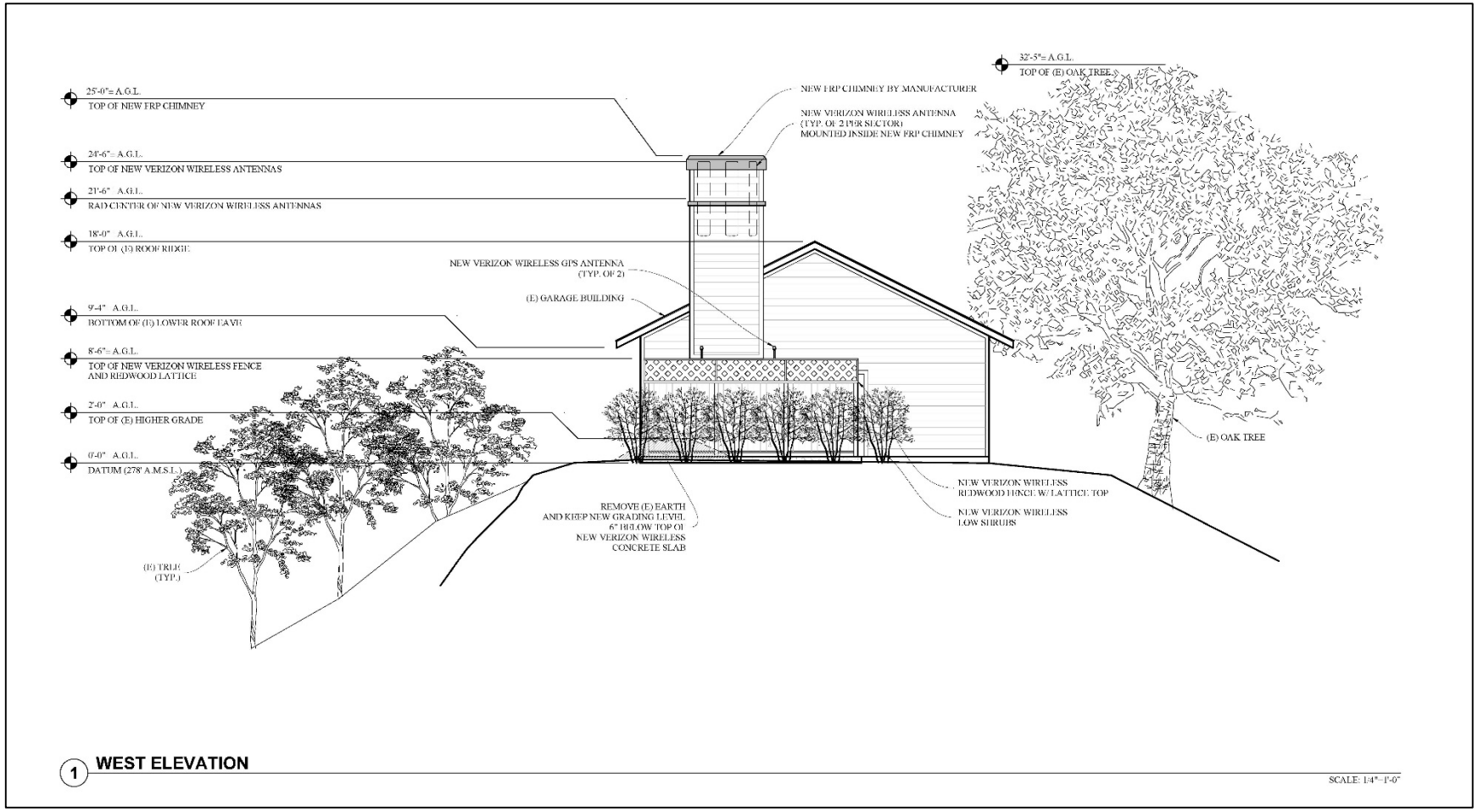


Figure 4
North Elevation – Alternative Design

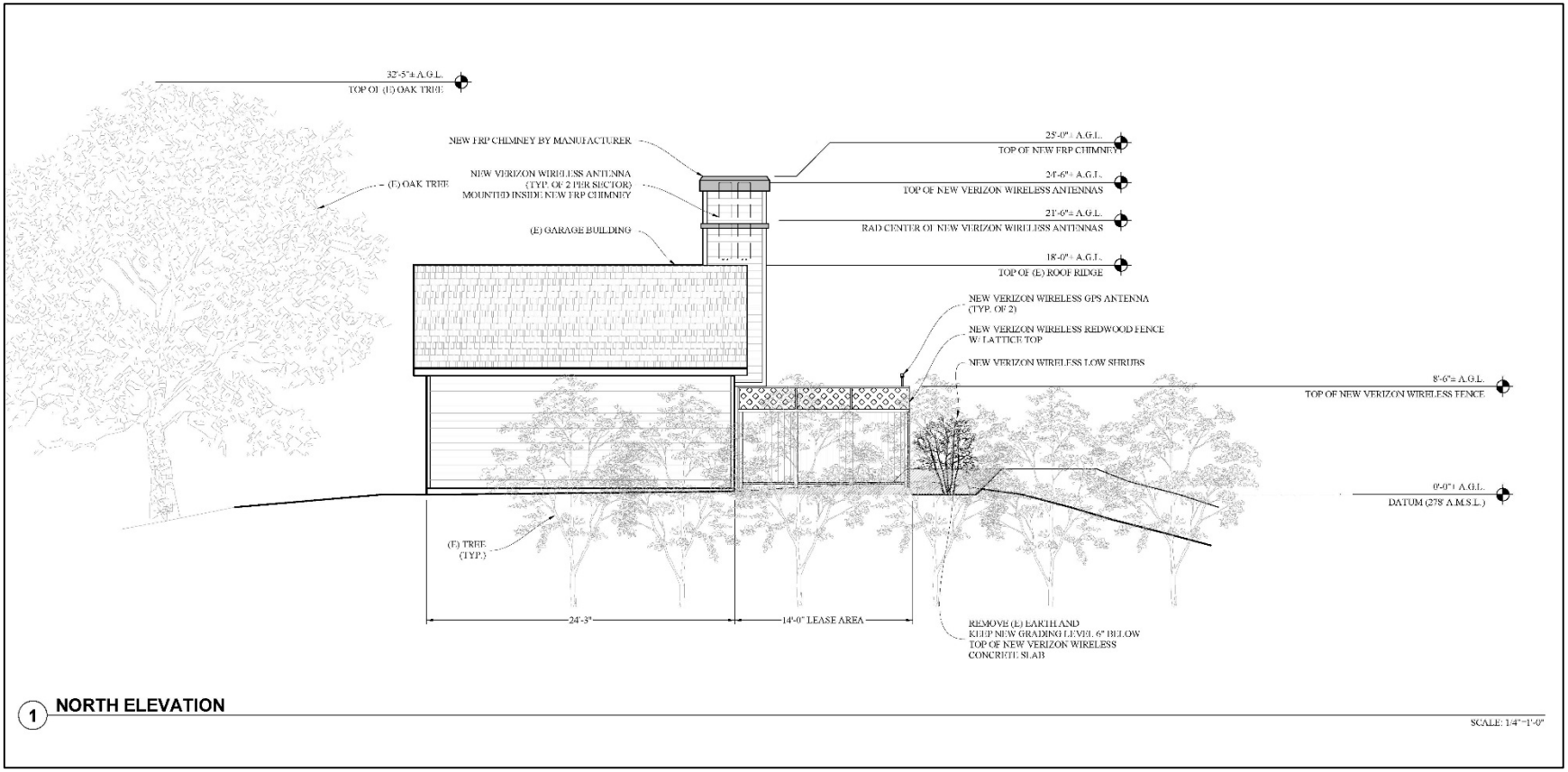
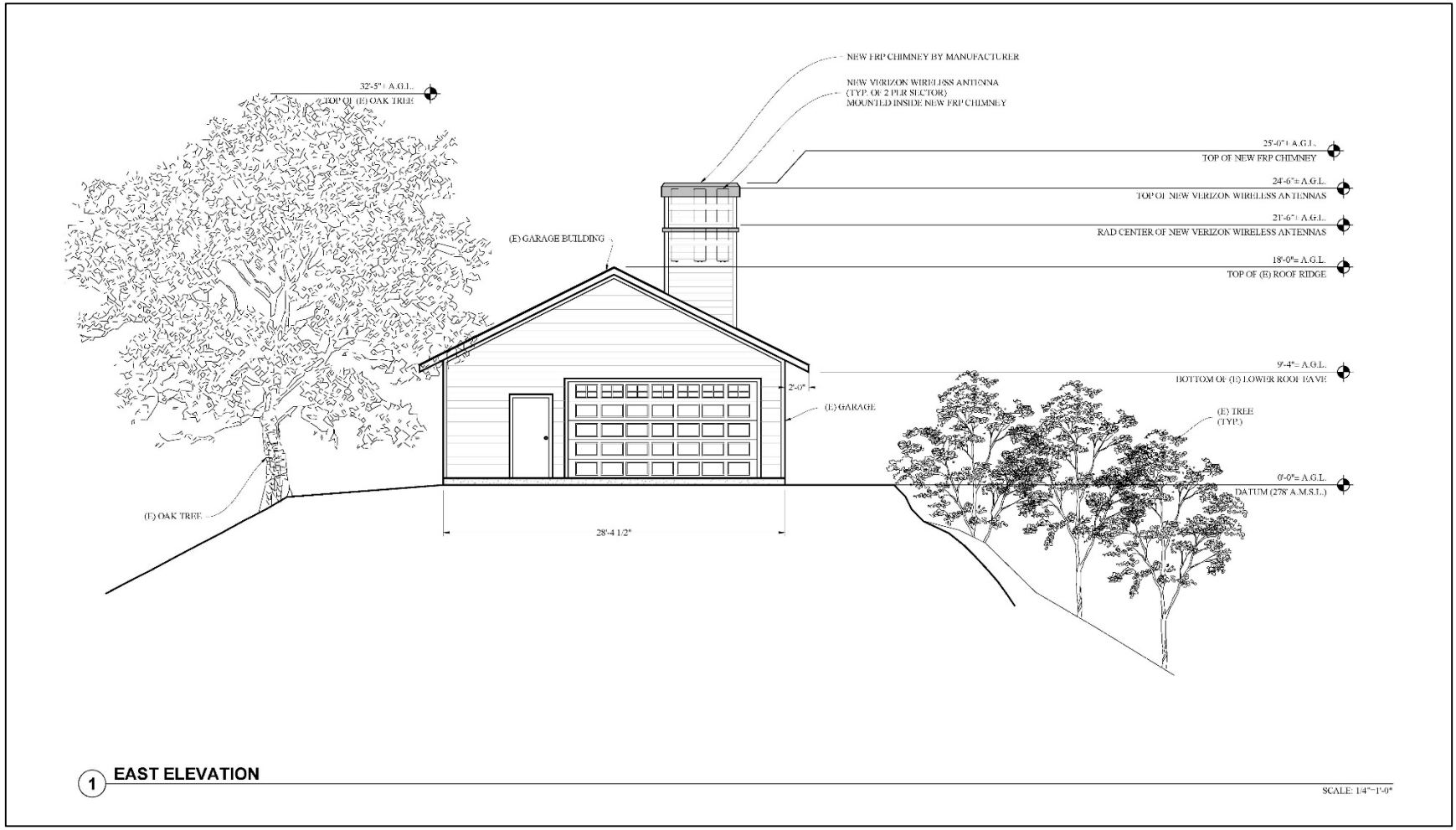


Figure 5
East Elevation – Alternative Design



ENVIRONMENTAL IMPACT COMPARISON

The purpose of the comparison is to evaluate the categories in terms of any **"changes"** or **"new information"** that may result in a changed environmental impact evaluation. A "no" answer does not necessarily mean that there are no potential impacts relative to the environmental category, but that there is no relevant change in the condition or status of the impact due to its insignificance or its treatment in a previous environmental document.

Explanation of Impact Evaluation Categories

2015 IS/MND Conclusion: This column provides the conclusion reached by the 2015 IS/MND as well as a reference to the page(s) of the 2015 IS/MND where information and analysis may be found relative to the environmental issue listed under each topic (found in parenthesis).

Do Proposed Changes Involve New or More Severe Impacts?: Pursuant to Section 15162(a)(1) of the CEQA Guidelines, this column indicates whether the changes represented by the current project will result in new impacts that have not already been considered and mitigated by the previous IS/MND or that substantially increase the severity of a previously identified impact. If a "yes" answer is given and more severe impacts are specified, additional mitigations will be specified in the discussion section including a statement of impact status after mitigation.

Any New Circumstances Involving New or More Severe Impacts?: Pursuant to Section 15162(a)(2) of the CEQA Guidelines, this column indicates whether there have been changes to the project site or the vicinity (environmental setting) that have occurred subsequent to the previous IS/MND, which would result in the current project having significant impacts that were not considered or mitigated by that previous IS/MND or which substantially increase the severity of a previously identified impact.

Any New Information Requiring New Analysis or Verification?: Pursuant to Section 15162(a)(3) of the CEQA Guidelines, this column indicates whether new information is available requiring an update to the analysis of the previous IS/MND to verify that the environmental conclusions and mitigations remain valid. This also applies to any new regulations that might change the nature of analysis or the specifications of a mitigation measure. If additional analysis is conducted as part of this environmental impact comparison and the environmental conclusion remains the same, no new or additional mitigation is necessary. If the analysis indicates that a mitigation measure requires supplemental specifications, no additional environmental documentation is needed if it is found that the modified mitigation measure achieves a reduction in impact to the same level as originally intended.

Discussion: A discussion of the elements of the impact is provided for each resource area in order to clarify the answers. The discussion provides information about the particular environmental issue as well as how the project relates to the issue.

Pinole Verizon Wireless Facility Project Environmental Impacts Comparison				
2015 IS/MND Conclusion	**Do Proposed Changes Involve New or More Severe Impacts?**	**Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?**	**Any New Information Requiring New Analysis or Verification?**	**Discussion**
I. Aesthetics				
LS, NI (pgs. 18-26)	No	No	N/A	The maximum height of the faux chimney would be approximately 25 feet above grade level as compared to the 34-foot height of the previously-proposed faux water tank. For comparison purposes, the proposed faux chimney would be slightly higher than the roof line of the existing garage, which is currently approximately 18 feet in height. The top of the faux chimney (i.e., 25 feet above grade level) would be approximately seven feet, five inches shorter than the existing mature oak tree located to the southeast on the same residential property. The project would resemble a faux chimney rather than a wireless communications facility, given that the panel antennas would be located within the chimney structure. In order to illustrate the potential views of the proposed project from the nearby areas, photo-simulations were prepared. Figure 6 provides an overview of the four locations from which the project simulation photographs were taken. Figures 7 through 10 show the existing and proposed views of the developed project site from the four locations. As shown in the simulations, while the faux chimney and equipment area would be visible, these features would not be considered to substantially degrade the visual character or quality of the existing view from the four locations. As shown above in Figures 2, 3, and 4, landscaping would also be included on two sides of a wood fence area for partial screening purposes. The proposed alternative project has been designed to be consistent with the requirements of Chapter 17.76, Wireless Communication Facilities, of the Pinole Municipal Code. Furthermore, the proposed project is subject to Design Review approval, which would ensure that the project is designed to the satisfaction of the City. Therefore, the alternative project would not substantially degrade the existing visual character or quality of the site and its surroundings, and impacts would be considered ***less-than-significant***, similar to the proposed 2015 Pinole Verizon Wireless Project. Chapter 17.76 of the Pinole Municipal Code restricts exterior lighting on

Pinole Verizon Wireless Facility Project Environmental Impacts Comparison				
2015 IS/MND Conclusion	**Do Proposed Changes Involve New or More Severe Impacts?**	**Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?**	**Any New Information Requiring New Analysis or Verification?**	**Discussion**
				commercial wireless telecommunication facilities and requires all associated equipment to have a non-reflective finish. As such, new sources of light or glare are not proposed as part of the proposed alternative project. Therefore, the proposed project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, and ***no impact*** would occur, similar to the 2015 Pinole Verizon Wireless Project.

Figure 6
Photo Locations and View Directions

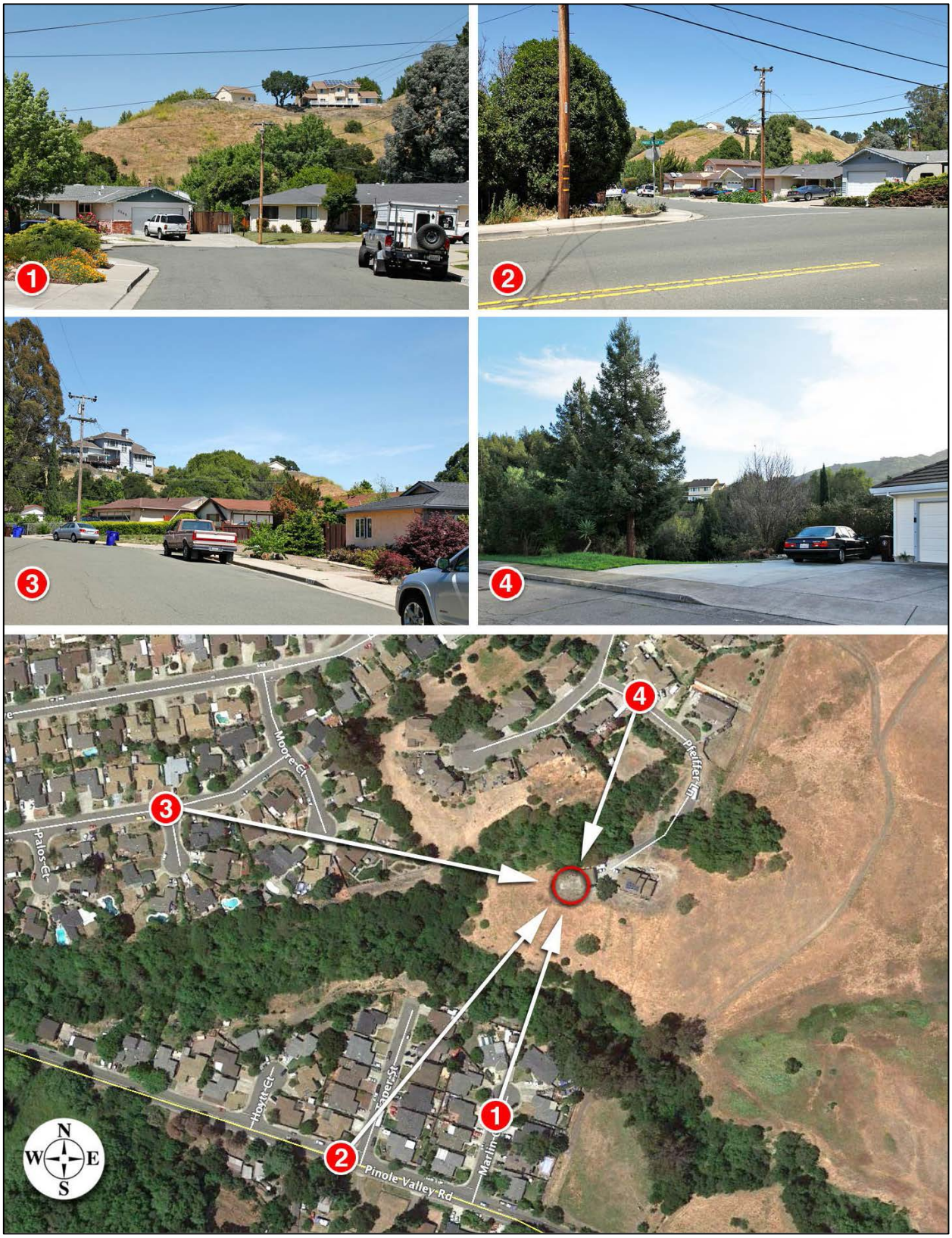
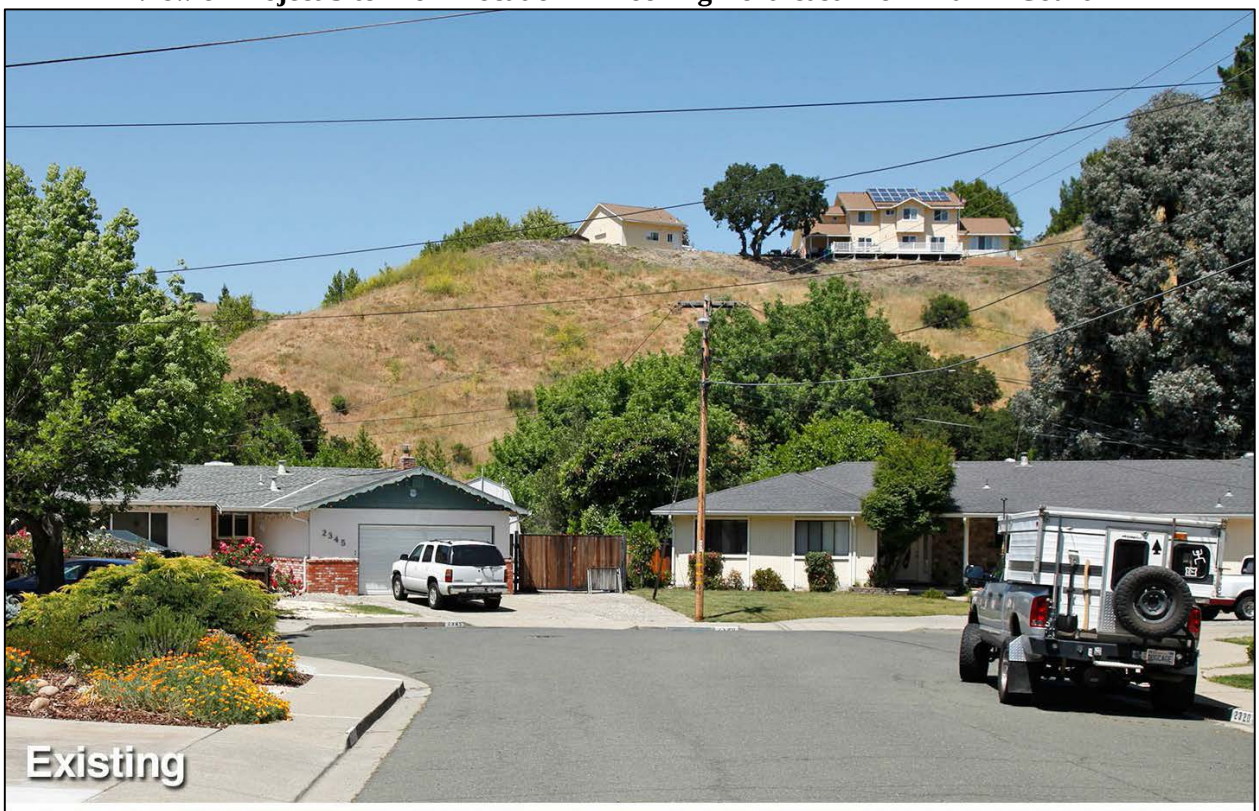


Figure 7
View of Project Site From Location #1 Looking Northeast From Marlin Court



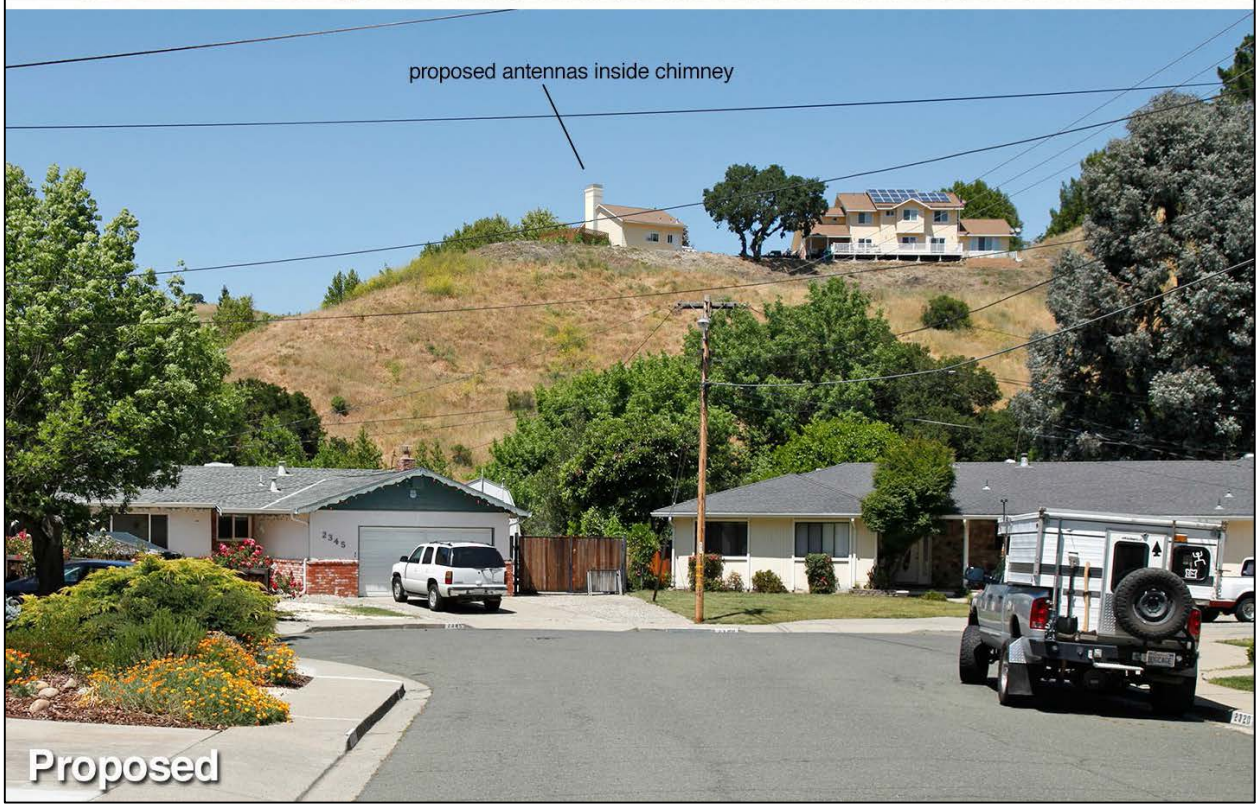


Figure 8
View of Project Site From Location #2 Looking Northeast From Pinole Valley Road

Figure 9
View of Project Site From Location #3 Looking Southeast From Stokes Avenue

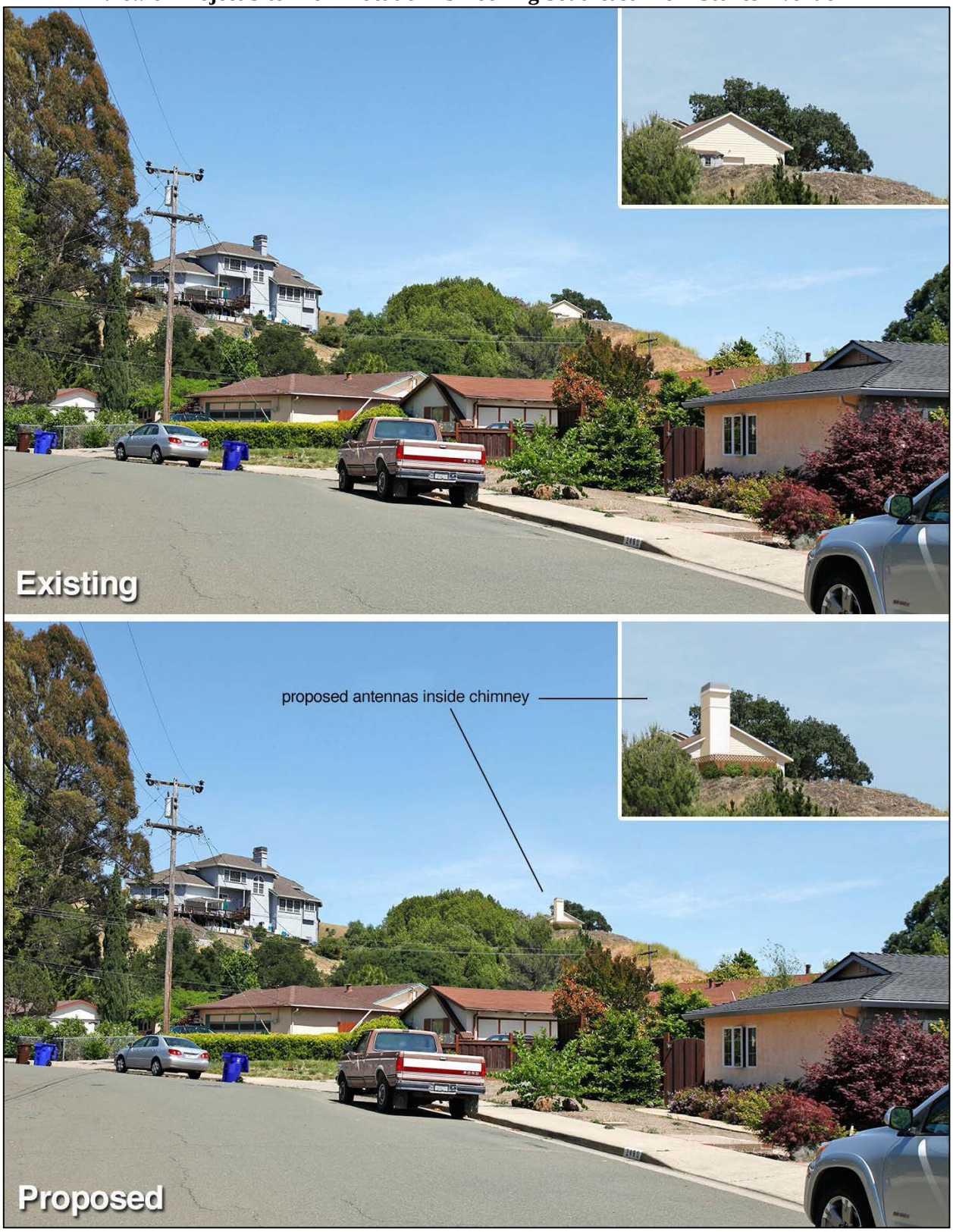


Figure 10
View of Project Site From Location #4 Looking South From Pfeiffer Lane

Pinole Verizon Wireless Facility Project Environmental Impacts Comparison				
2015 IS/MND Conclusion	**Do Proposed Changes Involve New or More Severe Impacts?**	**Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?**	**Any New Information Requiring New Analysis or Verification?**	**Discussion**
II. Agricultural Resources				
NI (pg. 27)	No	No	N/A	The project site is designated Grazing Land an Urban and Built-Up Land on the Contra Costa County Important Farmland 2010 map. Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance or involve over changes in the existing environment which would result in a loss of Farmland to a non-agricultural use, and ***no impact*** would occur, similar to the 2015 Pinole Verizon Wireless Project. The project area is not under any Williamson Act contract and the area is zoned for Suburban Residential. The site is not zoned for agricultural uses. Therefore, because buildout of the proposed project would not conflict with a Williamson Act contract or existing zoning for agriculture, the project would result in ***no impact***, similar to the 2015 Pinole Verizon Wireless Project. The project site is also not considered forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), and is not zoned Timberland Production (as defined by Government Code section 51104[g]). Therefore, the proposed project would have ***no impact*** with regard to conversion of forest land or any potential conflict with forest land, timberland, or Timberland Production zoning, similar to the 2015 Pinole Verizon Wireless Project.
III. Air Quality				
LS (pgs. 28-33)	No	No	N/A	The redesigned project no longer includes a diesel generator. Instead, an eight-hour battery pack would be included in the equipment area for emergency purposes. Therefore, the operational emissions would be fewer than those calculated for the 2015 Pinole Verizon Wireless Project, though the original project's emissions were determined to be well below the BAAQMD's thresholds of significance. In addition, the proposed project would reduce the project footprint from 567 sf to 252 sf and would eliminate construction of the faux water tank. Therefore, the construction emissions would be fewer than those calculated for the 2015 Pinole Verizon Wireless Project. Therefore, the 2016 project alternative would not violate air quality standards or contribute to the region's nonattainment status of ozone or PM, and impacts would be

				considered ***less-than-significant***, similar to the 2015 Pinole Verizon Wireless Project.
IV. Biological Resources				
LSM, LS (pgs. 34-46)	No	No	N/A	<u>RF Exposure - Animals</u> As discussed in the 2015 Pinole Verizon Wireless Project biological evaluation prepared for the project site (Appendix B to the 2015 Verizon Wireless Facility Project Site IS/MND), in recent years, research (primarily in Europe) has focused on what, if any affect increases in anthropogenic (e.g., human-caused) electromagnetic fields (EMFs) have on the biology and spatial movement patterns on plant and animal species. Some early research has suggested that some animal species are sensitive to low frequency EMFs, but these studies have not been able to elucidate as to whether or not this affect is trivial or substantial, discern what taxa are most sensitive, nor establish how this does nor does not affect ecological systems near or within urban centers. In other words, there is a substantial amount of uncertainty related to estimating any affects that EMFs may have on existing biological resources in an area. S. Cucurachi et al (2013) carried out a review of scientific, peer-reviewed studies conducted to evaluate ecological effects of RF-EMF. The biggest share of the articles (90 percent) involved laboratory studies, for a total of 106 articles. Field studies comprised only 10 percent of the articles, for a total of eight articles. S. Cucurachi et al note that the information and results on effects gathered in laboratory studies may need to be cautiously handled due to the sheer nature of the laboratory solutions adopted. The conditions applied in the laboratory studies, in fact, do not always reflect real conditions of exposure, and at times it is important to carefully evaluate the plausibility that biological systems exposed to RF-EMF could likely translate into ecologically relevant effects. To the knowledge of S. Cucurachi et al, there are currently no guidelines for the exposure of biodiversity to RF-EMF, including FCC or otherwise. Many of the studies referenced in the public comments were in fact conducted in laboratory/controlled environments; and as such, it cannot be assumed that the applied conditions reflect real conditions of exposure in the project area. To illustrate this point, the study by Putnam et al (2014) on juvenile steelhead trout was conducted in a controlled environment, where steelhead trout were taken as embryos from the Oregon Department of Fish and Wildlife Alsea Hatchery and transported to the Oregon Hatchery Research Center and incubated

				following routine protocol. Upon hatching, one group of fish was maintained in a fiberglass tank. A second group was maintained in a similar tank but in the vicinity of iron pipes and a concrete floor reinforced with steel rebar to create a distorted magnetic field. Moreover, these fish were not exposed to RF from wireless communication facilities, only magnetic forces (iron pipe, steel rebar). Such a controlled experiment, not involving direct RF exposure, should not be brought to bear to determine whether RF exposure from the proposed Verizon Wireless project can affect steelhead navigation within Pinole Creek. It is also noted that the 2014 U.S. Department of Interior letter referenced by one commenter acknowledges that while European field and U.S. laboratory evidence suggests that radiation can have adverse effects on migratory birds, independent, third-party peer reviewed studies still need to be conducted in the U.S. to begin examining the effects from radiation on migratory birds. The 2005 Balmori study is often cited in the scientific literature on the subject. Balmori's 2005 study was conducted to evaluate cell site RF effects on white stork in Vallavolid Spain. The sample size for this study included a relatively small sample size of 60 nests. While nest productivity was less for nests (sample = 30) located closer to the cell sites (within 200 meters), in previous studies in Valladolid, the results of productivity were generally higher than those obtained in Balmori's 2005 study and less nests appeared without young. In summary, the effects of RF on animals, including their ability to navigate, are inconclusive; and guidelines have not been established by regulatory agencies or scientific experts for the exposure of biodiversity to RF-EMF. Therefore, in accordance with CEQA Guidelines Section 15145, the City of Pinole finds RF effects on animals as too speculative for evaluation. This conclusion is equally applicable to both project design options. <u>Special-Status Plants</u> Based on the habitat and elevation range of the project area, 23 special-status plants have at least some potential to be present within the project vicinity, defined as a 3-mile radius around the project site. A field survey of the project site was conducted on July 23 and August 2, 2015. Special-status plant species were not observed on the project site. The project site is immediately adjacent to a detached garage and consists of ruderal vegetation. As the project site does not represent suitable habitat (i.e., wetlands, marshes, chaparral or scrub, coastal dunes, woodland, etc.) for the special-status plant species recorded within a 3-mile vicinity, nor contain soil types to which the special-status plant

				species are endemic, Live Oak Associates has concluded that these special-status plant species are absent from the development footprint and proposed project activities would not impact the plant species. Given the reduced development footprint for the redesigned faux chimney alternative, the same conclusion applies. <u>Special-Status Wildlife</u> Because the site is composed of ruderal habitat, all of the special-status wildlife species would be absent from or unlikely to occur on the site. Nesting birds, if present within vegetation adjacent to construction areas, could be disturbed during construction activities. Construction-related activities that adversely affect the nesting success of raptors or migratory birds or result in mortality of these birds would violate State and federal laws and would be considered a potentially significant impact. Discharges of pollutants, soil, or any other contaminant from the project site to Pinole Creek are not anticipated to occur due to the extensive erosion and sediment control measures included as part of the proposed project. In addition, the redesigned project is setback from the steep slope leading to Pinole Creek by approximately 30 feet, which would further prevent contamination of the creek. Mitigation is still required in order to ensure the proposed erosion and sediment control measures are properly implemented and maintained throughout construction and the lifetime of the project. With implementation of Mitigation Measures IV-1 through IV-3 required by the 2015 Pinole Verizon Wireless Project IS/MND, the proposed alternative project's impact related to having a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or USFWS would be considered ***less-than-significant with mitigation***, similar to the 2015 Pinole Verizon Wireless Project. <u>Riparian Habitat</u> Riparian habitat exists along the north side of the existing Pinole Creek approximately 200 feet south of the site and 135 feet lower in elevation. Implementation of the project does not involve any disturbance or removal of the area where the riparian habitat is located. In addition, the redesigned project is now setback from the steep slope leading to Pinole Creek by approximately

				30 feet. As such, the project would not affect the riparian habitat or vegetation. In addition, local or regional sensitive habitat types or natural communities regulated by the CDFW or USFWS are not present or associated with the project footprint. The project does not involve removal of any riparian vegetation or sensitive native vegetation. Consequently, the proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS, and impacts would be ***less-than-significant***, similar to the 2015 Pinole Verizon Wireless Project. <u>Wetlands</u> Pinole Creek, which is approximately 200 feet south of the site and approximately 135 feet lower in elevation than the project site, would be considered Waters of the U.S and Waters of the State and under the jurisdiction of USACE and CDFW. The proposed project alternative would not directly impact Pinole Creek, and the redesigned project is now setback from the steep slope leading to Pinole Creek by approximately 30 feet. Notwithstanding this, similar to the original 2015 project, construction and operational BMPs are still warranted out of an abundance of caution. These BMPs would ensure that erosion and sediment control measures are properly implemented and maintained. With implementation of Mitigation Measure IV-4 required by the 2015 Pinole Verizon Wireless Project IS/MND, impacts would be ***less-than-significant with mitigation***, similar to the 2015 Pinole Verizon Wireless Project. <u>Local Policies or Ordinances</u> According to the Arborist Report, five individual trees are located within the immediate area of the proposed project: one native Valley oak, (*quercus lobata*), three California bay (*Umbellularia californica),* and one Buckeye (*Aesculus californica*). Trees that were surveyed range in health from good to fair and are established within the existing developed residential environment. Primary construction activities will occur adjacent to one Valley oak where the equipment area is proposed. Installing the proposed utilities and equipment area will require frequent access through the tree canopy and pruning of the oak tree could be required. Mitigation Measures IV-5 through IV-7 have been included in the 2015 Pinole Verizon Wireless Project IS/MND to address this

				impact. The redesigned project alternative would be expected to have similar potential impacts to trees. Therefore, with implementation of Mitigation Measure IV-5 required by the 2015 Pinole Verizon Wireless Project IS/MND, impacts related to local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, would be ***less-than-significant with mitigation***, similar to the 2015 Pinole Verizon Wireless Project.
V. Cultural Resources				
LSM, LS (pgs. 47-49)	No	No	N/A	As discussed in the 2015 IS/MND, a survey of the project site was completed by EBI Consulting on October 1, 2014 and cultural materials, topographic anomalies, or other features that may indicate significant historic or prehistoric use were not observed on-site. The decrease in the amount of impervious surfaces from the previously proposed 567 sf to 252 sf would decrease the chance of discovering unknown resources during construction of the site. Mitigation Measures V-1 and V-2 required by the 2015 Pinole Verizon Wireless Project IS/MND would still be required for the redesigned project alternative to ensure that impacts would be ***less-than-significant with mitigation***, similar to the 2015 Pinole Verizon Wireless Project.
VI. Geology and Soils				
LSM, LS, NI (pgs. 50-56)	No	No	N/A	According to the Geotechnical Investigation Report prepared for the project site, seismically-induced landsliding could pose a significant geologic risk to site development, depending upon placement of structures. The original faux water tank project design, due to its close proximity to the steep slope leading down to Pinole Creek, required a bedrock anchoring system for the proposed structure to withstand possible landslides. Given that the redesigned project is now setback approximately 30 feet from the steep slope leading down to Pinole Creek, and the faux chimney, within which the panel antennas would be located, is attached to the existing on-site garage, an anchoring system is no longer needed for the project design. Also relevant to this discussion is the fact that the redesigned project does not include a diesel generator, which, when full, is estimated to weigh approximately 3,500 pounds. The elimination of this weight, in addition to the weight associated with the additional concrete area and water tower structure, would mean that the redesigned project would place reduced stress on the underlying soils. As a result, the Mitigation Measure VI-1 would not be required for the redesigned project. Mitigation Measure VI-1 is as follows:

				VI-1. In conjunction with the submittal of construction drawings, the project applicant shall submit a design-level geotechnical report prepared by a California Registered Geotechnical Engineer to the City of Pinole Development Services Department for review and approval. The geotechnical report shall include, but would not be limited to, soil sampling and testing of bedrock, to determine whether a drilled pier foundation for the water tower is feasible. If a drilled pier foundation is not feasible, the geotechnical report shall specific another acceptable foundation design capable of withstanding geologic hazards, including landslides. In addition, the design-level geotechnical report shall consider the results and recommendations of the Geotechnical Investigation Report, Proposed Telecommunications Facility, dated February 4, 2015, prepared for the proposed project. *All recommendations in the design-level geotechnical report shall be incorporated into the project design and all grading and foundation plans, subject to review and approval by the City of Pinole Development Services Department, to ensure that all geotechnical recommendations specified in the design-level geotechnical report are properly incorporated and utilized in the design.* With respect to soil erosion potential, construction of the redesigned project alternative (equipment area and faux chimney) would result in the disturbance of approximately 10 cubic yards of earthwork material. The estimated earthwork amount is associated with excavating approximately 1-foot (depth) of soil over the 252-square foot equipment area, and mixing this soil with Caltrans specification Class II aggregate base. This amount of topsoil disturbance is less than would occur as part of the original project design, due to the fact that the original project included an equipment/lease area of 567 square feet, as well as installation of retaining walls around the equipment area. More specifically, the original project required concrete retaining walls along the northern, western, and southern sides of the concrete foundation of the equipment area. The majority of these retaining walls would be constructed underground, with only a relatively small portion of the walls extending above-ground (i.e., approximately four to six inches). The same amount of utility trench area would be disturbed under both versions of the project. In order to ensure that utility trench excavation does not result

				in downslope erosion, best management practices include placing fiber rolls (straw wattles), spaced 10 feet apart, north of the proposed utility route. The fiber rolls would be aligned parallel with the slope contours, and extended 20 feet past the disturbed utility trench length. The fiber rolls will prevent downslope erosion of disturbed soils into the ephemeral tributary to Pinole Creek to the north. In order to ensure that the proposed erosion and sediment control measures are properly implemented and maintained throughout construction and the lifetime of the project, Mitigation Measure VI-2 required by the 2015 Pinole Verizon Wireless Project IS/MND shall still be required for the redesigned project. Thus, erosion impacts would be ***less-than-significant with mitigation***, similar to the 2015 Pinole Verizon Wireless Project.
VII. Greenhouse Gas Emissions				
LS (pgs. 57-58)	No	No	N/A	The 2015 Pinole Verizon Wireless Project's total GHG emissions, including construction-related emissions and operational emissions from occasional maintenance vehicle trips and generator maintenance, were estimated to be approximately 64.762 $MTCO_2e$, which is well below the BAAQMD threshold of significance for GHG emissions. The proposed project alternative would not include a diesel generator. Instead, an eight-hour battery pack would be included in the equipment area for emergency purposes. Therefore, the operational emissions would be fewer than those calculated for the 2015 Pinole Verizon Wireless Project. Therefore, the construction emissions would be fewer than those calculated for the 2015 Pinole Verizon Wireless Project. Overall, the annual GHG emissions from both versions of the project would not exceed the 1,100 $MTCO_2e$ threshold utilized by the BAAQMD, resulting in a ***less-than-significant*** impact.
VIII. Hazards and Hazardous Materials				
LS, NI (pgs. 59-62)	No	No	N/A	<u>RF Exposure - Humans</u> The proposed wireless communications system would emit a radio frequency (RF) electromagnetic field. The proposed project's compliance with the guidelines outlined by the FCC limiting human exposure to RF electromagnetic fields was evaluated by Hammett & Edison, Inc. The FCC sets exposure limits for continuous exposures that are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions. The FCC revised and updated these guidelines on August 1, 1996, as a result of a rule-making proceeding initiated in 1993. The guidelines

				incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kilohertz (kHz) and 100 gigahertz (GHz). The FCC's MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP. In reaching its decision on adopting exposure guidelines the Commission carefully considered the large number of comments submitted in its rule-making proceeding, and particularly those submitted by the U.S. Environmental Protection Agency (EPA), the Food and Drug Administration (FDA) and other federal health and safety agencies. The guidelines are based substantially on the recommendations of those agencies, and it is the Commission's belief that they represent a consensus view of the federal agencies responsible for matters relating to public safety and health. The FCC's limits, and the NCRP and ANSI/IEEE limits on which they are based, are derived from exposure criteria quantified in terms of specific absorption rate (SAR). The basis for these limits is a whole-body averaged SAR threshold level of 4 watts per kilogram (W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur. The 1996 MPE limits are derived by incorporating safety factors that lead, in some cases, to limits that are more conservative than the limits originally adopted by the FCC in 1985. Where more conservative limits exist they do not arise from a fundamental change in the RF safety criteria for whole-body averaged SAR, but from a precautionary desire to protect subgroups of the general population who, potentially, may be more at risk. The 1996 FCC exposure limits are also based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. As indicated by the below table, the most restrictive limits occur in the frequency range of 30 to 300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies whole-body absorption is less efficient, and, consequently, the MPE limits are less restrictive.

The FCC guidelines incorporate two separate tiers of exposure limits that are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to exposure. The applicable tier for the proposed Verizon Wireless Facility Project is the General Population/Uncontrolled tier (i.e., "public limit").

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

The exposure limits are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5,000–80,000 MHz	5.00 mW/cm^2	1.00 mW/cm^2
BRS (Broadband Radio)	2,600	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

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.

RF exposure studies were conducted by Hammett & Edison, Inc. for both the proposed project (dated November 4, 2014) and the alternative project design (dated February 3, 2016). The maximum RF exposure level for a person at ground level near the site is shown in the below table, relative to the applicable FCC public exposure limit.

	Maximum RF Exposure level for a person at ground level	Percentage of FCC Public Exposure Limit
Proposed Project	0.087 mW/cm^2	8.8%
Alternative Project Design	0.16 mW/cm^2	16%
Note: mW/cm2 = milliwatt per square-centimeter		

Furthermore, the maximum calculated level of RF exposure at the nearest residence, which is the residence on the 2518 Pfeiffer Lane property, is 13% of the public exposure limit for the proposed project, and 25% of the public exposure limit for the alternative project design. The maximum calculated levels at the remaining nearby residences are shown in Figure 11 for the proposed project, and Figure 12 for the alternative project design. These levels represent the predicted RF exposure levels at the exterior façade of the homes' second-story.

It should be noted that these evaluations included several worst-case assumptions, including a conservative value for the reflection coefficient, the assumption that the carrier would be operating at full power at all times, and the assumption that a line-of-sight exists from the antennas to inhabited areas. Due to the use of worst-case assumptions, Hammett & Edison's professional opinion is that the results of the evaluation are likely overstated.

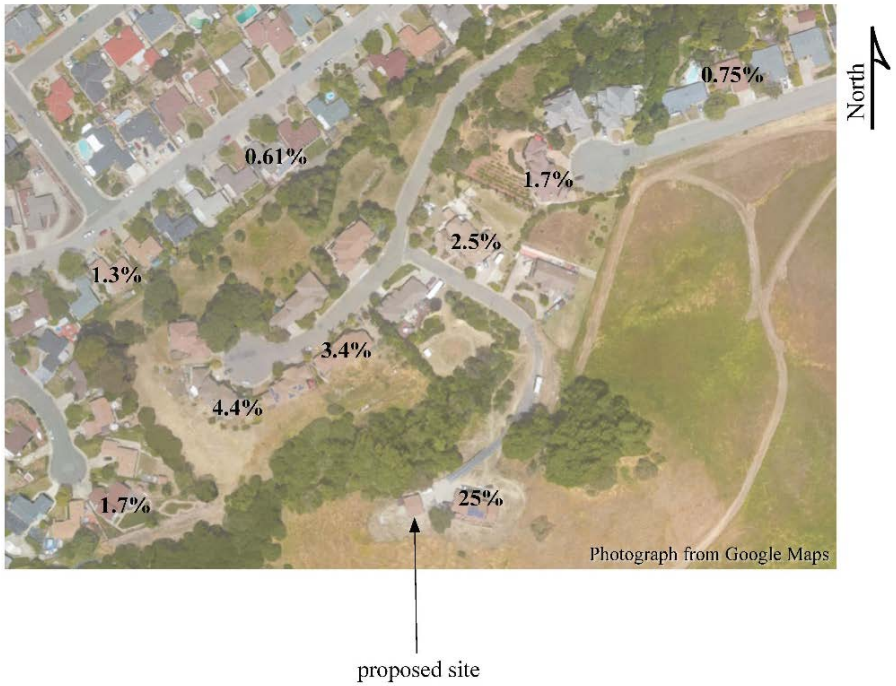
Due to their mounting locations, the Verizon antennas would not be accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. As shown above, the highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

For the aforementioned reasons, the proposed project, nor the alternative project design, would not result in impacts associated with the creation of a significant hazard to the public or the environment associated with hazardous materials, and impacts would be ***less-than-significant***, similar to the 2015 Pinole Verizon Wireless Project.

Figure 11
Proposed Project – RF Exposure Levels

Notes:
Results expressed as percentage of applicable FCC public limit.
Calculations performed according to OET Bulletin 65, August 1997.
Based on proposed operating conditions; see text.

Figure 12
Alternative Project Design – RF Exposure Levels



Notes:
Results expressed as percentage of applicable FCC public limit.
Calculations performed according to OET Bulletin 65, August 1997.
Based on proposed operating conditions; see text.

IX. Hydrology and Water Quality				
LSM, LS, NI (pgs. 63-68)	No	No	N/A	Based on Pinole Municipal Code requirements, a portion of the owner's driveway bounded by the top edge of the existing asphalt paved driveway, the attached garage for the existing residence, the existing driveway retaining wall, the detached garage door, and top of slope on the southerly side, is required to be a paved surface capable of supporting vehicles and the load of a fire apparatus and other emergency equipment vehicles. The driveway area is approximately 3,020 sf. The applicant proposes to provide approximately 2,937 sf. of constrained permeable pervious pavers to comply with the Municipal Code requirements. The solid pavers are set in sand and spaced to allow runoff to infiltrate into the soil. This improvement applies to both project designs. With respect to impervious surface area, the original project design includes approximately 567 square feet of impervious surface area, consisting of the equipment pad/lease area. The redesigned project would reduce the impervious equipment pad/lease area to approximately 252 square feet. Stormwater runoff under both project designs, would flow to a proposed bioswale, which would be located adjacent to, and outside of, the southwest corner of the equipment pad area. The bioswale would be constructed with an approved soil mixture blend of 80 percent washed coarse sand and 20 percent sandy loam. Infiltration through these layers would remove any urban pollutants from the equipment pad runoff. The bioretention soil mixture would allow treated water to percolate into the soil and rather than resurface, eventually enter into the main stem of Pinole Creek through a natural water cycle. The project engineer has indicated that the intent of the placement of the bioswale at the southwest corner of the equipment area is to enable the runoff to percolate into the soil and flow south/southwesterly to the main stem of Pinole Creek, rather than into the ephemeral tributary to the north of the project site.[1] In conclusion, implementation of Mitigation Measure IX-1 included in the 2015 Pinole Verizon Wireless Project IS/MND to ensure the erosion and sediment control measures are properly implemented and maintained, would ensure that the proposed project would have a ***less-than-significant*** impact related to stormwater quality and alteration of existing drainage patterns, similar to the 2015 Pinole Verizon Wireless Project.

[1] Personal phone communication between Nick Pappani, Vice President, Raney Planning and Management, and Bruce Lyon, Diamond Engineering Services, February 3, 2016.

				As discussed in the 2015 IS/MND, according to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, Panel Number 06013C0232F, the proposed project is located in Flood Zone X, which is defined as an area of minimal flood hazard from the principal source of flood in the area and determined to be outside of the 0.2 percent annual chance floodplain. Therefore, the project site is not located within the 100-year floodplain. Because buildout of the proposed project would not place within the 100-year floodplain structures that would impede or redirect flood flows, and would not expose people or structures to a significant risk of loss, injury, or death involving flooding, the project would result in ***no impact*** related to development within the 100-year floodplain, similar to the 2015 Pinole Verizon Wireless Project.
X. Land Use and Planning				
NI (pgs. 69-70)	No	No	N/A	The redesigned project involves the same entitlements as the original project. The proposed project site is designated in the General Plan and zoned as Suburban Residential. According to Table 17.020.030, a wireless communication facility is permitted within the Suburban Residential designation with a Conditional Use Permit. Development of the project would not interfere with the existing uses and would not involve any identifiable potential for conflict with surrounding land uses. Therefore, the proposed project would not conflict with any applicable land use plans, policies, or regulations and ***no impact*** would occur, similar to the 2015 Pinole Verizon Wireless Project.
XI. Mineral Resources				
NI (pg. 71)	No	No	N/A	The City of Pinole General Plan Update does not identify any regionally or locally important mineral resources within the City. In addition, the Geotechnical Investigation Report prepared for the proposed project site did not identify any on-site soils that would indicate the presence of any mineral resources. Impacts to mineral resources were determined to be less-than-significant for the original project design, and the redesigned project would not change this conclusion.
XII. Noise				
LSM, LS, NI (pgs. 72-75)	No	No	N/A	A Noise Statement was prepared for the 2015 Pinole Verizon Wireless Project by Hammett & Edison, Inc., Consulting Engineers and was included as Appendix F of the IS/MND. The proposed project alternative would not include a diesel generator. Instead, an eight-hour battery pack would be included in the equipment area for

				emergency purposes. The proposed battery pack is silent and would be powered by AC power. In addition, the battery pack would be encased within equipment cabinets in the equipment area and would be well insulated. The only operational noise sources resulting from the 2015 Pinole Verizon Wireless Project would have been the diesel generator. Impacts related to operational noise resulting from the 2015 Pinole Verizon Wireless Project were determined to be less than significant. Because the proposed project would eliminate the diesel generator from the project, impacts related to operational noise would be ***less-than-significant***, similar to the 2015 Pinole Verizon Wireless Project. The proposed project alternative includes the installation of six panel antennas mounted within a new faux chimney/cupola affixed to the existing rooftop of a detached garage and support equipment. Noise levels would temporarily increase with the influx of trucks, construction equipment, and people during the construction process. The temporary construction noise would be less than the 2015 Pinole Verizon Wireless Project due to the elimination of the faux water tank. For example, fewer materials would be needed for the proposed project, and some heavy equipment, such as a large crane to lift the previously-proposed back-up generator over the existing garage, would not be required. According to the City's General Plan Update EIR, individual construction equipment noise levels typically range from approximately 74 to 88 dB at 50 feet. The City's Municipal Code Section 15.02.070, General Regulations of Construction, establishes hourly restrictions that pertain to construction-related activities. Mitigation Measure XII-1 required by the 2015 Pinole Verizon Wireless Project IS/MND, would still be required for the redesigned project alternative to ensure that construction is limited to allowable hours and equipment has proper mufflers for noise attenuation. Impacts would be ***less than significant with mitigation***, similar to the 2015 Pinole Verizon Wireless Project.
XIII. Population and Housing				
NI (pg. 76)	No	No	N/A	Impacts to population and housing were determined to be less-than-significant for the original project design, and the redesigned project would not change this conclusion.
XIV. Public Services				
LS, NI (pgs. 77-78)	No	No	N/A	Impacts to public services were determined to be less-than-significant for the original project design, as police and fire demands associated with the project would be expected to be minimal. The redesigned project would not change this conclusion.

XV. Recreation				
NI (pg. 79)	No	No	N/A	Impacts to recreation were determined to be less-than-significant for the original project design, as the project alternative design would not result in demand for recreational facilities. The redesigned project would not change this conclusion.
XVI. Transportation and Circulation				
LS, NI (pgs. 80-81)	No	No	N/A	With respect to project construction traffic, the redesigned project alternative would be expected to have a similar amount of overall vehicle trips as compared to the original project. The need for heavy trucks to access the project site during construction would be reduced. For example, the original project required use of a crane truck to lift the diesel generator over the existing garage. Because the redesigned project does not include the diesel generator a crane truck would not be required. According to the City of Pinole's Interim Public Works Director / City Engineer, roadways within the project vicinity are designed for vehicles that are rated 18,000 lbs per axle, in accordance with Caltrans requirements throughout the State of California. Vehicles having a gross weight greater than 18,000 lbs are still allowable on the project area roadways due to the spreading of the load over the appropriate series of axles, such that each axle does not exceed the 18,000 lb maximum. This vehicle weight capacity is sufficient to support the construction and operational vehicles anticipated for the redesigned project, as well as the original project, After installation of the project, only approximately one trip per month would be required for routine maintenance. In addition, because the proposed project would eliminate the diesel generator component of the 2015 Pinole Verizon Wireless Project, the proposed project would eliminate the truck trips required every four months to refuel the emergency generator diesel fuel tank. As such, a substantial increase in traffic volumes along area roadways would not occur as a result of the proposed project alternative construction or operation. Subsequently, the project would not cause any level of service standards to be exceeded. Therefore, a ***less-than-significant*** impact would occur, similar to the 2015 Pinole Verizon Wireless Project.
XVII. Utilities and Service Systems				
LS, NI (pgs. 82-83)	No	No	N/A	Impacts to utilities were determined to be less-than-significant for the original project design, as the project would not result in demand for sewer and water. The redesigned project alternative would not change this conclusion. Drainage

				systems are address in the Hydrology section of this checklist discussion.
XVIII. Mandatory Findings of Significance				
LS (pg. 84)	No	No	N/A	Given the nature of both project designs, the proposed project would not have a potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. In addition, mitigation measures have been included in IS/MND that would reduce all potential impacts to less-than-significant levels. Therefore, the proposed project would have a ***less-than-significant*** impact, similar to the 2015 Pinole Verizon Wireless Project. The IS/MND demonstrates that both project designs would not be expected to result in adverse impacts to human beings, either directly or indirectly. The IS determined that the project would result in no impact or less-than-significant impacts to all resources areas, and that the project's incremental contribution to potential cumulative impacts would not be cumulatively considerable. Therefore, the modified alternative project's impact would be considered ***less than significant***, similar to the 2015 Pinole Verizon Wireless Project.