

Oak Tree and Rare Plant Mitigation Plan for

2281 Kiler Canyon Road, Paso Robles, California APN: 026-371-003

Prepared for:

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1.0 INTRODUCTION

This Oak Tree and Rare Plant Mitigation Plan (plan) was prepared at the request of Mr. Ivan Dudynsky (applicant), to fulfill the County of San Luis Obispo's (County) mitigation requirements for impacts to oak trees and special-status plants on the property located at 2281 Kiler Canyon Road, Paso Robles, San Luis Obispo County, California (see Appendix A - Figure 1: Project Vicinity Map). The applicant is proposing to construct a phased development of two primary residences, a driveway, and a photovoltaic solar array. The project also includes the installation of underground utilities and a septic leach field (refer to latest plans submitted by engineer Timothy Roberts).

Terra Verde Environmental Consulting, LLC (Terra Verde) prepared a biological resources assessment in September 2020, which included an assessment of the impacts associated with the proposed residential development to native habitats and sensitive resources. During this assessment, it was determined that a total of 58 oak (*Quercus* [*Q.*] sp.) trees measuring 5 inches diameter at breast height (DBH) or greater and 626 square feet (sf) of grassland habitat containing Salinas milkvetch (*Astragalus macrodon*) may be impacted as a result of planned development. Through consultation with the County, it was determined that removed oak trees (28) will be mitigated at a 4 to 1 ratio and other impacted oak trees (30) will be mitigated at a 2 to 1 ratio, for a total of 172 mitigation trees.

On-site planting of oak trees is a typical County mitigation strategy; however, the areas of the property that will remain undeveloped have extensive oak woodland canopy, grasslands containing Salinas milkvetch, and/or steep slopes which does not provide enough space to plant replacement trees to complete the needed mitigation. The applicant's future plans for the limited space that could be used for plantings are not compatible with oak restoration areas. Terra Verde assessed the intact oak woodland habitat on site and determined that numerous areas are suitable for mitigating oak tree impacts through the establishment of a private open space easement (see Appendix A – Figure 2: Mitigation Areas Map). The County will likely establish a minimum required oak woodland easement area of 1,000 sf per replacement oak tree for mitigation of project impacts. This equates to an open space easement of 4,000 sf per oak tree removed, and 2,000 sf per oak tree impacted (e.g., County 2018). Therefore, the minimum area required for an open space easement to mitigate for the project's impacts is 172,000 sf (3.95 acres). Alternatively, up to 25 percent of the mitigation requirement (43 of 172 trees) may be met by protecting small saplings on site. The remaining 129 mitigation trees would be offset as an on-site easement with a minimum area of 129,000 sf (2.96 acres).

Salinas milkvetch is ranked by the California Native Plant Society as a 4.3 on the California Rare Plant Rank list. Prior to construction activities, mature seed will be collected from plants and spread across suitable habitat on the property outside of the impact zone. Topsoil underneath and surrounding the populations that will be impacted will be salvaged, stockpiled on-site during construction, and then spread over temporary disturbance areas. Collected seed will be



broadcast by hand within oak woodland easement areas or other suitable areas that are not within the construction footprint to enhance and expand upon unimpacted populations on the property.

2.0 PROJECT INFORMATION

2.1 Project Setting

The proposed project is located at 2281 Kiler Canyon Road, within the Templeton U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle, approximately two miles west of Highway 101 and the Salinas River. Topography on site is generally steep, sloping up from Kiler Canyon Road toward a u-shaped ridgeline that divides the property. Elevation at the proposed project site ranges from approximately 1,000 to 1,170 feet (304 to 356 meters) above mean sea level. The property is undeveloped and is primarily composed of mixed oak woodland. The surrounding landscape consists of agricultural land with occasional rural residential developments and fragmented patches of intact native habitat.

2.2 Existing Site Conditions and Proposed Design

The property totals approximately 12.89 undeveloped acres, composed of intact mixed oak woodland, with patches of buckbrush chaparral and annual grassland. Oak trees within the mixed oak woodland consist of coast live oak (*Q. agrifolia*), blue oak (*Q. douglasii*), valley oak (*Q. lobata*), and interior live oak (*Q. wislizeni*). The project has been designed to minimize total disturbance and impacts by mostly avoiding the 30% slopes and utilizing existing open canopy areas located in a lower 'bowl' and upper 'knoll'. Proposed residential developments in these locations will be connected by a single driveway. The project was designed with minimized retaining wall heights, sculpted to the site's existing topography, which will minimize total cut and fill quantities (see Appendix B – Narrative for Variance).

Designing the project to overlap natural canopy openings and corridors will minimize the removal of oak trees. The impacts and mitigation discussed in this plan are associated with development of the two home sites and their associated infrastructure.

2.3 Mitigation Needs

The results of two field surveys conducted by Terra Verde in May and July 2020 and verification by Twin Cities Surveying, Inc. indicate that 28 mature oak trees will be removed and an additional 30 will be impacted in association with development activities for the proposed project (see Appendix C – Tree Exhibit). Per County standards, removed oak trees will need to be mitigated at a 4 to 1 ratio and impacted trees (e.g., trimmed) will need to be mitigated at a 2 to 1 ratio. As such, 172 replacement trees are needed to mitigate for the proposed impacts of the homes, driveway, and associated infrastructure. Additionally, it was determined that 626 sf of



grassland habitat containing Salinas milkvetch will be impacted as a result of proposed site developments.

2.4 Mitigation Goals

The overall goals of this plan are to ensure that the mitigation strategies implemented will successfully fulfill the purpose and intent of County-required mitigation. The goals for mitigation of anticipated impacts at the Kiler Canyon property are as follows:

- Mitigate for impacts to oak trees such that the overall impacts to the oak woodland habitats are less than significant.
- Mitigate for impacts to Salinas milkvetch populations by expanding upon unimpacted populations on the property by broadcasting or spreading collected seed and topsoil.

3.0 MITIGATION IMPLEMENTATION METHODS

3.1 Open Space Easement

The majority, if not all, of the mitigation for impacts to oak trees will be fulfilled by establishing an open space easement comprising mature oak woodland habitat on the Kiler Canyon property. The final acreage of this easement shall be determined after the completion of all proposed construction activities and as-built impacts have been quantified. The area to be designated will be based on the average area of a mature oak canopy, which is generally accepted as 1,000 sf. Mitigation for approximately 172 trees is expected (172,000 sf) based on current site plans. There is sufficient area of mature coast live oak woodland habitat present on the property to fulfill this requirement (see Appendix A – Figure 2: Mitigation Areas Map).

The County must approve the size and location of the open space easement and the easement must be recorded prior to the start of construction activities.

3.2 Protection of Existing Oak Saplings

It is possible that the County will allow up to 25 percent of the required number of mitigation trees (i.e., a maximum of 43 out of 172) to be compensated by protecting existing 'at-risk' saplings located near the proposed limits of disturbance on site.

3.2.1 Selection of Saplings for Protection

Saplings shall be selected and protected prior to the start of construction. Acceptable 'at-risk' saplings must meet the following criteria at the start of the monitoring period to satisfy this component of the mitigation:

- Each sapling must be less than two feet tall and be able to easily be caged or tubed.
- Each sapling must be in excellent health, with evidence of vigorous growth.



- Candidate saplings must be spaced a minimum of 10 feet but must be within 20 feet on average from any other sapling being protected as part of this mitigation plan.
- The saplings must be located outside the dripline of existing, mature oak trees, but within 20 feet of mature oak trees.
- The projected future root zones of the saplings must be outside any areas that may receive supplemental moisture or irrigation during the summer.
- Candidate saplings must be located outside of the construction boundaries.

3.2.2 Site Preparation

Assuming 172 mitigation trees are required, up to 43 saplings may be selected, clearly flagged or fenced for protection, and given a number for identification. Non-native vegetation shall be removed within a three-foot radius around each sapling and, if invasive, shall be disposed of off-site. A thick layer of mulch shall be spread within the three-foot radius after vegetation has been removed to retain soil moisture and prevent vegetation growth. Wood chips generated during the trimming and removal of oak trees on site will ideally be used as mulch. Each sapling will be protected from browsing animals with caging that is securely staked to the ground.

3.3 Salinas Milkvetch Mitigation

On-site mitigation for impacts to Salinas milkvetch through the distribution of collected seed and salvaged topsoil will be implemented.

3.3.1 Pre-construction Survey and Seed Collection

Prior to the start of construction, updated botanical surveys will be completed during the appropriate blooming season, which is typically April through July, within all proposed disturbance areas. The updated extent of Salinas milkvetch populations will be identified and mapped. Before construction impacts the Salinas milkvetch populations within the project footprint, mature seed will be collected from individual plants within 25 feet of the disturbance footprint. Salinas milkvetch seeds mature approximately June through August. Because this mitigation strategy is closely tied to a short seeding window, it could affect the construction schedule. Therefore, early planning for this mitigation strategy is encouraged.

3.3.2 Delineation of Work Areas

Prior to the start of grading, all work area boundaries shall be clearly marked with brightly colored flagging and/or perimeter fencing to establish a visual separation between areas that are to be impacted and areas that are to be protected. This will ensure protection of Salinas milkvetch plants and seedlings outside of the construction footprint. Flagging or fencing shall be left in place and maintained for the duration of construction and until there is no potential for impacts.



3.3.3 Seed Broadcasting

Salinas milkvetch seed will be spread directly after collection. Collected seed will be spread by hand in areas of suitable habitat on site that will not be disturbed as part of the proposed development. In particular, the seed should be used to enhance and expand upon existing population patches that were mapped throughout the site within the open space easement and/or outside of project impacts. To increase the likelihood of germination of transplanted milkvetch seeds, the ground shall be prepared by disturbing the top layer of soil before spreading seeds. To protect and conserve moisture of transplanted Salinas milkvetch seeds, they will be covered with soil, a light layer of mulch, or tackifier.

3.3.4 Topsoil Salvage, Storage, and Distribution

Topsoil will be salvaged from the areas where Salinas milkvetch populations occur within the project's disturbance limits. The top two inches of topsoil will be carefully removed by an experienced operator using a backhoe, excavator, dozer, or similar piece of equipment and will be stockpiled in uncompacted piles less than four feet tall. Stockpiled soils will be placed within demarcated temporary disturbance areas after construction. Topsoil stockpiles will be stabilized with a tackifier (soil stabilizer) or covered with a permeable natural material, such as jute or coconut fiber blankets. To minimize compaction, no equipment will be driven over or parked on the salvaged soil stockpiles. Topsoil stockpiles will be maintained in a dry condition as much as possible and remain segregated from subsoil. Following the completion of all construction activities, salvaged topsoil will be used to stabilize and revegetate areas of temporary disturbance (e.g., road edges, utility trench lines, staging areas) with suitable habitat for Salinas milkvetch, as close as possible to the salvage areas. Topsoil distribution areas will be delineated with brightly colored flagging or fencing with signage communicating that the restoration area is not to be disturbed. The flagging or fencing will be removed once mitigation is determined to be successful.

3.3.5 Irrigation

It is expected that seasonal rains will be adequate for keeping the soils moist enough for the germination and growth of Salinas milkvetch, thus, no artificial irrigation is planned.

4.0 MAINTENANCE AND MONITORING PLAN

4.1 Schedule

The applicant must hire a County-approved restoration contractor to conduct monitoring and maintenance activities as described in the following sections. During the first growing season, the restoration contractor shall frequently monitor the protected saplings, topsoil relocation areas, and milkvetch seeding areas to identify any maintenance needs, such as weeding or irrigation. These areas will be maintained as frequently as needed, as determined by the restoration contractor, within the first growing season. After the first growing season, maintenance and



monitoring activities may occur less frequently but should occur at least quarterly for the first two years to ensure successful survival and growth of oak saplings and establishment of Salinas milkvetch seeds in temporary disturbance areas and seeding areas. If performance criteria are being met, monitoring may be reduced to a bi-annual schedule for years 3 through 5 for Salinas milkvetch and years 3 through 7 for oak tree saplings. If the performance criteria are not being met, monitoring and maintenance will increase to the frequency needed to properly address any concerns. The monitoring and maintenance period will occur for a minimum of three years for Salinas milkvetch and a minimum of seven years for oak tree saplings. If performance criteria as outlined in section 4.3.1 and 4.3.2 are not met within the minimum timeframe, remedial actions to increase success will be implemented and monitoring will continue until performance criteria are met.

4.2 Maintenance of Mitigation Areas

Similar maintenance activities are required to ensure the effectiveness of the oak tree sapling protection, Salinas milkvetch topsoil relocation, and seeding areas. These include supplemental watering, pest management, and weeding. Weeds listed by the California Invasive Plant Council (Cal-IPC) as Moderate or High (excluding annual grasses) in the California Invasive Plant Inventory (Cal-IPC 2021) will be abated. If there is threat of failure due to animal browsing or insect infestation, remedial actions will be initiated, such as physical barriers or County-approved insecticide application.

4.3 Monitoring Plan

The goal of the monitoring plan is to document the success of oak tree sapling protection and establishment and Salinas milkvetch seed germination from relocated topsoil and broadcast seed. Additionally, the monitoring plan aids in the early discovery of issues that may inhibit the successful establishment of mitigation saplings and rare plant populations.

4.3.1 Oak Tree Sapling Monitoring Plan and Performance Criteria

To document the survival and growth of oak tree saplings, the health will be evaluated, and the height and canopy width will be measured according to the schedule in Section 4.1. If a decline in the survival and/or health of saplings is detected, the monitor shall make recommendations for remedial measures, such as additional protective devices, supplemental weed abatement, or a watering regime.

The restoration contractor shall establish exact locations and compass directions (photo points) to consistently photograph the overall oak forest adjacent to the saplings. Photographs at photo points shall be taken during each monitoring visit. In addition, a photograph of each oak sapling shall document the individual progress and health of saplings during each visit. Sapling mortalities will be photo documented and recorded with the location and unique tree number. A botanical survey of the three-foot radius surrounding each oak tree sapling will be conducted and a list of species will be categorized as native or



non-native and recorded. If the proportion of non-native to native species exceeds 10 percent, a weeding regimen shall be initiated.

Protected oak tree saplings shall have a minimum survival rate of 75 percent at the end of the 7-year monitoring period (Table 2). Mortality beyond this threshold will be compensated by protecting additional saplings that meet the criteria as soon as feasible. Each monitoring visit, he height of each sapling and the diameter of the canopy will be measured, and neither measurement shall decrease. If a decrease is detected, the restoration contractor shall identify a cause and take remedial actions, such as pest management or supplemental watering. Prior to being deemed successful, saplings shall be established and entirely independent without supplemental watering for a minimum of two years.

Table 2. Performance criteria for protected oak tree saplings.

Criterion	Year 1 - 2	Years 3 - 6	Year 7
Sapling Survival (% of initial total)	90%	80%	75%
Tree Height		≥ previous year	≥ previous year
Canopy Diameter		≥ previous year	≥ previous year

In addition to the quantitative measurements prescribed above for oak tree mitigation, qualitative data regarding individual oak tree health, including presence of diseases, pests, or foliar die-back, will be noted and addressed, as appropriate. Presence or absence of new growth, signs of water stress, and qualitative assessments of vigor will be recorded for each oak tree sapling.

Performance criteria must be met for the mitigation to be determined complete. Oak tree saplings will be monitored for a minimum of seven years, or longer until they are determined to be established and healthy.

4.3.2 Salinas Milkvetch Monitoring Plan and Performance Criteria

Salinas milkvetch mitigation areas and a representative reference site will be monitored annually for a minimum of three years. The reference site will be chosen in the spring during the same year that initial construction and topsoil salvage is expected to occur. Monitoring of mitigation areas will commence the following year (Year 1) for all areas that were directly seeded and where topsoil was placed. Quantitative and qualitative data will be collected to assess whether mitigation goals and objectives are being met and/or whether remedial measures should be implemented.

The restoration contractor shall establish photo points to consistently photograph the Salinas milkvetch mitigation areas. Photographs at photo points shall be taken during each monitoring visit. Close-up photographs documenting health, herbivory, or other notable conditions will be taken, as necessary. A botanical survey shall be conducted at each mitigation site to ensure the number of non-native species does not increase relative to the



number of native species. If the proportion of non-native to native species exceeds 10 percent, then supplemental weed abatement measures shall be implemented.

Performance criteria have been designed to evaluate the overall success of seeding and topsoil placement efforts. The performance criteria allow for flexibility to deal with annual variations in growth and flowering of Salinas milkvetch while maintaining the integrity of the mitigation goals and objectives. To evaluate successful mitigation, specific quantitative and qualitative data will be collected. Monitoring will be timed to coincide with the peak blooming period for Salinas milkvetch, which is generally May – June. It is expected that most individuals will be flowering and/or fruiting at this time, but monitors will document observed phenology for the populations on site.

The following criteria will be used to measure successful establishment of seeded areas and topsoil applications:

- The number of Salinas milkvetch plants observed within seeded areas and areas of relocated topsoil will be recorded as a general success measure.
- For the seeded mitigation areas, a 25 percent increase in the number of individual plants or 10 percent expansion of total area covered with Salinas milkvetch will be required by the end of the monitoring period.
- Phenology, health, and plant vigor within seeded and topsoil placement areas will be compared to plants at the representative reference site. The vegetative growth of Salinas milkvetch at the reference site will be compared to vegetation growth observed in the mitigation areas.

If these criteria are not met, the restoration contractor may implement adaptive management strategies to address it, such as repeating the collection of established milkvetch seeds and broadcasting them in the mitigation areas as described in Section 3.3.3. If performance criteria are met after three years of monitoring, results may be submitted to the County for approval of the success of the mitigation effort.

4.4 Annual Reporting

The monitoring results and maintenance activities will be summarized in annual reports, which will include recommendations for remedial measures if needed. Each report shall include the following items:

- Summary of actions completed throughout the year, including maintenance and monitoring activities and dates.
- Summary of significant events that may affect the success of sapling or seedling establishment or growth.
- Maps indicating impacted trees, protected saplings with unique numbers identified, seeded areas, topsoil relocation areas, and photo points.
- A table summarizing the monitoring results, general observations, and recommendations for each sapling, seeded area, and topsoil relocation area.



- Qualitative and quantitative assessments of protected saplings and Salinas milkvetch mitigation areas.
- Labeled photographs from designated photo points.

Annual monitoring reports shall be submitted to the County by December 31 of each monitoring year.

5.0 SUMMARY

This plan describes the methods and timing of oak tree and rare plant mitigation, in accordance with County requirements for impacts to oak trees and Salinas milkvetch. Establishment of an on-site open space easement will be implemented as the preferred mitigation strategy for impacted oak trees. However, a portion of the required minimum easement acreage may be supplemented through the protection of existing oak saplings. Impacts to Salinas milkvetch will be mitigated through seed collection and broadcasting, as well as topsoil salvage and relocation. Maintenance and monitoring will occur for a minimum of seven years for oak trees and three years for Salinas milkvetch, or longer if deemed necessary to meet the required success criteria. All maintenance activities and results of the monitoring events will be summarized in annual reports, to be submitted to the County by December 31 each year.



6.0 REFERENCES

- California Invasive Plant Council (Cal-IPC). 2021. California Invasive Plant Inventory, www.calipc.org. Accessed February 2021.
- San Luis Obispo County (County). 2018. Negative Declaration & Notice of Determination, ED Number 16-0244, Stoneburg 3-Lot Parcel Map, SUB2016-00038/CO16-0223.
- Terra Verde. September 2020. Biological Resources Assessment, 2281 Kiler Canyon Road, Paso Robles, California.



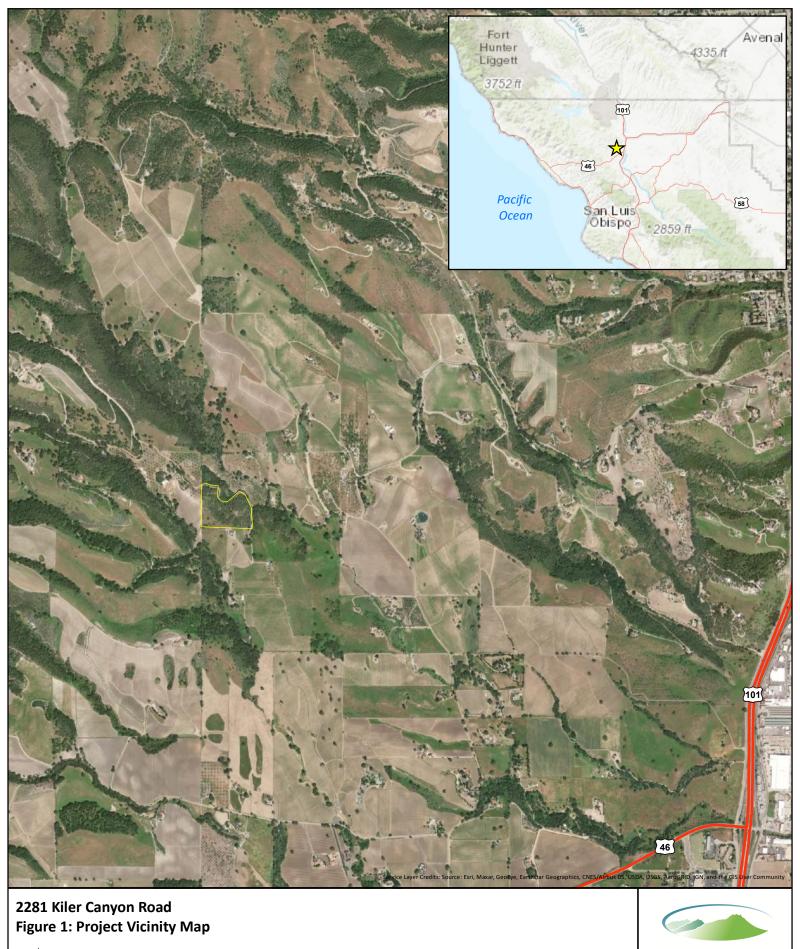
APPENDIX A MAPS

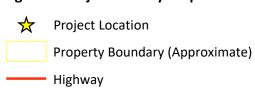
Figure 1: Project Vicinity Map

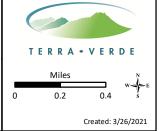
Figure 2: Mitigation Areas Map



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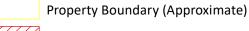






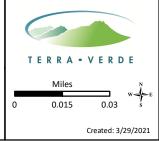






Proposed Construction Footprint (Approximate)

Potential Oak Tree Mitigation/Easement Areas (Square Feet)





APPENDIX B NARRATIVE FOR VARIANCE



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Narrative for Variance – 2281 Kiler Canyon Road

Our clients, Ivan Dudynsky and Audrey Morrissey, asked us to work on this amazing, undeveloped, +/- 13 acre parcel of land on Kiler Canyon Road specifically because of our expertise in designing architecture that fits naturally into the landscape. We seek to develop a new main residence for them as well as a studio space and a secondary dwelling unit. This property is steep and folded with a high ridge, and mostly contains slopes of 30% or greater. However, by looking at the slope analysis created by Roberts Engineering, and by walking the site several times, it becomes apparent that there are two appropriate, non-ridge, gently sloping building sites suitable for development; a lower 'bowl' and a upper 'knoll'. A driveway feasibility study was performed by Roberts Engineering and it was determined that a single driveway could be constructed within the parameters of the San Luis Obispo County Code giving access to both sites.

As environmental architects we applied the fundamental concepts of "Designing with Nature" to determine the best building pad heights, most minimal retaining wall heights, and to create the most natural circulation relationship from the driveway. The retaining walls for both the Barn and that House have been carefully sculpted to the site's existing topography in order to create an intimate connection with the land and the natural setting. Placement of both buildings, and their required excavations into slopes, have been designed with respect to the existing on-site drainage patterns and to minimize disruption to the natural topography of both the lower 'bowl' and upper 'knoll' sites.

These modestly-scaled residential buildings have been carefully and thoughtfully positioned into the landscape; working with existing deer paths and view lines for exact placement. Our design seeks to minimize the amount of cut and fill required and creates opportunities to use our fill onsite, avoiding as much grading export and alteration to the existing topography as possible. Exterior living areas have been developed at or near natural grade, in most locations, with their adjacent, compact interior living spaces opening-up directly to them in a way that encourages indoor/outdoor living.

The entirety of this proposed residential development is purposefully kept well below the site's high ridge. This is an owner-architect driven decision to keep the buildings from having any silhouette against the skyline. Furthermore, the structures' exterior colors will be natural materials in a dark pallet, and the new driveway walls and yard walls will be constructed from local stone so that they disappear into the existing landscape. Removal of existing oaks will be kept to a minimum. Impacted oak trees will be mitigated according to a plan approved by the County.

This project will utilize 100% solar photovoltaic power with the proposed panel array located adjacent to an existing, neighboring array of solar photovoltaic panels at our Southern property line. The buildings' designs have been embedded with passive-solar ventilation strategies in order to reduce their resource consumption. Given the understanding that all water is precious, state of the art grey water and rain water collection systems will be holistically implemented for the development.

We believe that our process had led us to a design proposal that is considered, appropriate, and addresses the site's unique constraints.



APPENDIX C TREE EXHIBIT



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