



Memorandum

To: Colby Cataldi
From: Shawna Schaffner
Date: September 28, 2016 – Updated November 7, 2016
Subject: Esperanza Hills - Specific Plan Modified Access, CEQA Substantial Conformance Review

This memorandum was prepared to review refinements ~~into the~~ access ~~to configuration for~~ the proposed project, as presented in the Specific Plan. As further detailed below, the project approvals from March 10, 2015 and June 2, 2015 are anticipated to be rescinded by the Board of Supervisors ~~and~~, and the project and Revised Environmental Impact Report (REIR) reconsidered in response to ~~the~~ Court ~~judgement.~~ Judgment. As detailed below, the limit of the court order only pertained to the Greenhouse Gas Emissions section of the Final Environmental Impact Report (FEIR) and specifically to the mitigation measure and the perceived limit on greenhouse gas emissions reductions of 5%. The Judge did not order recirculation or revision of any other section or analysis in the FEIR, leaving it to the County's discretion.

This memorandum has been updated in two ways, first, to clarify the appropriate CEQA Sections upon which the modified project access is to be reviewed, and second, to provide additional information related to the modified project access, requested by the Orange County Planning Commission on October 26, 2016. All changes to this memorandum from the September 28, 2016 memorandum are provided in track changes for ease of review.

The September 28, 2016 memorandum referenced CEQA sections (Public Resources Code Section 21166 and California Code of Regulations Section 15162) applicable to a certified EIR, which exists as of the time of this writing and will continue to be the appropriate CEQA sections applicable even once the EIR is decertified and recertified. That is because the sequence of review by the Board of Supervisors would be to first rescind project approvals and decertify the EIR. The next step would be to certify the REIR. If and when the REIR is certified, the project approvals including the General Plan Amendment and Specific Plan may then be considered. Therefore, at the time the Board of Supervisors considers the Specific Plan with the modified access option, a certified EIR will be in place. The question this memorandum seeks to answer is if the REIR is certified by the Board of Supervisors, whether a subsequent or supplemental EIR shall be prepared specifically as it relates to the modified access option presented in the Specific Plan.

Since the 2015 consideration of the Specific Plan, the main vehicular access to the project site ~~was~~ has been refined to reduce the curving nature of the roadway. While the refined project access is intended to improve vehicular and emergency access to the site, the refinement also

serves to minimize environmental impacts as compared to those detailed in the ~~FEIR~~FEIR. The following analysis provides detailed information in support of the adequacy of the ~~FEIR~~FEIR related to the modified access provided in the Specific Plan.

Public Resources Code Section 21166 and California Code of Regulations, Title 14, Section 15162, address the question of whether to prepare a supplemental EIR, subsequent EIR or no additional environmental documentation based on the decision of the lead agency when an approved project is modified. PRC Section 21166 allows for lead agencies' decisions *not* to prepare subsequent EIRs if any "substantial evidence" supports such decisions based on the fact that lead agencies have already completed the full CEQA process in originally approving the project at issue. Such approval comes only with the completion and certification of environmental documents subject to rigorous standards, including ample opportunity for public review and input.

The Esperanza Hills Final Environmental Impact Report (SCH No. 2012121071/PA 120037) was certified by the Orange County Board of Supervisors on March 10, 2015. The Draft EIR (DEIR) analyzed two primary access configurations and several alternative access configurations including project access via Stonehaven Drive with emergency-only access also via Stonehaven Drive (Option 1) and project access via Aspen Way with emergency-only access via Stonehaven Drive (Option 2). The ~~Final EIR, approved~~FEIR, certified on March 10, 2015, analyzed a third access option (Option 2 - Modified Aspen Way), which proposed a full project access to Aspen Way connecting to San Antonio Road, and a secondary access to Stonehaven Drive. Option 1 provided a primary access and a separate road for emergency purposes only, similar to Option 1 Modified. All environmental impacts associated with each ~~individual~~ access configuration were fully disclosed and analyzed. All feasible mitigation measures were identified in the FEIR, and the County adopted a Statement of Overriding Considerations for environmental impacts that could not be mitigated.

Following the County's certification of FEIR 616 on March 10, 2015 and the County's approval of the Esperanza Hills project on June 2, 2015, a Petition for Writ of Mandate was filed by Protect Our Homes and Hills et al. on July 7, 2015, challenging the adequacy of the FEIR: ~~A minute entry decision by~~ on a variety of grounds. Judge William Claster, by the Statement of Decision dated June 24, 2016, in Orange County Superior Court Case No. 30-2015-00797300-CU-TT-CXC, found that virtually all of these arguments were "without merit." However, the Court found that "the EIR impermissibly defers mitigation of greenhouse gas (GHG) impacts and also arbitrarily limits the extent to which mitigation measures must be considered. . ." and that "the EIR is flawed insofar as it arbitrarily limits mitigation requirements to an additional 5% reduction in GHG emissions, fails to mandate analysis of all mitigation measures beyond the 5% level and does not require the adoption of all mitigation measures."

The Court issued a jJudgment and ~~w~~Writ on August 24, 2016, which ordered as follows:

- a. The County vacate certification of the FEIR, adoption of a Mitigation Monitoring and Reporting Program and Findings of Fact/Statement of Overriding Considerations made in support of the Project.
- b. The County vacate all approvals of the Project based upon the EIR including Board of Supervisors Resolution No. 15-018 certifying FEIR 616, Board of Supervisors Resolution adopting General Plan Amendment LUE 14-02 and Ordinance No. 15-010 adopting the

Esperanza Hills Specific Plan and rezoning certain land from the A-1 General Agricultural and A1(O) General Agricultural/Oil Production Districts to the S “Specific Plan” District.

- c. The County shall revise the EIR in accordance with CEQA, the CEQA Guidelines, the Statement of Decision and the final Judgment to bring the EIR into compliance with CEQA by resolving the deficiencies identified by the Court in its Statement of Decision.
- d. The EIR certification and approvals be remanded to the County for reconsideration.
- e. No grading permits shall be issued and no construction activities can commence until the County takes the necessary steps to bring the EIR into compliance with CEQA by resolving the deficiencies identified by the Court in its Statement of Decision.

Therefore, ~~in order~~ to address the Court’s concerns, the Greenhouse Gas Emissions section of the FEIR (~~Chapter~~ Section 5.6) was revised to ~~include the requirements that the County imposed on the incorporate previously identified mitigation measures and project as part of the original FEIR and the adopted Specific Plan, together with more specific requirements imposed which the County has determined to be feasible~~ design features and which achieve an additional 8.08 as new mitigation measures to achieve a 7.93% reduction in construction and operational greenhouse gas emissions. This reduction is in addition to the anticipated 23.9% reduction resulting from state regulations required by AB 32.

The original Esperanza Hills Specific Plan, ~~included two access options~~; the San Antonio Road Access Configuration (analyzed in the REIR as Option 2B) and the Aspen Way ~~Drive~~ Access Configuration (Option 2 - Modified Aspen Way described above). The San Antonio Road Access Configuration ~~would provide~~ provided primary access to San Antonio Road south of Aspen Way and a secondary access to Stonehaven Drive. The ~~Project~~ project applicant has now provided an access alternative (Option 1 Modified) ~~which that~~ proposes to reconfigure the main project access street alignment and emergency access connection point as shown on Exhibit 7 of the Specific Plan.

The Option 1 Modified alternative realigns the entry street from Stonehaven Drive to limit steep grades, and turns, and reduce biological impacts and grading quantities. The access ~~would include~~ includes a lengthened bridge with a more direct orientation into the gated project entry on a wider road. The length of the main access road would be decreased by 0.24 mile from 0.76 mile to 0.52 mile. Natural open space on-site would be increased by 8.94 acres. In addition, the connection point of emergency access would be relocated northeasterly ~~in order~~ to further separate the main project entry from the emergency access. The emergency access would originate from the same location as Option 1 along an access easement through the adjacent ~~Property~~ property owned by the Richards Trust behind lots ~~1-304 through 18~~ and connecting to Esperanza Hills Parkway closer to the Orange County Fire Authority (OCFA) Emergency Fire Staging Area. The emergency access road would also provide a separate connection point to ~~Esperanza Hills Parkway southerly of the gated entrance~~ Via Del Agua/Stonehaven Drive, resulting in a secondary emergency connection for use at the discretion of OCFA. All legal entitlements for access to public roads are in place.

In support of the determination by the County, as Lead Agency, that a subsequent or supplemental EIR is not required to implement the proposed Option 1 Modified access alternative, following is ~~a consistency~~ an analysis based on Public Resources Code Section 21166

and CEQA Guidelines Section 15162, as required by the Orange County CEQA Manual, ~~Appendix~~ Section IX. The referenced ~~S~~ sections are included in their entirety below.

Public Resources Code (PRC) Section 21166. Lead agency prohibition to require subsequent reports for a certified project unless specific events occurs.

When an environmental impact report has been prepared for a project pursuant to this division, no subsequent or supplemental environmental impact report shall be required by the lead agency or by any responsible agency, unless one or more of the following events occurs:

- a) Substantial changes are proposed in the project which will require major revisions of the environmental impact report.*
- b) Substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report.*
- c) New information which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available.*

California Code of Regulations, Title 14, Chapter 3 (CEQA Guidelines) - Section 15162 - Subsequent EIRs and Negative Declarations

- (a) When an EIR has been certified or negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:*
 - 1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*
 - 2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or*
 - 3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:*
 - A. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;*
 - B. Significant effects previously examined will be substantially more severe than shown in the previous EIR;*
 - C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project but the project proponents decline to adopt the mitigation measure or alternative; or*
 - D. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*
- (b) If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision (a). Otherwise, the lead agency shall determine whether to prepare a subsequent negative declaration and addendum, or no further documentation.*

- (c) *Once a project has been approved, the lead agency's role in project approval is completed, unless further discretionary approval on that project is required. Information appearing after an approval does not require reopening of that approval. If after the project is approved, any of the conditions described in subdivision (a) occurs, a subsequent EIR or negative declaration shall only be prepared by the public agency which grants the next discretionary approval for the project, if any. In this situation no other responsible agency shall grant an approval for the project until the subsequent EIR has been certified or subsequent negative declaration adopted.*
- (d) *A subsequent EIR or subsequent negative declaration shall be given the same notice and public review as required under Section 15087 or Section 15072. A subsequent EIR or negative declaration shall state where the previous document is available and can be reviewed.*

The following environmental impact topics were analyzed in the Esperanza Hills FEIR. A brief summary of impacts describes how implementation of Option 1 Modified affects the topical area as analyzed, including identifying where there is a lesser impact or benefit due to implementation of Option 1 Modified. As detailed below, the Specific Plan Amendment requested by Applicant ~~for the project applicant including~~ Option 1 Modified: does not meet the criteria identified in CEQA Guidelines §15162 requiring a subsequent of supplemental EIR and:

1. Does not involve new significant environmental effects or a substantial increase in the severity of previously identified significant effects which would require preparation of a subsequent or supplemental EIR;
2. Does not result in substantial changes which either have occurred or will occur ~~with respect~~compared to the circumstances under which the project will be undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.
3. There is no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the FEIR was certified as complete on June 2, 2015 that shows that: (i) the existing project or the requested Plan Amendment will have one or more significant effects not discussed in the FEIR, (ii) significant effects previously examined will be substantially more severe than shown in the FEIR with the existing project or the requested Plan Amendment; (iii) mitigation measures ~~or other~~ alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project but the project proponents decline to adopt the mitigation measure or alternative; or (iv) mitigation measures or alternatives which are considerably different from those analyzed in the FEIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Aesthetics

Option 1 Modified reduces the off-site grading footprint ~~from as compared to~~ both the San Antonio Road and Aspen ~~Drive~~Way Access Options, eliminates grading from the Travis Trust

property to the west, removes an existing road through Blue Mud Canyon and restores it to open space, creates a lengthened bridge across Blue Mud Canyon, and ~~moves~~pulls back the development pad areas along the westernmost lots ~~an additional 50~~ (lots 6, 7, 8 and 9) a minimum 150 feet east from the western property line for ~~ana~~ realigned and extended emergency access road and to ~~enhance~~increase fuel modification. Natural space on-site will be increased by 8.94 acres. Off-site disturbance of natural open space to the west will be eliminated ~~as~~, because the main access roads to Aspen ~~Drive~~Way and San Antonio Road over the Travis Trust property will be eliminated. Ridgelines to the east and north will remain undisturbed, and light and glare will be reduced through the elimination of the lighting of the additional roads to the west, ~~and decreasing the length of the main access road by .28 miles — from .81 miles to .53 miles. Visibility of the project properties to the west will be reduced by moving the lots east.~~

The bridge in and of itself is not considered a CEQA impact, and a longer roadway with a shorter bridge was considered in the FEIR as approved in March 2015. Rather, the impact is determined based on whether the structure will have adverse effects on the environment through its construction and operation. Visual simulations and explanations are included hereto as Attachment A. The CEQA Guidelines checklist for environmental impact significance determination related to Aesthetics includes the following threshold questions for analysis:

a) Would the project have a substantial adverse effect on a scenic vista?

Analysis: As analyzed in the REIR, the SR-91 Freeway from the SR-55 Freeway to Weir Canyon Road is officially designated as a California Scenic Highway. From that vantage point, the bridge will not be visible with urban development on both sides of the Freeway extending to the project site. The bridge will be situated below ridgelines and will not obstruct views of the ridgelines or Chino Hills State Park, nor will the bridge obstruct or impact views from Chino Hills State Park as the intervening terrain gradually increases in elevation and the bridge will not be visible from Chino Hills State Park. While CEQA does not require protection of views from private property, visibility of the project from properties to the west will be minimized by moving the lots east. There will be no impact to scenic vistas beyond what was analyzed in the REIR, because the bridge will not be visible from any scenic vista.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway?

Analysis: The Option 1 Modified access roadway is not a state scenic highway. There are no rock outcroppings or historic buildings on the site where the bridge will be constructed. Trees will be protected or replanted to the extent feasible as detailed in the REIR and further analyzed in the Biological Resources discussion herein. Implementation of Option 1 Modified will not damage scenic resources, and no impacts other than what has been previously analyzed will result.

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Analysis: The REIR analyzed a longer roadway requiring more substantial grading, an approximately 300-foot long and approximately 35-foot tall stepped retaining wall that would have been visually prominent, whereas the bridge with Option 1 Modified allows for less grading and disturbance of natural open space. Decreasing the length of the main access road by 0.24 mile – from 0.76 mile to 0.52 mile – will provide the

benefit of a more direct roadway requiring less grading. Option 1 Modified will also eliminate the retaining wall of several hundred feet, which would have reached approximately 35 feet in height through a series of stepped walls. The retaining walls would be visually prominent from certain private residences and from certain locations along Dorinda Road looking east; however, CEQA does not protect private views, and a lengthy series of retaining wall compared to a bridge may have lesser prominence in the opinion of some. For purposes of CEQA, the bridge itself is not a significant impact. The roadway realignment will not degrade the existing visual character or quality of the site. Analysis of the longer, more winding roadway with a shorter bridge and a greater disturbance footprint was included in the REIR, and no new or more significant impacts will occur with Option 1 Modified.

- d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Analysis: The entire project will introduce new sources of light and glare; however, the lighting would be an extension of the existing lighting in surrounding neighborhoods. A shortened roadway requires less night lighting which, while designed to protect night sky views, will result in less light and glare and less disturbance to wildlife and adjacent natural habitat areas as compared to that analyzed in the REIR. Lighting of the bridge will be shielded and directed down, or incorporated into the side wall railings of the bridge if possible, preventing spill into the surrounding vegetation. The modified access will not result in a greater or new impact with respect to light or glare than was previously analyzed in the REIR.

Therefore, Option 1 Modified will not result in an increase in impacts or change in the previously analyzed impacts to Aesthetics, and the project design is consistent with project design features and mitigation measures in the FEIR/REIR. There are no substantial changes per CEQA Guidelines Section §15162 related to Option 1 Modified that will require additional analysis or the implementation of additional mitigation measures related to Aesthetics. All impacts were identified and addressed in the FEIR/REIR, and a subsequent or supplemental EIR is not required.

Air Quality

Air Quality impacts due to construction will be improved because grading will be reduced when compared to either of the main access roads to San Antonio Road and Aspen Way, as off-site grading to the west over the Travis Trust and City of Yorba Linda properties will be eliminated. The grading footprint will also be reduced from the original Option 1 ~~as~~, because the bridge structure across Blue Mud Canyon for the main access road will be straightened and the existing road down through Blue Mud Canyon will be eliminated, as well as the grading adjacent to the original Option 1 main entrance road. The shorter, more direct main access road across the bridge designed as part of Option 1 Modified will result in marginally fewer vehicle miles traveled on an annual basis to and from the project as the main entrance road will be reduced by 0.24 miles~~28 miles..~~ No additional or substantial changes per CEQA Guidelines Section 15162. The extension of the emergency access roadway further into the development area will not create a significant amount of additional grading because the entire alignment of the extension of the roadway is within an area that would have required grading under all previous development and access alternatives and options. No additional or substantial changes per CEQA Guidelines

~~Section~~[§15162](#) related to Air Quality impacts will occur with implementation of Option 1 Modified. Therefore, the ~~FEIR~~[REIR](#) as certified remains adequate related to Air Quality analysis.

Biological Resources

[A review of biological impacts associated with Option 1 Modified was prepared by Tony Bomkamp of Glenn Lukos Associates \(June 20, 2016\) and included as Attachment B hereto. The following information is based on that review, and The Habitat Mitigation and Monitoring Plan and the Native Plan Restoration Plan prepared by Glenn Lukos Associates dated April 2014 and included as Attachment C.](#) Compared to ~~original~~ Option 1 [discussed in the REIR](#), Option 1 Modified will reduce the roadway impacts to Blue Mud Canyon. ~~as~~[†]The main access road and grading on both sides of Blue Mud Canyon analyzed in the ~~FEIR~~[REIR](#) for ~~original~~ Option 1 will be eliminated and a shorter more direct bridge with less permanent ~~impact~~[impacts](#) will be constructed. Option 1 Modified will result in less environmental impact overall than either the San Antonio [Road](#) (Option 2B) or Aspen Way (Option 2 Modified) access options due to the elimination of all of the off-site grading over the Travis Trust property and the City of Yorba Linda property to the west.

Compared to Option 1, Option 1 Modified reduces permanent impacts to ACOE jurisdiction from 0.91 acre to 0.87 acre and reduces impacts to jurisdiction wetlands from [0.02](#) acre to 0.0 acre. By ~~way of~~ comparison, the San Antonio [Road](#) Access Option (Option 2B in the FEIR), proposed substantially more impact ~~—~~ 1.17 acre of the ACOE jurisdiction and 0.11 acre of jurisdictional wetlands.

Temporary biological impacts will occur due to grading, access, and equipment staging related to bridge construction. ~~This~~[A bridge was proposed with Option 1. The bridge identified in Option 1 Modified is increased in length, and the configuration and location have been modified. This modification](#) will result in disturbance to existing vegetation, including areas within ACOE and CDFW ~~jurisdiction~~[jurisdictions](#). The disturbed areas are within the previously designated fuel modification zones, and analysis of the impacts was considered in the ~~FEIR~~[REIR](#). The removal or disturbance of vegetation will be mitigated by replacement in kind in all disturbed areas as detailed in the following comparisons.

Compared to Option 1, Option 1 Modified results in an additional 0.08 acre of temporary impacts to ACOE jurisdiction associated with bridge construction; however, these impacts would be mitigated [with implementation of Mitigation Measures Bio-6, Bio-7 and Bio-8](#) by restoring the impacted areas in place, resulting in no significant impacts.[1](#)

Compared to Option 1, Option 1 Modified reduces total permanent impacts to CDFW jurisdiction from 1.955 acres to 1.88 acres, and impacts to riparian habitat from 1.15 acres to 0.735 acre. By way of comparison, Option 2B proposed impacts to 2.70 acres of CDFW jurisdiction, of which 1.90 acres consisted of riparian habitat.

[1 All references to Mitigation Measures under the heading Biological Resources are Mitigation Measures originally contained in the FEIR. The REIR contained no changes to Mitigation Measures within the Biological Resources Section, or any other topical section other than the Greenhouse Gas Emissions section.](#)

[Option 1](#) Modified ~~Option 1~~ results in an additional 0.14 acre of temporary impacts to CDFW jurisdiction associated with bridge construction; however, these impacts would be mitigated [as detailed in Mitigation Measures Bio-6 and Bio-7](#) by restoring the impacted areas in place, resulting in no significant impacts.

There would be no effect on Braunton's Milkvetch or Mariposa Lily; ~~that was not already analyzed in the REIR. Mitigation Measures Bio-2 and Bio-3 would reduce impacts to less than significant.~~

Compared to Option 1, Option 1 Modified reduces permanent impacts to Blue Elderberry Woodland from 11.37 acres to 11.22 acres and does not affect the restoration sites identified in the Habitat Monitoring and Mitigation Plan dated April, 2014. By ~~way of~~ comparison, Option 2B proposed 12.37 acres of impacts. Temporary impacts of 0.02 acre associated with construction of the bridge for the primary access across Blue Mud Canyon would occur and be mitigated in place, resulting in no additional significant impacts due to temporary impacts.

Compared to Option 1, Option 1 Modified reduces permanent impacts to California Walnut Woodland from 0.48 acre to 0.08 acre. Temporary impacts totaling 1.17 acres would occur associated with construction of the bridge for the primary access across Blue Mud Canyon. However, the bridge will ~~be crossing~~ [cross](#) an area previously identified as subject to temporary impacts within the Fire Prone Vegetation Removal Zone and already identified as an area subject to temporary vegetation impacts.² Temporary impacts to California Walnut Woodland associated with construction of the bridge would be mitigated [with Mitigation Measure Bio-1](#) within the temporary impact area and, therefore, impacts would be reduced to less than significant.

Both Option 1 and Option 1 Modified avoid the direct impacts to willow riparian habitat covering 0.44 acres ~~s~~ occupied by least Bell's vireo that would result with implementation of Option 2B. Off-site impacts to least Bell's vireo habitat associated with utilities and secondary access are the same for Option 1 and Option 1 Modified.

A Coastal California Gnatcatcher Focused Survey report dated July 8, 2016 for the Cielo Vista property adjacent to the ~~P~~project site identified that four gnatcatchers were observed within 34.92 acres of suitable habitat on June 12, 2016 and subsequent surveys. [This report is included as Attachment D.](#) The locations of the sightings were identified as Territory 1 (the jurisdictional drainage west to the eastern terminus of Aspen Way south southeast to the drainage below 4545 Dorinda Road) and Territory 2 (the jurisdictional drainage east along the hillside below the proposed project's footprint northern boundary). The report noted that although the gnatcatchers came within approximately 35 feet of the project footprint at the closest, they were consistently observed outside the [Cielo Vista](#) proposed work limits; ~~as further described below.~~

The Option 1 Modified project emergency access would be located along an access easement through the adjacent Cielo Vista property; however, the roadway avoids the areas identified in the Gnatcatcher Surveys ~~s~~ as locations where sightings occurred. All of the sighting locations identified in the survey occurred along the western boundary of the Cielo Vista property.

² It is important to note that California walnuts were noted as not exhibiting "fire-prone" characteristics and to be retained where the plants are healthy. ~~-Any impacts to healthy California walnuts would be mitigated in place.~~

Option 2 and 2B, as analyzed in the ~~FEIR~~REIR, included access roads that traversed the Cielo Vista property in an east/west direction, which could potentially result in impacts to the gnatcatcher ~~locations~~locations. The proposed Esperanza Hills emergency access roadway under Option 1 Modified is located within the eastern portion of the Cielo Vista project, traversing the site in a north/south direction, thereby avoiding the gnatcatcher locations entirely. Therefore, Option 1 Modified would have no impacts on ~~C~~coastal California ~~G~~gnatcatchers.

No changes are required in the Habitat Mitigation and Monitoring Program dated April 2014 or the Native Plant Restoration Plan dated April 2014.

The ~~P~~project will not have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations or by the CDFW or the USFWS. Because Option 1 Modified will result in less disturbance overall, Option 1 Modified will not result in any impacts to plant species, special status wildlife, and sensitive natural communities not previously analyzed in the previous biotechnical reports and April 2014 Habitat and Mitigation Monitoring Program. Consequently, there are no substantial changes per CEQA Guidelines ~~Section~~ §15162 related to Biological Resources and the ~~FEIR~~REIR remains adequate as certified.

Cultural Resources

Option 1 Modified will result in less off-site grading than either the San Antonio ~~Road~~ or Aspen Way Access Options, and grading in Blue Mud Canyon will be reduced from the original Option 1, as described above. The ~~FEIR~~REIR noted that there is no evidence of archaeological resources or human burial discovered on the ~~P~~project ~~S~~site and no paleontological resources have been previously documented within a ~~one~~1-mile radius. The reduced grading footprint will have less potential to uncover unknown resources during construction, but mitigation has been included to in the ~~FEIR~~REIR to reduce potential impacts to less than significant if such resources are discovered. No additional or substantial changes per CEQA Guidelines ~~Section~~ §15162 related to Cultural Resources will occur with implementation of Option 1 ~~m~~Modified and the ~~FEIR~~REIR analysis and mitigation remains adequate.

Geology and Soils

Compared to Option 1, Option 1 Modified reduces grading and the extent of retaining walls necessary through Blue Mud Canyon as set forth above. Compared to either the San Antonio ~~Road~~ (Option 2B) or Aspen Way (Option 2 Modified) access options, Option 1 Modified will also eliminate all off-site grading for the roads on the Travis Trust and City of Yorba Linda properties to the west. This reduced grading in the Blue Mud Canyon area and off-site areas will reduce potential impacts due to erosion, slope stability, ground rupture, settlement, compressible soils, liquefaction, groundwater, and expansive soils, which appropriate mitigation measures had reduced to a less than significant level for all access options analyzed in the ~~FEIR~~REIR.

Implementation of Option 1 Modified will not result in substantial changes requiring major revisions per CEQA Guidelines ~~Section~~ §15162 related to Geology and Soils impacts and the ~~DEIR~~REIR, with mitigation as proposed, remains adequate.

Greenhouse Gas Emissions

Option 1 Modified will reduce grading quantities because the roadway is more direct and does not require off-site grading to the west. The shortened main access road will also minimally reduce vehicle miles traveled within the project property limits; however, the reduction will not result in a significant change to potential GHG emissions as analyzed in the ~~FEIR~~ [REIR](#).

[Additional information in the REIR related to GHG emissions merely amplifies and clarifies proposed mitigation as required by the Court Judgment and Writ of Mandate discussed herein.](#)

Therefore, no significant changes per CEQA Guidelines ~~Section~~ §15162 in the area of GHG emissions that will occur and the ~~DEIR~~ [REIR](#) remains adequate for GHG analysis.

Hazards and Hazardous Materials

The ~~Project~~ [project](#) was analyzed in terms of the existence of oil wells on the ~~Project~~ [project](#) site, the location of the ~~Project~~ [project](#) in a ~~Severe~~ [Very High](#) Fire Hazard [Severity](#) Zone, proximity to the Whittier Fault, and the disturbance of sensitive biological habitat due to the establishment of fuel modification zones for fire protection.

The Option 1 Modified road alignment will increase the distance between the oil well on the Yorba Linda Estates property and the nearest residential lot, but will not otherwise affect any oil wells or the impacts related to fuel modification requirements. The revised alignment of the emergency road creates an additional 50-foot buffer to the open space to the west, which increases the distance between open space and the residential structures. Evacuation to and from the site will be enhanced through shortening the main access road by ~~.28 miles~~ [0.24 mile](#). The access road will be ~~six~~ [6](#) feet wider [compared to the Option 1 access road, and on a bridge which is located further away from the Whittier Fault than the.](#) ~~The previous main~~ [bridge for Option 1 access road crossed over the Whittier Fault. Under the modified access, the bridge will be located southerly of the Whittier Fault and will not cross the fault.](#) The new road alignment reduces disturbance to sensitive biological resources for fuel modification purposes, as it reduces the amount of fuel modification in Blue Mud Canyon through the elimination of the previous road down through the Canyon. However, this realignment is not a substantial change and the requirement for provision of fuel modification zones is not new information. Mitigation ~~M~~ [measures](#) and project design features already included in the ~~FEIR~~ [REIR](#) will reduce potential impacts to a less than significant level. No substantial changes per CEQA Guidelines ~~Section~~ §15162 will occur and, therefore, the ~~FEIR~~ [REIR](#) analysis and mitigation measures remain adequate.

Hydrology and Water Quality

The ~~Project~~ [project](#) includes conditions of approval to ensure compliance with all local regulations for water quality, preparation of ~~stormwater~~ [storm water](#) pollution prevention and drainage plans, and best management practices to lessen erosion and siltation impacts. With implementation of the conditions of approval, no unavoidable impacts related to hydrology and water quality have been identified. Roadway realignment proposed with Option 1 Modified will not result in changes to the requirement for compliance with local regulations related to hydrology and water quality. Erosion and siltation impacts have been mitigated, and less grading will be required with the realignment of the access and emergency roadways under Option 1 Modified. An updated Water Quality Management Plan (WQMP) was submitted to the County on September 26, 2016. The WQMP did not identify any new or additional impacts due to implementation of Option 1 Modified. No substantial changes per CEQA Guidelines ~~Section~~

§15162 will occur and, therefore, the ~~FEIR~~REIR analysis and mitigation measures remain adequate.

Land Use and Planning

The ~~Project~~project does not conflict with any applicable land use policies and regulations, and no unavoidable adverse impacts are associated with the ~~Project~~project. The number of lots ~~remain~~remains the same as analyzed in the ~~FEIR~~REIR with only minor lot line modifications. Modifications to the Vesting Tentative Tract Map will be required, but these proposed changes represent a minor modification under Specific Plan Section 13.4 for the Vesting Tentative Tract Map, which must be approved by the Board of Supervisors under Section 13.3 ~~since~~of the Specific Plan, because road alignment for public access is changed. No substantial changes per CEQA Guidelines ~~Section~~§15162 will result and the FEIR analysis for Land Use and Planning remains consistent and adequate.

Noise

Project construction will comply with applicable Noise Ordinance regulations. ~~Long~~Analysis in the REIR shows that long term operation will result in potential traffic noise impacts under Option 1 and Option 2, which are considered significant and unavoidable. The bridge proposed in Option 1 Modified has fewer road curves and vehicle noise due to braking, and acceleration will be reduced. Option 1 Modified will not result in ~~any~~a significant new environmental impact or a substantial increase in the severity of an impact with regard to Noise. There will be no substantial changes per CEQA Guidelines ~~Section~~§15162 related to ~~increases in~~ noise and the ~~DEIR~~REIR, with included mitigation measures, remains adequate.

Population and Housing

No significant impacts related to ~~population~~Population and ~~housing~~Housing were identified in the ~~FEIR~~REIR analysis either individually or cumulatively. The Option 1 Modified proposal will not result in an increase or a decrease in housing or population. The access modification will not result in substantial changes in the project or involve new information per CEQA Guidelines ~~Section~~§15162. The ~~FEIR~~REIR remains adequate ~~with respect to~~in the area of Population and Housing.

Public Services

There will be no change to the analysis in the ~~FEIR~~REIR ~~as~~, because no additional public services will be required with Option 1 Modified. No substantial changes per CEQA Guidelines ~~Section~~§15162 will occur and, therefore, the ~~DEIR~~REIR remains adequate in the area of Public Services.

Recreation

Option 1 Modified increases the total park area by .87 ~~acres~~acre, restores natural open space in Blue Mud Canyon, reduces the length of the main access road through Blue Mud Canyon by ~~.28~~.24 miles, and eliminates all grading to the west over the Travis Trust and City of Yorba Linda properties, leaving those areas undisturbed. The number of parks remains unchanged. No impacts to proposed recreation improvements will result. The ~~modification will~~Option 1

Modified access will not result in a substantial change ~~in~~ the ~~DEIR~~REIR analysis per CEQA Guidelines ~~Section §~~15162 and the ~~DEIR~~REIR remains adequate in the area of Recreation.

Transportation and Traffic

Compared to original Option 1, Option 1 Modified provides a roadway realignment that will straighten the main access road, reduce its length by ~~.28 miles~~.24 mile, and widen it by 6 feet. Vehicle miles traveled by residents daily will be reduced, and emergency access will be improved. The emergency road has been extended to tie into the heart of Planning Area 1 near the fire staging area to permit more flexibility for OCFA in the event of an emergency.

Compared to the San Antonio Road and Aspen Way access options, Option 1 Modified will have only one main entrance on Stonehaven Drive with an emergency entrance out to Via Del Agua but will again minimally reduce vehicle miles traveled ~~on a daily basis~~ and provide for a shorter, wider road to Stonehaven ~~Drive~~. The traffic analysis for Option 1 in the ~~FEIR~~REIR remains unchanged ~~as~~, because the number of lots and amount of traffic has not changed, except as set forth above.

In a letter dated September 8, 2016, Linscott Law & Greenspan (LLG), traffic consultants, evaluated Option 1 Modified. The evaluation, which is provided as Attachment E, concluded that Option 1 Modified will not change the project traffic generation forecast or the distribution pattern. The evaluation also confirmed that the findings in the approved Traffic Impact Analysis Report (March 18, 2013), the Traffic Impact Analysis Addendum (October 14, 2013), and the Emergency Fire Evacuation Analysis (May 9, 2014) remain applicable. LLG concluded that Option 1 Modified does not result in any new significant environmental effects related to traffic and does not change previous conclusions or analysis.

Per CEQA Guidelines ~~Section §~~15162, this roadway realignment is not a substantial change requiring major revisions, a substantial change with respect to circumstances under which the project is being undertaken or new information not known with respect to the ~~FEIR~~REIR as analyzed.

Utilities and Service Systems

Option 1 Modified will require less construction water due to the reduced grading both ~~onsite~~on-site and ~~offsite~~off-site as set forth above, but will not otherwise result in any change in the utility and service system analysis in the ~~FEIR~~REIR. Because the number of lots and location of utility servicing lines remains the same, no substantial changes or new information will occur with Option 1 Modified per CEQA Guidelines ~~Section 15162~~ §15162 and, therefore, the ~~DEIR~~FEIR remains adequate in the analysis for Utilities and Service Systems.

Conclusion Related to Option 1 Modified

Implementation of Option 1 Modified and clarification of GHG mitigation measures does not meet the criteria in §15162 for preparation of a subsequent EIR per the following analysis:

- Option 1 Modified does not result in substantial changes to the project which will require major revisions of the previous EIR due to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. No new environmental impacts result from the implementation of Option 1 Modified or the

amplification of mitigation measures in the Greenhouse Gas Emissions section of the REIR. Rather, Option 1 Modified reduces impacts in the areas of Air Quality, Biological Resources, Geology and Soils, and Noise. In addition, Mitigation Measures AQ 1 through AQ 3 and GHG-1 through GHG-40 respond to the Writ of Mandate requirement for a more specific list of proposed mitigation that would achieve a reduction in GHG emissions beyond the 5% reduction identified in the FEIR.

- Option 1 Modified does not result in a substantial changes with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. No new or more significant impacts would result from implementation of the Option 1 Modified alternative. The implementation of Option 1 Modified is a modification of access roadway configurations that have been fully analyzed in the FEIR. No new or additional impacts will result due to Option 1 Modified. As identified herein, this option will reduce impacts in the areas of Air Quality, Biological Resources, Geology and Soils, and Noise, because less disturbance and grading will be required within Blue Mud Canyon, natural open space will be increased, and the retaining wall required to support the access drive, approximately 300 feet in length and stepped to approximately 35 feet, in height will be eliminated.
- No new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was certified as complete has occurred. Implementation of Option 1 Modified does not result in a significant effect not discussed in the REIR. None of the significant effects previously analyzed will be substantially more severe than shown in the previous EIR. The Option 1 Modified roadway configuration is a variation of Option 1, which was fully analyzed in the REIR. Option 1 Modified is not a considerably different alternative and will not require additional mitigation. Rather, the modified access will reduce the amount of grading and disturbance within the biologically sensitive area of Blue Mud Canyon. With regard to Greenhouse Gas Emissions, Mitigation Measures AQ-1 through AQ-3 and GHG-1 through GHG-40 clarify the specific mitigation intended for the reduction of GHG emissions, which will exceed the 5% reduction included in the FEIR. The applicant has agreed to adopt all 40 GHG measures identified in the REIR. No new alternatives or mitigation measures that were previously infeasible will now be feasible with Option 1 Modified. No additional mitigation measures or alternatives which are considerably different from those analyzed have been included in the REIR. All feasible mitigation measures have been incorporated in the REIR, and all feasible project alternatives have been analyzed.
- Does not result in a REIR that is so fundamentally and basically inadequate that meaningful public review and comment were precluded. Four feasible access options were analyzed in the REIR, including Option 1 on which the Option 1 Modified roadway is based. As analyzed in the REIR, Option 1 would provide a primary connection south to Stonehaven Drive following an existing dirt road. A separate ingress/egress road for emergency purposes only would extend south along the western edge of the project through the adjacent Cielo Vista property via a 50-foot roadway and utility easement. Option 2 would provide a primary connection going west from the site to Aspen Way, which then connects to San Antonio Road. A separate ingress/egress for emergency

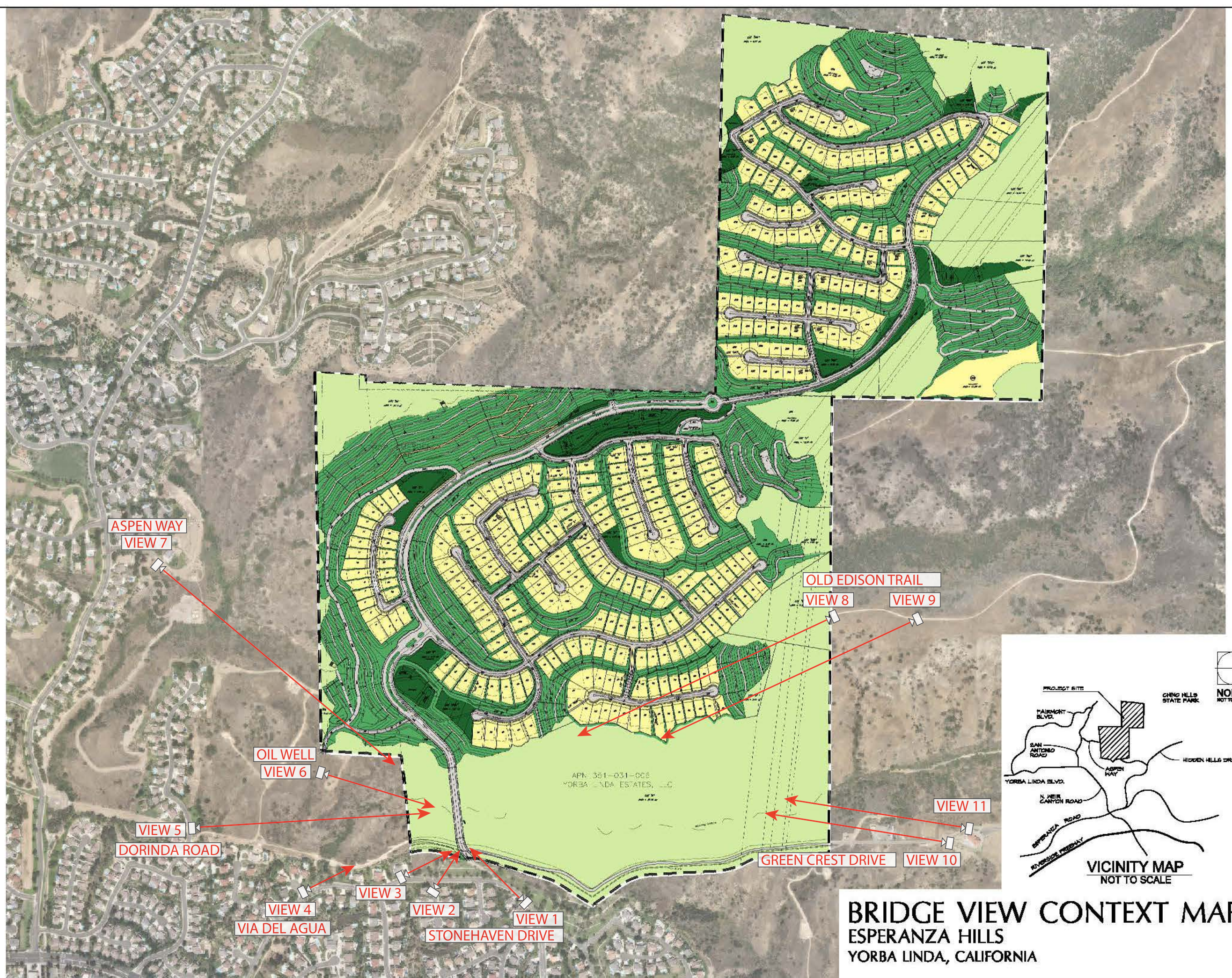
purposes only would exit south to Stonehaven Drive following the existing road used for oil well and utility access purposes. Alternative 2A would provide access via a main access roadway connected to San Antonio Road approximately 1,850 feet south of Aspen Way. Emergency access would be provided via Esperanza Hills Parkway as well as an emergency-only access roadway off Via del Agua 130 feet northeast of Via de la Roca. Option 2B would provide access via both San Antonio Road approximately 1,850 feet south of Aspen Way and Stonehaven Drive. Both access ways would serve as primary and emergency access roadways. Option 1 Modified does not alter or change the previous analysis, and implementation of this alternative will reduce environmental impacts by limiting the disturbance and required grading, eliminating a lengthy and tall retaining wall system and increasing the amount of open space. In addition, the modified access roadway will reduce steep grades and turns. The public has been given an opportunity to review the REIR and the Specific Plan and respond through the County's public hearing process, which is duly noticed to all agencies and interested parties.

The Option 1 Modified alternative provides an improved roadway design that results in fewer environmental impacts to air quality (less grading), geology and soils (less grading and elimination of lengthy and tall retaining wall), noise (less noise from braking and acceleration on a straighter, shorter roadway), and biological resources (less impact to Blue Mud Canyon). In response to the Writ of Mandate requiring clarification and amplification of specific mitigation to achieve reductions in GHG emissions, the project can provide a 7.93% reduction in GHG emissions, which is greater than the 5% reduction included in the FEIR.

Attachments

Included as attachments hereto are ~~a~~:

- Attachment A - View Simulations and explanations of the view related to the proposed access roadway bridge.
- Attachment B - June 20, 2016 letter from Tony Bomkamp of Glenn Lukos Associates, which provides a review of the biological impacts associated with Option 1 Modified.
~~Also attached are the~~
- Attachment C - The Habitat Mitigation and Monitoring Plan and the Native Plant Restoration Plan prepared by Glenn Lukos Associates dated April 2014, which are referenced herein under Biological Resources.
- Attachment D – The Gnatcatcher Focused Survey dated July 8, 2016 and prepared for the Cielo Vista project.
- Attachment E – The Linscott Law & Greenspan evaluation of the traffic impacts related to Option 1 Modified.



BRIDGE VIEW CONTEXT MAP
ESPERANZA HILLS
YORBA LINDA, CALIFORNIA

Bridge obscured by
hillside

VIEW 1

Bridge obscured by
hillside



VIEW 2

Bridge obscured by
hillside



VIEW 3



Bridge obscured by hillside

VIEW 4



VIEW 5



VIEW 6



Bridge obscured by
hillside

VIEW 7



Bridge obscured by
hillside



Bridge obscured by
hillside

VIEW 9



Bridge obscured by
hillside

VIEW 10

Bridge obscured by
hillside

Colby Cataldi
Deputy Director
OC Public Works/Development Services
June 20, 2016
Page 2

substantially more impact - 1.17 acre of the Corps jurisdiction and 0.11 acre of jurisdictional wetlands.

Modified Option 1 does result in an additional 0.08 acre of temporary impacts associated with bridge construction; however, these impacts would be mitigated by restoring the impacted areas in place, resulting in no significant impacts.

California Department of Fish and Wildlife

Compared to Option 1, Option 1 Modified reduces total permanent impacts to CDFW jurisdiction from 1.955 acres to 1.88 acres, and impacts to riparian habitat from 1.15 acres to 0.735 acre. By way of comparison, Option 2B proposed impacts to 2.70 acres of CDFW jurisdiction, of which 1.90 acres consisted of riparian habitat.

Modified Option 1 does result in an additional 0.14 acre of temporary impacts associated with bridge construction; however, these impacts would be mitigated by restoring the impacted areas in place, resulting in no significant impacts.

Brauton's Milkvetch

Option 1 Modified would result in no impact on the Brauton's Milkvetch, which is located in Planning Area 2, over one half mile north, or in the proposed replanting areas, which are not located near the proposed main access road site.

Mariposa Lily

Option 1 Modified would result in no impact on the Mariposa Lily or the replanting site for the Mariposa Lily.

Blue Elderberry Woodland

Compared to Option 1, Option 1 Modified reduces permanent impacts to Blue Elderberry Woodland from 11.37 acres to 11.22 acres and does not affect the restoration sites identified in the Habitat Monitoring and Mitigation Plan dated April, 2014. By way of comparison, Option 2B proposed 12.37 acres of impacts. Temporary impacts of 0.02 acre associated with construction of the bridge for the primary access across Blue Mud Canyon would occur and be mitigated in place, resulting in no additional significant impacts due to temporary impacts.

Colby Cataldi
Deputy Director
OC Public Works/Development Services
June 20, 2016
Page 2

California Walnut Woodland

Compared to Option 1, Option 1 Modified reduces permanent impacts to California Walnut Woodland from 0.48 acre to 0.08 acre. Temporary impacts totaling 1.17 acres would occur associated with construction of the bridge for the primary access across Blue Mud Canyon. However, the bridge will be crossing an area previously identified as subject to temporary impacts within the Fire Prone Vegetation Removal Zone and already identified as an area subject to temporary vegetation impacts.¹ Temporary impacts to California Walnuts, associated with construction of the bridge, would be mitigated within the temporary impact area, with the result that impacts would be reduced to less than significant.

Least Bell's Vireo

Both Option 1 and Option 1 Modified eliminate the direct impact to willow riparian habitat covering 0.44 acres that is occupied by least Bell's vireo for Option 2B. Offsite impacts to least Bell's vireo habitat associated with utilities and secondary access are the same for Option 1 and Option 1 Modified.

If you have any further questions regarding this matter, please do not hesitate to contact me at (949) 837-0404 ext. 41.

Sincerely,

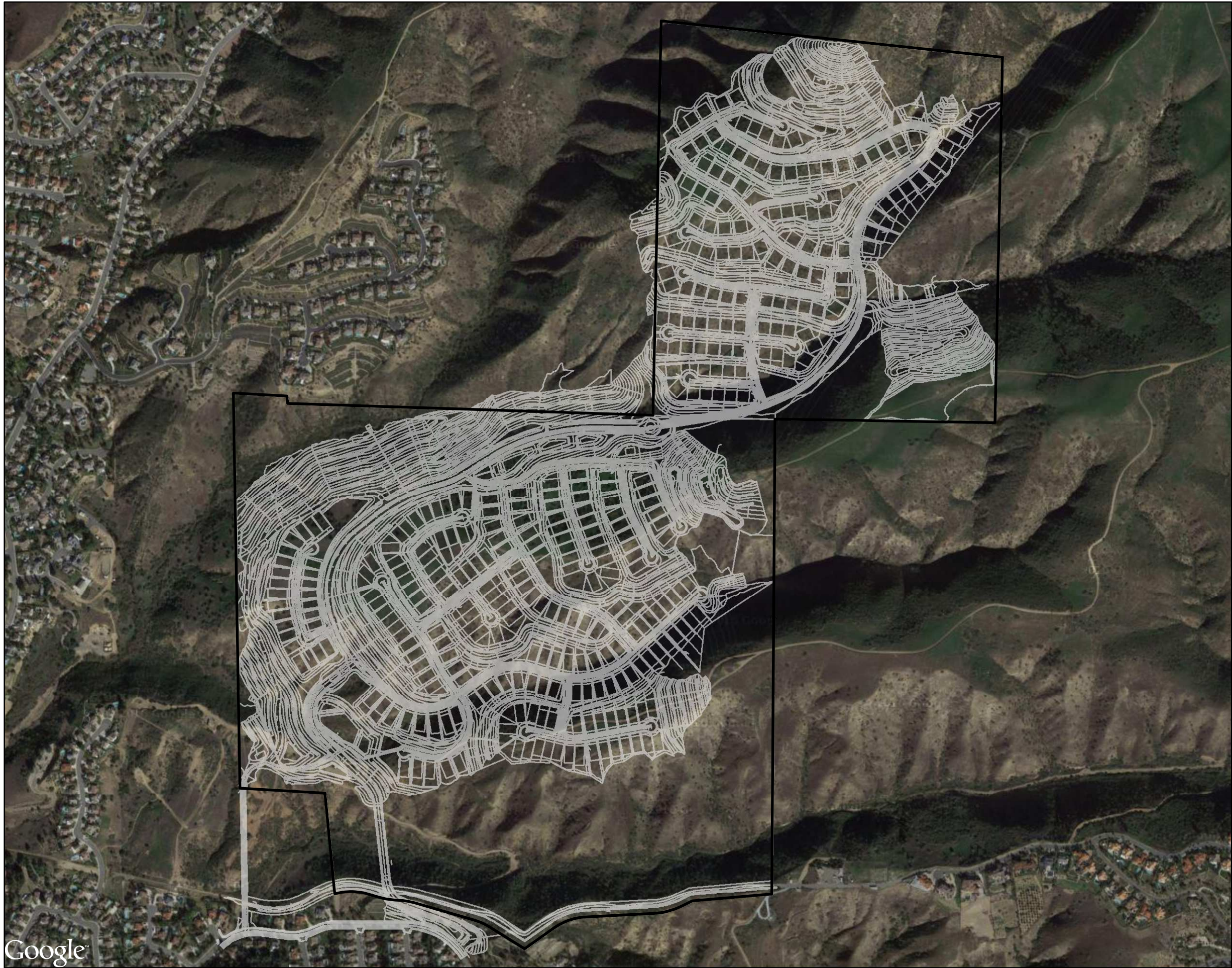
Tony Bomkamp




Glenn Lukos Associates
Senior Biologist


cc. Doug Wymore, Yorba Linda Estates, LLC

¹ It is important to note that California walnuts were noted as not exhibiting "fire-prone" characteristics and to be retained where the plants are healthy. Any impacts to healthy California walnuts would be mitigated in place.




Legend

 Property Boundary

 Project Site Plan

N



0 350 700 1,400

Feet

1 inch = 700 feet

**ESPERANZA HILLS
SPECIFIC PLAN AREA**

Project Site Plan

GLENN LUKOS ASSOCIATES



Exhibit 1

**MITIGATION AND MONITORING PLAN
FOR
IMPACTS TO THE FEDERALLY-ENDANGERED BRAUNTON'S MILKVETCH
(*ASTRAGALUS BRAUNTONII*)
AND
CALIFORNIA RARE PLANT RANK 1B INTERMEDIATE MARIPOSA LILY
(*CALOCHORTUS WEEDII* VAR. *INTERMEDIUS*)
FOR
ESPERANZA HILLS SPECIFIC PLAN AREA**

APRIL 2014

Prepared for:

**Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore**

Prepared by:

**Glenn Lukos Associates
29 Orchard
Lake Forest, California 92630
Contact: Tony Bomkamp**

TABLE OF CONTENTS

Page 1

I. DESCRIPTION OF PROJECT/IMPACT SITE

A.	Responsible Parties	1
B.	Location of Project and Brief Summary of Overall Project.....	1
C.	Impacts to Braunton's Milkvetch.....	2
D.	Impacts to Intermediate Mariposa Lily	2

II. OBJECTIVES OF THE COMPENSATORY MITIGATION

A.	Time Lapse Between Impacts and Expected Compensatory Mitigation Success....	3
----	---	---

III. DESCRIPTION OF THE PROPOSED COMPENSATORY MITIGATION SITE

A.	Location and Size of Compensatory Mitigation Site	4
B.	Ownership Status	4

IV. IMPLEMENTATION PLAN FOR MILKVETCH AND MARIPOSA LILY COMPENSATORY MITIGATION

A.	Rationale for Expecting Implementation Success	4
B.	Responsible Parties	4
C.	Milkvetch Propagation.....	5
D.	Mariposa Lily Propagation	5
E.	Site Preparation	5
F.	Planting Plan	7
G.	Irrigation Plan	8

V. MAINTENANCE ACTIVITIES DURING THE MONITORING PERIOD

A.	Maintenance Activities	8
B.	Responsible Parties	9

VI. MONITORING PLAN FOR THE MITIGATION SITE

A.	Performance Standards for Target Dates and Success Criteria.....	10
B.	Monitoring Methods	10
C.	Performance Standards	10
D.	Annual Monitoring Report.....	11

TABLE OF CONTENTS
(continued)

Page 2

VII. COMPLETION OF COMPENSATORY MITIGATION

A.	Notification of Completion	12
B.	Final Success Criteria Resolution	12

VIII. CONTINGENCY MEASURES

A.	Initiating Procedures	12
B.	Alternative Locations for Contingency Mitigation	12
C.	Funding Mechanism.....	12
D.	Responsible Parties	13

EXHIBITS

1.	Regional Map
2.	Vicinity Map
3.	Rare Plants and Associated Soils
4.	Rare Plant Mitigation Areas and Associated Soils

**ESPERANZA HILLS SPECIFIC PLAN AREA PROJECT
BRAUNTON'S MILKVETCH AND INTERMEDIATE MARIPOSA LILY
MITIGATION AND MONITORING PLAN**

I. DESCRIPTION OF THE PROJECT/IMPACT SITE

A. Responsible Parties

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

Preparer of Mitigation Plan: Glenn Lukos Associates, Inc.
Contact: Tony Bomkamp
29 Orchard
Lake Forest, California 92630-8300
Telephone: (949) 837-0404

B. Location of Project and Brief Summary of Overall Project

The Project Site comprises approximately 469 acres adjacent to the city of Yorba Linda within unincorporated Orange County, California, while the Study Area, which includes the Project Site and the location of proposed off-site impacts, comprises 504 acres [Exhibit 1 – Regional Map]. The Project Site is located within Section 17, 18 of Township 3S, Range 8W, of the Yorba Linda (dated 1964 and photorevised in 1981) and Prado Dam (dated 1967 and photorevised in 1981) USGS 7.5” Quadrangle Maps. The Project Site also includes un-sectioned portions of Township 3S, Range 8W [Exhibit 2 – Vicinity Map]. Elevation ranges from approximately 550 feet at the southwest boundary to 1,550 feet at the north boundary. The Study Area is bordered by Blue Mud Canyon and Green Crest Drive to the south, Chino Hills State Park to the north and east, and residential areas adjacent to San Antonio Road to the west. The property immediately north east, and west of the study area is currently open space, while property bordering the southern boundary is residential development.

Esperanza Hills is located within unincorporated Orange County (County) north of the SR-91 Freeway, southwest of Chino Hills State Park, and adjacent to existing residential development in the City of Yorba Linda (City). The Project is east of San Antonio Drive and north of Stonehaven Drive in the City. The project footprint is bordered by Chino Hills State Park on the north and east. To the South and northwest lie existing residential communities, including Dominguez Ranch, Green Hills, Casino Ridge, Travis Ranch, and Yorba Linda Hills. The Cielo Vista project, a proposed residential subdivision in the County, lies to the west and southwest. The Esperanza Hills property is largely undeveloped, with the exception of oil well operation in the western portion of the site.

Habitats on-site include non-native grasslands, coastal sage scrub, chaparral, walnut and oak woodlands, riparian habitats, and disturbed areas. The project site was burned in the "Freeway Complex Fire" in the fall of 2008, and prior had been historically used for animal grazing. Currently the site is used as open space and for energy transmission associated with the Southern California Edison Company.

C. Impacts to Braunton's Milkvetch

Braunton's milkvetch (*Astragalus brauntonii*) is a perennial herb designated as a California Rare Plant Rank List 1B.1 species, and is federally listed as endangered. The species is known to occur in Los Angeles, Orange, Riverside, and Ventura Counties. Braunton's milkvetch is a fire follower and occurs mainly in chaparral, coastal scrub, and valley and foothill grasslands in recently burned or disturbed areas in sandstone soil with carbonate layers from 4 to 640 meters in elevation.

Approximately 400 individuals of Braunton's milkvetch were detected during focused surveys in 2010, as depicted by Exhibit 3. A survey conducted on January 9, 2013 found many of the dried remains of the plants still intact; however all individuals of this short-lived perennial had senesced.

All three project alternatives would impact all Braunton's milkvetch individuals within the project site [Exhibit 3].

D. Impacts to Intermediate Mariposa Lily

Intermediate mariposa lily (*Calochortus weedii* var. *intermedius*) is a bulbiferous herb designated as a California Rare Plant Rank List 1B.2 species but is not Federally or State Listed. This species is found in Los Angeles, Orange, Riverside, and San Bernardino Counties. Intermediate mariposa lily occurs mainly in chaparral, coastal sage scrub, and valley and foothill grasslands in rocky, calcareous soils from 105 to 855 meters in elevation.

Relative to the intermediate mariposa lily, it is important to note for purposes of context that while this species is designated as a CRPR List 1B.2, it is subject to substantial preservation efforts in the region. Specifically, the USFWS has made a finding that this species has met the terms for "conditional coverage" within the adjacent Orange County Central and Coastal Natural Community Conservation Plan/Habitat Conservation Plan area where 758 of 826 (92-percent) known intermediate mariposa lily occurrences and 79,108 or 90,140 (87-percent) individuals will be conserved.¹ GLA is currently engaged in restoration/translocation efforts for this species within the Orange County Southern Subregion Habitat Conservation Plan area and is aware of past problems with translocation efforts and is working closely with Tree of Life Nursery in implementing procedures that increase survival of propagated and translocated individuals.

¹ USFWS and CDFG Joint Letter, dated July 7, 2006. "Amendment to Proposed Mitigation for Impacts to Intermediate Mariposa Lily Associated with Mountain Park, East Orange, and Irvine Planning areas 1, 2, and 6, Orange County California". Addressed to Scot Scialpi at the Irvine Company.

II. OBJECTIVES OF THE COMPENSATORY MITIGATION

Braunton's Milkvetch

The objective of the proposed mitigation and monitoring program for Braunton's milkvetch is to provide for full mitigation of permanent impacts to 400 individuals of Braunton's milkvetch.

In order to offset impacts to 400 individuals of Braunton's milkvetch, the Project will include planting of 480 individuals of milkvetch within an area of suitable habitat in the undeveloped portions of the property, or suitable offsite areas (e.g., Chino Hills State Park) for a ratio of 1.2:1, with the additional 20-percent included to account for mortality in the planted individuals. The specific mitigation area has not yet been identified, but suitable candidate areas that may be proposed for mitigation based on presence of suitable soils are depicted on Exhibit 4.

Intermediate Mariposa Lily

The objective of the proposed mitigation and monitoring program for intermediate mariposa lily is to provide for full mitigation of permanent impacts to 326 individuals of intermediate mariposa lily.

In order to offset impacts to 326 individuals of intermediate mariposa lily, the Project will include planting of 391 individuals of mariposa lily within an area of suitable habitat in the undeveloped portions of the property for a ratio of 1.2:1, with the additional 20-percent to account for mortality in the planted individuals. The final mitigation area has not yet been identified, but candidate areas that may be proposed for mitigation based on presence of suitable soils are depicted on Exhibit 4.

A. Time Lapse Between Impacts and Expected Compensatory Mitigation Success

Project grading activities will commence upon receipt of permits with project impacts expected to occur immediately thereafter. Seeds have already been collected from the population to be impacted and will be propagated following project approval and final site selection. Milkvetch and mariposa lily mitigation site preparation and planting shall be conducted in a timely manner consistent with the growth and germination rates for each species. Eradication of non-native plant species encountered will be concurrent with commencement of grading or as determined by the project biologist based on the dates for expected planting. For Braunton's milkvetch, installation may be extended if offsite locations are determined to be more appropriate.²

Within one year of the completion of mitigation installation, it is expected that planted Braunton's milk vetch will set seed in the mitigation site and begin to establish a seed bank. For the intermediate mariposa lily, at the end of five years, a minimum of 326 individuals would be established and reproducing.

² The life history of the milkvetch includes long periods (many decades) of dormancy, and as such the seed is very long-lived (i.e., 80 years or more). As such extending the germination and planting would not adversely affect the viability of the restoration program.

III. DESCRIPTION OF THE PROPOSED COMPENSATORY MITIGATION SITE

A. Location and Size of the Compensatory Mitigation Site

As previously stated, the final location of the mitigation site has not yet been identified; however, separate candidate sites have been identified as depicted on Exhibit 4 and will be of sufficient size to support a population of 400 individuals of Braunton's milkvetch and 326 individuals of intermediate mariposa lily, respectively. As noted, numerous suitable offsite areas are also available in areas such as Chino Hills State Park, which may also be used following necessary authorizations.

B. Ownership Status

The present owners of the candidate onsite mitigation sites are:

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

IV. IMPLEMENTATION PLAN FOR MILKVETCH AND MARIPOSA LILY COMPENSATORY MITIGATION

A. Rationale for Expecting Implementation Success

The proposed mitigation will be installed following impacts to Braunton's milkvetch and intermediate mariposa lily within the development area and will be based on germination and growth of the container stock for each species. The candidate mitigation areas are good candidates for establishment of Braunton's milkvetch and mariposa lily habitat rehabilitation, as they exhibit the same soils as the populations to be impacted.

B. Responsible Parties

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

Preparer of Mitigation Plan: Glenn Lukos Associates, Inc.
Contact: Tony Bomkamp
29 Orchard
Lake Forest, California 92630-8300
Telephone: (949) 837-0404

C. Milkvetch Propagation

Braunton's milkvetch seeds were previously collected from the impacted population on June 19, 2010, and cleaned and stored at S&S Seeds for future propagation. Prior to project impacts and mitigation planting, the seeds will be transferred from S&S seeds to Tree of Life Nursery, or other appropriate nursery experienced in native plant propagation from seed, where they will be scarified and planted. As Braunton's milkvetch is a fire follower, the seeds require scarification, either through heat or physical means, to allow for exchange of gases and moisture through the seed coat. Plants will be grown to either liner or gallon size prior to planting at the mitigation site.

D. Mariposa Lily Propagation

Priority will be given to cultivated seedlings grown under greenhouse conditions, with the direct seeding of translocation sites being a secondary use of seed collected from natural populations. The intermediate mariposa lily will be cultivated in a greenhouse setting for transplanting later to the receptor sites. Plants will be germinated and raised to a sufficient size necessary for transfer of the bulbs to the restoration site. The facility used for seed storage will also be used for greenhouse cultivation. Cultivation should begin at least two seasons prior to translocation of natural populations to ensure enough time for cultivated individuals to be large enough for transplanting. Individuals will be cultivated from seed collected from natural populations to be translocated.

Seed germination efforts will begin early in the growing season. Soil will be salvaged from the sites of natural populations to be translocated. The salvaged soil will be placed in standard greenhouse flats and mixed with washed builder's sand in an approximate ratio of three parts soil to one part sand. The sand will be used to loosen the soil and prevent from becoming too hard upon moistening, due to the high clay content.

Seed will be sprinkled on a moist soil surface, but the seeds will not be covered by the soil. The seeds will be watered immediately with a fine mist and this procedure will be repeated three times daily to keep them continuously moist. The greenhouse flats will be covered with shade cloth to reduce evaporative water loss from the soil and to minimize mechanical disturbance from watering.

Each flat will be weeded throughout the growing season. Supplemental water will be given as needed during the dry periods. Supplemental watering will be discontinued by late spring/early summer to allow the cultivated plants to enter the natural dormancy cycle for the species, which begins at the onset of summer drought.

E. Site Preparation

In order to enhance the potential for translocation of the milkvetch, soil from the existing location will be collected and spread on the final milkvetch translocation area if the mitigation occurs within the Study Area. The top one foot of soil from the currently occupied areas will

translocated to the restoration site and spread to depth of approximately six inches prior to planting of the nursery propagated individuals.

Site preparation for the intermediate mariposa lily will consist of clearing and controlling exotic plants, removing trash and debris, preparing planting holes and doing any other work necessary to make ready the area for planting. No restoration or mitigation shall occur in fuel modification zones, future project areas or areas of maintenance.

Exotic Vegetation Control

The predominance of non-native, invasive weed species throughout California has presented a challenge to most native revegetation projects. Weedy species are opportunistic, rapidly colonizing disturbed sites such as revegetation sites. This can lead to the displacement of native species if the weedy species are not properly treated. Several of these invasive species are capable of out-competing most native understory and herbaceous plants and some can out-compete and even displace existing native trees and shrubs. Therefore, non-native vegetation will be removed from the mitigation site and disposed of in a manner and at a location which prevents its reestablishment. Removal shall be done at least twice annually during the spring/summer season, for the first year.

One of the largest obstacles to the successful revegetation of a site is the exotic seed bank residing in the soil. This seed bank can persist for several years, or even decades, and poses one of the major threats to restoration programs. Undesirable exotic plants will be eradicated either during initial site grading or prior to site preparation. If grading precedes planting by more than a few months, it will be necessary to eradicate undesirable exotic plants that have become established prior to planting and seeding of the mitigation sites. If deemed necessary, a "grow-and-kill" cycle will be established during that period. "Grow and kill" is a cycle of applying water, germinating the non-native, invasive species and spraying with the appropriate chemical. This allows a large portion of the seed bank currently present in the soil to be removed. Eliminating or substantially reducing the competition from non-native exotics early in the life cycle of native plants helps to ensure more rapid growth and cover by the native species.

Initially and whenever possible, invasive species shall be removed by hand or by hand-operated power tools rather than by chemical means. Where control of non-native vegetation is required within the bed, bank, or channel of a stream using herbicides and there is a possibility that the herbicides could come into contact with water, the Contractor shall employ only those herbicides, such as Rodeo/Aquamaster (Glyphosate), which are approved for aquatic use. If surfactants are required, they shall be restricted to non-ionic chemicals, such as Agri-Dex, which are approved for aquatic use.

The type, quantity, and method of herbicide application will be determined by a California licensed Pest Control Advisor (PCA) who will inspect the site, write project recommendations and submit same to the Project Biologist for approval. Pesticide recommendations shall include, but are not limited to, the pesticides to be used, rates of application, methods of application, and areas to which pesticides are to be applied. A licensed Pest Control Operator (PCO) may work under the supervision of the PCA who will employ best management practices regarding the

timing, quantity, and type of herbicide for each species. The PCA will determine both immediate and follow-up herbicide application for each species.

No herbicides shall be used where threatened or endangered plant species occur, when wind velocities are above 5 miles per hour, or on native vegetation unless specifically authorized, in writing, by CDFW.

Nesting Birds

The Contractor may remove vegetation within the mitigation site March 1 to July 31 if a qualified biologist conducts a survey for nesting birds within three days prior to the vegetation removal and ensures no nesting birds shall be impacted by the project. These surveys shall include the areas within 200 feet of the edge of the proposed impacts. If active nests are found, a minimum 50-foot (200 feet for raptors) fence barrier shall be erected around the nest site. No habitat removal or any other work shall occur within the fenced nest zone if the nest continues active beyond July 31, until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project. The Contractor shall submit the mapped survey results to CDFW for review and approval prior to vegetation removal to ensure full avoidance measures are in place. The Contractor will adhere to all applicable requirements of federal and state codes (e.g., Migratory Bird Treaty Act and CDFG Code 3503.5).

F. Planting Plan

Braunton's Milkvetch

Following translocation of soil from areas currently occupied by the Braunton's milkvetch, planting shall consist of preparing planting holes, installation of 480 Braunton's milkvetch individuals, and installing plant protection devices. No planting shall be done in any area until the area concerned has been prepared in accordance with the plans and presents an appearance satisfactory to the Project Biologist.

All planting should be done after the first wetting rains between October 1 and November 1 to take advantage of the winter rainy season, dormancy of foliage, and rooting period to ensure optimum survival of plantings. Planting, maintenance, monitoring and reporting activities shall be overseen by a Botanist familiar with restoration of native plants.

Milkvetch will be planted as either liner or gallon container stock. Plant stock will be placed in a hole measuring at least twice the diameter and depth of the container. The root structure will be examined and excess root material removed. The top of the rootball will be set slightly above finish grade. The planting hole will be backfilled with native soil. Fertilizer, watering basins, and mulch are not required for this planting method.

Intermediate Mariposa Lily

Planting shall consist of preparing planting holes, planting 391 intermediate mariposa lily individuals, and installing plant protection devices. No planting shall be done in any area until

the area concerned has been prepared in accordance with the plans and presents an appearance satisfactory to the Project Biologist.

All planting should be done prior to the rainy season beginning October 1 to take advantage of the winter rainy season, dormancy of foliage, and rooting period to ensure optimum survival of plantings. Planting, maintenance, monitoring and reporting activities shall be overseen by a specialist familiar with restoration of native rare plants.

Prior to first rainfall of the new growing season, salvaged/cultivated bulbs will be planted at the receptor sites. Planting of the bulbs should generally average two individuals per square meter; however, in areas where the substrate appears particularly good (few or no nonnatives and the presence of associate species), densities can be increased to three per square meter. For planting bulbs, a hole slightly larger than the bulb itself will be excavated. The bulb will then be placed into the hole and the gap between the section and hole edge will be filled with soil and lightly compacted. Each bulb will be planted either flush with or slightly below the existing soil surface.

G. Irrigation Plan

No long-term irrigation is required for establishment of milkvetch or mariposa lily. However, immediately following planting, the area may be subject to an initial irrigation from a water truck or other appropriate source.

V. MAINTENANCE ACTIVITIES DURING THE MONITORING PERIOD

A. Maintenance Activities

The purpose of this program is to ensure the success of the mitigation plantings. Given the nature of the mitigation site, only limited maintenance is required. Brauton's milkvetch is a perennial fire-follower that typically lives for a few years following a fire, during which time it contributes to the seed bank before it dies back and/or is outcompeted by other species, and then re-emerges following the next wildfire. As such, it is anticipated that the only maintenance required is weeding the three years which is the average life span for these short-lived perennials to ensure that the milkvetch is not outcompeted by weeds prior to setting seed. The Project Biologist will monitor the mitigation site for up to four years, or until all Brauton's milkvetch individuals have senesced.

These maintenance guidelines are specifically tailored for native plant establishment. The maintenance personnel will be fully informed regarding the habitat establishment program so they understand the goals of the effort and the maintenance requirements. A landscape contractor with experience and knowledge in native plant habitat restoration will supervise all maintenance personnel.

For a period of 120 days following completion of the planting installation, the initial landscape contractor will be responsible for the care of the plantings. The purpose of the 120-day establishment period is to ensure continuity between the installation of the plant material and its short-term maintenance. The contractor's presence during this period is proven to increase project success. The contractor will control the spread of weed species and identify any efforts necessary to ensure the health and survival of the plantings.

General Maintenance

The Contractor will perform the following tasks as general maintenance duties:

- Weed control;
- Trash and debris removal;

Weed Control

Weeding must be balanced against the possible damage to the target plant species. The Project Biologist will inspect the mitigation areas and will direct the Landscape Contractor to weed as appropriate to maximize survival of the target plants while ensuring minimal damage to the target species. The primary goal of the restoration program is survival of the target species and weeding is only performed to the extent that is necessary to achieve survival of the target species.

Trash and Debris Removal

The mitigation site shall be well maintained in order to deter vandalism and dumping of trash. The Contractor is responsible for avoiding impacts to plantings during trash removal activities. Contractor shall, during daily routine maintenance, manually remove weeds, litter, trash, and debris from the mitigation site and dispose of off-site as permitted by law.

B. Responsible Parties

The Applicant/Permittee will be responsible for financing and carrying out maintenance activities.

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

VI. MONITORING PLAN FOR THE MITIGATION SITE

A. Performance Standards for Target Dates and Success Criteria

The mitigation effort will be considered successful if at least 400 of the 480 planted milkvetch individuals survive to set seed for at least a single season, and at least 326 of the planted 391 mariposa lily individuals flower during at least one season during the five-year monitoring program. If the survival requirements have not been met, the Applicant is responsible for replacement plantings to achieve these requirements. Replacement plants shall be monitored with the same requirements for one year after planting. Because of the different life histories for these two species, the monitoring and performance standards are addressed in separate sections below.

B. Monitoring Methods

Braunton's Milkvetch

Monitoring will consist of the Project Biologist conducting a census of individuals that have flowered and set seed. The census will be conducted just prior to expected flowering to document survival and then towards the end of the blooming season to document presence of fruits, with appropriate timing to be determined by the Project Biologist. The population will be photo-documented.

Intermediate Mariposa Lily

Translocation sites will be monitored annually for a five-year monitoring period. For each flowering period (for five years) following the introduction of salvaged/cultivated bulbs, flowering individuals will be counted within the limits of the translocation site. Population sizes of mariposa lily vary significantly from year to year based primarily on rainfall. Because of this, development of performance standards can be difficult. As such, the performance standards are intended to evaluate general trends relative to performance and include flexibility, recognizing the inherent variability of this species. Under average conditions, populations should increase to carrying capacity over time; however, in any given year, the mariposa lily may not even emerge or may emerge in very low numbers if conditions are not appropriate. Therefore, if during any of the five-year period, the standard set forth for flowering individuals for year five is achieved, the program will be considered as having achieved the five-year performance standard.

C. Performance Standards

Braunton's Milkvetch

Braunton's milkvetch is a short-lived perennial that can live up to three years. During each of the first three years, the plants will be monitored during the spring and the number of surviving, flowering and fruiting plants will be documented. The success standards will be achieved when at least 400 plants exhibit flowering and fruits during at least one season.

Intermediate Mariposa Lily

The performance standards set forth below are based on expected average conditions; however, there is a high likelihood that numbers will vary substantially from year to year.

First-Year Monitoring

The mariposa lily intergrade typically flowers between late May and July and with peak flowering varying according to seasonal rainfall patterns. Monitoring of translocated populations will begin in May and will be conducted every two weeks until peak flowering occurs. When peak flowering occurs, as determined by the Project Biologist, quantitative measurements will be obtained.

Second-Year Monitoring

Success Standard: translocated populations combined to achieve 40 percent of 326 individuals impacted.

Third-Year Monitoring

Success Standard: translocated populations combined to achieve 60 percent of 326 individuals impacted.

Fourth-Year Monitoring

Success Standard: translocated populations combined to achieve 80 percent of 326 individuals impacted.

Fifth-Year Monitoring

Success Standard: translocated populations combined to achieve 100 percent of 326 individuals impacted.

D. Annual Monitoring Report

An annual report shall be submitted to the County of Orange by Jan. 1 the first year after planting. Photos of the population shall be included. These monitoring reports will also include the following:

- A list of names, titles, and companies of all persons who prepared the content of the annual report and participated in monitoring activities for that year
- A vicinity map indicating location of the mitigation site
- A mitigation site map identifying the milkvetch and mariposa lily populations, photo station locations, etc. as appropriate
- Copies of all monitoring photographs
- Copies of all completed field data sheets
- An analysis of all qualitative and quantitative monitoring data.

VII. COMPLETION OF COMPENSATORY MITIGATION

A. Notification of Completion

The Contractor should notify the Applicant/Permittee and the County of Orange in writing when the monitoring period is complete and the success criteria have been met.

B. Final Success Criteria Resolution

If the project meets all success criteria at the end of the three-year monitoring period for milkvetch, and five-year monitoring period for the mariposa lily, transplantation will be considered a success. If not, the maintenance and monitoring program will be extended one full year at a time, and a specific set of remedial measures will be implemented until the standards are met. Only those areas that fail to meet the success criteria will require additional monitoring. This process will continue until standards are met.

If, during the monitoring period, a destructive natural occurrence does occur which damages or destroys the mitigation planting, and if the mitigation planting was documented to have been proceeding well toward establishment, then reconstruction and replanting will not be required. However, if the mitigation site fares significantly worse than the surrounding natural communities in this same natural disaster, then the mitigation site would be considered to have not established itself, and reconstruction, replanting, and monitoring would continue.

VIII. CONTINGENCY MEASURES

A. Initiating Procedures

If a performance standard is not met after the first year, the Project Biologist will prepare an analysis of the cause(s) of failure and, if determined necessary by the County, propose remedial actions for approval.

B. Alternative Locations for Contingency Mitigation

Sufficient area for establishment of the mitigation site is available so alternative locations would be unnecessary. Although this plan is expected to be successful, both onsite and off-site alternative locations may be used in the event that revegetation cannot be achieved.

C. Funding Mechanism

The Applicant/Permittee will fund planning, implementation, maintenance and monitoring of any contingency measures that may be required to achieve mitigation goals through an up-front payment to the Contractor. Thereafter, all expenses in implementing this mitigation plan are to be borne by the Contractor.

D. Responsible Parties

The Applicant/Permittee will be responsible for implementing, maintaining, and monitoring any contingency procedures.

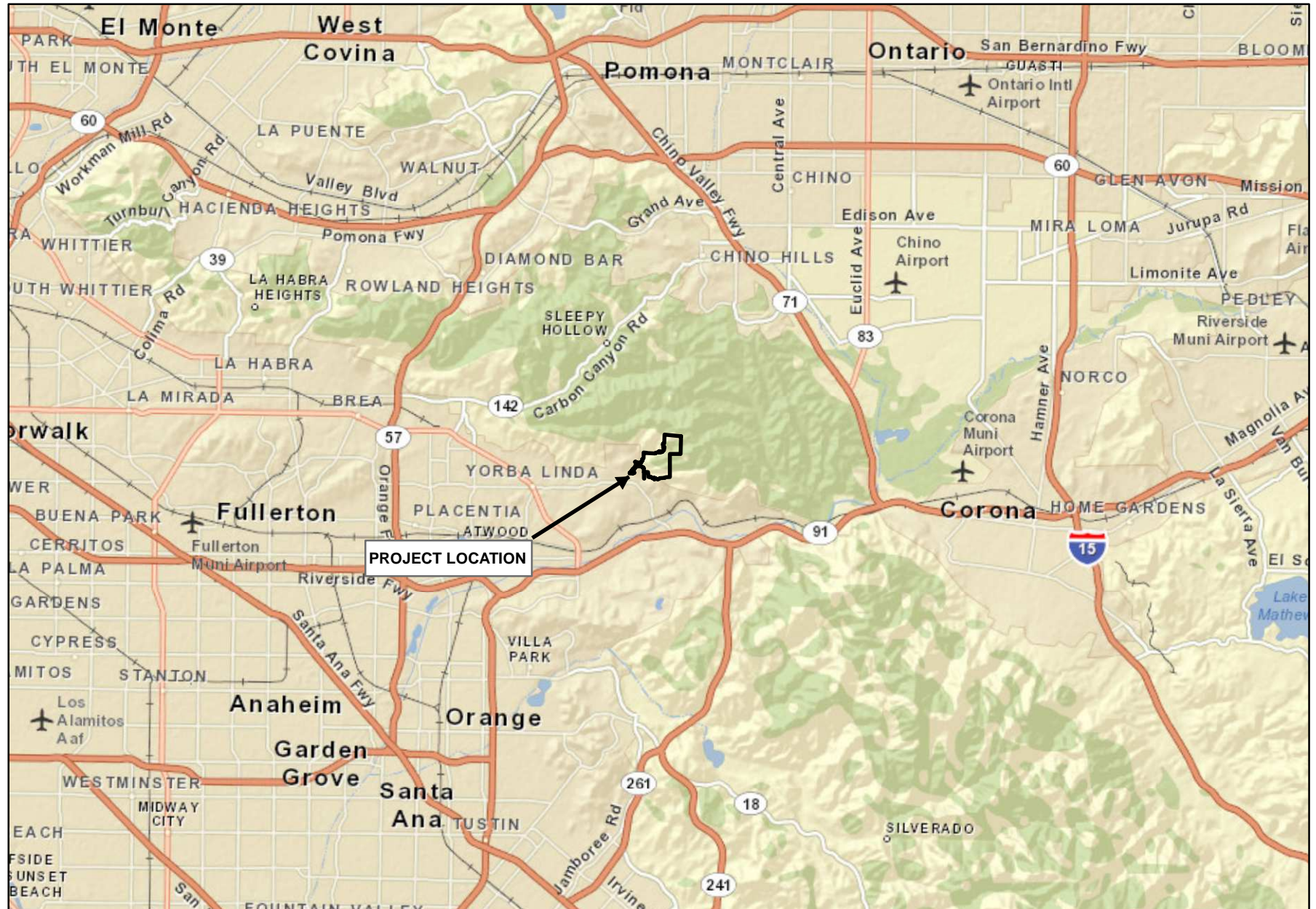
Applicant/Permittee: Yorba Linda Estates, LLC
 7114 East Stetson, Suite 350
 Scottsdale, Arizona 85251
 Contact: Douglas G. Wymore

1050-2a_Astragalus_and_Calochortus mit.doc

Source: ESRI World Street Map



0
2
4
8
Miles



ESPERANZA HILLS SPECIFIC PLAN AREA

Regional Map

GLENN LUKOS ASSOCIATES

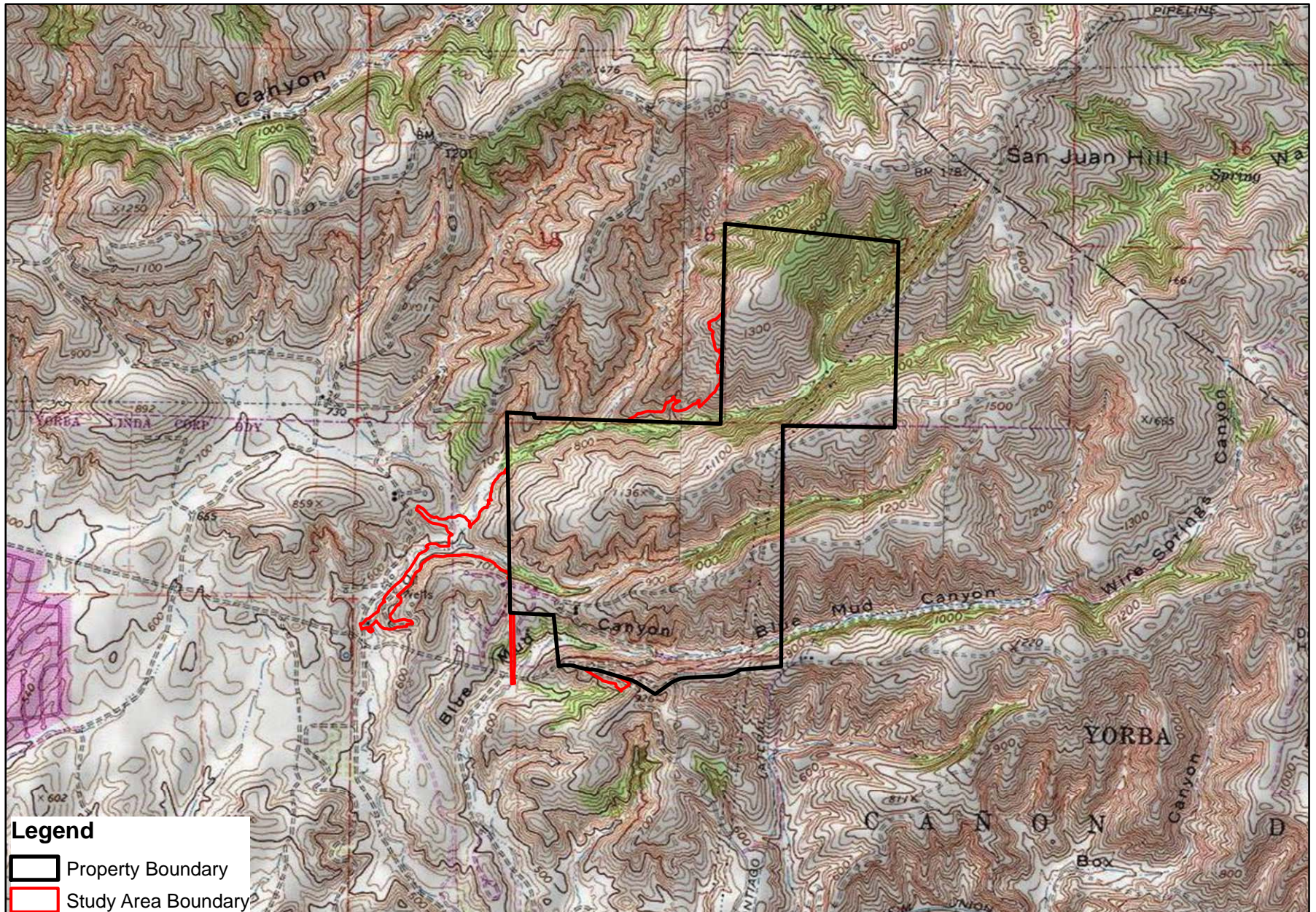
Exhibit 1



Adapted from USGS Prado Dam & Yorba Linda, CA quadrangles



0
1,000
2,000
4,000
Feet



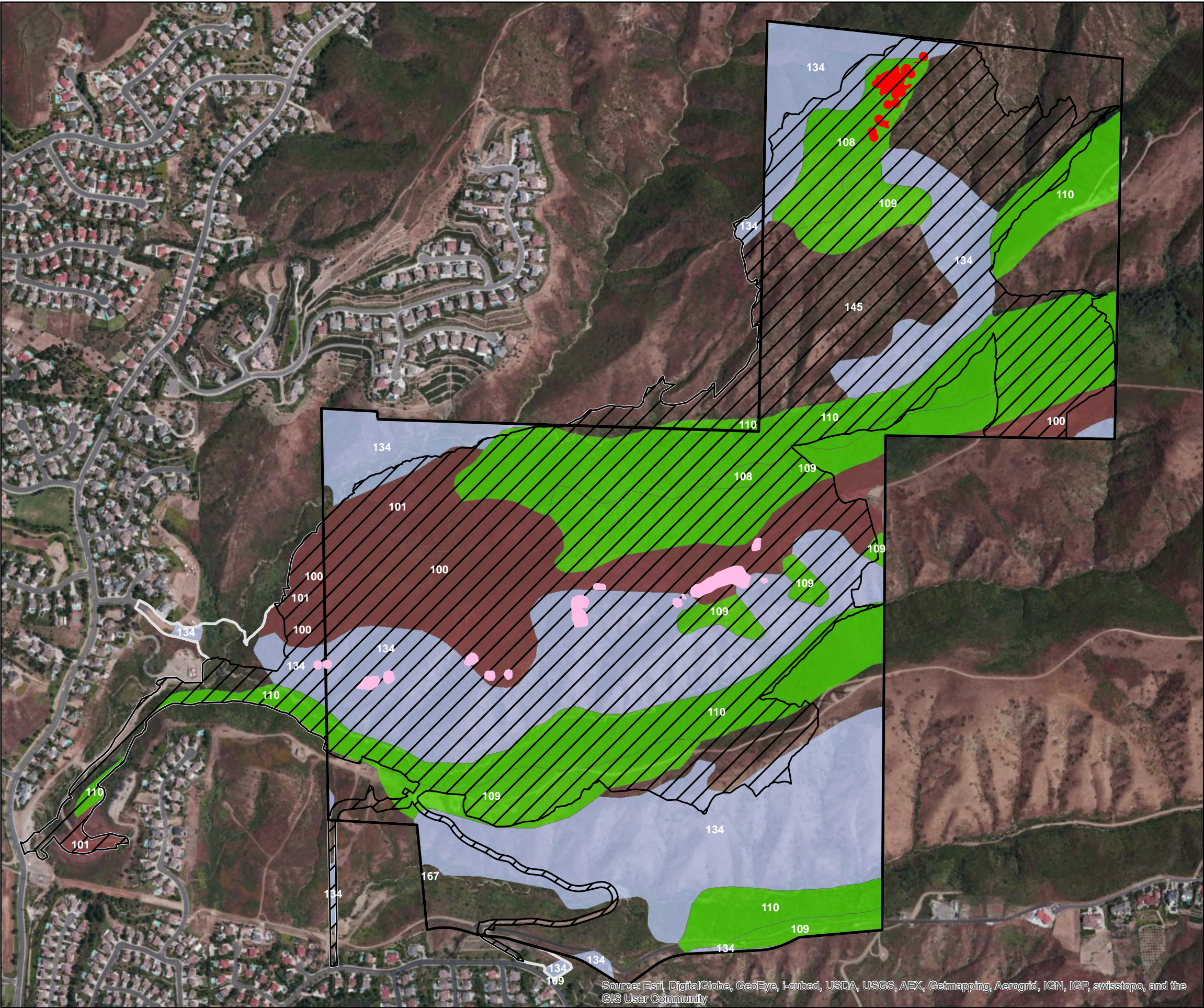
ESPERANZA HILLS SPECIFIC PLAN AREA

Vicinity Map

GLENN LUKOS ASSOCIATES



Exhibit 2



Legend

- Property Boundary
- Study Area Boundary
- Alternative 3 Project Footprint
- Intermediate Mariposa Lily Population
- Branton's Milkvetch Population
- 100 & 101 ALO CLAY
- 108, 109, & 110 - ANAHEIM CLAY LOAM
- 134 - CALLEGUAS CLAY LOAM, 50 TO 75 PERCENT SLOPES, ERODED



1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 4, 2014

**ESPERANZA HILLS
SPECIFIC PLAN AREA**

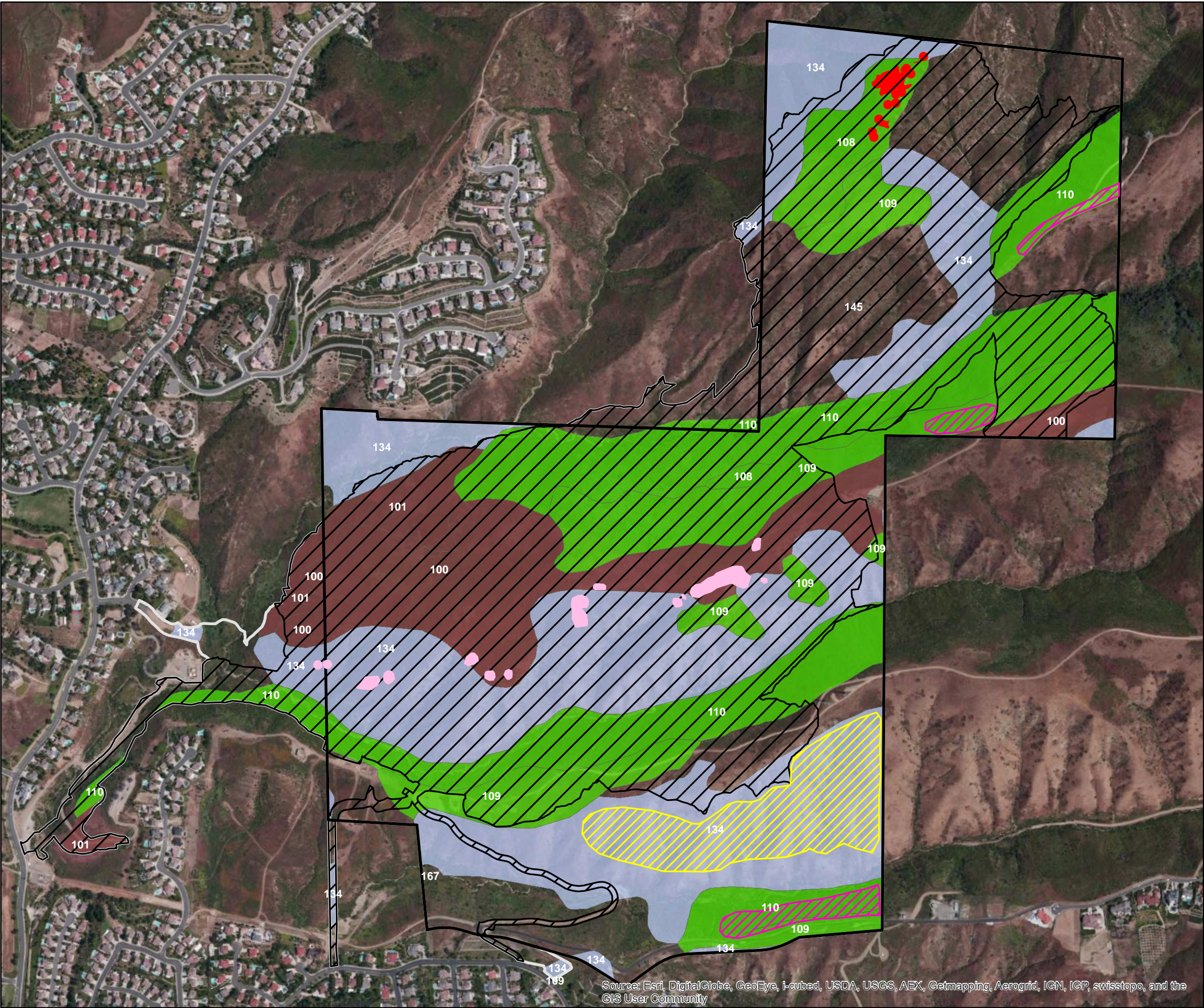
Soils Types for Rare Plants Populations

GLENN LUKOS ASSOCIATES

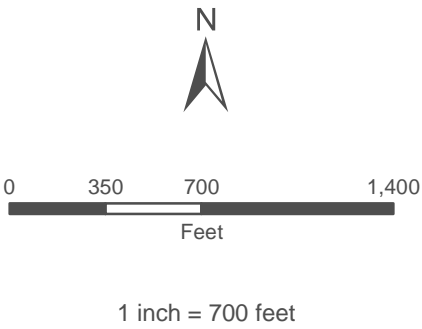


Exhibit 3

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



- Legend**
- Property Boundary
 - Study Area Boundary
 - Alternative 3 Project Footprint
 - Intermediate Mariposa Lily Population
 - Braunton's Milkvetch Population
 - 100 & 101 ALO CLAY
 - 108, 109, & 110 - ANAHEIM CLAY LOAM
 - 134 - CALLEGUAS CLAY LOAM, 50 TO 75 PERCENT SLOPES, ERODED
 - Candidate Intermediate Lily Restoration Areas
 - Candidate Milkvetch Restoration Areas



Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 4, 2014

**ESPERANZA HILLS
SPECIFIC PLAN AREA**

Proposed Rare Plant Mitigation

GLENN LUKOS ASSOCIATES



Exhibit 4

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**MITIGATION AND MONITORING PLAN
FOR IMPACTS TO AREAS WITHIN THE JURISDICTION**

OF

**THE UNITED STATES ARMY CORPS OF ENGINEERS
PURSUANT TO SECTION 404 OF THE CLEAN WATER ACT**

AND

**THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
PURSUANT TO SECTION 1602 OF THE FISH AND GAME CODE**

AND

**IMPACTS TO HABITAT OCCUPIED BY THE STATE- AND FEDERALLY-LISTED
ENDANGERED LEAST BELL'S VIREO (*VIREO BELLII PUSILLIS*)**

FOR

ESPERANZA HILLS SPECIFIC PLAN AREA

April 2014

Prepared for:

**Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore**

Prepared by:

**Glenn Lukos Associates
29 Orchard
Lake Forest, California 92630
Contact: Tony Bomkamp**

TABLE OF CONTENTS

Page 1

PART 1. MITIGATION FOR JURISDICTIONAL RESOURCES

I. DESCRIPTION OF PROJECT/IMPACT SITE

A.	Responsible Parties	1
B.	Location of Project and Brief Summary of Overall Project.....	2
C.	Jurisdictional Areas to be Filled by Habitat Type and Location.....	3
D.	Types, Functions and Values of Jurisdictional Areas to be Impacted	3
E.	Occupied Least Bell's Vireo Habitat to be Impacted	4

II. OBJECTIVES OF THE COMPENSATORY MITIGATION

A.	Types and Areas of Habitat to be Rehabilitated.....	6
B.	Specific Functions and Values of Habitat Types to be Rehabilitated	7
C.	Time Lapse Between Jurisdictional Impacts and Mitigation Success	7
D.	Estimated Total Cost.....	8

III. DESCRIPTION OF THE PROPOSED COMPENSATORY MITIGATION SITE

A.	Location and Size of Compensatory Mitigation Site	8
B.	Ownership Status	9
C.	Existing Functions and Values of Compensatory Mitigation Site	9
D.	Jurisdictional Delineation of Mitigation Areas	9
E.	Present and Proposed Uses of Mitigation Site	10

IV. IMPLEMENTATION PLAN FOR THE MITIGATION SITES

A.	Rationale for Expecting Implementation Success	10
B.	Responsible Parties	11
C.	Implementation Schedule.....	11
D.	Site Preparation	12
E.	Planting Plan	14
F.	Irrigation Plan	18
G.	As-Built Conditions	19

V. MAINTENANCE ACTIVITIES DURING MONITORING PERIOD

A.	Maintenance Activities	19
B.	Responsible Parties	23
C.	Maintenance Schedule	23

TABLE OF CONTENTS
(continued)

Page 2

VI. MONITORING PLAN FOR THE COMPENSATORY MITIGATION SITES

A.	Performance Standards for Target Dates and Success Criteria.....	23
B.	Target Hydrological Regime	25
C.	Monitoring Methods	26
D.	Monitoring Schedule.....	27
E.	Annual Monitoring Reports	27

VII. COMPLETION OF COMPENSATORY MITIGATION

A.	Notification of Completion	28
B.	Final Success Criteria Resolution	28
C.	Agency Confirmation.....	28

VIII. CONTINGENCY MEASURES

A.	Initiating Procedures	29
B.	Alternative Locations for Contingency Mitigation	29
C.	Funding Mechanism.....	29
D.	Responsible Parties	29

IX. LONG-TERM MANAGEMENT PLAN AND ASSOCIATED FUNDING

A.	Monitoring Tasks	30
B.	Funding and Prioritizing Tasks	31

PART 2. MITIGATION FOR NON-JURISDICTIONAL HABITATS (CEQA ONLY)

I. DESCRIPTION OF PROJECT/IMPACT SITE

A.	Responsible Parties	34
B.	Habitat Types Subject to Impacts	34

II. OBJECTIVES OF THE COMPENSATORY MITIGATION

A.	Mitigation for Habitat Types.....	35
B.	Time Lapse Between Jurisdictional Impacts and Mitigation Success	35

TABLE OF CONTENTS
(continued)

Page 3

III. DESCRIPTION OF THE PROPOSED COMPENSATORY MITIGATION SITES

- A. Location and Size of the Compensatory Mitigation Site36
- B. Ownership Status36

IV. IMPLEMENTATION PLAN FOR THE COMPENSATORY MITIGATION SITES

- A. Implementation Schedule.....36
- B. Site Preparation36
- C. Planting Plan38
- D. Irrigation Plan42
- E. As-Built Conditions43

V. MAINTENANCE ACTIVITIES DURING MONITORING PERIOD

- A. Maintenance Activities44
- B. Responsible Parties47
- C. Maintenance Schedule47

VI. MONITORING PLAN FOR THE COMPENSATORY MITIGATION SITES

- A. Performance Standards for Target Dates and Success Criteria.....48
- B. Monitoring Methods50
- C. Monitoring Schedule.....51
- D. Annual Monitoring Reports51

VII. COMPLETION OF COMPENSATORY MITIGATION

- A. Notification of Completion52
- B. Final Success Criteria Resolution52
- C. Agency Confirmation.....53

VIII. CONTINGENCY MEASURES

- A. Initiating Procedures53
- B. Alternative Locations for Contingency Mitigation53
- C. Funding Mechanism.....53
- D. Responsible Parties54

TABLE OF CONTENTS
(continued)

Page 4

IX. LONG-TERM MANAGEMENT PLAN AND ASSOCIATED FUNDING

A.	Responsible Parties	54
B.	Baseline Conditions	54
C.	Funding	56

X. PAR ASSUMPTIONS FOR LONG-TERM IMPLEMENTATION OF HABITAT RESTORATION INCLUDING WITHIN SPECIAL MAINTENCE AREAS

TABLES

1.	Impacts to CDFW Jurisdiction.....	3
2.	Mitigation for CDFW Jurisdictional Resources	5
3.	Summary of Candidate Mitigation Areas	6
4.	Estimated Mitigation Cost for 4.34 Acres	8
5.	Implementation Schedule.....	11
6.	Willow-Mulefat Riparian Scrub	15
7.	Coast Live Oak-Walnut Riparian Woodland Plant Palette	16
8.	Maintenance Schedule	23
9.	Combined Grading and Fuel Modification Impacts to CWW and BEW	32
10.	Impacts and Associated Mitigation.....	35
11.	California Walnut Woodland.....	39
12.	Blue Elderberry Woodland	40
13.	Additional Optional Plant Species	40
14.	Maintenance Schedule	48

EXHIBITS

1.	Regional Map
2.	Vicinity Map
3a.	Corps Jurisdictional Delineation Impact Map
3b.	CDFW Jurisdictional Delineation Impact Map
4.	Project Grading Limits
5.	Least Bell's Vireo Impact Map
6.	Blue Mud Canyon Riparian Mitigation Areas
7.	California Walnut Woodland and Blue Elderberry Mitigation Areas

TABLE OF CONTENTS
(continued)

Page 5

APPENDICES

- A. Distribution Page
- B. Sample Qualitative Monitoring Data Sheets

ESPERANZA HILLS SPECIFIC PLAN AREA PROJECT HABITAT MITIGATION AND MONITORING PLAN¹

OVERVIEW OF HABITAT MITIGATION AND MONITORING PLAN

The following plan sets forth a comprehensive approach for mitigating impacts specific impacts associated with the Esperanza Hills Project. Part 1 describes measures to mitigate impacts to drainages subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act, Regional Water Quality Control Board pursuant to Section 401 of the Clean Water Act and the California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code. Part 2 describes measures to mitigate impacts to non-jurisdictional habitats, specifically, blue elderberry woodland and California walnut woodland. A significant component of the mitigation will be performed in Blue Mud Canyon, along the southern boundary of the project, which will subject to broader restoration efforts that will be implemented for fire protection, which will include removal of a substantial amount of non-native weedy material in concert with the installation of native plant material that will reduce fire danger and increase public safety while ensuring that ecological functions are enhanced over the existing condition. Part 2 also sets forth a program that will ensure integration of fire protection/public safety with long-term maintenance of ecological functions.

PART 1: MITIGATION FOR JURISDICTIONAL RESOURCES

I. DESCRIPTION OF THE PROJECT/IMPACT SITE

A. Responsible Parties

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

Preparer of Mitigation Plan: Glenn Lukos Associates, Inc.
Contact: Tony Bomkamp
29 Orchard
Lake Forest, California 92630-8300
Telephone: (949) 837-0404

¹ Part 1 of this mitigation program was prepared in accordance with the following document: Army Corps of Engineers, Los Angeles District: *Special Public Notice: Final Mitigation Guidelines and Monitoring Requirements*. Public Notice 970031200-RRS, April 19, 2004.

B. Location of Project and Brief Summary of Overall Project

The Project Site comprises approximately 469 acres adjacent to the city of Yorba Linda within unincorporated Orange County, California, while the Study Area, which includes the Project Site and the location of proposed off-site impacts, comprises 504 acres [Exhibit 1 – Regional Map]. The Project Site is located within Section 17, 18 of Township 3S, Range 8W, of the Yorba Linda (dated 1964 and photorevised in 1981) and Prado Dam (dated 1967 and photorevised in 1981) USGS 7.5" Quadrangle Maps. The Project Site also includes un-sectioned portions of Township 3S, Range 8W [Exhibit 2 – Vicinity Map]. Elevation ranges from approximately 550 feet at the southwest boundary to 1,550 feet at the north boundary. The Study Area is bordered by Blue Mud Canyon and Green Crest Drive to the south, Chino Hills State Park to the north and east, and residential areas adjacent to San Antonio Road to the west. The property immediately north east, and west of the study area is currently open space, while property bordering the southern boundary is residential development.

Esperanza Hills is located within unincorporated Orange County (County) north of the SR-91 Freeway, southwest of Chino Hills State Park, and adjacent to existing residential development in the City of Yorba Linda (City). The Project is east of San Antonio Drive and north of Stonehaven Drive in the City. The project footprint is bordered by Chino Hills State Park on the north and east. To the South and northwest lie existing residential communities, including Dominguez Ranch, Green Hills, Casino Ridge, Travis Ranch, and Yorba Linda Hills. The Cielo Vista project, a proposed residential subdivision in the County, lies to the west and southwest. The Esperanza Hills property is largely undeveloped, with the exception of oil well operation in the western portion of the site.

The Esperanza Hills project proposed to construct 340 single-family residential units on 468.9 acres in the unincorporated portion of the County adjacent to the City. As currently proposed, project components will include approximately 13.9 acres of active and passive parks, 7 miles of trails and 230 acres of open space. The trails will include pedestrian, bicycle, and equestrian trails with linkages to permit non-vehicular access to the Chino Hills State Park and surrounding open space areas. Fuel Modification areas have been identified and emergency access/evacuation plans have been defined in cooperation with the Orange County Fire Authority, and two underground water reservoirs are planned to assist in fire fighting. Two options for access to the community will be analyzed: one with a primary connection going south to Stonehaven Drive and a second with a primary connection going west from the community to Aspen Way, connecting to San Antonio Road. A homeowners' association will manage streets, landscaping, parks, and other amenities.

Habitats on-site include non-native grasslands, coastal sage scrub, chaparral, limited areas of disturbed walnut and oak woodlands, limited amounts of riparian habitat, and disturbed areas. The project site was burned in the "Freeway Complex Fire" in the fall of 2008, and prior had been historically used for animal grazing. Currently the site is used as open space and for energy transmission associated with the Southern California Edison Company. A total of four blue-line drainages occur on site, extending into offsite portions of the Study Area.

C. Jurisdictional Areas to be filled by Habitat Type and Location

Corps jurisdiction at the Esperanza Hills Project Study Area totals approximately 2.08 acres, of which 0.19 acre consists of wetlands. The wetland areas are associated with Drainage D, a small artificial detention basin at the mouth of Blue Mud Canyon (Drainage F) and Drainage G [Corps Jurisdictional Delineation Map - Exhibit 3a]. Three different Project alternatives are currently proposed. The most impactful of the three alternatives, as currently proposed, would impact approximately 1.17 acres of waters of the U.S., of which 0.11 acre consists of wetlands. Impacts would occur within Drainages A, D, E, and F, all of which are non-relatively permanent (i.e. ephemeral) waters (Non-RPWs).

California Department of Fish and Wildlife (CDFW) jurisdiction at the Esperanza Hills Project Site totals approximately 4.15 acres, of which approximately 2.57 acres consist of vegetated riparian habitat [CDFW Jurisdictional Delineation Map - Exhibit 3b]. The most impactful of the three alternatives, as currently proposed, would impact approximately 2.57 acres of CDFW jurisdiction, of which 1.77 acre is vegetated riparian habitat consisting of disturbed coast live oak riparian forest, mulefat scrub, California walnut/mulefat scrub, blue elderberry woodland, and southern willow scrub. A summary of associated impacts to CDFW jurisdiction under each alternative is provided in Table 1 below.

TABLE 1			
Impacts to CDFW Jurisdiction			
Vegetation Types	Option 1 Impacts	Option 2 Impacts	Option 2A Impacts
Black Willow Riparian Forest	0.0 acre	0.19 acre	0.08 acre
Blue Elderberry Woodland	0.45 acre	0.45 acre	0.45 acre
Mulefat Scrub	0.09 acre	0.09 acre	0.32 acre
Coast Live Oak Riparian Forest	0.54 acre	0.54 acre	0.54 acre
Detention Basin	0.02 acre	0.02 acre	0.02 acre
Southern Willow Scrub	0.0 acre	0.0 acre	0.36 acre
Unvegetated Channel	0.80 acre	0.80 acre	0.80 acre
Total:	1.90 acres	2.09 acre	2.57 acre

D. Type(s), Functions and Values of the Jurisdictional Areas to be Directly and Indirectly Impacted

Functions and values to be affected by the project are divided into three categories: hydrologic, biogeochemical, and habitat. Each is addressed below.

1. Hydrologic Functions

The drainages to be affected occur at the bottom of deep canyons and generally range from one to four feet wide. As such, there is little potential for surface water storage and limited potential for recharge of groundwater. The narrow drainages support only limited areas of riparian vegetation,

which is typically outside of the active channel and therefore exhibit limited potential for energy dissipation. In short, the drainages exhibit limited hydrological functions, typical of ephemeral drainages within the region.

2. Biogeochemical Functions

The largely unvegetated ephemeral drainages exhibit biogeochemical functions typical of ephemeral drainages in the region including export of particulate carbon and other fine organic matter; however, all of the drainages ultimately discharge to offsite storm drains, which in turn empty into the Santa Ana River, which exhibits very limited habitat value as it is managed for purposes of groundwater recharge. Similarly, the drainages exhibit limited potential for water quality improvement (e.g., retention of particulates and/or removal of elements and compounds) for two reasons: first, due to the limited amount of riparian vegetation, steep gradients, and narrow width and second, because the site is currently in a natural state (albeit much of the vegetation consists of non-native weedy species).

3. Habitat Functions

As noted, the drainages on the site support limited areas of riparian habitat consisting mostly of small patches of non-wetland mulefat (*Baccharis salicifolia*) intermixed with other upland vegetation including scattered blue elderberry (*Sambucus nigra* ssp. *caerulea*). Drainage D includes limited areas of coast live oak riparian forest, which burned during the Freeway Complex Fire in late 2008, killing approximately half of the oaks with about half of the oaks exhibiting some re-growth, though in poor condition. Drainage F (Blue Mud Canyon) supports scattered patches of willow and mulefat including at the downstream limit, which is offsite but which would be affected by utilities and an emergency access route. As discussed below, an off-site area, at the mouth of Blue Mud Canyon has recently supported least Bell's vireo, a state- and federally listed songbird.

E. Occupied Least Bell's Vireo Habitat to be Impacted

Three Project alternatives are currently proposed. The most impactful of the three, as currently proposed, would permanently impact approximately 0.05 acre of mulefat scrub vegetation, 0.09 acre of black willow riparian forest, and 0.36 acre of southern willow scrub occupied by the state- and federally listed endangered least Bell's vireo (LBV) [Exhibit 5]. The LBV is a state- and federally listed endangered species, and as such both CDFW and US Fish and Wildlife Service (USFWS) regulate impacts to occupied LBV habitat.

II. OBJECTIVES OF THE COMPENSATORY MITIGATION

The objectives of the proposed habitat mitigation and monitoring program (HMMP) is to provide for (1) full mitigation of permanent impacts, which under the most impactful project alternative consist of impacts to 1.17 acres of waters of the U.S., of which 0.11 acre consists of wetlands, and 2.57 acres of CDFW jurisdiction, of which 1.77 acre is vegetated riparian habitat; and (2) mitigation for impacts to 0.05 acre of mulefat scrub, 0.09 acre of black willow riparian forest, and 0.36 acre of southern willow scrub occupied by the state- and federally listed endangered LBV.

Table 2 provides a summary of mitigation required for each CDFW jurisdictional resource under each of the alternatives.

TABLE 2			
Mitigation for CDFW Jurisdictional Resources			
Resource to be Mitigated	Option 1	Option 2	Option 2A
	Mitigation Required		
CDFW Riparian (at 2:1)	2.20 acres	2.58 acres	3.54 acres
CDFW Unvegetated Channel (at 1:1)	0.80 acre	0.80 acre	0.80 acre
Total CDFW	3.0 acres	3.38 acres	4.34 acres

The goals will be achieved through permittee-responsible mitigation that incorporates components of a watershed approach that includes: (1) onsite replacement or enhancement of the functions provided by the existing ephemeral drainages and associated wetland and riparian habitats to be impacted, (2) in some instances, establishment of additional hydrologic, biogeochemical and wildlife functions currently not associated with drainages to be impacted; (3) fostering an increase in the habitat values beyond those currently provided by the existing streambeds, wetlands and/or riparian habitats; and (4) providing optimal breeding habitat for least Bell's vireo (LBV). In determining the best way to ensure no net-loss of aquatic resource functions in the region, a number of factors were considered, including:

- The functioning and impairment of existing aquatic resources onsite;
- The best location for rehabilitation of aquatic resources;
- The relative acreage for each habitat type of impacted aquatic resource; and
- The opportunity to compensate for potential cumulative impacts.

In order to achieve the goal of no-net-loss of aquatic resource functions, this HMMP proposes rehabilitation, using components of the watershed approach set forth at 40 CFR Part 230: *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule*. (“Mitigation Rule”)²

A. Types and Areas of Habitat to be Rehabilitated

In order to offset impacts to Corps and CDFW jurisdiction and ensure the goals of no-net loss of riparian habitat and associated functions, including coast live oak riparian forest, mulefat scrub, California walnut/mulefat scrub, elderberry woodland and southern willow scrub, the Project will include rehabilitation of southern willow scrub and southern coast live oak-California walnut riparian forest within Blue Mud Canyon (Drainage F). Under the most impactful alternative, a minimum of 4.34 acres would be rehabilitated, for a ratio of 2:1 for CDFW impacts and 3.7:1 for Corps impacts. Additionally, the one acre rehabilitated southern willow scrub habitat will mitigate for impacts to 0.05-acre of mulefat scrub, 0.09 acre of black willow riparian forest, and 0.36 acre of southern willow scrub habitat occupied by LBV at a ratio of 2:1. The candidate mitigation areas proposed for mitigation of CDFW and Corps jurisdictional impacts and impacts to habitat occupied by LBV are summarized in Table 3 below and depicted on Exhibit 6. If a less impactful alternative is ultimately selected, mitigation will be installed at ratios noted above for Corps and CDFW.

TABLE 3			
SUMMARY OF CANDIDATE MITIGATION AREAS			
Mitigation Site	Mitigation Type	Habitat Type	Area (Acres)
Blue Mud Canyon (Drainage F)	Rehabilitation	Southern Willow Scrub	1.0
Blue Mud Canyon (Drainage F)	Rehabilitation	Coast Live Oak-Walnut Riparian Forest	3.34
TOTAL			4.34**

**Although up to 5.30 acres of candidate mitigation area is available, actual mitigation acreage will be installed at a 3.7:1 ration for Corps impacts, 2:1 ratio for CDFW impacts and 2:1 for LBV impacts.

The rehabilitation mitigation site within Blue Mud Canyon would offset impacts to Corps jurisdiction, as it is a water of the United States and exhibits an OHWM. Following implementation of the mitigation project, it is expected that areas will support vegetated riparian habitat with portions exhibiting wetland characteristics.

For the above-referenced mitigation areas, the 5.30-acre candidate area of southern willow scrub and coast live oak-California walnut riparian forest in Blue Mud Canyon are appropriately categorized as rehabilitation under the Mitigation Rule, as there will be a gain in aquatic resource

² Federal Register Vol. 73 No. 70. April 10, 2008. Department of Defense: Department of the Army, Corps of Engineers, 33 CFR Parts 325 and 332 and Environmental Protection Agency, 40 CFR Part 230 Compensatory Mitigation for Losses of Aquatic Resources; Final Rule.

function but no gain in aquatic resource area. The portion of Blue Mud Canyon to be established as the mitigation site currently exhibits an OHWM that ranges from four to six feet wide, and is generally vegetated with patches of mulefat scrub, remnant California walnut woodland (many were killed by the 2008 Freeway Complex Fire), California walnut woodland/mulefat scrub, and limited amounts of blue elderberry woodland (also largely killed and/or damaged by the fire). However, following the 2008 fire, much of the fire-damaged native vegetation on the slopes on either side of the Drainage F was largely displaced by non-native species including poison hemlock (*Conium maculatum*), sweet fennel (*Foeniculum vulgare*), tree tobacco (*Nicotiana glauca*), and castor bean (*Ricinus communis*). In general Drainage F is characterized by a dominance of bush mallow (*Malacothamnus fasciculatus*, UPL) and poison hemlock (*Conium maculatum*, FAC), limited areas of Arroyo willow (*Salix lasiolepis*, FACW), mulefat (*Baccharis salicifolia*, FAC), coyote bush (*Baccharis pilularis*, UPL), laurel sumac (*Malosma laurina* UPL), giant wild rye (*Elymus condensatus*, FACU), and non-native sweet fennel (*Foeniculum vulgare*, UPL).

B. Specific Functions and Values of Habitat Types to be Rehabilitated

Upon successful implementation, the mitigation site will provide replacement of functions and values for impacts to ephemeral drainages, vegetated riparian habitat, most of which is degraded and has a substantial component of non-native species, and a very small area of jurisdictional wetlands (0.11 acre). The proposed rehabilitation of southern willow scrub and coast live oak-walnut riparian forest within the 5.30-acre candidate mitigation area provides for no-net-loss of both function and area of wetland and riparian resources.

Additionally, the proposed rehabilitation of southern willow scrub will provide optimal breeding habitat for LBV and offsets the loss of occupied riparian habitat at a ratio of at least 2:1.

C. Time Lapse Between Jurisdictional Impacts and Expected Compensatory Mitigation Success

Project grading activities will commence upon receipt of permits with project impacts expected to occur immediately thereafter. Mitigation site grading, planting, and irrigation shall begin prior to or concurrent with the planned date of initiating authorized fill activities. Eradication of non-native plant species encountered will be concurrent with commencement of grading.

Within one year of the completion of mitigation installation, it is expected that immature riparian vegetative structure will exist such that insects and birds will utilize the mitigation site for foraging, and within approximately three years, the riparian vegetative structure will be sufficiently mature to support LBV.

D. Estimated Total Cost

Table 4 below indicates the estimated cost for implementation, maintenance, and monitoring of the mitigation area for five years.

TABLE 4 ESTIMATED MITIGATION COST FOR 4.34 ACRES	
Task	Cost
Grading (costs included with general site grading)	N/A
Mobilization	\$6,400
Site Preparation	\$11,200
Irrigation Installation	\$40,000
Installation (includes plants and seeds)	\$56,000
Project Maintenance	\$120,000
Project Monitoring and Reporting	\$80,000
Total	\$313,600

III. DESCRIPTION OF THE PROPOSED COMPENSATORY MITIGATION SITE

A. Location and Size of the Compensatory Mitigation Site

The 5.30-acre candidate mitigation site will be located in the portion of Blue Mud Canyon (Drainage F) not subject to project impacts as depicted on Exhibit 6. Under the most impactful alternative, the mitigation area will include rehabilitation of 1.00 acre of southern willow scrub and 3.34 acres of coast live oak-walnut riparian forest.

Selection of this area is consistent with the site selection criteria set forth on page 19674 of the Mitigation Rule. Specifically, characteristics of Blue Mud Canyon include (1) hydrological and other physical characteristics conducive to rehabilitation; (2) sufficient hydrologic sources to support the rehabilitation project; (3) location where it would be compatible with adjacent land uses, as it is located within a portion of the Specific Plan Area not planned for development; and (4) it will provide habitat for the state- and federally-listed endangered least Bell's vireo. The rehabilitation area is described below.

B. Ownership Status

The present owners of the mitigation areas are:

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

C. Existing Functions and Values of the Rehabilitation Mitigation Site

The portion of Blue Mud Canyon to be established as the mitigation site currently exhibits an OHWM, and supports vegetation that established following the 2008 Freeway Complex Fire that includes dense areas of bush mallow mixed with locally dense stands of poison hemlock, scattered castor bean and tree tobacco interspersed with occasional patches of mulefat and willow scrub, remnant California walnut woodland (most were killed or damaged by the 2008 Freeway Complex Fire), and limited amounts of blue elderberry woodland (also largely killed or damaged by the fire). In general Drainage F besides the areas dominated by bush mallow (*Malacothamnus fasciculatus*, UPL) poison hemlock (*Conium maculatum*, FAC), and limited areas of arroyo willow (*Salix lasiolepis*, FACW) and mulefat (*Baccharis salicifolia*, FAC), the banks of the drainage support scattered individuals of coyote bush (*Baccharis pilularis*, UPL), laurel sumac (*Malosma laurina* UPL), and giant wild rye (*Elymus condensatus*, FACU).

Subsequent to the 2008 Freeway Complex Fire, the habitat functions of Drainage F were greatly reduced, as much of the riparian habitat burned. Following the 2008 fire, much of the fire-damaged native vegetation on the terraces/slopes on either side of the Drainage F was displaced by non-native species including poison hemlock (*Conium maculatum*), sweet fennel (*Foeniculum vulgare*), tree tobacco (*Nicotiana glauca*), and castor bean (*Ricinus communis*). The areas of willow and mulefat are slowly recovering, but during surveys in early 2013, only exhibited roughly half the cover of their pre-fire condition.

D. Jurisdictional Delineation of Mitigation Areas

As noted above, Blue Mud Canyon is subject to Corps and CDFW jurisdiction and has an OHWM that varies from 6 to 8 feet within the area to be rehabilitated and supports mulefat scrub, remnant California walnut woodland (most were killed or damaged by the 2008 Freeway Complex Fire), California walnut woodland/mulefat scrub, and limited amounts of blue elderberry woodland (also largely killed or damaged by the fire). The slopes adjacent to the drainage are outside of Corps jurisdiction, but are appropriate for inclusion of the mitigation site as they currently support areas of invasive non-native species and conversion to native riparian habitat would improve the aquatic functions and values of the mitigation site and watershed.

E. Present and Proposed Uses of Mitigation Site

Blue Mud Canyon is an existing drainage that supports areas of mulefat scrub, remnant California walnut woodland (most were killed by the 2008 Freeway Complex Fire), California walnut woodland/mulefat scrub, and limited amounts of blue elderberry woodland (also largely killed by the fire) and is currently undeveloped. Upon completion of the grading, limited portions of the drainage at the far western edge of the project site will be filled for road construction and utility installation. The remainder of the on-site portion of the drainage will be planted with riparian vegetation.

IV. IMPLEMENTATION PLAN FOR THE COMPENSATORY MITIGATION SITES

A. Rationale for Expecting Implementation Success

The proposed mitigation will be installed prior to or concurrent with impacts to Corps and CDFW jurisdiction. Specific rationale for expecting implementation of the various components of the mitigation program is provided below.

The proposed mitigation area within Blue Mud Canyon is a good candidate for habitat rehabilitation for several reasons and will result in an increase in aquatic functional capacity within the Santa Ana River watershed to which the proposed impact site contributes. First, hydrology to support the wetland/riparian areas within the sites is assured from existing sources. Second, the proposed plant palettes consist of species that occur onsite and are known to perform well in habitat restoration programs. After minimal localized grading, which will serve to enhance hydrological conditions in a few areas, the mitigation areas will be ideal for species such as willows, coast live oak, California walnut, blue elderberry, and mulefat as well as suite of diverse understory species. The restored habitat areas will be located at the optimal elevations and distance from the main channel with the driest areas supporting coast live oak, blue elderberry, and California walnut, and the wettest areas supporting arroyo willow, black willow, and mulefat with an appropriate understory. The tenacious quality of native riparian plant species, which allows their continued survival in areas of natural disturbance, also helps to ensure their establishment as part of the proposed mitigation. Natural recruitment and reproduction is expected within the site.

With regard to least Bell's vireo, it is expected that the rehabilitated habitat will exhibit sufficient canopy structure to support breeding LBV within approximately three years of mitigation installation. As LBV were observed in mulefat scrub in Drainage F in 2012, and documented to have nested in Drainage G on the west side of the Project Study Area in 2012, it is expected that LBV will immediately begin to utilize the mitigation site for foraging and potentially for breeding.

B. Responsible Parties

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

Preparer of Mitigation Plan: Glenn Lukos Associates, Inc.
Contact: Tony Bomkamp
29 Orchard
Lake Forest, California 92630-8300
Telephone: (949) 837-0404

C. Implementation Schedule

The mitigation installation contractor (herein "Contractor"), shall be responsible for site preparation, irrigation installation and mitigation plantings, which shall begin during construction activities. Compensatory mitigation designated to occur within the mitigation site shall be installed no later than one construction season after commencement of fill activities within jurisdictional waters.

Table 5 below indicates timing of intended impacts to Corps and CDFW jurisdiction and LBV habitat, site grading, eradication of weedy exotic plant species, site preparation and planting. The Contractor will retain a biological monitor with appropriate experience with site flora & fauna ("Project Biologist") to supervise and provide biological monitoring during project construction, site preparation, installation of plant materials and maintenance.

TABLE 5 IMPLEMENTATION SCHEDULE	
Impacts to Corps and CDFW Jurisdiction and LBV Habitat	Year 1
Mitigation Site Grading	Year 1
Site Preparation	Year 1
Irrigation Installation	Year 2
Container Stock Installation	Year 2
Hydroseeding	Year 2

D. Site Preparation

Site preparation shall consist of minor localized grading, clearing and controlling exotic plants, trenching and installation of underground irrigation components, removing trash and debris, preparing planting holes and doing any other work necessary to make ready the area for planting. No restoration or mitigation shall occur in fuel modification zones, future project areas or areas of maintenance.

Mitigation Site Grading Plan

As the topography of the mitigation site is generally satisfactory under existing conditions for establishing the mitigation site, only minimal localized grading will be necessary. For those areas that require grading, a grading plan for the Blue Mud Canyon mitigation site will be developed making use of existing hydrological data, however, micro elevations and micro grading will be determined by the Project Biologist in conjunction with the project hydrologist with adjustments occurring based on site conditions at that time. The work area shall be flagged to identify its limits within the project footprint to avoid unnecessary impact to areas outside of the mitigation site. Vegetation shall not be removed or intentionally damaged beyond these limits. Vegetation in this area consists of mulefat scrub, remnant California walnut woodland (most were killed by the 2008 Freeway Complex Fire), California walnut woodland/mulefat scrub, and limited amounts of blue elderberry woodland (also largely killed by the fire), and if living vegetation is damaged, shall be included into the mitigation. No equipment shall be operated within the drip line of preserved oaks. Protective fencing shall be placed around the drip line of all preserved oaks to prevent compaction of the root zone.

Exotic Vegetation Control

The predominance of non-native, invasive weed species throughout California has presented a challenge to most native revegetation projects. Weedy species are opportunistic, rapidly colonizing disturbed sites such as revegetation sites. This can lead to the displacement of native species if the weedy species are not properly treated. Several of these invasive species are capable of out-competing most native understory and herbaceous plants and some can out-compete and even displace existing native trees and shrubs. Therefore, non-native vegetation including but not limited to poison hemlock (*Conium maculatum*), sweet fennel (*Foeniculum vulgare*), tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), will be removed from the mitigation site and disposed of in a manner and at a location which prevents its reestablishment. Removal shall be done at least twice annually during the spring/summer season, as needed, through the term of the mitigation monitoring period.

Although it has not been detected during previous survey efforts, if giant reed (*Arundo donax*) is present, it shall be cut to a height of 6 inches or less, and the stumps painted with an herbicide approved for aquatic use within 5 minutes of cutting. Herbicides shall be applied at least three times during the period from May 1 to October 1 to eradicate these plants. Where proposed methods for removing giant reed deviate from this procedure, the Contractor shall present the alternate methods, in writing, to CDFW for review and approval, prior to construction.

One of the largest obstacles to the successful revegetation of a site is the exotic seed bank residing in the soil. This seed bank can persist for several years, or even decades, and poses one of the major threats to restoration programs. Undesirable exotic plants will be eradicated either during initial site grading or prior to site preparation. If grading precedes planting by more than a few months, it will be necessary to eradicate undesirable exotic plants that have become established prior to planting and seeding of the mitigation sites. If deemed necessary, a "grow-and-kill" cycle will be established during that period. "Grow and kill" is a cycle of applying water, germinating the non-native, invasive species and spraying with the appropriate chemical. This allows a large portion of the seed bank currently present in the soil to be removed. Eliminating or substantially reducing the competition from non-native exotics early in the life cycle of native plants helps to ensure more rapid growth and cover by the native species.

Initially and whenever possible, invasive species shall be removed by hand or by hand-operated power tools rather than by chemical means. Where control of non-native vegetation is required within the bed, bank, or channel of a stream using herbicides and there is a possibility that the herbicides could come into contact with water, the Contractor shall employ only those herbicides, such as Rodeo/Aquamaster (Glyphosate), which are approved for aquatic use. If surfactants are required, they shall be restricted to non-ionic chemicals, such as Agri-Dex, which are approved for aquatic use.

The type, quantity, and method of herbicide application will be determined by a California licensed Pest Control Advisor (PCA) who will inspect the site, write project recommendations and submit same to the Project Biologist for approval. Pesticide recommendations shall include, but are not limited to, the pesticides to be used, rates of application, methods of application, and areas to which pesticides are to be applied. A licensed Pest Control Operator (PCO) may work under the supervision of the PCA who will employ best management practices regarding the timing, quantity, and type of herbicide for each species. The PCA will determine both immediate and follow-up herbicide application for each species.

No herbicides shall be used where threatened or endangered plant species occur, when wind velocities are above 5 miles per hour, or on native vegetation unless specifically authorized, in writing, by CDFW.

A small amount of selective trimming of native species (e.g. willow, oak and sycamore) may occur to prevent overspray of herbicide from reaching these branches, but only as provided within the conditions of the Streambed Alteration Agreement issued by CDFW and this Mitigation Plan. Native vegetation may only be trimmed; individual plants shall not be removed. Material in excess of three (3) inches diameter breast height (DBH) shall require specific notice to and consultation with CDFW.

Weed control will be maintained throughout the monitoring period. Weeds will be controlled before their setting of seed. Ongoing weed control will be accomplished manually by the use of a hoe or other tool to uproot the entire plant, a mower or weed whip to cut plants, or by herbicide application as prescribed in this Mitigation Plan. Weed species identified as invasive, particularly tenacious, or those with wind-borne seed will be subject to the earliest control

efforts. The Project Biologist will direct the contractor regarding the selection of target weed species, their location and the timing of weed control operations to ensure that native plants are avoided to the extent possible.

Contractor Education

Prior to the commencement of grading or any construction work, the Contractor will review all aspects of the Mitigation Plan that concern the contractors including permit requirements, site protection, maintenance inspections, landscape procedures and monitoring.

The Applicant/Permittee shall make the Contractor and all other contractors, subcontractors and the project supervisors aware of the Corps Authorization and the CDFW Streambed Alteration Agreement. Copies of the permits shall be kept onsite at all times during periods of active work and must be presented to any agency personnel upon demand.

Nesting Birds

The Contractor may remove vegetation within drainages from March 1 to July 31 if a qualified biologist conducts a survey for nesting birds within three days prior to the vegetation removal and ensures no nesting birds shall be impacted by the project. These surveys shall include the areas within 200 feet of the edge of the proposed impacts. If active nests are found, a minimum 50-foot (200 feet for raptors) fence barrier shall be erected around the nest site. No habitat removal or any other work shall occur within the fenced nest zone if the nest continues active beyond July 31, until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project. The Contractor shall submit the mapped survey results to CDFW for review and approval prior to vegetation removal to ensure full avoidance measures are in place. The Contractor will adhere to all applicable requirements of federal and state codes (e.g., Migratory Bird Treaty Act and CDFG Code 3503.5).

E. Planting Plan

Two riparian associations will be rehabilitated within the proposed mitigation areas: willow-mulefat riparian forest and coast live oak-walnut riparian woodland. These plant communities were selected based on surveys conducted during various biological survey visits including vegetation mapping and jurisdictional delineation. Woody plant species were selected to create a mature tree canopy and provide wildlife forage, shelter and nesting places, including habitat for LBV. Planting shall consist of preparing planting holes, planting container stock, installing plant protection devices, applying mulch and hydroseeding. No planting shall be done in any area until the area concerned has been prepared in accordance with the plans and presents an appearance satisfactory to the Project Biologist.

All planting should be done after the first wetting rains between October 1 and February 1 to take advantage of the winter rainy season, dormancy of foliage, and rooting period to ensure optimum survival of plantings. Should the Contractor be required to plant during other times of the year, chances of survival are diminished. To compensate for decreased survival rates, the Operator shall be required to augment the specified planting density by 25-percent to account for the likelihood of increased mortality of plantings. Completion of all mitigation requirements shall be

concluded within two years of project implementation within jurisdictional areas. Planting, maintenance, monitoring and reporting activities shall be overseen by a specialist familiar with restoration of native plants. The Contractor shall place structures on properties so that fire clearance activities will not impact vegetation on stream courses, mitigation areas, or associated buffer areas.

Plant Palettes

The mitigation site will be vegetated with plant species native to the Yorba Linda and Chino Hills Area and surrounding areas. The proposed revegetation plant palettes for the revegetation habitat types are designated below in Tables 6 and 7. The plant palettes define species, spacing and total quantity of plants per acre required. CDFW recommends that the landscaping within the open spaces and common areas of the development utilize native plant species. The use of invasive non-native plants is strongly discouraged.

Southern Willow Scrub Riparian Scrub

This plan provides for the rehabilitation of 1.0 acre of southern willow scrub scrub based primarily on riparian forest composition in Drainage G. If a less impactful Project Alternative is selected, the mitigation will be reduced accordingly while maintaining a 2:1 ratio for CDFW impacts. The planting palette is presented in Table 6 below.

TABLE 6 WILLOW-MULEFAT RIPARIAN SCRUB (1.0 acre to be rehabilitated)					
Botanic Name	Common Name	Stock Type	Plant Spacing	No. per Acre	Percent
Canopy					
<i>Salix goodingii</i>	Black willow	1 gal	20' o.c.	75	19%
<i>Salix lasiolepis</i>	Arroyo willow	1 gal	15' o.c.	100	25%
<i>Salix exigua</i>	Narrow-leaf willow	1 gal	10' o.c.	200	50%
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry	1 gal	30' o.c.	25	6%
Subtotal				400	100%
Understory					
<i>Isocoma menziesii</i>	Coast goldenbush	1 gal	8' o.c.	100	12.5%
<i>Rosa californica</i>	California rose	1 gal	8' o.c.	100	12.5%
<i>Baccharis pilularis</i>	Coyote bush	1 gal	8' o.c.	100	12.5%
<i>Baccharis salicifolia</i>	Mulefat	1 gal	4' o.c.	200	25%
<i>Artemisia douglasiana</i>	Mugwort	Liner	8' o.c.	100	12.5%
<i>Rubus ursinus</i>	Blackberry	Liner	8' o.c.	100	12.5%
Subtotal				700	100%
Total Container Stock				1100	

Coast Live Oak-California Walnut Riparian Forest

This plan provides for the rehabilitation of 3.34 acres subject to CDFW jurisdiction of coast live oak-walnut riparian forest based primarily on the riparian woodland composition in Drainages F and D. The planting palette is presented in Tables 7 below.

TABLE 7 COAST LIVE OAK-WALNUT RIPARIAN WOODLAND PLANT PALETTE (3.34 acres riparian)					
Botanic Name	Common Name	Stock Type	Plant Spacing	No. per Acre	Percent
Canopy					
<i>Quercus agrifolia</i>	Coast live oak	1 gal	40' o.c.	10	10%
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry	1 gal	40' o.c.	50	50%
<i>Juglans californica</i>	California walnut	1 gal	30' o.c.	40	40%
Subtotal				100	100%
Understory					
<i>Heteromeles arbutifolia</i>	Toyon	1 gal	30' o.c.	50	6%
<i>Baccharis salicifolia</i>	Mulefat	1 gal	10' oc	100	13%
<i>Malosma laurina</i>	Laurel sumac	Liner	30' o.c.	50	6%
<i>Rosa californica</i>	California rose	Liner	12' o.c.	100	13%
<i>Ribes speciosum</i>	Fuchsia-flowered gooseberry	1 gal	20' o.c.	50	6%
<i>Rhamnus ilicifolia</i>	Holly-leaved redberry	1 gal	20' o.c.	50	6%
<i>Elymus condensatus</i>	Giant wildrye	1 gal	Clumped	100	13%
<i>Mimulus aurantiacus</i>	bush monkey flower	1 gal	Clumped	50	6%
<i>Stipa pulchra</i>	Purple needlegrass	1 gal	Clumped.	100	13%
<i>Melica imperfecta</i>	Coast range melic	1 gal	12' o.c.	50	6%
<i>Baccharis pilularis</i>	Coyote bush	1 gal	12" o.c.	100	13%
Subtotal				800	100%
Total Container Stock				900	100%

Source of Plant Materials

It is preferred that the source of all propagules and seed used at the mitigation site be from the site or adjacent riparian areas. If not available, the remainder of propagules and seed required will be from wild sources within Orange County or eastern Los Angeles County, and collected as close to the mitigation sites as possible to preserve regional genetic integrity.

Plant material for revegetation shall be derived from cuttings, materials salvaged from disturbed areas, and/or seeds obtained from randomly selected native trees and shrubs occurring locally within the same stream. Any replacement tree/shrub stock, which cannot be grown from cuttings or seeds, shall be obtained from a native plant nursery, be ant free and shall not be inoculated to prevent heart rot. If any materials must be obtained from other than onsite sources, the Project Biologist shall provide CDFW with a list of all such materials.

Contract Growing

Contract growing of all container plants shall be by a local experienced native plant nursery. Substitution of plant material at the time of planting depends solely upon the discretion of the Project Biologist. Any substitutions that are approved will be documented in the As-Built Plans.

Container Plants

One-gallon container stock, rosepots and liners shall be utilized for container stock production in order to develop vertical heterogeneity (strata). All plant materials will be inspected by the Project Biologist and approved as healthy, disease free and of proper size prior to planting. Overgrown, root-bound container stock will be rejected.

Mycorrhizal Fungi

Mycorrhizae are specialized fungi found on plant roots. A symbiotic relationship exists between plant roots and mycorrhizae wherein the plants benefit from the increased ability to take up nutrients and withstand drought when mycorrhizae are present. This relationship is essential to the growth rate, well-being, and longevity of native plant communities. Plant utilization of mycorrhizal fungi markedly increases the success of revegetation on disturbed or degraded lands. All appropriate container-grown plants, except those known to be non-host species, shall be inoculated with mycorrhizal fungi prior to delivery to the job site.

Plant Placement

Container stock will be laid out in such a manner that mimics natural plant distribution (i.e., in clusters and islands) to emulate regional reference sites. The Project Biologist will monitor and confirm that trees and shrubs have been placed at the designed elevation relative to the water source supporting them, such as ground water. All plants shall be planted in randomly spaced, naturally clumped patterns. The average planting densities shall meet the criteria specified in Tables 6 and 7.

Planting Method for Rose Pot and/or Liner Plant Stock

Rose pot and/or liner plant stock will be placed in a hole measuring at least twice the diameter and depth of the container. The root structure will be examined and excess root material removed. The top of the rootball will be set slightly above finish grade. The planting hole will be backfilled with native soil. Fertilizer, watering basins, and mulch are not required for this planting method.

Planting Method for Container Stock

One-gallon container stock will be planted in a hole measuring at least twice the diameter of the container and twice the depth. Container stock will be thoroughly watered the day before planting. One teaspoon (0.3 oz.) of Osmocote 14-14-14 (or equal) will be placed one inch below the root zone and backfilled with native soil to proper planting depth. The container will be upended into the palm of the hand to avoid damage to the root structure and placed in the planting hole. The top of the root ball will be set one inch above finish grade. The planting hole will be backfilled with native soil.

A three-inch high, hand-compacted earth berm, approximately 36 inches in diameter, will then be constructed around each container plant. This watering basin will be maintained until the plants are no longer irrigated. Mulch will be applied as a top dressing, 2 to 3 inches thick, but must not come in contact with the stem of the plant. Container stock will be watered immediately after installation.

Erosion Protection

To provide protection from erosion, willow cuttings shall be planted on 6-8 ft centers on the restored slope, or other appropriate erosion control methods. Willows shall be planted during the willow's dormant season, and shall be augured/dug into the groundwater or wetted soil. Areas of disturbed soils with slopes toward a stream or lake shall be stabilized to reduce erosion potential. Planting, seeding and mulching is conditionally acceptable. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials, such as coconut fiber matting, shall be used for such stabilization. Any installation of non-erodible materials not described in the original project description shall be coordinated with CDFW. Coordination may include the negotiation of additional Streambed Alteration Agreement provisions for this activity.

Pruning and Staking

There will be no pruning or staking of any vegetation. Diseased or insect-damaged foliage, if sufficient to require pruning, will serve as a benchmark for rejection of plant material.

A small amount of selective trimming of native species (e.g. willow, oak and sycamore) is allowed to prevent overspray of herbicide from reaching these branches, but only as provided within the conditions of the CDFW Streambed Alteration Agreement. Native vegetation may only be trimmed; individual plants shall not be removed. Material in excess of three (3) inches DBH shall require specific notice to and consultation with CDFW.

F. Irrigation Plan

The Contractor shall provide irrigation for each mitigation site when natural moisture conditions are inadequate to ensure survival of plants. Irrigation shall be provided for a period of at least two years from planting. Irrigation shall be phased out during the fall/winter of second or third year unless unusually severe conditions threaten survival of plantings. All plants must survive and grow for at least two years without supplemental water for the restoration phase of the project to be eligible for acceptance by CDFW. Long-term irrigation may be incorporated into portions or all of the southern willow scrub and coast live oak-California walnut woodland that overlaps with the fire-prone plant removal areas as depicted on Exhibit 4.

Coarse mulch shall be placed around plantings to minimize water loss and discourage weed growth. Mulch shall be 3 to 4 inches deep and shall be placed in a minimum area 1.5 times the diameter of the drip line of the plant or 2 feet in diameter whichever is greater. The mulched area shall be maintained throughout the course of restoration, unless otherwise authorized in writing by CDFW. Mulch shall not be placed directly against the main stem of the plants.

Supplemental irrigation is to be used solely for the purpose of establishing the plants at the mitigation site and is of a temporary nature, with the exception of areas subject to fire-prone

plant removal. The goal of the irrigation program is to obtain germination and growth with the least amount of irrigation. Frequent irrigation encourages weed invasion and leaches nutrients from the soil.

The mitigation sites will be initially supported by a short-term automatic irrigation system as well as from existing water sources. Drip irrigation may be provided for trees and shrubs planted on the slopes. The container stock will be irrigated as long as necessary to establish the root systems in the native soils, probably two or three summers. The main line will be installed below-grade. All lateral lines will be installed above-grade for ease of removal and inspection. Alternatively, lateral lines may be installed below-grade and abandoned in place after project conclusion.

The critical period for irrigation is during the first winter and early spring following planting. During this time, roots are not well established and an unseasonable drought can cause high mortality. During dry periods after plant installation, the Project Biologist and the maintenance contractor will regularly inspect soil moisture. Watering during the summer dry season will occur as frequently as required.

After the initial plant establishment period, water will be applied infrequently and only as required to prevent the mortality of plants and seedlings. The irrigation methods employed will attempt to mimic wet rainfall years by incorporating evenly spaced, infrequent, deep applications of water. Within the fire-prone plant removal areas, long-term, irrigation will be used to mimic normal conditions, especially during dry years or periods of protracted low rainfall.

G. As-Built Conditions

Once the implementation of the mitigation site has been completed, the Applicant will submit "As-Built" drawings to the Corps and CDFW within 45 days after completion of construction. The drawings will identify the date installation was completed and if there were any deviations from the approved Mitigation Plan.

V. MAINTENANCE ACTIVITIES DURING THE MONITORING PERIOD

A. Maintenance Activities

The purpose of this program is to ensure the success of the mitigation plantings. Maintenance will occur over the five-year life of the project. The Project Biologist will monitor all aspects of the revegetation in an effort to detect any problems at an early state. Potential problems could arise from irrigation failure, erosion, vandalism, competition from weeds and invasive species, and unacceptable levels of disease and predation.

These maintenance guidelines are specifically tailored for native plant establishment. The maintenance personnel will be fully informed regarding the habitat establishment program so they understand the goals of the effort and the maintenance requirements. A landscape contractor

with experience and knowledge in native plant habitat restoration will supervise all maintenance personnel.

For a period of 120 days following completion of the planting installation, the initial landscape contractor will be responsible for the care of the plantings. The purpose of the 120-day establishment period is to ensure continuity between the installation of the plant material and its short-term maintenance. The contractor's presence during this period is proven to increase project success. The contractor will control the spread of weed species and identify any efforts necessary to ensure the health and survival of the plantings.

Following the 120-day establishment period the project will be evaluated for health of plant material, and if judged satisfactory by the Project Biologist, the establishment period will be considered concluded and the long-term habitat maintenance program will begin. If plant health is not determined to be satisfactory, an additional 60 days will be allowed for the contractor to implement remedial measures. A different landscape contractor may implement this period of maintenance; however, the Project Biologist will continue to review the project's success.

Damage to plants, irrigation systems, and other facilities occurring as a result of unusual weather or vandalism will be repaired or replaced immediately.

General Maintenance

The Contractor will perform the following tasks as general maintenance duties:

- Plant Inspection;
- Weed control;
- Irrigation water volume and frequency;
- General maintenance of irrigation system;
- Trash and debris removal;
- Pest control; and
- Plant replacement.

Plant Inspection

After termination of the establishment period, the Project Biologist will inspect the mitigation site on a monthly basis for 18 months, inclusively. The plants shall be inspected on a quarterly basis thereafter until achievement of performance standards for the mitigation sites.

Weed Control

The mitigation sites shall be maintained free of weeds during the monitoring period. Weed eradication will minimize competition that could prevent the establishment of native species. All maintenance personnel will be trained to distinguish weed species from native vegetation to ensure only weedy species are removed or sprayed with herbicide.

Removal shall be done at least twice annually during the spring/summer season, as needed, through the term of mitigation monitoring. As weeds become evident, they should be immediately removed by hand or controlled with an appropriate herbicide as determined by a

licensed Pest Control Advisor (PCA). Weed debris shall be removed from the project area as accumulated and disposed of as permitted by law.

Weeds shall be manually removed before they can attain a height of three-inches (3") at intervals of not more than 30 days for the first two years of the project. All portions of the plant will be removed, including the roots. The Project Biologist shall direct the contractor regarding the selection of target weed species, their location, and the timing of weed control operations to ensure that native plants are avoided to the extent possible. Pulled weeds will be placed on a "mantilla" or other type of tarp to prevent the seeds from coming in contact with the ground.

A cleared space, 18 inches from the base of the plant, will be maintained around each container plant to minimize competition from other plant species. Mulch, two-inches thick within the watering basin, will be maintained throughout the monitoring period. Leaf and branch drop, and organic debris of native species, shall be left in place.

Irrigation Water Volume and Frequency

The Contractor shall be responsible for applying sufficient irrigation water to adequately establish new plant materials, and germinate and establish the applied seed. Irrigation water shall be applied in such a way as to encourage deep root growth (periodic deep irrigation versus frequent light irrigation). The Contractor will allow soil to dry down to approximately 50- to 60-percent of field capacity (in the top six or 10 inches after germination and during seedling establishment) before the next irrigation cycle. Wetting of the full root zone and drying of the soil between irrigation events is essential to the maintenance of the plants and the promotion of a deep root zone that will support the vegetation in the years after establishment. Systems may need to be on for as long as six to eight hours at a time in order to get complete water penetration to the lower soil horizons to encourage deep root growth. A soil probe or shovel shall be used to examine soil moisture and rooting depth directly.

General Maintenance of Irrigation System

The Contractor will be responsible for the regular maintenance and repair of all aspects of the irrigation system. Poorly functioning or non-functioning parts shall be replaced immediately so as to not endanger the plantings.

General system checks shall be conducted no less than weekly for the first month after installation to assure the system is functioning correctly, and monthly thereafter, except during periods when the irrigation system is not in operation as recommended by the Project Biologist.

Any erosion or slippage of soil caused by the contractor's inadequate maintenance or operation of irrigation facilities shall be repaired by the contractor at his/her expense.

Trash and Debris Removal

The mitigation site shall be well maintained in order to deter vandalism and dumping of trash. The Contractor is responsible for avoiding impacts to plantings during trash removal activities. Contractor shall, during daily routine maintenance, manually remove weeds, litter, trash, and

debris from the mitigation site and dispose of off-site as permitted by law. Dead limbs and tree fall shall be left in place in the revegetation areas.

Pest Control

Young trees and shrubs will be monitored for signs of disease, insect and/or predator damage, and treated as necessary. Badly damaged plants will be pruned to prevent spreading of the pestilence or replaced in kind if removed. Excessive foraging by predators may necessitate protective screening around plants and/or poison baiting of the predators. The Project Biologist will be consulted on any pest control measures to be implemented.

The Contractor shall be responsible for maintaining a non-native rodent-free project. All measures to eradicate non-native rodents must be as directed by a licensed pest control consultant.

Plant Replacement

The installation contractor will be responsible for replacing all container stock plants terminally diseased or dead during the establishment period. The long-term maintenance contractor will thereafter replace all dead and/or declining plants in the winter months as recommended by the Project Biologist. Replacement plants shall be furnished and planted by the Contractor.

Replacement plants shall conform to the species, size requirements, and spacing as specified for the plants being replaced. The replacement plants shall be purchased from inventory at the same native plant nursery as were the contract-grown plant stock.

Fertilization

If nutrient deficiencies are observed during site monitoring, the Project Biologist may specify applications of slow-release pellet fertilizer or soil amendments to speed initial growth or as a remedial measure. These applications shall occur at the onset of the rainy season following the manufacturer's recommendations. Fertilizer will not be applied other than under the direction of the Project Biologist.

Pruning

No pruning is necessary unless otherwise specified by the Project Biologist. Dead wood shall be left on trees or where it has fallen as it plays an important role in habitat creation and soil formation. A small amount of selective trimming of native species (e.g. willow, oak and sycamore) is allowed to prevent overspray of herbicide from reaching these branches, but only as provided within the conditions of the CDFW Streambed Alteration Agreement. Native vegetation may only be trimmed; individual plants shall not be removed. Material in excess of three (3) inches DBH shall require specific notice to and consultation with CDFW.

Staking of Trees

Staking of trees is to be avoided unless determined necessary by the Project Biologist. All stakes shall be removed before the completion of the five-year monitoring period, or earlier as determined by the Project Biologist. All stakes shall be removed by the contractor and disposed of off-site in a legal manner.

B. Responsible Parties

The Applicant/Permittee will be responsible for financing and carrying out maintenance activities.

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

C. Maintenance Schedule

The mitigation maintenance and monitoring program will begin prior to or concurrent with the construction process and continue for five years following the completion of plant installation or until performance criteria are met. Table 8 below indicates the schedule of maintenance inspections.

TABLE 8 MAINTENANCE SCHEDULE					
Maintenance Task	Year				
	1	2	3	4	5
Plant Inspection	Monthly first 12 months	Monthly through 18th month; quarterly thereafter	Quarterly	Quarterly	Quarterly
Irrigation System Inspection	Monthly, or more frequently if required	Monthly	As Required	N/A	N/A
Trash and Debris Removal	Monthly	Quarterly	Quarterly	Quarterly	Quarterly
Weed Control	Minimum of Monthly	Monthly	Quarterly	Quarterly	Quarterly
Pest Control	Monthly	Bi-monthly	Quarterly	Quarterly	Quarterly
Plant Replacement	Annually	Annually	Annually	Annually	Annually
Fertilization (if necessary)	Annually	Annually	N/A	N/A	N/A

VI. MONITORING PLAN FOR THE COMPENSATORY MITIGATION SITES

A. Performance Standards for Target Dates and Success Criteria

Performance Standards are based on the stated goals of the program and the design of the mitigation site. This mitigation program considers the habitat functions of both the jurisdiction to be impacted and proposed mitigation jurisdiction to confirm that the functions of the replacement mitigation equal or exceed those of existing Corps and CDFW jurisdiction.

It should be noted that Blue Mud Canyon is unique and unusual in terms of floral species composition, even relative to the other drainages within the study area, and as such no appropriate reference site is available for comparison.

All plantings shall have a minimum of 80-percent survival, by species, the first year and 100-percent survival thereafter and/or shall attain 50-percent cover after 3 years and 70-percent cover after 5 years for the life of the project. Prior to the mitigation site(s) being determined successful, they shall be entirely without supplemental irrigation for a minimum of 2 years. Throughout the monitoring period, no single species shall constitute more than 50-percent of the vegetative cover, no woody invasive species shall be present, and herbaceous invasive species shall not exceed 5-percent. If the survival and cover requirements have not been met, the Contractor is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for 5 years after planting.

1. Monitoring Plan for Southern Willow Scrub and Coast Live Oak-Walnut Riparian Mitigation Sites

First-Year Monitoring

Success Standard: A minimum of 30-percent coverage by native species;
100-percent of proposed canopy species present;
50-percent of proposed understory present
No greater than 40-percent coverage by non-native species.

Second-Year Monitoring

Success Standard: A minimum of 40-percent coverage by native species;
100-percent of proposed canopy species present
60-percent of proposed understory present
No greater than 25- percent coverage by non-native species.

Third-Year Monitoring

Success Standard: A minimum of 50-percent coverage by native species;
100-percent of proposed canopy species present
60-percent of proposed understory present
No greater than 15- percent coverage by non-native species;

Fourth-Year Monitoring

Success Standard: A minimum of 60-percent coverage by native species;
100-percent of proposed canopy species present
75-percent of proposed understory present
No greater than 10- percent coverage by non-native species;

Fifth-Year Monitoring

Success Standard: A minimum of 70-percent coverage by native species;
100-percent of proposed canopy species present
85-percent of proposed understory present
No greater than 5- percent coverage by non-native species with zero
tolerance for species considered highly invasive by Cal-IPC

Diversity of Vegetation

To avoid a monoculture or limited species diversity within the established habitat, a minimum of six species native to the target habitat types must represent 0.5-percent (each) of the total vegetational composition within the revegetation areas, with no single species representing over 75-percent composition. The low percentage representation is due to the expectation that this diversity will be provided by native herbs that would not normally represent a significant percentage of total vegetation cover in a mature habitat. In addition, the total percent composition of all non-native species cannot exceed 5-percent.

Survivorship of Container Stock

During annual quantitative monitoring, the Project Biologist shall determine survivorship of tree, shrub, and herb strata container stock. In each year of monitoring, container stock survivorship must be at least 80-percent. Recruitment of native species will compensate for lack of survivorship for planted species.

Functionality as Wildlife Habitat

While conducting qualitative surveys, the Project Biologist will record wildlife observations within the revegetated habitat. The development of quantitative measures for wildlife use is not necessary for this mitigation site, but general impressions of wildlife usage of any restoration area should be considered among the success criteria.

Native Plant Recruitment

Evidence of native plant recruitment from year to year is another example of the successful creation of a functional, self-sustaining habitat. Noted recruitment would be considered a satisfied success criterion.

Probability of Continued Habitat Progression

The qualitative monitoring will provide the Project Biologist with an opportunity to evaluate the progression of the revegetation sites towards maturity. This determination will be used to support a final decision as to whether the revegetation effort has been successful. If several of the above criteria have not been met, but the site is clearly nearing satisfaction of those criteria, the Project Biologist may suggest that the Corps and CDFW accept the mitigation as completed based on his/her conclusion of continuing habitat progression.

B. Target Hydrological Regime

Hydrological contribution to the mitigation site will originate as direct precipitation that will drain directly to the site, providing for seasonal ponding during the rainy season. Hydrological input is

also expected to consist of runoff from bordering areas. The enhanced hydrology within the mitigation site is expected to provide for dynamic storage of surface water, short-term storage of surface water, dissipation of energy, moderation of groundwater flow, nutrient cycling, removal of imported elements and compounds, retention of particulates, and export of organic carbon.

The mitigation plantings will initially be supported by a temporary irrigation system until gradually weaned, with the exception of long-term management associated with the fire-prone plant removal areas that overlap with the 5.30-acre mitigation areas that will be subject to long-term irrigation as determined appropriate for public safety. Irrigation water will be supplied via a potable water system piped into the mitigation site.

C. Monitoring Methods

Monitoring will assess the attainment of annual and final success criteria and identify the need to implement contingency measures in the event of failure. Monitoring methods include an annual tally of dead and/or declining plant stock, and visual estimates of cover as well as field sampling techniques that are based in accordance with the methodology developed by the California Native Plant Society (CNPS).³ Please refer to *A Manual of California Vegetation* for further details on this sampling method.

Sampling Techniques for Vegetation Cover and Diversity

Percent canopy cover of the mitigation plantings will be measured by using the point-intercept sampling method centered in a 2-meter by 50-meter plot. At each 0.5-meter interval along each transect (beginning at the 50-cm mark and ending at 50-meter), a point is projected vertically into the vegetation. Each plant species intercepted by a point is recorded, providing a tally of hits for each species in the herbaceous, shrub, and tree canopies, making it possible to record more than 100 hits in any 50-meter transect. Percent cover for each species, according to vegetation layer (herb, shrub, and tree) can be calculated from these data. A list of all additional species within the 250 square-meter belt is subsequently made.

Two 2-meter by 50-meter long transects per acre will be used to monitor the development of the revegetation. The various transects will be randomly located for the first sampling event and permanently marked to facilitate their use in subsequent years. A sample of a proposed transect data sheet is provided in Appendix B.

Photo-Documentation

Permanent stations for photo-documentation will be established during the first annual monitoring event. Photos shall be taken each monitoring period from the same vantage point and in the same direction each year, and shall reflect material discussed in the annual monitoring report.

Qualified habitat restoration specialists, biologists, or horticulturists with appropriate credentials and experience in native habitat restoration shall perform monitoring. Continuity within the personnel and methodology of monitoring shall be maintained insofar as possible to ensure comparable assessments.

³ Sawyer, John O. and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society.

D. Monitoring Schedule

Qualitative Monitoring

The Project Biologist will conduct qualitative monitoring surveys on a monthly basis for the first 18 months, and quarterly thereafter until performance standards are met. Qualitative surveys, consisting of a general site walkover and habitat characterization, will be completed during each monitoring visit. General observations, such as fitness and health of the planted species, pest problems, weed establishment, mortality, and drought stress, will be noted in each site walkover. The Project Biologist will also note observations on wildlife use and native plant recruitment for the purpose of later discussion in the annual reports. Records will be kept of mortality and other problems such as insect damage, weed infestation, and soil loss. The Project Biologist will determine remedial measures necessary to facilitate compliance with performance standards. All remedial measures undertaken will be referenced in the annual monitoring report to the Corps, USFWS, and CDFW.

E. Annual Monitoring Reports

An annual report shall be submitted to the Corps, USFWS, and CDFW by Jan. 1 of each year for 5 years after planting. Photos from designated photo stations shall be included.

The Project Biologist or other qualified wildlife biologist shall survey the mitigation site to monitor the recovery of wildlife and aquatic resources in the area following construction. Monitoring of wildlife and aquatic resources shall be done in summer and winter of each year, through the term of mitigation monitoring, and the results and analysis shall be submitted with the report specified above.

At the end of each of the five monitoring period growing seasons, for the duration of the monitoring period, an annual report will be prepared for submittal to the Corps, USFWS, and CDFW. Since planting may not occur when planned, monitoring shall be tied to the actual implementation date (e.g., the first annual report shall be delivered on January 1st of the year following the first growing season after planting). These reports shall include the survival, percent cover, and height by species of both trees and shrubs, the number by species of plants replaced, an overview of the revegetation and exotic plant control efforts, and the method used to assess these parameters shall also be included. These reports will assess both attainment of yearly target success criteria and progress toward final success criteria. These reports will also include the following:

- A list of names, titles, and companies of all persons who prepared the content of the annual report and participated in monitoring activities for that year
- A copy of the Corps permit and any attachments including Special Conditions and subsequent Letters of Modification, as well as the Biological Opinion
- A copy of the CDFW Streambed Alteration Agreement and any subsequent Amendments

- A vicinity map indicating location of the mitigation site
- A mitigation site map identifying habitat types, transect locations, photo station locations, etc. as appropriate
- Copies of all monitoring photographs
- Copies of all completed field data sheets
- An analysis of all qualitative and quantitative monitoring data.

VII. COMPLETION OF COMPENSATORY MITIGATION

A. Notification of Completion

The Contractor should notify the Applicant/Permittee, the Corps, USFWS, and CDFW in writing when the monitoring period is complete and the Corps-approved success criteria have been met. A formal jurisdictional delineation of areas rehabilitated, established, or preserved shall be submitted to the Corps, USFWS, and CDFW.

B. Final Success Criteria Resolution

If the project meets all success criteria at the end of the five-year monitoring period, the revegetation will be considered a success. If not, the maintenance and monitoring program will be extended one full year at a time, and a specific set of remedial measures approved by the Corps, USFWS, and CDFW will be implemented until the standards are met. Only those areas that fail to meet the success criteria will require additional monitoring. This process will continue until all year-five standards are met or until the Corps, USFWS, and CDFW determine that other revegetation measures are appropriate.

Final success criteria will not be considered to have been met until a minimum of three years (see p. 22, Irrigation Plan) after all human support, including artificial irrigation, has ceased. Should the revegetation effort meet all goals prior to the end of the five-year monitoring period, the Corps, USFWS, and CDFW, at their discretion, may terminate the monitoring effort and release the bond. At that time the Applicant/Permittee will be released from further maintenance and monitoring requirements of the mitigation area.

If, during the monitoring period, a destructive natural occurrence does occur which damages or destroys the mitigation planting, and if the mitigation planting was documented to have been proceeding well toward establishment, then reconstruction and replanting will not be required. However, if the mitigation site fares significantly worse than the surrounding natural communities in this same natural disaster, then the mitigation site would be considered to have not established itself, and reconstruction, replanting, and monitoring would continue.

C. Agency Confirmation

Following receipt of the final annual monitoring report, the Corps, USFWS, and CDFG will contact the Applicant as soon as possible to schedule a site visit to confirm the completion of the compensatory mitigation effort and any jurisdictional delineation. The compensatory mitigation will not be considered complete without an onsite inspection by a Corps, USFWS, and CDFW project manager and written confirmation that approved success criteria have been achieved.

It is therefore critical that agency staff review annual reports on a timely basis and provide comments throughout the maintenance and monitoring program so that any project deficiencies they note can be addressed prior to the expected end of the program.

VIII. CONTINGENCY MEASURES

A. Initiating Procedures

If a performance standard is not met for all or any portion of the mitigation project in any year, or if the approved success criteria are not met, the Project Biologist will prepare an analysis of the cause(s) of failure and, if determined necessary by the Corps, USFWS, and CDFW, propose remedial actions for approval. If the compensatory mitigation site has not met one or more of the success criteria or performance standards, the responsible party's maintenance and monitoring obligations shall continue until the Corps, USFWS, and CDFW gives final approval the mitigation obligations have been satisfied. It is therefore incumbent upon the Project Biologist to foresee project deficiencies as part of the monitoring program and take appropriate steps to address the situation.

B. Alternative Locations for Contingency Mitigation

Sufficient area for establishment of the mitigation site is available so alternative locations would be unnecessary. Although this plan is expected to be successful, both onsite and off-site alternative locations may be used in the event that revegetation cannot be achieved.

C. Funding Mechanism

The Applicant/Permittee will fund planning, implementation, maintenance and monitoring of any contingency measures that may be required to achieve mitigation goals through an up-front payment to the Contractor. Thereafter, all expenses in implementing this mitigation plan are to be borne by the Contractor.

D. Responsible Parties

The Applicant/Permittee will be responsible for implementing, maintaining, and monitoring any contingency procedures.

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

IX. LONG-TERM MANAGEMENT PLAN AND ASSOCIATED FUNDING

Upon completion of and acceptance by the Resource Agencies that the five-year performance standards have been achieved for Blue Mud Canyon, implementation of a Long-Term Management Plan (LTMP) will begin. With the successful completion of the mitigation and the achievement of the performance standards, it is expected that the areas will require only limited management activities that would include the following:

- (1) Ongoing Monitoring,
- (2) Ongoing Non-Native Invasive Vegetation Control,
- (3) Ongoing Removal of Fire-Prone Species,
- (4) Trash and Debris Removal

A. Monitoring Tasks

A qualified Biological Monitor shall be retained to assist in implementing the LTMP and to monitor the status of the LTMP for Drainages Blue Mud Canyon. The activities to be conducted by the Biological Monitor are as follows.

Activity: Annual Monitoring. Conduct annual monitoring of the LTMA to determine what management activities are needed and where to focus those activities.

Activity: Work Planning. Prepare an annual work plan and coordinate with the maintenance contractor(s) to carry out the management activities including the need for non-native species removal, trash and debris removal, or other management activities.

Activity: Data Collection. Document qualitative and quantitative data related to the implementation of management activities

Activity: Annual Reporting. At the end of the first year, and then every other year, a management report will be prepared by the Biological Monitor and will be submitted to the Agencies upon request. These reports will include:

- (a) A description of the maintenance activities conducted during that calendar year;
- (b) The date of and location where the management activities were undertaken;

(c) Information regarding weed eradication/abatement, including the amount removed and treated, frequency and timing of removal and treatment, and disposal specifics; and

(d) Photos from designated photo stations.

B. Funding and Prioritizing Tasks

1. Funding

Prior to impacts within Corps or CDFW jurisdiction, the amount of a non-wasting endowment will be determined that will be necessary to fund the annual cost of carrying out the LTMP activities described above, if approved by the Corps. If approved by the Corps, the endowment will fund all management and monitoring activities associated with the LTMP. No further monetary obligations will be required of the Manager or any future long-term manager.

The endowment shall be approved by the Agencies or designee (if approved by the CDFW Director). If a designee is approved to hold the endowment, the Agencies will require the entity to enter into an agreement that contains terms relating to management of the endowment, the periodic auditing and reporting of expenditures, earnings and other pertinent information, and provisions for the transfer of the endowment and unspent earnings to the Agencies, or a successor owner/manager under certain conditions. If approved by the Agencies, the Manager will transfer the total non-wasting endowment fund to the designee approved by the CDFW and Corps within one year after commencement of construction.

The endowment will be placed in an interest-bearing security for the sole purpose of carrying out the management activities described above. The Manager will have access to the interest generated by the endowment and will be able to draw on the funds throughout the year to carry out the management activities.

2. Prioritizing Tasks

The anticipated that the activities to be conducted annually will include monitoring, trash and debris removal, invasive plant control and management reporting. Invasive vegetation removal is the activity that will occur in perpetuity, but because of the dynamic nature of riparian systems, is an activity that may not need to occur every single year. Other management activities might be added as part of the adaptive management of the LTMA, but these activities are not anticipated at this time.

Each year the Manager and Biological Monitor will develop a Work Plan that prioritizes the mandatory management activities and other adaptive management activities based on natural resource conditions for that year. How the annual draw on the endowment will be spent will be determined based on this prioritized Work Plan.

Because the management needs will vary from year to year, any unspent interest would be left in the interest-bearing security and could be utilized the following year(s). This adaptive funding

mechanism provides the necessary flexibility for the Manager to allocate funds toward those management activities that require attention for that particular year and to plan ahead for implementation of management activities that become necessary in the future.

PART 2: MITIGATION FOR NON-JURISDICTIONAL RESOURCES

Impacts to areas of upland California walnut woodland and blue elderberry woodland were determined to be significant in the project's Draft Environmental Impact Report (DEIR). Areas to implement the mitigation for these impacts, through the restoration of areas of California walnut woodland and blue elderberry woodland have been identified within project open space in the Blue Mud Canyon environs. As discussed below, this component of the HMMP assumes the alternative with the greatest amount of impact will be implemented, thereby ensuring that adequate area is identified for the proposed mitigation. Table 9 below summarizes the impacts associated with grading as well as impacts for fuel modification Zone B, which requires 100-percent removal of native shrubs, for each alternative:

Table 9: Combined Grading and Fuel Modification Impacts to California Walnut Woodland (CWW), and Blue Elderberry Woodland (BEW)

	Alternative 1			Alternative 2			Alternative 3		
	Grade	FMZ	Total	Grade	FMZ	Total	Grade	FMZ	Total
CWW	0.48	0.36	0.84	0.22	0.30	0.52	0.22	0.40	0.62
BEW	10.92	0.0	10.92	13.18	0.02	13.20	11.92	0.09	12.01
Total:			11.76			13.72			12.63

Under Alternative 1, a total of 11.76 acres (CWW and BEW) would be permanently impacted. Under Alternative 2, a total of 13.72 acres would be permanently impacted, and under Alternative 3, a total of 12.63 acres would be permanently impacted. As such, these impacts have been selected for purposes of determining required mitigation and for identifying appropriate mitigation areas. Exhibit 7 depicts up to 14.70 acres of candidate mitigation areas suitable for the woodland mitigation.

It should also be noted that the portions of the proposed mitigation site is coincident with the area proposed for removal of fire prone vegetation on the project's Conceptual Fuel Modification Plan [the relationship of the mitigation areas and area subject to removal of fire prone vegetation is depicted on Exhibit 7]. It is important to note a number of points regarding the integration of the California walnut woodland and blue elderberry woodland with the area subject to fire prone vegetation removal.

- California walnut and blue elderberries are not considered "fire prone" and existing (healthy) walnuts and elderberries will be preserved, as will other associated species such as laurel sumac and toyon;
- Within areas proposed for habitat restoration, only native species, appropriate for the California walnut and blue elderberry woodland, are proposed (see Tables 11 and 12 below);

- As noted in Tables 11 and 12 below, spacing of the large shrubs will be consistent with the spacing of these species within the existing communities onsite, and also consistent with the spacing required to ensure public safety;
- Maintenance within the areas subject to fire prone vegetation removal, will focus on non-native species and a limited number of fire-prone species that actually occur on the site.
- The area will be managed for the long-term for habitat values, while also ensuring for adequate public safety, as set forth in the long-term management section below.

I. DESCRIPTION OF THE PROJECT/IMPACT SITE

A. Responsible Parties

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

Preparer of Mitigation Plan: Glenn Lukos Associates, Inc.
Contact: Tony Bomkamp
29 Orchard
Lake Forest, California 92630-8300
Telephone: (949) 837-0404

B. Habitat Types Subject to Impacts

California Walnut Woodland

Prior to the 2008 Freeway Complex Fire, approximately 6.37 acres of the Study Area supported California walnut woodland. This community was observed in the southern portion of the Study Area and is largely restricted to Blue Mud Canyon and was closely associated with California sagebrush-monkeyflower scrub, blue elderberry woodland, and the coastal sage scrub/chaparral ecotone. The California walnut woodland is considered a special-status habitat by CDFW.

Blue Elderberry Woodland

Prior to the 2008 Freeway Complex Fire, approximately 23.88 acres of the Study Area supported blue elderberry woodland. This community was commonly observed on the lower slopes of hillsides and within the drier reaches of the riparian areas and on terraces adjacent to drainage courses.

Component species within blue elderberry woodland include blue elderberry, albeit at a low density (on average) of approximately 10 trees per acre, laurel sumac, which is often co-

dominant or dominant in these areas, coyote bush, giant wild rye, poison oak, California walnut (restricted to Blue Mud Canyon and limited areas along Drainage D), sweet fennel, southern honeysuckle, poison hemlock, chaparral nightshade, and fuchsia flowered gooseberry. The blue elderberry woodland is considered a special-status habitat by CDFW.

II. OBJECTIVES OF THE COMPENSATORY MITIGATION

The objectives of the proposed habitat mitigation and monitoring program (HMMP) is to provide for full mitigation of permanent impacts for whichever alternative is selected.

A. Mitigation for Habitat Types

In order to mitigate for impacts to California walnut woodland and blue elderberry woodland, the Project Applicant has prepared this habitat mitigation and monitoring plan for blue elderberry woodland located within Blue Mud Canyon as well as adjacent to and north of Drainage D. The plan also incorporates California walnut into the plant palette to mitigate the loss of California walnut woodland as summarized in Table 10 below. The plan has been prepared by a qualified biologist. The plan includes the restoration of blue elderberry woodland and California walnut woodland and includes: replacement of blue elderberry woodland and California walnut woodland habitat at a minimum ratio of 1:1; responsibility and qualifications of the personnel to implement and supervise the plan; site selection; site preparation and planting implementation; schedule; maintenance plan/guidelines; monitoring plan; and long-term preservation. A summary of the impacts and associated 1:1 mitigation for each alternative is provided below in Table 10.

TABLE 10			
Impacts and Associated Mitigation			
Vegetation Types	Option 1 Impacts	Option 2 Impacts	Option 2A Impacts
Upland Areas			
California Walnut Woodland	0.84 acre	0.52 acre	0.62 acre
Blue Elderberry Woodland	10.92 acres	13.20 acres	12.01 acres
Southern Willow Scrub	0.0 acres	0.0 acres	0.0 acres
Total	11.76 acres	13.72 acres	12.63 acres

B. Time Lapse Between Jurisdictional Impacts and Expected Compensatory Mitigation Success

Project grading activities will commence upon receipt of permits with project impacts expected to occur immediately thereafter. Mitigation site grading, planting, and irrigation shall begin prior to or concurrent with the planned date of initiating authorized site grading. Preparation of mitigation areas, including eradication of non-native plant species encountered will be concurrent with commencement of grading.

Within one year of the completion of mitigation installation, it is expected that an immature woodland vegetative structure will exist such that insects and birds will utilize the mitigation site for foraging.

III. DESCRIPTION OF THE PROPOSED COMPENSATORY MITIGATION SITES

A. Location and Size of the Compensatory Mitigation Site

Candidate areas of up to 14.70 acres are depicted on Exhibit 7.

B. Ownership Status

The present owners of the mitigation sites are:

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

IV. IMPLEMENTATION PLAN FOR THE COMPENSATORY MITIGATION SITES

A. Implementation Schedule

The mitigation installation contractor (herein "Contractor"), shall be responsible for site preparation, irrigation installation and mitigation plantings, which shall begin during construction activities. Compensatory mitigation designated to occur within the mitigation site shall be installed no later than one construction season after commencement of habitat disturbance.

B. Site Preparation

Site preparation shall consist of minor localized grading, clearing and controlling exotic plants, trenching and installation of underground irrigation components, removing trash and debris, preparing planting holes and doing any other work necessary to make ready the area for planting.

Mitigation Site Grading Plan

As the topography of the mitigation sites is generally satisfactory under existing conditions for establishing the mitigation site, only minimal localized grading will be necessary.

Exotic Vegetation Control

The predominance of non-native, invasive weed species throughout California has presented a challenge to most native revegetation projects. Weedy species are opportunistic, rapidly colonizing disturbed sites such as revegetation sites. This can lead to the displacement of native species if the weedy species are not properly treated. Several of these invasive species are

capable of out-competing most native understory and herbaceous plants and some can out-compete and even displace existing native trees and shrubs. Therefore, non-native vegetation including but not limited to poison hemlock (*Conium maculatum*), sweet fennel (*Foeniculum vulgare*), tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), black mustard (*Brassica nigra*), summer mustard (*Hirschfeldia incana*), wild radish (*Raphanus sativa*), and non-native annual grasses such as bromes, wild oats and barley, will be removed from the mitigation site and disposed of in a manner and at a location which prevents its reestablishment. Removal shall be done at least twice annually during the spring/summer season, as needed, through the term of the mitigation monitoring period.

One of the largest obstacles to the successful revegetation of a site is the exotic seed bank residing in the soil. This seed bank can persist for several years, or even decades, and poses one of the major threats to restoration programs. Undesirable exotic plants will be eradicated either during initial site grading or prior to site preparation. If grading precedes planting by more than a few months, it will be necessary to eradicate undesirable exotic plants that have become established prior to planting and seeding of the mitigation sites. If deemed necessary, a "grow-and-kill" cycle will be established during that period. "Grow and kill" is a cycle of applying water, germinating the non-native, invasive species and spraying with the appropriate chemical. This allows a large portion of the seed bank currently present in the soil to be removed. Eliminating or substantially reducing the competition from non-native exotics early in the life cycle of native plants helps to ensure more rapid growth and cover by the native species.

The type, quantity, and method of herbicide application will be determined by a California licensed Pest Control Advisor (PCA) who will inspect the site, write project recommendations and submit same to the Project Biologist for approval. Pesticide recommendations shall include, but are not limited to, the pesticides to be used, rates of application, methods of application, and areas to which pesticides are to be applied. A licensed Pest Control Operator (PCO) may work under the supervision of the PCA who will employ best management practices regarding the timing, quantity, and type of herbicide for each species. The PCA will determine both immediate and follow-up herbicide application for each species. No herbicides shall be used where threatened or endangered plant species occur, when wind velocities are above 5 miles per hour.

Weed control will be maintained throughout the monitoring period. Weeds will be controlled before their setting of seed. Ongoing weed control will be accomplished manually by the use of a hoe or other tool to uproot the entire plant, a mower or weed whip to cut plants, or by herbicide application as prescribed in this Mitigation Plan. Weed species identified as invasive, particularly tenacious, or those with wind-borne seed will be subject to the earliest control efforts. The Project Biologist will direct the contractor regarding the selection of target weed species, their location and the timing of weed control operations to ensure that native plants are avoided to the extent possible.

Contractor Education

Prior to the commencement of grading or any construction work, the Contractor will review all aspects of the Mitigation Plan that concern the contractors including permit requirements, site protection, maintenance inspections, landscape procedures and monitoring.

Nesting Birds

The Contractor may remove vegetation within drainages from March 1 to July 31 if a qualified biologist conducts a survey for nesting birds within three days prior to the vegetation removal and ensures no nesting birds shall be impacted by the project. These surveys shall include the areas within 200 feet of the edge of the proposed impacts. If active nests are found, a minimum 50-foot (200 feet for raptors) fence barrier shall be erected around the nest site. No habitat removal or any other work shall occur within the fenced nest zone if the nest continues active beyond July 31, until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project. The Contractor shall submit the mapped survey results to CDFW for review and approval prior to vegetation removal to ensure full avoidance measures are in place. The Contractor will adhere to all applicable requirements of federal and state codes (e.g., Migratory Bird Treaty Act and CDFG Code 3503.5).

C. Planting Plan

California walnut woodland and blue elderberry woodland habitats will be rehabilitated within the proposed mitigation areas. Planting shall consist of preparing planting holes, planting container stock, installing plant protection devices, applying mulch and hydroseeding. No planting shall be done in any area until the area concerned has been prepared in accordance with the plans and presents an appearance satisfactory to the Project Biologist.

All planting should be done after the first wetting rains between October 1 and February 1 to take advantage of the winter rainy season, dormancy of foliage, and rooting period to ensure optimum survival of plantings. Should the Contractor be required to plant during other times of the year, chances of survival are diminished. To compensate for decreased survival rates, the Operator shall be required to augment the specified planting density by 25-percent to account for the likelihood of increased mortality of plantings, unless irrigation is incorporated into the restoration program. Completion of all mitigation requirements shall be concluded within two years of project implementation within target areas. Planting, maintenance, monitoring and reporting activities shall be overseen by a specialist familiar with restoration of native plants.

California Walnut Woodland

This plan provides for the rehabilitation of California walnut woodland based primarily on the walnut woodland composition in Blue Mud Canyon and portions of Drainage G. If a less impactful Project Alternative is selected, the mitigation will be reduced accordingly while maintaining a 1:1 ratio. The planting palette is presented in Table 11 below. It should be noted that walnuts will be mixed with blue elderberry and coast live oak, as these typically co-occur within the neighboring areas of the Chino and Puente Hills.

Blue Elderberry Woodland

This plan provides for the rehabilitation of blue elderberry woodland based primarily on the blue elderberry woodland composition in Blue Mud Canyon and Drainage G. The planting palette is presented in Table 12 below. It should be noted that blue elderberry will be mixed with

California walnut and coast live oak, as these typically co-occur within the neighboring areas of the Chino and Puente Hills.

In addition to the species set forth in Tables 11 and 12, the additional site-appropriate native plants that would not be subject to removal as “fire-prone” species and set forth in Table 13 may be included in the plant palettes for both the walnut and elderberry woodlands.

TABLE 11 CALIFORNIA WALNUT WOODLAND (up to 0.84 acre to be rehabilitated)					
Botanic Name	Common Name	Stock Type	Plant Spacing	No. per Acre	Percent
Canopy					
<i>Juglans californica</i>	California walnut	1 gal	30' o.c.	50	50%
<i>Quercus agrifolia</i>	Coast live oak	1 gal	50' o.c.	10	10%
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry	1 gal	50' o.c.	40	40%
Subtotal				100	100%
Understory					
<i>Heteromeles arbutifolia</i>	Toyon	1 gal	30' o.c.	50	12.5%
<i>Malosma laurina</i>	Laurel sumac	Liner	30' o.c.	50	12.5%
<i>Ribes speciosum</i>	Fuchsia-flowered gooseberry	1 gal	30' o.c.	100	10%
<i>Rhamnus ilicifolia</i>	Holly-leaved redberry	1 gal	30' o.c.	100	10%
<i>Elymus condensatus</i>	Giant wildrye	1 gal	8' o.c.	100	10%
<i>Mimulus aurantiacus</i>	bush monkey flower	1 gal	12' o.c.	50	5%
<i>Stipa pulchra</i>	Purple needlegrass	1 gal	8' o.c.	100	10%
<i>Melica imperfecta</i>	Coast range melic	1 gal	12' o.c.	150	15%
<i>Baccharis pilularis</i>	Coyote bush	1 gal	12" o.c.	100	10%
<i>Opuntia littoralis</i>	Prickly-pear cactus	pads	clumped	300	30%
Subtotal				1,000	100%
Total Container Stock				1,100	100%

TABLE 12 BLUE ELDERBERRY WOODLAND (up to 13.20 acres to be rehabilitated)					
Botanic Name	Common Name	Stock Type	Plant Spacing	No. per Acre	Percent
Canopy					
<i>Quercus agrifolia</i>	Coast live oak	1 gal	50' o.c.	5	10%
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry	1 gal	30' o.c.	40	80%
<i>Juglans californica</i>	California walnut	1 gal	30' o.c.	5	10%
Subtotal				50	100%
Understory					
<i>Heteromeles arbutifolia</i>	Toyon	1 gal	30' o.c.	50	5%
<i>Malosma laurina</i>	Laurel sumac	Liner	30' o.c.	50	5%
<i>Ribes speciosum</i>	Fuchsia-flowered gooseberry	1 gal	8' o.c.	100	10%
<i>Rhamnus ilicifolia</i>	Holly-leaved redberry	1 gal	8' o.c.	100	10%
<i>Elymus condensatus</i>	Giant wildrye	1 gal	clumped.	100	10%
<i>Mimulus aurantiacus</i>	bush monkey flower	1 gal	12' o.c.	50	5%
<i>Stipa pulchra</i>	Purple needlegrass	1 gal	8' o.c.	100	10%
<i>Melica imperfecta</i>	Coast range melic	1 gal	12' o.c.	150	15%
<i>Baccharis pilularis</i>	Coyote bush	1 gal	12" o.c.	100	10%
<i>Opuntia littoralis</i>	Prickly-pear cactus	pads	clumped	200	20%
Subtotal				1,000	100%
Total Container Stock				1,050	100%

TABLE 13 Additional Optional Plant Species		
Botanic Name	Common Name	Stock Type
Herbs		
<i>Pseudognaphalium californicum</i>	California everlasting	1 gal
<i>Grindelia stricta</i>	Gum plant	1 gal
<i>Lasthenia californica</i>	Dwarf goldfields	1 gal
<i>Leymus condensatus</i>	Giant wild rye	1 gal
<i>Mirabilis californica</i>	Wishbone bush	1 gal
<i>Nassella (stipa) lepidra</i>	Foothill needlegrass	1 gal
<i>Sisyrinchium bellum</i>	Blue eyed grass	1 gal
<i>Solanum xantii</i>	Purple nightshade	1 gal
<i>Verbena lasiostachys</i>	Western vervain	1 gal
Shrubs		
<i>Atriplex lentiformis</i> ssp. <i>breweri</i>	Brewer saltbush	1 gal
<i>Baccharis emoyi</i>	Emory baccharis	1 gal
<i>Baccharis pilularis</i> ssp. <i>consanguinea</i>	Chaparral bloom	1 gal
<i>Brickellia californica</i>	No common name	1 gal
<i>Dendromecon rigida</i>	Bush poppy	1 gal
<i>Encelia californica</i>	California encelia	1 gal
<i>Epilobium canum</i> (<i>Zauschneria californica</i>)	Hoary California fuschia	1 gal
<i>Eriodictyon trichocalyx</i>	Yerba santa	1 gal

<i>Keckiella antirrhinoides</i>	Yellow bush penstemon	1 gal
<i>Keckiella cordifolia</i>	Heart leaved penstemon	1 gal
<i>Lonicera subspicata</i>	Wild honeysuckle	1 gal
<i>Lotus scoparius</i>	Deerweed	1 gal
<i>Malacothamnus fasciculatus</i>	Chapparal mallow	1 gal
<i>Opuntia prolifera</i>	Coast cholla	1 gal
<i>Prunus ilicifolia</i> spp. <i>Ilicifolia</i>	Holly leaved cherry	1 gal
<i>Rhamnus californica</i>	California coffee berry	1 gal
<i>Rhamnus crocea</i>	Redberry	1 gal
<i>Rhus integrifolia</i>	Lemonade berry	1 gal
<i>Romneya coulteri</i>	Matilija poppy	1 gal
<i>Solanum douglasii</i>	Douglas nightshade	1 gal
<i>Trichostema lanatum</i>	Woolly blue curls	1 gal

Source of Plant Materials

It is preferred that the source of all propagules and seed used at the mitigation site be from the site. If not available, the remainder of propagules and seed required will be from wild sources within Orange County, and collected as close to the mitigation sites as possible to preserve regional genetic integrity.

Plant material for revegetation shall be derived from cuttings, materials salvaged from disturbed areas, and/or seeds obtained from randomly selected native trees and shrubs occurring locally within Orange County or eastern Los Angeles County. Any replacement tree/shrub stock, which cannot be grown from cuttings or seeds, shall be obtained from a native plant nursery, be ant free and shall not be inoculated to prevent heart rot. If any materials must be obtained from other than onsite sources, the Project Biologist shall provide the County of Orange with a list of all such materials.

Contract Growing

Contract growing of all container plants shall be by a local experienced native plant nursery. Substitution of plant material at the time of planting depends solely upon the discretion of the Project Biologist. Any substitutions that are approved will be documented in the As-Built Plans.

Container Plants

One-gallon container stock, rosepots and liners shall be utilized for container stock production in order to develop vertical heterogeneity (strata). All plant materials will be inspected by the Project Biologist and approved as healthy, disease free and of proper size prior to planting. Overgrown, root-bound container stock will be rejected.

Mycorrhizal Fungi

Mycorrhizae are specialized fungi found on plant roots. A symbiotic relationship exists between plant roots and mycorrhizae wherein the plants benefit from the increased ability to take up nutrients and withstand drought when mycorrhizae are present. This relationship is essential to the growth rate, well-being, and longevity of native plant communities. Plant utilization of mycorrhizal fungi markedly increases the success of revegetation on disturbed or degraded lands.

All appropriate container-grown plants, except those known to be non-host species, shall be inoculated with mycorrhizal fungi prior to delivery to the job site.

Plant Placement

Container stock will be laid out in such a manner that mimics natural plant distribution (i.e., in clusters and islands) to emulate regional reference sites. The Project Biologist will monitor and confirm that trees and shrubs have been placed at the designed elevation relative to the water source supporting them, such as ground water. All plants shall be planted in randomly spaced, naturally clumped patterns. The average planting densities shall meet the criteria specified in Tables 11 and 12.

Planting Method for Rose Pot and/or Liner Plant Stock

Rose pot and/or liner plant stock will be placed in a hole measuring at least twice the diameter and depth of the container. The root structure will be examined and excess root material removed. The top of the rootball will be set slightly above finish grade. The planting hole will be backfilled with native soil. Fertilizer, watering basins, and mulch are not required for this planting method.

Planting Method for Container Stock

One-gallon container stock will be planted in a hole measuring at least twice the diameter of the container and twice the depth. Container stock will be thoroughly watered the day before planting. One teaspoon (0.3 oz.) of Osmocote 14-14-14 (or equal) will be placed one inch below the root zone and backfilled with native soil to proper planting depth. The container will be upended into the palm of the hand to avoid damage to the root structure and placed in the planting hole. The top of the root ball will be set one inch above finish grade. The planting hole will be backfilled with native soil.

A three-inch high, hand-compacted earth berm, approximately 36 inches in diameter, will then be constructed around each container plant. This watering basin will be maintained until the plants are no longer irrigated. Mulch will be applied as a top dressing, 2 to 3 inches thick, but must not come in contact with the stem of the plant. Container stock will be watered immediately after installation.

Pruning and Staking

There will be no pruning or staking of any vegetation. Diseased or insect-damaged foliage, if sufficient to require pruning, will serve as a benchmark for rejection of plant material. A small amount of selective trimming of native species (e.g. willow, oak and sycamore) is allowed to prevent overspray of herbicide from reaching these branches. Native vegetation may only be trimmed; individual plants shall not be removed.

D. Irrigation Plan

The Contractor shall provide irrigation for each mitigation site when natural moisture conditions are inadequate to ensure survival of plants. Irrigation can be provided for a period of at least three years from planting. Irrigation shall be phased out during the fall/winter of third year

unless unusually severe conditions threaten survival of plantings. All plants must survive and grow for at least two years without supplemental water for the restoration phase of the project to be eligible for acceptance by the County of Orange. Long-term irrigation may be incorporated into portions or all of the walnut and elderberry irrigation that would mimic natural rainfall during lower-than normal rainfall years.

Coarse mulch shall be placed around plantings to minimize water loss and discourage weed growth. Mulch shall be 3 to 4 inches deep and shall be placed in a minimum area 1.5 times the diameter of the drip line of the plant or 2 feet in diameter whichever is greater. The mulched area shall be maintained throughout the course of restoration, unless otherwise authorized in writing by the County of Orange. Mulch shall not be placed directly against the main stem of the plants.

Supplemental irrigation is to be used solely for the purpose of establishing the plants at the mitigation site and is of a temporary nature, with the caveat that supplemental irrigation may be applied during years of lower-than normal rainfall. The goal of the irrigation program is to obtain germination and growth with the least amount of irrigation. Frequent irrigation encourages weed invasion and leaches nutrients from the soil. Long-term, the use of supplemental irrigation is intended to provide subsidies during lower-than average rainfall.

The mitigation sites will be initially supported by a short-term automatic irrigation system as well as from existing water sources. Drip irrigation may be provided for trees and shrubs planted on the slopes. The container stock will be irrigated as long as necessary to establish the root systems in the native soils, probably two or three summers. The main line will be installed below-grade. All lateral lines will be installed above-grade for ease of removal and inspection. Alternatively, lateral lines may be installed below-grade at the discretion of the applicant.

The critical period for irrigation is during the first winter and early spring following planting. During this time, roots are not well established and an unseasonable drought can cause high mortality. During dry periods after plant installation, the Project Biologist, Landscape Contractor and/or the maintenance contractor will regularly inspect soil moisture. Watering during the summer dry season will occur as frequently as required. Long-term, irrigation within areas subject to fire-prone vegetation removal will be used to mimic normal conditions, especially during dry years or periods of protracted low rainfall.

E. As-Built Conditions

Once the implementation of the mitigation site has been completed, the Applicant will submit "As-Built" drawings to the County of Orange within 45 days after completion of construction. The drawings will identify the date installation was completed and if there were any deviations from the approved Mitigation Plan.

V. MAINTENANCE ACTIVITIES DURING THE MONITORING PERIOD

A. Maintenance Activities

The purpose of this program is to ensure the success of the mitigation plantings. Maintenance will occur over the five-year life of the project. The Project Biologist will monitor all aspects of the revegetation in an effort to detect any problems at an early state. Potential problems could arise from irrigation failure, erosion, vandalism, competition from weeds and invasive species, and unacceptable levels of disease and predation.

These maintenance guidelines are specifically tailored for native plant establishment. The maintenance personnel will be fully informed regarding the habitat establishment program so they understand the goals of the effort and the maintenance requirements. A landscape contractor with experience and knowledge in native plant habitat restoration will supervise all maintenance personnel.

For a period of 120 days following completion of the planting installation, the initial landscape contractor will be responsible for the care of the plantings. The purpose of the 120-day establishment period is to ensure continuity between the installation of the plant material and its short-term maintenance. The contractor's presence during this period is proven to increase project success. The contractor will control the spread of weed species and identify any efforts necessary to ensure the health and survival of the plantings.

Following the 120-day establishment period the project will be evaluated for health of plant material, and if judged satisfactory by the Project Biologist, the establishment period will be considered concluded and the long-term habitat maintenance program will begin. If plant health is not determined to be satisfactory, an additional 60 days will be allowed for the contractor to implement remedial measures. A different landscape contractor may implement this period of maintenance; however, the Project Biologist will continue to review the project's success.

Damage to plants, irrigation systems, and other facilities occurring as a result of unusual weather or vandalism will be repaired or replaced immediately.

General Maintenance

The Contractor will perform the following tasks as general maintenance duties:

- Plant Inspection;
- Weed control;
- Irrigation water volume and frequency;
- General maintenance of irrigation system;
- Trash and debris removal;
- Pest control; and
- Plant replacement.

Plant Inspection

After termination of the establishment period, the Project Biologist will inspect the mitigation site on a monthly basis for 18 months, inclusively. The plants shall be inspected on a quarterly basis thereafter until achievement of performance standards for the mitigation sites.

Weed Control

The mitigation sites shall be maintained free of weeds during the monitoring period. Weed eradication will minimize competition that could prevent the establishment of native species. All maintenance personnel will be trained to distinguish weed species from native vegetation to ensure only weedy species are removed or sprayed with herbicide.

Removal shall be done at least twice annually during the spring/summer season, as needed, through the term of mitigation monitoring. As weeds become evident, they should be immediately removed by hand or controlled with an appropriate herbicide as determined by a licensed Pest Control Advisor (PCA). Weed debris shall be removed from the project area as accumulated and disposed of as permitted by law.

Weeds shall be manually removed before they can attain a height of three-inches (3") at intervals of not more than 30 days for the first two years of the project. All portions of the plant will be removed, including the roots. The Project Biologist shall direct the contractor regarding the selection of target weed species, their location, and the timing of weed control operations to ensure that native plants are avoided to the extent possible. Pulled weeds will be placed on a "mantilla" or other type of tarp to prevent the seeds from coming in contact with the ground.

A cleared space, 18 inches from the base of the plant, will be maintained around each container plant to minimize competition from other plant species. Mulch, two-inches thick within the watering basin, will be maintained throughout the monitoring period. Leaf and branch drop, and organic debris of native species, shall be left in place.

Irrigation Water Volume and Frequency

The Contractor shall be responsible for applying sufficient irrigation water to adequately establish new plant materials, and germinate and establish the applied seed. Irrigation water shall be applied in such a way as to encourage deep root growth (periodic deep irrigation versus frequent light irrigation). The Contractor will allow soil to dry down to approximately 50- to 60-percent of field capacity (in the top six or 10 inches after germination and during seedling establishment) before the next irrigation cycle. Wetting of the full root zone and drying of the soil between irrigation events is essential to the maintenance of the plants and the promotion of a deep root zone that will support the vegetation in the years after establishment. Systems may need to be on for as long as six to eight hours at a time in order to get complete water penetration to the lower soil horizons to encourage deep root growth. A soil probe or shovel shall be used to examine soil moisture and rooting depth directly. Irrigation following the initial five-year monitoring and maintenance period is discussed below under long-term irrigation.

General Maintenance of Irrigation System

The Contractor will be responsible for the regular maintenance and repair of all aspects of the irrigation system. Poorly functioning or non-functioning parts shall be replaced immediately so as to not endanger the plantings.

General system checks shall be conducted no less than weekly for the first month after installation to assure the system is functioning correctly, and monthly thereafter, except during periods when the irrigation system is not in operation as recommended by the Project Biologist.

Any erosion or slippage of soil caused by the contractor's inadequate maintenance or operation of irrigation facilities shall be repaired by the contractor at his/her expense.

Trash and Debris Removal

The mitigation site shall be well maintained in order to deter vandalism and dumping of trash. The Contractor is responsible for avoiding impacts to plantings during trash removal activities. Contractor shall, during daily routine maintenance, manually remove weeds, litter, trash, and debris from the mitigation site and dispose of off-site as permitted by law. Dead limbs and tree fall shall be left in place in the revegetation areas.

Pest Control

Young trees and shrubs will be monitored for signs of disease, insect and/or predator damage, and treated as necessary. Badly damaged plants will be pruned to prevent spreading of the pestilence or replaced in kind if removed. Excessive foraging by predators may necessitate protective screening around plants and/or poison baiting of the predators. The Project Biologist will be consulted on any pest control measures to be implemented.

The Contractor shall be responsible for maintaining a non-native rodent-free project. All measures to eradicate non-native rodents must be as directed by a licensed pest control consultant.

Plant Replacement

The installation contractor will be responsible for replacing all container stock plants terminally diseased or dead during the establishment period. The long-term maintenance contractor will thereafter replace all dead and/or declining plants in the winter months as recommended by the Project Biologist. Replacement plants shall be furnished and planted by the Contractor.

Replacement plants shall conform to the species, size requirements, and spacing as specified for the plants being replaced. The replacement plants shall be purchased from inventory at the same native plant nursery as were the contract-grown plant stock.

Fertilization

If nutrient deficiencies are observed during site monitoring, the Project Biologist may specify applications of slow-release pellet fertilizer or soil amendments to speed initial growth or as a remedial measure. These applications shall occur at the onset of the rainy season following the manufacturer's recommendations. Fertilizer will not be applied other than under the direction of the Project Biologist.

Pruning

No pruning is necessary unless otherwise specified by the Project Biologist. Dead wood shall be left on trees or where it has fallen as it plays an important role in habitat creation and soil formation. A small amount of selective trimming of native species is allowed to prevent overspray of herbicide from reaching these branches. Native vegetation may only be trimmed; individual plants shall not be removed.

Staking of Trees

Staking of trees is to be avoided unless determined necessary by the Project Biologist. All stakes shall be removed before the completion of the five-year monitoring period, or earlier as determined by the Project Biologist. All stakes shall be removed by the contractor and disposed of off-site in a legal manner.

B. Responsible Parties

The Applicant/Permittee will be responsible for financing and carrying out maintenance activities.

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

C. Maintenance Schedule

The mitigation maintenance and monitoring program will begin prior to or concurrent with the construction process and continue for five years following the completion of plant installation or until performance criteria are met. Table 14 below indicates the schedule of maintenance inspections.

TABLE 14 MAINTENANCE SCHEDULE					
Maintenance Task	Year				
	1	2	3	4	5
Plant Inspection	Monthly first 12 months	Monthly through 18th month; quarterly thereafter	Quarterly	Quarterly	Quarterly
Irrigation System Inspection	Monthly, or more frequently if required	Monthly	As Required	N/A	N/A
Trash and Debris Removal	Monthly	Quarterly	Quarterly	Quarterly	Quarterly
Weed Control	Minimum of Monthly	Monthly	Quarterly	Quarterly	Quarterly
Pest Control	Monthly	Bi-monthly	Quarterly	Quarterly	Quarterly
Plant Replacement	Annually	Annually	Annually	Annually	Annually
Fertilization (if necessary)	Annually	Annually	N/A	N/A	N/A

VI. MONITORING PLAN FOR THE COMPENSATORY MITIGATION SITES

A. Performance Standards for Target Dates and Success Criteria

Performance Standards are based on the stated goals of the program and the design of the mitigation site.

It should be noted that Blue Mud Canyon is not fully characteristic on the site for floral species composition, even relative to the other drainages within the study area, and as such no appropriate reference site is available for comparison.

All plantings shall have a minimum of 80-percent survival, by species, the first year and 100-percent survival thereafter and/or shall attain -percent cover after 3 years and 90-percent cover after 5 years for the life of the project. Prior to the mitigation site(s) being determined successful, they shall be entirely without supplemental irrigation for a minimum of 2 years. Throughout the monitoring period, no single species shall constitute more than 50-percent of the vegetative cover, no woody invasive species shall be present, and herbaceous invasive species shall not exceed 5-percent. If the survival and cover requirements have not been met, the Contractor is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for 5 years after planting.

1. Monitoring Plan for California Walnut Woodland and Blue Elderberry Woodland Mitigation Sites

First-Year Monitoring

Success Standard: A minimum of 20-percent coverage by native species;
100-percent of proposed canopy species present;
30-percent of proposed understory present
No greater than 50-percent coverage by non-native species.

Second-Year Monitoring

Success Standard: A minimum of 30-percent coverage by native species;
100-percent of proposed canopy species present
40-percent of proposed understory present
No greater than 25- percent coverage by non-native species.

Third-Year Monitoring

Success Standard: A minimum of 40-percent coverage by native species;
100-percent of proposed canopy species present
50-percent of proposed understory present
No greater than 15- percent coverage by non-native species;

Fourth-Year Monitoring

Success Standard: A minimum of 55-percent coverage by native species;
100-percent of proposed canopy species present
60-percent of proposed understory present
No greater than 10- percent coverage by non-native species;

Fifth-Year Monitoring

Success Standard: A minimum of 70-percent coverage by native species;
100-percent of proposed canopy species present
80-percent of proposed understory present
No greater than 5- percent coverage by non-native species with zero tolerance for species considered highly invasive by Cal-IPC.

Diversity of Vegetation

To avoid a monoculture or limited species diversity within the established habitat, a minimum of six species native to the target habitat types must represent 0.5-percent (each) of the total vegetational composition within the revegetation areas, with no single species representing over 75-percent composition. The low percentage representation is due to the expectation that this diversity will be provided by native herbs that would not normally represent a significant percentage of total vegetation cover in a mature habitat. In addition, the total percent composition of all non-native species cannot exceed 5-percent.

Survivorship of Container Stock

During annual quantitative monitoring, the Project Biologist shall determine survivorship of tree, shrub, and herb strata container stock. In each year of monitoring, container stock survivorship must be at least 80-percent.

Functionality as Wildlife Habitat

While conducting qualitative surveys, the Project Biologist will record wildlife observations within the revegetated habitat. The development of quantitative measures for wildlife use is not necessary for this mitigation site, but general impressions of wildlife usage of any restoration area should be considered among the success criteria.

Native Plant Recruitment

Evidence of native plant recruitment from year to year is another example of the successful creation of a functional, self-sustaining habitat. Noted recruitment would be considered a satisfied success criterion. Fire prone species will be removed annually, while still in the seedling or sapling state.

Probability of Continued Habitat Progression

The qualitative monitoring will provide the Project Biologist with an opportunity to evaluate the progression of the revegetation sites towards maturity. This determination will be used to support a final decision as to whether the revegetation effort has been successful. If several of the above criteria have not been met, but the site is clearly nearing satisfaction of those criteria, the Project Biologist may suggest that the County of Orange accept the mitigation as completed based on his/her conclusion of continuing habitat progression.

B. Monitoring Methods

Monitoring will assess the attainment of annual and final success criteria and identify the need to implement contingency measures in the event of failure. Monitoring methods include an annual tally of dead and/or declining plant stock, and visual estimates of cover as well as field sampling techniques that are based in accordance with the methodology developed by the California Native Plant Society (CNPS).⁴ Please refer to *A Manual of California Vegetation* for further details on this sampling method.

Sampling Techniques For Vegetation Cover and Diversity

Percent canopy cover of the mitigation plantings will be measured by using the point-intercept sampling method centered in a 2-meter by 50-meter plot. At each 0.5-meter interval along each transect (beginning at the 50-cm mark and ending at 50-meter), a point is projected vertically into the vegetation. Each plant species intercepted by a point is recorded, providing a tally of hits for each species in the herbaceous, shrub, and tree canopies, making it possible to record more than 100 hits in any 50-meter transect. Percent cover for each species, according to vegetation layer (herb, shrub, and tree) can be calculated from these data. A list of all additional species within the 250 square-meter belt is subsequently made.

⁴ Sawyer, John O. and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society.

Two 2-meter by 50-meter long transects per acre will be used to monitor the development of the revegetation. The various transects will be randomly located for the first sampling event and permanently marked to facilitate their use in subsequent years. A sample of a proposed transect data sheet is provided in Appendix B.

Photo-Documentation

Permanent stations for photo-documentation will be established during the first annual monitoring event. Photos shall be taken each monitoring period from the same vantage point and in the same direction each year, and shall reflect material discussed in the annual monitoring report.

Qualified habitat restoration specialists, biologists, or horticulturists with appropriate credentials and experience in native habitat restoration shall perform monitoring. Continuity within the personnel and methodology of monitoring shall be maintained insofar as possible to ensure comparable assessments.

C. Monitoring Schedule

Qualitative Monitoring

The Project Biologist will conduct qualitative monitoring surveys on a monthly basis for the first 18 months, and quarterly thereafter until performance standards are met. Qualitative surveys, consisting of a general site walkover and habitat characterization, will be completed during each monitoring visit. General observations, such as fitness and health of the planted species, pest problems, weed establishment, mortality, and drought stress, will be noted in each site walkover. The Project Biologist will also note observations on wildlife use and native plant recruitment for the purpose of later discussion in the annual reports. Records will be kept of mortality and other problems such as insect damage, weed infestation, and soil loss. The Project Biologist will determine remedial measures necessary to facilitate compliance with performance standards. All remedial measures undertaken will be referenced in the annual monitoring report to the County of Orange.

D. Annual Monitoring Reports

An annual report shall be submitted to the County of Orange. Photos from designated photo stations shall be included.

The Project Biologist or other qualified wildlife biologist shall survey the mitigation site to monitor the recovery of wildlife and aquatic resources in the area following construction. Monitoring of wildlife and aquatic resources shall be done in summer and winter of each year, through the term of mitigation monitoring, and the results and analysis shall be submitted with the report specified above.

At the end of each of the five monitoring period growing seasons, for the duration of the monitoring period, an annual report will be prepared for submittal to the County of Orange. Since planting may not occur when planned, monitoring shall be tied to the actual implementation date (e.g., the first

annual report shall be delivered on January 1st of the year following the first growing season after planting). These reports shall include the survival, percent cover, and height by species of both trees and shrubs, the number by species of plants replaced, an overview of the revegetation and exotic plant control efforts, and the method used to assess these parameters shall also be included. These reports will assess both attainment of yearly target success criteria and progress toward final success criteria. These reports will also include the following:

- A list of names, titles, and companies of all persons who prepared the content of the annual report and participated in monitoring activities for that year;
- A vicinity map indicating location of the mitigation site;
- A mitigation site map identifying habitat types, transect locations, photo station locations, etc. as appropriate;
- Copies of all monitoring photographs;
- Copies of all completed field data sheets; and
- An analysis of all qualitative and quantitative monitoring data.

VII. COMPLETION OF COMPENSATORY MITIGATION

A. Notification of Completion

The Contractor should notify the Applicant/Permittee and the County of Orange in writing when the monitoring period is complete and the success criteria have been met.

B. Final Success Criteria Resolution

If the project meets all success criteria at the end of the five-year monitoring period, the revegetation will be considered a success. If not, the maintenance and monitoring program will be extended one full year at a time, and a specific set of remedial measures approved by the County of Orange will be implemented until the standards are met. Only those areas that fail to meet the success criteria will require additional monitoring. This process will continue until all year-five standards are met or until the County of Orange determines that other revegetation measures are appropriate.

Final success criteria will not be considered to have been met until a minimum of three years after all human support, including artificial irrigation, has ceased. Should the revegetation effort meet all goals prior to the end of the five-year monitoring period, the County of Orange, at their discretion, may terminate the monitoring effort and release the bond. At that time the Applicant/Permittee will be released from further maintenance and monitoring requirements of the mitigation area.

If, during the monitoring period, a destructive natural occurrence does occur which damages or destroys the mitigation planting, and if the mitigation planting was documented to have been proceeding well toward establishment, then reconstruction and replanting will not be required.

However, if the mitigation site fares significantly worse than the surrounding natural communities in this same natural disaster, then the mitigation site would be considered to have not established itself, and reconstruction, replanting, and monitoring would continue.

C. Agency Confirmation

Following receipt of the final annual monitoring report, the County of Orange will contact the Applicant as soon as possible to schedule a site visit to confirm the completion of the compensatory mitigation effort and any jurisdictional delineation. The compensatory mitigation will not be considered complete without an onsite inspection by a County of Orange project manager and written confirmation that approved success criteria have been achieved.

It is therefore critical that agency staff review annual reports on a timely basis and provide comments throughout the maintenance and monitoring program so that any project deficiencies they note can be addressed prior to the expected end of the program.

VIII. CONTINGENCY MEASURES

A. Initiating Procedures

If a performance standard is not met for all or any portion of the mitigation project in any year, or if the approved success criteria are not met, the Project Biologist will prepare an analysis of the cause(s) of failure and, if determined necessary by the County of Orange, propose remedial actions for approval. If the compensatory mitigation site has not met one or more of the success criteria or performance standards, the responsible party's maintenance and monitoring obligations shall continue until the County of Orange gives final approval the mitigation obligations have been satisfied. It is therefore incumbent upon the Project Biologist to foresee project deficiencies as part of the monitoring program and take appropriate steps to address the situation.

B. Alternative Locations for Contingency Mitigation

Sufficient area for establishment of the mitigation site is available so alternative locations would be unnecessary. Although this plan is expected to be successful, both onsite and off-site alternative locations may be used in the event that revegetation cannot be achieved.

C. Funding Mechanism

The Applicant/Permittee will fund planning, implementation, maintenance and monitoring of any contingency measures that may be required to achieve mitigation goals through an up-front payment to the Contractor. Thereafter, all expenses in implementing this mitigation plan are to be borne by the Contractor.

D. Responsible Parties

The Applicant/Permittee will be responsible for implementing, maintaining, and monitoring any contingency procedures.

Applicant/Permittee: Yorba Linda Estates, LLC
7114 East Stetson, Suite 350
Scottsdale, Arizona 85251
Contact: Douglas G. Wymore

IX. LONG-TERM MANAGEMENT AND MAINTENANCE

Following successful completion of the five-year monitoring and maintenance period, the mitigation area would be subject to the long-term monitoring and maintenance provisions set forth below. The goal of the long-term management and maintenance is two-fold: to manage the area for long-term habitat goals, specifically the long-term health and function of the California walnut woodland and blue elderberry woodland, while also managing the area for public safety. These two goals are not in conflict; rather, if implemented correctly, the two goals can be complementary such that both goals are achieved.

A. Responsible Parties

The Homeowner's Association (HOA) will be responsible for implementation of the long-term maintenance and monitoring for the California walnut woodland and blue elderberry woodland mitigation areas.

B. Baseline Conditions

The Baseline conditions for the long-term management will be established by the fifth and final monitoring report submitted to the County of Orange that documents compliance with the five-year monitoring requirements set forth above. The final composition of the target native communities established as part of the five-year monitoring and maintenance program, will likely vary in some ways from the proposed plan as individual recruitment of acceptable natives will occur in conjunction with loss of other target species. It is expected that the general character of the community will not change from what is established and deemed successful at the end of the five-year monitoring period.

As such, the goals of the long-term monitoring program are fairly simple:

- To maintain the levels of weed species recorded at the end of the five-year monitoring and maintenance period;
- To maintain overall vegetative cover to 70-percent or if greater than 30-percent, no more than 70-percent cover by non-cactus species;

- To maintain the levels of fire-prone species to acceptable levels;
- To maintain adequate moisture in the vegetation through the use of supplemental irrigation that would be used during periods of drought or protracted periods of low rainfall.

Each of these is addressed below.

1. Maintenance of Non-Native Weeds

Twice annually, the site would be inspected by a Biologist or Landscape Contactor experienced in the native and non-native species expected on the site. The initial inspections should be conducted about one month following the first significant rainfall of the season, to determine which common non-native species including grasses and forbs have germinated and will require maintenance to maintain at levels of ten-percent or less absolute cover. The weed removal would be timed to remove non-native weeds when they can be accurately identified but prior to seed set, to limit future weed problems. A later season visit would be timed to identify later season weeds such as summer mustard and would generally occur in March or April with weeding to follow accordingly. Following the second weeding session, absolute weed cover would be no more than ten-percent absolute cover.

2. Maintain Absolute Native Cover at 70-Percent

In order to provide for public safety, absolute cover by native species will be maintain at 70-percent cover or, if no more than 70-percent of non-cactus species. Where necessary to maintain absolute cover at no more than 70-percent of non-cactus species, plants will be removed following the following protocol:

In order to retain species diversity no more than 10-percent of any singles species would be removed. Limited numbers of small shrubs such as coast goldenbush, coyote bush, bush monkey flower would be removed first, followed by larger shrubs such as laurel sumac or toyon. In all cases, the species with the greatest representation would be removed first so as to ensure species diversity. California walnuts, blue elderberries and coast live oaks will not be removed unless diseased or determined to be a threat to public safety by the Orange County Fire Authority (OCFA), and then only those that are diseased or pose a threat to public safety will be removed. As noted, as the cactus expands, greater than 70-percent cover may be achieved and vegetation removal will be such than non-cactus shrubs do not exceed 70-percent absolute cover.

3. Removal of “Fire-Prone” Species

Fire-prone species, as listed on OCFA’s website, will be removed on an annual basis at either the seedling or sapling stage.

4. Irrigation for Long-Term Management

Irrigation may be used for long-term management of the mitigation areas to ensure the following: maintain plant moisture at acceptable levels during periods of below-average rainfall which would be determined as less than average during any two-month period. When such deficits occur, irrigation may be applied to mimic normal conditions. Excessive irrigation is not allowed (defined as more than 125-percent of normal rainfall) for any two month period.

C. Funding

Funding for the long-term management is based on the assumptions set forth above and will be determined through preparation of the Property Analysis Record below.

X. PAR ASSUMPTIONS FOR LONG-TERM IMPLEMENTATION OF HABITAT RESTORATION INCLUDING WITHIN SPECIAL MAINTENANCE AREAS

The following assumptions were made during preparation of this Property Analysis Record (PAR):

- **Restoration Areas:** The Restoration Areas addressed in this PAR consist of:
 1. Riparian Habitat Restoration Area within and immediately adjacent to Blue Mud Canyon Creek that includes restoration of coast live oak riparian forest, mulefat scrub, California walnut/mulefat scrub and southern willow scrub.
 2. California walnut woodland and blue elderberry woodland within the Blue Mud Canyon environs and on the south-facing slope above Drainage D at the northwest corner of Phase I of the project [see Exhibit 7].
- **Prior Maintenance:** Prior to initiation of long-term maintenance, the restoration areas will be planted, maintained, and monitored for a period of five years. During this period, vegetation within the subject maintenance areas within the subject restoration areas will be managed at the prescribed target vegetation cover as set forth in Sections 1 and 2 of the HMMP.
- **Responsible Party:** The Homeowner's Association (HOA) will be responsible for implementing the long-term management of the subject restoration areas.
- **Contingency Rate:** No contingency fee was added to the total cost of maintenance activities.
- **Capitalization Rate:** A capitalization rate of 4% was applied to this PAR to generate the endowment.

- **Habitat Maintenance:** As described in Part 2 of the HMMP, Section IX Long-Term Management and Maintenance, the following measures will comprise the long-term management and maintenance:
 - Twice-annual removal of non-native invasive species and other weeds from the riparian restoration area and the California walnut and blue elderberry woodland along with trash removal, which would occur during these visits;
 - Annual removal of fire-prone species from 10.2 acre area designated for removal of fire-prone species;
 - Annual maintenance to ensure public safety by maintaining non-cactus native cover at no more than 70-percent absolute cover within 10.2 acre area designated for removal of fire-prone species.
 - Annual maintenance of irrigation system.

These tasks will be carried out by the HOA in accordance with the HMMP and Conceptual Fuel Modification Plan. Vegetation maintenance will be done (a) with hand held tools consistent with best management practices; (b) outside of the avian nesting season, or if during the nesting season, only after a biological monitor confirms that there will be no effects to nesting birds; (c) in a manner that will not reduce or eliminate any plants that are planned for the area; and (d) in a manner that minimizes effect to either target species (e.g., least Bell's vireo) and to more common species that are protected under the Migratory Bird Treaty Act. Cut vegetation, if any, will be disposed of at an offsite facility and will not be chipped or dispersed onsite. Vegetation maintenance could be performed up to two times per year, and the budget for this PAR assumes two visits for general weeding on one annual visit to remove fire-prone species and maintain non-cactus native scrub within the 10.2-acre area. The task incorporates maintenance of 20.11 acres per year at \$300.00 per acre, for an annual cost of \$6,033. The annual cost for fire-prone species removal and maintenance of the fire-prone vegetation removal areas at no more than 70-percent non-cactus species is \$100 per acre or 1,031 per year for a total of \$7,064. This assumption is adequate since the special maintenance areas will be densely planted with cactus and lower growing grasses, forbs, and shrubs, thereby reducing the opportunity for recruitment of invasive and "undesirable" species. At 4-percent return, an endowment of \$176,560.

Appendix A

Distribution Page of all Persons/Agencies Receiving a Copy of the Mitigation and Monitoring Plan, As-Built Reports, and Annual Reports

Jason Lambert
U.S. Army Corps of Engineers
Los Angeles District, Regulatory Branch
911 Wilshire Boulevard, 11th Floor
Los Angeles, California 90017-3401

Kevin Hupf
California Department of Fish & Wildlife
Environmental Scientist
3883 Ruffin Road
San Diego, California 92123

Glenn Robertson
Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, California 92501-3339

Christine Medak
US Fish and Wildlife Service
Carlsbad FWO
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

MONITORING SHEET - QUALITATIVE EVALUATION

Project Name: _____

Date: _____

Recorders: _____

Plant Health - General

Are there visible signs of nutrient/water deficiencies? If yes, then describe:

Are there signs of regeneration/reseeding?

Is vandalism harming plant health or project success?

Are there any signs of herbivory?:

Other:

Container Stock

Provide visual estimation percent survival of container stock:

Are watering basins intact?:

Is mulch from original installation still present? Is there litter development?:

Seeded Species

Are all intended native species present? If not, then what is missing?:

Are there any occurrences of volunteer native species?:

Are there any unvegetated areas? Should these be remediated?:

Weeds

Is excessive competition from weeds affecting desired species?:

Is there adequate maintenance/weed clearing?:

Other:

Soils

Are there any signs of soil development?:

Other:

Irrigation System

Are irrigation heads functioning properly?:

Are there any signs of rodent damage to irrigation system?:

Are there any signs of vandalism to the irrigation system/controller box?:

Are there any signs of excessive runoff?:

Does irrigation frequency and volume require adjustment?

Other:

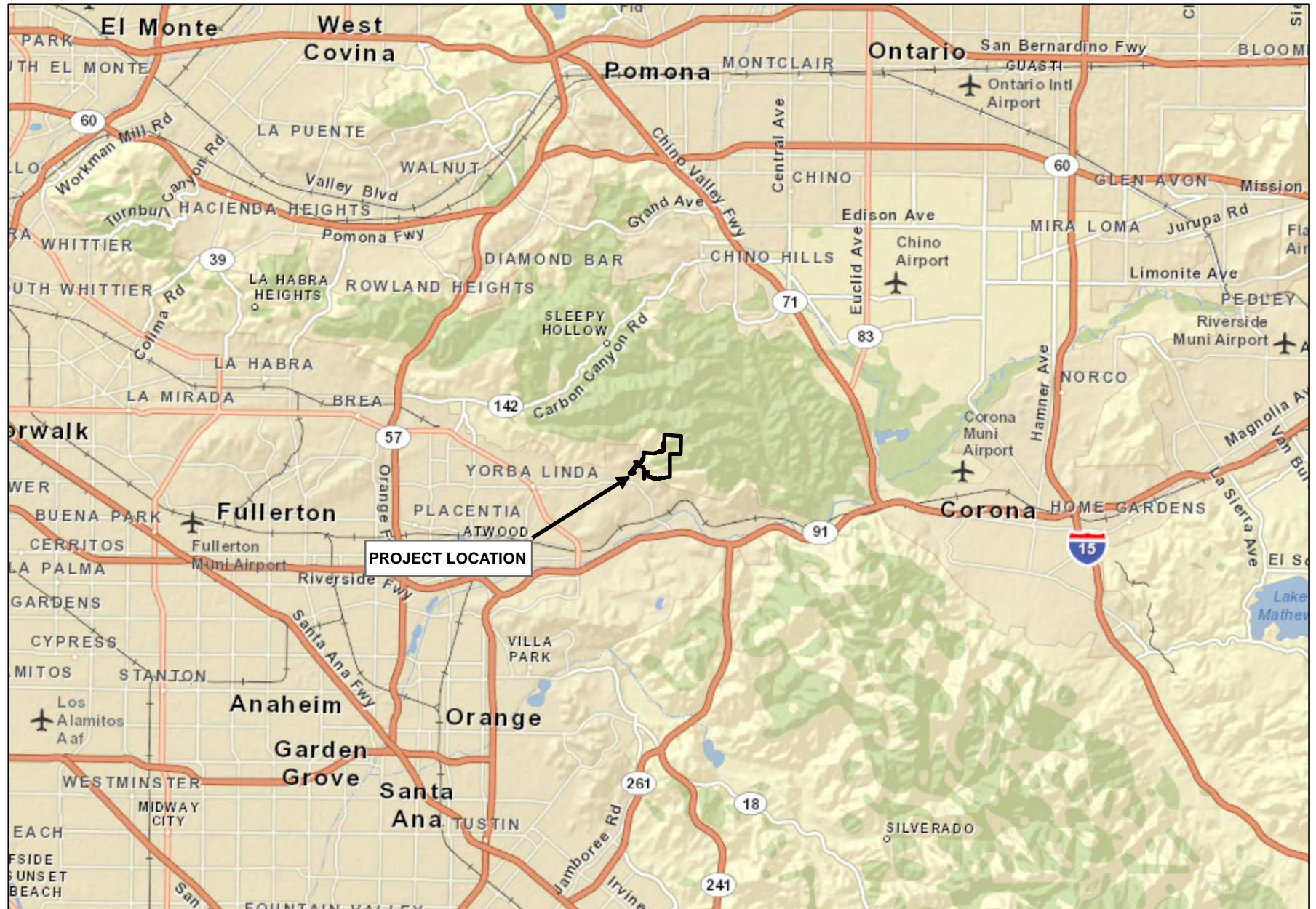
Is there any indication that wildlife is using the site?:

Recommendations for Remediation:

Source: ESRI World Street Map



0
2
4
8
Miles



ESPERANZA HILLS SPECIFIC PLAN AREA

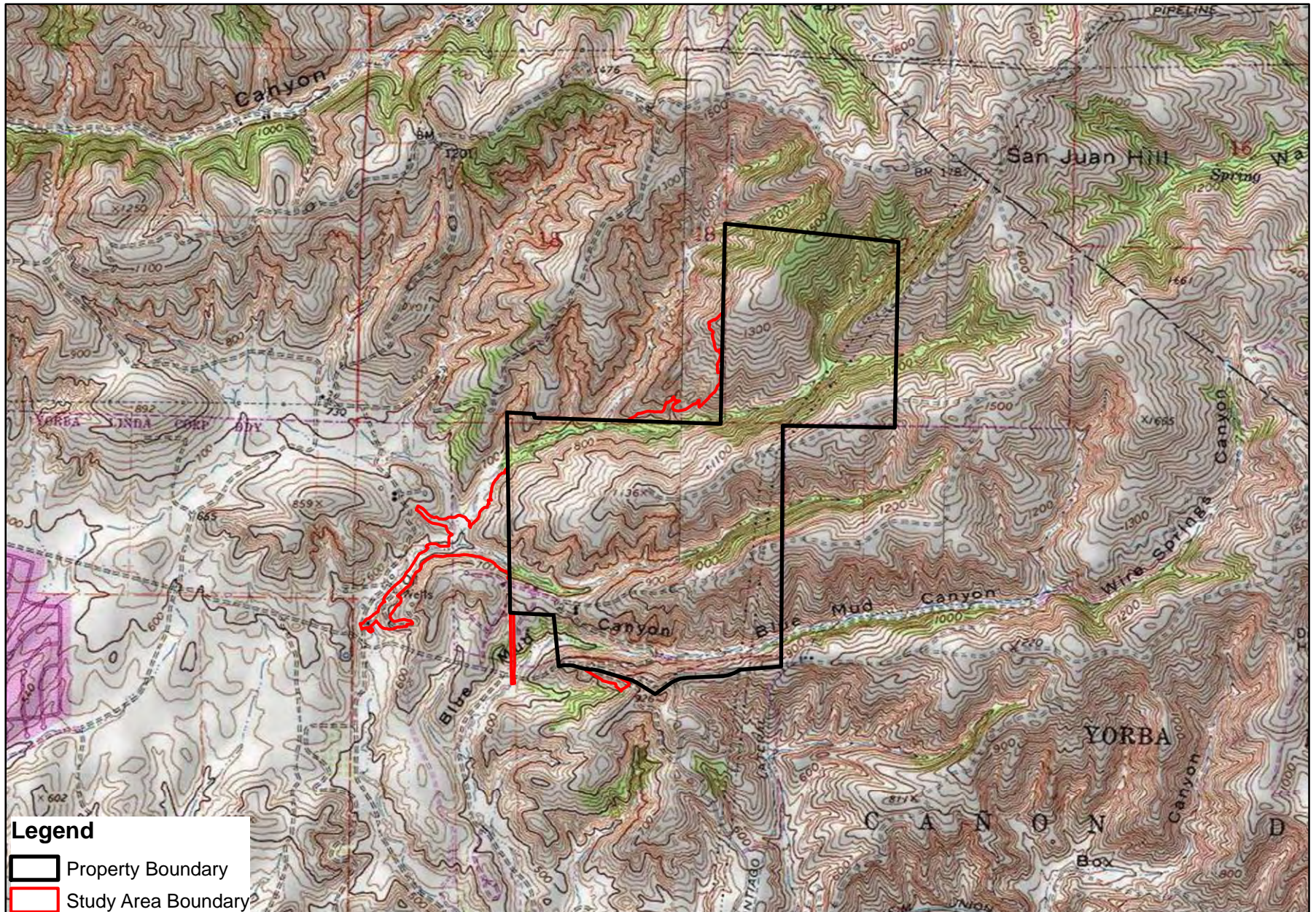
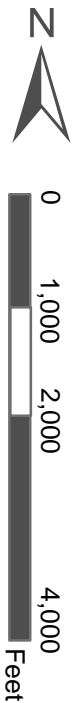
Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Prado Dam & Yorba Linda, CA quadrangles



Legend

- Property Boundary
- Study Area Boundary

ESPERANZA HILLS SPECIFIC PLAN AREA

Vicinity Map

GLENN LUKOS ASSOCIATES

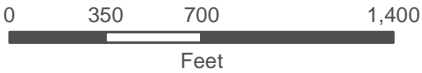


Exhibit 2



Legend

- Property Boundary
- Study Area Boundary
- Alternative 3 Project Footprint
- Corps Non-Wetland Waters
- Corps Wetland
- Width in Feet (W indicates wetland jurisdiction)



1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 14, 2013

**ESPERANZA HILLS
SPECIFIC PLAN AREA**

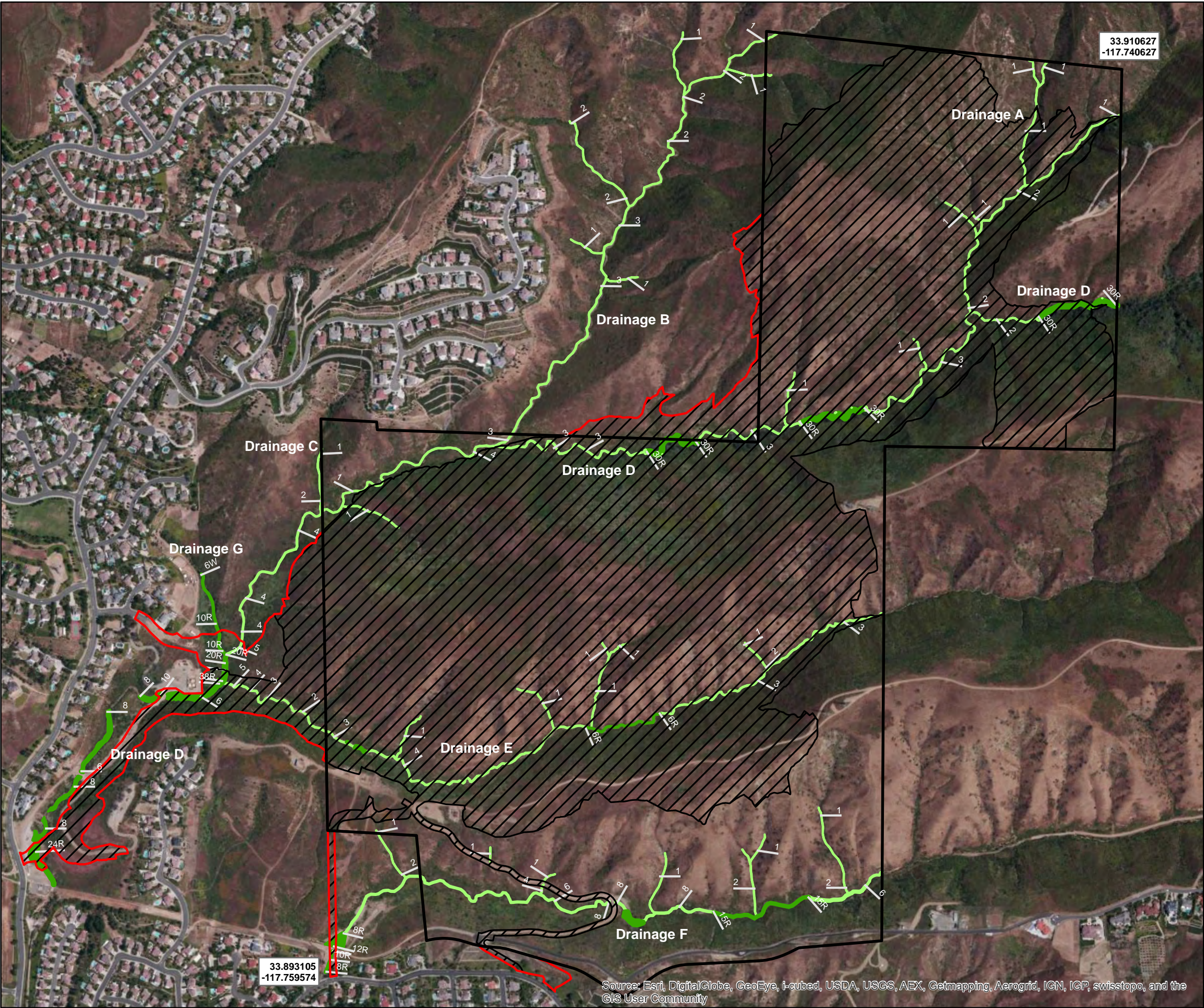
Corps Jurisdictional Delineation/Alternative 3 Impact Map

GLENN LUKOS ASSOCIATES



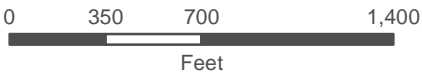
Exhibit 3A

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Legend

- Property Boundary
- Study Area Boundary
- Alternative 3 Project Footprint
- Width in Feet (R indicates riparian jurisdiction)
- CDFW Unvegetated Streambed
- CDFW Riparian



1 inch = 700 feet

Aerial Photo: ESRI Basemaps Bing Hybrid
Reference Elevation Datum: State Plane 6 NAD 83
Map Prepared by: K. Kartunen, GLA
Date Prepared: May 10, 2013

**ESPERANZA HILLS
SPECIFIC PLAN AREA**

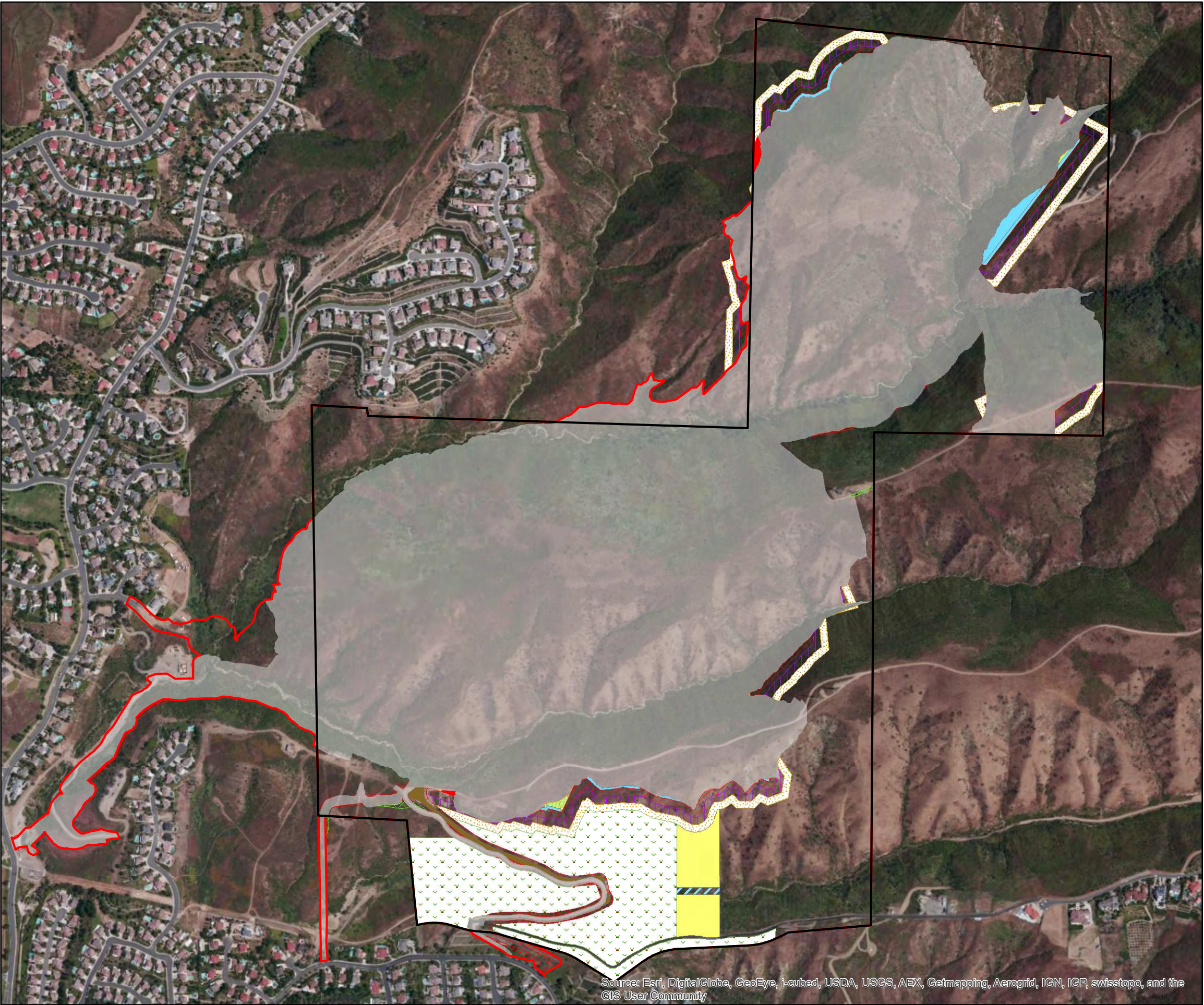
CDFW Jurisdictional Delineation/Alternative 3 Impact Map

GLENN LUKOS ASSOCIATES



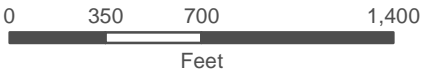
Exhibit 3B

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Legend

-  Property Boundary
-  Study Area Boundary
-  Alternative 3 Project Footprint
-  50' Irrigated Riparian Zone
-  Street C
-  Fire Prone Vegetation Removal Zone
-  Fuel Break Zone
-  Irrigated Landscape Slopes/Entry/Medians
-  Parks
-  Special Maintenance Area
-  Zone A (Flat) - Non-Combustible Construction
-  Zone B - Wet Zone (100% removal native shrubs)
-  Zone C - Dry Zone (50% thinning native shrubs)
-  Zone D - Dry Zone (30% thinning native shrubs)



1 inch = 700 feet

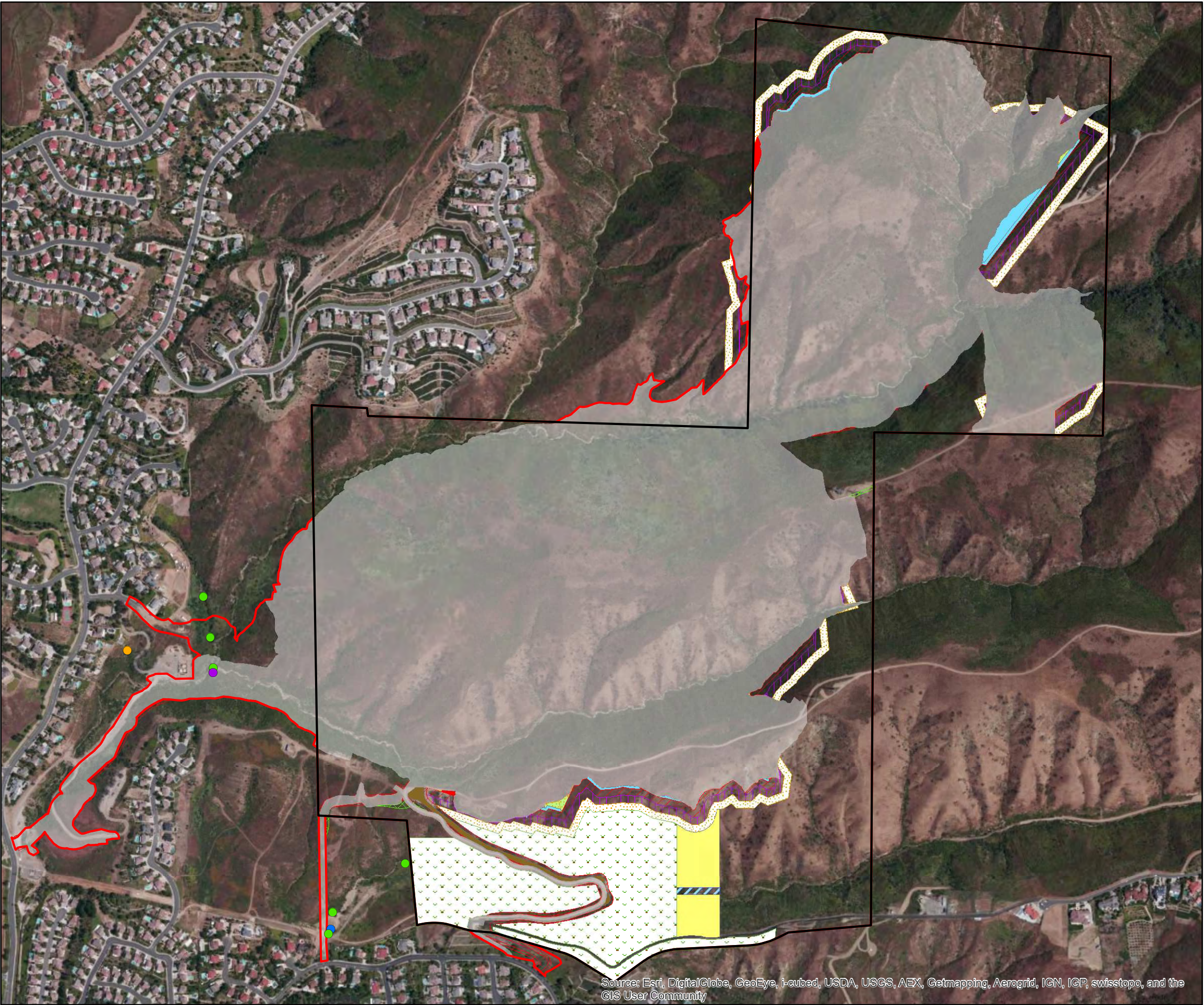
**ESPERANZA HILLS
SPECIFIC PLAN AREA**

Project Grading Limits

GLENN LUKOS ASSOCIATES



Exhibit 4



Legend

- Property Boundary
- Study Area Boundary
- Alternative 3 Project Footprint
- 50' Irrigated Riparian Zone
- Street C
- Fire Prone Vegetation Removal Zone
- Fuel Break Zone
- Irrigated Landscape Slopes/Entry/Medians
- Parks
- Special Maintenance Area
- Zone A (Flat) - Non-Combustible Construction
- Zone B - Wet Zone (100% removal native shrubs)
- Zone C - Dry Zone (50% thinning native shrubs)
- Zone D - Dry Zone (30% thinning native shrubs)
- Least Bell's Vireo Observed by GLA on July 28, 2012
- Least Bell's Vireo Observed by GLA on June 1, 2010
- Least Bell's Vireo Nest - PCR Services Corporation 2012
- Least Bell's Vireo Observations - PCR Services Corporation 2012



1 inch = 700 feet

**ESPERANZA HILLS
SPECIFIC PLAN AREA**

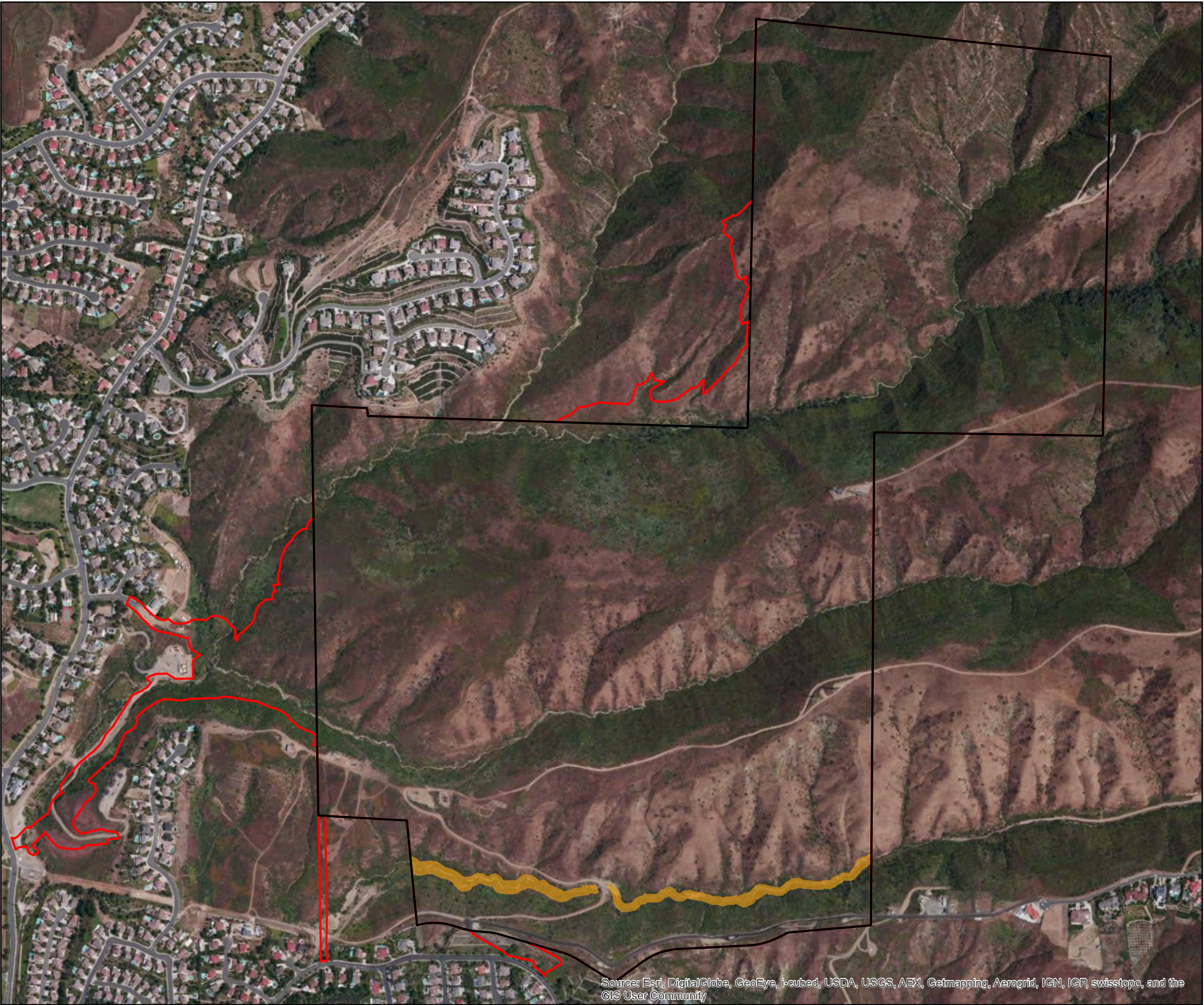
Least Bell's Vireo Impact Map

GLENN LUKOS ASSOCIATES






Exhibit 5

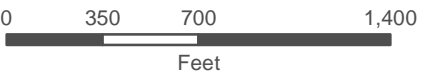
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

-  Property Boundary
-  Study Area Boundary
-  Candidate Riparian Mitigation Area - 5.30 ac.



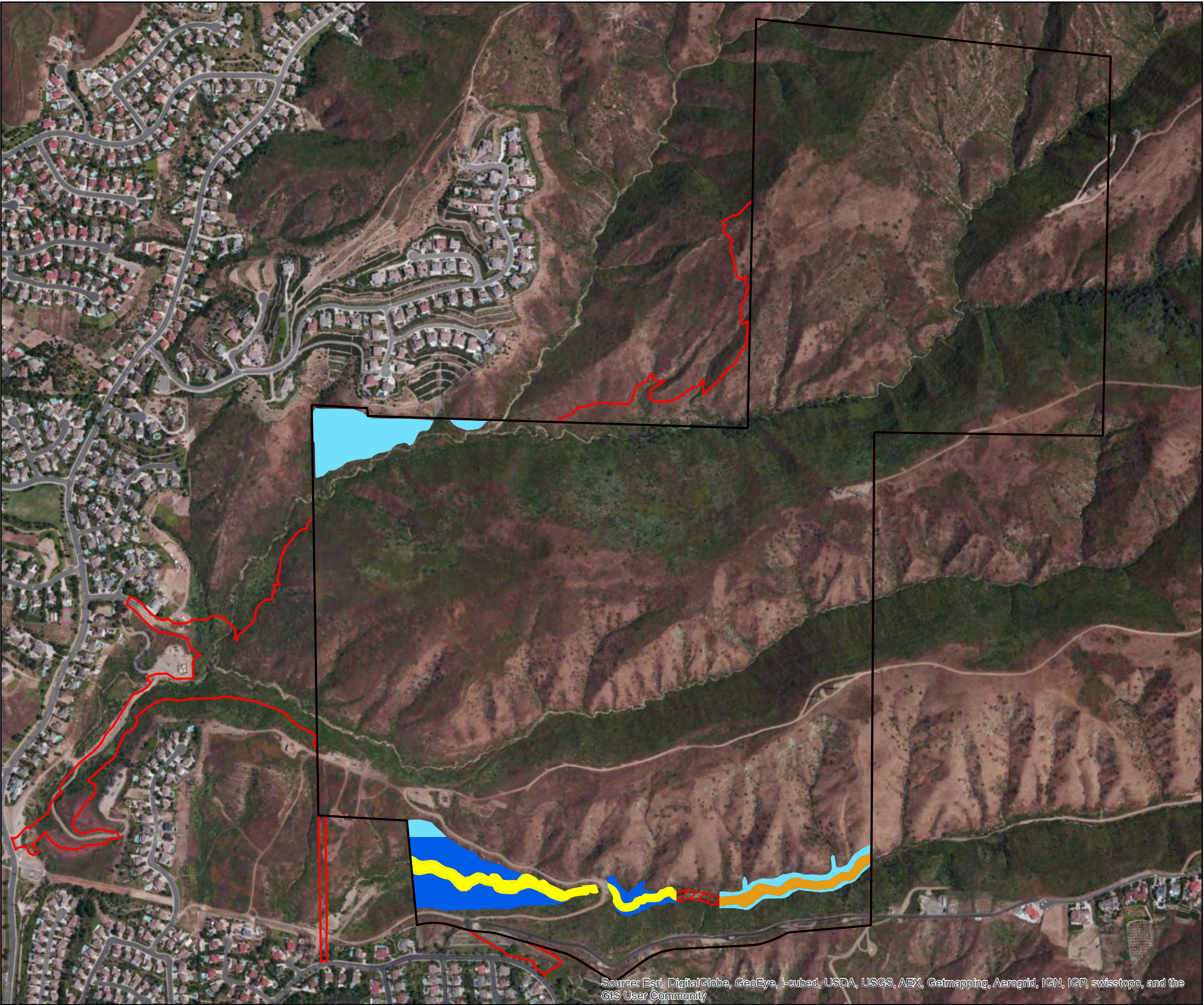
1 inch = 700 feet

ESPERANZA HILLS SPECIFIC PLAN AREA

Blue Mud Canyon Riparian Mitigation Areas








GLENN LUKOS ASSOCIATES

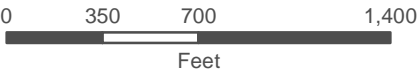




Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

-  Property Boundary
-  Study Area Boundary
-  Candidate Elderberry/Walnut Mitigation Area (8.00 ac.)
-  Candidate Elderberry/Walnut Mitigation Area - Fire Prone Vegetation Removal Zone (6.70 ac.)
-  Candidate Riparian Mitigation Area (1.80 ac.)
-  Candidate Riparian Mitigation Area - Fire Prone Vegetation Removal Zone (3.50 ac.)
-  50-Foot Irrigated Zone (0.43 ac.)
(Not included as project mitigation)



1 inch = 700 feet

**ESPERANZA HILLS
SPECIFIC PLAN AREA**

California Walnut Blue Elderberry Woodland Mitigation Areas

GLENN LUKOS ASSOCIATES



September 8, 2016

Mr. Douglas Wymore, Esq.
Yorba Linda Estates, LLC
7114 East Stetson Drive, Suite 350
Scottsdale, AZ 85251

LLG Reference: 2.12.3281.1

Subject: **Traffic Impact Evaluation of Modified Option 1 Site Plan for the
Proposed Esperanza Hills Residential Project**
County of Orange, California

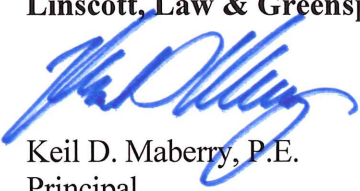
Dear Mr. Wymore:

As requested, Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit the following Traffic Impact Evaluation of the Modified Option 1 Site Plan for the Proposed Esperanza Hills Residential Project located in unincorporated County of Orange. Based on the information provided, we understand that the access roadway into the Project site from Stonehaven Drive will be revised to include a bridge over Blue Mud Canyon, which will result in a straighter alignment compared to the approved Option 1 site plan. Given that the Modified Option 1 Project will not change the Project traffic generation forecast or Project distribution pattern, which includes Project traffic utilizing both Stonehaven Drive and Via del Agua to access Yorba Linda Boulevard, the findings in the approved Traffic Impact Analysis (TIA) Report (dated March 18, 2013), TIA Addendum (dated October 14, 2013), and Emergency (Fire) Evacuation Analysis (dated May 9, 2014) all prepared by LLG, remain applicable and has therefore been fully analyzed in the Environmental Impact report (EIR).

It does not result in any new significant environmental effects from a traffic standpoint, or affect any mitigation measures and does not change our previous conclusions or analysis. Therefore, no further analysis is required.

We appreciate the opportunity to submit this traffic impact evaluation for the proposed project. If you have any questions regarding this letter, please do not hesitate to call me at (949) 825-6175.

Sincerely,
Linscott, Law & Greenspan, Engineers


Keil D. Maberry, P.E.
Principal



Engineers & Planners
Traffic
Transportation
Parking

**Linscott, Law &
Greenspan, Engineers**

2 Executive Circle
Suite 250
Irvine, CA 92614
949.825.6175 T
949.825.6173 F
www.llgengineers.com

Pasadena
Irvine
San Diego
Woodland Hills



Philip M. Linscott, PE (1924-2006)
Jack M. Greenspan, PE (Ret.)
William A. Law, PE (Ret.)
Paul W. Wilkinson, PE
John P. Keating, PE
David S. Shender, PE
John A. Boarman, PE
Clare M. Look-Jaeger, PE
Richard E. Barretto, PE
Keil D. Maberry, PE

July 8, 2016

US Fish and Wildlife Service
2177 Salk Avenue, Ste. 250
Carlsbad, CA 92008
760•431•9440
Email: stacey_love@fws.gov

Attn: Ms. Stacey Love, Recovery Permit Coordinator

Subject: **REPORT TRANSMITTAL: COASTAL CALIFORNIA GNATCATCHER, FOCUSED SURVEY REPORT, CIELO VISTA RESIDENTIAL DEVELOPMENT, ORANGE COUNTY, CALIFORNIA - DATED JULY 2016**

Dear Ms. Love:

On July 3, 2016, Christine Harvey (TE-54716A-2) concluded presence/absence protocol surveys and a habitat assessment for coastal California gnatcatcher (*Polioptila californica californica*), Cielo Vista Project No. 38715, Orange County, California. Four California gnatcatchers were observed within 34.92 acres of suitable habitat on June 12, 2016 and subsequent surveys. Territory 1 was observed within the Project parcel but outside the Project footprint on June 12, 2016, June 19, 2016, June 26, 2016 and July 3, 2016. Territory 2 was observed within the Project parcel but outside the Project footprint on June 12, 2016 and June 26, 2016.

The following special status species were observed while conducting California gnatcatcher protocol surveys:

Nuttall's woodpecker was observed within the Project footprint the entire survey period.

Willow flycatcher was observed in southern willow scrub in the southeast portion of the Project footprint May 29, 2016.

Least Bell's vireo was observed within the project footprint in southern willow scrub in the southeast portion of the Project footprint on June 5, 2016, June 12, 2016, June 19, 2016, June 26, 2016 and July 3, 2016. Territory 1 pair was feeding, singing and scolding moving high to low in a south to north direction through the drainage. The male was observed defending territory, counter calling with an unmated male in adjacent Territory 2. Both territories utilize lush landscaped properties along the southern parcel boundary.

Yellow warbler was observed in southern willow scrub in the Project south buffer the entire survey period.

Yellow-breasted chat was observed within the project footprint in southern willow scrub near the Project footprint and another in southern willow scrub along the Project northwest buffer the entire survey period.

Southern California Rufous-crowned sparrow was observed at the Project southeast buffer and the Project northwest buffer on June 5, 2016, June 12, 2016, June 19, 2016, June 26, 2016 and July 3, 2016.

All observed special status species have been reported to the California Natural Diversity Database (CNDDDB).

Avian activity and diversity was moderate and common avian species expected to occur within coastal sage scrub were observed on a regular basis. Brown-headed cowbirds, which are nest parasites to California gnatcatcher and other avian species, were not observed in the vicinity of the project footprint during the surveys.

Attached you will find the *Cielo Vista Coastal California Gnatcatcher Focused Survey Report* followed by a hard copy submitted via USPS on July 8, 2016.

Please feel free to contact Christine Harvey at 619•249•2531 or charvey@leopoldbiological.com with any questions.

Respectfully,



Christine Harvey
Principal/Consulting Biologist
TE-54716A-2

cc: Stacey_love@fws.gov
esther.burkett@wildlife.ca.gov

**Coastal California Gnatcatcher
Focused Survey Report**

**Sage Development Group
Cielo Vista
Orange County, California**



Prepared for:

Sage Development Group
3 Corporate Plaza Drive, Suite 102
Newport Beach, California 92660
760•431•9440

and

SWCA Environmental Consultants
150 South Arroyo Parkway, 2nd Floor
Pasadena, California 91105
626•240•0587

Prepared by:

Leopold Biological Services
11160 Portobelo Drive
San Diego, CA 92124

July 2016

Cielo Vista California Gnatcatcher Focused Survey Report

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
EXECUTIVE SUMMARY	4
INTRODUCTION	6
HABITAT ASSESSMENT.....	7
SURVEY	8
METHOD	8
RESULTS	9
RECOMMENDATIONS	11
CERTIFICATION	13
REFERENCES	14

LIST OF TABLES

<u>No.</u>		
1	Survey Weather Conditions.....	9
2	Survey Results.....	11

LIST OF FIGURES

<u>No.</u>		<u>Page</u>
1	Project Location and Vicinity.....	16
2	Survey Area	17
3	Survey Results	18

LIST OF APPENDICES

<u>Section</u>	<u>Title</u>	<u>Page</u>
A	Agency Notification.....	20
B	Wildlife Compendium.....	22
C	Photographs.....	26

EXECUTIVE SUMMARY

On July 3, 2016, Christine Harvey (TE-54716A-2) concluded presence/absence protocol surveys and a habitat assessment for California gnatcatcher within the Cielo Vista project (Project) footprint and 500 foot buffer. The proposed community development would provide additional homes for the region. The project footprint and 500 foot buffer accounts for approximately 34.92 acres suitable coastal sage scrub. The following vegetation communities and habitats were identified and surveyed within the project parcel and 500 foot buffer (Sawyer, Keeler-Woelf and Evens, 2009):

- Coastal sage scrub
- Southern willow scrub
- Bushmallow scrub
- Coastal sage scrub (disturbed)
- Urban/developed land

Four California gnatcatchers were observed within 34.92 acres suitable habitat on June 12, 2016 and subsequent surveys. A summary of occupied California gnatcatcher territories follows:

- Territory 1 consisted of an adult male and an adult female observed contact calling and foraging in the Project parcel coastal sage scrub on June 12, 2016, June 19, 2016, June 26, 2016, July 3, 2016. Although the pair came within approximately 300 feet of the proposed work limits, they remained outside the project footprint. The pair's territory extends from the jurisdictional drainage west to the eastern terminus of Aspen Way south southeast to the drainage below 4545 Dorinda Road.
- Territory 2 consisted of an adult male and an adult female observed contact calling and foraging in the Project parcel coastal sage scrub on June 12, 2016 and June 26, 2016. The pairs contact calling was unsolicited. Although the pair came within approximately 35 feet of the project footprint, they were consistently observed remaining outside the proposed work limits. Their territory extends from the jurisdictional drainage east along the hillside below the proposed project's footprint northern boundary.
- Neither California gnatcatcher Territory 1 nor Territory 2 were within the Project footprint.

Avian activity and diversity was generally moderate during the surveys and common avian species expected to occur within coastal sage scrub were observed on a regular basis. Brown-headed cowbirds, which are a nest parasite to California gnatcatchers and other avian species, were not observed in the vicinity of the Project site over the course of the surveys. There were no mortality events to report.

The following special status species were observed while conducting California gnatcatcher protocol surveys:

- Nuttall's woodpecker was observed within the Project footprint the entire survey period.

- Willow flycatcher was observed in southern willow scrub in the southeast portion of the Project footprint on May 29, 2016. It was not observed after this date.
- Least Bell's vireo was observed within the project footprint in southern willow scrub in the southeast portion of the Project footprint during surveys June 5, 2016, June 12, 2016, June 19, 2016, June 26, 2016 and July 3, 2016. Territory 1 pair was feeding, singing and scolding moving high to low in a south to north direction through the drainage. The male was observed defending territory, counter calling with an unmated male in adjacent Territory 2. Both territories utilize lush landscaped properties along the southern parcel boundary.
- Yellow warbler was observed in southern willow scrub in the Project south buffer the entire survey period.
- Yellow-breasted chat was observed within the project footprint in southern willow scrub near the Project footprint and another in southern willow scrub along the Project northwest buffer the entire survey period.
- Southern California Rufous-crowned sparrow was observed at the Project southeast buffer and the Project northwest buffer on June 5, 2016, June 12, 2016, June 19, 2016, June 26, 2016 and July 3, 2016.

All observed special-status species have been reported to the California Natural Diversity Database (CNDDB).

A list of wildlife common to the area is provided in Appendix A.

INTRODUCTION

Purpose

This report presents the results of a habitat assessment and focused protocol surveys for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*) (California gnatcatcher) (CAGN). The surveys were conducted to determine the presence/absence of California gnatcatchers for the proposed Cielo Vista project (Project), an 83-unit single family residential development plan. The Project is located east of San Antonio Road, south of Casino Ridge Road and North of Stonehaven Drive in the County of Orange adjacent to the City of Yorba Linda, California.

The parcel is bordered by Yorba Linda environs to the north, west and south, and Orange County open space to the east. The parcel consists of gentle slopes and southern riparian scrub (Figures).

Vegetation communities surrounding the Project site is described below:

- North of the Project site consists of coastal sage scrub and a jurisdictional drainage. Suitable California gnatcatcher habitat is present.
- East of the Project site consists of slopes and drainages containing suitable coastal sage scrub: California sagebrush (*Artemisia californica*), flat-topped buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), and bush sunflower (*Encelia californica*). Suitable California gnatcatcher habitat is present.
- South of the Project site is urban/developed land. No suitable California gnatcatcher habitat is present.
- West of the Project site is primarily urban/developed land with suitable coastal sage scrub present west and northwest of Dorinda Road. Suitable California gnatcatcher habitat was present.

Background

The California gnatcatcher is a small, gray and black songbird that inhabits dry coastal slopes, washes, and mesas from coastal southern California to the tip of the Baja California Peninsula. Three subspecies are recognized. The northernmost nominate race, the California gnatcatcher is a resident of coastal sage scrub consisting predominately of *A. californica*, *E. fasciculatum*, *E. californica* and adjacent ecotonal habitats from southern Ventura County southward to northwestern Baja California, Mexico near El Rosario at approximately 30 degrees North latitude. It is generally found at elevations below 500 m and are less abundant in coastal scrub-chaparral transition areas and areas dominated by *S. mellifera*, white sage (*Salvia apiana*), or lemonadeberry (*Rhus integrifolia*) (Atwood and Bontrager 2001).

They nest in shrubs within coastal sage scrub from mid-February to August, and remain on their breeding territories throughout the year. California gnatcatchers will nest on steep or shallow slopes however; slope has a significant influence on nesting success. Nests have an increased success rate on slopes <19.9% slope and placed in *A. californica* (Grishaver 1998).

The species was originally described as distinct in 1881 but was subsequently lumped with the black-tailed gnatcatcher (*Polioptila melanura*) until Atwood (1988) concluded that it was specifically

distinct based on differences in ecology, behavior, and distribution. This finding was adopted by the American Ornithologist's Union (AOU 1989). In March 1993, the subspecies was listed as threatened by the U.S. Fish and Wildlife Service and species of special concern by the California Department of Fish and Wildlife (CDFW) (USFWS 1993, CDFW 2009). This was due to habitat loss and fragmentation occurring in conjunction with urban and agricultural development and brood parasitism by the brown-headed cowbird (*Molothrus ater*). Loss of historical habitat is estimated to be 70-90% (USFWS 1997).

HABITAT ASSESSMENT

Methods

Prior to commencing surveys, Leopold Biological Services (Leopold) senior biologist, Christine Harvey reviewed historic data on the California Natural Diversity Database (CDFW 2016), eBird database (eBird 2016), and project area and U.S. Geological Survey (USGS) topography maps to identify species specific survey areas. California gnatcatcher suitable habitat in surrounding environs was included in the review. Ms. Harvey walked the entire project site and 500 foot buffer including the perimeter and the middle where assessable.

Results

The parcel is successional recovering from the 2008 Freeway Complex Fire. The selected survey sites were based upon drainages and slopes containing coastal sage scrub, predominated by *A. californica*, *E. fasciculatum*, *E. californica* and *Salvia* spp. Suitable California gnatcatcher habitat was observed primarily within the southern portion of the biological survey area (BSA).

Habitats

The BSA accounts for approximately 34.92 acres suitable coastal sage scrub, approximately 13.48 acres suitable coastal sage scrub within the Project buffer and approximately 21.44 acres suitable coastal sage scrub within the project footprint. The following vegetation communities were identified and surveyed within the Project parcel and 500 foot buffer:

- Coastal sage scrub was predominately *E. fasciculatum*, *A. californica*, *S. mellifera*, and *E. californica* interspersed with chaparral bushmallow (*Malacothamnus fasciculatum*), locoweed (*Astragalus trichopodus*), *S. apiana*, California chicory (*Rafinesquia californica*), prickly pear (*Opuntia littoralis*), deerweed (*Acmispon glabe*), laurel sumac (*malosma laurina*), *R. integrifolia*, toyon (*Heteromeles arbutifolia*), and coyote brush (*Baccharis pilularis*) (Sawyer, Keeler-Woolf and Evens, 2009).
- Slopes enter jurisdictional drainages consisting of southern willow scrub primarily composed of arroyo willow (*Salix lasiolepis*), blue elderberry (*Sambucus nigra*), mule fat (*Baccharis salicifolia*), with an overstory of *S. lasiolepis* and black willow (*Salix goodingii*). The remaining understory vegetation consisted of bulrush (*Schoenoplectus acutus*), cattail (*Typha* spp.) and umbrella sedge (*Cyperus eragrostis*), poison-oak (*Toxicodendron diversilobum*) and wild cucumber (*Marah macrocarpa*) (Sawyer, Keeler-Woolf and Evens, 2009).
- Bushmallow scrub in post burn areas consisted primarily of *M. fasciculatum*, *A. californica* and *A. glaber* (Jones and Stokes Associates, 1993).

- Coastal sage scrub (disturbed) consisted of *A. californica*, *E. fasciculatum*, *M. laurina* and ruderal vegetation such as black mustard (*Brassica nigra*), barley (*Hordeum murinum*), fennel (*Foeniculum vulgare*), poison hemlock (*conium maculatum*), Russian thistle (*Salsola australis*), castor bean (*Ricinus communis*), goldenbush (*Isocoma menziesii*), tree tobacco (*Nicotiana glauca*), and telegraph weed (*Heterotheca grandiflora*) (Sawyer, Keeler-Woolf and Evens, 2009).
- Urban/developed land is present within the parcel and 500 foot buffer. Yorba Linda environs border the parcel to the north, south and west. Oil wells are located in the southeast portion of the parcel (Sawyer, Keeler-Woolf and Evens, 2009).

SURVEY

Location

The approximate 80 acre parcel is located southeast of San Antonio Road and Casino Ridge Road, Yorba Linda, California. The Project footprint is approximately 33.62 acres with the remaining 46.38 acres as undeveloped.

Approximately 34.92 acres of suitable habitat was identified, mapped and surveyed within the Project footprint and 500 feet buffer. The selected survey sites were based upon drainages and slopes containing coastal sage scrub, predominated by *A. californica*, *E. fasciculatum*, *E. californica* and *Salvia* spp. (Table 2, Figures).

Method

On Wednesday, May 11, 2016, Christine Harvey (TE-54716A-2) submitted notification to Ms. Stacey Love, permit coordinator for the U.S. Fish and Wildlife Service Carlsbad office and Ms. Esther Burkett, permit coordinator for the California Department of Fish and Wildlife. The survey schedule and project maps were included.

Ms. Harvey, conducted six focused California gnatcatcher surveys pursuant to Coastal California Gnatcatcher (*Poliophtila californica californica*) Presence/Absence Survey Protocol for a non-NCCP area related surveys described by (USFWS 1997, revised July) and in accordance with U.S. Fish and Wildlife Service (USFWS) recovery permit number 54716A-2 issued under section 10(a)(1)(A) of the Federal Endangered Species Act (FESA).

Surveys were conducted in a non-NCCP area and were completed at least one week apart (February 15 to August 30).

On each site visit, 34.92 acres of potentially suitable California gnatcatcher habitat were surveyed remaining well within the 80 acre per day limit. The surveys were conducted throughout the Project footprint and 500 foot buffer including the perimeter and the middle where assessable. Surveys were conducted during early morning hours between 6:00 a.m. and noon when birds were most active and weather conditions were optimal (Table 1).

The permittee slowly walked the survey area, stopping at approximate 30-meter intervals and waiting three minutes. If a gnatcatcher was not detected in the area, a tape-lure was sparingly played for no more than 10 seconds to solicit a response. Often times the California gnatcatcher will call without the

use of a tape lure. Ms. Harvey would wait three minutes for a response before advancing 30-meters. If California gnatcatchers were observed, age, sex, breeding status, and behavioral characteristics were recorded, if possible. The number and coordinates of all brown-headed cowbirds (*Molothrus ater*) were recorded and transmitted.

Standard practices and precautions were used to avoid and minimize injury or a mortality event and included: checking for predators/cowbirds before using a tape-lure, employing binoculars to perform the majority of observations from a safe distance, waiting until adults are out of the immediate area before indirectly approaching the nest, responding quickly and moving indirectly away from the nest, and taking a way point instead of flagging near a nesting site. The tape-lure was used to ensure no *P. californica* were in the area but was employed only as a last resort because this tool attracts the species away from their nest exposing adults and young to predation and interrupts parents caring for their eggs/young.

Table 1
SURVEY WEATHER CONDITIONS

Date	Time		Temperature (°F)		Wind Speed (mph)		Cloud Cover (%)	
	Begin	End	Begin	End	Begin	End	Begin	End
May 29	0645	1200	61	64	3	2	Fog	Fog
June 5	0645	1130	61	64	1	2	Fog	5%
June 12	0700	1230	64	67	0	1	Fog	Fog
June 19	0545	1030	65	84	1	1	Clear	2%
June 26	0700	1015	65	73	1	1	Clear	Clear
July 3	0645	1100	64	68	0	2	Fog	Clear

RESULTS

Four California gnatcatchers were observed in two adjacent territories on June 12, 2016 and subsequent surveys. A summary of California gnatcatcher territories follows:

- Territory 1 consisted of an adult male and adult female observed contact calling and foraging in Project parcel coastal sage scrub on June 12, 2016, June 19, 2016, June 26, 2016, and July 3, 2016. Although the pair came within approximately 300 feet of the proposed work limits, they remained outside the project footprint. The pair's territory extends from the jurisdictional drainage west to the eastern terminus of Aspen Way south southeast to the drainage below 4545 Dorinda Road.
- Territory 2 consisted of an adult male and adult female observed contact calling and foraging in Project parcel coastal sage scrub on June 12, 2016 and June 26, 2016. The pairs contact calling was unsolicited. Although the pair came within approximately 35 feet of the project footprint, they were consistently observed outside the proposed work limits. Their territory extends from the jurisdictional drainage east along the hillside below the proposed project's footprint northern boundary.
- Neither California gnatcatcher Territory 1 nor Territory 2 were within the Project footprint.

Avian activity and diversity was generally moderate during the surveys and common avian species expected to occur within coastal sage scrub were observed on a regular basis. Brown-headed cowbirds, which are a nest parasite to California gnatcatchers and other avian species, were not observed in the vicinity of the Project site over the course of the surveys. There were no mortality events to report.

A list of wildlife common to the area is provided in Appendix A.

The following special status species were observed while conducting California gnatcatcher protocol surveys:

- Nuttall's woodpecker (*Picoides nuttallii*), a USFWS – Bird of Conservation Concern, and American Bird Conservancy – U.S. Watchlist Bird of Conservation Concern, was observed within the Project footprint the entire survey period.
- Willow flycatcher (*Empidonax traillii*), a CDFW Endangered Species, was observed in southern willow scrub in the southeast portion of the Project footprint May 29, 2016. The bird was observed actively singing, calling and feeding in arroyo willow within the Project footprint near the southeast boundary.
- Least Bell's vireo (*Vireo bellii pusillus*), a USFWS and CDFW Endangered Species, was observed within the project footprint in southern willow scrub in the southeast portion of the Project footprint on June 5, 2016, June 12, 2016, June 19, 2016, June 26, 2016 and July 3, 2016. Territory 1 pair was feeding, singing and scolding moving high to low in a south to north direction through the drainage. The male was observed defending territory, counter calling with an unmated male in adjacent Territory 2. Both territories utilize lush landscaped properties along the southern parcel boundary.
- Yellow warbler (*Setophaga petechia*) is a CDFW Species of Special Concern, and was observed in southern willow scrub in the Project south buffer the entire survey period.
- Yellow-breasted chat (*Icteria virens*) is a CDFW Species of Special Concern, and was observed within the project footprint in southern willow scrub in the Project footprint and another in southern willow scrub along the Project northwest buffer the entire survey period.
- Southern California Rufous-crowned sparrow (*Aimophila ruficeps canescens*) is a CDFW Watch List Species, and was observed in the Project southeast buffer and the Project northwest buffer on June 5, 2016, June 12, 2016, June 19, 2016, June 26, 2016 and July 3, 2016.

All observed special status species have been reported to the CNDDDB.

Survey results are provided in Table 2 and Figures.

Table 2
SURVEY RESULTS

Date	Time Begin	End	Location Easting	UTM (11 N) Northing	Surveyors	Species	Species Age/Sex	Comments Territorial Behavior
May 29	0645	1200	429907	3750640	C HARVEY	WIFL	M	Singing/Calling
June 5	0645	1130	429875	3750601		LBV	1-M/1-F	Territory 1 - Sing/Scold Call
June 12	0700	1230	429595	3751187		CAGN	1-M/1-F	Territory 1 - Contact Call
			429662	3751085		CAGN	1-M/1-F	Territory 2 – Contact Call
			429871	3750547		LBV	M	Territory 2 – Counter Singing
			429875	3750601		LBV	1-M/1-F	Territory 1 – Counter Singing
June 19	0545	1030	429464	3751036		CAGN	1-M/1-F	Territory 1 - Contact Call
			429875	3750601		LBV	1-M/1-F	Territory 1 – Counter Singing
			429871	3750547		LBV	M	Territory 2 – Counter Singing
June 26	0700	1015	429636	3751076		CAGN	1-M/1-F	Territory 2 - Contact Calling
			429544	3751206		CAGN	1-F	Territory 1 - Calling/Foraging
			429875	3750601		LBV	1-M/1-F	Territory 1 – Counter/Contact Calling
			429871	3750547		LBV	1-M	Territory 2 – Counter Calling
July 3	0645	1100	429875	3750601		LBV	1-M/1-F	Territory 1 – Counter Calling
			429871	3750547		LBV	1-M	Territory 2 – Counter Calling
			429584	3751188		CAGN	1-M	Territory 1 – Singing/Calling

RECOMMENDATIONS

Considering California gnatcatchers are present within the parcel, the quality of the survey site's coastal sage scrub, and its proximity to known breeding populations, additional surveys for California gnatcatcher should be conducted prior to any habitat disturbance.

In addition to protocol presence/absence surveys for California gnatcatcher, preconstruction nesting bird surveys for birds protected under the Migratory Bird Treaty Act (MBTA) should be conducted by a qualified biologist at the beginning and throughout the breeding season (generally defined as February 1 – September 15). A buffer should be established for active nests and will remain up until the project biologist reduces the buffer as instructed by the regulatory agency or the young have fledged.

Please feel free to contact Ms. Harvey at 619•249•2531 or charvey@leopoldbiological.com with any questions.

Respectfully,



Christine Harvey
Principal/Consulting Biologist
TE-54716A-2

CERTIFICATION

I hereby certify that the statements furnished in this report and in the attached exhibits present data and information required for this California gnatcatcher focused survey, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



Signed: _____
Christine L. Harvey
Principal/Consulting Biologist
TE-54716A-2

Date: July 8, 2016

REFERENCES

- American Ornithologists' Union. 2012. Fifty-third supplement to the AOU Check-list of North American Birds. Auk 129(3):573-588.
- Atwood, J.L. 1988. Speciation and geographic variation in black-tailed gnatcatchers. Ornithol. Monogr. No. 42
- Atwood J.L. and Bolsinger J. 1992. Elevational Distribution of California Gnatcatchers in the United States. Journal of Field Ornithology. 63 (2):159-168.
- Atwood, J.L., and D.R. Bontrager. 2001. California gnatcatcher (*Polioptila californica*). In The Birds of North America, No. 574 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.
- Bontrager D. 1991. Habitat Requirements, Home Range and Breeding Biology of the California Gnatcatcher (*Polioptila californica*) in South Orange County. Santa Margarita Company.
- California Department of Fish and Game (CDFG). 2014. California Natural Diversity Database (CNDDB). RareFind Version 3.1.1. Biogeographic Data Branch. Sacramento, California. Commercial Version.
- eBird. 2014. eBird: An online database of bird distribution and abundance [web application]. Version 2. eBird, Ithaca, New York. Available at <http://www.ebird.org>. Accessed 2014.
- Garrett K. and Dunn J. 1981. Birds of Southern California: Status and Distribution. Los Angeles: Los Angeles Audubon Society.
- Grishaver, M.A., P.J. Mock, and K.L. Preston. 1998. Breeding behavior of the California Gnatcatcher in southwestern San Diego County, California. Western Birds 29: 299-322.
- Hickman J.C., 1993. The Jepson Manual: Higher Plants of California. Berkeley: University of California Press.
- Holland R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California Resources Agency. Department of Fish and Game. Non- Game Heritage Program. Sacramento, CA.
- Baldwin, B.G., et.al. 2012. The Jepson Manual Vascular Plants of California. Berkeley and Los Angeles, California: University of California Press.
- Jones and Stokes Associates. 1993. Methods Used to Survey The Vegetation of Orange County Parks and Open Space Areas and The Irvine Company Property. Report JSA 94083. Sacramento, CA.
- Mock P.J. 1998. Energetic Constraints to the Distribution of the California Gnatcatcher. Western Birds 29: 413 - 420.
- National Geographic Society. 2011. National Geographic Society Field Guide to the Birds of North America. 5th Edition. National Geographic Society.

Natural Resources Assessment, Inc. November 2010. General Biological Resources Assessment. Unpublished Report

Sawyer, Keeler-Woelf and Evens, 2009. A Manual of California Vegetation. 2nd Edition. California Native Plant Society.

State of California Natural Resources Agency. July 2011. Department of Fish and Game. Natural Heritage Division. Special Animals List. Sacramento, CA.

United States Fish & Wildlife Service. 1993. Determination of Threatened Status for the California Gnatcatcher. Federal Register 58: 6742.

United States Fish and Wildlife Service. 1993. Federal Register, Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Coastal California Gnatcatcher; Final Rule. March 30.

United States Fish and Wildlife Service. 1997. Coastal California Gnatcatcher Presence/Absence Survey Protocol. Revised July 28th.

United States Fish and Wildlife Service. 2007. Federal Register, Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Coastal California Gnatcatcher (*Poliophtila californica californica*); Final Rule. December 19.





- Project Footprint
- Survey Area
- Parcel Boundary
- 500 Foot Buffer
- Least Bell's Vireo Territory 1 – 6/5, 6/12, 6/19, 6/26, 7/3/2016
- Least Bell's Vireo Territory 2 – 6/12, 6/19, 6/26, 7/3/2016
- Willow Flycatcher - 5/29/16
- California Gnatcatcher Territory 1 – 6/12/16, 7/03/16
- California Gnatcatcher Territory 1 – 6/19/16
- California Gnatcatcher Territory 1 – 6/26/16
- California Gnatcatcher Territory 2 – 6/12/16
- California Gnatcatcher Territory 2 – 6/26/16

Figure 2 – Survey area



Least Bell's Vireo Territory 1
 Least Bell's Vireo Territory 2
 Willow Flycatcher

California Gnatcatcher Territory 1
 California Gnatcatcher Territory 2

Project Footprint
 500 Foot Buffer
 Parcel Boundary

Figure 3 – Survey results

Appendix A

Agency Notification

Re: Notification for coastal California gnatcatcher surveys for Cielo Vista, Yorba Linda, California

charvey@leopoldbiological.com <charvey@leopoldbiological.com>

Wed, May 11, 2016
at 2:26 PM

To: Stacey Love <stacey_love@fws.gov>

Cc: "Esther@Wildlife Burkett" <Esther.Burkett@wildlife.ca.gov>, "Justin@Wildlife Garcia" <Justin.Garcia@wildlife.ca.gov>

Dear Ms. Love,

I'm writing to submit notification for coastal California gnatcatcher (*Poliophtila californica californica*) presence/absence surveys.

SWCA has retained permittee, Christine L. Harvey's services for California gnatcatcher presence/absence surveys. The proposed project site is approximately 80 acres, with less than 50% slated for development. The new single family residences will be constructed north of Yorba Linda Boulevard and east of Dorinda Road, Orange County, Yorba Linda, California (location map attached). The 2014 surveys identified one breeding pair and two juveniles in the southern portion of the biological survey area.

Ms. Harvey will conduct California gnatcatcher surveys pursuant to Coastal California Gnatcatcher (*Poliophtila californica californica*) Presence/Absence Survey Protocol described by USFWS 1997, revised July and in accordance with U.S. Fish and Wildlife Service recovery permit number TE-54716A-2 issued under section 10(a)(1)(A) of the Federal Endangered Species Act. Biologists Angelique Herman and Shirley Innecken will alternate accompanying Ms. Harvey.

Surveys will be conducted in non-NCCP area. We propose the standard survey protocol in non-NCCP area, six surveys, no more than 80 acres per day, one week apart. The survey schedule follows:

SURVEY	DATE
1	May 29
2	June 5
3	June 12
4	June 19
5	June 26
6	July 3

Ms. Christine Harvey holds FWS 10(a)(1)(A) permit TE-54716A-2. Please feel free to contact Ms. Harvey at (619) 249-2531 or charvey@leopoldbiological.com with any questions.

Respectfully,

Christine Harvey, Principal/Consulting Biologist

Leopold Biological Services

PO Box 421222

San Diego, CA 92142-1222

Tel: (619) 249-2531

Fax: (858) 256-0871

charvey@leopoldbiological.com

www.leopoldbiological.com



CIELO VISTA CAGN NOTIFY LTR MAY 12 2016.pdf

543K

Appendix B

Wildlife Compendium

Common Name	Scientific Name
Butterflies	Pieridae
Alfalfa Butterfly	<i>Colias eurytheme</i>
Common White	<i>Pontia protodice</i>
Butterflies	Hesperiidae
Common Checkered Skipper	<i>Pyrgus communis</i>
Reptile	Phrynosomatidae
Side-blotched Lizard	<i>Uta stansburiana</i>
Mammal	Didelphidae
Opposum	<i>Didelphis virginiana</i>
Mammal	Canidae
Coyote	<i>Canis latrans</i>
Mammal	Cervidae
Southern Mule Deer	<i>Odocoileus hemionus</i>
Mammal	Sciuridae
California Ground Squirrel	<i>Spermophilus beecheyi</i>
Mammal	Leporidae
Audubon's Cottontail	<i>Sylvilagus audubonii</i>
New World Vultures	Cathartidae
Turkey Vulture	<i>Cathartes aura</i>
Hawks, Kites, Eagles and Allies	Accipitridae
Cooper's Hawk	<i>Accipiter cooperii</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
New World Quail	Odontophoridae
California Quail	<i>Callipepla californica</i>
Pigeons and Doves	Columbidae
Mourning Dove	<i>Zenaida macroura</i>
Cuckoos, Roadrunners & Anis	Cuculidae
Greater Roadrunner	<i>Geococcyx californianus</i>
Swifts	Apodidae
White-throated Swift	<i>Aeronautes saxatalis</i>
Hummingbirds	Trochilidae
Anna's Hummingbird	<i>Calypte anna</i>
Allen's Hummingbird	<i>Selasphorus sasin</i>
Woodpeckers and Allies	Picidae
Nuttall's Woodpecker	<i>Picoides nuttallii</i>
Caracaras and Falcons	Falconidae

American Kestrel	<i>Falco sparverius</i>
Tyrant Flycatchers	Tyrannidae
Willow Flycatcher	<i>Empidonax traillii</i>
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>
Black Phoebe	<i>Sayornis nigricans</i>
Say's Phoebe	<i>Sayornis saya</i>
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>
Cassin's Kingbird	<i>Tyrannus vociferans</i>
Vireos	Vireonidae
Least Bell's Vireo	<i>Vireo bellii pusillus</i>
Hutton's Vireo	<i>Vireo huttoni</i>
Jays and Crows	Corvidae
Western Scrub-Jay	<i>Aphelocoma californica</i>
American Crow	<i>Corvus brachyrhynchos</i>
Swallows	Hirundinidae
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Bushtits	Remizidae
Bushtit	<i>Psaltiriparus minimus</i>
Wrens	Troglodytidae
House Wren	<i>Troglodytes aedon</i>
Bewick's Wren	<i>Thryomanes bewickii</i>
Gnatcatchers	Poliophtidae
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>
California Gnatcatcher	<i>Poliophtila californica</i>
Sylviid Warblers	Sylviidae
Wrentit	<i>Chamaea fasciata</i>
Thrushes	Turdidae
Western Bluebird	<i>Sialia sialis</i>
Mockingbirds and Thrashers	Mimidae
California Thrasher	<i>Toxostoma redivivum</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Silky-Flycatchers	Ptilonotidae
Phainopepla	<i>Phainopepla nitens</i>
Wood-Warblers	Parulidae
Common Yellowthroat	<i>Geothlypis trichas</i>

Yellow Warbler	<i>Setophaga petechia</i>
Yellow-breasted Chat	<i>Icteria virens</i>
Emberizids	Emberizidae
So Cal Rufous-crowned Sparrow	<i>Aimophila ruficeps canescens</i>
Spotted Towhee	<i>Pipilo maculatus</i>
California Towhee	<i>Melospiza crissalis</i>
Song Sparrow	<i>Melospiza melodia</i>
Cardinals, Tanagers and Allies	Cardinalidae
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
Blue Grosbeak	<i>Passerina caerulea</i>
Blackbirds	Icteridae
Hooded Oriole	<i>Icterus cucullatus</i>
Finches and Allies	Fringillidae
House Finch	<i>Haemorhous mexicanus</i>
Lesser Goldfinch	<i>Spinus psaltria</i>
Munias	Estrididae
Scaly-breasted Munia	<i>(Lonchura punctulata)</i>

Appendix C

Photographs



Photo 1 – Coastal Sage Scrub North Drainage



Photo 2 –Coastal Sage Scrub Northwest Project Footprint



Photo 3 – Southern Willow Scrub Willow Flycatcher Location



Photo 4 – Southern Willow Scrub



Photo 5 – Coastal Sage Scrub Drainage



Photo 6 – Southern Willow Scrub and Coastal Sage Scrub Yellow-breasted Chat Territory



Photo 7 – Coastal Sage Scrub California Gnatcatcher Territory 1



Photo 8 –Coastal Sage Scrub California Gnatcatcher Territory 1



Photo 9 – Coastal Sage Scrub Drainage California Gnatcatcher Territory 2



Photo 10 – Southern Willow Scrub Least Bell's Vireo Territory 1



Photo 11 – Urban/Developed - Least Bell's Vireo Territory 1 Frequenting Residential Adjacent to Jurisdictional Ephemeral Drainage



Photo 12 – Urban/Developed - Least Bell's Vireo Territory 2 Frequenting Residential Adjacent to Jurisdictional Ephemeral Drainage