

SECTION 6. MITIGATION MEASURES

The recommended mitigation measures (if required), the level of significance after mitigation, and the residual effects (if any), are presented.

MITIGATION FOR IMPACTS TO TREES AND SENSITIVE WOODLAND HABITAT

Mitigation for Loss of Southern California Black Walnut Woodland

BIO1 Plant *Juglans californica* Onsite. To mitigate for the loss of 0.08 acre of *Juglans californica* var. *californica* Alliance, plant locally indigenous seeds from this species in the appropriate locations such as a designated mitigation site. *Juglans* seedlings are quite successful, and with proper maintenance and monitoring, the impacts should be fully mitigable. Planting should occur on one or more of the preserved area onsite on a north-facing slope adjacent to Coast Live Oak Woodland areas. The total area to be planted should be 0.16 acre.

BIO1A Mitigation Measure for the Implementation of Conditions of Approval Related to Preserve Maintenance. The Lyons Canyon Ranch project shall provide for the establishment of a Home Owners' Association (HOA) and the preparation of Conditions, Covenants, and Restrictions (CC&Rs) prior to the recordation of the final tract map as a condition of project approval. The HOA shall be governed by CC&Rs that describe all aspects of property maintenance of common area preserves and biological resource mitigation areas under control of the HOA. The HOA shall be fully funded, pursuant to, and consistent with, the recorded CC&Rs.

The Lyons Canyon Ranch project HOA shall maintain all common areas consistent with the applicable mitigation measures and conditions of approval adopted by the County of Los Angeles. The applicable mitigation measures and conditions of approval that fall under the responsibility of the HOA shall be explicitly specified in the CC&Rs, and shall be verified by the County of Los Angeles prior to recordation of the final tract map.

The HOA shall retain the services of a wildlands ecologist familiar with plants and wildlife native to the Santa Clarita region to provide review and approval of the specific activities of preserve parcels prior to installation consistent with the plant list approved by the County Biologist. The ecologist shall also oversee HOA maintenance staff, when performing the following maintenance, to ensure compliance with biological mitigation measures applicable to the project site:

- Fuel modification within common areas;
- Maintenance of privately owned wetlands restoration areas;
- Maintenance of common areas designated as preserves or mitigation areas; and
- Maintenance of privately owned trails.

Said landscape architect and/or HOA shall not be responsible for maintenance or oversight of activities within lands dedicated to Los Angeles County or any other agency. The HOA shall enforce the CC&Rs at all times through the terms outlined in the recorded CC&Rs.

Because a small amount of Southern California Black Walnut Woodland will be impacted onsite (less than one-tenth of an acre) by the proposed project, and because impacts to this sensitive plant community are easily mitigated, impacts to this habitat would be considered less than significant after mitigation.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Loss of Oak Trees, Coast Live Oak Woodland, Coast Live Oak Riparian Woodland and Valley Oak Woodland

Mitigation for impacts to 254 mature oak trees (including the loss of 179, and the encroachment of 75 oak trees) can be accomplished by replacing the lost and encroached oak trees through planting new trees onsite, and transplanting impacted trees to protected sites. The temporary loss of the mature oaks cannot be fully mitigated by planting acorns or seedlings; however, this temporary loss of tree habitat is typically mitigated through planting at a relatively high ratio. In addition, transplanting mature oak trees has been performed numerous times in southern California to mitigate the take of mature oak trees; however, there are differing expert opinions on the long-term success rate of such efforts.

To mitigate for the loss of 179, and the encroachment of 75, oak trees, DMEC recommends this loss be mitigated through (1) preserving the trees to be avoided onsite; (2) planting acorns onsite at a 10:1 ratio or planting oak seedlings onsite at a 5:1 ratio, per the County Oak Tree Ordinance replacement criteria; and (3) transplanting selected mature oaks to protected sites.

BIO2 Protect Avoided Onsite Oak Trees. The 1,155 oak trees to be avoided by the proposed project shall be protected onsite in perpetuity by establishing onsite preserves that are permanently protected from future development and managed for conservation purposes. Management of the preserved trees shall be minimal, focused on facilitating the natural growth and condition of the protected trees and associated habitat.

AND

BIO3 Plant Acorns or Oak Seedlings Onsite. To mitigate for the loss of 179, and the encroachment of 75, mature oak trees by the proposed project, acorns or oak seedlings of the species impacted shall be planted in appropriate ratios. To mitigate for impacted oak trees by planting acorns, an overall mitigation ratio of 10 acorns (two acorns per hole) planted for each tree impacted shall be implemented (a 10:1 replacement ratio), or an overall mitigation ratio of 5 seedlings (or a larger size as specified by the County of Los Angeles) planted for each tree impacted (a 5:1 replacement ratio). Therefore, 2,540 acorns or 1,270 container seedlings would be required for mitigation for the impacts to 254 oak trees (179 lost plus 75 encroached upon) onsite. The planted trees shall be maintained and monitored for a period of seven (7) years after planting. Success of this mitigation measure will be established if 50 percent of the acorns or seedlings survive after 7 years.

AND

BIO4 Transplant Selected Mature Oak Trees Onsite. Even though transplanting mature oak trees is expensive and may have a low success rate, the Applicant desires to transplant selected mature oak trees to help mitigate the loss of 179 and the encroachment upon 75 mature oak trees. A detailed transplantation plan shall be developed by a qualified arborist and submitted to the County for approval. A detailed mitigation-monitoring plan shall be

developed by a qualified biologist, which shall require maintenance and monitoring of all transplanted oak trees for a period of ten (10) years after transplantation, or as required by the County of Los Angeles. Generally, success is achieved if at least 75% of transplanted trees are in good health after the 10-year monitoring period.

AND

BIO5 Replace Oak Woodland Habitat Onsite. Oak woodland habitat will be replaced onsite within preserved portions of the project site, or at an offsite location. The oak woodland habitat shall be replaced at a 2:1 ratio for the oak woodland habitat lost onsite by the proposed project, estimated at 8.82 (including 7.87 acres of upland Coast Live Oak Woodland, 0.92 acres of Coast Live Oak Riparian Woodland, and 0.03 acre of Valley Oak Woodland), for a replacement onsite of 16.4 acres. A total of 16.4 acres of oak woodland shall be created onsite, offsite, or a combination of onsite and offsite locations. The oak woodland habitat shall be monitored and maintained for a period of seven (7) years. The oak woodland area(s) can be created through the plantings and transplantations required under Mitigation Measures **BIO37** and **BIO38**.

AND

BIO6 Contribute Funds to the Oak Woodlands Conservation Fund. If the success criteria for any of the mitigation measures (**BIO36-BIO38**) are not met, the Applicant shall contribute to the Oak Woodlands Conservation Fund. The compensation rate shall be set at 50 percent of the assessed economic value of the trees lost, less the estimated economic value of the trees covered under Mitigation Measures **BIO37** and **BIO38**.

BIO7 Onsite Oak Mitigation Implementation Plan. In addition to the mitigation measures outlined above, a full oak tree report with the health, diameter at breast height (dbh), and canopy diameter of each tree within the impact area and fuel modification zone shall be submitted to the County of Los Angeles prior to grading. The report shall also outline the mitigation for removal of oak trees. The mitigation shall include the following measures:

- Prior to grading, orange construction or chain-link fencing shall be installed around trees (10 feet outside the dripline of each tree or groups of trees) that should not be impacted by construction. Fencing shall be in place and inspected prior to commencement of grading. This fencing shall remain in place throughout the entire period of construction.
- Preferred replacement tree seedlings shall be planted directly onsite either as acorns in prepared plots or as sprouted seedlings in liner tubes. Such plants are better able to become established and healthy trees adapted to site conditions. For each oak tree removed, the mitigation shall require replacement trees of indigenous oak species in the ratio of at least 10:1 for acorn planting or 5:1 for container seedling planting.
- The landscape architect/designer for this project shall design these replacement trees into the landscape to replace the habitat of removed woodlands. The habitat shall be reviewed by a qualified botanist and shall be comparable to the removed woodland.
- Planting specifications shall consider the following:
 - Newly planted trees shall be planted above grade and maintained for seven years, including irrigation, weed control, herbivore protections, and replacement.

- Amending the backfill soil with wood shavings, oak-leaf mold, etc. is not recommended when existing soil is high in natural organic matter with a sandy loam texture.
- Recommendations for the need of planting amendments and drainage systems shall be based on soil tests of this project and approved by the county.
- Any County approved work within the driplines of saved trees, including branch removal, shall be under the inspection of a qualified arborist.

BIO8 Landscape Irrigation Out of Oak Driplines. Landscaping requiring irrigation shall not be planted within the dripline of oaks due to the susceptibility of native oaks to root rot caused by excessive unseasonable irrigation. The design and installation of landscape irrigation systems outside the dripline of the oaks shall be such that the area within the dripline is not wetted during operation of the system. In addition, surface runoff from impermeable surfaces shall be directed away from oaks; where natural topography has been altered, provisions shall be made for drainage away from trunks of oaks so that water shall not pond or collect within the dripline of any oak.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: Significant. The temporal loss of habitat function cannot be mitigated until all planted oaks reach maturity.

MITIGATION FOR IMPACTS TO BIOLOGICAL LIFE HISTORY

Mitigation for Direct Impacts to Special-Status Plant Species

Mitigation for Loss of Special-Status Calochortus Species Known Onsite

To mitigate for the loss of approximately 50 individual *Calochortus* plants, avoidance, bulb translocation, seed collection and propagation, and mitigation monitoring in protected locations are identified as four means to reduce the level of impact from significant to less than significant. This genus is not difficult from a production standpoint as long as species of *Calochortus* are not over-watered and are protected from predators (snails, slugs, birds, rabbits, and rodents) (Carol Bornstein, pers. comm. 30 January 2006).

BIO9 Prior to site disturbance activities associated with the proposed project, supplemental field surveys for *Calochortus plummerae* and *Calochortus clavatus* should be conducted to clearly determine the exact locations and numbers of plants onsite in the development footprint. Surveys should be conducted in the spring prior to construction to flag locations of *Calochortus* within and immediately adjacent to the project site. All populations within the grading areas shall be salvaged and translocated. Rancho Santa Ana Botanic Garden would be an appropriate facility to conduct the translocation, storage, and ongoing propagation of these species. If the project is constructed prior to blooming, a botanist should monitor all construction activities during work through and immediately adjacent to Lyons Canyon Ranch to ensure that *Calochortus plummerae* is not inadvertently impacted. In addition, the bounds of the work area should be fenced temporarily to clearly delineate where construction workers and equipment are, and are not, allowed.

Impacts to special-status *Calochortus* species are considered significant; however, since not all the individual plants of each taxon will be impacted, the following mitigation measures are recommended:

BIO10 Avoidance and Protection: Areas with *Calochortus* outside of the development footprint shall be avoided and preserved in perpetuity through an appropriate recordable legal instrument. The legal document shall be recorded prior to issuance of a grading permit. A qualified botanist shall survey for and appropriately mark all populations of *Calochortus* at Lyons Canyon Ranch that are to be avoided and preserved. Where avoidance and protection is not possible, mitigation shall be accomplished through Mitigation Measure **BIO11** (Translocation).

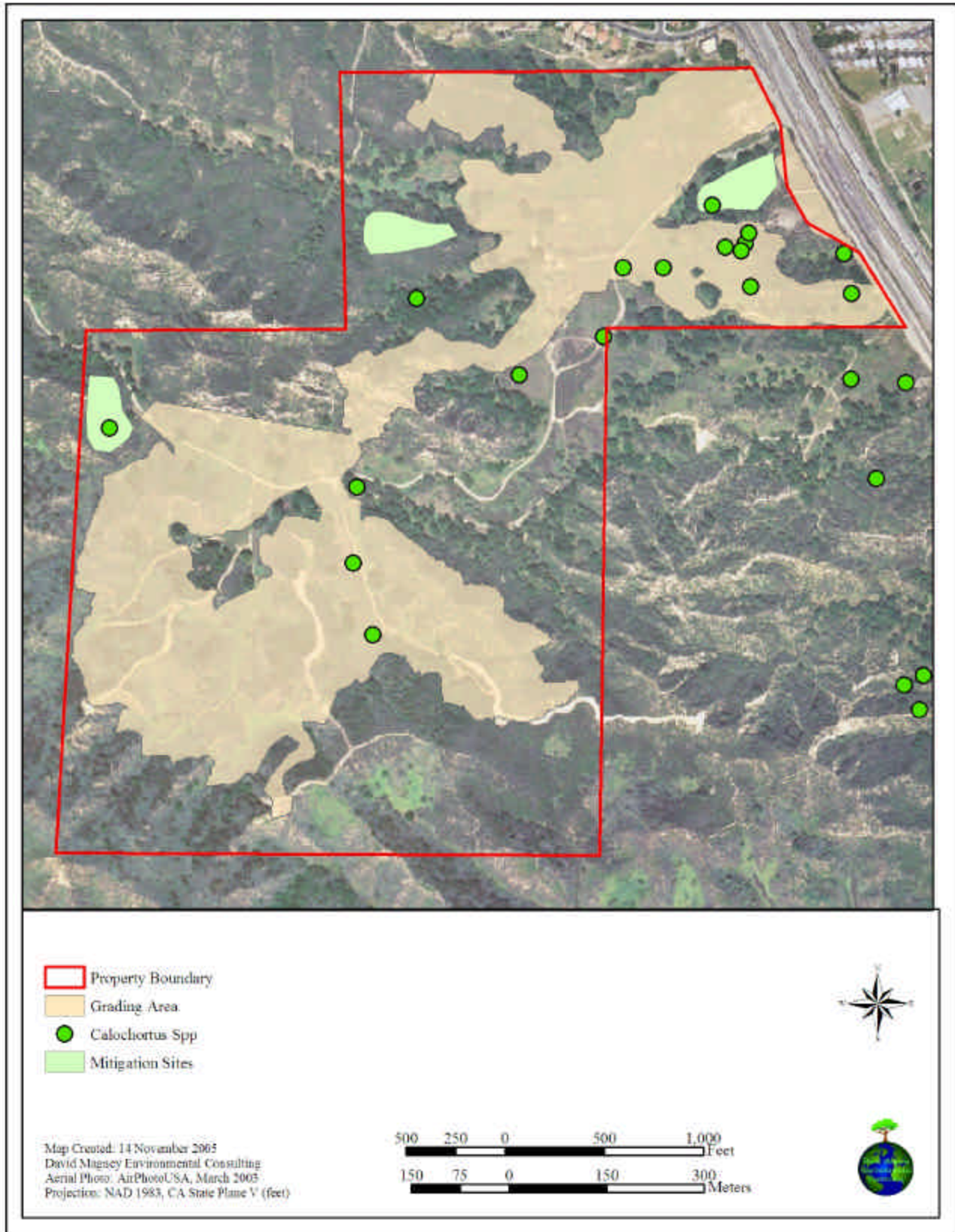
BIO11 Bulb Translocation: A pre-construction survey during the peak flowering period, approximately March through June, shall be conducted by a qualified botanist in the areas of the project site that will be disturbed, and all individual *Calochortus* plants shall be marked for relocation. Each impacted *Calochortus* bulb shall be clearly delineated with pin flags for collection by a qualified bulb collector. It is preferable to collect the bulbs after the flowering period when the plants are dormant. If necessary, the bulbs could be lifted when the shoots are just breaking the soil surface; however, care should be taken not to damage the bulb itself, as well as the root mass. Any lifted bulbs with shoots would require immediate planting since they are actively growing (since they are not dormant).

Another option for the relocation of the bulbs is to move the topsoil in large blocks from areas of high lily concentration to the selected revegetation site. The salvaged bulbs or bulb-containing topsoil shall be translocated to an appropriate site(s) within the preserved portions of the project site.

A site analysis plan must be conducted of potential planting areas to identify the most appropriate mitigation site(s), which should be conducted prior to bulb collection. A detailed mitigation plan shall be prepared and submitted to the appropriate agency(ies) for review prior to implementation. The plan must be prepared by a qualified botanist as determined by Los Angeles County Regional Planning. Potential mitigation areas onsite are shown on Figure 29, Potential *Calochortus* Mitigation Areas.

BIO11A Seed Collection and Propagation: *Calochortus* are typically grown from seed for mitigation purposes (Carol Bornstein, pers. comm. 30 January 2006). A seasonal survey shall be conducted in suitable habitat after the flowering season to collect seeds. The survey shall be conducted by a qualified botanist familiar with the flora of the Santa Susana Mountains. Seeds shall be collected when ripe, cleaned, stored by a qualified nursery or institution with appropriate storage facilities, and transferred to a native plant nursery experienced with propagating *Calochortus* species and grown out to 1-gallon container size. The best time to sow seed is in the fall in conjunction with the onset of rain. *Calochortus* usually takes at least three (3) years to achieve flowering size, depending upon the species (Carol Bornstein, pers. comm. 30 January 2006). These plants shall be planted in suitable preserved habitat onsite at a ratio of 10 plants for every 1 plant impacted by the project. The propagated plants shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County.

Figure 29. Potential *Calochortus* Mitigation Areas



BIO12 Prepare Detailed Mitigation Plan. Following seed and bulb collection, the *Calochortus* shall be relocated into a suitable mitigation site in the undeveloped portion of the project site, or in an adjacent undeveloped acreage that shall be preserved in perpetuity. A qualified botanist shall be selected by the applicant to prepare and implement a detailed mitigation plan, which shall include the following requirements:

- ◆ Following collection, seeds and bulbs shall be stored by a qualified nursery, or by an institution with appropriate storage facilities. Then, the upper 12 inches of topsoil from the *Calochortus* locations shall be scraped, stockpiled, and re-spread at the selected mitigation site(s).
- ◆ The mitigation site(s) shall be located in dedicated open space on the project site, or at an appropriate offsite location. The site shall be selected based on the species habitat requirements and to promote growth of the individual plantings and the population as a whole.
- ◆ The mitigation site(s) shall be prepared for seeding as described in a conceptual restoration plan.
- ◆ The topsoil shall be re-spread in the selected location as approved by the project biologist. Approximately sixty percent (60%) of the seeds and bulbs shall be planted in the site during the fall, following soil preparation. Forty percent (40%) of the seeds and bulbs shall be kept in storage for subsequent seeding, if necessary.
- ◆ A detailed maintenance and monitoring plan for the mitigation site shall be developed by a qualified botanist. The plan shall include descriptions of maintenance activities appropriate for the site, monitoring requirements, and annual reporting requirements. The project botanist shall have the full authority to suspend any operation on the project site that is directly impacting *Calochortus* plants outside the approved development footprint, and to suspend any activity related to the *Calochortus* plants that is not consistent with the restoration plan. Any dispute regarding the consistency of an action with the restoration plan shall be resolved by the applicant and the County of Los Angeles Department of Regional Planning.
- ◆ The performance criteria developed in the maintenance and monitoring plan shall include requirements for a minimum of 60 percent germination of the amount of plant material collected and transferred to the mitigation site. The performance criteria should also include percent cover, density, and seed production requirements, and shall be developed by the project botanist following habitat analysis of an existing high-quality lily habitat. Performance monitoring shall be conducted by a qualified botanist.
- ◆ If the germination goal of 60 percent is not achieved following the first season, remediation measures shall be implemented prior to planting with the remaining 40 percent of collected seeds and bulbs. Remedial measures shall include at a minimum: soil testing and amendments, control of invasive species, and physical disturbance of the planted areas by raking (or similar actions) to provide scarification of the seed.
- ◆ Potential seed sources from donor sites shall also be identified in case it becomes necessary to collect additional seeds for use on the site, following performance of remedial measures.
- ◆ The site shall be maintained for five years to ensure that the *Calochortus* populations are self-sustaining.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

***Mitigation for Loss of *Calystegia peirsonii* (Peirson's Morning-glory)
Plants Known Onsite***

BIO13 Since the exact location of *Calystegia peirsonii* was not reported, a seasonal survey shall be conducted in suitable habitat when positive identification can be made. The survey shall be conducted by a qualified botanist familiar with the flora of the Santa Susana Mountains. If *Calystegia peirsonii* plants are found to be within the project impact area, then seeds shall be gathered when ripe and transferred to a native plant nursery experienced with propagating *Calystegia peirsonii* or similar species, and grown out to 1-gallon container size. These plants shall be planted in suitable preserved habitat found onsite at a ratio of 10 plants for every 1 plant impacted by the project.

The planted plants shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

***Mitigation for Loss of *Juglans californica* var. *californica*
(Southern California Black Walnut) Plants Known Onsite***

BIO14 Restoration of *Juglans californica* var. *californica* is often successful, and the fruit (walnuts) should be collected from locally indigenous (onsite) sources and planted in appropriate areas (mitigation sites). Seeds shall be gathered when ripe and transferred to a native plant nursery experienced with propagating *Juglans californica* or similar species, and grown out to 1-gallon container size, preferably in liners rather than 1-gallon pots. These plants shall be planted in suitable preserved habitat found onsite at a ratio of 10 plants for every 1 plant impacted by the project. The seedlings should be monitored and irrigated on a regular basis to ensure survival. *Juglans californica* can also be grown from mature stem cuttings and sprouted in a greenhouse. Rooted cuttings can then be planted at the mitigation site(s).

The planted plants shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

***Mitigation for Loss of *Ambrosia confertiflora* (Weakleaf Burweed)
Plants Known Onsite***

BIO15 A seasonal survey shall be conducted to account for all occurrences of this species onsite. The survey shall be conducted by a qualified botanist familiar with the flora of the Santa Susana Mountains. Seeds shall be gathered when ripe and transferred to a native plant nursery experienced with propagating *Ambrosia confertiflora* or similar species, and grown out to 1-gallon container size. These plants shall be planted in suitable preserved habitat found onsite at a ratio of 10 plants for every 1 plant impacted by the project.

The planted plants shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

***Mitigation for Loss of *Ericameria ericoides* ssp. *ericoides* (Mock Heather)
Plants Known Onsite***

Implementation of the same methods as described for **BIO1A** and **BIO15** will mitigate for impacts to *Ericameria ericoides* ssp. *ericoides*.

Level of Significance After Mitigation: Less Than Significant

***Mitigation for Loss of *Navarretia hamata* ssp. *hamata* (Skunk Navarretia)
Plants Known Onsite***

Implementation of the same methods as described for **BIO1A** and **BIO15** will mitigate for impacts to *Navarretia hamata* ssp. *hamata*.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Loss of Rare Plants Potentially Occurring Onsite

BIO16 The rare plant species with high potential to occur onsite include: *Aster greatae*, *Erodium macrophyllum*, *Horkelia cuneata* ssp. *puberula*, *Lepidium virginicum* var. *robinsonii*, *Malacothamnus davidsonii*, *Nolina cismontana*, and *Senecio aphanactis*. Since the location or presence of these species onsite is not known, seasonal surveys shall be conducted in suitable habitat when positive identifications can be made. The surveys shall be conducted by a qualified botanist familiar with the flora of the Santa Susana Mountains. If any of these plants are found to be within the project impact area, then seeds shall be gathered when ripe and transferred to a native plant nursery experienced with propagating sensitive or similar species, and grown out to 1-gallon container size. These plants shall be propagated in suitable preserved habitat found onsite at a ratio of 10 plants for every 1 plant of each species impacted by the project.

The mitigation plantings shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County. Seeding may require several seed sowing events to establish viable reproducing populations at the mitigation site.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: If any likely special-status plant species are found onsite, the significance after mitigation would be *significant* if replanting efforts are not successful. If any likely special-status plant species are not found, impacts would be *less than significant*.

Mitigation for Indirect Impacts to Special-Status Plant Species

Mitigation for Impacts of Increased Dust and Urban Pollutants on Special-Status Plant Species

BIO17 Prior to the issuance of a grading permit, the project applicant shall prepare a fugitive dust control plan that specifically strives to keep construction grading-generated dust from substantially coating the leaves of all native plants not to be disturbed by the proposed project. Dust control measures may include applying water or other acceptable material to keep fugitive dust to a minimum. High winds can also significantly increase the amount of dust generated from a construction site; therefore, when wind gusts at or above 25 miles per hour (mph) occur more than once per hour, grading activities shall be suspended. A designated monitor shall monitor for excessive fugitive dust originating from onsite construction, and monitor the quantity of dust accumulating on native plants adjacent to the construction site. Exceeding established dust thresholds shall require immediate remedial action(s) to further control fugitive dust onsite. Fugitive dust airborne or accumulating on native plant leaves shall not exceed twenty percent (20%) of background (natural) levels.

BIO18 Prior to the issuance of a grading permit, the project applicant shall apply for and obtain coverage under the California Water Resources Control Board's general permit for storm water discharge associated with construction activity and shall comply with all the provisions of the permit, including the development of a storm water pollution prevention plan, which includes provisions for the implementation of best management practices and erosion control measures. Best management practices shall include both structural and non-structural measures.

BIO18A Mitigation Measure for the Implementation of Conditions of Approval Related to Landscaping. The Lyons Canyon Ranch project shall provide for the establishment of a Home Owners' Association (HOA) and the preparation of Conditions, Covenants, and Restrictions (CC&Rs) prior to the recordation of the final tract map as a condition of project approval. The HOA shall be governed by CC&Rs that describe all aspects of property maintenance of common area landscape, and the overall regulation of aesthetics for the property grounds and buildings. The HOA shall be fully funded, pursuant to, and consistent with, the recorded CC&Rs.

The Lyons Canyon Ranch project HOA shall maintain all common areas, that are routinely maintained, consistent with the applicable mitigation measures and conditions of approval adopted by the County of Los Angeles. The applicable mitigation measures and conditions of approval that fall under the responsibility of the HOA shall be explicitly specified in the CC&Rs, and shall be verified by the County of Los Angeles prior to recordation of the final tract map.

The HOA shall retain the services of a licensed landscape architect familiar with plants native to the Santa Clarita region to provide review and approval of the landscaping of individual parcels prior to installation consistent with the plant list approved by the County Biologist. The landscape architect shall also oversee HOA maintenance staff, when performing the following maintenance, to ensure compliance with biological mitigation measures applicable to the project site:

- Fuel modification within common areas;
- Maintenance of street or roadway landscaping;

- Maintenance of parks;
- Maintenance of landscaped common areas; and
- Maintenance of roadway landscaping.

Said landscape architect and/or HOA shall not be responsible for maintenance or oversight of activities within lands dedicated in fee title to Los Angeles County or any other agency. The HOA shall enforce the CC&Rs at all times through the terms outlined in the recorded CC&Rs.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Impacts of Invasive Exotic Plant Species' Introduction into Natural Plant Communities

BIO19 Project landscape design shall be submitted to the County for review and approval by a qualified botanist. The review shall ensure that no invasive, exotic plant species such as those listed in the CNPS and California Invasive Plant Council 1999 List (CalIPPC 1999) and subsequent (draft) list for 2005 are used in any proposed landscaping, and that suitable substitutes are proposed. Ideally, only locally indigenous native species should be used in landscaping along a boundary bordering open space/SEA. Native plants used shall include coastal sage scrub, chaparral, and woodland species that currently occur on the project site.

BIO20 The Conditions, Covenants, and Restrictions (CC&Rs) for the homes shall prohibit planting any invasive exotic species listed by either CNPS or CalIPPC. Homeowner landscaping plans shall be submitted to the HOA Board for review and approval consistent with this requirement as described in the CC&Rs. The review shall ensure that no invasive exotic plant species are planted onsite in order to reduce the chance of inadvertent introductions or escapes of invasive exotic species into native habitats, including bordering open space areas and SEAs.

Implementing Mitigation Measure **BIO18A** (Mitigation Measure for the Implementation of Conditions of Approval Related to Landscaping) will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Impacts to General Wildlife Species

Mitigation for Loss of and Disturbance to Aquatic/Semi-aquatic Wildlife During Construction

BIO21 An important measure to minimize impacts to aquatic wildlife species inhabiting the project site is to ensure that the construction will be conducted during times/seasons of no active channel flows. In order to minimize impacts to aquatic habitat and aquatic wildlife due to alteration of the Riverine habitat onsite, DMEC recommends that the construction be conducted during times of no active channel flows. However, if construction must be conducted while active flows are present within the Riverine system, these measures should be implemented to minimize impacts:

- Equipment contact with the active channel should be minimized to a maximum extent;
- Flows should be diverted from the work area;
- Sedimentation barriers should be installed and maintained;
- Arising groundwater should be allowed to settle behind a downstream diversion berm prior to discharge to the primary flow channel;
- Turbidity levels should be monitored and minimized consistent with the project's RWQCB General Permit for stormwater discharge requirements; and
- All foreign materials and litter should be removed from the channel.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Loss of and Disturbance to Amphibian Wildlife During Construction

BIO22 Prior to grading or site-clearing activities, a qualified biologist shall survey the construction areas of the site to determine if wildlife species are foraging, frequenting, or nesting on or adjacent to the construction areas. If any wildlife species are observed foraging, frequenting, or nesting during construction activities, the wildlife biologist shall allow the wildlife species to escape or shall relocate the wildlife species to a preserved area with similar required habitat.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Loss of and Disturbance to Reptile Wildlife During Construction

Implementation of **BIO22** should mitigate for project-related impacts to reptile wildlife during construction.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Loss of and Disturbance to Breeding and Nesting Birds During Construction

BIO23A To avoid violating the Migratory Bird Treaty Act or Fish and Game Code S 3503, a qualified ornithologist shall survey the construction site(s) two weeks prior to initiation of site disturbance to identify any nests of birds that would be directly or indirectly affected by the construction activities. Bird nesting typically occurs between 1 February and 30 June. Some bird species nest outside this period. If active nests that would be directly impacted by construction activities are found, protection/no work zones at 100 to 300 feet shall be established for appropriate periods to avoid impacting them. Onsite nests shall be avoided until vacated. Occupied nests adjacent to the construction site(s) may need to be avoided for short durations to ensure nesting success. Any nest permanently vacated for the season need not be protected.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Loss of and Disturbance to Mammal Wildlife During Construction

Implementation of **BIO22** should mitigate for project-related impacts to mammal wildlife during construction.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Direct Impacts to Special-Status Wildlife Species

To mitigate for potential impacts to special-status wildlife species onsite and for the loss of foraging, roosting, and nesting habitat, specific mitigation measures are recommended:

BIO23B Prior to grading or site-clearing activities, a qualified biologist shall survey the construction areas of the site to determine if any special-status wildlife species are foraging, frequenting, or nesting on or adjacent to the construction areas. If any special-status wildlife species are observed foraging, frequenting, or nesting during construction activities, the area in which the special-status species was observed should be flagged or fenced off to protect the wildlife species. In addition, the equipment operators shall be informed of the species' presence and provided with pictures in order to help avoid impacts to this species to the maximum extent possible. As part of the environmental training, contractors and heavy equipment operators shall be provided with photographs of expected special-status wildlife species to identify them, and to avoid harming them during construction.

BIO24 Thirty (30) days prior to the onset of construction activities, a qualified biologist shall survey within the limits of project disturbance for the presence of any active raptor and bird nests. Any nest found during survey efforts shall be mapped on the construction plans. If no active nests are found, no further mitigation is required. Results of the surveys shall be provided to the CDFG. If nesting activity is present at any raptor nest site, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for bird species in the region of the project site normally occurs from 1 February to 30 June.

BIO25 To avoid impacts to all special-status wildlife species observed onsite, equipment operators shall avoid contact with or harm to any special-status species and any of their sources of cover (e.g. nest, midden, burrow). If a special-status wildlife species is encountered during construction activities, it shall be allowed to escape any danger that may result from construction work, and the onsite biological monitor shall be notified in order to implement all measures necessary to protect the sensitive species.

BIO26 Existing habitat, required by observed or likely special-status wildlife species, shall be replaced, or compensated for, after all development activities have been completed. Compensation for lost habitat onsite shall be accomplished at least in part through improving habitat conditions of preserved onsite habitats, such as through removal of invasive exotic plant species and replacing them with indigenous native species. A residual impact will remain since there will be a reduction of the total area of habitat available onsite.

BIO27 To protect any active nest sites, the following restrictions on construction are required between 1 February and 30 June (or until nests are no longer active as determined by a qualified biologist): clearing limits shall be established a minimum of 300 feet in any

direction from any occupied nest (or as otherwise deemed appropriate by the monitoring biologist). Access and land surveying shall not be allowed within 100 feet of any occupied nest (or as otherwise deemed appropriate by the monitoring biologist). Any encroachment into the 300/100-foot-buffer area around the known nest shall only be allowed if it is determined by a qualified biologist that the proposed activity would not disturb the nest occupants. Construction during the non-nesting season shall occur at the sites only if a qualified biologist has determined that fledglings have left the nest.

Level of Significance After Mitigation: Direct impacts to active nests would be reduced to a *less-than-significant* level. The significance after mitigation for habitat loss would be *significant and unavoidable* because approximately 99.73 acres of suitable occupied foraging and nesting habitat onsite will be permanently lost. Note: suitable habitat onsite varies with each species. The total area disturbed by the proposed project is estimated to be 99.73 acres.

Mitigation for Loss of Cooper's Hawk (Accipiter cooperii) and Foraging and Nesting Habitat

Implementation of Mitigation Measures **BIO23B, BIO24, BIO25, BIO26, and BIO27** described above should adequately mitigate project-related impacts to Cooper's Hawk, except for incremental loss of habitat.

Level of Significance After Mitigation: The significance after mitigation would be *significant and unavoidable* because approximately 99.73 acres of suitable occupied foraging and nesting habitat onsite will be permanently lost.

Mitigation for Loss of Oak Titmouse (Baeolophus inornatus) and Foraging and Nesting Habitat

Implementation of Mitigation Measures **BIO23B, BIO24, BIO25, BIO26, and BIO27** described above should adequately mitigate project-related impacts to Oak Titmouse, except for incremental loss of habitat.

Level of Significance After Mitigation: The significance after mitigation would be *significant and unavoidable* since 8.79 acres of Coast Live Oak Woodland and Coast live Oak Riparian Woodland habitats, which are suitable and occupied foraging and nesting habitats for Oak Titmouse, will be permanently lost.

Mitigation for Loss of Nuttall's Woodpecker (Picoides nuttallii) and Foraging and Nesting Habitat

Implementation of Mitigation Measures **BIO23B, BIO24, BIO25, BIO26, and BIO27** described above should adequately mitigate project-related impacts to Cooper's Hawk, except for incremental loss of habitat.

Level of Significance After Mitigation: The significance after mitigation would be *significant and unavoidable* since 8.79 acres of Coast Live Oak Woodland and Coast live Oak Riparian Woodland, and 3.56 acres of riparian scrub habitats, which are suitable and occupied foraging and nesting habitats for Nuttall's Woodpecker, will be permanently lost.

Mitigation for Loss of Barn Owl (*Tyto alba*) Foraging and Nesting Habitat

Implementation of Mitigation Measures **BIO23B**, **BIO24**, **BIO25**, **BIO26**, and **BIO27** should mitigate project-related impacts to Barn Owl.

Level of Significance After Mitigation: The significance after mitigation would be *less than significant*.

Mitigation for Loss of San Diego Desert Woodrat (*Neotoma lepida intermedia*) and Habitat

Implementation of Mitigation Measures **BIO23B**, **BIO25**, and **BIO26** will provide some mitigation for potential losses of San Diego Desert Woodrat individuals and provide compensation for some lost habitat; however, the loss of 33.93 acres of occupied or potential habitat (Coastal Sage Scrub) onsite would not be fully mitigated to a less-than-significant level.

Level of Significance after Mitigation: Significant and Unavoidable.

Mitigation for Loss of Special-Status Reptiles Potentially Present

BIO28 Prior to grading, focused surveys shall be conducted on the proposed development site for special-status reptile species that have a high potential to occur onsite. The survey results shall be submitted within 45 days after completion of the last survey to the CDFG for concurrence. If it is determined that special-status wildlife species are not present on the proposed development site, then no further mitigation is necessary.

BIO29 If Silvery Legless Lizard, Coastal Western Whiptail, Rosy Boa, San Diego Banded Gecko, San Diego Horned Lizard, and/or Coast Patch-nosed Snake (the six special-status reptile species that are likely to occur onsite) is/are found onsite, then a capture and relocation program shall be implemented with CDFG concurrence. The relocation program shall include a detailed methodology for locating, capturing, and relocating individuals prior to construction. The program shall identify a suitable location for relocation of each species prior to capture. The relocation program shall require a qualified biologist with the necessary permits (if required by CDFG) for handling the specific special-status wildlife species. Prior to implementation of the relocation program, the program and the biologist(s) implementing the program shall be subject to approval of the CDFG and the County Biologist. The adopted relocation program shall be implemented.

BIO30 The Argentine Ant is closely associated with urban and suburban habitats, particularly where landscaping is regularly irrigated. Argentine Ant invasions into natural habitats of native ant species will result in the loss of the native ant species, which are the primary prey of the San Diego Horned Lizard. The control of Argentine Ant from the project site is necessary to prevent the loss of forage resources for the San Diego Horned Lizard, which cannot survive on consumption of Argentine Ant. The landscaping plan, within 300 feet of any natural areas containing San Diego Horned Lizard, shall be designed to utilize native plant species that do not require supplemental irrigation in an attempt to keep invading Argentine Ant populations as low as possible. In addition, an Argentine Ant control plan shall be developed and implemented in perpetuity by the homeowners association or other responsible party.

Level of Significance After Mitigation: The significance after mitigation would be *potentially significant and unavoidable* because up to 99.73 acres of suitable habitats onsite will be permanently lost, and the control of Argentine Ant is very difficult in areas adjacent to urban landscaping.

Mitigation for Loss of Special-Status Bird Species Potentially Present

Implementation of Mitigation Measures **BIO23B, BIO24, BIO25, BIO26, and BIO27** described above should adequately mitigate project-related impacts to the ten special-status bird species that are likely to occur onsite, except for incremental loss of habitat.

Level of Significance After Mitigation: The significance after mitigation would be *potentially significant and unavoidable* if any of the species are found to be present during future focused surveys (as required in **BIO 23A, 24, and 27**), since up to 99.73 acres of suitable foraging and nesting habitat onsite will be permanently lost.

Mitigation for Disturbance to Mountain Lion (Puma concolor) and Loss of Habitat

Implementation of Mitigation Measures **BIO23B, BIO25, and BIO26**, described above should adequately mitigate project-related impacts to Mountain Lion, except for incremental loss of habitat. Additional mitigation may be required if individuals are found onsite.

Level of Significance After Mitigation: The significance after mitigation would be *potentially significant and unavoidable* if this species is found onsite, since up to 99.73 acres of suitable hunting and cover habitat onsite will be permanently lost.

Mitigation for Disturbance to Ring-tailed Cat (Bassariscus astutus) and Loss of Habitat

Implementation of Mitigation Measures **BIO23B, BIO25, and BIO26**, described above should adequately mitigate project-related impacts to Ring-tailed Cat, except for incremental loss of habitat. Additional mitigation may be required if individuals are found onsite.

Level of Significance After Mitigation: The significance after mitigation would be *potentially significant and unavoidable* if this species is found onsite, since up to 99.73 acres of suitable hunting and cover habitat onsite will be permanently lost.

Mitigation for Disturbance to Western Mastiff Bat (Eumops perotis californicus) and Loss of Habitat

Implementation of Mitigation Measures **BIO23, BIO25, and BIO26** should provide sufficient mitigation for potential losses of Western Mastiff Bat individuals and provide partial compensation for lost habitat. Additional mitigation may be required if individuals are found onsite.

BIO31 If the Western Mastiff Bat, or other special-status bat species, is found to forage or nest onsite, then bat boxes shall be installed at appropriate locations within preserved land onsite to replace lost nesting habitat. A mitigation plan designed specifically to provide nesting and foraging habitat for special-status bat species shall be prepared and submitted to CDFG and the County Biologist for approval, and after approval, it shall be implemented.

Level of Significance after Mitigation: Less Than Significant

Mitigation Measures for Indirect Impacts to Special-Status Wildlife Species

Mitigation for Impacts Related to Noise

Recommended mitigation measures to reduce construction noise impacts on sensitive wildlife cover three basic actions: equipping equipment with mufflers, scheduling noisy work in less sensitive areas to minimize impact, and using noise attenuation structures/barriers to reduce noise levels locally. Implement Mitigation Measure **BIO23B**, **BIO 24**, and **BIO12** as well as the following mitigation measures:

BIO32 Require All Equipment to Be Equipped With Mufflers. Construction equipment, such as earth-moving vehicles, excavators, dump trucks, and other similar types of vehicles should all be fitted with mufflers to keep engine-generated noise below 86 dBA at a distance of 15 m from the source. All diesel or gas engines (such as for generators) should be equipped with mufflers. Using boring equipment over pile drivers would significantly reduce noise for such activities. Noise reducing saw blades should be used on all saws, such as for cutting masonry blocks.

BIO33 Identify and Monitor Sensitive Wildlife Sites. A qualified biologist shall identify all active bird nests and sensitive wildlife species sites that may be harmed or disrupted by excessive noise. Buffer zones shall be established around each sensitive wildlife site, sized according to the relative sensitivity of the wildlife species. The biological monitor shall monitor noise levels at the sensitive sites to determine if construction-related noise is causing wildlife to change their normal behavior sufficiently to abandon active nests, or stop feeding or defending their young.

BIO34 Temporary Work Stoppage. If construction-related noise causes detrimental wildlife behavior, the biological monitor shall have the authority to stop all construction activities deemed to cause the adverse affect. Work stoppage would normally not last more than one or two days in the immediate vicinity of the sensitive wildlife site, such as at an active bird nest, but would likely last only a few hours at a time.

BIO35 Temporary Sound Barriers or Blankets. When applicable, temporary noise barriers may be effective in mitigating construction noise, dust, glare, and visual impacts. These barriers can be quickly constructed from safety-shape and plywood panels, or of noise-control blankets. The purpose of the temporary sound barriers is to reduce noise levels to below action thresholds and allow sensitive wildlife to resume normal behavioral patterns.

BIO36 Cease Work at Dusk. Stop work 30 minutes before dusk to avoid noise interference with echolocation of bats.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: The significance after mitigation for the temporary construction impacts would be *less than significant*. The impacts of noise after completion of grading activities for the proposed project would be *potentially adverse but less than significant*.

Mitigation for Impacts Related to Human Activity

BIO37 To limit the amount of human disturbance on natural open space areas on and adjacent to the project site, a fencing plan shall be submitted to the County of Los Angeles. Prior to obtaining occupancy permits, signs and split-rail fencing (the latter, if appropriate) shall be posted directing people and their animals to keep out of the natural open space areas and revegetation areas. In addition, the project applicant shall be required to post signage stating that dogs shall be required to be leashed in areas near the project boundary, and fecal collection bags along with the posting of information relative to the use of the bags and their importance shall be placed in convenient places in the open space areas around the project. All dogs shall be kept on leashes when walking on trails within or through onsite preserves. Dogs are not permitted in areas such as Ed Davis Park in Towsley Canyon, specifically to protect wildlife.

BIO38 Perimeter fencing at houses onsite adjacent to open space areas shall be designed to prevent dogs from accessing open space areas onsite, and keep wildlife from entering yards and homes as much as feasible.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Impacts Related to Night Lighting

BIO39 Prior to issuance of building permits, the County of Los Angeles shall ensure that the following elements are included in all project plans, as appropriate:

- All exterior lighting shall be designed and located as to avoid intrusive effects on adjacent residential properties and undeveloped areas adjacent to the project site. Low-intensity street lighting and low-intensity exterior lighting shall be used throughout the development to the extent feasible. Lighting fixtures shall use shielding, if necessary, to prevent spill lighting on adjacent off-site areas;
- Design and placement of site lighting shall minimize glare affecting adjacent properties, buildings, and roadways;
- Fixtures and standards shall conform to state and local safety and illumination requirements;
- All trail and park lighting shall provide optimum public safety, while at the same time reducing nighttime light spillover and glare;
- Development projects shall use minimally reflective glass and all other materials used on exterior building and structures shall be selected with attention to minimizing reflective glare; and
- Automatic timers on lighting shall be designed to maximize personal safety during nighttime use while saving energy.

These measures would partially mitigate for adverse impacts of landscaping nuisance lighting impacting wildlife in adjacent open space areas of the project site. In addition:

BIO40 Require all street and outdoor lighting to be hooded to direct away from, or prevent light from entering, open space areas of the project site. Light intensity should be set as low as possible while meeting the primary objective of the outdoor lighting.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

MITIGATION FOR IMPACTS TO NATURAL VEGETATION, INCLUDING SENSITIVE HABITATS

Mitigation for Loss of Grassland

Grassland habitats will be enhanced by weed removal and implementing plantings and seeding of native herbaceous forbs and native perennial bunch grasses. Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Loss of Lichen Rock Outcrop Habitat

No feasible mitigation is available other than avoidance.

Level of Significance After Mitigation: Potentially Significant

Mitigation for Loss of Coastal Sage Scrub

Mitigation can consist of avoidance or minimization of impacts; compensation in the form of habitat restoration; or compensation through participation in a mitigation bank. Avoidance and minimization of impacts is preferred by regulatory agencies. Any compensation through restoration should be onsite and in kind whenever possible.

The loss of 33.93 acres of Coastal Sage Scrub can be mitigated in several ways: avoidance, creation onsite or elsewhere, protection and enhancement onsite or elsewhere, and protection of equal area and quality of habitat already designated for destruction. To fully mitigate the loss of 33.93 acres of Coastal Sage Scrub habitat one or more of the mitigation measures described below should be implemented:

BIO41 Replace Coastal Sage Scrub through Revegetation. The loss of 33.93 acres of Coastal Sage Scrub vegetation shall be replaced at an acreage rate of 1.5 acres for each acre lost (1.5:1 replacement ratio), equaling 55.89 acres of required mitigation. Prior to implementation of any restoration, a detailed program shall be developed by the project applicant and shall contain the following items:

- *Responsibilities and qualifications of the personnel to implement and supervise the plan.* The responsibilities of the landowner, technical specialists, and maintenance personnel that shall supervise and implement the restoration plan shall be specified.
- *Site selection.* The site for the mitigation shall be determined in coordination with the project applicant and resource agencies. The site shall either be located on the proposed development site in a dedicated open space area or dedicated open space area shall be purchased offsite. Appropriate sites shall have suitable hydrology and soils for the establishment of target native species.
- *Site preparation and planting implementation.* The site preparation shall include: protection of existing native species; trash and weed removal; native species salvage and reuse (i.e. duff); soil treatments (i.e., imprinting, decompacting); temporary irrigation installation; erosion control measures (i.e., rice or willow wattles); seed mix application; and container species.
- *Schedule.* A schedule shall be developed which includes planting to occur in late fall and early winter between October 1 and January 30.
- *Maintenance plan/guidelines.* The maintenance plan shall include: weed control; herbivore control; trash removal; irrigation system maintenance; maintenance training; and replacement planting.
- *Monitoring plan.* The monitoring plan shall include: qualitative monitoring (i.e. photographs and general observations); quantitative monitoring (e.g. randomly placed transects); performance criteria as approved by the resource agencies; monthly reports for the first year and bimonthly thereafter; and annual reports for five years that shall be submitted to the resource agencies. The site shall be monitored and maintained for five years to ensure successful establishment of Coastal Sage Scrub habitat within the restored and created areas.
- *Long-term preservation.* Long-term preservation of the site shall also be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development. An appropriate legal instrument over the area to be preserved shall be recorded prior to implementation of site grading to ensure protection in perpetuity.
- *Earth-moving equipment.* Earth-moving equipment shall avoid maneuvering in any area identified as natural open space areas. Prior to grading, the open space limits shall be marked by the construction supervisor and the project biologist. These limits shall be identified on the grading plan.

BIO42 Protect Coastal Sage Scrub Habitat Onsite. The project shall preserve 23.50 acres of Coastal Sage Scrub onsite in perpetuity by a legal instrument.

AND

BIO43 Enhance Degraded Coastal Sage Scrub Habitat Preserved Onsite. Since simply enhancing existing degraded habitat does not completely restore habitat functions impacted by the loss of 33.9 acres onsite, enhancement of existing degraded habitat would need to occur at a ratio of 3:1; therefore, approximately 101.8 acres will be required for mitigation. Habitat enhancement would include eradicating invasive exotics from the remaining Coastal Sage Scrub onsite. The areas of Coastal Sage Scrub from which invasive species would be eradicated would be planted with supplemental Coastal Sage Scrub species. This would increase native shrub canopy cover to match desired cover levels, and increase dominance by native species. Approximately 23.5 acres of Coastal Sage Scrub vegetation will be

avoided by the proposed project; however, the Coastal Sage Scrub onsite is contaminated with invasive exotic plant species in varying amounts. Of the 23.5 acres avoided, 7.6 acres of Coastal Sage Scrub vegetation is highly infested with invasive exotic plants (*Salvia leucophylla*-*Brassica* Alliance). Enhancement of up to 23.5 acres of degraded Coastal Sage Scrub habitat onsite would mitigate for less than 25% of the area needed, based on the 3:1 enhancement ratio. An additional 78 acres would need to be preserved and enhanced, for a total of 101.8 acres of Coastal Sage Scrub enhanced and protected. The lack of reasonable availability (the offsite component) may render this mitigation measure at least partially infeasible. The enhancement plan shall include all the elements, as appropriate, as described in Mitigation Measure **BIO41**.

BIO44 Protect and enhance degraded Coastal Sage Scrub habitat offsite. The Applicant shall protect and enhance approximately 78 acres of existing Coastal Sage Scrub at an offsite location in the region of the project site. Habitat enhancement shall include eradicating the mitigation site(s) of invasive exotic species, and planting Coastal Sage Scrub plants in their place. This would increase native shrub canopy cover to match desired cover levels, and increase dominance by native species. The enhancement plan shall include all the elements, as appropriate, as described in Mitigation Measure **BIO41**. The lack of reasonable availability may render this mitigation measure at least partially infeasible.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: If mitigation measures **BIO41** through **BIO44** are implemented, then the impact will be *less than significant*. If offsite acquisition of mitigation land proves infeasible, the loss of 33.93 acres of Coastal Sage Scrub onsite would be considered a *significant* impact.

Mitigation for Loss of Chaparral

No feasible mitigation is available other than avoidance.

Level of Significance After Mitigation: Significant

Mitigation for Loss of Southern California Black Walnut Woodland

BIO45 Plant *Juglans californica* onsite. To mitigate for the loss of 0.08 acre of *Juglans californica* var. *californica* Alliance, plant locally indigenous seeds from this species in the appropriate locations such as a designated mitigation site. *Juglans* seedlings are quite successful, and with proper maintenance and monitoring, the impacts should be fully mitigable. Planting should occur on one or more of the preserve areas onsite on a north-facing slope adjacent to Coast Live Oak Woodland areas. The total area to be planted should be 0.16 acre.

Because a small amount of Southern California Black Walnut Woodland will be impacted onsite (less than one-tenth of an acre) by the proposed project, and because impacts to this sensitive plant community are easily mitigated, impacts to this habitat would be considered less than significant after mitigation.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Loss of Coast Live Oak Woodland and Coast Live Oak Riparian Woodland

The mitigation for the loss of 179 and encroachment of 75 mature oak trees can be accomplished in two ways: replacing the lost oak trees through planting new trees onsite, and transplanting trees to be impacted to protected sites. The temporal loss of the mature oaks cannot be fully mitigated by planting young oaks; however, this temporal loss of tree habitat is typically mitigated through planting at a high ratio, such as 10:1 (planting 10 seedlings for each mature tree lost). Transplanting mature oak trees has been performed numerous times in southern California as mitigation of taking mature oak trees; however, the long-term mortality rate is high, as well as the costs associated with transplanting and long-term maintenance of the transplanted trees. To mitigate for the loss of 179 and encroachment of 75 mature oak trees, DMEC recommends this loss be mitigated entirely through preserving the trees to be avoided onsite, and planting 1,270 oak seedlings onsite, and transplanting selected mature oaks to protected sites.

Implementation of the following mitigation measures, as described above, should partially mitigate for loss of Coast Live Oak Woodland and Coast Live Oak Riparian Woodland onsite:

- BIO1A** Mitigation Measure for the Implementation of Conditions of Approval Related to Preserve Maintenance, and
- BIO2** Protect Avoided Onsite Oak Trees, and
- BIO3** Plant Acorns or Oak Seedlings Onsite, and
- BIO4** Transplant Selected Mature Oak Trees Onsite, and
- BIO5** Replace Oak Woodland Habitat Onsite, and
- BIO6** Contribute Funds to the Oak Woodlands Conservation Fund, and
- BIO7** Onsite Oak Mitigation Implementation Plan, and
- BIO8** Landscape Irrigation Out of Oak Driplines.

Level of Significance After Mitigation: Significant. The temporal loss of habitat function cannot be mitigated until all planted oaks reach maturity.

Mitigation for Loss of Valley Oak Woodland

Implementation of the following mitigation measures, as described above, should partially mitigate for loss of Coast Live Oak Woodland and Coast Live Oak Riparian Woodland onsite:

- BIO1A** Mitigation Measure for the Implementation of Conditions of Approval Related to Preserve Maintenance, and
- BIO2** Protect Avoided Onsite Oak Trees, and
- BIO3** Plant Acorns or Oak Seedlings Onsite, and
- BIO4** Transplant Selected Mature Oak Trees Onsite, and
- BIO5** Replace Oak Woodland Habitat Onsite, and
- BIO6** Contribute Funds to the Oak Woodlands Conservation Fund, and
- BIO7** Onsite Oak Mitigation Implementation Plan, and
- BIO8** Landscape Irrigation Out of Oak Driplines.

Level of Significance After Mitigation: Significant. The temporal loss of habitat function cannot be mitigated until all planted oaks reach maturity.

Mitigation for Loss of Wetland Habitats and Plant Communities

Impacts to wetland and wetland riparian habitats can be minimized to the maximum extent possible. Compensation for direct permanent impacts to wetlands shall be replaced at a 2:1 ratio in area, in-kind, or resulting in an increase in wetland functions onsite by at least ten (10) percent. The following measures should be implemented:

BIO46 Perform Wetland Functional Assessment. To determine the functional levels of wetland functions of the project site streams, a functional assessment shall be performed using the Hydrogeomorphic Assessment Approach (HGM), as developed by the Corps and EPA (Smith et al. 1995) using regional HGM models (Lee et al. 1996, 1997, 2001). The regional models have been used and accepted regionally on several projects by wetland regulatory agencies (DMEC 1997, 2000, 2001, 2004c). The HGM assessment shall assess existing wetland functions (14 independent functions) and how each wetland function will be affected by the proposed project. The results of the HGM assessment shall be used to determine the required wetland functions improvements required by onsite wetland mitigation. This approach provides an unbiased method to determine project-related impacts to wetland functions compared to simplistic area-impact assessments. It also allows a means to identify specific restoration actions that can be taken to most efficiently improve wetland habitat conditions (functions) onsite.

BIO47 Implement Best Management Practices (BMPs) During Construction In and Near Wetlands. Impacts to riparian habitat shall be minimized to the maximum extent possible by implementing the following BMPs:

- Construction equipment shall only cut back or cut down riparian habitat that is absolutely necessary for construction equipment access;
- All construction activities, within the banks of Lyon Creek and tributaries, should be conducted during seasons of no, or minimal, channel flows (summer/early fall);
- A path through the creek channel shall be selected that minimizes impacts to the existing riparian vegetation;
- A fence shall be placed around any (mature) trees, which are less efficiently replaced by mitigation/restoration efforts;
- All active wildlife nests existing within the project site riparian vegetation shall be protected and avoided by construction equipment; and
- A biological monitor shall be present during all construction activities within or adjacent to the drainages of Lyon Canyon that are not to be impacted.

BIO48 Enhance Disturbed Wetland Habitat Onsite. Existing wetlands not impacted by the proposed project currently are degraded by past activities on the project site (e.g. road crossings, fill, culverts, berms, dumping, invasion by exotic plants). Enhancement activities shall include: removing all foreign materials from wetland areas; eradicating and controlling invasive exotic plant species; and planting native riparian plant species in disturbed areas. Nearly all the wetland areas onsite are currently in a degraded condition, to varying degrees, and are available for habitat enhancement. In addition, the 5.86-acre and 12.03-acre detention basins proposed for this project would both be available for restoration and enhancement efforts.

BIO49 Protect Existing Wetlands Onsite. Existing wetlands not to be impacted by the proposed project shall be protected in perpetuity through a prohibition from any incompatible form of development. The wetland preserve area(s) shall be clearly marked

with signs, and a public education program shall be developed for future residences of the project site and visitors.

BIO50 Prepare Disturbed Wetland Areas for Replanting. After efforts to minimize the impacts to the riparian vegetation are implemented, appropriate areas of the project site shall be restored, and lost habitat mitigated. This shall be accomplished by implementing the following mitigation measures:

- Regrading portions of the drainages to accommodate onsite revegetation and to accomplish natural sinuosity of the creek channel;
- Replacing and planting selected portions of the site with indigenous riparian plant species;
- Maintaining and irrigating the restored area;
- Removing invasive exotic plants, such as *Centaurea melitensis* (Tocalote), and replacing them with native species to increase species diversity and habitat function; and
- Monitoring the site for at least five (5) years after restoration plantings have been completed.

BIO51 Create and Manage Wetlands at Detention Basin Site. The flood debris detention basin proposed on Lyon Canyon Creek, as required by the Los Angeles County Flood Control District, shall be designed and managed to meet basic flood debris detention standards but allow permanent establishment of riparian and wetland habitats. Debris basin management shall allow periodic cleanout of any portion of the basin clogged with flood debris; however, only the smallest area required shall be cleaned out no less than every five (5) years. The 5.86-acre detention basin design will almost certainly not fill with debris as modeled by the Los Angeles County Flood Control District since the 25-year flood events of January 2005, preceded by the burning of the entire Lyon Canyon Creek watershed in October 2003, failed to produce any significant quantities of sediment. No substantial sedimentation occurred in Lyon Canyon Creek during the winter of 2004-05, as expected. This situation may allow, with County concurrence, for some latitude in management of the detention basin, either by reducing its required capacity, or significantly reducing maintenance requirements of some portions of the basin in order to preserve habitat values.

BIO52 Design and Implement a Wetlands Restoration Plan. Prior to implementation of any restoration, a detailed program shall be developed by the project applicant and shall be approved by the Corps and CDFG as part of the 404 and 1600 *et seq.* permitting process. The program shall contain the following items:

- *Responsibilities and qualifications of the personnel to implement and supervise the plan.* The responsibilities of the landowner, technical specialists, and maintenance personnel that shall supervise and implement the restoration plan shall be specified.
- *Site selection.* The site for the mitigation shall be determined in coordination with the project applicant and resource agencies. The site shall either be located on the proposed development site in a dedicated open space area or dedicated open space area shall be purchased off-site. Appropriate sites shall have suitable hydrology and soils for the establishment of riparian species.
- *Site preparation and planting implementation.* The site preparation shall include: protection of existing native species; trash and weed removal; native species salvage and reuse (i.e., duff); soil treatments (i.e., imprinting, decompacting); temporary irrigation installation; erosion control measures (i.e., rice or willow wattles); seed mix application; and use of container species.
- *Schedule.* A schedule shall be developed which includes planting to occur in late fall and early winter between October and January.

- *Maintenance plan/guidelines.* The maintenance plan shall include: weed control; herbivore control; trash removal; irrigation system maintenance; maintenance training; and replacement planting.
- *Monitoring plan.* The monitoring plan shall include 1) qualitative monitoring (i.e. photographs and general observations), 2) quantitative monitoring (i.e. randomly placed transects), 3) performance criteria as approved by the resource agencies, 4) monthly reports for the first year and bimonthly thereafter, and 5) annual reports for five years that shall be submitted to the resource agencies on an annual basis. The site shall be monitored and maintained for five years to ensure successful establishment of riparian habitat within the restored and created areas; however, if there is successful coverage prior to five years, the project applicant may request to be released from the monitoring requirements from USACE and CDFG.
- *Long-term preservation.* Long-term preservation of the site through an appropriate recordable legal instrument shall also be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development.
- *Earth-moving equipment.* Earth-moving equipment shall avoid maneuvering in areas outside the identified limits of grading in order to avoid disturbing open space areas that will remain undeveloped. Prior to grading, the open space limits shall be marked by the construction supervisor and the project biologist. These limits shall be identified on the grading plan. No earth-moving equipment shall be allowed within the open space area.
- If work must be conducted when surface water flows are present, specific actions should be taken to avoid increasing water turbidity downstream. Surface water flows should be diverted around all construction activities, and no equipment should be allowed to actively work in flowing water without sedimentation and turbidity control measures in place. In order to minimize impacts to aquatic habitat and aquatic wildlife due to alteration of the Riverine habitat onsite, DMEC recommends that the construction be conducted during times of no active channel flows. However, if construction must be conducted while active flows are present within the Riverine system, these measures should be implemented to minimize impacts:
 - Equipment contact with the active channel should be minimized to a maximum extent;
 - Flows should be diverted from the work area, and sedimentation barriers should be installed and maintained;
 - Arising groundwater should be allowed to settle behind a downstream diversion berm prior to discharge to the primary flow channel;
 - Turbidity levels should be monitored and minimized (kept below a 20 percent increase over background turbidity);
 - Employ BMPs for avoiding fuel leaks in or near active flows; and
 - All foreign materials and litter should be removed from the channel.

Implementing Mitigation Measure **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) will also mitigate for this impact.

Adoption and successful implementation of the mitigation measures recommended above would reduce significant adverse impacts to wetlands and wetland functions to a level of less than significant.

Level of Significance After Mitigation: Less Than Significant

Mitigation for Loss of Wildlife Foraging and Cover Habitats

BIO53 Implementation of the project will result in permanent loss and temporary disturbance to the existing vegetation. Impacts to areas occupied by the foraging and cover habitats required by wildlife species of the project site may be minimized by:

- Keeping habitat impacts to only those areas absolutely required;
- Avoiding contact or harm to any dens, middens, and nests;
- Allowing all wildlife observed during construction activities the chance to escape any danger; and
- Having a biological monitor onsite during construction activities to help prevent harm to wildlife and to document impacts that require mitigation.

Level of Significance After Mitigation: Significant and Unavoidable

MITIGATION FOR IMPACTS OF FUEL MODIFICATION

Impacts to fuel modification should be mitigated by the implementation of the mitigation measures listed above under Impacts to Natural Vegetation, Including Sensitive Habitats (including **BIO2 to BIO8** and **BIO41 to BIO53**). Implementing Mitigation Measures **BIO1A** (Mitigation for the Implementation of Conditions of Approval Related to Preserve Maintenance) and **BIO18A** (Mitigation Measure for the Implementation of Conditions of Approval Related to Landscaping) will also mitigate for this impact.

Level of Significance After Mitigation: Significant

MITIGATION FOR IMPACTS FROM LANDSCAPING

BIO54 Project landscape design shall be submitted to the County for review and approval by a qualified botanist. The review shall ensure that no invasive, exotic plant species such as those listed in the CNPS and California Invasive Plant Council 1999 List (CalIPPC 1999) and subsequent (draft) list for 2005 are used in any proposed landscaping, and that suitable substitutes are proposed. Ideally, only locally indigenous native species should be used in landscaping along a boundary bordering open space/SEA. Natives used shall include coastal sage scrub, chaparral, and woodland species that currently occur on the project site.

BIO55 The CC&Rs for the homes shall include restrictions on homeowners from planting any invasive exotic species listed by either CNPS or CalIPPC. Homeowner landscaping plans shall be submitted to the CC&Rs for review. The review shall ensure that no invasive exotic plant species are planted onsite in order to reduce the chance of inadvertent introductions or escapes of invasive exotic species into native habitats, including bordering open space areas and SEAs.

Implementing Mitigation Measure **BIO18A** (Mitigation Measure for the Implementation of Conditions of Approval Related to Landscaping) will also mitigate for this impact.

Level of Significance After Mitigation: Less Than Significant

MITIGATION FOR IMPACTS TO SEA INTEGRITY

Implementation of all the above mitigation measures for impacts to biological life history - including plants, special-status plants, wildlife, special-status wildlife, natural plant communities, and sensitive habitats – should partially mitigate for impacts to components of the SEA integrity onsite. However, an unavoidable loss of a portion of SEA 63 will result.

Level of Significance After Mitigation: Significant and Unavoidable

MEASURES TO PROTECT/MANAGE OPEN AREAS

Implementation of all the above mitigation measures for impacts to natural vegetation, including sensitive habitats should partially mitigate for impacts to natural open space. However, an unavoidable loss of natural open space will result.

BIO56 In addition to these mitigation measures, an open area protection and management plan shall be prepared to ensure the implementation of mitigation and to aid in the protection of the remaining preserved open areas after the development onsite.

Level of Significance after Mitigation: Significant and Unavoidable

MITIGATION FOR INTERFERENCE WITH WILDLIFE MOVEMENT WITHIN LYON CANYON

Implementation of the following mitigation measures (presented above) would effectively mitigate local impacts to wildlife movement:

- **BIO23, 25, and 26** (for impacts to special-status wildlife species), and
- **BIO32 and 33** (for impacts from noise), and
- **BIO37 and 38** (for impacts from human activity), and
- **BIO39 and 40** (for impacts from night lighting), and
- **BIO2 through 8, and BIO41 through 53** (for impacts to natural vegetation).

In addition, the proposed dim lighting and enlarged culverts to be implemented with the project development will help to mitigate for impacts to wildlife movement. A culvert/tunnel will be constructed over Lyon Canyon Creek to accommodate animal movement through the remaining habitats onsite and beyond. No additional mitigation measures are required.

Level of Significance After Mitigation: Less Than Significant