

SECTION 8. MONITORING PROGRAM

MONITORING PROGRAM FOR SPECIAL-STATUS PLANT SPECIES

Monitoring Program for Special-Status *Calochortus* Species

- 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. 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.
- 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 bulb translocation, seed propagation, and monitoring.
- 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.
- 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.

Monitoring Program for *Calystegia peirsonii*, *Ambrosia confertiflora*, *Ericameria ericoides* ssp. *ericoides*, & *Navarretia hamata* ssp. *hamata*

- The propagated seeds of each special-status species shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County.

MONITORING PROGRAM FOR INDIRECT IMPACTS TO SPECIAL-STATUS PLANT SPECIES

- 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 of 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 of background (natural) levels.
- Development of a storm water pollution prevention plan, which shall include provisions for the implementation of best management practices and erosion control measures. Best management practices shall include both structural and non-structural measures.
- Monitoring for invasive plant species shall be conducted regularly to assess invasion by invasive plant species from landscaped areas into adjacent natural habitats. Weed eradication and maintenance shall be conducted when any problem species arise.

MONITORING PROGRAM FOR GENERAL WILDLIFE

Monitoring Program for Aquatic/Semi-Aquatic Wildlife

- 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 feasible;
 - ◆ 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.

Monitoring Program for Breeding and Nesting Birds

- To avoid violating the Migratory Bird Treaty Act or Fish and Game Code § 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. 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.

Monitoring Program for Amphibian, Reptile, and Mammal Wildlife

- During construction, equipment operators shall avoid contact with or harm to any wildlife species. If a wildlife species is encountered during construction activities, it shall be allowed to escape any danger that may result from construction work.

MONITORING PROGRAM FOR SPECIAL-STATUS WILDLIFE SPECIES

- 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.
- 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.
- 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.
- 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.
- 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.

MONITORING PROGRAM FOR NOISE IMPACTS TO SPECIAL-STATUS WILDLIFE SPECIES

- 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.
- 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 likely last only a few hours at a time but would not likely last more than one or two days in the immediate vicinity of the sensitive wildlife site, such as at an active bird nest.

MONITORING PROGRAM FOR NATURAL VEGETATION, INCLUDING SENSITIVE HABITATS

- **Coastal Sage Scrub.** 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. Prior to implementation of any restoration, a detailed program shall be developed by the project applicant and shall contain the following items: qualitative monitoring (i.e. photographs and general observations); quantitative monitoring (e.g. randomly placed transects); performance criteria as approved by the resource agencies [CDFG, USFWS, County, as appropriate]; 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.
- **Southern California Black Walnut Woodland.** 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 propagated plants shall be maintained and monitored for a period of five (5) years after initial planting, with annual reports submitted to the County.
- **Coast Live Oak Woodland, Coast Live Oak Riparian Woodland.** 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. 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. 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. 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. 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.

- **Wetland Plant Communities.** 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.

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.

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 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. 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.

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.

- Equipment contact with the active channel should be minimized to a maximum extent feasible;
 - 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 Best Management Practices (BMPs) for avoiding fuel leaks in or near active flows; and
 - All foreign materials and litter should be removed from the channel.
- **Monitoring Program for Wildlife Foraging and Cover Habitats.** Impacts to areas containing foraging and cover habitats required by wildlife species of the project site shall be minimized by: minimizing habitat impacts to the greatest extent feasible; 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.

MONITORING PROGRAM FOR LANDSCAPING

Landscaping plans shall be reviewed and approved by a County botanist to ensure appropriate noninvasive plant species are planted onsite, especially in those areas immediately adjacent to open natural areas or preserves.

MONITORING PROGRAM FOR SEA INTEGRITY AND OPEN AREAS

The implementation of all monitoring measures listed in this section (Section 8 - Monitoring Program) will be appropriate monitoring for mitigation for impacts to SEA integrity.