

COASTAL CONSERVANCY

Staff Recommendation

September 28, 2017

**PECTEN REEF HABITAT RESTORATION AND ENHANCEMENT**

Project No. 16-055-01

Project Manager: Deborah Ruddock

**RECOMMENDED ACTION:** Authorization to disburse up to \$677,400 to the Laguna Canyon Foundation for the Pecten Reef Habitat Restoration and Enhancement Project along Aliso Creek in the Aliso and Wood Canyons Wilderness Park in the City of Aliso Viejo, County of Orange.

**LOCATION:** Aliso Viejo, County of Orange

**PROGRAM CATEGORY:** Integrated Coastal and Marine Resources

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**EXHIBITS**

Exhibit 1: [Project Location](#)

Exhibit 2: [Photos](#)

Exhibit 3: [Project Letters](#)

Exhibit 4: [Mitigated Negative Declaration](#)

Exhibit 5: [Mitigation and Monitoring Reporting Program](#)

Exhibit 6: [LSA March 8, 2017 Report](#)

Exhibit 7: [LSA July 28, 2017 Report](#)

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**RESOLUTION AND FINDINGS:**

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Section 31220 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of six hundred seventy-seven thousand four hundred dollars (\$677,400) to the Laguna Canyon Foundation (“Foundation”) for restoration of approximately 26 acres of wetland, riparian, transitional and upland habitat in the Pecten Reef area of Aliso Creek, subject to the following conditions:

1. Prior to the disbursement of Conservancy funds, the Foundation shall submit for review and approval of the Executive Officer of the Conservancy a final work plan, including the names of any contractors to be used in completion of the project, a project schedule and budget, and evidence that the Foundation has obtained all necessary permits and approvals.

2. The Foundation shall enter into a written agreement with the county regarding operation and maintenance of the project.
3. The Foundation shall acknowledge Conservancy funding by erecting and maintaining a sign or signs on the property, the design and location of which has been approved by the Executive Officer.
4. In implementing the project the Foundation shall ensure compliance with all applicable mitigation measures for the project that are identified in the Initial Study-Mitigated Negative Declaration (“IS/MND”) attached to the accompanying staff recommendation as Exhibit 4, in the consultant memos attached as Exhibits 6 and 7, or in any permits, approvals or additional environmental documents required for the project.

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with Chapter 5.5 of Division 21 of the Public Resources Code (Section 31220), regarding integrated coastal and marine resources.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. The Foundation is a nonprofit organization existing under section 501(c) (3) of the U.S. Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.”
4. The Conservancy has independently reviewed and considered the information contained in the attached IS/MND developed to mitigate potentially significant environmental effects, pursuant to its responsibilities under the California Environmental Quality Act. The IS/MND identifies potentially significant effects from implementation of the project in the areas of biological, cultural, and paleontological resources. The Conservancy finds that the project as designed avoids, reduces or mitigates the potentially significant environmental effects to a less-than-significant level, and that there is no substantial evidence based on the record as a whole that the project will have a significant effect on the environment, as defined in 14 Cal. Code Regulations Section 15382.”

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**PROJECT SUMMARY:**

Staff recommends a disbursement of up to \$677,400 to the Laguna Canyon Foundation (“Foundation”) for restoration of approximately 26 acres of wetland, riparian, transitional, and upland habitat in the Pecten Reef, located in the Aliso and Wood Canyons Wilderness Park (“Park”) in Aliso Viejo, Orange County (Exhibit 1). The Park is owned by the County and managed by OC Parks.

The proposed project site is located outside of the coastal zone several miles from the shoreline in the middle of heavily urbanized south central Orange County. However, the site is situated along Aliso Creek, a coastal watershed with headwaters in the Santa Ana Mountains and outflow

at Aliso Beach in the City of Laguna Beach. Completion of the project will provide ecological benefits for downstream coastal and marine waters and biological resources.

The Pecten Reef is located in one of the most sensitive and ecologically important areas of the Aliso Creek watershed, and also is part of a major wildlife corridor that provides important connectivity between major Orange County wilderness preserves. Very little wilderness or undisturbed land remains in the watershed outside of the immediate vicinity of Aliso Creek and the Park, making the project particularly crucial for a range of state and federally-listed wildlife, including Least Bell's Vireo, Southwestern Pond Turtle, Southwestern Willow Flycatcher, California Gnatcatcher, Coast Horned Lizard, Western Mastiff Bat, and Yellow-breasted Chat. In addition, the area of the Park including and adjacent to Pecten Reef contains important fossil resources in the form of marine fossils from the prehistoric, Miocene-era reef.

The area suffers significant ecological problems including water pollution from runoff, altered hydrology, erosion, lack of native plant cover, and dominance of invasive plant species such as *Arundo*, or Giant Reed (Exhibit 2). Lack of native plant cover also threatens Pecten Reef's paleontological resources. The proposed project will restore native plant species through the installation of container plants, cuttings, and seeding that will create a functional ecosystem to improve watershed capability, reduce erosion, and increase filtration and groundwater recharge. This will, in turn, help create habitat for critically endangered species, improve the area as a wildlife corridor, and protect sensitive, exposed, archaeological and paleontological resources by increasing native vegetative cover. The project will also restore a critical connection between several other restoration projects completed upstream and downstream of the site.

The Foundation will employ a variety of equipment and methods intended to minimize impacts to riparian resources from staging and invasive removal. Use of a 15 inch articulating saw blade will limit machines entering too much of the streambank when removing Giant Reed and species-specific herbicide formulations will maximize cost-effectiveness and kill times for persistent Giant reed rhizomes.

To improve the project's resilience to climate change impacts such as increased drought and wildfires, the Foundation will plant a varied mix of species from different functional groups that will result in habitat that is structurally complex and diverse.

Short-term emissions of greenhouse gases are anticipated from the use of power tools for mowing and augering for plant installation, as well as from travel and materials delivery during construction. However, installation of thousands of native plants and trees over the course of the project will mitigate for any loss of carbon sequestration provided by invasive plants removed during the project as well as short-term emissions.

The project is fully permitted and shovel-ready. The proposed Conservancy grant of \$677,400 will assist the Foundation and County with site preparation, removal of invasive non-native plants, acquisition and installation of native plants, temporary irrigation, and development of a riparian monitoring plan. The Foundation has contributed approximately \$15,000 for a cultural and paleontological resources assessment. Neither the Foundation nor the County have the financial resources to complete the project.

Before commencing the project, the Foundation will conduct a CRAM (California Rapid Assessment Method) assessment of the condition of riparian resources during the first and last year of the project to record changes in the physical and biotic structure of the restoration area. Quantitative measures of success will include the number of plant layers present, the number of co-dominant species present and the presence of non-native species. Qualitative field observations will be made and reported by a qualified Foundation biologist quarterly for three years. Reports will include recommendations for any adaptive management implementation based on observations.

The habitats, once restored, are intended to be largely self-sustaining with only small additional inputs (e.g., minor weed maintenance), the responsibility for which will be assumed by the landowner, OC Parks, upon project completion. Continual protection and management of this area is assured by its inclusion in the County Park, which is in turn part of a Natural Communities Conservation Plan/Habitat Conservation Plan (“NCCP/HCP”).

The Pecten Reef restoration and enhancement project must be consistent with the Initial Study/Mitigated Negative Declaration Resource Management Plan (“IS/MND”; Exhibit 4) for the Park (MND; IP 08-2009; see “Compliance with CEQA” section below) and the Park’s Resource Management Plan (“RMP”). The 343-page RMP may be found at the following link: <http://www.ocparks.com/civicax/filebank/blobdload.aspx?BlobID=22978>.

As discussed in the RMP and MND, much of the Park lies within the Central/Coastal Orange County Sub-Region NCCP/HCP, and preparation of the RMP was a requirement of the County’s participation in the NCCP/HCP. The purpose of the RMP is to identify allowable uses in the Park and provide for the management of the resources.

Section 6.3.1 of the RMP (Upper Aliso Canyon (UALISO) Zone) addresses the northeastern arm of the Park that includes the Pecten Reef formation. As mentioned above, the Pecten Reef formation possesses extremely high value for paleontological resources. Due to its remote location from the park rangers’ office, it has high potential for illegal collection of resources. This area contains significant biological resource value associated with the riparian corridor along the creek, which is threatened by access impacts from the numerous Park entryways, adjacent community parks and schools, and the Aliso Creek Bikeway in this zone.

RMP goals for this area include enhancing riparian habitat and protecting paleontological resources. RMP strategy UALISO-4 calls for protecting and restoring riparian habitat through habitat restoration efforts and control of invasive, exotic species. Strategy UALISO-5 calls for implementing projects to improve water quality.

The proposed project is consistent with these RMP goals and strategies as it will restore approximately 26 acres of riparian habit through the removal of invasive exotic species and planting of native species, and provide monitoring of enhancements. Increasing native vegetative cover will protect sensitive, exposed, archaeological and paleontological resources.

The project is supported by the City of Laguna Beach, the City of Aliso Viejo, Coastal Greenbelt Authority, Laguna Canyon Conservancy, Laguna Greenbelt, Inc., Natural Communities Coalition, and Orange County (Exhibit 3).

**Site Description:** The project site includes a portion of Aliso Creek, one of the major streams in Orange County, running for 19.7 miles from the Santa Ana Mountains to the Pacific Ocean. Though historical land use was primarily cattle and sheep ranching, this watershed has been almost completely developed over the past 40 years into an urban area comprising seven cities with a resident population of more than 600,000. Consequently, Aliso Creek is impaired by high levels of urban runoff carrying bacteria, nitrogen, phosphorus, selenium, and invasive species.

The project site, known as Pecten Reef, is located in the northernmost section of the Park and is wholly contained within it. Pecten Reef is located near the corner of Laguna Hills Drive and Moulton Parkway in the City of Aliso Viejo, adjacent to the headquarters of the historic Moulton ranching operation. This location was heavily impacted by grazing activities, more so than other parts of the watershed.

Although the proposed project site has been heavily colonized by invasive species, adjacent lands comprise a broad range of native habitat, including willow scrub, riparian woodland and transitional mulefat scrub. Accordingly, it is a goal of the project to link the newly restored acreages to these adjacent native habitats, expanding important habitat for sensitive species. The riparian corridor associated with Aliso Creek is a key movement area for wildlife.

The area of the Park including and adjacent to the proposed Pecten Reef project site is part of a vital marine fossil formation. Due to damage through historic sheep grazing and consequent neglect, the project site remains largely barren of native vegetative cover, leaving its sensitive paleontological resources vulnerable to vandalism and theft. A key goal of the project is to protect sensitive fossil resources with native habitat cover.

**Project History:** For more than 40 years, the public, local land managers, non-profit organizations and state and federal wildlife agencies have advocated for restoration of the degraded Aliso Creek corridor. From 2000 to 2008, County and federal agencies spent over \$600,000 on studies and data to guide high-quality, science-based restoration efforts of Aliso Creek. The Foundation and its local partners have led a multi-year effort to commence some initial projects to restore portions of the creek. Five projects have been completed to date upstream and downstream of Pecten Reef. A restored project site at Pecten Reef would complete a critical connection between these projects at the northernmost point of AWCP, which is the most ecologically degraded of any site within the wilderness park.

**PROJECT FINANCING**

Coastal Conservancy	\$677,400
Laguna Canyon Foundation	\$ 15,000
<b>Project Total</b>	<b>\$692,400</b>

The anticipated funding source is the fiscal year 2015/16 appropriation to the Conservancy from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 et seq.). The grantee will provide in-kind services valued at \$60,000.

Funds appropriated to the Conservancy derive from Chapter 6 (commencing with § 79730) and may be used “for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state” (Section 79731). Section 79732 identifies specific purposes of Chapter 6 and includes purpose (10) of protecting and restoring coastal watersheds, including, but not limited to bays, marine estuaries, and nearshore ecosystems. As required by Proposition 1, the proposed project provides multiple benefits: helping restore wetlands, improving water quality, and reducing coastal pollution.

The proposed project was selected through a competitive grant process under the Conservancy’s *Proposition 1 Grant Program Guidelines* adopted in June 2015 (“Prop 1 Guidelines”). (See § 79706(a)). The proposed project meets each of the evaluation criteria in the Prop 1 Guidelines as described in further detail in this “Project Financing” section, the “Project Summary” section and in the “Consistency with Conservancy’s Project Selection Criteria & Guidelines” section of this report.

**CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:**

This project is consistent with the Conservancy’s enabling legislation, Division 21 of the Public Resources Code, specifically with Chapter 5.5 pertaining to integrated coastal and marine resources.

Section 31220 (a) states that the Conservancy may undertake coastal watershed and coastal and marine habitat and water quality, sediment management, and living marine resources protection and restoration projects or award grants for those projects. This section also states that for these projects the Conservancy will consult with the State Water Resources Control Board in the development of the project or grant to ensure consistency with Chapter 3 (commencing with Section 30195) with Division 20.4 of the Public Resources Code.

Section 31220 (b) specifies the types of projects eligible for funding under this chapter. The proposed project is consistent with the following types of projects included in this section:

- Section 31220 (b) (1) Reduces contamination of waters within the coastal zone or marine waters.
- Section 31220 (b) (2) Protects or restores fish and wildlife habitat within coastal and marine waters and coastal watersheds.
- Section 31220 (b) (4) Reduces unnatural erosion and sedimentation of coastal watersheds or contributes to the reestablishment of natural erosion and sediment cycles.
- Section 31220 (b) (6) Acquires, protects, and restores coastal wetlands, riparian areas, floodplains, and other sensitive watershed lands, including watershed lands draining to sensitive coastal or marine areas.

Section 31220 (c) requires projects to include a monitoring and evaluation component and to be consistent, as available and relevant, with an integrated watershed management plan, local

watershed management plans, and water quality control plans adopted by the State Water Resources Control Board (“State Board”) and regional water quality control boards.

The proposed project is consistent with these provisions because the project will restore approximately 26 acres of degraded wetland, riparian, transitional, and upland habitat in a coastal watershed (Aliso Creek) that drains to sensitive coastal and marine areas. The project will increase capture and filtration of stormwater runoff, reduce erosion, and provide water quality benefits for the creek and downstream coastal and marine waters.

The Foundation has consulted with the State Board in development of the project and has received a letter from the board finding the project consistent with the board’s goals and activities under the Clean Beaches Initiative Program, as well as with existing plans and policies of the state and regional board. The project is consistent with the South Orange County Watershed Management Area Integrated Regional Watershed Management Plan in that it will restore wetland habitat, improve water quality, and provide flood and erosion control.

Finally, consistent with Chapter 5.5, the proposed project includes development of a monitoring plan.

**CONSISTENCY WITH CONSERVANCY’S 2013 STRATEGIC PLAN  
GOAL(S) & OBJECTIVE(S), AS REVISED JUNE 25, 2015:**

Consistent with **Goal 4, Objective C** of the Conservancy’s 2013-2018 Strategic Plan, the proposed project will restore a portion of a major wildlife corridor that provides important connectivity between protected riparian areas from the foothills to the coast.

Consistent with **Goal 5, Objective D**, the grantee will implement a project in a coastal watershed to preserve and enhance a portion of Aliso Creek and its floodplain,

Consistent with **Goal 5, Objective G**, restoration activities will reduce stream bank erosion, streambed incision, and sediment load, resulting in water quality benefits to coastal and ocean resources.

Consistent with **Goal 7, Objective G**, the proposed project will remove dumped asphalt and plant native vegetation, thereby helping to reduce urban heat island effect, enhance stormwater management, and improve air quality.

Consistent with **Goal 8, Objective B**, planting native cactus and coastal sage scrub will provide a natural barrier to fossil collecting, thereby helping resolve a long-standing conflict between sensitive paleontological resources and fossil collectors while substantially improving habitat.

**CONSISTENCY WITH CONSERVANCY’S  
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy’s Project Selection Criteria and Guidelines, last updated on October 2, 2014, in the following respects:

**Required Criteria**

1. **Promotion of the Conservancy’s statutory programs and purposes:** See the “Consistency with Conservancy’s Enabling Legislation” section above.

2. **Consistency with purposes of the funding source:** See the “Project Financing” section above.
3. **Promotion and implementation of state plans and policies:** Through removal of invasive exotic plant species and increasing the extent of native riparian vegetation, the project serves to promote and implement several statewide plans and policies including:
  - *California Water Action Plan* (California Natural Resources Agency, California Environmental Protection Agency, and California Department of Food and Agriculture, 2014). Goal #4, “Protect and Restore Important Ecosystems,” will be addressed through riparian habitat restoration and reduction of erosion and pollution runoff into Aliso Creek. Goal #5, “Manage and prepare for dry periods,” will be addressed by increasing infiltration into streambanks and increasing water-holding capacity of streambanks. For Goal #6, “Expand water storage capacity and improve groundwater management,” this project will enhance infiltration and water-holding capacity of Aliso Creek’s riparian areas.
  - *California @ 50 Million: The Environmental Goals and Policy Report*. This project, by helping create a resilient, healthy large-scale riparian ecosystem through native habitat restoration, addresses the EGPR goal to steward and protect natural resources by advancing Action 6: Build resilience into natural systems and prioritize natural and green infrastructure solutions.
  - *CA Climate Adaptation Strategy/Safeguarding California: Reducing Climate Risk Plan*: The Safeguarding California Plan identifies actions needed to safeguard biodiversity and habitats. This project will advance Action 1: Improve habitat connectivity and protect climate refugia. Restoration along the Pecten Reef area of Aliso Creek will both improve instream and riparian habitat and provide habitat connectivity between upstream and downstream habitat areas.
  - *State Wildlife Action Plan (SWAP)*: Through removal of invasive species, restoration of native habitat, and creation of a functional, resilient native ecosystem, the project meets the following SWAP goals: Goal 1: Maintain and increase ecosystem and native species distributions in California while sustaining and enhancing species abundance and richness; Goal 2: Maintain and improve ecological conditions vital for sustaining ecosystems in California; and Goal 3: Maintain and improve ecosystem functions and processes vital for sustaining ecosystems in California.
4. **Support of the public:** The project is supported by the City of Laguna Beach, the City of Aliso Viejo, Coastal Greenbelt Authority, Laguna Canyon Conservancy, Laguna Greenbelt, Inc., Natural Communities Coalition, and County of Orange (Exhibit 3).
5. **Location:** The proposed project is located outside of the Coastal Zone in the City of Aliso Viejo. However, project activities will restore and enhance habitat along a portion of Aliso Creek, which flows from its headwaters in the inland foothills to the Pacific Ocean in Laguna Beach. The project will reduce stormwater runoff, streambank erosion, creek channel incision, and sediment load, thereby improving water quality in creek and coastal receiving waters and protecting coastal and marine resources.

6. **Need:** The project will not occur without Conservancy assistance as neither the grantee nor OC Parks have financial resources to undertake the project.
7. **Greater-than-local interest:** The project is located in one of the most sensitive and ecologically important areas of the Aliso Creek watershed, and also is part of a major wildlife corridor that provides important connectivity between major Orange County wilderness preserves. Very little wilderness or undisturbed land remains in the watershed outside of the immediate vicinity of Aliso Creek and the Park, making the project site particularly crucial for a range of state and federally-listed wildlife, including Least Bell's Vireo, Southwestern Pond Turtle, Southwestern Willow Flycatcher, California Gnatcatcher, Coast Horned Lizard, Western Mastiff Bat, and Yellow-breasted Chat. In addition, the area of the Park including and adjacent to Pecten Reef contains important paleontological resources in the form of marine fossils from the prehistoric, Miocene-era reef. This project will help protect those fossils – one of the last major paleontological exposures in Orange County—from damage and theft by creating a physical barrier of native cactus and shrub species.
8. **Sea level rise vulnerability:** The project site is located several miles from the shoreline and therefore not at risk from sea level rise.

#### **Additional Criteria**

10. **Resolution of more than one issue:** The proposed project will restore habitat, improve water quality, increase flood protection, and protect paleontological resources.
12. **Conflict resolution:** The proposed project will employ plantings of native species as a barrier to fossil thieves/vandals.
13. **Innovation:** The Foundation has developed a variety of equipment and methods intended to minimize impacts to riparian resources from staging and invasive removal. These innovative practices and equipment include 15 inch articulating saw blades, which limit machines entering too much of the streambank when removing Arundo and use of an Arundo-specific herbicide formulation developed with California Department of Fish and Wildlife that maximizes cost-effectiveness and kill times for persistent Arundo rhizomes.
14. **Readiness:** The project is fully permitted and shovel-ready.
17. **Cooperation:** The Foundation will implement the project and the landowner, OC Parks, will manage and maintain the improvements. The Foundation and OC Parks will enter into a written agreement specifying mutual responsibilities.
18. **Vulnerability from climate change impacts other than sea level rise:** Droughts, increased wildfire risks, flooding and the introduction of new invasive species are all expected to be increased concerns as climate change occurs in Southern California. To improve the project's resilience to these impacts a varied mix of native species from different functional groups will be used to create a habitat that is structurally complex and diverse. This diversity, including hardy species that are adapted to various environmental conditions, provides the greatest degree of resilience to adapt to climate change. A

healthier, more diverse plant community is more able to adapt to climate change and provides more reliable habitat for plants and wildlife. A county-wide wildlands fire management plan exists to address potential fire risks to the Park's landscape and infrastructure.

19. **Minimization of greenhouse gas emissions:** Minor sources of short-term emissions include use of power tools for mowing and augering for plant installation, travel, and materials delivery. Thousands of native plants and trees will be installed over the course of the project mitigating for any loss of vegetation and carbon sequestration provided by invasive plants removed during the project as well as short-term emissions.

**CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/  
STATE WATER QUALITY CONTROL PLAN:**

The project is consistent with the South Orange County Watershed Management Area Integrated Regional Watershed Management Plan. Specifically it is consistent with Flood Reduction Goal FR-1 Enhance Flood Protection For Public Safety and Property, as restoration activities involving the removal of asphalt and other debris on the site, creation of wetland swales, and planting of native vegetation will reduce runoff and slow water flow. Consistent with Improve Water Quality Goal WQ-2, Protect Beneficial Uses of Receiving Waters, the restoration and enhancement of habitats will reduce erosion and filter contaminants for instream and receiving coastal and marine waters. Consistent with Natural Resources Protection Goals NR 1-3, restoration activities will enhance the functioning of Aliso Creek, a regional aquatic ecosystem, reduce impacts from surface runoff, and eradicate invasive species.

The Foundation has consulted with the State Board in development of the project and has received a letter from the board finding the project consistent with the board's goals and activities under the Clean Beaches Initiative Program, as well as with existing plans and policies of the state and regional board.

**COMPLIANCE WITH CEQA:**

The County of Orange owns the Aliso and Wood Canyons Wilderness Park and is the lead agency for purposes of CEQA.

Much of the Park is included within the Central/Coastal Orange County Sub-Region Natural Communities Conservation Plan/Habitat Conservation Plan ("NCCP/HCP"), which required the County to prepare and adopt the Resource Management Plan ("RMP") as a condition of its participation in the program. Because one of the primary purposes of the RMP is management of Park resources to maximize habitat value, habitat restoration activities are encouraged. As described above in the Project Summary, the proposed project activities are authorized by and consistent with the RMP. The County adopted the Initial Study/Mitigated Negative Declaration ("IS/MND"; Exhibit 4) and the Mitigation and Monitoring Program ("MMRP"; Exhibit 5) for activities covered by the RMP on August 4, 2009.

Components of the project that might have the potential for significant environmental impacts unless mitigated pursuant to the MMRP are: (1) impacts to biological resources from the removal

of asphalt and other debris from the site, removal of non-native invasive plant species, and minor land alteration in the creation of wetland swales; and (2) cultural and paleontological resources.

### *Biological Resources*

The project has the potential to have an impact on protected species but implementation of Biological Resources Mitigation Measure 4.9-1 would reduce this impact to less than significant by ensuring compliance with the NCCP/HCP. This includes the following:

- Revegetation in the form of hydroseeding in accordance with the NCCP/HCP to address temporary impacts to coastal sage scrub habitat (“CSS”).
- Mapping on the grading plan of all known locations of sensitive bird species associated with CSS and riparian habitats within 100 feet of grading limits.
- Notification and consultation with the U.S. Army Corps of Engineers (“USACE”), U.S. Fish and Wildlife Service (“USFWS”), CA Department of Fish and Wildlife (“CDFW”), and the Nature Reserve of Orange County (“NROC”) regarding any CSS clearing and final design and location of the project to mitigate and minimize impacts to CSS and wetland riparian habitat and associated species.
- Pre-construction meetings with a biological monitor and contractors to ensure maximum adherence to mitigation measures.
- Roping or fencing of grading boundaries prior to initiation of vegetation removal.
- Restrictions on timing of vegetation removal to avoid bird nesting season.
- Biological monitoring during vegetation removal.

The project could have impacts on riparian habitat but implementation of Biological Resources Mitigation Measures 4.9-2 through 4.9-4 would reduce this impact to less-than-significant:

- 4.9-2: Wetland assessments to determine jurisdictional wetlands and streambed alteration agreements as appropriate.
- 4.9.3: Obtain a Streambed Alteration Agreement with CDFG if necessary.
- 4.9-4: Permanent and temporary erosion control measures.

The project could have an impact on federally protected wetlands but implementation of Biological Resources Mitigation Measures 4.9-2, 4.9-4, and 4.9-5 would reduce this impact to less-than-significant:

- 4.9-5: USACE Section 404 permit for impacts to jurisdictional wetlands.

### *Cultural Resources*

Cultural Resources mitigation measures include:

- 4.11-1. Retention of a County-certified archaeologist to monitor excavation activities.
- 4.11-2. Retention of a County-certified paleontologist to monitor excavation activities.
- 4.11-3. Suspension of construction activities and consultation with specified authorities upon the discovery of human remains.

At the County’s request, LSA Associates, Inc., the consultant who prepared the MND and MMRP, conducted an Initial Study specifically for the proposed project at Pecten Reef. In two reports dated March 6, 2017 (Exhibit 6) regarding potential impacts to biological and

cultural/paleontological resources at the project site, LSA found that, because all potentially significant effects were adequately analyzed in the RMP MND, and will be avoided or mitigated pursuant to the MND/MMRP, no additional analysis under CEQA is required.

However, because of the known presence of sensitive paleontological resources in this area of the Park, and because the proposed project will involve ground disturbance, LSA recommended additional reconnaissance and investigation to determine whether any resources may be impacted by the proposed project footprint, as well as to make recommendations to mitigate any potential impacts to paleontological resources.

Following a literature review, fossil locality search, and field survey, LSA in a report dated July 28, 2017 (Exhibit 7) found the potential does exist to find significant fossils at the project site below a surface depth of 10 feet. As a result, any ground disturbance below a depth of 10 feet has the potential to impact significant paleontological resources.

LSA nevertheless recommended against establishment of an exclusion zone within the project site because the potential protective benefits of restoring native vegetation cover outweigh the potential impacts. Instead, LSA recommended the following measures:

- **PAL-1** If the project involves ground disturbance in parts of the project that contain deposits with high paleontological sensitivity (i.e., Young Axial Channel Deposits below a depth of 10 feet, the Capistrano Formation, and the Monterey Formation), prior to commencement of any grading activity on site, a paleontologist shall be retained to develop a Paleontological Resources Impact Mitigation Program (PRIMP). The PRIMP shall include the methods that will be used to protect known or unknown paleontological resources within the project site as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of grading. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology (SVP).
- **PAL-2** Excavation and grading activities in deposits with high paleontological sensitivity (i.e., Young Axial Channel Deposits below a depth of 10 feet, the Capistrano Formation, and the Monterey Formation) shall be monitored by a paleontological monitor following a PRIMP. If paleontological resources are encountered during the course of ground disturbance, the paleontological monitor shall have the authority to temporarily redirect ground disturbance away from the area of the find in order to assess its significance.
- **PAL-3** Collected resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a scientific institution. At the conclusion of the monitoring program, a report of findings shall be prepared to document the results of the monitoring program.

By following the above procedures, LSA found potential impacts to significant nonrenewable paleontological resources would be mitigated.

These measures PAL-1, PAL-2, and PAL-3 implement and refine the approach to paleontological resources already established by Chapter 11, Paleontological Resource Management, of the existing RMP. For example, Chapter 11.02 includes the following

procedure: “[P]rior to any proposed ground disturbing activities within the AWCWP... a paleontological assessment survey of the proposed construction area should be completed under the direction of a County-certified paleontologist to identify both the rock types present in the area and the potential for significant fossil resources to be discovered. If significant fossils are identified during the survey, these should be scientifically salvaged prior to initiation of construction activities. A County-certified paleontologist should develop a paleontological resources impact mitigation program (PRIMP) consistent with guidelines developed by the Society of Vertebrate Paleontologists (SVP 1995) to direct resource monitoring of excavation in order to collect and properly curate any fossils that may be discovered during the ground-disturbing activities.” That language corresponds closely to the newly identified measures PAL-1 and PAL-2. As for PAL-3, similar procedures for scientific documentation of paleontological discoveries are outlined in Chapter 11.3 and 11.4 of the RMP. Therefore, measures PAL-1, PAL-2, and PAL-3 are minor technical additions to the MND and RMP and do not constitute the kind of new information that would necessitate a subsequent document under the standards enunciated in CEQA Guideline 15162. See 14 Cal. Code Regs. § 15164.

Conservancy staff has independently reviewed and considered the RMP, MND, MMRP and the LSA reports and concurs that the restoration activities along Aliso Creek in the Pecten Reef area of the Park will not have a significant effect on the environment if mitigated pursuant to the MMRP and LSA’s additional recommendations. Accordingly, staff recommends that the Conservancy find that the proposed project as mitigated will not have a significant effect on the environment.

Staff will file a Notice of Determination upon Conservancy approval of the project.