

Chapter 8

Construction Effects

Introduction

This chapter presents impacts associated with the construction of the proposed project, which would occur in two phases. The first phase of construction involves relocation of the existing parking lot closer to the park entrance and PCH. During this phase, the existing parking lot, which is located at the northern portion of the project site, would be removed. The northwestern portion of the project site, adjacent to PCH, would be graded and paved for the new parking lot. The first phase of construction is anticipated to occur between November 2006 and January 2007.

The second phase of construction would occur in the western arms of the lagoon and in a small location on the eastern shore adjacent to the Adamson House boat dock. Construction activities in the lagoon primarily involves earthwork. The second phase of construction is expected to begin in late August 2007 and continue through October 2007. There would be no construction in 2008.

As construction activities for the proposed project would last for a few months, the impacts discussed in this section would be temporary and intermittent. Where applicable, mitigation measures are proposed to reduce construction-related impacts.

Please also refer to Chapter 9, Effects Determined Not Significant, for discussions of both construction and long-term effects associated with topic areas that were found to have little or no relation to this project, such as mineral resources, hazardous materials, and utilities.

Air Quality

Impact AQ-1: Pollutant emissions during Phase I and Phase II construction.

Construction activities would temporarily generate pollutant emissions. Pollutant emissions are typically generated from dust, fumes, and equipment exhaust, and vehicle exhaust. The amount of emissions

generated would vary depending on the type of construction activity that is involved.

During the first phase of construction, pollutant emissions would be generated from the following construction activities: (1) demolition of existing parking lot, (2) grading, (3) construction workers traveling to and from the project site, (4) delivery and hauling of construction supplies and debris to and from the project site, and (5) fuel combustion by on-site construction equipment.

During the second phase of construction, pollutant emissions would be generated from the following construction activities: (1) excavation, (2) hauling of excavated soil from the project site, (3) construction workers traveling to and from the project site, (4) delivery and hauling of construction supplies to and from the project site, and (5) fuel combustion by on-site construction equipment.

The South Coast Air Quality Management District (SCAQMD), the local agency that monitors air quality within the project area, has established thresholds for carbon monoxide (CO), reactive organic compounds (ROC), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and particulate matter less than 10 microns in diameter (PM₁₀) for construction activities. The SCAQMD construction thresholds are shown in Table 8-1. The proposed project would have a significant impact if daily construction emissions were to exceed SCAQMD construction emissions thresholds shown in Table 8-1.

Table 8-1: SCAQMD Daily Construction Emissions Thresholds

Criteria Pollutant	Pounds Per Day
Reactive Organic Compounds (ROC)	75
Nitrogen Oxides (NO _x)	100
Carbon Monoxide (CO)	550
Sulfur Oxides (SO _x)	150
Particulates (PM ₁₀)	150

Source: South Coast Air Quality Management District

The California Air Resources Board (CARB) URBEMIS 2002 model was used to estimate daily construction emissions for the proposed project. Table 8-2 shows the estimated daily emissions during construction of the parking lot and the lagoon. As shown, estimated daily construction emissions are not anticipated to exceed any of the SCAQMD construction thresholds, and a less-than-significant impact is anticipated.

Table 8-2: Estimated Daily Maximum Construction Emissions

Construction Activity	Pounds Per Day				
	ROC	NO _x	CO	SO _x	PM ₁₀ /a/
SCAQMD Threshold	75	100	550	150	150
<u>Phase I- Construction at the Parking Lot</u>					
Demolition	2	21	14	<1	3
Grading	4	22	31	<1	3
Exceed Threshold?	No	No	No	No	No
<u>Phase II- Construction at the Lagoon</u>					
Earthwork	9	57	75	<1	17
Exceed Threshold?	No	No	No	No	No

/a/ Assumes proper implementation of SCAQMD Rule 403.
Source: TAHA, 2005 (see Appendix C for model worksheets)

Daily PM₁₀ emissions during grading for the proposed project assume proper implementation of SCAQMD Rule 403.¹ Rule 403 applies to any activity or man-made condition capable of generating fugitive dust. It requires the use of control measures that would reduce or mitigate fugitive dust emissions. Due to the fact that the soil in and around the lagoon has a high moisture content, fugitive dust emissions will be very low during construction activities. Nevertheless, implementation of mitigation measures AQ-1 through AQ-3 (listed below) would ensure adherence to Rule 403 and minimize fugitive dust emissions to the maximum extent feasible.

Mitigation Measure AQ-1: Dust sweeping.

The construction area and vicinity (driveways, access roads, and staging areas) shall be swept with water sweepers on a daily basis or as necessary to ensure there is no visible dust.

Mitigation Measure AQ-2: Covering or watering of stockpiles.

On-site stockpiles of debris, dirt or rusty material shall be covered or watered at least twice daily to prevent fugitive dust.

¹ Implementation of Rule 403 is estimated to reduce dust and PM₁₀ emissions by up to 59 percent during the grading phase. The resulting daily PM₁₀ emissions, shown in Table 8-2, would not exceed the SCAQMD significance threshold of 150 pounds per day.

Mitigation Measure AQ-3: Covering of haul trucks.

All haul trucks hauling soil, sand, and other loose materials shall either be covered or maintain two feet of freeboard.

As shown in Table 8-2, the estimated daily emissions during construction of the proposed project would not exceed any of the SCAQMD thresholds. Thus, less-than-significant impacts on air quality are anticipated to occur during project construction.

Consistency with Local and Regional Plans

No changes to existing land uses would occur during construction of the project and no impacts would result. Please refer to Chapter 4 for a detailed discussion of the project's consistency with local and regional planning documents.

Construction activities are inherently incompatible with sensitive land uses such as residences, due to unavoidable issues of noise, dust, and the potential for temporary traffic delays. These issues and others are described in other sections of this chapter. All construction activities would be mitigated to reduce the level of impact and all impacts described would be of a temporary and intermittent nature.

Hydrology and Water Quality

Impact HYDRO-8: Release of construction-related sediment from access roads, staging areas, ground-disturbing activities and stockpiles during Phase I and Phase II construction.

Phase I of the project construction includes removal of the existing pavement at the parking area and visitor kiosk and construction of a new parking area within the same general area of the project site. Both the existing and new parking areas would cover approximately the same amount of land - a little more than one acre. These activities would occur outside of the direct influence of the lagoon.

Phase II project construction would require ground-disturbing activities within channels of the lagoon itself. Deposition of sediment to the lagoon would exacerbate the existing nutrient impairment in the lagoon. Due to the size of the construction area and the potential for water quality degradation, release of construction-related sediment would create a potentially significant impact on water quality in the lagoon. However, implementation of mitigation measure HYDRO-2 would reduce this impact to a less-than-significant level.

Mitigation Measure HYDRO-2: Implement Best Management Practices to Control Discharge of Construction-Related Pollutants to Surface Waters.

Because project construction would cover an area greater than one acre, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared by the Lead Agency or its contractor as required by the RWQCB under the NPDES General Construction Permit. The SWPPP shall meet the requirements of the RWQCB as well as any City and County requirements.

The SWPPP shall identify Best Management Practices (BMPs) to maintain water quality. The final selection and design of erosion and sediment controls shall be subject to approval by the Lead Agency. BMPs in the SWPPP may include, but are not limited to, the following elements:

- Temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) will be employed for disturbed areas.
- Earth dikes, drainage swales, and ditches shall be provided to intercept, divert, and convey surface runoff and sheet flow, prevent erosion, and reduce pollutant loading. Specific areas that may need such measures shall be identified on the construction drawings.
- Roads used during construction shall be swept and cleaned of accumulated earth and debris in the construction zone during project construction, particularly before predicted rainfall events.
- Excavated materials deposited or stored onsite temporarily shall not be placed in or adjacent to open water channels and shall be wetted and covered as necessary to prevent runoff and erosion.
- Oils, fuels, and other toxicants spilled or deposited near the project site shall be removed and disposed of according to applicable laws and regulations.
- Fueling areas will be designated to afford separation from surface waters during fueling activity to prevent accidental spills from reaching the lagoon.
- Establish native grass or other vegetative cover over areas that have been disturbed by construction as soon as possible after disturbance to establish vegetative cover. This will reduce erosion by slowing runoff velocities, enhancing infiltration and transpiration, trapping sediment and other particulates, and protecting soil from raindrop impact.

The Lead Agency and/or its contractors shall implement a monitoring program to verify BMP effectiveness. The monitoring program shall begin at the outset of construction and terminate upon completion of the

project. Implementation of the mitigation measure above will reduce impacts to less-than-significant levels.

Impact HYDRO-9: Release of construction-related hazardous materials during Phase I and Phase II construction.

Fuels, oils, lubricants, and other hazardous materials with the potential to degrade water quality may be released from equipment during construction. Excavation equipment, generators, and other construction equipment would use these hazardous materials on a regular basis during construction. If a fuel tank or an oil line were ruptured, the surrounding environment would be at risk. Impacts are considered to be less than significant with implementation of mitigation measure HYDRO-3.

Mitigation Measure HYDRO-3: Implement a Hazardous Material Spill Prevention Control and Countermeasure Plan.

A Hazardous Material Spill Prevention Control and Countermeasure Plan shall be prepared as part of the NPDES General Construction Permit to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction of the project. This plan shall describe storage procedures and construction site housekeeping practices and identify the parties responsible for monitoring and spill response. Routine inspections and monitoring of best management practices shall ensure minimal impacts to the environment occur.

Commonly practiced best management practices include use of containment devices for hazardous materials, training of construction staff regarding safety practices to reduce the chance for spills or accidents, and use of nontoxic substances where feasible. The plan also shall describe actions required if a reportable spill occurs, such as which authorities to notify and the proper clean-up procedures. The Hazardous Material Spill Control and Countermeasure Plan shall contain standards considered sufficiently protective such that significant adverse impacts on surface and groundwater quality would be avoided. The plan shall be completed before any construction activities begin. Implementation of the mitigation measure above will reduce impacts to less-than-significant levels.

Impact HYDRO-10: Temporary alteration of drainage patterns during Phase II construction.

Construction activities in Phase II could require large amounts of dewatering and discharge to adjacent surface waters, thus coverage would need to be obtained under an individual NPDES dewatering

permit. The LARWQCB will be consulted by the project proponent to obtain the permit.

In accordance with the permit, the dewatering collection and disposal methods would be identified for all project components. Receiving waters would be maintained through appropriate treatment measures identified in the permit. These may include utilization of settling ponds or screens to reduce suspended sediment loads, if necessary due to contaminated groundwater, use of onsite treatment systems for contaminant removal prior to discharge, and water quality monitoring.

In either case, these general permits contain standards considered sufficiently protective such that significant adverse impacts on surface water quality would be avoided. Potential impacts are expected to be less than significant. No mitigation measures are necessary.

Biological Resources

Potential impacts to sensitive biological resources during project construction are thoroughly detailed in Chapter 6 of this EIR, Biological Resources.

In summary, construction impacts to biological resources could include: (1) the removal or disturbance of southern willow scrub vegetation, atriplex scrub vegetation, baccharis scrub, mule fat scrub, Venturan coastal sage scrub, mixed scrub, southern coastal salt marsh, brackish marsh, coastal and valley freshwater marsh; (2) potential impacts to mud flat, sand beach/sand bar, open water, common wildlife species found to occur within the project area, California black walnut, wandering skipper, and southern steelhead trout; and (3) potentially significant direct impacts to tidewater goby, California brown pelican, western snowy plover, Heermann's Gull, elegant tern, and California least tern.

Mitigation measures are identified in Chapter 6 that would avoid the impact or reduce the significance of impacts to less-than-significant levels.

Cultural Resources

Potential impacts to sensitive cultural resources during project construction are identified in Chapter 7 of this EIR, Cultural Resources.

The project has potential to unearth as yet unknown significant resources during earthwork in specified areas adjacent to the Adamson House. However, mitigation measures are identified in Chapter 7 that would reduce potential project impacts to less-than-significant levels.

Noise

Impact N-1: Temporary increases in noise levels during project construction.

Construction of the proposed project would result in temporary increases in ambient noise levels on the project site and its vicinity on an intermittent basis. The project site is located within the City of Malibu, which does not have noise standards for construction. Rather, the City prohibits construction activities to occur between the hours of 7:00 p.m. and 7:00 a.m. during the weekdays and any time on Sundays or holidays (Noise Control Ordinance of the City of Malibu, Section 8.24.050G). Cities, such as Los Angeles and Beverly Hills, typically use a five-decibel increase over existing ambient noise level as the significance criteria for construction.

Additionally, studies have shown that a change of at least five decibels would be noticeable and would likely evoke a community reaction. Thus, a five-decibel or more increase over the current ambient exterior noise level at the affected noise sensitive receptor is used as the significance criterion to evaluate construction noise impacts for the proposed project.²

The nearest sensitive receptor to the project site is Malibu Colony, a residential community that adjoins the project site to the southwest. The increase in noise levels during construction on the project site could result in temporary annoyance to those residents of Malibu Colony immediately adjacent to the lagoon.

To establish a baseline from which to evaluate construction noise impacts, noise measurements were taken at the southern perimeter of the project site, near Malibu Colony, using a Quest Q-400 Noise Dosimeter during the hours between 10:15 a.m. -11:15 a.m. on September 13, 2005. The sound measurements indicate that the existing ambient sound level is approximately 58 decibels (dBA) (L_{eq}) at the southwestern portion of the project site and approximately 59 dBA (L_{eq}) at the southern portion of the project site near the eastern end of Malibu Colony.³

Construction activities will likely require the use of numerous noise-generating equipment, such as pavers, backhoes, and loaders. During construction, it is likely that more than one piece of construction equipment would be operating at the same time. Additionally, noise levels would fluctuate depending on the construction phase, equipment

² Land uses that are considered sensitive to noise impacts are referred to as “sensitive receptors.” Noise sensitive receptors consist of, but are not limited to, schools, residences, libraries, hospitals, and other care facilities.

³ L_{eq} is the average noise level on an energy basis for any specific time period. The average noise level is based on the energy content (acoustic energy) of the sound. L_{eq} can be thought of as a “noise average” or the level of a continuous noise that has the same energy content as the fluctuating noise level.

type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers.

Based on surveys conducted by the United States Environmental Protection Agency (USEPA), the typical overall exterior noise level that would be expected during ground clearing is 84 dBA. The typical overall noise level that would be expected during grading and excavation is approximately 89 dBA. It should be noted that these noise levels are based on surveys conducted by the USEPA in the early 1970's. Since 1970, regulations have been enforced to improve noise generated by certain types of construction equipment to meet worker noise exposure standards. However, many older pieces of equipment are still in use. Thus, the construction noise levels that were collected by the USEPA represent worst-case conditions. Actual noise levels generated by construction activities are expected to be markedly lower.

To ascertain worst-case noise impacts at Malibu Colony residences that adjoin the project site to the south, construction noise was modeled by introducing the noise level associated with the grading/excavation phase of construction. The noise source is assumed to be active for 40 percent of the eight-hour work day (consistent with the USEPA studies of construction noise), generating a noise level of 89 dBA at a reference distance of 50 feet.

Sound levels during the construction period at Malibu Colony residences to the south of the project site were calculated by (1) making a distance adjustment to the construction source sound level and (2) logarithmically adding the adjusted construction noise source level to the ambient noise level. The estimated outdoor construction noise levels at sensitive receptors are shown in Table 8-3.

Table 8-3: Outdoor Construction Noise Impacts

Noise Receptor	Distance (feet) /a/	Maximum Outdoor Construction Noise Level (dBA) /b/	Existing Ambient (dBA, Leq) /c/	New Ambient (dBA, Leq) /d/	Increase
<u>Phase I - Construction at the Parking Lot</u>					
Malibu Colony Residences adjacent to the southwestern portion of the project site	170	78	58	71	13
Residences at the eastern end of Malibu Colony adjacent to the project site	230	76	59	68	9
<u>Phase II - Construction at the Lagoon</u>					
Malibu Colony Residences adjacent to the southwestern portion of the project site	50	89	58	81	23
Residences at the eastern end of Malibu Colony adjacent to the project site	20	93	59	85	26
/a/ Distance of receptor to construction noise source.					
/b/ Construction noise source's sound level at receptor location, with distance adjustment.					
/c/ Pre-construction activity ambient sound level at receptor location.					
/d/ New sound level at receptor location during construction, including noise from construction activity.					
Source: TAHA, 2005 (See Appendix C for modeling worksheets)					

Currently, vegetation and fencing are located along the southern perimeter of the project site. Barriers, such as walls, dense trees, and berms, that break the line-of-sight between the noise source and the receiver would reduce noise levels from the source since sound waves can only reach the receiver by bending over the top of the barrier (diffraction). The vegetation and fencing along the southern perimeter of the project site do not completely break the line of sight between the residences at Malibu Colony and the project site.⁴ As such, construction noise levels shown in Table 8-3 do not take into account noise attenuation that could occur due to the existing vegetation and fencing along the western perimeter of the project site.

As shown in Table 8-3, construction activities at the project site would incrementally increase exterior ambient noise levels by 9 to 26 dBA, which would exceed the significance threshold of a 5 dBA or more increase. Thus, a significant, albeit temporary and intermittent, impact could result.

⁴ Line-of-sight is an unobstructed visual path between the noise source and the noise receptor.

Mitigation Measure N-1: Use of mufflers.

Construction contracts shall specify that all construction equipment shall be equipped with mufflers and other suitable noise attenuation devices.

Mitigation Measure N-2: Notice of construction schedule and noise “hotline.”

All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule of the proposed project. A clearly legible sign shall also be posted at the construction site. All notices and the signs shall indicate the expected dates and duration of construction activities, as well as provide a telephone number that residents can call to resolve any concerns about construction noise.

The Lead Agency shall be responsible for responding to any local complaints about construction noise. The Lead Agency (or designee) would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would be required to implement reasonable measures such that the complaint is resolved.

Mitigation Measure N-3: Limits of hours of construction.

Pursuant to the Noise Control Ordinance of the City of Malibu, Section 8.24.050G, construction activities shall be prohibited during the hours between 7:00 p.m. and 7:00 a.m. during the weekdays and any time on Sundays or holidays. All construction related to the proposed project would take place between the hours defined by the Ordinance. Additionally, construction activities shall be coordinated with Adamson House staff to ensure that potentially disturbing construction activities do not occur during planned events at the Adamson House, such as Saturday weddings.

As previously indicated, machines equipped with mufflers have reduced noise levels. The sound level reduction can range from five to ten decibels. With muffler utilization, less-than-significant impacts are expected at homes greater than 50 feet from construction activities. Homes within 50 feet of active construction may still experience noise level increases that exceed 5 dBA and thus a significant, albeit temporary and intermittent, impact would remain.

As noted earlier, this noise analysis assumes worst-case conditions and does not account for likely attenuation due to existing noise barriers such as the landscaped fencing and other homes. It is possible that no significant noise impacts would occur during construction. However, due to the lack of detailed construction scenario data available at this time and the complex topographical nature of the project site and surroundings, less-than-significant noise levels during construction can neither be quantitatively demonstrated, nor guaranteed. Thus, this

analysis concludes that significant unavoidable construction noise impacts could occur.

Traffic and Circulation

Construction of the proposed project would not generate a substantial number of construction-related truck trips or construction worker trips. The air quality analysis assumed that Phase I of the project (parking lot relocation) would generate approximately 8.3 truck trips (round trips) per day for export of construction debris and that Phase II of the project (lagoon improvements) would generate approximately 8.2 truck trips (round trips) per day for export of excavated materials. Similarly, construction worker trips are anticipated to be minimal and are not anticipated to affect the levels of service at local intersections and roadway segments.

All heavy truck traffic will follow designated truck routes, to be coordinated with the City of Malibu and Caltrans, as required. Construction equipment staging areas and access will also be developed in consultation with the City of Malibu. As such, there would be no changes to traffic movement and circulation on PCH and local streets (particularly on the residential streets immediately west and south of the project site).

Additionally, construction of the proposed project would not affect beach access. The emergency access road on the east side of the lagoon would be maintained at all times to provide beach access. There is additional beach access east of the Adamson House within a short walk of the existing lagoon parking lot that will not be affected by construction either.

Construction of the new parking lot would result in temporary loss of on-site parking, however, construction of the parking lot is to take place during the winter months when demand for parking is lowest. Furthermore, ample parking is available in a surface parking lot adjacent to the Adamson House immediately adjacent to the east of the lagoon and adjacent on-street parking is available to serve beach visitors as well. Therefore, no significant traffic, circulation, access, or parking impacts associated with project construction are anticipated.

Chapter 9

Effects Considered Not Significant

Introduction

In accordance with CEQA Guidelines Section 15128, an EIR shall contain a statement briefly indicating the reasons why certain effects of the project were determined not to be significant and were, therefore, not discussed in detail in the EIR. Accordingly, this chapter presents the CEQA Checklist topics that have been considered not significant for the proposed project and, as such, have been excluded from further analysis in this EIR. The following presents a brief discussion of why each topic was considered not significant.

CEQA Topics Considered Not Significant

Aesthetics, Glare, and Lighting

Completion of the proposed restoration plan would introduce new parking and visitor/educational facilities and would include activities that would restore and enhance the existing natural features of the lagoon area through vegetation management (including invasive/exotic vegetation removal), channel enhancement, and habitat improvement.

In addition to vegetative restoration, appropriate considerations to elevations, slopes, and sediment characteristics would be made, resulting in landscaped areas that would contribute to the aesthetic quality of the lagoon. The proposed activities would be small in scale and would not substantially alter views of the lagoon and wetland area from vista points and residential properties surrounding the site. Therefore, no significant impact to aesthetics would occur.

Construction of the project will cause a temporary aesthetic impact. Previously vegetated wetlands will temporarily be devoid of vegetation during and after grading until the new vegetation is established. This temporary impact is expected to last approximately six months. This impact will be less noticeable during times of high tide when much of the wetland will be underwater.

Aesthetic impacts resulting from moving the parking lot closer to PCH will be longer lasting until screening vegetation is mature enough to block views of the parking lot. Appropriate temporary screening will be installed as necessary to further minimize aesthetic impacts. As these aesthetic impacts would be temporary and of limited scope, they are not considered significant under CEQA. Because the wetland ecosystem will be expanded and the lagoon restored, long-term project effects to the aesthetics of the lagoon would be beneficial.

The existing and proposed natural and built features of the lagoon area currently have very little potential to significantly affect adjacent properties due to glare. Glare is a result of sharply reflected light caused by sunlight or artificial light reflecting from highly finished surfaces, such as window glass or brightly colored surfaces. The sparse built features on-site are or would be constructed of either wood, pavement, and other materials that carry little to no potential for significant glare effects.

No new sources of light would result from implementation of the project so no lighting impacts would occur.

Agricultural Resources

No farmland exists on or within the vicinity of the lagoon. The site is zoned as Public Open Space and is not used for agricultural purposes. In addition, the lagoon is not under a Williamson Act agricultural contract.¹ Therefore, no impact to agricultural resources would occur.

Air Quality (Post-construction)

The proposed project is not expected to result in an increase in vehicle trips since the existing use of the lagoon would remain the same, and the relocated parking lot would have about the same number of parking spaces as the existing parking lot. As such, daily operational emissions from vehicles would remain the same as existing conditions, and no air quality impacts associated with the completed project would occur. Please refer to Chapter 8 for a discussion of potential Air Quality effects during construction.

Geology and Soils

The proposed project would not result in increased exposure of people to geologic hazards. The reconfiguration of the channels and the creation of the avian islands would be beneficial to the ecology of the lagoon and its biological inhabitants. In addition, as part of the restoration process, a Habitat Plan is provided that will provide details for slopes, drainage, topsoil salvage, and management of vegetative communities. A Monitoring Plan will provide specific monitoring tasks for an adaptive

¹ City of Malibu, *Malibu Zoning*, <http://www.ci.malibu.ca.us/download/index.cfm?fuseaction=download&cid=5122>, last revised 2005.

management framework, including those for bathymetry (lagoon topography). Therefore, no significant impact to geology or soils would occur.

Mineral Resources

According to the Conservation Element of the Malibu General Plan, mineral resources are not known to exist on the lagoon or other areas in Malibu.² Further, the California Geological Survey (formerly the California Division of Mines and Geology) indicates that Malibu is not an area classified by the Surface Mining and Reclamation Act (SMARA) as a production-consumption region for mineral resources.³

The lagoon is an ecological and recreational resource that is protected by the California Coastal Act from mining operations and development and the proposed project does not involve the extraction of mineral resources.⁴ Therefore, no impact to mineral resources would occur.

Noise

The existing use of the lagoon would remain the same, and operation of the proposed project would not generate any new vehicle trips. The related parking lot would have about the same number of parking spaces as the existing parking lot. As such, the proposed project would not introduce new sources of vehicle noise. It is anticipated that noise levels would remain similar to existing conditions. Therefore, no impact on existing ambient noise levels would occur.

Population and Housing

The proposed project is a restoration and enhancement plan for Malibu lagoon and does not involve a housing component that would generate a population increase or any other component that could reasonably be expected to result in a population change or demand for housing. Therefore, no impacts to population or housing would occur.

Hazardous Materials and Public Health (Vector Control)

Construction of the proposed project has the potential to result in potential hazardous substances spills during construction equipment operation. However, compliance with applicable federal, state, and local

² City of Malibu, Malibu General Plan Conservation Element, November 1995.

³ California Department of Conservation, Division of Mines and Geology, *Publications of the SMARA Mineral Land Classification Project Dealing With Mineral Resources in California*, http://www.consrv.ca.gov/CGS/minerals/mlc/SMARA_pubs_2001.pdf, 2001.

⁴ City of Malibu, *City of Malibu LCP Land Use Plan*, <http://www.ci.malibu.ca.us/download/index.cfm?fuseaction=download&cid=1577>, last revised September 13, 2002.

regulations would reduce the likelihood of the occurrence of potentially significant impacts. Therefore, the proposed project would have a less-than-significant impact related to hazardous materials.

Similarly, operation of the proposed project would not result in any health risks associated with the use or generation of hazardous materials. The proposed project would include implementation of a Water Management Plan, which is designed to eliminate all polluted runoff source discharges to the lagoon to benefit lagoon water quality and maintain improved circulation within the lagoon under both open and closed conditions.

Currently, direct surface discharges to the lagoon result from storm water and irrigation. In order to redirect storm water away from the lagoon and towards other appropriate drainage facilities, the proposed project considers two options: (1) to downward slope the parking lot towards the north, such that the run-off flows in a direction opposite of the lagoon, and (2) to route the drainage westward toward the collection sump for the City of Malibu's future force main line along Malibu Road.

Vector Control

Due to the most recent West Nile Virus epidemic, the following discussion briefly addresses the health impacts associated with vector-transmitted diseases, specifically those associated with mosquitoes. With just one bite, mosquitoes can transmit the West Nile Virus and other viruses that can cause encephalitis. Stagnant water can serve as a breeding ground for mosquitoes to lay their eggs.

According to the Los Angeles County West Vector and Vector Borne Disease Control District, mosquito and vector control is necessary on a continuous routine and area-wide basis to protect the health and enhance the economic development, recreational use, and enjoyment of outdoor living.⁵

As identified in Chapter 3, Project Description, one of the main purposes of the proposed project is to restore and enhance the ecological conditions of the lagoon, and one of the objectives is to increase circulation of water during open and closed conditions of the lagoon. Recognizing that the lagoon currently has substantial areas of stagnant water and is a breeding ground for mosquitoes, the proposed project would aid abatement of this condition by increasing tidal flushing and improving water circulation. Therefore, the proposed project would result in a beneficial impact on public health, as it would reduce areas of potential breeding ground for mosquitoes. However, these breeding grounds would not be eliminated due to the wetland nature of the lagoon.

⁵ Los Angeles County West Vector & Vector Borne Disease Control District, Vector Control, <http://www.lawestvector.org/vectorcontrol.htm>, accessed November 17, 2005.

Public Services

The proposed project is a restoration and enhancement plan for Malibu Lagoon and does not include housing or any other component that could reasonably be expected to generate a population increase. As a result, there would be no corresponding increase in demand for public services or facilities. Therefore, no impact to public services would occur.

Recreation

The proposed project would not result in an increased demand for recreational resources. Rather, as part of the proposed project, a staging area with interpretive displays and panels (located in the new parking lot area), as well as multiple interpretive nodes/loops, would serve to enhance the educational and recreational uses of the site. Visitor access improvements to encourage the use of this State park would also be included as part of the project. Therefore, a beneficial impact to recreation is anticipated.

Traffic and Circulation (Post-Construction)

Operation of the proposed project is not anticipated to generate any new vehicle trips since the existing use of the lagoon would remain the same. The relocated parking lot would have about the same number of parking spaces as the existing parking lot, and access to the relocated parking lot would be the same as existing off of PCH, opposite Cross Creek Road. As such, no changes to traffic movement and circulation on PCH, local streets, and beach access would occur (particularly on the residential streets immediately west and south of the project site and the access road from the site entrance to the beach along the western boundary of the project site). Therefore, daily vehicle trips would remain the same as existing conditions, and no traffic or circulation impacts would occur. Please refer to Chapter 8 for the discussion of potential traffic effects during construction.

Utilities and Service Systems

The proposed project is a restoration and enhancement plan for Malibu Lagoon and does not involve housing or any other component that could reasonably be expected to generate a population increase. As a result, there would be no increase in demand for utilities or service systems, including water supply, wastewater (septic/sewer), and solid waste.

Notably, the proposed project would include a Water Management Plan for the management of drainage from the parking lot and public use areas to restored habitat areas. This plan would provide suggestions for storm water management that would result in increased percolation of storm drainage and, possibly, more efficient conveyance to a drainage system to the future City treatment plant. No significant impact to utilities or service systems would occur.

Chapter 10

Cumulative Impacts

Introduction

According to Section 15355 of the *State CEQA Guidelines*, cumulative impacts refer to:

Two or more individual effects which, when considered together are considerable or which compound or increase other environmental effects. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Furthermore, Section 15130(a) of the *State CEQA Guidelines* states that:

An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable....When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR....An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact....

The provisions of the *State CEQA Guidelines*, Section 15130(b), subdivisions (b)(1) through (b)(3) list the "necessary elements" that define "an adequate discussion of significant cumulative impacts." According to Section 15130 (b)(1) of the *State CEQA Guidelines*, either a list of past, present, and probable future projects producing related or cumulative impacts or a summary of growth projections in an adopted general plan or related planning document may be used as the basis for the cumulative impacts discussion.

Table 10-1 lists the related projects in the general vicinity of the proposed project. This list was provided by the City of Malibu and includes projects that are proposed, in the planning stage, are under construction, or have recently completed construction. Figure 10-1 shows the general locations of the related projects.

The cumulative impacts for each environmental focus of the project are discussed below.

Consistency with Local and Regional Plans

As described in Chapter 4, the project complies with local plans, land use and zoning designations. It is expected that most related projects would be required to comply with adopted land use plans and zoning requirements as well. It is also anticipated that related projects would generally be consistent with the overall land use policies and goals of the City of Malibu General Plan. No significant cumulative land use impacts would occur as a result of implementation of the project.

Cultural Resources

The geographic scope of the area affected by potential cumulative archaeological impacts is defined by the cultural setting and ethnographic territory of the prehistoric and historic peoples who have occupied this area of southern California. As detailed in Chapter 7, this region of Los Angeles County was part of the territory of the Chumash Native American people. Related projects in the project area and other development in the county could result in the progressive loss of as-yet-unrecorded archaeological resources. This loss, without proper mitigation, would be an adverse cumulative impact.

Construction activities associated with related projects could contribute to the progressive loss of archaeological resources and result in significant cumulative impacts under CEQA. The proposed project also has potential to disturb or destroy archaeological resources that may exist in the proposed project. Thus, the combined effects of the proposed and related projects could result in significant cumulative impacts to archaeological resources. The proposed project includes mitigation that would reduce potential impacts and contributions to cumulative impacts to less-than-significant levels. Similar measures may also be implemented for other related projects that have the potential to affect archaeological resources.

No significant adverse impacts were identified on historical resources, including the Adamson House and its contributing elements; therefore, the proposed project would not add to cumulative impacts caused by other related projects.

Table 10-1. Related Projects and Cumulative Development

ID #	Project	Description
1	Rancho Malibu Hotel	Hotel (146 rooms), Health Club (6,052 sf), Cultural Center (9,000 sf).
2	Pepperdine University Upper Campus	384,800 sf
3	Forge Lodge	28 rooms - bed and breakfast lodge with a dedicated kitchen facility. The lodge will consist of eight, four-unit, two-story buildings designed in a Mediterranean Revival style architecture consistent with the character of the existing Beaurivage Restaurant.
4	Pepperdine Office Development	65,000 sf office
5	Proposed Senior Housing	36 units
6	Single Family Housing Development	8 units
7	Adamson Self-Storage	56,600 sf self-storage
8	Schultz – Office and Retail (Pharmacy)	Office (20,850 sf) and Retail (18,000 sf)
9	Yamaguchi - Office and Retail	Office (67,000 sf) and Retail (42,271 sf)
10	Residential	6 units
11	Office	13,500 sf
12	Malibu Pier - Restaurant/Retail	10,237 sf
13	Windsail	Restaurant (7,275 sf), Community Room (980 sf) and Day Spa (1,300 sf)
14	Office	10,000 sf
15	La Paz Ranch	Commercial development project on 15.28 acres

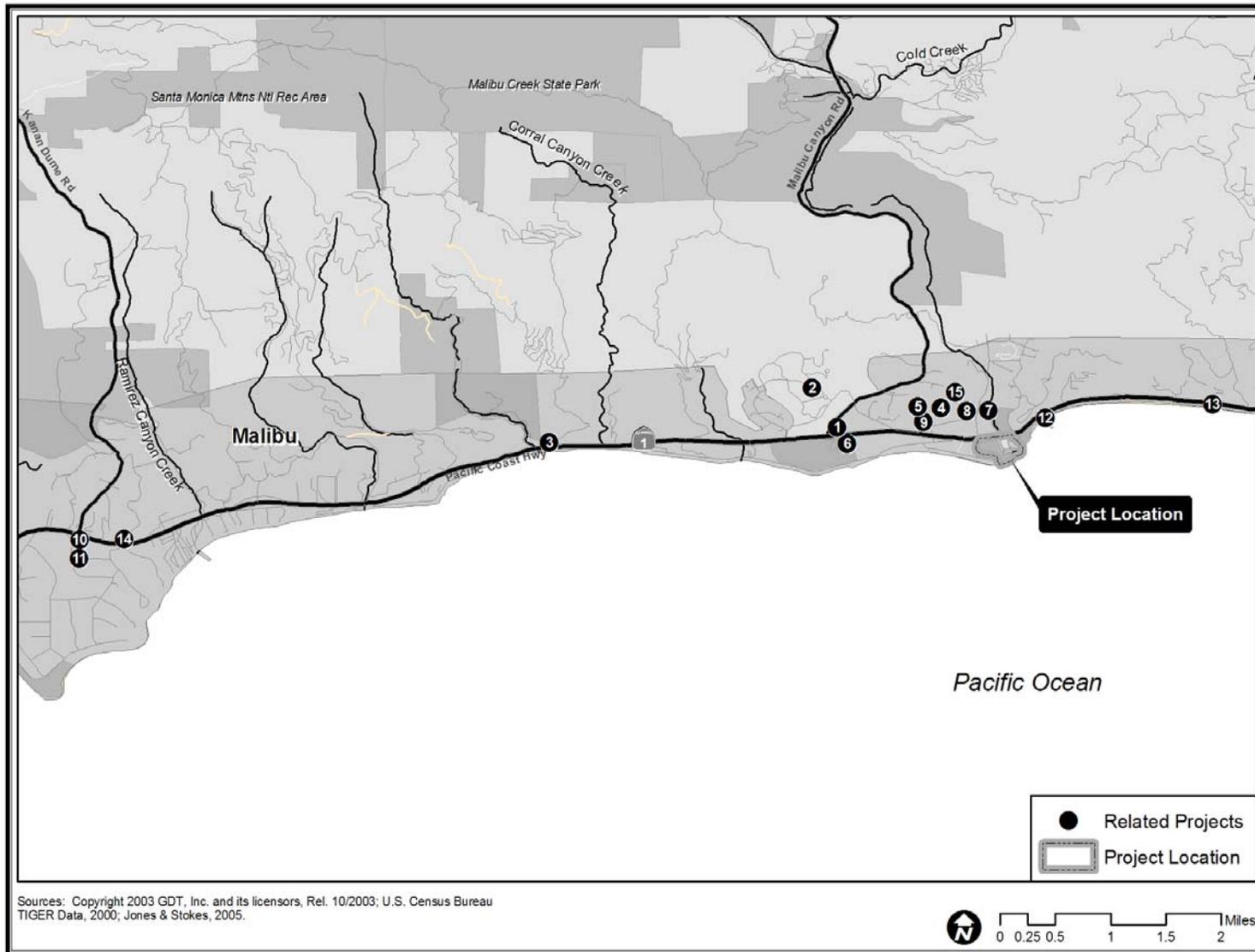
Source: City of Malibu, December 2005.

Hydrology and Water Quality

The primary objective of the proposed project is restoration of habitat and improvement of water quality in Malibu Lagoon. Increased water circulation, reduced and redirected storm water runoff, and restoration of native plant and wildlife habitat from implementation of the proposed project would beneficially impact hydrology and water quality of the lagoon after restoration is complete.

In conjunction with improved treatment and discharge operations at the Tapia Wastewater Treatment Plant and watershed-wide efforts to reduce the nutrient and bacterial load and improve aquatic habitat in the Malibu Creek watershed, it is anticipated that the proposed project would have the potential to significantly improve water quality conditions to a level which would meet TMDL target requirements.

Figure 10-1. Related Projects



Additionally, the Army Corps of Engineers plans to remove Ringe Dam, a project that ultimately would contribute to restoration of flow and water quality conditions in the watershed. The storage capacity of the lagoon would increase after completion of the proposed project, thus removal of the Ringe Dam is not expected to increase the potential for flooding in the vicinity of the lagoon. However, a plug of sediment could be released during dam removal activities. This sediment could transport to and deposit in the lagoon. Consequently, improper handling of sediments during dam removal would threaten the proposed project.

Potential impacts from the dam removal project would be avoided or mitigated through compliance with permit conditions and mitigation measures required as part of environmental impact analysis of the project. These measures would adequately protect against potential impacts to Malibu Lagoon. Overall, the proposed project would contribute to cumulatively beneficial impacts on hydrology and water quality in the watershed and lagoon.

Biological Resources

When analyzing cumulative impacts to wetlands, waters and aquatic species it is important to consider impacts within the watershed in which the project is located, as impacts outside of the watershed will be much less relevant. The analysis of cumulative impacts on sensitive species should take into account the distribution of these species and the distribution of the reproducing population.

Sensitive Habitats

Impacts to sensitive habitats associated with the proposed project include southern willow scrub, atriplex scrub, baccharis scrub, mule fat scrub, Venturan coastal sage scrub, mixed scrub, southern coastal salt marsh, brackish marsh, coastal and valley freshwater marsh, southern sycamore-alder riparian woodland, non-native grassland, mud flat, sand beach/sand bar, and open water.

While recent and foreseeable projects in the Malibu area may result in significant cumulative impacts to sensitive vegetation communities, including vegetation communities located within the project area (i.e., southern willow scrub, mule fat scrub, mixed chaparral etc.), implementation of the proposed project would not contribute to any significant cumulative impact as it will result in long-term benefits to vegetation communities located within the project area. In addition, implementation of the project would result in an increase in native (wetland and upland) vegetation communities and a decrease in disturbed and developed areas.

Sensitive Plants

The proposed project would not result in impacts to sensitive plant species as none were observed during any of the biological surveys. Therefore, the plan would not contribute to any significant cumulative impact to sensitive plant species.

Sensitive Wildlife

Malibu Lagoon supports important populations of several sensitive wildlife species including wandering (salt marsh) skipper, southern steelhead trout, tidewater goby, California brown pelican, western snowy plover, Heermann's gull, elegant tern, and the California least tern. While recent and foreseeable projects in the Malibu area may result in significant cumulative impacts to sensitive wildlife species, including those located within the plan area, implementation of the project would not contribute to any significant cumulative impact as it will result in long-term benefits to sensitive wildlife species and habitat within the plan area.

Construction Effects

The related projects listed in Table 10-1 are in various phases of development. It is possible that construction for one or more of the listed projects would overlap with the construction for the proposed project. As a result, there could be short-term noise, air quality, construction traffic and aesthetic effects. However, given the small scale of construction associated with the proposed project, and the short duration of these impacts, these would not be considered cumulatively significant.

Chapter 11

Alternatives Considered

Introduction

CEQA requires that an EIR describe a range of reasonable alternatives to the proposed project or to the location of the project that could feasibly avoid or lessen any significant environmental impacts, while substantially attaining the basic objectives of the project. An EIR should also evaluate the comparative merits of the alternatives. This chapter sets forth potential alternatives to the proposed project and evaluates them as required by CEQA.

Key provisions of the *State CEQA Guidelines* (Section 15126.6) pertaining to the alternatives analysis are summarized below.

The discussion of alternatives shall focus on alternatives to the proposed project or its location that are capable of avoiding or substantially lessening any significant effects of the proposed project, even if those alternatives would impede to some degree the attainment of the proposed project objectives or would be more costly.

The No-Project Alternative shall be evaluated along with its impact. The No-Project analysis shall discuss the existing conditions at the time the NOP is published as well as what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved based on current plans and consistent with available infrastructure and community services.

The range of alternatives required in an EIR is governed by a “rule of reason”; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project.

For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the proposed project need be considered for inclusion in the EIR.

An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner designed to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in the *State CEQA Guidelines*, Section 15126.6(f)(1)) are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site.

Proposed Project Goals and Objectives

The purpose of the proposed project is to restore and enhance the ecological conditions of Malibu Lagoon and improve public access and education about the lagoon. The plan presents information regarding the current condition of the lagoon, goals and strategies for the restoration, and implementation and monitoring details, which are the result of extensive discussion and cooperation between the Coastal Conservancy and DPR, along with the Lagoon Technical Advisory Committee and Lagoon Restoration Working group.

The Lead Agency has identified the following major objectives for the proposed project:

- Decrease urban runoff from surrounding sources into the lagoon to improve its water quality and decrease eutrophication.
- Increase circulation of water during open and closed conditions.
- Restore habitat by re-establishing suitable soil conditions and native plant species and removing non-native species.
- Relocate existing parking lot to increase habitat size and utilize permeable surfaces.
- Evaluate, record, and analyze existing and changing ecological conditions of the lagoon using physical, chemical, and biological parameters to allow agencies, organizations, and stakeholders to monitor progress towards restoration goals.

Alternatives Considered

The alternatives considered in this chapter are detailed in the *Malibu Lagoon Restoration Feasibility Study Final Alternatives Analysis* (March 2005), prepared by Moffat and Nichol in association with Heal the Bay. The purpose of the *Alternatives Analysis* was to narrow down a range of alternatives that would achieve the desired restoration goals as defined by the Malibu Lagoon Task Force. The alternatives were developed and evaluated according to how effective they address the following issues: circulation, sedimentation, nutrient cycling, eutrophication, and habitat.

The *Final Alternatives Analysis* document can be viewed online at: <http://www.healthebay.org/currentissues/mlhep/default.asp>.

All of the considered alternatives were tested for their performance in relation to existing conditions as well as one another in order to quantify potential benefits. Alternative 1.5 from the *Alternatives Analysis* was ultimately found to be the best option and was thus carried forward as the proposed project and subject of this EIR as the alternative that would best achieve the desired goals, while resulting in the least amount of impact to the existing lagoon habitat.

Evaluation of Alternatives to the Proposed Project

For each alternative described below, a summary discussion¹ is provided of that alternative’s potential impacts. A summary comparison of alternatives is also provided in Table 11-1 below. The table compares each of the project alternatives to the proposed project and states whether the alternative would result in a similar, greater, or lesser impact than the proposed project for each impact category.

Table 11-1. Comparative Environmental Analysis of Alternatives

Resource Area	Proposed Project (after mitigation)	ALTERNATIVES TO THE PROPOSED PROJECT			
		No Project/ No Build	Enhancement (1.0)	Restore/Enhance Modified with the North Channel (1.75)	Restore and Enhance Alternative (2.0)
Cultural resources	Less-Than-Significant Impact	No Impact	Similar Impact	Similar Impact	Similar Impact
Biological Resources	Beneficial Impact	No Impact	Lesser Beneficial Impact	Similar Beneficial Impact	Similar Beneficial Impact
Hydrology and Water Quality	Beneficial Impact	Negative impact	Potentially Negative Impact	Greater Beneficial Impact	Similar Beneficial Impact
Consistency With Local and Regional Plans	No impact	No Impact	No Impact	No Impact	No Impact
Construction Effects	Significant Impact (Noise Only)	No Impact	Lesser Impact	Similar Impact	Similar Impact

Source: Jones & Stokes, 2005.

¹ In accordance with the *State CEQA Guidelines*, Section 15626.6(d), the discussion of the environmental effects of the alternatives may be less than that provided for the proposed project

More detailed discussions of the impacts of each alternative follow the summary table. In all cases, the comparison of impacts assumes that all feasible mitigation measures as identified in this document have been implemented for the impacts resulting from the proposed project. Similarly, in all cases where it can be safely assumed that there are feasible mitigation measures for impacts caused by the alternative, it is assumed that those mitigation measures would be implemented as well.

No-Project Alternative

Section 15126.6 (e) of the *State CEQA Guidelines* requires the analysis of a No-Project Alternative. This No-Project analysis must discuss the existing condition as well as what would be reasonably expected to occur in the foreseeable future if the proposed project were not to be approved based on current plans, site zoning, and consistent with available infrastructure and community services. Because the proposed project is a development proposed project, Section 15126.6(e)(3)(B) of the *State CEQA Guidelines* is directly applicable.

If the proposed project is a development proposed project on an identifiable property, the No-Project Alternative is the circumstance under which the proposed project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects that would occur if the proposed project were approved.

If disapproval of the proposed project under consideration would result in predictable actions by others, such as the proposal of some other proposed project, this no-project consequence should be discussed. In certain instances, the No-Project Alternative means “no build” wherein the existing environmental setting is maintained. However, where failure to proceed with the proposed project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the proposed project’s non-approval and should not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

Under the No-Project Alternative, implementation of the Restoration and Enhancement Plan would not occur. The parking lot and lagoon would remain and continue to be used by the public in its existing state. As a consequence, the No-Project Alternative would not result in any of the beneficial effects of the proposed project.

Biological Resources: The No-Project Alternative would not remove any trees or vegetation or affect any nesting birds (a potentially significant but mitigable effect) as would occur under the proposed project. Biological restoration goals would not be achieved and habitat conditions would likely continue to degrade.

Cultural Resources: Since no new construction and no earth-moving would occur under this alternative, no impacts would occur to cultural resources.

Hydrology and Water Quality: Under the No Project Alternative, water quality would continue to degrade as sediment carried from storm flows is deposited in the lagoon area, thus contributing to aggradation and formation of eutrophic conditions. The No Project Alternative would not contribute to compliance with TMDL targets for nutrients and bacteria, thus, water quality would remain impaired and likely worsen over time.

Consistency With Local and Regional Plans: Since no new construction and no changes in land use would occur under this alternative, no land use impacts would occur.

Construction Effects: Under the No-Project Alternative the physical landscape of the area would not be altered. Therefore there will be no construction effects resulting from implementation of the No-Project Alternative.

Alternative 1: Enhancement Alternative

The Enhancement Alternative (see Figures 11-1 and 11-2) was designed with the intent to improve existing conditions in the western lagoon arms with the least cost and least degree of disturbance to the existing lagoon habitat. The elevations of the channels in the western portion of the lagoon are too high to allow for inundation at ocean tidal elevations below mean sea level when the barrier beach berm is open. In addition the western channels are too narrow, constricted, and isolated from one another to allow for adequate circulation of lagoon water. The existing topography has resulted in an overabundance of upland habitat.

The enhancement alternative would lower the existing channels elevations, thus allowing for an increase tide inundation during open conditions. Topography of the channels and islands in the western lagoon would be lowered to accommodate vegetation types typically associated with coastal estuaries. Channel widths and depths would be increased and channels would be connected to remove existing dead ends.

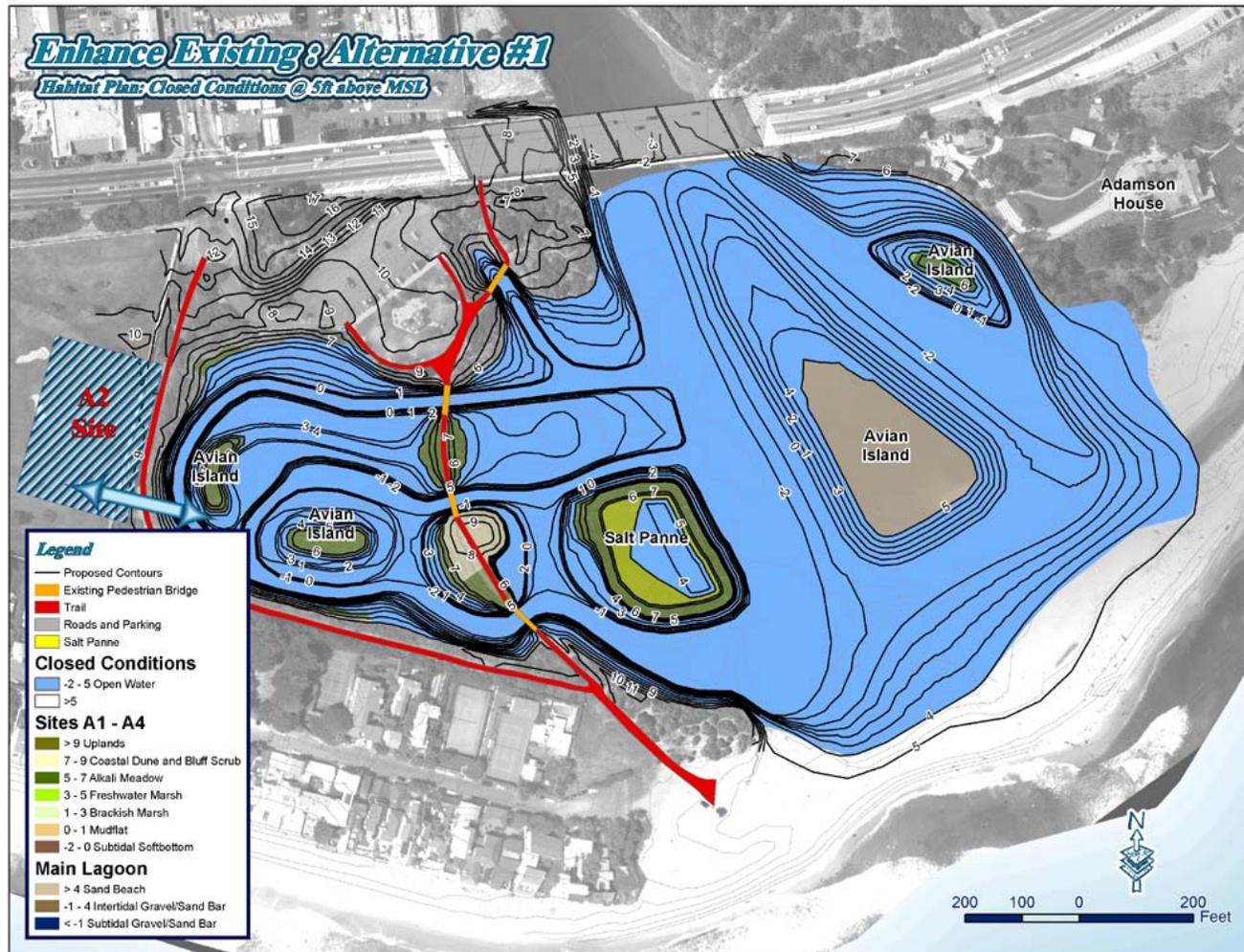
Alternative 1 does not include improvements to the parking lot area or educational components.

Further discussion of Alternative 1 can be found in the *Malibu Lagoon Restoration Feasibility Study Final Alternatives Analysis* on pages 44 and 45.

Figure 11-1. Alternative 1: Habitat Plan Open Conditions at 1 Foot below MSL



Figure 11-2. Alternative 1: Habitat Plan Closed Conditions at 5 Feet above MSL



This alternative intends to:

- Improve circulation by expanding and deepening of existing channels in the western arms;
- Remove dead ends by connecting the A (north) channel to the C (south) Channel;
- Establish more appropriate marsh vegetation by lowering the elevation of western channels and islands to minimize upland habitat;
- Increase lagoon holding capacity during closed conditions;
- Provide additional bird habitat and minimize the need to export soils offsite by expansion of the mid-stream bar in the main lagoon body (no structural engineering is proposed to protect this bar).
- Provide unvegetated avian areas through the creation of a salt panne. The salt panne is intended to create an unvegetated area that uses a depression to capture water that will subsequently evaporate leaving behind higher salts in the soils that will minimize vegetative growth; and
- Minimize cost and disruption to existing lagoon habitats.

Biological Resources: Alternative 1 has the least capacity to accomplish desirable changes as it maintains, to a great extent, the existing lagoon platform, while providing for slight modifications to site elevation. This alternative would result in some improvements to the circulation and habitat quality within the lagoon. However, it would result in only a minor overall increase of an estimated 0.53-acre of wetland habitat.

Jurisdictional wetland impacts would occur as a result of reworking existing wetlands and uplands to restore or create new wetland and upland habitats. Although the overall footprint of change for Alternative 1 may be less than that occurring for the other alternatives, this alternative includes deepening and expansion of the main lagoon channels and reduction of upland elevations with deposition of material on the central lagoon shoal. As a result, this alternative would also result in extensive construction period modification to the existing wetland.

Alternative 1 provides a greater opportunity for the development of avian loafing and roosting islands due partly to the incorporation of smaller islands nearer to shorelines. The island would be incorporated within an area of the main lagoon to provide for avian nesting opportunities. This island would be protected from human impacts that threaten the barrier beach avian area during the summer season and the island would not be subject to losses in the event of unseasonable summer breaching and barrier breach erosion. As such, this island is ideally suited to be configured to optimize suitability for nesting by such species as the snowy plover. Alternative 1 provides adequate protected habitat that would meet the requirements for gobies.

Cultural Resources: Although the overall footprint of change for Alternative 1 may be less than that occurring for the other alternatives it would require an extensive construction period modification to the existing wetland. Earth moving in the project area could encounter buried cultural resources and construction adjacent to the east side of the lagoon (Adamson House) could impact as yet unknown buried cultural resources associated with Humaliwo, CA-LAN-264, including human remains. However impacts would be reduced to less than significant through mitigation measures CR-1, CR-2, and CR-3.

Hydrology and Water Quality: Alternative 1 would minimally improve hydrology and water conditions in the lagoon. Creation of a mid-stream bar for additional bird habitat could worsen circulation conditions and increase sedimentation in the lagoon area. As a result, the concentration of nutrients could increase, thus promoting formation of eutrophic conditions. Therefore, this alternative could negatively contribute to impaired hydrology and water quality conditions in the lagoon.

Consistency With Local and Regional Plans: Alternative 1 would not materially conflict with the Malibu General Plan, Malibu LCP Land Use Plan, and zoning land uses because (1) the lagoon is currently designated for use as a public park/beach, (2) the project would not require a zoning or land use change, and (3) the restoration plan does not propose expansion outside the existing Malibu Lagoon State Park footprint. Thus, the Alternative 1 is consistent with all applicable land uses and zoning designations.

Construction Impacts: Construction impacts for Alternative 1 would be less adverse than the proposed project due to the elimination of the Phase 1 parking lot redevelopment component.

Alternative 1.75: Restore/Enhance Modify with the North Channel

The Restore/Enhance Modify with the North Channel (see Figures 11-3 and 11-4) is a variation of the proposed project that includes the North Channel connection as an adaptive management tool. The North Channel may further improve flushing through the upper western arms and circulation during closed conditions. Further discussion of Alternative 1.75 can be found in the *Alternatives Analysis* on page 52.

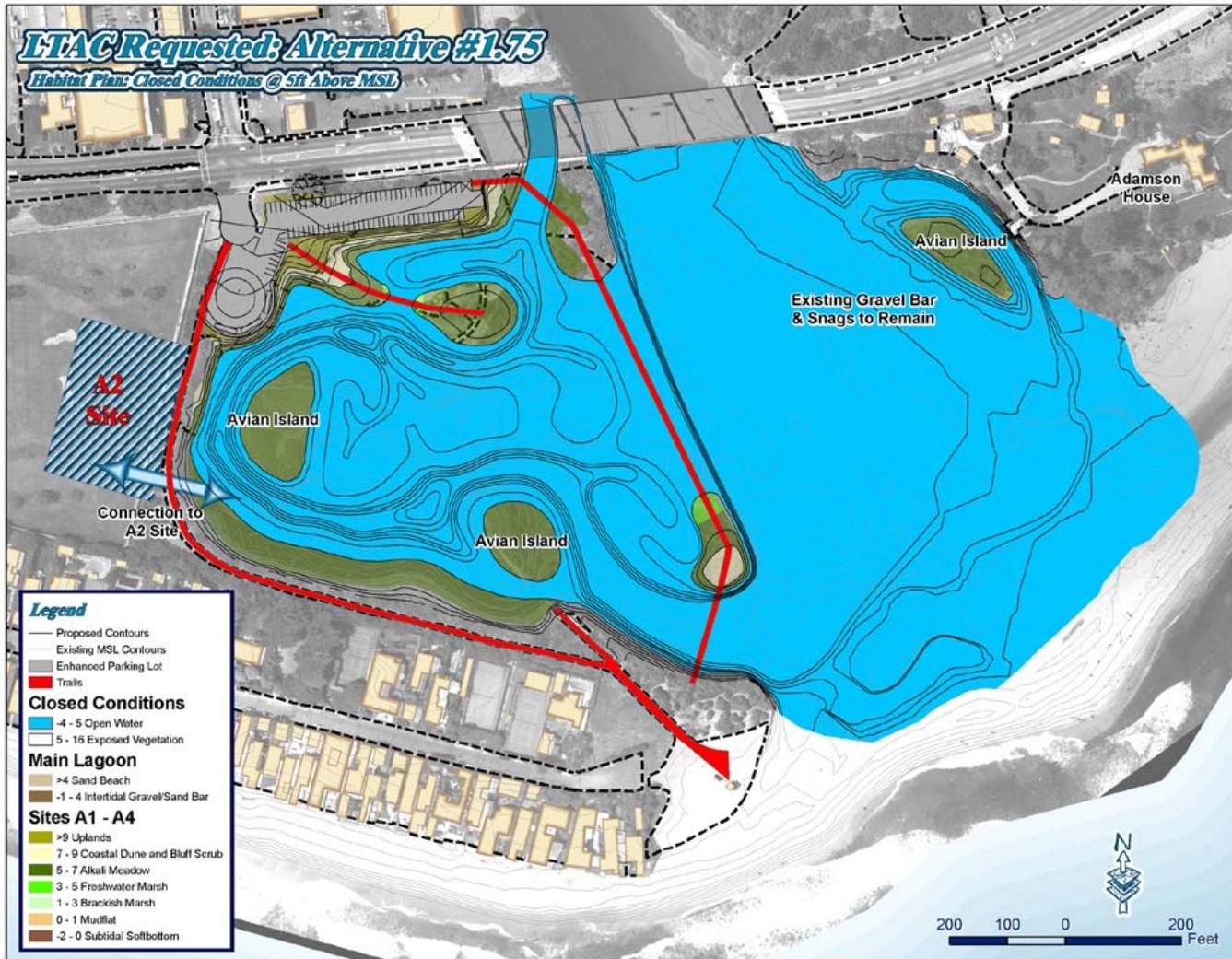
Alternative 1.75 was intended to achieve:

- Tidal influence created by a single main channel with a naturalized dendritic planform more indicative of natural systems;

Figure 11-3. Alternative 1.75: Habitat Plan Open Conditions at 1 Foot below MSL



Figure 11-4. Alternative 1.75: Habitat Plan Closed Conditions at 5 Feet above MSL



- Increased tidal flushing during open conditions by deepening of the west lagoon (no work is proposed in the main lagoon). This will also increase holding capacity (storage volume);
- Enhanced and increased salt marsh environment during open conditions and maximized wind fetch to enhance wind-driven circulation during closed conditions;
- Permanent avian islands. These islands will be designed to afford better protection from predators and will be optimized to suit avian enhancement goals;
- Expanded wetland and marsh acreage by relocating the existing parking lot into degraded upland habitat. The new parking lot will be designed to be permeable to maximize water quality enhancements through naturalized filtration/infiltration;
- Increased flushing of sediments through the connection of the new North Channel;
- Opportunities for new visitor facilities and educational resources.

Biological Resources: Improved water circulation predicted for Alternative 1.75 is expected to improve goby refuge habitat during catastrophic breach events by minimizing anoxic conditions in deeper pools and isolated channels. Alternative 1.75 provides adequate protected habitat that would meet the requirements for gobies.

Alternative 1.75 would result in an increase of 1.78 acres of wetland habitat, which is 0.04 acres less than the proposed project.

Cultural Resources: Alternative 1.75 and the proposed project are the least impacting alternatives in regards to overall earthwork and construction impacts. Alternative 1.75 will have 37,571 cubic yards of cut and 16,329 cubic yards of fill compared to the proposed program that will result in 34,793 cubic yards of cut and 16,329 cubic yards of fill. However, earth moving in the project area could encounter buried cultural resources; construction adjacent to the east (Adamson House) side of the lagoon could impact as yet unknown buried cultural resources associated with Humaliwo, CA-LAN-264, including human remains. However impacts would be reduced to less than significant through mitigation measures CR-1, CR-2, and CR-3.

Hydrology and Water Quality: Alternative 1.75 would have the greatest beneficial impact on the lagoon in terms of hydrology and water quality. Compared to the other alternatives, Alternative 1.75 would have the most positive effects on the lagoon due to increased circulation, holding capacity, scour potential, and consequent reduced eutrophic conditions. During open and closed lagoon conditions, this alternative would provide optimal water circulation. This translates to increased scour and reduced sedimentation during stormflows. Consequently, the potential for formation of eutrophic conditions would be reduced due to

improved nutrient cycling. Alternative 1.75 would optimally restore hydrology and water quality in the lagoon.

Consistency with Local and Regional Plans: Alternative 1.75 would not materially conflict with the Malibu General Plan, Malibu LCP Land Use Plan, and zoning land uses because (1) the lagoon (project site) is currently designated for use as a public park/beach, (2) the project would not require a zoning or land use change, and (3) the restoration plan does not propose expansion outside the existing Malibu Lagoon State Park footprint. Thus, Alternative 1.75 is consistent with all applicable land uses and zoning designations.

Construction Effects: Construction impacts for alternative 1.75 would be similar to those of the proposed project.

Alternative 2.0: Restore and Enhance Alternative

The Restore and Enhance Alternative (see Figures 11-5 and 11-6) intends to restore and enhance those areas that have diminished in functions or are in a currently degraded state.

The proposed new North Channel connection is meant to convey an appropriate source of drainage from upstream that could include the Cross Creek storm drain, the main creek, or both. The North Channel would act as a connection between the upper end of the western arm to the Cross Creek storm drain, the main creek or both under a western bent on the PCH Bridge. The purpose is to convey a limited stormflow discharge into the upstream end of the western arms to flush fine sediment from the western lagoon. Further discussion of Alternative 2 can be found in the *Alternatives Analysis* on pages 48 and 49.

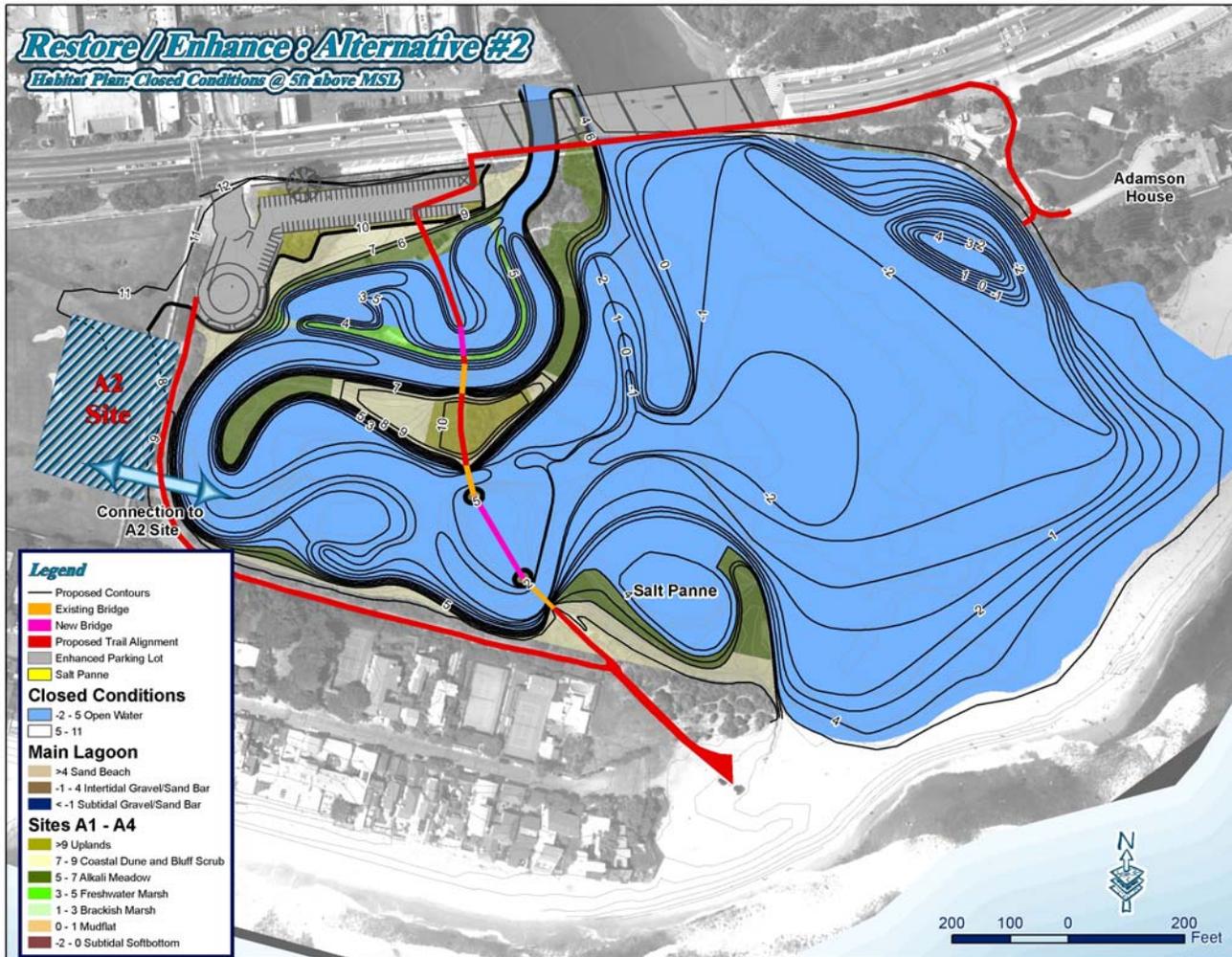
Alternative 2.0 was intended to achieve:

- Tidal influence created by a single sinuous main channel;
- Increased tidal flushing during open conditions by deepening of the west lagoon (no work is proposed in the main lagoon). This would also increase holding capacity (storage volume);
- Enhanced and increased salt marsh environment during open conditions and maximized wind fetch to enhance wind-driven circulation during closed conditions; and
- Unvegetated avian areas through the creation of a salt panne. The salt panne is intended to create an unvegetated area that uses a depression to capture water that would subsequently evaporate leaving behind higher salts in the soils that would minimize vegetative growth.

Figure 11-5. Alternative 2: Habitat Plan Open Conditions at 1 Foot below MSL



Figure 11-6. Alternative 2: Habitat Plan Closed Conditions at 5 Feet above MSL



Biological Resources: Alternative 2 would result in an estimated 1.22-acre increase in wetland habitat, which is 0.6 acres less than the proposed project. The proposed project and Alternative 2 provide the greatest potential for reworking site conditions to achieve desired vegetation improvements. Alternative 2 in addition to all of the alternatives provides adequate protected habitat that would meet the requirements for gobies.

Cultural Resources: More excavation (54,139 cubic yards of cut and 15,772 cubic yards of fill) would occur with Alternative 2 as the west arm channel is larger and deeper than other alternatives, and the bar at the main lagoon is removed thus causing a greater level of impact. Again, this earth moving could encounter buried cultural resources; construction adjacent to the east (Adamson House) side of the lagoon could impact as yet unknown buried cultural resources associated with Humaliwo, CA-LAN-264, including human remains. However impacts would be reduced to less than significant through mitigation measures CR-1, CR-2, and CR-3.

Hydrology and Water Quality: Alternative 2 would maximize circulation and encourage flushing of sediment from the lagoon area during storm events. Water quality benefits from this alternative would involve potential reduction in nutrient concentrations, thus decreasing the formation of eutrophic conditions. When compared to existing conditions, Alternative 2 would improve hydrologic and water quality conditions. In comparison to the proposed project, Alternative 2 would improve conditions when the lagoon is open, but have a lesser beneficial impact on closed lagoon conditions.

Consistency with Local and Regional Plans: Alternative 2 would not materially conflict with the Malibu General Plan, Malibu LCP Land Use Plan, and zoning land uses because (1) the lagoon (project site) is currently designated for use as a public park/beach, (2) the project would not require a zoning or land use change, and (3) the restoration plan does not propose expansion outside the existing Malibu Lagoon State Park footprint. Thus, Alternative 2 is consistent with all applicable land uses and zoning designations.

Construction Effects: Construction impacts for Alternative 2 would be similar to those of the proposed project.

Environmentally Superior Alternative

The environmentally superior alternative would be the No-Project Alternative because of the absence of any potential short-term environmental impacts. However, as discussed above, the No-Project Alternative would not fulfill any of the project objectives. Under the No-Project Alternative, the lagoon would not be restored, and consequently, the long term overall health of the habitat would be impaired.

According to the *State CEQA Guidelines*, if the environmentally superior alternative is the No-Project Alternative, the EIR shall identify an environmentally superior alternative among the other alternatives. Based on the analysis presented above and summarized in Table 11-1, Alternative 1.75 would be the environmentally superior alternative. However, there is uncertainty as to whether Alternative 1.75 possesses the magnitude of the beneficial effects.

Chapter 12

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Acronyms and Abbreviations

AMSL	above mean sea level
AQMP	Air Quality Management Plan
basin plans	water quality control plans
BMPs	best management practices
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CDP	Coastal Development Permit
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	Endangered Species Act
CGS	California Geological Survey
City	City of Malibu
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
Coastal Conservancy	State Coastal Conservancy
Corps	U.S. Army Corps of Engineers
CRHR	California Register of Historical Resources
CWA	Clean Water Act
DPR	California Department of Parks and Recreation
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESHA	Environmentally Sensitive Habitat Area
FAC	facultative plants
FACW	facultative wetland plants
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
IUCN	International Union for Conservation of Nature and Natural Resources
LARWQCB	Los Angeles Regional Water Quality Control Board
LCP	Local Coastal Program
LRWG	Lagoon Restoration Working Group
LTAC	Lagoon Technical Advisory Committee
LUP	Land Use Plan
msl	mean sea level
MMRP	Mitigation Monitoring and Reporting Program
NAHC	Native American Heritage Commission
NO ₂	nitrogen dioxide
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
OBL	obligate wetland plants
OHP	Office of Historic Preservation
OS	Open Space

PCH	Pacific Coast Highway
plan or project	Malibu Lagoon Restoration and Enhancement Plan
PM ₁₀	particulate matter 10 microns in diameter or less
PRC	Public Resources Code
RCDSMM	Resource Conservation District of the Santa Monica Mountains
ROC	reactive organic compound
ROW	right-of-way
RPAs	Resource Protection Areas
RWQCB	Los Angeles Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SO ₂	sulfur dioxide
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TMDL	total maximum daily load
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WDR	Waste Discharge Requirement