

1 **3.2 RECREATION AND PUBLIC ACCESS**

2 This section of the Revised Analysis of Impacts to Public Trust Resources and Values
3 (APTR) describes recreation and public coastal access in the vicinity of the proposed
4 Broad Beach Restoration Project (Project), and potential effects of Project-generated
5 use and access conflicts on Public Trust Resources and Values. The information
6 presented in this section is intended to inform the California State Lands Commission
7 (CSLC) as it considers whether to issue a lease for those portions of the Project within
8 the CSLC's jurisdiction. As noted in Section 1, *Introduction*, implementation of the
9 Project by the Broad Beach Geologic Hazard Abatement District (BBGHAD or
10 Applicant) is statutorily exempt from the California Environmental Quality Act (CEQA)
11 (pursuant to Pub. Resources Code §§ 26601 and 21080, subd. (b)(4)). This statutory
12 exemption precludes the CSLC from conducting a review pursuant to CEQA. Therefore,
13 this Revised APTR serves solely as an informational document to assist the CSLC in
14 deciding whether to issue a lease for the portion of the Project within its jurisdiction.

15 **3.2.1 Environmental Setting Pertaining to the Public Trust**

16 CSLC Lease Area and Public Trust Impact Area

17 The CSLC Lease Area and Public Trust Impact Area include Broad Beach and the
18 western portions of Zuma Beach, with proposed beach and dune restoration extending
19 laterally for approximately 6,200 feet from Lechuza Point on the west to Trancas Creek
20 Lagoon on the east (refer to Figure 1-1). Beach and dune restoration activities would
21 encompass 46 acres of public and private land on Broad Beach. The CSLC lease area
22 includes approximately 40.5 acres of public trust lands held by the State, including
23 approximately 27 acres of intertidal beach and 13.5 acres of subtidal lands. These
24 public lands area bordered by adjacent privately owned upland parcels that support
25 single family residential homes and the Malibu West Beach Club, portions of which
26 would also be subject to dune restoration (Illustrations 3.2-1a and -1b). Portions of
27 these privately owned parcels are also encumbered with existing public lateral access
28 easements (LAEs) held by the State or recorded as deed restrictions.

29 The Public Trust Impact Area also includes the west end of Zuma Beach, including
30 Parking Lot 12 located east of Trancas Creek, which would accommodate construction
31 equipment and materials staging, as well as approximately 1,000 feet of Zuma Beach
32 south of this parking lot, which would be used for short-term sand storage and
33 construction equipment transportation between the staging area and Broad Beach.
34 Broad Beach Road and areas along the Pacific Coast Highway (PCH) that provide
35 public coastal access are also included within the Public Trust Impact Area. Down coast
36 beaches, including Zuma Beach, Point Dume State Beach, and Los Angeles County
37 beaches located farther south to Point Dume may be indirectly affected by changes in
38 sand supply and distribution through littoral drift and are also within the Public Trust



Illustration 3.2-1a. Approximately 27 acres of public trust intertidal lands are located seaward of the ordinary high water mark at Broad Beach. These public trust lands, which include the intertidal beach, are proposed to accommodate the majority of the beach restoration project.



Illustration 3.2-1b. Broad Beach supported a wide sandy beach berm in the 1970s and 1980s. However, coastal erosion and loss of sand has reduced the beach area to a generally intertidal beach, which limits coastal access opportunities to low- to mid-tides.

1 Impact Area. See Section 3.1, *Coastal Processes, Sea Level Rise, and Geologic*
2 *Hazards*, for further analysis of impacts to these down coast areas.

3 BBGHAD Inland Project Area

4 The BBGHAD Inland Project Area includes three quarries proposed as sand supply
5 sources and the sand transportation routes inland of PCH that would be used by heavy
6 haul trucks to transport sand to Broad Beach (see Figure 1-2). These areas do not
7 support public trust resources administered by the CSLC related to coastal access and
8 recreation and are not discussed further in this section.

9 Relationship between Recreation and Public Access and Public Trust Resources and 10 Values

11 Recreation and public access to the shoreline are key components of the public's ability
12 to use and enjoy public trust resources. In the Public Trust Impact Area, these
13 resources include Broad Beach and the waters offshore, as well as Zuma Beach, Point
14 Dume State Beach, other beaches upcoast and down coast adjacent to PCH along the
15 proposed sand transportation routes, and state tidelands and waters offshore of these
16 beaches. The beaches and offshore waters of the Public Trust Impact Area provide high
17 recreational value. Changes to the continued use of or access to these areas would
18 affect the public's use of public trust resources. The California Supreme Court in
19 *National Audubon Society v. Superior Court (1981) 685 P.2d 709* states that the "core of
20 the public trust doctrine is the state's authority as sovereign to exercise a continuous
21 supervision and control over" the lands, waters and underlying intertidal lands of the
22 State to protect ecological and recreational values, including the use and enjoyment of

1 these lands. California’s Constitution also establishes the right of the public to access
2 and use public trust lands (Cal. Const. Article X, Section 4; Cal. Const. Article I, Section
3 25).

4 Definitions

5 Existing adopted management plans and land use regulations materially affect the
6 public’s use and enjoyment of Public Trust Resources along the coast. Plans and
7 policies most applicable to the public’s use and enjoyment of public trust resources in
8 the Broad Beach area and along the shoreline up and downcoast are provided in the
9 city of Malibu’s Local Coastal Program (LCP), which is derived from the California
10 Coastal Act. The Malibu LCP consists of two subparts, the Land Use Plan (LUP) and
11 the Local Implementation Plan (LIP). The Malibu LCP policies are contained within the
12 LUP, while the purpose of the LIP is to implement and carry out the policies of the LUP.¹

13 Public trust lands directly affected by the Project include state sovereign lands under the
14 CSLC’s jurisdiction along and offshore of Broad Beach. The boundary between public
15 trust lands and private uplands is the ordinary high water mark (OHWM). Generally, the
16 OHWM is measured by the mean high tide line (MHTL) prior to fill or artificial accretions
17 (refer to Section 2, *Project Description*). Beaches both up and down coast also support
18 public trust lands. Easements on private land which are held by the State or other
19 agencies that facilitate public coastal access and recreation, also represent a public
20 trust resource. Private lands are located landward of the OHWM.

21 Recreation is defined as an activity or pastime that promotes the refreshment of health
22 or spirit through relaxation or enjoyment (California State Parks 2004). Recreation, as
23 applied to the Project, can be either consumptive or non-consumptive. Consumptive
24 activities include hook-and-line fishing, spear fishing, lobster diving and the collecting of
25 other types of sea life. Non-consumptive recreation includes activities which do not
26 entail the harvest of sea life, such as beach going, swimming, surfing, sailing, boating,
27 kayaking, bird and whale watching, tide pooling, and scuba diving.

28 Coastal access is generally defined as a location or area—including lateral access
29 (access along a beach), vertical access (access from an upland street, parking area,
30 public park, or bluff down to the beach), and coastal bluff top and upland trails—that
31 lead to the shore or traverses inland parklands in the coastal zone. Coastal access also
32 includes secondary factors, such as parking near coastal access points, support
33 facilities (e.g., restrooms and picnic areas), addressing user demands and conflicts, and
34 maintenance of a diversity of coastal recreation experiences. Public access and use of

¹ All references within this section to the Malibu LCP refer to the combined LUP and LIP, which comprise the Malibu LCP (e.g., reference to policies of the Malibu LCP refers to policies contained within the LUP). Appendix P contains policies from the Coastal Act, Malibu LCP and California Public Resources Code relevant to the Project.

1 the shoreline is a right guaranteed to all citizens by the California Constitution. The
2 CSLC, California Coastal Commission (CCC), State Coastal Conservancy, local
3 governments, and non-profit organizations all play a role in assuring this access and
4 use.

5 Broad Beach Area Public Access

6 A portion of Broad Beach is located seaward of the OHWM on public trust lands which
7 are owned by CSLC.² Any use of these lands requires authorization in the form of a
8 lease from CSLC. Broad Beach is also
9 located in the coastal zone, and recreation
10 and public coastal access in this area is
11 governed by the provisions of the Coastal
12 Act, as well as the Malibu LCP. Among
13 other agencies, jurisdiction over Broad
14 Beach is shared by the CCC and city of
15 Malibu (Illustration 3.2-2). The portion of
16 Broad Beach located seaward of the
17 OHWM (including portions of the
18 emergency revetment) is under the original
19 permit jurisdiction of the CCC, while
20 portions of Broad Beach located landward
21 of the OHWM (including remaining portions
22 of the revetment) are under the jurisdiction
23 of the city of Malibu, and within the coastal
24 appeals jurisdiction of the CCC.



Illustration 3.2-2. *The CCC retains permit authority over public intertidal lands, which are located seaward of and in places overlain by the existing emergency revetment. The city of Malibu retains permit jurisdiction over predominantly private lands located landward of the revetment, although this area lies within the coastal appeals jurisdiction of the CCC.*

25 The area offshore Broad Beach also falls within the Point Dume State Marine
26 Conservation Area (SMCA) managed by the California Department of Fish and Wildlife
27 (CDFW), where it is unlawful to injure, damage, take, or possess any living, geological,
28 or cultural marine resource for commercial or recreational purposes, or a combination of
29 commercial and recreational purposes unless otherwise specified. However, while
30 prohibiting the recreational take of most marine features, the Point Dume SMCA allows
31 for spear fishing for pelagic finfish, including Pacific bonito and white seabass
32 (subsection 632[b], Areas and Special Regulations for Use [CDFW 2012]).

33 The LCP contains extensive policies for the provision of public vertical access to and
34 lateral access along the beach. However, many Malibu beaches remain deficient in
35 public access points, including Broad Beach (CCC 2002). For example, Policy 2.64 of

² In accordance with Public Resources Code section 6301, the CSLC “has exclusive jurisdiction over all ungranted tidelands and submerged lands owned by the State...The Commission shall exclusively administer and control all such lands, and may lease or otherwise dispose of such lands, as provided by law, upon such terms and for such consideration, if any, as are determined by it.”

1 the Malibu LCP requires dedication of a LAE for new development that causes public
 2 access impacts. The placement of a revetment or shoreline protective structure on the
 3 beach can result in both a loss of recreational beach area, as well as present an
 4 impediment to lateral public access (CCC 1999). Policy 2.86(d) of the Malibu LCP
 5 requires that vertical access be provided approximately every 1,000 feet along Broad
 6 Beach, which would require a total of approximately 5 access points (CCC 2002).

7 *Existing Public Access Availability*

8 Both vertical and lateral access exists at Broad Beach (Illustrations 3.2-3a and -3b).
 9 Public vertical access to Broad Beach is currently provided via two public access
 10 easements, which consist of pathways that connect Broad Beach Road and adjacent
 11 informal road shoulder parking areas to the shoreline (refer to Figure 2-2). These
 12 access ways are owned and managed by the Los Angeles County Department of
 13 Beaches and Harbors, and are fenced and gated with time restrictions for access (e.g.,
 14 open from dawn to dusk). As part of the 2010 construction of the emergency revetment,
 15 these public vertical access points now also include concrete walkways and stairways
 16 across and over the revetment to the beach. However, these public access points do
 17 not include coastal access signs along Broad Beach Road; rather, signs are posted on
 18 the gates, but can be difficult to see when driving by. Similarly, the Broad Beach public
 19 access points are not signed along nearby PCH.

20 Vertical access to Lechuza Point is also available at the far west end of the Broad
 21 Beach area via Sea Level Drive; this access point is also time restricted. Lateral access
 22 is also available to Broad Beach from Zuma Beach and its large public parking lots,



Illustration 3.2-3a. Vertical access to Broad Beach is provided at two locations along Broad Beach and one to Lechuza Point. Although the city of Malibu's LCP proposes 5 additional access points (approximately every 1,000 feet), most parcels along the beach are already developed.



Illustration 3.2-3b. Lateral access to Broad Beach is available from Zuma Beach to the east; however, medium and high tides frequently submerge all or most of Broad Beach. In addition, the existing revetment constrains lateral access to some public lands and existing access easements.

1 although the beach is generally passable only during low to moderate tides. Lateral
2 access from beaches to the west (e.g., El Matador State Beach) is limited by the rocky
3 headland of Lechuza Point; access across the point is available only during lower tides
4 and requires walking or wading through a rocky sea arch or scrambling up and over the
5 rocky point itself.

6 Informal parking near the existing Broad Beach and Lechuza Point vertical access
7 points is available along the north side of Broad Beach Road. The predominantly
8 unpaved shoulder of Broad Beach Road provides an estimated 320 informal parking
9 spaces over its 1.5-mile length with dozens of informal spaces within walking distance
10 of the access points.³ While construction worker and resident parking, as well as
11 encroachment by informal landscape improvements limits availability of some of these
12 spaces, parking is generally available to the public (AMEC 2012; King 2013).⁴ Further,
13 because parking areas are unsigned along Broad Beach Road, neither parking areas
14 nor the access points may be noticed by beachgoers unfamiliar with the area.
15 Additionally, informal road shoulder parking is also available in places along PCH on the
16 bluff overlooking Broad Beach. Public transportation in the vicinity of Broad Beach
17 includes a Metro 534 bus stop located at the intersection of Trancas Canyon and PCH.
18 This stop is proximate to Trancas Creek and Zuma Beach, but is 0.6 mile from the
19 nearest Broad Beach Road vertical access point. In addition, hundreds of public parking
20 spaces exist at Zuma Beach, located within walking distance of Broad Beach.

21 Maintenance and improvement of public coastal access is a fundamental goal of the
22 California Constitution and the Coastal Act, and loss of or impairment of public access is
23 a statewide concern. Development over the past 25 years has adversely impacted the
24 availability of public access and coastal recreation in Malibu (CCC 2002). As the
25 coastline became increasingly developed, areas that had previously provided public
26 access became constrained or were eliminated. For example, at Broad Beach the two
27 existing vertical access points were dedicated when the tract map was recorded in the
28 1940s and no other vertical access was contemplated. As the development of Broad
29 Beach continued, opportunities for additional vertical access points were lost. Public
30 access has also been impacted by natural coastal erosion, sea level rise, the physical
31 configuration of the beach, grading and the installation of emergency geotextile sand
32 bags and rock revetments, all of which give rise to conflicts over lateral access.

33 As the beach eroded the ambulatory public-private boundary, as measured by the
34 MHTL, has shifted landward. Uncertainties over the location of public beach versus
35 private property have resulted in diminished public access along the beach. In addition,
36 inconsistent LAEs recorded to permit the public to pass and recreate across individual

³ A stretch measuring approximately 6,400 linear feet on the north side of Broad Beach Road contains a wide shoulder available for public parking. Individual parking spaces typically average 20 feet in length.

⁴ AMEC staff has visited Broad Beach on six separate occasions at different times of day and seasons; road shoulder parking has been available each time.

1 properties resulted in variable reference points, with no easily definable boundary for
2 the public or homeowners to estimate the location of the easements at any given time.
3 These factors prompted the CCC to provide a report that sought to depict existing
4 lateral easements (CCC 2004). In addition, Broad Beach homeowners maintain private
5 security officers who patrol the beach for the purpose of limiting public trespass on
6 private property. The beach is also seasonally patrolled by up to 4 private security
7 guards, with daily patrol occurring during the busiest summer months, reduced to
8 weekend patrol during the less busy early summer and early fall periods, and no patrol
9 occurring during winter months.

10 The historically wide sand beach on Broad Beach provided ample lateral access from
11 Zuma Beach, and Broad Beach acted as a continuation of and spillover area for
12 recreational activities at Zuma Beach. However, the reduction in beach width over the
13 past 40 years has resulted in impediments to lateral access, particularly under fall/
14 winter/spring conditions when even a moderate high tide of 3 to 4 feet may submerge all
15 or most of the sandy beach. Under such conditions, the existing emergency revetment
16 presents a physical barrier to lateral access and many recreational opportunities for
17 beachgoers, as incoming tides frequently submerge all or most of the sandy beach.

18 *Existing Public Lands and Access Rights*

19 Under the California Constitution and the Public Trust Doctrine, the public has the legal
20 right to access and recreate on public trust lands. In general, the area seaward of the
21 OHWM is tidal and submerged lands, and is thus open for public use and enjoyment.
22 Furthermore, over the course of the last 30+ years, the public has acquired numerous
23 LAEs or deed restrictions, on adjoining private property, as a result of permit conditions
24 included in Coastal Development Permits issued by the CCC and city of Malibu.⁵ These
25 easements are typically tied to the ambulatory boundary between public and private
26 property and extend landward. On the open coast, including Broad Beach, the
27 ambulatory nature of the MHTL, resulting from natural coastal processes such as
28 coastal erosion and accretion, sea level rise, and the physical configuration of the
29 beach, creates a shifting public-private boundary. The emergency revetment presents a
30 physical barrier to those natural coastal processes, which have historically continued to
31 move the MHTL landward over time; thus the revetment currently impacts and displaces
32 lateral access and is expected to continue impacting public access over time.

33 Notwithstanding known physical encroachments upon public trust lands and existing
34 LAEs (further discussed below), all beach areas seaward of the OHWM are public trust
35 lands and open to public use and enjoyment. Thus, access along the existing beach
36 occurs on public land. However, as discussed below, this matter is further complicated
37 as portions of the existing emergency revetment are located on public trust lands below
38 the OHWM and existing access easements held by the State, with many such

⁵ Such conditions are known as an Irrevocable Offer to Dedicate Public Lateral Access Easement (OTD).

1 easements also located beneath and landward of the revetment. The CSLC manages
2 the State's property interest both where the State has ownership of the land and where
3 the CSLC has accepted easements (i.e., LAEs). Therefore, the CSLC plays a major role
4 in protecting public coastal access, particularly through acceptance and management of
5 offers to dedicate lateral public easements along the beach (CCC 1999).

6 Broad Beach currently supports approximately 27 acres of intertidal public trust land (as
7 measured between the MLLW and January 2010 MHTL/revetment for the length of
8 Broad Beach) that is generally available for public use and enjoyment at lower tides,
9 with the majority of these lands located seaward of the existing revetment. Based on a
10 CSLC staff survey of the MHTL conducted in January 2010, approximately 0.86 acre of
11 public land currently lies beneath the existing revetment, blocking access to these
12 lands.⁶ The accessible seaward edge of this land is defined by the MLLW, with these
13 lower lying areas accessible only during minus tide conditions. The vast majority of
14 these public intertidal lands consist of low tide wet sandy beach, although limited areas
15 of dry beach berm do accrue during summer months. Several acres of rocky intertidal
16 area also exist on these public lands toward the west end of Broad Beach.

17 Landward of the OHWM, public lateral access is legally available only on those
18 properties which have deeded such access in the form of LAEs.⁷ Approximately 51 of
19 the 121 private parcels along Broad Beach have recorded easements, deed restrictions,
20 or other legal documents providing the public with the right to lateral coastal access
21 across the seaward edge of these private properties. The CSLC holds a total of 36
22 LAEs along Broad Beach; 16 are outside the revetment area (i.e., associated with
23 properties on Broad Beach to the east or west of the revetment), and 20 are directly
24 impacted by the revetment. The remaining accepted easements are deed restrictions or
25 other legal documents providing lateral public access that were dedicated prior to the
26 existing LAE program and are not held by a specific State or local agency.

27 LAEs vary in terms, but they mainly consist of dry sandy beach extending 25 feet inland
28 from the "daily high water line" or the MHTL; in some cases LAEs are restricted on the
29 landward side by set-back buffers from the residential structures. As discussed above,
30 20 of these LAEs are partially or entirely covered by the emergency rock revetment and
31 frequently extend landward of the revetment (Figure 3.2-1; Table 3.2-1).

⁶ CSLC staff completed a survey of the MHTL in January of 2010 that is the basis for this estimate. Moffatt and Nichol, the agent for the BBGHAD, completed a MHTL survey in 2009, which showed lesser intrusion on public land (refer to Section 2.0, *Description of Proposed Project*).

⁷ Sometimes referred to as OTDs; however, OTDs are only the recorded offers of easements. The easement does not exist until the offer is accepted by a qualified government agency or a nonprofit organization. Once the OTD is accepted, the accepting entity obtains title to the easement and the easement remains a public right in perpetuity. LAEs are accepted OTDs and have been dedicated by former or current owners of land within the BBGHAD and held by various agencies including the CSLC.



Table 3.2-1. Location of Existing Revetment Relative to Public Land and LAEs

| Public Lands and LAEs | Acreage |
|---|---------------------|
| Public Land Under the Revetment | 0.86 |
| Total LAEs Covered or Impacted by Revetment | 0.73 to 1.04 |
| LAEs Under the Revetment | 0.53 to 0.77 |
| LAEs Landward of the Revetment | 0.20 to 0.27 |
| Total Public Land / LAEs Affected by the Revetment | 1.59 to 1.90 |

1 Thus, the emergency revetment presents a physical barrier to lateral access for
 2 beachgoers who are otherwise legally entitled to use these areas for recreational
 3 purposes. Further, because the remnants of the sand bag revetments generally lie
 4 landward of the rock revetment, portions of these sand bag revetments also overlie
 5 LAEs. In total, 32 of the 51 LAEs along Broad Beach lie beneath or landward of the
 6 existing emergency revetment, with approximately 0.53 to 0.77 acre of LAEs being
 7 directly covered by the revetment and 0.20 to 0.27 acre of LAEs being located landward
 8 of the revetment. Because the precise location and condition of the sand bag
 9 revetments is unknown, it is not possible to quantify the acreage of LAEs that are
 10 overlain by the sand bag revetments; however a substantial portion of the 0.20 to 0.27
 11 acre of LAEs landward of the rock revetment may be occupied by sand bag revetments.

12 The existing revetment footprint covers approximately 3.02 acres, and covers or cuts off
 13 access to approximately 1.59 to 1.90 acres of public trust land and LAEs; the sand bag

1 revetments potentially occupy a portion of the 0.20 to 0.27 acre located landward of the
2 revetment. Since legal public lateral access and recreational use is limited to public trust
3 lands and these LAEs, the revetment substantially limits public lateral access and use
4 along the shoreline at Broad Beach. Under current conditions, coastal erosion combined
5 with installation of the existing revetment has materially diminished the area of beach
6 available for public recreational use.

7 *Existing Private Beach Access*

8 Most of the 109 homes along Broad Beach have historically had relatively unrestricted
9 access to the beach; homes with large seawalls or along steeper dunes and bluffs at
10 the beach's west end typically employed stairways to gain access while homes along
11 the wide low dunes at the east end often had informal paths to the beach. As coastal
12 erosion progressed, stairways were
13 extended and some geotextile revetments
14 were designed with walkways.
15 Construction of the emergency revetment,
16 which is 12 to 15 feet tall, has impeded
17 private access to the beach (Illustration
18 3.2-4). The revetment is difficult and
19 dangerous to traverse, especially when
20 wet. Several homeowners appear to be
21 using a shared lateral access pathway
22 behind the revetment which is linked to
23 informal rock or geotextile bag stairways
24 constructed across the revetment to the
25 beach. These informal stairways are
26 proposed to be removed as part of the
27 Project.



Illustration 3.2-4. Construction of the emergency revetment interrupted or blocked historic private vertical access to Broad Beach. In response, homeowners constructed, and appear to share, approximately 15 informal rock and geotextile bag stairways across the revetment. Waves have since damaged or eroded away some stairways.

28 Recreation

29 Broad Beach is located in a region that offers substantial recreational opportunities due
30 to its natural beauty, beaches, and climate. Miles of beachfront and scenic ocean and
31 mountain views create a highly desirable landscape for high quality recreational
32 opportunities, which are integral to quality of life for city of Malibu residents and help to
33 draw the city's approximately 15 million annual visitors. These visitors are served by a
34 range of State and county beach parks and low key paths and stairways that provide
35 access to Malibu's 27 miles of coastline, including at Zuma Beach to the east. The
36 majority of beaches in the vicinity are rural and undeveloped in nature, although some
37 beaches such as Zuma Beach, which is one of Los Angeles County's most heavily used
38 beaches (Santa Monica Bay Restoration Foundation 2009), provide a variety of
39 developed visitor-servicing amenities (Figure 3.2-2 and Table 3.2-2).



Public Beaches and Marine Protected Areas in the Vicinity of the Project Area

FIGURE 3.2-2

Table 3.2-2. Beach Facilities in the Vicinity of Broad Beach

| Beach | Facilities | | | | | |
|--|----------------------|----------------|------------|--------|------------|------------------|
| | Parking ¹ | Rest-rooms | Life-guard | Shower | Picnic/BBQ | Other |
| Broad Beach | Informal | - | - | - | - | |
| Zuma Beach County Park | Formal | ü | ü | ü | - | Volleyball court |
| Point Dume State Beach (SB) | Formal | - | - | - | - | Hiking trails |
| Robert H. Meyer Memorial SB ² | Formal & Informal | Portables only | - | - | - | |
| Nicholas Canyon County Beach | Formal | ü | ü | ü | - | |

¹ Formal parking areas generally include a designated parking lot to serve beachgoers. Informal parking includes roadside and neighborhood parking areas.

² Robert H. Meyer Memorial SB consists of several “pocket beaches” located between Leo Carrillo and Point Dume SBs, including El Pescador, La Piedra, and El Matador Beaches. El Matador Beach is located west of Lechuza Point.

- 1 To the southeast of Zuma Beach is Point Dume State Beach, which encompasses
- 2 approximately 30 acres and includes the Point Dume Nature Preserve, as well as a
- 3 popular surf break. Robert H. Meyer Memorial State Beach, Nicholas Canyon County

1 Beach and associated coastal access points are located northwest of Broad Beach and
2 within 4 miles of the Broad Beach area.

3 The availability of beach amenities and ease of access at nearby beaches concentrates
4 recreational use at these developed facilities. For example, Zuma Beach receives heavy
5 visitation and provides 2,025 parking spaces, as well as lifeguards, restrooms, outdoor
6 showers, seasonal food stands, and volleyball courts (Los Angeles Department of
7 Beaches and Harbors 2012). The more isolated and undeveloped beaches, such as
8 Broad Beach, attract visitors seeking a quieter more natural beach experience. Unlike
9 Zuma Beach, Broad Beach is less well known, lacks comparable amenities and has
10 limited public access. The result is that Broad Beach is primarily used by private
11 homeowners who live along Broad Beach, and nearby Malibu residents. However,
12 Zuma Beach visitors historically represent a substantial portion of recreational users of
13 Broad Beach (Malibu Chamber of Commerce 2012).

14 The types of recreational use at Broad Beach are consistent with other regional
15 beaches; however, use tends to be less intense than that of adjacent beaches. Due to
16 the popularity of Zuma Beach, Broad Beach often serves as an extension or spillover
17 area of Zuma Beach, where people can walk, jog, or engage in passive recreational
18 activities away from more crowded beach areas (Illustration 3.2-5). The recreational use
19 of Broad Beach consists primarily of non-consumptive uses, including walking, jogging,
20 picnicking, sun bathing, swimming, surfing, and dog walking. Dog walking is a popular
21 activity at Broad Beach, despite signs
22 posted noting that the beach is off-
23 limits to dogs (Los Angeles County
24 Code §§ 17.12.290 and 17.12.300).
25 Tide pooling and bird watching
26 activities occur in the western end of
27 Broad Beach, where rocky intertidal
28 and surfgrass beds provide habitat to
29 a variety of marine species. Parking is
30 also free at Broad Beach as opposed
31 to parking charges at Zuma and some
32 other area beaches. Although not well
33 signed, ample informal free on-street
34 parking is available along the northern
35 side of Broad Beach Road, along PCH
36 landward of Zuma Beach, and along
37 the bluffs overlooking Broad Beach.



Illustration 3.2-5. Broad Beach often serves as an extension of Zuma Beach for public recreation. Recreational activities at Broad Beach primarily consist of walking, running, and beach going; surfing, swimming, and dog walking are also popular.

38 Surfing along Broad Beach primarily occurs at shore breaks along the eastern portions
39 of the beach; however, a point break near Lechuza Point can occur during certain winter
40 swells. Broad Beach generally contains less favorable surf conditions as compared to

1 nearby areas (e.g., Leo Carrillo and County Line). Observations of surfing at Broad
 2 Beach over time have shown it to be limited to relatively small groups of beginners that
 3 use it as an opportunity to ride whitewater. Literature sources identify a noted break at
 4 Lechuza Point, sometimes referred to as Giant Rock, which generally is described as a
 5 fast right break that is rideable when waves are from 1 to 4 feet. These literature sources
 6 (i.e., websites and surfing guidebooks) and personal site observations identify limited
 7 use of Broad Beach for surfing due to generally unfavorable conditions (Moffatt & Nichol
 8 2013). Counts of the number of surfers at Broad Beach at any one time are less than
 9 five along the entire beach. Random informal observations have been made over
 10 several years, and through every season. In addition to surfing, typical recreational
 11 activities occurring offshore Broad Beach include stand-up paddle-boarding, kite
 12 boarding, boating, and kayaking.

13 An informal survey of Broad Beach users conducted on June 16, 2012, found that the
 14 majority of people recreating on Broad Beach were engaged in non-consumptive
 15 activities, particularly walking, beach going, running, and surfing (Table 3.2-3; Appendix
 16 E). During this survey, it should be noted that the beach was almost entirely submerged
 17 during the higher +2.8 to +3.0 foot high tides and was limited to an average width of 20
 18 feet during the +2.2 foot low tide.

Table 3.2-3. Overview of Recreational Use at Broad Beach

| Beach Use (listed in order of frequency) | | | | | | | |
|--|-------------|---------|---------|-------------|--------------------|---------------------|--|
| Walking | Beach Going | Surfing | Running | Dog Walking | Fishing (Historic) | Seaglass Collecting | Other |
| 23 | 15 | 10 | 8 | 3 | 2 | 2 | Windsurfing (1) Tidepooling (1) Yoga (1) Paddle-Boarding (1) Boogie Boarding (1) |

Source: AMEC 2012.

Note: The informal survey was performed over a period of approximately 4 hours during a +2-foot low tide, on a partly cloudy Saturday afternoon. During the survey, tides ranged from +2.8 feet, to a minimum of +2.2-foot low tide, then rose again to +3.0 feet. Data include information provided in 35 surveys completed by beachgoers. Full survey methods and results are provided in Appendix E.

19 Consumptive uses, such as surf fishing, have historically been popular at Broad Beach;
 20 however, as of January 1, 2012, the waters offshore Broad Beach are included within
 21 the Point Dume SMCA, which prohibits the recreational take of marine organisms,⁸ and
 22 surf fishing is no longer permitted; however, spear fishing for pelagic finfish, including
 23 Pacific bonito and white seabass, is permitted (CDFW 2012). The prohibition of fishing
 24 offshore of Broad Beach may also reduce the number of recreational boaters that have
 25 historically used the area for fishing.

⁸ Take pursuant to beach nourishment and other sediment management activities is allowed inside the SMCA pursuant to required permits or as otherwise authorized by CDFW (www.dfg.ca.gov/marine/mpa/).

1 **3.2.2 Selected Laws Applicable to Recreation and Public Access**

2 State and other statutes related to access and recreation are listed in Table 3.3 in
3 Section 3.0, *Issue Area Analysis*.

4 **3.2.3 Public Trust Impact Criteria**

5 Recreation and public access impacts will be considered a major adverse effect if
6 implementation of the Project would result in:

- 7 · Loss of habitat for and impacts to marine flora or fauna;
- 8 · Conflicts with planning efforts to protect recreational resources of the Project
9 area;
- 10 · Use of public trust lands for a primarily private use;
- 11 · Termination of public access points or routes that have been established through
12 a history of public use;
- 13 · Sustained interference with the recreational use or public enjoyment of public
14 trust lands;
- 15 · Interference with the recreational use or public enjoyment of vertical and lateral
16 access and recreational use easements as contemplated by the numerous OTDs
17 recorded and accepted (LAEs) along Broad Beach;
- 18 · Substantial physical deterioration of public trust lands or other recreationally used
19 areas;
- 20 · Loss of sand to public beaches outside of the CSLC Lease Area, such as to
21 result in a substantial deterioration of beach area or quality; or
- 22 · Residual impacts on sensitive shoreline lands, and/or water and non-water
23 recreation due to the deposition or removal of sand.

24 Where applicable, this impact analysis considers the Broad Beach area both in its
25 existing setting, following installation of 2005 sand bag revetments and the 2010
26 emergency rock revetment, and in its historical setting without the emergency
27 revetments, characterized by a narrow beach and dune habitat.

28 **3.2.4 Public Trust Impact Analysis**

29 Historical Recreational Characteristics of Broad Beach (pre-revetment)

30 The historically wide sand beach on Broad Beach provided ample lateral access from
31 Zuma Beach, and Broad Beach acted as a continuation of and spillover area for
32 recreational activities at Zuma Beach. According to communication with a number of
33 Broad Beach users and residents, including a local surf instructor who grew up in the
34 area, it was noted that when the beach was wider, visitation was more significant.

1 However, recreational use of Broad Beach also was much lower than adjacent Zuma
2 Beach, which provides ample well-signed public parking and restrooms. Visitation is
3 estimated to have been rarely more than 100 people on a busy day (King 2013). The
4 relatively small number of visitors was related to limited access, the local nature of the
5 beach, and potentially a lack of posted coastal access signs, public facilities and a past
6 history of homeowners hiring private security to drive all-terrain vehicles on the beach to
7 patrol use (King 2013). Over the years, particularly as the beach narrowed, members of
8 the public and area homeowners have experienced on-going conflict over use of the
9 beach and the location of the boundary between public lands and private property.

10 Impacts to Recreation Associated with the Emergency Revetment

11 The installation of the emergency revetment at Broad Beach artificially inhibited high
12 tides and surf from reaching their maximum landward elevation and extent along the
13 length of the revetment, thus inhibiting the ambulatory nature of the MHTL at these
14 locations. The location of the OHWM at Broad Beach is important to both the public and
15 private property owners, as it defines the boundary between public and private lands
16 along the beach front. As such, the location of the OHWM is a key element affecting the
17 public's right to beach access along the shoreline, as well as the privacy and rights of
18 local property owners. Existing public lateral access is currently available as a matter of
19 right, seaward of the OHWM, depending on seasonal sand levels and tides. However,
20 under conditions observed in 2011, 2012, 2013, and 2014, a moderate tide of 1 to 2 feet
21 can submerge all or most of the sandy beach, limiting both public and private lateral
22 access along the shoreline. Under such conditions, the emergency revetment presents
23 a physical barrier to lateral access for beachgoers as they try to dodge wave run up.
24 Similarly, the previously installed sand bag revetments also obstructed public access in
25 a similar manner. Impacts associated with the installation of sand bag and rock
26 revetments on recreation are discussed below in Impact REC-1.

27 Proposed Project

28 The initial nourishment event is estimated to take approximately 8 months of active work
29 and the subsequent renourishment, approximately 10 years after initial project
30 implementation, is estimated to require another 6 months of work (Section 2.0).
31 Construction equipment and materials would be staged at Zuma Beach Parking Lot 12,
32 using approximately 1.4 to 1.9 acres of the public parking lot. Sand would be stockpiled
33 and construction equipment would circulate along approximately 1,000 feet of Zuma
34 Beach occupying an estimated 5 acres of dry sand beach berm. Hauling of inland
35 quarry material to Broad Beach is expected to require 28 weeks (6.5 months). However,
36 an additional 1 month would be required to complete hauling of sand from the stock
37 piles up to Broad Beach to complete construction of the sand dunes.

38 Given the intensity of construction activities, public access to Broad Beach, the western
39 end of Zuma Beach, and the Trancas Lagoon mouth will be limited or restricted, as

1 required to protect human health and safety, during working construction hours
2 (Monday through Friday, 7:00 AM to 6:00 PM) due to the equipment traffic associated
3 with beach nourishment activities. It is estimated that closure would last for at least 140
4 days during initial Project construction and 120 days during the subsequent
5 renourishment.

6 After initial nourishment, the new beach and dune system is expected to extend over
7 approximately 46 acres. The new post-construction dry sand beach would extend
8 approximately 90 to 230 feet seaward of the dunes, providing approximately 27 acres of
9 dry sandy beach. The longevity of the nourishment at Broad Beach is dependent on a
10 variety of factors, including climatic cycles, wave energy and direction, longshore
11 transport of sand in the littoral cell, sand grain size and increasingly over time, and sea
12 level rise (see Section 3.1, *Coastal Processes, Sea Level Rise, and Geologic Hazards*).

13 In order to prolong the longevity of the proposed beach nourishment, the Applicant
14 would initiate backpassing of sand from the wider eastern reach of beach to the
15 narrower western reach of beach. The timing of backpassing would be based upon
16 monthly beach profile measurements and in accordance with objective beach
17 nourishment triggers, but would likely occur annually (refer to Section 2.2.9, *Long-Term
18 Beach Profile Monitoring and Beach Measurements*). Sand volumes to be backpassed
19 would vary depending on sand availability and need, as determined by monitoring;
20 however, backpassing is estimated to involve transporting approximately 25,000 to
21 35,000 cubic yards from the east to west end of the beach. The duration of sand
22 backpassing could be up to 3 weeks. Although the Applicant would attempt to provide
23 public access to the beach during backpassing operations, the majority of the working
24 area below MHHW would be closed to the public during these operations (Section
25 2.2.10, *Future Beach Management Events*).

26 Even with backpassing, maintenance of the newly established beach is anticipated to
27 require a second major renourishment event. Renourishment would involve placement
28 of an additional 450,000 cy of sand on the beach. Timing for renourishment would be
29 determined via monitoring triggers and is projected to occur in 10 years (Section 2.2.9,
30 *Long-Term Beach Profile Monitoring and Beach Measurements*). On weekends and
31 holidays, the beach would remain open for public access. As work progresses, public
32 access to portions of the beach would be maintained during nourishment operations to
33 the extent possible with implementation of a construction vehicle traffic management
34 plan.

35 Finally, the Project also contains a provision for installation of emergency sand bag
36 revetments along the eastern 550 feet of Broad Beach that is not protected by the
37 emergency rock revetment and the 100-foot break in the revetment. Such sand bag
38 revetments would be installed on private property and would only be installed during

1 periods of erosion, such as toward the end of the useful life of either the initial or follow
2 up nourishment events.

3 **Impact REC-1: Initial Project Construction and Renourishment Effects on Coastal**
4 **Access and Recreation**

5 **Short-term construction would interfere with recreational use and coastal access**
6 **on public trust lands (Minor Adverse Effect, Class Mi).**

7 Impact Discussion (REC-1)

8 Disruption and interference with
9 recreational use and access would
10 occur during the estimated 8-month
11 construction period for initial beach
12 nourishment activities. Similar
13 interference would also occur during
14 the estimated 6-month renourishment
15 event that is anticipated to occur after
16 10 years (Illustration 3.2-6). During
17 these periods, bulldozers, heavy
18 trucks hauling sand, and other types
19 of heavy equipment would be
20 traversing Broad Beach, the western
21 1,000 feet of Zuma Beach, and the
22 Trancas Lagoon mouth effectively
23 precluding access to 1.5 miles of
24 public trust lands along the beach for
25 14 months over the 20-year Project life.



Illustration 3.2-6. Project construction and renourishment would occur over approximately 180 days, during which time public access to and along Broad Beach would be constrained. In addition, the western end of the Zuma Beach parking lot would be used as a staging area, precluding its public use.

26 An additional 2-month period would be required during the initial nourishment event for
27 construction of the dune system, including deposition and movement of sand into the
28 correct location and dimensions, planting, fencing, signage, and placement of temporary
29 irrigation systems. Dune restoration would require more limited use of trucks along the
30 beach to haul in materials and reduced use of heavy equipment (e.g., backhoes). Much
31 of the work would be done by hand, reducing interference with public recreation and
32 access. Maintenance of the dune system, particularly during the initial establishment
33 period of roughly 3 years, would require some ongoing nuisance type interference with
34 public recreation on the newly widened beach associated with vehicle access and noise
35 generated by landscape maintenance equipment and crews of workers.

36 During the construction phase of the Project, construction equipment and materials
37 would be staged in Parking Lot 12 at the west end of Zuma Beach, displacing an
38 estimated 260 public parking spaces for the 6- to 8-month construction windows. An

1 additional 42 spaces of free road shoulder public parking along PCH would be displaced
2 through conversion to a truck lane for 6 to 8 months during both initial Project
3 construction and the renourishment event. This truck lane and high volumes of truck
4 traffic would also interfere with pedestrian and bike traffic along PCH. In addition, sand
5 stockpiles would be located on 1.4 to 1.9 acres over 1,000 feet of public beach on the
6 dry sand berm at the west end of Zuma Beach. Heavy construction equipment would
7 use approximately 1,000 feet of intertidal beach in Zuma Beach County Park to access
8 these sand stockpiles and to transport sand west to Broad Beach (refer to Figure 2-15).

9 Signs notifying the public of the dates of nourishment operations would be posted at the
10 public access points and at other highly visible locations along the beach. Although the
11 Applicant has stated that attempts would be made to provide ongoing public access
12 during initial and subsequent beach nourishment, public safety concerns with
13 beachgoers mixed with relatively high speed heavy haul trucks, scrappers and
14 bulldozers with associated noise and fumes would preclude all or most access during
15 nourishment events. The beach could be opened on weekends and outside of the hours
16 of construction operation. Project construction and subsequent renourishment could
17 also adversely affect offshore recreation and recreation at adjacent beaches (e.g.,
18 Zuma Beach) through visual and noise disturbance and increased turbidity of near
19 shore waters (refer to discussions for Impacts N-1, SR-2, and SR-3). These effects
20 would also extend for roughly a total of one year over the 20-year Project planning
21 horizon.

22 Impacts described above are similar to those that previously occurred during
23 construction of the rock revetment during the 2009 to 2010 winter season, where heavy
24 equipment and large trucks traversed Broad Beach. Impacts from construction of the
25 sand bag revetments would have been similar, but reduced, with limited truck traffic,
26 heavy equipment use, and use of work crews to fill and erect sand bag revetments.

27 Although the Project would result in substantial widening of the beach for up to 20
28 years, 1.5 miles of public beach would be closed and/or substantially degraded for
29 recreational use for a total of a year or more, particularly during initial and subsequent
30 nourishment, resulting in minor adverse effects to public recreation. Closure of Parking
31 Lot 12 and the PCH road shoulder would displace 302 public parking spaces over two
32 6-month periods, adversely affecting recreational access to Zuma Beach and Broad
33 Beach. In addition, during these periods, 5 acres of dry sand beach at Zuma Beach
34 would be unavailable for public use due to sand storage and heavy construction
35 equipment operation. Construction would occur primarily during the fall and winter,
36 which would reduce the number of beachgoers that would be affected; however, the
37 presence of heavy construction equipment, large machinery, and sand stockpiles would
38 result in a potentially major adverse effect to recreational use of Broad Beach and
39 adjacent areas of Zuma Beach.

1 The loss or degradation of recreational use of Broad Beach and adjacent areas of Zuma
2 Beach would result in adverse economic effects. The Project may have beneficial
3 economic effects in and around the region of Broad Beach, but a specific value is
4 difficult to quantify. It is difficult to quantify the number of people affected and the
5 associated direct and indirect economic effects of beach closure. While the Project
6 would provide a wide sandy beach that would enhance public coastal access, over the
7 medium-term, the extended duration of construction and renourishment would result in
8 a major short-term adverse effects to public access and recreation.

9 With implementation of the following avoidance and minimization measures (AMMs)
10 protecting public access and safety, effects would be minor.

11 Avoidance and Minimization Measures

12 **AMM REC-1: Public Access during Construction and Renourishment.** At least 2
13 weeks prior to commencing construction and renourishment operations, the
14 construction contractor shall post signs notifying the public of the scheduled
15 dates of nourishment operations at the public access points and at other
16 highly visible locations along the beach. Construction contractors shall be
17 responsible for maintaining the beach in acceptable condition for public use
18 outside of construction activities (e.g., weekends) to the maximum extent
19 feasible. Lateral access along the west end of Zuma Beach and Broad Beach
20 shall be restored as soon as possible to permit continued, safe public
21 passage. Construction monitors shall be employed to manage public access
22 during construction activities.

23 Rationale for Avoidance and Minimization Measure

24 Project construction and renourishment activities would interfere with public recreation
25 and coastal access to Broad Beach, the western end of Zuma Beach, and the area
26 offshore from each of these beaches. This interference should be minimized to the
27 maximum extent feasible. Implementation of AMM REC-1 would ensure proper
28 measures are taken during construction and renourishment operations to minimize
29 effects to public beach access and use.

30 The 1-year total duration of initial and subsequent construction and renourishment
31 activities would result in a minor adverse effect to public access and recreation at Broad
32 Beach and adjacent areas of Zuma Beach. This includes loss of access to 1.5 miles of
33 shoreline and public trust lands due to construction activities as well as degradation of
34 nearby and offshore recreational values due to visual and noise disturbance, increased
35 turbidity of near shore waters, and loss of 302 public coastal access parking spaces in
36 and adjacent to western Zuma Beach. Combined, these effects are anticipated to result
37 in increased demand at nearby beaches during the extended construction period, as
38 typical users of western Zuma Beach and Broad Beach would likely choose other
39 destinations for coastal recreation.

1 **Impact REC-2: Backpassing Impacts to Recreational Users**
2 **Backpassing would interfere with recreational use and access on public lands**
3 **(Minor Adverse Effect, Class Mi).**

4 Impact Discussion (REC-2)

5 Disruption and interference with recreational use and access would occur during
6 backpassing, anticipated to occur approximately once per year. Construction would
7 require a bulldozer and 3 scrapers to move sand from the east end of Broad Beach to
8 eroded areas further to the west over a period of up to 3 weeks. Construction equipment
9 and materials would be staged at the west end of Zuma Beach Parking Lot 12,
10 precluding recreational parking on approximately 0.25 acre of the 1.93-acre public
11 parking lot. Given the parking lot contains approximately 260 spaces, this would result
12 in the temporary loss of approximately 34 parking spaces. Beach access would likely be
13 impacted as heavy equipment enters and leaves the Zuma Beach parking lot staging
14 area.

15 During backpassing events, the contractor would establish measures to maintain public
16 access to the maximum extent feasible, while ensuring public safety, including fencing
17 or signs to control public access to the work site, as well a designated access points
18 through the work zone. However, large scrapers excavating soil and moving it west for
19 almost 5,000 feet across Broad Beach could substantially impede public use and
20 enjoyment of the shoreline and beach during these periods. Minimal effects to offshore
21 recreation and recreation at adjacent beaches would occur during backpassing. Visual
22 and noise disturbance from construction would potentially degrade the recreational
23 experience for users of Zuma Beach over the 3-week period; however, backpassing
24 activities would be scheduled either during fall or spring, to avoid the busiest summer
25 months. Under a worst-case scenario, a full 3 week beach closure per backpassing
26 event, backpassing could result in 420 days of beach closure over the 20-year Project
27 duration. While public access would be maintained to the greatest degree possible,
28 backpassing would result in the cumulative loss of recreational access for a major
29 period of time; however, with implementation of AMMs to ensure public access and
30 safety, effects would be minor.

31 Avoidance and Minimization Measure(s)

32 **AMM REC-2: Public Access during Backpassing.** At least 2 weeks prior to
33 commencing backpassing operations, the construction contractor shall post
34 signs notifying the public of the scheduled dates of backpassing at the public
35 access points and at other highly visible locations along the beach. The
36 construction contractors shall be responsible for maintaining lateral beach
37 access to the maximum extent feasible to permit safe public passage (e.g.,
38 designated public access points, flagman, and construction vehicle
39 management).

1 Rationale for Avoidance and Minimization Measures

2 Project backpassing has the potential to interfere with public lateral access to Broad
3 Beach, which should be minimized to the maximum extent feasible. This would ensure
4 proper measures are taken during backpassing operations to minimize effects to public
5 beach access. When combined with the 1-year duration of construction and
6 renourishment activities, backpassing would result in the closure, constructive closure
7 (due to heavy equipment) or unsuitability for public access to Broad Beach and the west
8 end of Zuma Beach.⁹ However, a new wider sandy beach at Broad Beach is expected
9 to remain available for public use during the majority of the 20-year project duration.

10 **Impact REC-3: Medium- and Short-Term Effects to Recreational Use**

11 **Project construction and maintenance of a widened beach and restored dune**
12 **system would enhance public recreation opportunities through provision of a**
13 **wide sandy beach berm and increased lateral access (Beneficial Effect, Class B).**

14 Impact Discussion (REC-3)

15 A substantial beneficial effect to recreation would occur during the life of the Project,
16 with these benefits anticipated to last up to 20 years depending on the rate of coastal
17 erosion and success of beach restoration activities. Current conditions primarily limit
18 public beach access to low tides, with up to 27 acres of intertidal beach available at
19 minus tides for public recreational uses compatible with a low-tide beach (e.g., walking,
20 jogging, swimming, etc.). However, this beach is generally submerged during medium
21 and high tides, and during these tides lateral access is largely blocked by the revetment
22 and high water, limiting the amount of time
23 that the public can use and enjoy these
24 public trust lands. The Project would include
25 burying the revetment beneath the new sand
26 dune system and restoring the historically
27 wide dry sandy beach berm, permitting public
28 recreation and lateral access on public trust
29 lands tides that are currently submerged
30 during medium and high tides (Illustration
31 3.2-7). The Project would also provide a wide
32 dry sandy beach berm for sunning and other
33 activities, which is now almost wholly absent,
34 even during summer months.



Illustration 3.2-7. Project implementation would result in a dry sand beach berm, such as those currently found at the eastern end of the Broad Beach area, covering 27 acres and expanding the recreational opportunities on Broad Beach and increasing the time the public is able to access and use the beach.

⁹ The initial nourishment program, requiring approximately 1 year of construction, a subsequent renourishment event, requiring approximately 120 to 140 days for construction, and 420 days of beach closure during backpassing would result in approximately 905 to 925 total construction days over the 20-year Project life; this would leave the newly widened Broad Beach and western end of Zuma Beach closed to or unsuitable for public access about 12.5 percent of the days over the coming 20 years.

1 Over the short- to mid-term, the Project would expand the time that Broad Beach could
2 be accessed by the public and increase the type of recreational activities that could be
3 accommodated to include those that typically occur on dry sand beach berms (e.g., sun
4 bathing, picnics, etc.). The post-construction restored beach and dune system (as
5 measured from the landward side of the dune to the post-Project MHTL) would range in
6 approximate width from 150 feet in the western portions near Lechuza Point to 280 feet
7 near Trancas Lagoon at the eastern end. The beach and dune would be approximately
8 250 feet wide along the majority of the beach. This would result in a net increase of
9 approximately 27.4 acres of dry sand beach berm. This increase would occur initially
10 after construction and renourishment; however, the constructed beach would likely
11 undergo immediate reworking by waves and tides that distribute the sand both offshore
12 and alongshore (i.e., equilibration erosion). This equilibration erosion is anticipated to
13 reduce the total beach and dune area by approximately 30 percent after the first year to
14 a total dry beach area of approximately 19 acres (Appendix B).

15 The dune system would not be open to public recreation and access; however, public
16 vertical access across the dunes would remain at the 2 existing vertical access points.
17 The dune system could preclude public use over approximately 2.58 acres of public
18 trust land and 0.97 acre of LAEs. Sand placement along Broad Beach would also
19 increase the volume of sand in the beach profile. Increased sand volume at the beach
20 would widen and raise the beach profile, and make more sand available for sand bar
21 formation. Sand tends to fill in the protected area shoreward of Lechuza Point in winter,
22 buries small rocks, and creates a bathymetric condition conducive to producing ridable
23 surf on northwest swells. Theoretically, increased sand volume throughout the surf zone
24 should lead to more and larger sand bars forming at the placement site compared to the
25 present condition. The surf zone should move farther offshore from the beach and
26 become more like that along Zuma Beach, as compared to present Broad Beach. With
27 waves breaking farther from shore and shoaling over more and larger sand bars than
28 presently exist, the surf at Broad Beach may improve (Moffatt & Nichol 2013). Thus, the
29 project may improve surfing conditions at Broad Beach compared to existing conditions.

30 The increase in dry sand beach width and potential for improved surf conditions would
31 result in a substantially enhanced and expanded public recreation area, backed by a
32 scenic dune system, as compared to current conditions. These benefits would be major
33 but also ephemeral. Based on historic trends, erosion of the beach area would likely
34 continue, despite backpassing. These benefits may remain for up to 20 years; however,
35 worst-case-scenario modeling projects a potential for a return to near existing conditions
36 within 5 years of initial nourishment, particularly at the beach's west end. This could
37 result in coastal erosion eliminating the dry sandy beach and with potential for exposure
38 of the revetment, and associated adverse effects of blocking public access to public
39 trust lands and LAEs (refer to Impact REC-4 below; Appendix E).

1 Because of this potential erosion, the timing of renourishment is critical to extending
 2 these beneficial effects. The Project Applicant currently proposes that renourishment be
 3 triggered when the nourished beach is in deficit (i.e., the point in time when the western
 4 beach width is 50 feet or less for 12 consecutive months and the eastern beach width is
 5 less than 25 feet wide over the same period), provided 10 years have passed. Given the
 6 potential for the beach to return to near existing conditions within 5 years, the public
 7 benefit provided by the Project could be eliminated prior to the stipulated 10 years for
 8 renourishment, eliminating this benefit.

9 The erosion of sand from Project nourishment and renourishment would likely result in
 10 direct benefits to beaches down coast, including Zuma Beach and Point Dume, due to
 11 an influx of sand to the immediate littoral cell; this would contribute to incrementally
 12 wider beaches with associated coastal access and recreational benefits. Although a
 13 small portion of this sand would be lost to the Point Dume submarine canyon, these
 14 benefits would also incrementally extend to beaches further down coast.

15 Avoidance and Minimization Measures

16 **AMM REC-3: Beach Profile Reporting.** The Applicant shall submit quarterly
 17 monitoring reports prepared by an approved third party monitor to the CSLC.
 18 Monitoring reports shall provide beach profile information obtained during that
 19 period, consistent with monitoring procedures outlined in Section 2.2.9, *Long-*
 20 *Term Beach Profile Monitoring and Beach Measurements*, of California State
 21 Lands Commission's *Analysis of Public Trust Resources and Values*. In
 22 addition to the spring and fall full beach profile measurements, a third full
 23 beach profile measurement shall be taken immediately after any backpassing
 24 event. Monitoring reports shall identify action items for subsequent periods,
 25 including but not limited to the initiation of backpassing or renourishment.

26 Rationale for Avoidance and Minimization Measures

27 The majority of the Project would be constructed on public trust land under the
 28 jurisdiction of the CSLC. Quarterly monitoring reports would ensure CSLC is current on
 29 the status of the beach profile and need for proposed backpassing or renourishment.

30 **Impact REC-4: Long-Term Effects to Recreational Use**

31 **Exposure of the revetment though coastal erosion after cessation of beach**
 32 **nourishment would adversely affect recreational beach use and access by**
 33 **blocking public access to public trust lands and LAEs (Minor Adverse Effect,**
 34 **Class Mi).**

35 Impact Discussion (REC-4)

36 A beneficial effect to recreation would occur during the projected 20-year life of the
 37 Project due to creation of a wide sandy beach. However, after both the initial and

1 second nourishment event, these benefits would diminish as coastal processes cause
2 the beach to retreat back to current conditions, eroding portions of the dune system and
3 eventually re-exposing the revetment which would block public access to public trust
4 lands and LAEs. The Applicant has proposed, at its discretion, the option to provide
5 further nourishment events beyond the life of the Project; however, because the
6 Applicant has not committed to such future nourishment, and such nourishment would
7 occur beyond the requested 20-year lease term, this analysis assumes no additional
8 renourishment events would occur. If no future renourishment was to occur after
9 implementation of the second follow up renourishment, natural processes are
10 anticipated to erode the Project's beach and restored dune system within 20 years –
11 and potentially as soon as within 5 years – resulting in the loss of recreational benefits.

12 Construction of the existing emergency revetment in its existing location with portions
13 overlying public trust lands was never authorized by the CSLC. The erosion of the
14 proposed beach and dune would eventually result in exposure of the revetment, which
15 would substantially inhibit public lateral beach access, which is an anticipated benefit of
16 the Project. The Applicant is proposing that the existing emergency revetment, which
17 was previously not authorized by the CSLC, be included in the lease as an authorized
18 structure as part of the Project for the 20-year term.

19 Since the revetment overlies or is seaward of 1.59 to 1.90 acres of LAEs and public
20 trust lands, the revetment as proposed by the Applicant would prohibit public use of
21 these public trust lands and access easements. Additionally, public lateral access would
22 again be impeded by the revetment following termination of Project renourishment
23 activities, as is the case under existing conditions. The long-term loss of public access
24 to 1.59 to 1.90 acres of public trust land and LAEs would be a major adverse effect.
25 Therefore, the beach renourishment aspect of this Project (“soft solution”) is a critical
26 component as it offsets the adverse effects created by the installation of the revetment,
27 which serves as both a physical impediment to usable beach area (i.e., LAEs), as well
28 as an impediment to lateral public access in places where the beach would otherwise
29 be accessible only at low tide. Continued maintenance of a wide sandy beach berm to
30 offset adverse revetment impacts is a critical to minimize long-term effects to
31 recreational use.

32 Long-term effects of sea level rise on the Project would also potentially be adverse. The
33 *CSLC Report on Sea Level Rise Preparedness* notes that sea level rise in combination
34 with increased storm intensity may lead to the loss of sandy beaches in some areas,
35 which, coupled with the potential increase in shoreline protective devices, could reduce
36 or eliminate public access along the coastline (CSLC 2009). According to tide data
37 maintained by the National Oceanic and Atmospheric Administration (NOAA), the
38 California coast is experiencing differing rates of sea level rise, or fall, with the
39 magnitude and direction of change specific to certain regions along the coast. In the Los
40 Angeles area, long-term tide records (1924 to present) at the NOAA Los Angeles Outer

1 Harbor station indicates a water level change of 3.3 ± 1.1 inches per century. Sea-level
2 rise over the term of the Project horizon (e.g., 10 to 20 years) is projected to be
3 approximately 8.5 inches with a possible range from 3.4 to 17.9 inches under the
4 reasonable worst case (Appendix B). Under these projections, sea level rise would
5 contribute between 3 to 15 feet of erosion along most of Broad Beach over the next 10
6 to 20 years (refer to Section 3.1, *Coastal Processes, Sea Level Rise, and Geologic*
7 *Hazards*). Therefore, the impact of sea level rise on the Project over its 10 to 20 year life
8 would be insignificant. Over the long term, particularly after 2050, sea level rise is
9 projected to accelerate. Higher sea levels after 2050 would be expected to substantially
10 accelerate coastal erosion, potentially exposing the restored dunes, emergency
11 revetment, and homes and septic systems to damage from coastal processes with
12 potentially major direct and secondary effects on public trust resources.

13 CSLC sea level guidance recommends: "Where appropriate, staff should recommend
14 project modifications that would eliminate or reduce potentially adverse impacts from
15 sea level rise, including adverse impacts on public access" (CSLC 2009). As proposed
16 by the Applicant, the Project would result keeping the revetment in a location that could
17 impede public access to public trust lands over the long term as the shoreline and
18 MHTL shift landwards. Therefore, a long-term lease for the revetment would be
19 potentially inconsistent with the recommendations of the State of California and CSLC
20 guidance related to sea level rise.

21 Avoidance and Minimization Measures

22 **AMM REC-4a: Requirement of Additional Nourishment.** Additional nourishment
23 events beyond those proposed by the Applicant may be required within the
24 20-year Project lifetime or the public benefits associated with the Project may
25 be lost.

26 **AMM REC-4b: Sea Level Rise Effects.** The effects of sea level rise on Broad
27 Beach shall be analyzed towards the end of the Project life (20 years) and
28 reported to the California State Lands Commission (CSLC). This would
29 include, but not be limited to, analysis of potential changes in property
30 boundaries from the resultant changes in the elevation of the mean high tide
31 line and the effects of increased erosion rates on the need for beach
32 nourishment. Where changes in property boundaries occur that result in
33 additional public trust lands being impeded from public use in the Broad
34 Beach area, the CSLC shall determine appropriate Project measures to
35 ensure no net loss of public trust lands available for public use in the Broad
36 Beach area.

37 Rationale for Avoidance and Minimization Measures

38 The incorporation of AMMs would reduce major adverse effects by ensuring that the
39 permitting of the revetment for the 20-year life of the Project would entail sustained

1 renourishment and maintenance of a public beach and dune system. Additionally, the
 2 incorporation of sea level rise effects into future AMMs would ensure that the Project
 3 can be adjusted to account for the effects of sea level rise as future conditions require.
 4 However, the certainty of timing for any subsequent renourishment event is unknown
 5 and entirely dependent on natural coastal processes that can vary greatly from year to
 6 year. Additional nourishment beyond the single event proposed by the Applicant (no
 7 sooner than in year 10 of the Project) may be required to ensure that the Project's
 8 public benefits are not lost if sand loss exceeds anticipated levels and additional
 9 renourishment is required but not conducted at any point during the Project life.

10 Based on current site conditions and available data, cessation of beach nourishment
 11 near the expiration date of the proposed CSLC lease and erosion of the beach would
 12 likely have an adverse impact on public coastal access and recreation. Since future site
 13 conditions cannot be predicted with any degree of accuracy, the CSLC would review
 14 and reconsider provisions of the lease at that time based on then-current data. The
 15 proposed lease includes an end-of-lease provision that would require the BBGHAD to
 16 submit to the CSLC no later than 2 years prior to the end of the lease term an
 17 application requesting a new lease, or a plan to restore the lease area. At that time, the
 18 CSLC would consider the potential for continuation of nourishment activities and/or the
 19 disposition of the revetment and other improvements that overlie or block access to
 20 public lands or LAEs.

21 Secondary Impacts of Additional Beach Nourishment

22 The potential for additional beach nourishment event(s) beyond the single event
 23 proposed by the Applicant would benefit beach-oriented access and recreation.
 24 However, such an additional renourishment event would create major and minor
 25 secondary impacts to public trust resources and other areas, including burial of rocky
 26 intertidal and subtidal habitats, additional trucking and related public access, and safety,
 27 air quality, and noise impacts and potential water quality concerns similar to the Project.

28 **3.2.5 Summary of Recreation and Public Access Impacts and AMMs**

| Impact | Class | Avoidance and Minimization Measures |
|---|-----------|---|
| REC-1: Initial Project Construction and Renourishment Effects on Coastal Access and Recreation | Mi | AMM REC-1: Public Access during Construction and Renourishment |
| REC-2: Backpassing Impacts to Recreational Users | Mi | AMM REC-2: Public Access during Backpassing |
| REC-3: Medium- and Short-Term Effects to Recreational Use | B | AMM REC-3: Beach Profile Reporting |
| REC-4: Long-Term Effects to Recreational Use | Mi | AMM REC-4a: Requirement of Additional Nourishment AMM REC-4b: Sea Level Rise Effects |