

## CHAPTER 2: ALTERNATIVES

### 2.1 INTRODUCTION

The National Environmental Policy Act (NEPA) of 1969 (U.S. Code (USC) Title 42 Section 4321 et seq.) requires federal agencies considering certain actions that could affect the quality of the human or natural environment to “study, develop, and describe appropriate alternatives to recommended courses of action” for any proposal that includes “unresolved conflicts concerning alternative uses of available resources”. The Council on Environmental Quality’s (CEQ) NEPA implementing regulations (Code of Federal Regulations (CFR) Title 40 Parts 1500-1508) further require federal agencies to “Rigorously explore and objectively evaluate all reasonable alternatives” to the federal action under consideration. This chapter provides an overview of the range of federal action alternatives considered for the 34th America’s Cup events. Included within this chapter is a discussion of the nearly eight-month-long alternatives development process, detailed descriptions of the four action alternatives selected for detailed analysis, summaries of management and protection measures incorporated into those action alternatives, the process through which a preferred alternative was chosen, and a brief explanation of those alternatives considered and dismissed from further review.

### 2.2 AGENCY JURISDICTIONS

As described in Chapter 1 (Purpose and Need), the project in question is subject to NEPA review because it involves certain activities that fall within federal agency jurisdiction and require federal agency action, primarily regulatory authorization. The agency regulations and corresponding authorizations are in place to ensure that such projects avoid or minimize impacts to natural and cultural resources, public safety, commerce, and many other areas of potential impact. Accordingly, the actions of these agencies have and will continue to influence project design, implementation, and corresponding environmental impact. This section includes a brief explanation of the respective roles of the federal agencies with jurisdiction over areas that could be affected by the alternatives under review, the regulatory actions under consideration by each, and how the terms of those actions have shaped development of the alternatives.

#### 2.2.1 National Park Service

The project sponsors have proposed the use of National Park Service (NPS) lands for landside special events and use of NPS waters (within the project area, NPS jurisdiction also extends 0.25 mile seaward from the mean high tide line of its shoreline properties) for portions of the race course, during the 34th America’s Cup (AC34). The NPS regulations 36 CFR Parts 2-199 govern the use, management, and protection of natural and cultural resources under NPS jurisdiction. Section 2.50 (36 CFR 2.50) provides for authorization of a range of activities on NPS lands and waters (including races, public spectator attractions, entertainment, and ceremonies, among others) as long as such events meet certain criteria specified therein. The regulations require that activities be subject to a permit from the park superintendent and that this permit be conditioned to ensure the event is protective of park

resources and values and consistent with the park's purpose. The permit may also include reasonable limitations on the equipment used and the time and location the event may occur. NPS Management Policies (2006) Chapter 8, Section 8.6.2.1 further states that "special events such as sports, pageants, regattas, public spectator attractions. . . may be permitted by the superintendent when (1) there is a 'meaningful association' between the park area and the event, and (2) the event will contribute to visitor understanding of the significance of the park area." This is further clarified to ensure that an NPS permit would be denied if the event would result in an "unacceptable impact," one that would be (1) inconsistent with park purpose or values; (2) impede attainment of the park's desired conditions for natural and cultural resources; (3) create an unsafe or unhealthy environment; (4) diminish opportunities for current and future generations to enjoy, learn, or be inspired; or (5) unreasonably interfere with park programs and activities, appropriate use, atmosphere of peace and tranquility, or NPS concessioner or contractor operations (NPS 2006).

The NPS has identified, and the project sponsors have agreed to accept, several measures that would help ensure the protection of park resources and the safety and enjoyable experience of park visitors. These measures have been incorporated into the alternatives described in this chapter and analyzed in Chapter 4—Environmental Consequences. If an action alternative is selected, pending project approval, these management and protection measures (under NPS jurisdiction) would be incorporated into agreement(s) or permit(s) either entered into with or issued to the City and County of San Francisco and/or America's Cup Event Authority (ACEA) as enforceable terms and conditions. Federal law provides for the recovery of costs of providing services associated with special use permits (16 USC 3a; 31 USC 9701). In addition, 31 USC 1341 prohibits federal agencies from entering into a contract or agreement or otherwise authorizing a federal activity without commensurate funding and 31 USC 1301 prohibits the use of appropriated funds for purposes not specifically authorized by Congress. Accordingly, any such permit issued by the NPS for the AC34 events would include a provision for cost recovery of government resources expended to implement management actions in support of the event.

## 2.2.2 United States Coast Guard

The project sponsors have proposed the use of waters under United States Coast Guard (USCG) jurisdiction for the AC34 races and associated activities. The CFR, Title 33, Chapter 1, Subchapter G sets forth regulations governing races and associated activities on navigable waters of the United States. Section 100.30 (33 CFR 100.30) requires any individual or organization planning a race that could introduce certain safety hazards on navigable waters to first obtain authorization, in the form of a permit, from the appropriate Coast Guard District Commander (CGDC). The CGDC may delegate such authorities to the Captain of the Port (COTP). Federal regulations require the CGDC or COTP to notify the applicant of any required changes to the proposed event or permit application, as necessary, to ensure safety of life on the navigable waters (33 CFR 100.25(a)(2)(ii)). Similarly, pursuant to 33 CFR 100.35, the CGDC has authority to promulgate certain special local regulations deemed necessary to ensure the safety of life on the navigable waters immediately before, during, and immediately after an approved race or marine parade. Such regulations may include a restriction on, or control of, the movement of vessels through a specified area immediately prior to, during, and immediately after the marine event. The COTP may also limit vessel traffic within certain areas and/or proximities to other vessels through the establishment of a safety zone (33 CFR 165). Safety zones are generally established

for purposes of protecting safety and the environment. Entry into a safety zone is prohibited unless authorized by the COTP or CGDC.

Pursuant to 33 CFR Sections 100 and 165, the USCG proposes to adopt a temporary Special Local Regulation (SLR) and approve a Marine Event Permit for the AC34 events. The SLR is necessary to ensure the safety of life on the navigable waters immediately prior to, during, and immediately after any races that may occur. The proposed regulation would temporarily restrict vessel traffic in a portion of San Francisco Bay and prohibit vessels not participating in the America's Cup sailing events from entering the designated race course during race events, without permission of the COTP. Under the SLR, the USCG could also delay, shorten, or terminate any race and direct vessels to resume normal operations, if necessary to ensure safety. Failure to comply with the lawful directions of the USCG could result in citation or in expulsion from the regulated area.

The SLR would also establish a transit zone running along the southern border of the race area. This transit zone would ensure the safety, as well as continued ability to conduct commerce, of vessels needing access to pier space and facilities along the San Francisco waterfront. This zone, as an accessway, would only be used for transit and so would serve to avoid congestion of moored boats that could block access to the waterfront. Where the transit zone intersects the race course, the USCG may close this transit zone as necessary to accommodate racing vessels approaching the finish line. Graphical representations of these areas, as identified in the draft SLR, are shown in Appendix C.

As with the NPS (see Section 2.2.1 above), the USCG has identified, and the project sponsors have agreed to implement, certain management and protection measures necessary to ensure on-water safety and the smooth flow of commerce through the Bay. These measures are described in the context of the alternatives, below. If an action alternative is selected, the elements of that alternative concerning USCG-managed waters would constitute the "event" for which the USCG is considering authorization. This event would include the corresponding management and protection measures under USCG control. Accordingly, USCG permit approval would be contingent upon the inclusion of all such measures in the project sponsors' Marine Event Permit application. Any additional management measures associated with the selected action alternative, but not necessarily appropriate for inclusion in the USCG Marine Event Permit, would be included in the Special Local Regulation. For example, the proposed SLR would create a protected area for non-motorized watercraft and swimmers, which would be located off Crissy Field.

### **2.2.3 United States Army Corps of Engineers**

The project sponsors have also proposed in-water structures and other work to support 34th America's Cup races and events. These activities are subject to certain restrictions, as prescribed under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1413). The CFR, Title 33, Chapter 2, sets forth the procedures for implementing applicable provisions of these acts. These regulations (33 CFR 322 and 33 CFR 324) specify that authorization from the Department of the Army (DA), in the form of a permit, is required for certain structures and/or work (i.e., boat docks, navigational aids or obstructions, and dredging, and transport of dredged material for ocean disposal, among others) in navigable waters of the United States. Under these procedures, the District Engineer will determine, in accordance with the record and

applicable regulations, whether to issue the permit. The regulations provide for the addition of special conditions to DA permits when such conditions are necessary to satisfy legal requirements or to otherwise satisfy the public interest (33 CFR 325.4). Such special conditions may include, among other things, compensatory mitigation to offset unavoidable impacts on waters of the United States authorized through the issuance of the DA permit.

As described for the NPS and USCG (see Sections 2.2.1 and 2.2.2 above), the United States Army Corps of Engineers (Corps) has identified, and the project sponsors have agreed to implement, certain measures necessary to minimize impacts associated with in-water work associated with AC34. These measures are described in the context of respective action alternatives, below. If an action alternative is selected, pending project approval, these management and protection measures (under Corps jurisdiction) would be included in the DA permit as part of the project description or through special conditions of permit approval.

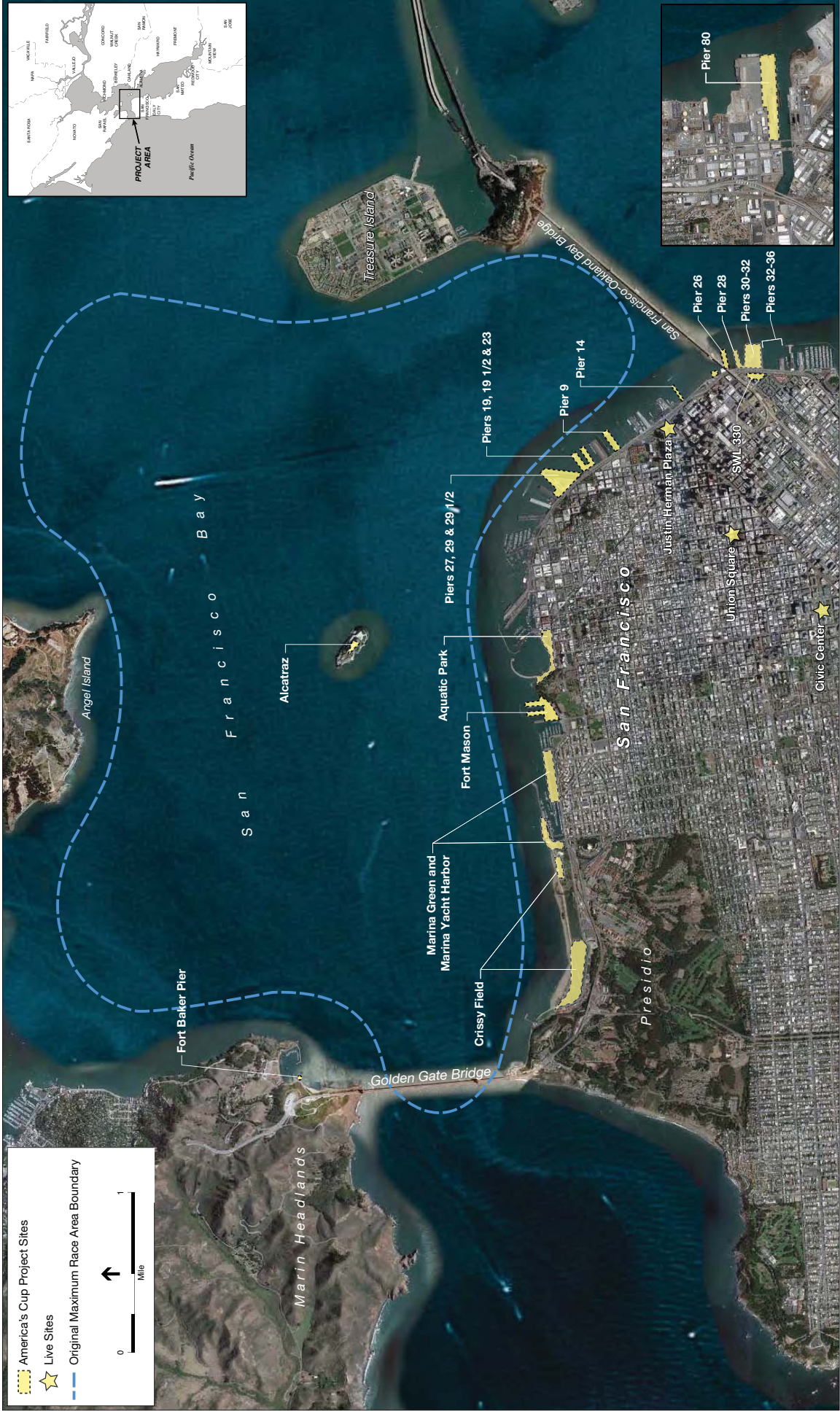
#### 2.2.4 Presidio Trust

The project sponsors may propose the use of Presidio Trust lands for certain limited AC34 event-related activities (i.e., merchandising, which would not be permitted on NPS lands). In addition, due to activities on Crissy Field, the Presidio Trust may undertake certain actions to prevent such impacts. The CFR, Title 36, Chapter 10, sets forth regulations for the use, management, government, and protection of persons, property, and natural and cultural resources within the area under the jurisdiction of the Presidio Trust. Section 1001.5 (36 CFR 1001.5) allows for limiting public use and/or closure of Presidio Trust lands when deemed necessary by the Trust's board of directors to ensure public health and safety; protect environmental, scenic, and cultural resources; and prevent conflict among visitor use activities. The Presidio Trust has identified certain measures that it would undertake, were an action alternative to be selected, to ensure protection of the resources identified above. These management and protection measures are described in the context of the alternatives, below.

### 2.3 STUDY AREA OVERVIEW

The geographic extent of analysis, as described in Chapter 1, is depicted in **Figure ALT-1** and includes: (1) areas of San Francisco Bay where race events or race-related water-based development could occur; (2) landside areas under federal jurisdiction (i.e., national parklands) where official AC34 race viewing venues and associated facilities could be constructed; and (3) other land and water areas under federal jurisdiction that could serve as secondary race viewing locations. **Figure ALT-2** provides an index map depicting those areas where the types of activities described above would be expected to occur. A general description of these areas is provided in the following paragraphs, along with the more detailed images of locations referenced in Figure ALT-2. This summary of existing conditions outlines the geographic context within which an action alternative, if selected, would occur. As discussed below, it also helps to establish a baseline against which potential impacts associated with the various project alternatives can be compared. A more detailed description of the project area, as it pertains to specific impact topics analyzed in this document, is provided in Chapter 3 – Affected Environment.





SOURCE: Google Maps

AC34 / Environmental Assessment (210317)  
**Figure ALT-1**  
 AC34 Potential Venue and Facility Sites





### **2.3.1 Central San Francisco Bay**

Central San Francisco Bay (Central Bay), shown in Figure ALT-1, is generally bounded by the southern extent of the Marin Peninsula and Angel Island to the north, Treasure Island and Yerba Buena Island to the east, the Bay Bridge and San Francisco waterfront to the south, and the Golden Gate Bridge and Marin Headlands to the west. The Central Bay is characterized by strong tides and currents and includes the deepest areas of the Bay (NOAA 2007). Vessel traffic in the Central Bay generally consists of inbound and outbound oceangoing vessels such as commercial ships transiting to and from the Ports of Oakland and Stockton. The Central Bay is also a major intersection of recreational vessels, passenger ferries, tugs, and commercial and recreational fishing boats. On average, about five commercial vessels per typical weekday and three commercial vessels per weekend day transit through the Central Bay. For commuter ferries, sightseeing ferries, and charter cruises that transit through the Central Bay, the estimates are approximately 131 daily round trips on a typical weekday and 96 daily round trips on a weekend day (Blue and Gold Fleet 2012; Golden Gate Transit 2012; Angel Island Tiburon Ferry 2012; and Red and White Fleet 2012).

Because of their proximity to the Golden Gate and open ocean waters, Central Bay habitats and biota most closely resemble open coast plant, invertebrate, and vertebrate marine communities that gradually shift to estuarine communities and compositions toward the Bay-Delta estuary. The Central Bay region is designated by the National Marine Fisheries Service (NMFS) as essential habitat for Chinook, Coho salmon, steelhead, and several other species. Eelgrass beds exist in close proximity to marinas and known open water anchorages, such as Richardson Bay and in the coves and near shore shallow areas at Angel Island and Treasure Island. The Central Bay provides foraging habitat for many shorebirds and waterfowl, including cormorants, California brown pelican, California least tern, black-crowned night-heron, and snowy egret, among others. Marine mammals that frequent the Central Bay include seals and sea lions. A year-round harbor seal colony haul-out is located on the south side of Yerba Buena Island, on USCG property. Angel Island's Point Blunt, under USCG jurisdiction, also serves as a haul-out for harbor seals. Alcatraz Island provides haul-out opportunities for both sea lions and harbor seals.

### **2.3.2 Crissy Field**

Crissy Field, shown in Figure ALT-3, is an urban national park area located west of the San Francisco Marina Yacht Harbor and east of the Golden Gate Bridge. This 100-acre property is bounded by Mason Street and San Francisco Bay and is under the jurisdiction of the GGNRA. Since its transfer from the military to the NPS, the park has undergone numerous habitat restoration projects, including the conversion of approximately 22 acres into a tidal marsh. The property also includes Crissy Airfield, a 28-acre restored historic grass airfield; Crissy Field Beach, the only beach on the San Francisco bayshore; Crissy Field Center, a major environmental education center for youth; and the NOAA administrative offices for Gulf of the Farallones, as well as its environmental center focused on ocean stewardship. Crissy Field also includes over 200 paved and unpaved parking spaces.

Crissy Field offers a number of visitor attractions, including a Class 1 bike lane that traverses the park, connecting Marina Green with the Golden Gate Bridge along Mason Street. The Bay Trail (Golden Gate Promenade) provides a shoreline vista for many walkers, joggers, and bicyclists. The historic



airfield is used for open recreational activities, including dog-walking, frisbee-throwing, and picnicking. The beach area at the east end of Crissy Field is a popular destination and starting point for shoreline walkers, joggers, cyclists, sailboarders, kayakers, and kite surfers. During the summer months, Crissy Field is commonly used to co-host large events, whose participants flow through Mason Street, or may use Crissy Airfield, such as runs and triathlons. At the east end of Crissy Field, average daily visitation is approximately 3,050 on weekdays and 5,790 on weekends. At the west end of Crissy Field, including the picnic area and Warming Hut, daily visitation is approximately 1,170 on weekdays and 2,100 on weekends (ORCA 2012).

NPS has designated a portion of Crissy Field as a Wildlife Protection Area (WPA), due to the presence of a rare foredune plant community that provides habitat for a number of sensitive plant and animal species. As shown in Figure ALT-3, the Crissy Field WPA generally includes the area from Fort Point Mine Depot (also known as Torpedo Wharf, a fishing pier) east to concrete riprap, which lies approximately 700 feet east of the former Coast Guard station; and extends from the southern border of the Golden Gate Promenade north, including all tidelands, to approximately 300 feet offshore (NPS 2012a). The Crissy Field WPA is set aside for the protection of shorebirds and waterbirds. For example, the western snowy plover, which is federally listed as threatened, occupies the area from July through May. The area is currently protected from disturbance by post-and-cable fencing, backed by 2-inch-by-4-inch welded mesh. Sensitive plant communities such as the Marin dwarf-flax also occur within the Crissy Field dunes, which extend all the way to East Beach. Historic architectural resources within Crissy Field include the United States Coast Guard station near the west end of the beach; the Signal Cable Hut, a small earthen-covered structure in a grassy picnic area near the west bluff amphitheater; and the restored airfield itself.

### 2.3.3 The Presidio

The Presidio, also shown in Figure ALT-3, is situated at the base of the Golden Gate Bridge, along San Francisco's northern shoreline. The Presidio is a former United States Army post and was one of the oldest continuously operating military posts in the nation until it was transferred to civilian use in 1994. The Presidio Trust manages the central lands and built environment within the Presidio, including most buildings and infrastructure. This inland portion of the Presidio is known as Area B and consists of approximately 1,168 acres (80 percent of the total land area). The NPS manages the majority of the coastal recreational corridors, known as Area A, consisting of approximately 329 acres (20 percent of the total land area).

The Presidio of San Francisco National Historic Landmark District spans a total land area of 1,480 acres and contains over 780 contributing historic features. The property is renowned for its depth of history, architecture, archaeology, natural features, vistas, and recreational opportunities. The Presidio also includes a wide range of commercial, institutional, and creative uses, such as a museum, schools, gift shops, restaurants, medical services, golf courses, the San Francisco National Cemetery, housing, and digital arts offices. Presidio roadways are used for races such as the San Francisco Marathon, and the parade ground at the Main Post is used for many large events, including the San Francisco Aloha Festival, which used to occur the first weekend in August; and the Free Shakespeare in the Park event, which typically occurs every weekend in September. The San Francisco





- GGNRA Lands
- Presidio Trust Boundary
- NPS Legislative Boundary
- Area A - Managed by GGNRA
- Area B - Managed by Presidio Trust
- Crissy Field Wildlife Protection Area

SOURCE: Google Maps

AC34 / Environmental Assessment (210317)  
**Figure ALT-3**  
 Crissy Field - GGNRA and Presidio Trust Lands

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Aloha Festival attracted 18,000 people in one weekend and the Free Shakespeare in the Park event typically draws 1,500 to 1,800 people over the course of the weekend (Presidio Trust 2011). Within the Presidio, in the vicinity of the Crissy Picnic Area, average daily visitation is approximately 1,300 on weekdays and 2,560 on weekends (ORCA 2012).

Cultural resources within the Presidio mostly relate to the military history of the area and include Battery East, the Battery Lancaster barracks dump, the DeRussey residence dump, Fort Point, and the West San Francisco Batteries, which are contributing elements of the Presidio of San Francisco National Historic Landmark District. Some special-status plant species that are known to occur along the bluffs east and north of Baker Beach include Presidio clarkia, Presidio manzanita, Marin dwarf-flax, and San Francisco lessingia.

### **2.3.4 San Francisco Maritime National Historical Park**

Managed by the NPS, the San Francisco Maritime National Historical Park (SAFR), shown in **Figure ALT-4**, extends from the west end of Fisherman's Wharf, starting west of Hyde Street, to Fort Mason, just west of Van Ness Avenue. SAFR also incorporates the Aquatic Park National Historic Landmark District, which is bounded by Van Ness Avenue, Beach Street, and Hyde Street. The park includes a fleet of historic vessels, a visitor center, a man-made lagoon, gardens, a maritime museum, and a library/research facility, among other features.

Aquatic Park generally includes the bathhouse and stadia, Municipal Pier, speaker towers, beach, Aquatic Park Promenade, and retaining walls. The San Francisco Maritime Museum is a Streamline Moderne (late Art Deco) building that is a key structure of the Aquatic Park National Historic Landmark District and currently houses exhibit space. The man-made Aquatic Park Cove is commonly used for swimming, rowing, and kayaking by Dolphin Club and South End Rowing Club members and others. West of the lagoon is the horseshoe-shaped Municipal Pier, which is widely used for fishing and provides scenic viewing opportunities of the Bay. South of the lagoon is a sandy beach and concrete seawall; farther south is a grassy area known as Victorian Park, which contains the Hyde Street cable car turnaround. The park also includes five bocce ball courts, located west of the museum and grassy area. At the eastern boundary of the lagoon, the NPS leases the Hyde Street Pier from the Port of San Francisco for exhibition of historic ships and maritime historical artifacts and educational programs. Ships that are on display include the Balclutha, C.A. Thayer, Eureka, Alma, Hercules, and Eppleton Hall (NPS 2011b).

Swimmers and other recreationists use Aquatic Park on a daily basis, generally during the early morning and evening hours. Aquatic Park is more frequently used by swimmers during the warmer months of late summer and early fall. The Bay Trail (Aquatic Park Promenade) north of the bathhouse building is commonly used by pedestrians, joggers, and bicyclists. On weekdays, daily visitation to Aquatic Park is approximately 6,650; during weekend days roughly 9,720 people visit the park (ORCA 2012).

Sensitive cultural resources within SAFR include the Hyde Street Pier and the above-mentioned ships, Municipal Pier, the East and West Roundhouses, and the vegetation that contributes to the park's cultural landscape. Marine mammals that can be found within Aquatic Park include California sea lions, harbor seals, waterbirds, and shorebirds.



### 2.3.5 Fort Mason

Fort Mason, also shown in Figure ALT-4, is generally bounded by Aquatic Park to the east, Bay Street to the south, and the San Francisco Marina East Harbor to the west. Fort Mason is a former U.S. Army post and military port facility. This National Register-listed historic district includes Lower Fort Mason, also known as the San Francisco Port of Embarkation, another National Historic Landmark. Fort Mason contains historic buildings, public open spaces (such as the Great Meadow), piers, and former warehouses, where Fort Mason Center hosts a number of environmental, cultural, and arts organizations, and a regionally-renowned restaurant, Greens. The pier facilities and large conference rooms are used to host a variety of special and regional events throughout the year, including a regional theater. The SAFR headquarters are located in Fort Mason Center's Building E; and the Golden Gate National Recreation Area (GGNRA) headquarters are located in Upper Fort Mason's Building 201.

A paved path that follows the harbor edge and rises along the headland is commonly used by pedestrians, joggers, and bicyclists. During weekdays, approximately 2,950 people visit the park. During weekend days, that number increases to around 4,580. During summer months, the Great Meadow has, in the past, been used as a gathering area for participants in and spectators of large special events, such as the Avon Walk for Breast Cancer, Fleet Week, and the San Francisco Oyster Festival, among others.

Sensitive cultural resources within Fort Mason include an indigenous archeological site (CA-SFR-31), the Black Point/Point San Jose Batteries, the Northwest Embankment (an engineered slope with historic stairs and foundations below the Great Meadow), the Parade Grounds, and the pathways and stone retaining walls overlooking Aquatic Park.

### 2.3.6 Alcatraz Island

Alcatraz Island (Alcatraz), shown in Figure ALT-5, spans 22 acres and is located approximately 1.5 miles north of the San Francisco waterfront. The island is a former Civil War outpost and served as a federal prison until 1963. Alcatraz is part of the GGNRA and operated by the NPS. Currently, Alcatraz is accessible only by a private ferry company, Alcatraz Cruises, LLC, which is under contract with the NPS and operates from Pier 31½ in San Francisco. On average, Alcatraz Cruises, LLC conducts 14 daily round trips to and from Alcatraz (Alcatraz Cruises 2012). Alcatraz Island is an increasingly popular destination for visitors of the park and includes a variety of trails, programs, and exhibits that interpret Alcatraz Island's history and natural resources. The park receives approximately 4,600 visitors daily, with an additional 600 visiting for occasional private, after hours events during the summer months (NPS 2012b). There are 18 individual buildings and 28 structures listed as contributing elements of the Alcatraz Island Historic District, which includes virtually all built elements on the island. The primary attraction on Alcatraz is the cellhouse, which is open year-round. Generally, the southeastern half of the island is open to the public. The northern portion of the island is accessible by docent-led tours only, and these tours are restricted to the non-breeding season for colonial water birds that nest on the island. Breeding season occurs between February through September during which access to the western side of the island is also restricted. Alcatraz Island is the only breeding colony site for two species of cormorants, the Brandt's cormorant and the pelagic cormorant (NPS 2011a). Although these cormorants are not considered special-status, they are regionally significant as is Alcatraz Island itself as a breeding site for seabirds and waterbirds on the



GGNRA Lands

San Francisco Maritime National Historical Park

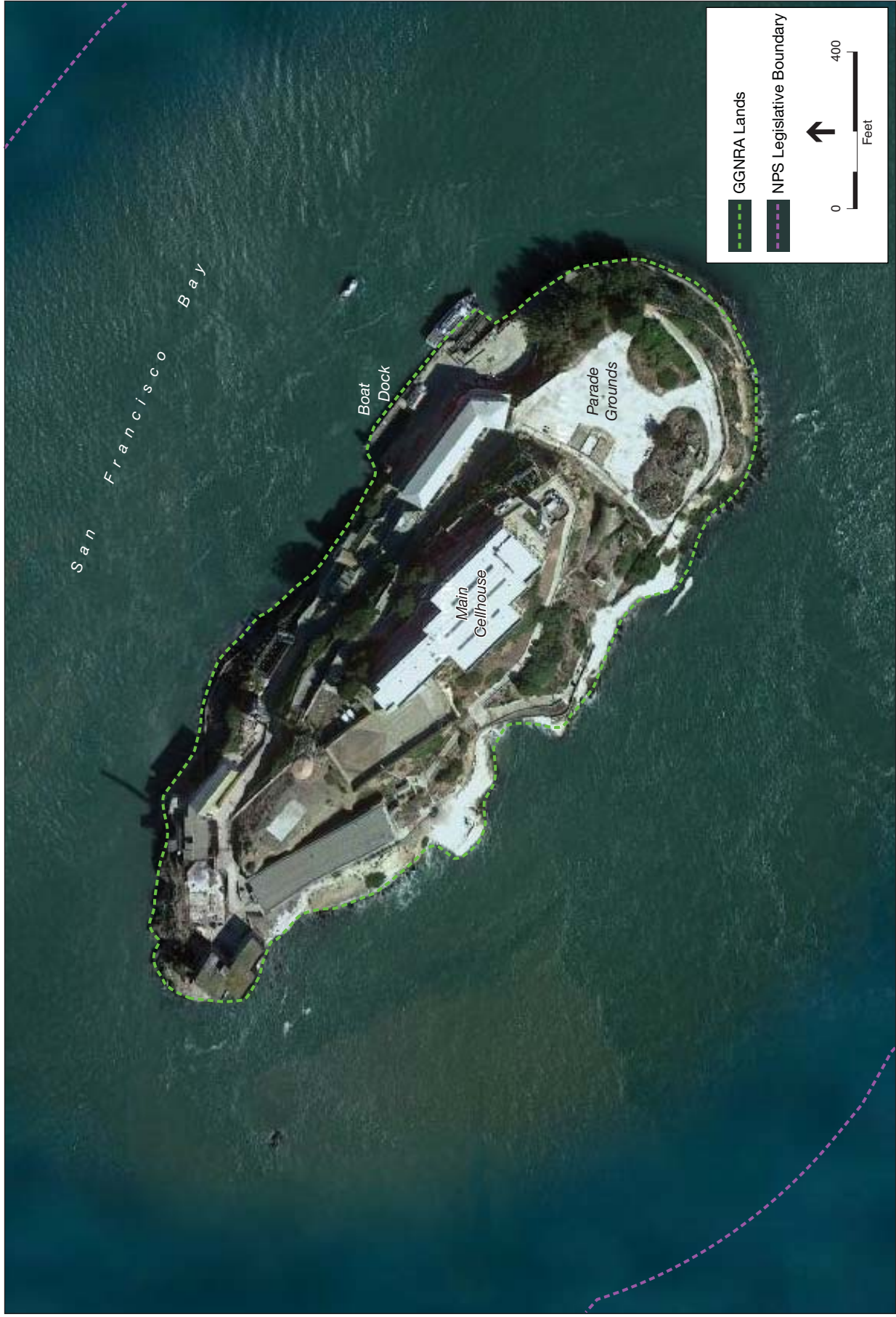
NPS Legislative Boundary

SOURCE: Google Maps

AC34 / Environmental Assessment (210317)  
**Figure ALT-4**  
 Fort Mason and Aquatic Park

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AC34 / Environmental Assessment (210317)  
**Figure ALT-5**  
 Alcatraz Island

SOURCE: Google Maps

central California Coast. Other special-status birds that nest on the island include black-crowned night heron, snowy egret, and the pigeon guillemot. In addition, marine mammals such as harbor seals and sea lions use various intertidal substrates for resting and haul out purposes along the island.

### 2.3.7 Fort Baker

Fort Baker, shown in **Figure ALT-6**, is located at the base of the north end of the Golden Gate Bridge and occupies a section of the Forts Baker, Barry, and Cronkhite National Historic District. A former military wharf originally built in 1937 and modified in the 1940s and in 1985, Fort Baker is now within the GGNRA and managed by the NPS. Access to the area is limited due to steep topography. Only Bunker Road and East Road provide access to Alexander Avenue, which connects to South Street in the City of Sausalito and U.S. Highway 101 just north of the Golden Gate Bridge. The inland portions of Fort Baker include the Cavallo Point lodge and retreat center, the Bay Area Discovery Museum (a children's museum and learning center), regional USCG offices, the Travis Sailing Center, and a small craft marine center and berthing. Fort Baker Pier is used as a fishing pier during daytime hours.

Sensitive cultural resources at Fort Baker include the historic Batteries Yates, Cavallo, and Duncan. Batteries Cavallo and Yates, and the upland area between the lodge and East Road, provide habitat for the Mission Blue Butterfly (MBB), which is federally listed as endangered. In MBB habitat areas, the NPS requires visitors to stay on trails, which are often bounded by post and cable fencing. During average weekdays, Fort Baker receives approximately 890 visitors. On weekend days, visitation generally increases to around 1,770 people (ORCA 2012).

### 2.3.8 Marin Headlands

The Marin Headlands, shown in **Figure ALT-7**, span approximately 2,500 acres of the southern tip of the Marin Peninsula, from U.S. Highway 101 to the western Marin coastline. Incorporated into the GGNRA system in 1972, the Marin Headlands consist of collections of former military buildings (Forts Cronkhite and Barry); a Nike Missile site; several batteries, the most popular of which among visitors is Battery Spencer, closest to the Golden Gate Bridge; residences; and park and partner program facilities such as the Marine Mammal Center, the Marin Headlands Hostel, the YMCA, the Headlands Center for the Arts, and the Headlands Institute. All of these facilities, along with an extensive coastal corridor of beaches (e.g., Rodeo Beach), trails (e.g., Coastal Trail), and scenic roadways and vistas are accessible through the Fort Baker-Barry tunnel. One of those scenic vistas is along Conzelman Road, a 5-mile stretch of road that traverses the western and southern bluffs of the headlands, providing expansive views of the Pacific Ocean, San Francisco Bay, the Golden Gate Bridge, and San Francisco; another is the Point Bonita Lighthouse. Kirby Cove, a group campground, sits at the base of Conzelman Road, is accessible through a reservation system, and provides expansive views both east under the Golden Gate Bridge and west out to the Pacific Ocean. Approximately 1,120 people visit the Conzelman Road area of the park on an average weekday. During weekends, that number increase to around 2,230.

Coastal scrub and chaparral communities dominate the Marin Headlands, with some areas consisting of serpentine coastal scrub and annual grasslands. Notable natural features include Hawk Hill, Slacker Hill, Rodeo Valley, Rodeo Lagoon, and Rodeo Beach, among others. Hawk Hill is a 920-foot point located in





SOURCE: Google Maps

AC34 / Environmental Assessment (210317)

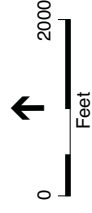
**Figure ALT-6**  
Fort Baker





GGNRA Lands

NPS Legislative Boundary



SOURCE: Google Maps

AC34 / Environmental Assessment (210317)

**Figure ALT-7**  
Marin Headlands

the midst of the largest known migratory flight corridor of diurnal raptors in the Pacific states. This coastal bluff and corridor provide habitat for the MBB.

Sensitive cultural resources present within the Marin Headlands include brick gun emplacements and a brick powerhouse at Ridge Battery, the buildings and structures of Battery Spencer, Battery Wagner, and Battery Kirby. Features associated with each of these batteries are listed as contributing elements of the Forts Baker, Barry, and Cronkhite National Historic District.

## **2.4 ALTERNATIVES DEVELOPMENT PROCESS**

An Environmental Assessment (EA) or Environmental Impact Statement (EIS) is only supposed to consider “reasonable” alternatives, which are defined in the NEPA regulations for all agencies (40CFR1500 et seq.) as those that are economically and technically feasible, and show common sense. Generally, the “common sense” phrase has been interpreted to mean the alternative meets the agency purpose and objectives, and resolves the need for action. The AC34 alternatives development and refining process included several discussions among the agencies, consideration of input by the public, specific questions for the project sponsor aimed at determining feasibility, and extensive discussions with the City/County San Francisco to approve and fund environmental and other protection measures for the preferred alternative.

Initial concepts for the alternatives were brainstormed by the federal team and were presented to the public during the scoping period. The team had determined that alternatives could vary based on geography; make use of restricted zones or areas to protect safety, property, and resources; change the timing or duration of the event; limit the scale or intensity of the event; or modify the proposed action with protection and mitigation measures. After considering input obtained from the public and agencies during public scoping, the federal team initially considered eight alternatives, including No Action:

- i. The No Action alternative means no federal permits would be issued and the race would not take place.
- ii. The Sponsor Proposed Project as it stood in January 2012.
- iii. Modifying the geographical location of the race so that it would be held off the coast rather than in San Francisco Bay to alleviate spectator-related impacts to NPS lands.
- iv. Moving the location of the race to the northeast portion of San Francisco Bay to alleviate impacts from spectators and traffic on NPS resources, assets, operations and visitors.
- v. Moving the location of the 2013 races so that they alternated between the proposed course offshore of Crissy Field and the northern waterfront and the proposed contingent race area east of Alcatraz Island to reduce impacts from spectators and traffic on NPS resources, assets, operations, and visitors.
- vi. Altering the timing of the races by moving the start date to a time after seabirds at Alcatraz Island, a unique park resource of the central San Francisco Bay, had finished nesting (early to mid- September).

- vii. Maintaining the existing race course but prohibiting venues on NPS lands to reduce impacts to NPS resources, assets, operations, and visitors at Crissy Field, Fort Baker, and San Francisco Maritime Historical Park.
- viii. Modifying proposed venues on NPS lands by eliminating loud speakers, reducing bleachers, minimizing food and beverage services etc. and moving the 2012 race course slightly to the east to reduce the appeal of, and impact to, Crissy Field as a viewing location.

Alternatives considered but dismissed from further analysis, and the reasons therefore, are summarized here, and discussed more fully in Section 2.14, below. Alternatives that would have required changing the geographical location of the race to another location in the Bay (iv and v above) were further evaluated to determine if wind speed and direction would be consistent enough in these locations to hold an America's Cup race. The same is true for moving the start date to the end of the summer (vi). Alternatives iv and v would have moved the race for all or part of 2012 and 2013 to an area proposed as a contingent race area during unusual weather and wind conditions. This analysis revealed that winds and tides would make establishment of consistently fair race courses in this area for the duration of the race periods in 2012 and 2013 prohibitively challenging, as wind speed and shear show inconsistencies that would make it impossible for the race sponsors to offer similar conditions for a particular series of races. Similarly, a current analysis revealed frequent tidal shifts in this area, which sometimes conflict with wind direction (ACRM 2012). The USCG also indicated interference with the deep water channel to the north of Alcatraz Island would unnecessarily interfere with maritime commerce. Unlike the southern channel, which lies in the path of the proposed race course, the northern channel is considered critical for commerce and the USCG would be unable to create a SLR prohibiting vessel traffic during the races as it would for the proposed route. Without the SLR, the races would be interrupted every time a commercial vessel needs to pass through the northern channel. In addition, any races in this area would intersect with many commuter ferries in an average race day. These ferries could either not be safely rerouted due to hazardous currents or would be delayed more than 10 minutes by re-routing. Both of these possibilities would conflict with USGC regulations and its objectives to ensure safety and the continuation of maritime commerce. Alternatives iv and v were dismissed because of these technical barriers.

Alternative vi above was dismissed because of the variability of Central San Francisco Bay wind speed and direction during the fall months. A review of National Oceanic and Atmospheric Administration (NOAA) archival wind data for the period 2005-2011 indicates that Central San Francisco Bay wind speed and direction are most consistent between the months of July and September. While wind speed and direction would be acceptable in September, average speed in October drops from an average of 9.2 knots in July and August to around 7.3 knots. Consistency and reliability of wind direction also becomes less reliable during this period.

Moving the race to the ocean coast along San Francisco (Alternative iii above) is an alternative that was also examined in the Environmental Impact Report produced to comply with the California Environmental Quality Act (CEQA) and dismissed as unreasonable. This is primarily because it is the San Francisco Bay rather than the coast that was the selected location for the race, and the vessels that would compete in the 34th America's Cup have been specifically designed for the predictable conditions of high winds and protected waters of the Bay. According to the project sponsors, the racing yachts are not structurally designed to endure the loads and stress of sailing in the open ocean,



and operating them in such conditions would be unsafe. The specifications for the yachts have already been used by participating teams to secure and begin building their vessels in some cases, making re-design technically and economically infeasible.

The dismissal of alternatives iii, iv, v and vi, left the No Action alternative (required), the sponsor's proposed project, a modified, proposal and an alternative that would prohibit events on NPS lands (ii, vii and viii). These alternatives are identified throughout this document as Alternatives A, B, D, and C, respectively. The environmental impacts of these options were evaluated in an in-house draft and used as part of a Choosing by Advantage process to create a preferred alternative. The preferred alternative also includes all accepted updates and changes submitted by the project sponsors and is a fourth action alternative, named Alternative E. A summary of the alternatives is provided in Table ALT-1.

As a final step, the federal team discussed and finalized proposed *management actions and protection measures*, which lessen effects on particular resources or other elements (such as an assets, operational factors, transportation, etc.). These were discussed with the project sponsors to gain agreement on funding and implementation responsibilities, and were incorporated into the alternatives. The protection measures include ideas originally proposed by the federal team during public scoping, such as exclusion zones and reductions in intensity, as well as measures designed to minimize impacts discovered during the analysis, and are summarized in Table ALT-2.

## 2.5 SUMMARY OF ALTERNATIVES EVALUATED

The federal team considered various themes in development of the initial alternatives concepts. Themes that helped guide development of the various alternatives included geography, management zoning, duration or timing, and intensity. Each federal agency's purpose and objectives for taking action, discussed in Chapter 1, also factored prominently in the development of these alternatives. Those alternatives carried forward for detailed analysis include:

- No Action (Alternative A);
- Sponsor Proposed Project (Alternative B);
- No Organized Events on NPS Lands (Alternative C);
- Modified Program (Alternative D); and
- Preferred (Alternative E).

Activities and installations that would occur under each of the action alternatives are presented in Table ALT-1. As the table indicates, key thematic drivers of variation among the alternatives involve changing venue location, shifting race area location, and modifying venue intensity. As shown in Table ALT-2, the alternatives also vary based upon the various management and protection measures associated with each alternative. The latter table also identifies the relationship between specific agency objectives and these project elements.

TABLE ALT-1: ACTIVITIES AT AC34 VENUES AND SECONDARY VIEWING AREAS<sup>a</sup>

	Alternative A. No Action	Alternative B. Sponsor Proposed Project	Alternative C. No Organized Events on NPS Lands	Alternative D. Modified Program	Alternative E. Preferred Alternative
<b>Race Area Overview</b>					
<b>Race Area 2012</b>	No race in 2012.	<p><b>Primary Race Area:</b> East-west configuration, located about 600 feet off the northern shore of San Francisco.</p> <p><b>Contingent Race Area:</b> North-south configuration, located about 400 feet off the northwestern shore of Treasure Island.</p>	<p><b>Primary Race Area:</b> Same as Alternative B.</p> <p><b>Contingent Race Area:</b> Same as Alternative B.</p>	<p><b>Primary Race Area:</b> East-west configuration, similar to Alternative B, but shifted east by approximately 0.25 mile, focusing on Marina Green.</p> <p><b>Contingent Race Area:</b> Same as Alternative B.</p>	<p><b>Primary Race Area:</b> <i>First ACWS Race:</i> East-west configuration, similar to Alternative B, but shifted east by approximately 0.5 mile. <i>Second ACWS Race:</i> Within existing Fleet Week Safety Zone; northeast-southwest configuration, similar to that of Alternative B, but shifted east by approximately 1.0 mile. <i>AC72 Exhibition Race:</i> East-west configuration similar to that of Alternative B for 2013.</p> <p><b>Contingent Race Area:</b> Same as Alternative B.</p>
<b>Race Area 2013</b>	No race in 2013.	<p><b>Primary Race Area:</b> East-west configuration, located about 1,000 feet off the northern shore of San Francisco</p> <p><b>Contingent Race Area:</b> North-south configuration, located about 400 feet off the northwestern shore of Treasure Island</p>	<p><b>Primary Race Area:</b> Same as Alternative B.</p> <p><b>Contingent Race Area:</b> Same as Alternative B.</p>	<p><b>Primary Race Area:</b> Same as Alternative B.</p> <p><b>Contingent Race Area:</b> Same as Alternative B.</p>	<p><b>Primary Race Area:</b> Same as Alternative B.</p> <p><b>Contingent Race Area:</b> Same as Alternative B.</p>

TABLE ALT-1: ACTIVITIES AT AC34 VENUES AND SECONDARY VIEWING AREAS<sup>5</sup> (CONTINUED)

	Alternative A. No Action	Alternative B. Sponsor Proposed Project	Alternative C. No Organized Events on NPS Lands	Alternative D. Modified Program	Alternative E. Preferred Alternative
<b>Spectator Venues and Secondary Viewing Areas</b>					
<b>Crissy Field</b>	No Crissy Field AC34 venue in 2012 or 2013.	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>One large tent and several smaller structures housing hospitality services, food and beverage concessions, educational installations, first aid kiosk, and portable restrooms, and hand washing stations during race periods;</li> <li>Bleacher-style seating on central Crissy airfield;</li> <li>A large event stage with amplified sound system, and three large video screens; and</li> <li>Possible night lighting for up to two evening events in 2012 and up to five evening events in 2013.</li> </ul>	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>First aid kiosk, portable restrooms, and hand washing stations only on peak and medium-high race weekends;</li> <li>No tents, no hospitality services, and no food and beverage concessions;</li> <li>No bleachers;</li> <li>No event stage, no amplified sound system, and no large video screens; and</li> <li>No evening events, no possible night lighting.</li> </ul>	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>First aid kiosk, portable restrooms, and hand washing stations only on peak and medium-high race weekends;</li> <li>No private tents and no hospitality services;</li> <li>Reduced bleacher-style seating on central Crissy airfield;</li> <li>No event stage, no amplified sound system, and no large video screens;</li> <li>Wi-Fi kiosks for transmission of race feeds to hand-held computers; and</li> <li>No evening events, no possible night lighting.</li> </ul>	Same as Alternative C.
<b>Presidio Trust Lands</b>	No AC34 activities at the Presidio in 2012 or 2013.	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>Potential location for indoor and/or outdoor merchandising;</li> <li>Potential location for portable restrooms near Crissy Field venue sites; and</li> <li>Probable secondary viewing location.</li> </ul>	Same as Alternative B.	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>Potential location for indoor and/or outdoor merchandising in 2013;</li> <li>Potential location for portable restrooms near Crissy Field venue sites;</li> <li>Probable secondary viewing location in 2013; and</li> <li>Unlikely secondary viewing location in 2012.</li> </ul>	Same as Alternative C.
<b>Aquatic Park</b>	No Aquatic Park AC34 venue in 2012 or 2013.	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>First aid kiosk, portable restrooms, and hand washing stations during race periods;</li> <li>Exhibitions, including up to six boat displays in Aquatic Park Cove;</li> </ul>	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>First aid kiosk, portable restrooms, and hand washing stations only on peak and medium-high race weekends;</li> <li>No exhibition boat displays;</li> <li>No video screens;</li> </ul>	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>First aid kiosk, portable restrooms, and hand washing stations only on peak and medium-high race weekends;</li> <li>No boat displays in Aquatic Park Cove;</li> </ul>	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>First aid kiosk, portable restrooms, and hand washing stations only on peak and medium-high race weekends;</li> <li>Potential for exhibitions, including up to six boat displays in Aquatic Park Cove;</li> </ul>



**TABLE ALT-1: ACTIVITIES AT AC34 VENUES AND SECONDARY VIEWING AREAS<sup>5</sup> (CONTINUED)**

	<b>Alternative A. No Action</b>	<b>Alternative B. Sponsor Proposed Project</b>	<b>Alternative C. No Organized Events on NPS Lands</b>	<b>Alternative D. Modified Program</b>	<b>Alternative E. Preferred Alternative</b>
<b>Spectator Venues and Secondary Viewing Areas (cont.)</b>					
<b>Aquatic Park (cont.)</b>		<ul style="list-style-type: none"> <li>Several large landside video screens and an announcement system;</li> <li>Possible use of Maritime Museum for special indoor events; and</li> <li>Weather monitoring equipment installed at Municipal Pier.</li> </ul>	<ul style="list-style-type: none"> <li>No weather monitoring equipment installed at Municipal Pier; and</li> <li>Possible use of Maritime Museum for special indoor events.</li> </ul>	<ul style="list-style-type: none"> <li>Wi-Fi kiosks for transmission of race feeds to hand-held computers; and</li> <li>Weather monitoring equipment installed at Municipal Pier; and</li> <li>Possible use of Maritime Museum for special events.</li> </ul>	<ul style="list-style-type: none"> <li>Potential for small, land-side video screens and live race feeds;</li> <li>Potential for Wi-Fi kiosks for transmission of race feeds to hand-held computers; and</li> <li>Weather monitoring equipment installed at Municipal Pier.</li> <li>Possible use of Maritime Museum for special indoor events</li> </ul>
<b>Fort Mason</b>	No AC34 activities at Fort Mason in 2012 or 2013.	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>Interior installations for media operations, including a temporary international broadcast center and television studios, satellite communications, and hospitality services;</li> <li>Satellite dish installation on Pier 3 apron;</li> <li>Floating barge at Pier 2 for smaller media boat mooring;</li> <li>Possibility that existing uses at Piers 2 and 3 may not be available during certain periods during AC34 2013 events;</li> <li>Portable restrooms and handwashing stations during race periods; and</li> <li>Probable secondary race viewing location.</li> </ul>	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>Portable restrooms and hand washing stations only on peak and medium-high race weekends;</li> <li>No interior installations for media operations;</li> <li>No floating barge at Pier 2;</li> <li>No satellite dish installation on Pier 3 apron;</li> <li>Continuation of existing uses at Piers 2 and 3 as normal; and</li> <li>Likely secondary viewing from apron of piers.</li> </ul>	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>Interior installations for media operations;</li> <li>Floating barge at Pier 2 for smaller media boat mooring;</li> <li>No satellite dish installation on Pier 3 apron;</li> <li>Possibility that existing uses at Piers 2 and 3 may not be available for certain periods during AC34 2013 events;</li> <li>Portable restrooms and hand washing stations only on peak and medium-high race weekends; and</li> <li>Probable secondary viewing from apron of piers.</li> </ul>	Same as Alternative C.
<b>Alcatraz Island</b>	No AC34 activities on Alcatraz Island in 2012 or 2013.	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>Limited, temporary interior installations for after-hours private events in main cell house building;</li> </ul>	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>No special events or programmed AC34 activities on Alcatraz Island in 2012 or 2013.</li> </ul>	Same as Alternative B.	Same as Alternative B.

TABLE ALT-1: ACTIVITIES AT AC34 VENUES AND SECONDARY VIEWING AREAS<sup>5</sup> (CONTINUED)

	Alternative A. No Action	Alternative B. Sponsor Proposed Project	Alternative C. No Organized Events on NPS Lands	Alternative D. Modified Program	Alternative E. Preferred Alternative
<b>Spectator Venues and Secondary Viewing Areas (cont.)</b>					
<b>Alcatraz Island (cont.)</b>		<ul style="list-style-type: none"> <li>Private after-hours events up to two times in 2012 and five times in 2013;</li> <li>Weather monitoring and communication satellites installed for broadcast during 2012 and 2013 events; and</li> <li>Probable secondary viewing location.</li> </ul>			
<b>Fort Baker</b>	No AC34 activities at Fort Baker in 2012 or 2013.	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>Temporary installations for afterhours private hospitality venue at Fort Baker Pier;</li> <li>Portable restrooms and handwashing stations during race periods; and</li> <li>Probable secondary viewing location.</li> </ul>	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>Portable restrooms and hand washing stations only on peak and medium-high race weekends</li> <li>No programmed AC34 activities at Fort Baker;</li> <li>No broadcasting equipment; and</li> <li>Probable secondary viewing location.</li> </ul>	Same as Alternative C.	Same as Alternative C.
<b>Marin Headlands (Conzelman Road)</b>	No AC34 activities at the Marin Headlands in 2012 or 2013.	<p><b>Same for 2012 and 2013:</b></p> <ul style="list-style-type: none"> <li>No programmed AC34 events for 2012 or 2013; and</li> <li>Probable secondary viewing location.</li> </ul>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
<b>Race-Related Water-Based Developments</b>					
<b>Pier 80</b>	No AC34 work at Pier 80.	<ul style="list-style-type: none"> <li>Up to two cranes, installed along the south side of Pier 80, within the Islais Creek Channel;</li> <li>Floating docks and gangways installed alongside the pier south apron; and</li> <li>Concrete mooring anchor blocks on bay floor near south side of the pier.</li> </ul>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.

**TABLE ALT-1: ACTIVITIES AT AC34 VENUES AND SECONDARY VIEWING AREAS<sup>5</sup> (CONTINUED)**

	<b>Alternative A. No Action</b>	<b>Alternative B. Sponsor Proposed Project</b>	<b>Alternative C. No Organized Events on NPS Lands</b>	<b>Alternative D. Modified Program</b>	<b>Alternative E. Preferred Alternative</b>
<b>Race-Related Water-Based Developments (cont.)</b>					
<b>Piers 30-32 and Piers 32-36 Open Water Basin</b>	No AC34 work at Piers 30-32 and Piers 32-36 Open Water Basin.	<ul style="list-style-type: none"> <li>Floating docks and gangways installed on north side of Pier 30.</li> <li>Two sections of floating docks and gangways installed alongside the south side of Pier 32</li> <li>Seismic upgrades at Piers 30-32</li> <li>Helical mooring anchors placed in the Piers 32-36 Open Water Basin;</li> <li>Up to two cranes located along the south side of Pier 32; and</li> <li>Dredging of Bay sediment.</li> </ul>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B, except: <ul style="list-style-type: none"> <li>No floating docks, gangways, or piles installed on north side of Pier 30;</li> <li>Floating docks, and piles installed along the south side of Pier 32 slightly reduced; and</li> <li>No seismic upgrades at Piers 30-32; and</li> <li>Amount of dredging substantially reduced.</li> </ul>
<b>Piers 27-29</b>	No AC34 work at Piers 27-29.	<ul style="list-style-type: none"> <li>One crane, located on the northwest corner of Piers 27-29;</li> <li>Floating docks and gangways on north side of Pier 29 and south side of Pier 27; and</li> <li>Helical and concrete block mooring anchors on Bay floor.</li> </ul>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B, except: <ul style="list-style-type: none"> <li>One mobile crane, located on the southeast corner of Piers 27-29;</li> <li>Number of piles and gangways increased;</li> <li>Number of mooring anchors reduced.</li> </ul>
<b>Piers 26 and Pier 28,</b>	No AC34 work at Piers 26 and 28	<ul style="list-style-type: none"> <li>Dredging within Pier 28 South berth</li> </ul>	Same as Alternative B.	Same as Alternative B.	<ul style="list-style-type: none"> <li>No dredging of Bay sediment within the Pier 28 South berth.</li> </ul>
<b>Pier 19, Pier 19½, and Pier 23</b>	No AC34 work at Pier 19, Pier 19½, and Pier 23.	<ul style="list-style-type: none"> <li>Satellite dishes mounted on a platform adjacent to Pier 23;</li> <li>Floating docks and gangways installed on the north side of Pier 23;</li> <li>Floating docks, gangways, and piles installed on the north side of Pier 19; and</li> <li>Concrete mooring anchor blocks on Bay floor.</li> </ul>	Same as Alternative B.	Same as Alternative B.	<ul style="list-style-type: none"> <li>Same as Alternatives B, C, and D, except no floating docks, gangways, or piles installed at Pier 19 (moved to pier 23).</li> </ul>



**TABLE ALT-1: ACTIVITIES AT AC34 VENUES AND SECONDARY VIEWING AREAS<sup>a</sup> (CONTINUED)**

	<b>Alternative A. No Action</b>	<b>Alternative B. Sponsor Proposed Project</b>	<b>Alternative C. No Organized Events on NPS Lands</b>	<b>Alternative D. Modified Program</b>	<b>Alternative E. Preferred Alternative</b>
<b>Pier 14</b>	No AC34 work at Pier 14.	<ul style="list-style-type: none"> <li>• Helical mooring anchors on Bay floor;</li> <li>• Floating docks and gangways installed on the north and south sides of Pier 14; and</li> <li>• Dredging of Bay sediment.</li> </ul>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B, except: <ul style="list-style-type: none"> <li>• No floating docks, gangways, or piles installed on south side of Pier 14;</li> <li>• Floating docks reduced;</li> <li>• Number of piles increased;</li> <li>• Number of mooring anchors reduced; and</li> <li>• Amount of dredging reduced.</li> </ul>
<b>Pier 9</b>	No AC34 work at Pier 9.	<ul style="list-style-type: none"> <li>• Floating docks, gangways and piles on south side of Pier 9;</li> <li>• Helical mooring anchors on Bay floor; and</li> <li>• Dredging of Bay sediment in two areas south of Pier 9.</li> </ul>	Same as Alternative B.	Same as Alternative B.	<ul style="list-style-type: none"> <li>• Same as Alternatives B.</li> </ul>
<b>Marina Green</b>	No AC34 work at Marina Green.	<ul style="list-style-type: none"> <li>• Floating docks, gangway, and piles installed adjacent to Marina Green;</li> <li>• A mobile or tower crane located on the land adjacent to the floating docks;</li> <li>• Concrete mooring anchor blocks on the Bay floor; and</li> <li>• All in-water installations at Marina Green removed after the 2012 events.</li> </ul>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B, except: <ul style="list-style-type: none"> <li>• No mobile or tower crane located adjacent to floating docks;</li> <li>• Number of concrete mooring anchor blocks increased.</li> </ul>
NOTES: <sup>a</sup> This table presents the race- and venue-related activities. Certain management and protection measures, either offered by the project sponsors or required by the federal team, are also considered part of the alternatives. Those measures are not presented in this table but are presented in Table ALT-2, Summary of Management and Protection Measures					

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TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Air Quality Management and Protection Measures</b>				
<b>AIR-1</b>	Alternatives B, C, D, E	<p><b>Emissions Reduction Measures.</b> The City would implement the following emissions reduction measures, as identified in the <i>The 34th America's Cup and James R. Herman Cruise Terminal and Northeast Wharf Plaza EIR</i> ("AC34 EIR"):</p> <ul style="list-style-type: none"> <li>• M-AQ-2a: Construction Vehicle Emissions Minimization;</li> <li>• M-AQ-2b: Off-Road Construction Equipment;</li> <li>• M-AQ-2c: Off-Road Construction Equipment - Electricity Use;</li> <li>• M-AQ-2d: Off-Road Construction Equipment - Best Management Practices (BMPs);</li> <li>• M-AQ-2e: Off-Road Construction Equipment - Engine Standards for Harbor Craft Used in Construction;</li> <li>• M-AQ-2f: Fuels for Off-Road Construction Equipment;</li> <li>• M-AQ-4a: Emission Controls for Race-Sponsored Spectator and Support Vessels;</li> <li>• M-AQ-4b: Temporary Shoreline Power for Large Private Yachts at Pier 27</li> <li>• M-AQ-4c: Alternative Low-Emissions Fuels for Large Private Yachts and Race-Sponsored Vessels</li> <li>• M-AQ-4d: Return Pier 27 to the Port Within One Month after Completion of the Match for Reconnection of Shoreline Power</li> <li>• M-AQ-4e: Long-Term Shoreline Power at Pier 70</li> <li>• M-AQ-5: Clean Diesel Engines for Temporary Power</li> </ul> <p>These measures are described more fully below as Protection Measures AIR-1a through AIR-1.</p>	AC34 Environmental Impact Report	Project Sponsors
<b>AIR-1a</b>	Alternatives B, C, D, E	<p><b>Construction Vehicle Emissions Minimization.</b> To reduce construction vehicle emissions, the project sponsor shall incorporate the following into construction specifications:</p> <ul style="list-style-type: none"> <li>• Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure, Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.</li> <li>• All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.</li> <li>• The project sponsor shall ensure that construction contract specifications include a requirement that on-road diesel trucks used to transport spoils consist of 2007 or newer model-year trucks with factory-built engines. All on-road diesel trucks shall be required to have emission control labels as specified in 13 CCR 2183(g). The construction contract specifications shall require that the contractor submit to the Environmental Review Officer (ERO) a comprehensive inventory of all on-road trucks used to haul spoils. The inventory shall include each vehicle's license plate number, the engine production year, and a notation of whether the truck is in possession of an emission control label as defined in 13 CCR. The contractor shall update the inventory and submit it monthly to the ERO throughout the duration of the project.</li> </ul>	AC34 Environmental Impact Report	Project Sponsors
<b>AIR-1b</b>	Alternatives B, C, D, E	<p><b>Off-Road Construction Equipment.</b> The project sponsors shall ensure that construction contract specifications include a requirement that all off-road construction equipment be equipped with diesel engines meeting USEPA Tier 3 standards for NOx and PM (Tier 2 standards if greater than 750 hp) or better. The following types of equipment were identified as available for rental in Tier 3 models, or are candidates for retrofitting with emissions control technology, due to their expected operating modes (i.e., fairly constant use at high revolution per minute):</p> <ul style="list-style-type: none"> <li>• Excavators</li> <li>• Backhoes</li> <li>• Rubber-Tired Dozers</li> <li>• Concrete Boom Pumps</li> <li>• Concrete Trailer Pumps</li> <li>• Concrete Placing Booms</li> <li>• Soil Mix Drill Rigs</li> <li>• Soldier Pile Rigs</li> <li>• Shoring Drill Rigs</li> </ul> <p>At construction locations where power demands allow it, propane generators shall be used in lieu of diesel powered generators. Diesel generators used for project construction shall meet Tier 4 emissions standards.</p> <p>In addition to the Tier 3 emissions standard requirement, all equipment must be equipped with a CARB Level 3 Verified Diesel Emission Control System (VDECS) for PM control, where feasible. The construction contractor shall provide proof in the form of a manufacturer's engineering evaluation or other proof to the satisfaction of the Environmental Review Officer that a CARB-verified Level 3 VDECS is not feasible for a particular equipment type.</p>	AC34 Environmental Impact Report	Project Sponsors



TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Air Quality Management and Protection Measures (cont.)</b>				
<b>AIR-1b (cont.)</b>		Should it be determined by the construction contractor or its subcontractors that compliance with the emissions control requirements of this mitigation measure is infeasible for any of the above-listed construction equipment, the construction contractor shall demonstrate an alternative method of compliance that achieves an equivalent reduction in the project's fleetwide NOx and PM emissions. If alternative means of compliance with the emissions exhaust requirements are further determined to be infeasible, the construction contractor shall document, to the satisfaction of the Environmental Review Officer that the contractor has complied with this mitigation measure.		
<b>AIR-1c</b>	Alternatives B, C, D, E	<b>Off-Road Construction Equipment - Electricity Use.</b> Hydropower electricity supplied by a public utility shall be used where available at pier construction sites in lieu of temporary diesel or gasoline-powered generators and compressors. Existing utility service or temporary new utility service shall be the preferred power alternative, unless proven infeasible at each location where generators are proposed.	AC34 Environmental Impact Report	Project Sponsors
<b>AIR-1d</b>	Alternatives B, C, D, E	<b>Off-Road Construction Equipment - Best Management Practices (BMPs).</b> The following types of measures are required on construction equipment: 1. Use of CARB-verified diesel oxidation catalysts and catalyzed diesel particulate traps if not already included in the design of the equipment to meet Tier 3 standards, or not already required as part of Mitigation Measure M-AQ-2b above. 2. Install high-pressure fuel injectors on construction equipment vehicles. 3. Provide on-site services to minimize truck traffic in or near residential areas, including, but not limited to, the following services: meal or cafeteria services, automated teller machines, etc. The Port shall implement a process by which to select additional BMPs to further reduce air emissions during construction. The Port shall determine the BMPs once the contractor identifies and secures a final equipment list.	AC34 Environmental Impact Report	Project Sponsors
<b>AIR-1e</b>	Alternatives B, C, D, E	<b>Off-Road Construction Equipment - Engine Standards for Harbor Craft Used in Construction.</b> All harbor craft with C1 or C2 marine engines used in construction must utilize Tier-3 engine, or cleaner, if feasible. Should it be determined by the construction contractor or its subcontractors that compliance with the emissions control requirements of this mitigation measure is infeasible for any of the harbor craft used in construction, the construction contractor shall demonstrate an alternative method of compliance that achieves an equivalent reduction in the project's fleetwide NOx emissions. If alternative means of compliance with the emissions exhaust requirements are further determined to be infeasible, the construction contractor shall document, to the satisfaction of the Environmental Review Officer, that the contractor has complied with this mitigation measure to the extent feasible and indicate why full compliance with the mitigation measure is infeasible.	AC34 Environmental Impact Report	Project Sponsors
<b>AIR-1f</b>	Alternatives B, C, D, E	<b>Fuels for Off-Road Construction Equipment.</b> The project sponsors shall ensure that construction contract specifications include a requirement that all off-road construction equipment used be fueled with propane or biodiesel (B20 blended with California on-road diesel) unless precluded by engine type or warranty.	AC34 Environmental Impact Report	Project Sponsors
<b>AIR-1g</b>	Alternatives B, C, D, E	<b>Emission Controls for Race-Sponsored Spectator and Support Vessels.</b> The project sponsor shall require all contracts for race-sponsored spectator vessels and venue leases for race support vessels to meet U.S. EPA Tier 3 or better engine standards for marine diesel engines, as feasible. Tier 3 and Tier 4 engines would reduce ROG and NOx emissions by approximately 42 percent over Tier 1 engines and PM emissions by 78 percent over Tier 1 engine emissions. <sup>1</sup> Should it be determined by the project sponsor that availability of vessels with Tier 3 or Tier 4 engines for use as race-sponsored spectator vessels renders this mitigation measure infeasible, this lack of availability must be demonstrated, to the satisfaction of the Environmental Review Officer, indicating that the project sponsor has complied with this mitigation measure to the extent feasible and why full compliance with the mitigation measure is infeasible.	AC34 Environmental Impact Report	Project Sponsors
<b>AIR-1h</b>	Alternatives B, C, D, E	<b>Temporary Shoreside Power for Large Private Yachts at Pier 27.</b> The project sponsor shall install shoreside electrical power at Pier 27 to serve large, private spectator vessels during the AC34 2013 events. Shoreside power shall be supplied by a publicly owned utility supplying hydropower, if available at rates and service levels equivalent to a private utility. If shoreside power is available at berths used by large, private spectator vessels, the project sponsor shall impose as a requirement in any berthing contract with large, private spectator vessels a requirement to use shoreside power, if such vessels are so equipped.	AC34 Environmental Impact Report	Project Sponsors
<b>AIR-1i</b>	Alternatives B, C, D, E	<b>Alternative Low-Emissions Fuels for Large Private Yachts and Race-Sponsored Vessels.</b> The project sponsor shall impose as a requirement in any berthing contract with large, private spectator vessels and in any contract with race-sponsored vessels, a requirement to use B20 biodiesel or higher, unless precluded by engine type or warranty, or availability. If biodiesel is precluded, such contracts shall require use of California on-road diesel. Should it be determined by the project sponsor that availability or compatibility of biodiesel with vessel engines or warranties renders this mitigation measure infeasible, this lack of availability or compatibility must be demonstrated, to the satisfaction of the Environmental Review Officer, indicating that the project sponsor has complied with this mitigation measure to the extent feasible and why full compliance with the mitigation measure is infeasible.	AC34 Environmental Impact Report	Project Sponsors

<sup>1</sup> California Air Resources Board, Airborne Toxic Control Measure for Diesel Engines on Commercial Harborcraft Operated within California Waters and 24 Nautical Miles of the California Baseline, <http://www.arb.ca.gov/regact/2007/chc07rev93118.pdf>

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Air Quality Management and Protection Measures (cont.)</b>				
<b>AIR-1j</b>	Alternatives B, C, D, E	<b>Return Pier 27 to the Port Within One Month after Completion of the Match for Reconnection of Shoreside Power.</b> The project sponsor shall reconnect shoreside power and complete Phase 2 construction of the James R. Herman Cruise Terminal and reconnection of shoreside power at Pier 27 not later than April 1, 2014, if feasible. To accommodate construction of Phase 2 improvements to the Cruise Terminal and reconnection of shoreside power, the Event Authority shall return Pier 27 to the Port within one month of the completion of the Match. Subsequently, the Port shall complete Phase 2 construction of the James R. Herman Cruise Terminal in 2013 to 2014 and reconnect shoreside power at Pier 27 no later than April 1, 2014, if feasible. Should it be determined by the project sponsor that Phase 2 construction of the James R. Herman Cruise Terminal and reconnection of shoreside power at Pier 27 by April 1, 2014 is infeasible, the project sponsor shall document, to the satisfaction of the Environmental Review Officer, that the project sponsor has complied with this mitigation measure to the extent feasible and indicate why full compliance with the mitigation measure is infeasible.	AC34 Environmental Impact Report	Project Sponsors
<b>AIR-1k</b>	Alternatives B, C, D, E	<b>Long-term Shoreside Power at Pier 70.</b> The project sponsor shall develop shoreside power at an offsite location that would consist of constructing 12 MW of shoreside power at the Port's Drydock #2 at Pier 70 to serve large cruise, military and other vessels while they are in drydock. Should it be determined by the project sponsor that this measure is infeasible, the project sponsor shall document, to the satisfaction of the Environmental Review Officer, that the project sponsor has complied with this mitigation measure to the extent feasible and indicate why full compliance with the mitigation measure is infeasible.	AC34 Environmental Impact Report	CSSF
<b>AIR-1l</b>	Alternatives B, C, D, E	<b>Clean Diesel Engines for Temporary Power.</b> The project sponsor shall ensure that all diesel generators at AC34 event and viewing locations will conform to a level of performance equivalent to a Tier 4 interim, or Tier 2/Tier 3 (as applicable, depending on power rating) engine fitted with a Level 3 Verified Diesel Emissions Control (VDEC), which would reduce diesel particulate emissions by at least 85 percent. Alternatively, natural gas or gasoline-powered generators may be used in lieu of diesel generators, thus eliminating DPM emissions from generators, as feasible. Should it be determined by the project sponsor that "hered" diesel engine generators or natural gas or gasoline-powered generators would not provide the necessary power demands required, this lack of availability must be demonstrated to the satisfaction of the Environmental Review Officer, indicating that the project sponsor has complied with this mitigation measure to the extent feasible and why full compliance with the mitigation measure is infeasible.	AC34 Environmental Impact Report	Project Sponsors
<b>Biological Resources Management and Protection Measures</b>				
<b>BIO-1</b>	Alternatives B, C, D, E	<b>Incident Command System.</b> An Incident Command System (ICS), required by NPS Management Policies for large scale events, would be employed by NPS and the Presidio Trust, in coordination with other agencies, for the AC34 race series programs to augment ongoing operations through provision of staff and infrastructure support. The system would be organized into five divisions, span eight distinct NPS areas, and the Presidio Trust managed lands, and integrate both GGNRA and SARF command, planning, logistics, administration, transportation coordination, and field support functions, including resource management and monitoring, visitor use management and monitoring, law enforcement, safety, facilities and grounds maintenance, communications, parking management, and event and permit management.  For the World Series AC34 2012 race program, these agencies would employ a Type 3 ICS Team with external augmentation of resources based on the shorter duration, scale and complexity level. For 2013, they would employ a hybrid Type 2/ICS Team both with local and external augmentation to allow the park and Presidio Trust to continue to meet their other obligations for the longer duration and higher visitation estimates with appropriate support. Any Event Authority and CSSF functions and responsibilities related to NPS or Presidio Trust lands or waters would be managed through this incident command (IC) structure. Command liaisons would also serve as representatives of the interests of both NPS park units and the Presidio Trust as part of other multi-agency area command structures set up for this event in order to ensure agency representation in multi-agency decision-making and communication links with the IC. The City and Event Authority, as co-project sponsors, would be responsible for coordinating with local agencies and jurisdictions (including BCCDC, Marin County, and Sausalito, etc.) on managing access and impacts to their areas and on operational coordination.  The five ICS operating divisions would provide field management for the primary and secondary viewing areas, according to the following: Division A-SARF/Port Mason; Division B-Crissy Field/Golden Gate East Batteries and Owllook; Division C-Presidio Uplands; Division D-Fort Baker/Marin Headlands; and Division E-Alcatraz and NPS marine areas. The project sponsor would ensure that an integrated and coordinated regional system of management would be implemented to address jurisdictional concerns and to protect recreational and area resources by providing sufficient staff support to carry out, at a minimum: (1) the identification, inventory, and protective measures for park resources of special concern to land management agencies; (2) visitor management and crowd control to protect these resources, and ensure public safety, throughout the duration of AC34 event program and series; and (3) ensure these primary and secondary areas are maintained well on daily bases with repairs as needed, and returned to their pre-event condition, to the extent damaged or impacted by event activities (e.g., trash pick-up, irrigation system repair, historic ship or facility repairs, permanent restroom maintenance, trail repair, revegetation, turf replacement, and resodding, etc.).  SFPD would provide additional commissioned officers who would be deputized to work with NPS in NPS areas during AC34 race days, especially on 2012 and 2013 weekends and Fridays. In addition, an integrated regional decision-making group will be formed with key representation from each of the primary jurisdictional agencies (e.g., including USCG, NPS, ACEA, ACCM, CSSF, etc.) to provide for communication and coordination on multi-jurisdictional issues and actions requiring such that cannot be satisfied at the field or agency level through bilateral, agency coordination.	NPS and Trust with Project sponsor(s)/ Agreement and/or Permit	Project sponsors (or funding) NPS and Presidio Trust (for implementation in coordination with other agencies).

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Biological Resources Management and Protection Measures (cont.)</b>				
<b>BIO-2</b>	Alternatives B, C, D, E	<b>Visitor Use Management &amp; Monitoring Strategies.</b> Visitor Use Management and Monitoring strategies would be developed for all NPS AC34 primary venues and viewing areas affecting NPS lands and facilities, with identification of pre-determined points where a ladder of escalating, pre-planned management actions could be implemented to mitigate adverse impacts of crowding. These would be outlined in Park Operations Plans for NPS primary viewing areas. Described more fully under Management and Protection Measure TRA-9, visitor use management and monitoring measures would include demand distribution strategies and on-site crowd management strategies for varying attendance levels. With regard to sensitive resource management, visitor use management and monitoring strategies would include crowd control personnel and infrastructure.	NPS Agreement and/or Permit with CCSF	Project sponsors for funding and implementation in coordination with the NPS and Presidio Trust
<b>BIO-3</b>	Alternatives B, C, D, E	<b>Resource Management &amp; Monitoring Program.</b> NPS would implement a Resource Management & Monitoring Program to ensure protection of sensitive natural and cultural park resources, including Crissy Field WPA and other sensitive habitats such as dunes, wetlands, and Alcatraz waterbirds within NPS areas. The purpose of the monitoring program would be to stop any activity that has the potential to damage sensitive resources before it happens, and to provide for short and adaptive management. The program would consist of trained resource monitors assigned to both roving and stationary positions. Resource monitors would facilitate resource protection by informing visitors of the reasons for restrictions and by observing and reporting violations of the established fencing and signage protection measures. All monitors would be trained in assigned resource area protocols and report daily to a supervisory resource specialist for the Incident Command division relevant to the sensitive resources area requiring protection; and, if needed, they would request additional staffing, fencing, or signage resources to address problem areas based on monitoring. These include: all sensitive natural resources identified by NPS, those on Alcatraz Island and the Crissy field Wildlife Protection Area (WPA). Monitors would be backed-up by law enforcement personnel as part of the division Incident Command to ensure compliance measures are observed. The exact number, location, and scheduling of the monitors would be determined by the appropriate land authority where the impacts are anticipated. At a minimum, monitors would be observing those areas that provide habitat for Mission blue butterflies, including the butterfly host plant ( <i>Lupinus albus</i> ), the Snowy Plover on Crissy Field's WPA, and nesting shorebirds on Alcatraz Island.	NPS/Agreement and/or Permit	Project sponsors for funding/NPS (for implementation).
<b>BIO-4</b>	Alternatives B, C, D, E	<b>National Parks Event and Operations Plan.</b> NPS and the Presidio Trust would prepare and implement, in coordination with CCSF, a National Parks Event Operations Plan that incorporates relevant information from the final selected alternative, along with additional related planning information, into a park area specific reference document. For each primary park area (e.g., SAFR, Fort Mason, Crissy Field, etc.), the document would identify common and unique event-related management and conservation measures of which implementation is necessary to reduce impacts for that park area (i.e., location of protective fencing, marine and air traffic restrictions, temporary visitor support facilities, visitor bike and transit measures provided for by Project Sponsors). This document would serve as a site-specific reference for operational measures to be implemented.	NPS/CCSF Permit	Project sponsors (for funding/NPS, Presidio Trust, and CCSF (for implementation))
<b>BIO-5</b>	Alternatives B, C, D, E	<b>Fencing and Signage of Sensitive Biological Resource Areas.</b> The project sponsor would provide for the installation of signage and fencing, as necessary, to protect land-based natural and cultural resources. Fencing location and type would be determined by the agency responsible for management of the lands on which potential impacts could occur. Fenced areas would have signs announcing the presence of sensitive wildlife/botanical areas. The fencing would be light enough for removal, where warranted, between 2012 and 2013 race events, but substantial enough to deter visitors from entering the fenced off areas. Installation of fencing would be completed no later than one week prior to the commencement of the 2012 and 2013 events and programs.  Sensitive biological resources to be fenced include areas providing habitat for Mission blue butterflies, including the butterfly host plant ( <i>Lupinus albus</i> ), and other NPS sensitive species. This would include the western snowy plover, federally listed as a threatened species, found along the Crissy Field shoreline in the Crissy Beach WPA. Signage indicating a closed area due to sensitive resources would be established for the Crissy Field WPA and in areas that meet the criteria for federally-protected wetlands (by Clean Water Act or National Park Service authority) in the vicinity of Crissy Field. Sensitive plants are also largely concentrated in the dunes and serpentine soils of the Presidio, and the serpentine areas at Crissy Marsh and Beach. Sensitive habitat in secondary viewing areas expected to be impacted on NPS lands in Marin County occurs along the coastal bluffs in the vicinity of Conzelman Road and the north tower of the Golden Gate Bridge, and at Fort Baker. A Fencing Plan is available to view on the NPS Planning, Environment & Public Comment (PEPC) website.  Those sensitive resources in primary viewing areas would use a combination of fencing and signage, and/or assigned resource monitors depending on the level of threat.	NPS/Agreement and/or Permit with CCSF	Project sponsors (for funding/NPS and Presidio Trust (for implement))
<b>BIO-6</b>	Alternatives B, C, D, E	<b>Protection of Marine Species from Vessel Traffic.</b> Project sponsor would ensure marine mammals in the race course would be avoided and potential harassment and/or collision prevented. Official Race Course Marshals on small boats would survey the course prior to and during races, and would be tasked with scanning for debris, obstructions, and the potential rare occurrence of a whale or other large marine mammal. In the event a large marine mammal is observed in the racecourse, the Marshals would postpone or abandon the race, as warranted by the presence and behavior of the animal.  To minimize potential incidental impacts associated with visitor vessels anchoring within areas of the bay containing eelgrass beds (i.e., upper Richardson Bay and along the coast from the Sausalito Water Treatment Plant to Cavallo Point), the project sponsor would upgrade 10 mooring anchors presently located within sensitive eelgrass areas with less invasive anchoring systems. In addition, anchoring within Horseshoe Cove would be limited to permitted vessels only. NPS would monitor and manage access, as appropriate in 2012 and 2013, as part of its Incident Command System, to ensure protection of such eelgrass beds in NPS areas. USCG and the project sponsors would provide educational outreach materials to boaters that describe best boating practices and area restrictions.	NPS and USCG Agreement and/or Permits	ACRM and CCSF, in coordination with NPS and USCG



TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
BIO-7	Alternatives B, C, D, E	<b>Protection of Marine Species From Aircraft.</b> The project sponsor would instruct official AC34 and event-related aircraft pilots that they must maintain a minimum altitude of 1,000 feet above the water's surface when humpback whales are present within the race area. Upon takeoff all helicopters would be required to climb immediately to altitude and not fly low over the water if any seal or sea lions are present within 1,000 feet of the helipad. When landing, the helicopters would approach the landing pad from as high an altitude as possible; they would also limit their time at low altitudes while over the water if seals or sea lions are present within 1,000 feet of haul-out areas including Little Alcatraz Island, and Pt. Blunt on Angel Island. During flight operations, helicopters will minimize impacts to pinnipeds by avoiding low flying over pinniped haul out areas and as safety permits.	HA/NPS/Agreement and/or Permit/General Management Measure	Project sponsors, in conjunction with NPS
		<b>Temporary Area Restrictions on NPS lands for Sensitive Species Protection.</b> To protect sensitive habitat areas on GGNRA lands, NPS may restrict temporarily various trail, area, or roads during race events. This could include temporary closure of fire roads and trails, such as Drown Fire Road at Fort Baker, and Conzelmann Road in the Marin Headlands, to protect the Mission Blue Butterfly and its habitat during peak or high visitation race events, and the shoreline and marine areas in the Crissy Field WPA, to protect western snowy plovers.	NPS General Management Measure	NPS
BIO-9	Alternatives B, C, D, E	<b>Special Local Regulation (SLR): Marine Buffer Around Crissy Field Wildlife Protection Area (WPA).</b> A no-marine access zone of 300 feet offshore of the Crissy Field WPA to protect snowy plovers would continue to be enforced. In addition, in 2012 and 2013, the USCG would establish a designated marine zone along Crissy Field for recreational water users and small non-motorized watercraft, which would be closed during race periods to motorized vessels and all other vessels greater than 20 feet in length. The zone would extend 450 to 1,000 feet out from the shore along Crissy Field. Restricting motorized and larger vessels from this area would help reduce environmental impact to the Crissy Field shoreline, ensure access and safety for recreational water users, and reduce potential viewing obstruction for visitors ashore.	USCG/Marine Event Permit/Special Local Regulation	NPS in cooperation with USCG
BIO-10	Alternative B	<b>Marine Buffer Around Alcatraz Island (Alternative B).</b> During the 2012 and 2013 AC34 race periods, NPS would establish a buffer around Alcatraz Island, within which marine vessel traffic would be restricted in order to protect nesting seabirds along the western cliffs of the island. The buffer would extend a total of 500 feet out from the island, and be closed to all vessel traffic, monitored by ACRM and USCG, and demarcated by either buoys or other means to ensure clear designation. This would also be noted in the annual update to the park's compendium regulations. No personal watercraft would be permitted within 0.25 mile of any NPS lands. Boat patrols by USCG or other regulatory agency and ACRM would enforce these closures in concert with NPS law enforcement staff and the NPS ICS. The project sponsors would provide educational outreach materials to boaters that describe best boating practices and area restrictions.	NPS/Agreement and/or Permit / USCG Special Local Regulation	NPS in cooperation with USCG
BIO-11	Alternative B	<b>Marine Buffer Around Alcatraz Island (Alternatives C, D, E).</b> During the 2012 and 2013 AC34 race periods, NPS would establish a buffer around Alcatraz Island, within which marine vessel traffic would be restricted in order to protect nesting seabirds along the western cliffs of the island. The buffer would extend a total of 500 feet out from the island, be closed to all vessel traffic, monitored by ACRM and USCG, and demarcated by either buoys or other means to ensure clear designation. This would also be noted in the annual update to the park's compendium regulations. No personal watercraft would be permitted within 0.25 mile of any NPS lands. Boat patrols by USCG or other regulatory agency and ACRM would enforce these closures in concert with NPS law enforcement staff and the NPS ICS. The project sponsors would provide educational outreach materials to boaters that describe best boating practices and area restrictions.	NPS/Agreement and/or Permit / USCG Special Local Regulation	NPS in cooperation with USCG
		<b>Aircraft Buffers (Alternative B).</b> During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 1,000 feet vertical and 1,000 feet horizontal of the mean high tide line of Alcatraz Island and the Crissy Field WPA. The project sponsors would provide educational outreach materials to air traffic control and local commercial and news pilots regarding these advisories. A flight advisory notice (i.e., NOTAM) to avoid these areas would be issued by FAA to all aircraft in the vicinity.	NPS/Agreement and/or Permit	Project sponsors in coordination with NPS
		<b>Aircraft Buffers (Alternative C).</b> During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 1,000 feet vertical and 1,000 feet horizontal of the mean high tide line of all National Park Service lands. The project sponsors would provide educational outreach materials to air traffic control and local commercial and news pilots regarding these advisories. A flight advisory notice (i.e., NOTAM) to avoid these areas would be issued by FAA to all aircraft in the vicinity.		
		<b>Aircraft Buffers (Alternative D).</b> During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 2,000 feet vertical and 1,000 feet horizontal of the mean high tide line of all National Park Service lands. The project sponsors would provide educational outreach materials to air traffic control and local commercial and news pilots regarding these advisories. A flight advisory notice (i.e., NOTAM) to avoid these areas would be issued by FAA to all aircraft in the vicinity.		
		<b>Aircraft Buffers (Alternative E).</b> During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 1,000 feet vertical and 1,000 feet horizontal of the mean high tide line of all National Park Service lands, with the exception of Alcatraz Island, over which aircraft buffer would extend to 1,000 feet horizontal and 2000 feet vertical to protect nesting shorebirds. The project sponsors would provide educational outreach materials to air traffic control and local commercial news pilots regarding these advisories. A flight advisory notice (i.e., NOTAM) to avoid these areas would be issued by FAA to all aircraft in the vicinity.		

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Biological Resources Management and Protection Measures (cont.)</b>				
<b>BIO-12</b>	Alternatives B, D, E	<b>After Hours Activities at Alcatraz Island (Alternatives B, D, E).</b> Private events at Alcatraz Island would be limited to the hours of 7:00pm and 11:00pm, after normal public visiting hours, so as not to interfere with regular visitation to the island and to minimize potential impacts to the ferry embarkation point at Pier 31 ½. Such events could occur twice in 2012 and five times in 2013 on evenings when no other public uses are present, and in accordance with all NPS special event regulations. Private event activities would be limited to the cellhouse and include a programmatic component that increases understanding of the site significance through an interpretive tour. No outside lighting would be added for these events. Private events at Alcatraz Island would be authorized under a separate special events permit and NPS would limit the number of participants based on the type of event. However, it is assumed that such events would be limited to a maximum of 250 persons.	NPS/Agreement and/or Permit	NPS
<b>BIO-13</b>	Alternative C Alternatives B, C, D, E	<b>After Hours Activities at Alcatraz Island (Alternative C).</b> There would be no private AC34 events at Alcatraz Island under Alternative C. <b>Dredging Activity Window.</b> Dredging associated with the AC34 events would be limited to the period June 1 through November 30 each year for the following reasons: <ul style="list-style-type: none"> <li>In order to minimize impacts to listed species of Steelhead Trout (<i>Oncorhynchus mykiss</i>), dredging and disposal operations would occur only from June 1 through November 30, without prior consultation (pursuant to Section 7 of the Endangered Species Act) with and approval from the National Marine Fisheries Service and the Corps of Engineers.</li> <li>In order to minimize impacts to listed species of Chinook Salmon (<i>Oncorhynchus tshawytscha</i>), dredging and disposal operations would occur only from June 1 through November 30, without prior consultation (pursuant to Section 7 of the Endangered Species Act) with and approval from the National Marine Fisheries Service and the Corps of Engineers.</li> <li>All dredging activities would occur outside of the sensitive Pacific herring spawning season, from December 1 to March 1, or as determined by California Department of Fish and Game.</li> </ul> <b>Dredging Methods, Materials Handling, and Disposal Measures.</b> During dredging activities, project sponsor would observe the following restrictions: <ul style="list-style-type: none"> <li>Authorization to commence dredging shall be contingent upon project sponsor's obtaining a letter of water quality certification from the Regional Water Control Quality Board and authorization from the San Francisco Bay Conservation and Development Commission (BCDC). Water quality certification and BCDC authorization shall be a prerequisite to the District Engineer's decision to approve or disapprove specific dredge episodes pursuant to the policies and 33 CFR 325.2(b)(1)(ii) and 325.2(b)(2)(ii).</li> <li>Best management practices (BMPs) used during dredging shall include a combination of debris booms, or changing rate of bucket accent and descent through the water column to reduce suspended sediments. All floating debris or debris captured on the "grizzly" (a grid placed over the barge to capture debris within the dredged sediment) shall be removed and disposed of at an approved upland location;</li> <li>No overflow or decant water shall be discharged from the barge, with the exception of spillage incidental to mechanical dredge operations;</li> <li>During transportation from the dredging site to the disposal site, no material shall be permitted to overflow, leak or spill from barge, bins or dump scows; and</li> <li>If the material is mechanically dredged, the material shall be passed through a debris grid, with a maximum opening size of 12 inches by 12 inches that would cover the entire loading area of the dump scow. Everything that does not pass through the grid would be considered solid debris and would be disposed in areas outside of Corps jurisdiction. All such material shall be promptly removed from the grid at the end of each 8 hour shift or sooner.</li> </ul> <b>Pile-Driving Noise Reduction Strategy.</b> The project sponsor would develop NMFS-approved sound attenuation and monitoring strategy. This strategy would include details of the sound attenuation system, methods used to monitor and verify sound levels during pile driving activities, and best management practices that would be undertaken to reduce impact hammer pile-driving sound in the marine environment to an intensity level of less than 183 dB. The monitoring strategy would incorporate, but not be limited to the following best management practices (BMPs): <ul style="list-style-type: none"> <li>All 18 and 24-inch diameter pilings would be installed and removed with vibratory pile drivers only. Vibratory pile driving would be conducted in accordance with the U.S. Army Corps of Engineers' "Proposed Procedures for Permitting Projects that will Not Adversely Affect Selected Listed Species in California".</li> <li>All 72-inch steel pilings would be installed with a vibratory pile driver to the deepest depth practicable. An impact pile driver may be used only where necessary to complete installation of the 72-inch steel pilings, in accordance with seismic safety or other engineering criteria (not applicable for Alternative E -- no 72-inch piles).</li> <li>All piling installation using impact hammers would be conducted between June 1 and November 30, when the likelihood of sensitive fish species being present in the work area is minimal.</li> </ul>	N/A Corps/Section 10 Permit	N/A Project sponsors
<b>BIO-14</b>	Alternatives B, C, D, E	<b>Dredging Methods, Materials Handling, and Disposal Measures.</b> During dredging activities, project sponsor would observe the following restrictions: <ul style="list-style-type: none"> <li>Authorization to commence dredging shall be contingent upon project sponsor's obtaining a letter of water quality certification from the Regional Water Control Quality Board and authorization from the San Francisco Bay Conservation and Development Commission (BCDC). Water quality certification and BCDC authorization shall be a prerequisite to the District Engineer's decision to approve or disapprove specific dredge episodes pursuant to the policies and 33 CFR 325.2(b)(1)(ii) and 325.2(b)(2)(ii).</li> <li>Best management practices (BMPs) used during dredging shall include a combination of debris booms, or changing rate of bucket accent and descent through the water column to reduce suspended sediments. All floating debris or debris captured on the "grizzly" (a grid placed over the barge to capture debris within the dredged sediment) shall be removed and disposed of at an approved upland location;</li> <li>No overflow or decant water shall be discharged from the barge, with the exception of spillage incidental to mechanical dredge operations;</li> <li>During transportation from the dredging site to the disposal site, no material shall be permitted to overflow, leak or spill from barge, bins or dump scows; and</li> <li>If the material is mechanically dredged, the material shall be passed through a debris grid, with a maximum opening size of 12 inches by 12 inches that would cover the entire loading area of the dump scow. Everything that does not pass through the grid would be considered solid debris and would be disposed in areas outside of Corps jurisdiction. All such material shall be promptly removed from the grid at the end of each 8 hour shift or sooner.</li> </ul>	Corps/Section 10 Permit	Project sponsors
<b>BIO-15</b>	Alternatives B, C, D, E	<b>Pile-Driving Noise Reduction Strategy.</b> The project sponsor would develop NMFS-approved sound attenuation and monitoring strategy. This strategy would include details of the sound attenuation system, methods used to monitor and verify sound levels during pile driving activities, and best management practices that would be undertaken to reduce impact hammer pile-driving sound in the marine environment to an intensity level of less than 183 dB. The monitoring strategy would incorporate, but not be limited to the following best management practices (BMPs): <ul style="list-style-type: none"> <li>All 18 and 24-inch diameter pilings would be installed and removed with vibratory pile drivers only. Vibratory pile driving would be conducted in accordance with the U.S. Army Corps of Engineers' "Proposed Procedures for Permitting Projects that will Not Adversely Affect Selected Listed Species in California".</li> <li>All 72-inch steel pilings would be installed with a vibratory pile driver to the deepest depth practicable. An impact pile driver may be used only where necessary to complete installation of the 72-inch steel pilings, in accordance with seismic safety or other engineering criteria (not applicable for Alternative E -- no 72-inch piles).</li> <li>All piling installation using impact hammers would be conducted between June 1 and November 30, when the likelihood of sensitive fish species being present in the work area is minimal.</li> </ul>	Corps/Section 10 Permit -or- NMFS/Incidental Harassment Authorization	Project sponsors

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>BIO-15 (cont.)</b>		<p><b>Biological Resources Management and Protection Measures (cont.)</b></p> <ul style="list-style-type: none"> <li>• If pile installation using impact hammers must occur at times other than the approved work window, the AC34 project sponsors would be required to obtain incidental take authorization from NMFS, and CDFG to address potential impacts to steelhead trout, chinook salmon, and Pacific herring and implement all requested actions to avoid impacts.</li> <li>• Construction contractors would be required to use equipment with state-of-the-art noise shielding and muffling devices, such as 12-inch thick wooden cushion blocks, during all impact hammer pile driving operations.</li> <li>• If NMFS noise thresholds are exceeded, contingency measures, such as using bubble curtains or air barrier would be implemented to attenuate sound levels to below thresholds.</li> </ul>		
<b>BIO-16</b>	Alternatives B, C, D, E	<p>The sound monitoring strategy and results would be reviewed by the NMFS.</p> <p><b>Protection of Marine Species During Pile Driving.</b> A NOAA-approved biological monitor would conduct daily surveys before and during impact hammer pile driving to inspect the work zone and adjacent bay waters for marine mammals. The monitor would be present as specified by NOAA during impact pile-driving phases of construction. At a minimum, the biological monitor would be responsible for ensuring pile driving activities observed the following restrictions:</p> <ul style="list-style-type: none"> <li>• Maintain a 500-meter safety zone around sound source, for the protection of marine mammals; in the event the sound level is unknown or cannot be adequately predicted;</li> <li>• Halt work activities when a marine mammal enters the 500-meter safety zone and for at least 15 minutes after it has left the safety zone;</li> <li>• Employ a "soft start" technique in all pile driving to provide marine mammals with the opportunity to safely vacate the area;</li> <li>• Maintain sound levels below 90 dBA in air when pinpeeps (seals and sea lions) are present.</li> </ul>	NMFS/Incidental Harassment Authorization	Project sponsors
<b>BIO-17</b>	Alternatives B, C, D, E	<p><b>Best Management Practices for Water-Based Construction.</b> In order to minimize any environmental impacts related to construction activities, the project sponsor would implement the following best management practices:</p> <ul style="list-style-type: none"> <li>• To minimize impacts to natural resources associated with projects in or adjacent to the bay, the project sponsor would follow the procedures specified in the Corps' "Proposed Procedures for Permitting Projects that Will Not Adversely Effect Selected Listed Species in California", as more fully specified in the RWQCB Section 401 Water Quality Certification (WQC).</li> <li>• Demolition may be conducted from both land and water as deemed appropriate, and care would be used by equipment operators to control debris so that it does not enter the bay. The work area would be isolated by using a debris containment boom. Floats with debris screens would be used to catch any falling concrete or debris during pile cutting and removal operations. In the event that debris does reach the bay, personnel in workboats within the work area would immediately retrieve the debris for proper handling and disposal.</li> <li>• Well-maintained equipment would be used to perform the work, and except in the case of a failure or breakdown, equipment maintenance would be performed off site. Equipment would be inspected daily by the operator for leaks or spills.</li> </ul>	Cons/Section 10 Perm/RWQCB Section 401 WQC	Project sponsors
<b>BIO-18</b>	Alternatives B, C, D, E	<p><b>Invasive Species Control.</b> The project sponsors would develop and implement strategies to control invasive species associated with the AC34 events, and prior to commencement of any in-water work involving Port piers, wharfs, bulkheads, pile driving, and removal of temporary structures. Measures undertaken as part of this strategy would be developed in coordination with the RWQCB and NOAA. Such measures may include, but would not be limited to, the following:</p> <ul style="list-style-type: none"> <li>• Environmental training of construction personnel involved in the removal of pier pilings, temporary floating docks, piling suspended barges, to inform them about invasive marine species in San Francisco Bay that might be attached to removed structures;</li> <li>• Actions required to prevent the release and spread of marine invasive species, especially algal species such as Undaria and Sargasso;</li> <li>• Procedures for the safe removal and disposal of any invasive taxa observed on the removed structures prior to disposal or reuse of pilings, docks, and other features;</li> <li>• Biological monitors to assist the contractor in the identification and proper handling of any invasive species on removed Port equipment or materials;</li> <li>• Preparation of a post-construction report identifying what, if any, invasive species were found attached to removed equipment and materials and the treatment/handling of identified invasive species. Include procedures for the safe removal and disposal of any invasive taxa observed on the removed structures prior to disposal or reuse of pilings, docks, and other features; and</li> <li>• Information regarding best management practices developed by the AC34 Invasive Species Task Force that boaters should implement to prevent the introduction or spread of invasive species into and out of the San Francisco Bay.</li> </ul> <p>Additional measures would include pending and proposed regulations by state and federal agencies responsible for the control of invasive organisms and would incorporate established effective strategies such as "clean before you go."</p>	RWQCB/ Section 401 WQC	Project sponsors



TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Biological Resources Management and Protection Measures (cont.)</b>				
<b>BIO-19</b>	Alternatives B, C, D, E	<b>Restrictions on Fireworks Displays.</b> In 2012, the project sponsor would not launch fireworks. In 2013, any AC34 event-related fireworks would be launched from a location distant from Alcatraz Island and Crissy Field (i.e., near Piers 27/29 roughly 1.65 miles from Alcatraz Island), in order to avoid potential impacts to sensitive bird species. As determined necessary by the NPS, fireworks or canon fire would be limited to protect snowy plovers at Crissy Field WPA and Alcatraz Island seabirds from harassment. Such restrictions would involve measures, such as limiting where such activities are staged, or stipulating maximum allowable noise (decibels) at the Crissy Field WPA and Alcatraz Island. Any fireworks displays would be coordinated with both the NPS and the USCG regarding limitations on location, frequency, and duration to minimize potential environmental impacts and protect mammals from portions of fireworks aerial shells and chemical residue falling back to the ground or water. Any proposed fireworks displays over water would be subject to approval by the USCG and addressed within the Marine Event Permit.	USFWS/Biological Assessment  NPS and USCG Agreement and/or Permit with Project Sponsors	Project sponsors
<b>BIO-20</b>	Alternatives B, C, D, E	<b>Restrictions on Night Lighting.</b> Project sponsor would ensure that all lights that are to be left on during the evening hours would be fully shielded and downward cast, to contain and direct light away from habitat, the sky, and bay waters. No additional outside lights are allowed on Alcatraz Island, Crissy Field (Area A), or Fort Baker. Under Alternative C, there would be no added night lighting on NPS lands; and in Alternatives D and E, night lighting on NPS lands would be very limited to SAFR on weekends, and potentially on Alcatraz in the cellhouse.	NPS/Agreement and/or Permit USFWS/Biological Assessment/ Corps Section 10 Permit	Project sponsors
<b>Cultural Resources Management and Protection Measures</b>				
<b>CUL-1</b>	Alternatives B, C, D, E	<b>Incident Command System.</b> NPS and Presidio Trust would implement an Incident Command System (ICS), as described in Management and Protection Measure BIO-1, above. In addition, the ICS would specifically address cultural resources identified in the AC34 Section 106 Report.	NPS and Presidio Trust/Agreement and/or Permit with CCSF	Project sponsors (for funding/NPS and Presidio Trust (for implementation in coordination with other agencies)
<b>CUL-2</b>	Alternatives B, C, D, E	<b>Visitor Use Management &amp; Monitoring Strategies.</b> NPS would implement visitor use management and monitoring strategies, as described in Management and Protection Measure BIO-2, above. These strategies would be implemented at primary venues and viewing areas affecting NPS lands and facilities, with identification of pre-determined points where a ladder of escalating management actions could be implemented to mitigate adverse impacts of crowding and to ensure the protection of park resources. These areas and strategies would be identified in an NPS Park Operations Plan.	NPS Permit/Agreement and/or Trust Permit	Project sponsors (for funding and implementation in coordination with NPS and Presidio Trust)
<b>CUL-3</b>	Alternatives B, C, D, E	<b>Resource Management &amp; Monitoring Program.</b> NPS would implement a Resource Management & Monitoring Program, established through the completion of the Section 106 Report (Cultural Resource Condition Assessment Report). At a minimum, cultural resource monitors would be stationed to monitor at the following locations: Batteries Spencer, Yates, East, and Ridge; North of Battery Duncan; Hyde Street Pier Historic Fleet; and Upper Fort Mason. In addition, the resource management and monitoring program would specifically address cultural resources identified in the AC34 Section 106 Report.	NPS/Agreement and/or Permit	Project sponsors (for funding/NPS and Presidio Trust (for implementation)
<b>CUL-4</b>	Alternatives B, C, D, E	<b>Park Event and Operations Plan.</b> NPS would prepare and implement, in coordination with CCSF and the Presidio Trust, a Park Event Operations Plan, as described in Management and Protection Measure BIO-4, above. In addition, this would specifically address cultural resources identified in the AC34 Section 106 Report.	NPS/CCSF Permit	Project sponsors (for funding/NPS, Presidio Trust, and CCSF (for implementation)
<b>CUL-5</b>	Alternatives B, C, D, E	<b>Fencing and Signage of Sensitive Cultural Resources Areas.</b> The project sponsor would provide for the installation of signage and fencing, as necessary, to protect cultural resources. Signage would be determined through development of a signage plan for the protection of sensitive resources, in accordance with existing signage requirements for each site. The plan would be prepared no later than 30 days prior to the commencement of the 2012 events, and would be subject to review and approval of each agency with jurisdiction over the areas to be fenced and signed. Fencing location and type would be determined by the agency responsible for management of the lands on which potential impacts could occur. Fenced areas would have signs announcing the presence of sensitive resources. Final fencing type would be determined by the NPS both to protect sensitive areas and be compatible with NPS standards for such. In any case, the fencing would be light enough for removal, if warranted, between 2012 and 2013 race events, but substantial enough to deter visitors from entering the fenced off areas. Installation of fencing would be completed no later than one week prior to the commencement of the 2012 and 2013 events and programs. All sensitive cultural resources in the primary and secondary viewing areas, except for historic ships would be fenced, signed, and protected by resource monitors backed up by law enforcement personnel as part of an IC. Areas requiring fencing for cultural resources include, but may not be limited to, the following: Batteries Spencer, Ridge, and East; Signal Cable Hut and the Black Point/Point San Jose Batteries at Fort Mason. Low fencing would be augmented by additional protective fencing that does not detract from the historic resource or cultural landscape. A total of approximately 1,050 feet of new fencing is recommended to protect cultural resources, including 650 feet of temporary removable fencing, and 400 feet of permanent fencing (wood post and wire type).	NPS Agreement and/or Permit	Project sponsors (for funding/NPS and Presidio Trust (for implementation)

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Cultural Resources Management and Protection Measures (cont.)	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
CUL-6	Alternatives B, C, D, E	Historic Pier Access Restrictions. Municipal Pier would be closed on race days. Access to Hyde Street Pier would be managed during races to ensure that visitation did not exceed capacity and so NPS is able to fully protect historic ships from impacts associated with overcrowding. Other exact locations and timing of closures would be determined in consultation with the appropriate land authority where potential impacts could otherwise occur. Such management would be implemented as part of the NPS Incident Command System (see Management and Protection Measure BIO - 1).	NPS/Agreement and/or Permit	Project sponsors (for funding)/ NPS Incident Command System (ICS) for implementation	
CUL-7	Alternative B	Capacity Limitations at Fort Baker Pier (Alternative B). The number of visitors permitted to attend private events at Fort Baker Pier would be limited by the pier's load capacity. NPS is currently in the process of conducting underwater engineering analyses on the pier. Once those are complete, NPS would establish weight restrictions as appropriate for potential private events which would be permitted only after public daytime visiting hours and in accordance with NPS special event regulations and policies.	NPS/Agreement and/or Permit	NPS	
CUL-8	Alternatives B, C, D, E	Capacity Limitations at Fort Baker Pier (Alternatives C, D, E). There would be no programmed AC34 private events at Fort Baker Pier under Alternatives C, D, or E. Any one time private use would be subject to a separate special event permit.	N/A	N/A	
CUL-9	Alternatives B, C, D, E	Pre- and Post-event Conditions Assessment and Repair. Prior to the 2012 AC34 events, NPS-approved qualified cultural resources personnel would assess the existing condition of the historic earthen fortifications and other fragile historic resources, as described in the Section 106 Report, that could be subject to damage or erosion from visitors seeking viewpoints. NPS standardized site assessment protocols would be completed for all such affected historic resources. The types of information that would be collected include: photographic documentation, description, and geographic location information. The exact number of resources to be recorded, and the exact methods of recording, would be determined in consultation with the appropriate land authority where the impacts are anticipated. Following both the 2012 and 2013 AC34 events, the project sponsors, in coordination with the land managing agency's representatives, would ensure that qualified cultural resources personnel reassess the condition of historic resources identified above. The project sponsor would be responsible for insuring restoration to the pre-event condition of any resources that are damaged as a result of the AC34 event.	NPS Agreement and/or Permit	Project sponsors (for funding)/ NPS and Presidio Trust (for identifying sensitive resources to be inventoried)	
CUL-10	Alternatives B, D, E	Continued Section 106 Review of Planned Activities. The project sponsors would ensure any plans that call for the attachment, anchoring, or bracing of temporary structural elements to existing historic buildings, structures, or objects on park lands are reviewed no later than 60 days in advance of the AC34 event series for which it is intended by a qualified historical architect for compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The Secretary's Standards set forth appropriate techniques to govern and guide such activities (the "Temporary Structure Approach"). If such attachments, anchoring, or bracing by the project sponsors can be done without damage, and is agreed upon, then detailed site plans would be prepared by the project sponsor and provided for review to the GGI/KA and SARR preservation assessment teams for compliance with Section 106 of the National Historic Preservation Act. Plans would also be provided for review and approval to the land management agency responsible for the particular historic resource, as part of this environmental review and Section 106 compliance, in accordance with the terms of the programmatic agreements between the SHPO and the NPS. Removal of any such attachments, anchors, or bracing would be fully reversible and include post-removal stabilization of historic materials to prevent long-term degradation in condition. Any unintended damage to NPS historic resources as a result of the AC34 event would be restored or repaired by the project sponsors to its pre-event condition. The agency responsible for the historic resource would make the final determination of when such restoration or repair activities are complete, and full compliance with the NPS-SHPO programmatic agreements has been met.	NPS/Agreement and/or Permit	Project sponsors (for preparing plans/NPS (for ensuring compliance and restoration)	
GEO-1	Alternatives B, C, D, E	Temporary Weather Monitoring and Satellite Installations Restrictions (Alternatives B, D, E). Any AC34 event-related weather monitoring and satellite equipment installed on NPS lands would be temporary, not interfere with existing operations (i.e., rooftop photovoltaic systems), be located as far from the water's edge as possible, and be subject to terms and conditions of an NPS special events permit and Section 106 of the National Historic Preservation Act, as applicable. In order to minimize obstructions of bay views, project sponsors would evaluate the potential for use of rooftop locations as an alternative to pier aprons for such installations. On Alcatraz Island, for example, such installations would be located in areas of limited visibility from visitor populated areas. Whenever possible, project sponsor would avoid the use of light or bright colored equipment for such installations, instead utilizing darker, earthen tones, to minimize contrast with the surrounding landscape. Project sponsor would also remove or cover equipment when not in use.	N/A	N/A	
<b>Geologic Resource Management and Protection Measures</b>					
		Fencing and Signage of Sensitive Geologic Resources. The project sponsors would provide for the installation of signage and fencing, if necessary, to protect sensitive resources. Incident command would review potential threats and make a determination of measures necessary to protect these areas, in consultation with the agency responsible for management of the lands on which potential impacts could occur. Fenced areas would have signs at frequent intervals announcing the	NPS and Presidio Trust /Agreement and/or Permit	Project sponsors for funding/NPS and Presidio Trust (for implementation)	

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Geologic Resource Management and Protection Measures (cont.)</b>				
GEO-1 (cont.)		presence of sensitive resources. The fencing would be light enough for removal, if warranted, between 2012 and 2013 race events, but substantial enough to deter visitors from entering the fenced off areas. Installation of fencing required by the land authority may be completed up to two weeks prior, but in no case later than one week prior to the commencement of the 2012 and 2013 events and programs. Fencing would be installed around the dunes and serpentine soils of the Presidio (Area A), as deemed necessary by NPS. Signage and access would be periodically monitored by law enforcement personnel as part of the ICS.		
<b>Hydrologic Resource Management and Protection Measures</b>				
HYD-1	Alternatives B, C, D, E	<p><b>Spill Prevention Control and Response.</b> The project sponsor would prepare a Spill Prevention Control and Countermeasure (SPCC) Plan to address the emergency cleanup of any hazardous material and the SPCC would be available on site during all construction activities. The SPCC would be submitted to the RWQCB for review and approval and contain provisions including, but not limited to the following:</p> <ul style="list-style-type: none"> <li>The project sponsor shall ensure best management practices (BMPs) are implemented during all AC34 event-related construction work, to protect species and their habitat(s) from pollution due to fuels, oils, lubricants, and other harmful materials. BMPs would include those detailed in the San Francisco Department of Public Health Pollution Prevention Toolkit for Maritime Industries.</li> <li>Vehicles and equipment that are used during the course of construction shall be fueled and serviced in a manner that would not affect federally protected species in the project area or their habitats.</li> <li>Fueling of equipment would occur using proper fuel transfer procedures as per USCG regulations (USCG 33 CFR 156.120 and 33 CFR 155.320), spill containment, and the location shall be inspected after fueling to document that no spills have occurred. Any spills would be cleaned up immediately using spill response equipment as identified in the SPCC Plan.</li> <li>The party undertaking construction work shall exercise every reasonable precaution to protect listed species and essential fish habitat from construction byproducts and pollutants such as demolition debris, construction chemicals, fresh cement, saw-water, or other deleterious materials. Care shall be used by equipment operators to control debris so that it does not enter the bay.</li> </ul> <p><b>Materials Management and Disposal Plan.</b> The project sponsor would prepare a Materials Management Disposal Plan (MMDP) to prevent any debris from falling into the bay during construction to the maximum extent practicable. The measures identified in the MMDP would be based on the Best Available Technology, and would include, but not be limited to, the following measures:</p> <ul style="list-style-type: none"> <li>During construction, the barges performing the work shall be moored in a position to capture and contain the debris generated during any sub-structure or in-water work. In the event that debris does reach the Bay, personnel in workboats within the work area shall immediately retrieve the debris for proper handling and disposal. All debris shall be disposed of at an authorized upland disposal site.</li> <li>Measures to ensure that fresh cement or concrete shall not be allowed to enter San Francisco Bay. Construction waste shall be collected and transported to an authorized upland disposal area, and per federal, state, and local laws and regulations;</li> <li>All hazardous material shall be stored upland in storage trailers and/or shipping containers designed to provide adequate containment. Short-term laydown of hazardous materials for immediate use shall be permitted with the same anti-spill precautions;</li> <li>All construction material, wastes, debris, sediment, rubbish, trash, fencing, etc., shall be removed from the site once the proposed project is completed and transported to an authorized disposal area, in compliance with applicable federal, state, and local laws and regulations;</li> <li>Construction material shall be covered every night and during any rainfall event (if there is one);</li> <li>Construction crews shall reduce the amount of disturbance within the project site to the minimum necessary to accomplish the project; and</li> <li>Measures to prevent saw water from entering the Bay.</li> </ul> <p>The MMDP would be submitted to the RWQCB for review and approval, and required as a prior-to-issuance condition of the Corps Section 10 permit.</p> <p><b>Bay Sediment Sampling and Analysis Plan.</b> Project sponsor has prepared a Sampling and Analysis Plan (or Quality Assurance Project Plan) that describes the type of sampling and quality assurance procedures necessary to ensure the collection of data of appropriate quality to support a decision regarding a suitable dredged material disposal method. The Sampling and Analysis Plan was prepared in accordance with U.S. EPA/Corps guidance and approved by the Dredged Materials Management Office (DMMO). The project sponsor has completed sediment sampling in accordance with the approved Sampling and Analysis Plan. The project sponsor has submitted a report to the DMMO documenting the sampling event and providing the type of information necessary to make a decision regarding suitability of the material tested. The project sponsor has also submitted a Consolidated Dredging-Dredged Material Reuse/Disposal Application to the DMMO, specifying the planned disposal method and the specific site planned for disposal. The proposed disposal site is the San Francisco Deep Ocean Disposal Site.</p>	RWQCB Section 401 WQC	Project sponsors
HYD-2	Alternatives B, C, D, E		Corps/Section 10 Permit	Project sponsors
HYD-3	Alternatives B, C, D, E		Corps/Section 10 Permit	Project sponsors



TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Hydrologic Resource Management and Protection Measures (cont.)</b>				
<b>HYD-4</b>	Alternatives B, C, D, E	<p><b>Educational Materials for the Maritime Public.</b> The project sponsor would develop and distribute to the maritime community educational materials on the proper and legal waste handling procedures in the bay and identify facilities for onshore waste disposal during the AC34 activities. These educational materials would include, but not be limited to, the following:</p> <ul style="list-style-type: none"> <li>Information on invasive species and their impact on bay marine ecosystems and boaters as well as best management practices developed by the AC34 Invasive Species Task Force that boaters should implement to prevent the introduction or spread of invasive species into and out of the San Francisco Bay. These provisions shall include but not be limited to pending and proposed regulations by state and federal agencies responsible for the control of invasive organisms and shall incorporate established effective strategies such as "Clean before you go";</li> <li>Information about onsite and nearby environmental services that support clean boating practices (such as the locations of sewage pump outs, oil change facilities, used oil recycling centers, bilge pump outs, absorbent pad distribution and spent pad collection), and boat-to-boat environmental services);</li> <li>Clearly describe, in multiple languages, common sources of pollution from boats and marinas, relevant regulations and clean boating policies, and provide a succinct description of best management practices to prevent pollution from these common sources, including oil and fuel, sanitary waste, detergents, hazardous waste, and marine debris (including the use and proper disposal of oil adsorbents in power boat bilges);</li> <li>Information regarding the importance of keeping plastic out of bay waters; and</li> <li>Signage posted at AC34 temporary floating docks and adjacent to areas used by moored spectator vessels (10 vessels or more) regarding locations of waste collection containers.</li> </ul>	AC34 Environmental Impact Report	Project sponsors
<b>HYD-5</b>	Alternatives B, C, D, E	<p><b>Water Quality Sampling.</b> Water sampling would be done on a sample of race days in 2013 at beaches adjacent to the primary race course, including Aquatic Cove and Crissy Field.</p>	NPS Permit/Agreement	CCSF/Project sponsors
<b>Maritime Navigation and Safety Management and Protection Measures</b>				
<b>NAV-1</b>	Alternatives B, C, D, E	<p><b>SLR- Non-Motorized Recreational Use Zone.</b> In 2012 and 2013, the USCG would establish a designated marine zone along Crissy Field for recreational water users and small non-motorized watercraft, which would be closed during race periods to motorized vessels and all other vessels greater than 20 feet in length. The zone would extend 450 to 1,000 feet out from the shore along Crissy Field. Restricting motorized and larger vessels from this area would help reduce environmental impact to the Crissy field shoreline, ensure access and safety for water recreational users, and reduce potential viewing obstruction for visitors ashore. A no- marine access zone of 300 feet offshore of the Crissy field WPA to protect snowy plovers would continue to be enforced.</p>	USCG/Special Local Regulation	USCG/NPS/Project sponsors
<b>NAV-2</b>	Alternatives B, C, D, E	<p><b>SLR- San Francisco Waterfront Transit Zone.</b> In 2013, the USCG would establish a transit zone, approximately 600 ft wide, along the City of San Francisco waterfront to facilitate the safe transit of vessels needing access to pier space and facilities along and to minimize other traffic that may obstruct the waterfront. Vessels would not be permitted to loiter or block the transit area. At the Captain of the Port's (COTP) discretion, vessel movement in this zone could be restricted to one-way traffic. The eastern entrances of the transit zone may be temporarily closed as races finish. During the 2013 race period, vessels would be restricted from anchoring in Anchorage No. 7 without permission from the COTP. Keeping this area clear would increase maneuvering room for transiting vessels during peak spectator activity and provide an emergency anchorage in response to a marine casualty.</p>	USCG/Special Local Regulation	USCG/Project sponsors
<b>NAV-3</b>	Alternatives B, C, D, E	<p><b>Maintenance of Maritime Commercial Activity.</b> USCG Captain of the Port (COTP), would coordinate with commercial entities and America's Cup Race Management (ACRM) to minimize scheduled races' impact on the smooth flow of maritime commerce (including commercial ferries in the bay. For example, the USCG would work with NPS and the park's Alcatraz Island Ferry concessioner, and ACRM, to ensure that delays do not exceed 10 minutes, on average, during afternoon race periods. Actions that could be taken to achieve these objectives may include delaying scheduled races, re-routing traffic around the race area, adjusting shipping schedules, providing commercial vessels access through the race area, and providing escort boats for certain vessels through spectator areas, and possibly the regulated race area. USCG would also increase patrols in the area to ensure boaters are informed of vessel traffic conditions and broadcast Notice to Mariners. USCG and ACRM would leverage other non-traditional communication means, including using social media, to inform recreational and commercial boaters about race conditions and closures. The USCG would use the Notice to Mariners system to communicate spectator vessel requirements including designating locations for vessels to moor to when permitting the passage of shipping traffic.</p>	USCG/Special Local Regulation	USCG/Project sponsors
<b>NAV-4</b>	Alternative B	<p><b>Marine Buffer Around Alcatraz Island (Alternative B).</b> During the 2012 and 2013 AC34 race period, NPS would establish a 300 foot buffer around Alcatraz Island, within which marine vessel traffic would be restricted in order to protect nesting seabirds along the western cliffs of the island, as described in Protection Measure BIO-10 for Alternative B.</p>	NPS/ Permit/ USCG Special Local Regulation	NPS in cooperation with USCG
	Alternatives C, D, E	<p><b>Marine Buffer Around Alcatraz Island (Alternatives C, D, E).</b> During the 2012 and 2013 AC34 race periods, NPS would establish a 500 foot buffer around Alcatraz Island, within which marine vessel traffic would be restricted in order to protect nesting seabirds along the western cliffs of the island, as described in Protection Measure BIO-10 for Alternatives C, D and E.</p>	NPS/ Permit/ USCG Special Local Regulation	NPS in cooperation with USCG

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Maritime Navigation and Safety Management and Protection Measures (cont.)</b>				
NAV-5	Alternative B	<b>Controlled Vessel Access to Aquatic Park Cove (Alternative B).</b> During race periods in 2012 and 2013, Aquatic Park Cove would be closed to visiting vessels and all other unauthorized vessel traffic. With a permit, visiting vessels would be allowed to anchor in the cove. On race days in 2013, NPS would receive assistance from the USCG marine enforcement unit to manage this access restriction. Unless explicitly authorized by NPS, motorized vessels would not be permitted within Aquatic Park Cove.	NPS/General Management Measure	NPS in cooperation with USCG
	Alternative C	<b>Controlled Vessel Access to Aquatic Park Cove (Alternative C).</b> During race periods in 2012 and 2013, Aquatic Park Cove would be restricted to permitted and closed to all other unauthorized vessel traffic. With a permit, visiting vessels would be allowed to anchor in the cove. On race days in 2013, NPS would receive assistance from the USCG marine enforcement unit to manage this access restriction. Unless explicitly authorized by NPS, motorized vessels would not be permitted within Aquatic Park Cove.	NPS/General Management Measure	NPS in cooperation with USCG
	Alternatives D, E	<b>Controlled Vessel Access to Aquatic Park Cove (Alternatives D, E).</b> During race periods in 2012 and 2013, Aquatic Park Cove would be restricted to permitted and closed to all other unauthorized vessel traffic. With a permit, visiting vessels would be allowed to anchor in the cove. On race days in 2012 and 2013, NPS would receive assistance from the USCG marine enforcement unit to manage this access restriction. Unless explicitly authorized by NPS, motorized vessels would not be permitted within Aquatic Park Cove.	NPS/Management Measure	NPS in cooperation with USCG
NOI-1	Alternatives B, C, D, E	<b>Noise and Soundscape Management and Protection Measures</b>		
		<p><b>Sound Attenuation and Monitoring Strategy for Construction Activities.</b> The project sponsor would develop NMFS-approved sound attenuation and monitoring strategy. This strategy would include details of the sound attenuation system, methods used to monitor and verify sound levels during pile driving activities, and best management practices that would be undertaken to reduce impact hammer pile-driving sound in the marine environment to an intensity level of less than 183 dB. The monitoring strategy would incorporate, but not be limited to the following best management practices (BMPs):</p> <ul style="list-style-type: none"> <li>All 18 and 24-inch diameter pilings would be installed and removed with vibratory pile drivers only. Vibratory pile driving would be conducted in accordance with the U.S. Army Corps of Engineers' "Proposed Procedures for Permitting Projects that will Not Adversely Effect Selected Listed Species in California".</li> <li>All 72-inch steel pilings would be installed with a vibratory pile driver to the deepest depth practicable. An impact pile driver may be used only where necessary to complete installation of the 72-inch steel pilings, in accordance with seismic safety or other engineering criteria (not applicable to Alternative E as no 72-inch piles proposed).</li> <li>All piling installation using impact hammers would be conducted between June 1 and November 30, when the likelihood of sensitive fish species being present in the work area is minimal.</li> <li>If pile installation using impact hammers must occur at times other than the approved work window, the AC34 project sponsors would be required to obtain incidental take authorization from NMFS, and CDFG to address potential impacts to steelhead trout, chinook salmon, and Pacific herring and implement all requested actions to avoid impacts.</li> <li>Construction contractors would be required to use equipment with state-of-the-art noise shielding and muffing devices, such as 12-inch thick wooden cushion blocks, during all impact hammer pile driving operations.</li> <li>If NMFS noise thresholds are exceeded, contingency measures, such as using bubble curtains or air barrier would be implemented to attenuate sound levels to below thresholds.</li> </ul> <p>The sound monitoring results would be made available to the NMFS. In addition, at least 48 hours prior to pile-driving activities, the project sponsors would notify building owners and occupants within 500 feet of the project site of the dates, hours, and expected duration of such activities.</p>	Corps/Section 10 Permit	Project sponsors
NOI-2	Alternatives B, C, D, E	<p><b>Noise Controls for Entertainment Venues.</b> As described in AC34 EIR Mitigation Measure M-NO-2b, the project sponsors would develop and implement noise control strategies for operations and activities proposed for the AC34 activity venues, to reduce the severity of potential noise impacts from public address and/or amplified sound. The noise control strategy would include, but may not be limited to, the following measures:</p> <ul style="list-style-type: none"> <li>Compliance with noise controls and restrictions imposed by the land authority and their permit requirements for designated AC34 events, and the activities and entertainment associated therewith.</li> <li>Where not otherwise addressed in federal permits, amplification levels generally would be established commensurate with the City's fixed residential interior noise limits of 50 dBA daytime (7:00 a.m. to 10:00 p.m.) and 45 dBA nighttime (10:00 p.m. to 7:00 a.m.).</li> <li>Speaker systems would be directed away from the nearest sensitive receptors.</li> </ul>	AC34 EIR/NPS and Presidio Trust/Agreement and/or Permit	Project sponsors

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<p><b>NOI-2 (cont.)</b></p>		<ul style="list-style-type: none"> <li>Volume settings at each entertainment venue would be identified during the first week of events using noise monitoring at the nearest sensitive receptors, as identified by the land management agency, such as Crissy Field WPA and residences of concern, and be performed by a qualified acoustical technician, in association with the project sponsors and the land managing agency's representative. Building attenuation would be assumed only for those residences that expected to have mechanical ventilation systems.</li> <li>A point of contact would be designated by the project sponsors to respond to noise complaints and to ensure compliance with the first two measures above. This person would work with the San Francisco Entertainment Commission to establish set-up and operational conditions appropriate for each of the venues with regard to compliance with requirements of Section 47.2 of the San Francisco Police Code, and federal requirements established in conjunction with any event program permitted.</li> <li>Acoustical monitoring would be required on race afternoons at Crissy Field, SAFR, and Alcatraz to measure decibel levels and compliance, if any event activities are permitted there.</li> </ul>		
		<p>All noise control strategies would be subject to review and approval by NPS and the Presidio Trust, and included as conditions of the Special Events Permits.</p>		
<p><b>NOI-3</b></p>	<p>Alternatives B, C, D, E</p>	<p><b>Stationary Sources of Noise.</b> The AC34 project sponsor would use utility electricity in lieu of generators, if available. If electricity requirements exceed available power, the project sponsor would use the quietest generators available. The project sponsor would provide shielding or acoustical enclosures for generators. Additionally, the project sponsor would ensure that their activities do not exceed 60 dBA at the Crissy Field Center when educational activities are in progress. This level of noise reduction may be achieved through other means, such as shielding or use of smaller/quieter generators or non-diesel generators. Acoustical monitoring would be required on race afternoons at Crissy Field, SAFR, and Alcatraz Island to measure decibel levels and compliance, if any event activities are permitted there.</p>	<p>NPS/Agreement and/or Permit</p>	<p>Project sponsors</p>
<p><b>NOI-4</b></p>	<p>Alternative B</p>	<p><b>Aircraft Buffers (Alternative B).</b> During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 1,000 feet vertical and 1,000 feet horizontal of the mean high tide line of Alcatraz Island and the Crissy Field WPA. The project sponsors would provide educational outreach materials to air traffic control and local and commercial news pilots regarding these advisories. A flight advisory notice (i.e., NOTAM) to avoid these areas would be issued by FAA to all aircraft in the vicinity.</p>	<p>NPS/Agreement and/or Permit /Management Measure</p>	<p>Project sponsors in coordination with NPS</p>
	<p>Alternative C</p>	<p><b>Aircraft Buffers (Alternative C).</b> During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 1,000 feet vertical and 1,000 feet horizontal of the mean high tide line of all National Park Service lands. The project sponsors would provide educational outreach materials to air traffic control and local and commercial news pilots regarding these advisories. A flight advisory notice (i.e., NOTAM) to avoid these areas would be issued by FAA to all aircraft in the vicinity.</p>		
	<p>Alternative D</p>	<p><b>Aircraft Buffers (Alternative D).</b> During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 2,000 feet (vertical) above Alcatraz Island and Crissy Field, and 1,000 feet above all other NPS lands and 1,000 feet (horizontal) out from the mean high tide line of all NPS lands. The project sponsors would provide educational outreach materials to air traffic control and local and commercial news pilots regarding these advisories. A flight advisory notice (i.e., NOTAM) to avoid these areas would be issued by FAA to all aircraft in the vicinity.</p>	<p>NPS/Agreement and/or Permit /Management Measure</p>	<p>Project sponsors in coordination with NPS</p>
	<p>Alternative E</p>	<p><b>Aircraft Buffers (Alternative E).</b> During the 2012 and 2013 race periods, official AC34 aircraft would be prohibited from entering the airspace within 1,000 feet vertical and 1,000 feet horizontal of the mean high tide line of all National Park Service lands, with the exception of Alcatraz Island, over which aircraft buffer would extend to 1,000 feet horizontal and 2000 feet vertical to protect nesting shorebirds. The project sponsors would provide educational outreach materials to air traffic control and local and commercial news pilots regarding these advisories. A flight advisory notice (i.e., NOTAM) to avoid these areas would be issued by FAA to all aircraft in the vicinity.</p>	<p>NPS/Agreement and/or Permit /Management Measure</p>	<p>Project sponsors in coordination with NPS</p>
	<p>Alternatives B, C, D, E</p>	<p><b>Restrictions on Fireworks Displays.</b> In 2012, the project sponsor would not launch fireworks. In 2013, any AC34 event-related fireworks would be launched from a location distant from Alcatraz Island and Crissy Field (i.e., near Piers 27/29), in order to avoid potential impacts to sensitive bird species. As determined necessary by the NPS, fireworks or canon fire would be limited to protect snow plovers at Crissy Field WPA and Alcatraz Island seabirds from harassment. Such restrictions would involve measures, such as limiting where such activities are staged, or stipulating maximum allowable noise (decibels) at the Crissy Field WPA and Alcatraz Island. Any fireworks displays would be coordinated with both the NPS and the USCG regarding limitations on location, frequency, and duration to minimize potential environmental impacts and protect mammals from portions of fireworks aerial shells and chemical residue falling back to the ground or water. Any proposed fireworks displays over water would be subject to approval by the USCG and addressed within the Marine Event Permit.</p>	<p>USFWS/Biological Assessment NPS and USCG/Agreement and/or Permit</p>	<p>Project sponsors</p>

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
TRA-1	Alternatives B, C, D, E	<p><b>Transportation Management Measures</b></p> <p><b>People Plan for National Parks Area.</b> The City will develop and implement a People Plan for the Presidio and NPS lands that would identify transit service, and vehicle, pedestrian, and bicycle management strategies for access to and from the Presidio and NPS lands by visitors, employees, and AC34 spectators for review and approval by NPS at least 21 days in advance of finalization of this Environmental Assessment for public release, and then made available to the public as part of the public review of this document in draft, addressing all transit measures that would improve parklands access, including, at a minimum, the following:</p> <ul style="list-style-type: none"> <li>• Origin and termini for all improved transit to within 0.25 mile of parklands, where possible;</li> <li>• Commitment to provide direct Muni augmented service to Crissy Field on race peak and high medium weekends in 2012 and 2013 (See TRA-6); and</li> <li>• Improved accessibility measures (reference <b>Protection Measure VUE-20</b>)</li> <li>• Implement transit center at Palace of Fine Arts</li> </ul> <p><b>AC34 People Plan Specific Provisions.</b> The City would implement elements of the People Plan identified <i>The 34th America's Cup and James R. Herman Cruise Terminal and Northeast Wharf Plaza EIR</i>, as Mitigation Measures: M-TR-1a—<i>Traffic Monitoring and Management Program</i>, M-TR-1b—<i>Transit Operating Plan</i>, M-TR-1c—<i>Satellite Parking Facility Program</i>, and M-TR-1d—<i>Public Information Program</i>, identified below as TRA-1a through TRA-1d. Elements of the September 2011 People Plan, to facilitate access by all modes to and from the AC34 event venues, while maintaining acceptable conditions for residents, commuters, businesses and visitors, are currently being developed by the appropriate City agencies and the project sponsor.</p> <p><b>Traffic Monitoring and Management Program.</b> As a means to reduce congestion in the vicinity of the venue sites and on access roadways to and from the sites, the City would develop and implement a Traffic Monitoring and Management Program that would include the following measures:</p> <ul style="list-style-type: none"> <li>• Preferred spectator routes;</li> <li>• Bus priority streets;</li> <li>• New bus lanes;</li> <li>• Extension of existing bus-only lanes;</li> <li>• Bicycle priority streets;</li> <li>• On-street parking restrictions;</li> <li>• Traffic control officer deployment;</li> <li>• Coordination with other events (e.g., ballgames; roadway construction projects);</li> <li>• Roadway closures;</li> <li>• Restricted access streets;</li> <li>• Diversion plans related to roadway closures;</li> <li>• Event signage including weekend detour signs; and</li> <li>• Media announcements of roadway closures and detour signs.</li> </ul>	NPS and Presidio Trust/Agreement and/or Permit	CCSF and project Sponsors
TRA-2	Alternatives B, C, D, E	<p><b>Traffic Monitoring and Management Program.</b> As a means to reduce congestion in the vicinity of the venue sites and on access roadways to and from the sites, the City would develop and implement a Traffic Monitoring and Management Program that would include the following measures:</p> <ul style="list-style-type: none"> <li>• Preferred spectator routes;</li> <li>• Bus priority streets;</li> <li>• New bus lanes;</li> <li>• Extension of existing bus-only lanes;</li> <li>• Bicycle priority streets;</li> <li>• On-street parking restrictions;</li> <li>• Traffic control officer deployment;</li> <li>• Coordination with other events (e.g., ballgames; roadway construction projects);</li> <li>• Roadway closures;</li> <li>• Restricted access streets;</li> <li>• Diversion plans related to roadway closures;</li> <li>• Event signage including weekend detour signs; and</li> <li>• Media announcements of roadway closures and detour signs.</li> </ul>	Environmental Impact Report	CCSF
TRA-2a	Alternatives B, C, D, E	<p><b>Traffic Monitoring and Management Program.</b> As a means to reduce congestion in the vicinity of the venue sites and on access roadways to and from the sites, the City would develop and implement a Traffic Monitoring and Management Program that would include the following measures:</p> <ul style="list-style-type: none"> <li>• Preferred spectator routes;</li> <li>• Bus priority streets;</li> <li>• New bus lanes;</li> <li>• Extension of existing bus-only lanes;</li> <li>• Bicycle priority streets;</li> <li>• On-street parking restrictions;</li> <li>• Traffic control officer deployment;</li> <li>• Coordination with other events (e.g., ballgames; roadway construction projects);</li> <li>• Roadway closures;</li> <li>• Restricted access streets;</li> <li>• Diversion plans related to roadway closures;</li> <li>• Event signage including weekend detour signs; and</li> <li>• Media announcements of roadway closures and detour signs.</li> </ul>	Environmental Impact Report	CCSF
TRA-2b	Alternatives B, C, D, E	<p><b>Transit Operating Plan.</b> As part of the People Plan, the City would develop and implement a transit operating plan to provide additional transit service to accommodate peak transit demands during the AC34 project events. Elements of the plan would include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Increased service hours and frequency on 30X-Marina Express, which would run every 8 minutes on all event days, including weekends.</li> <li>• Supplemental 30L-Marina, which would run every 6 minutes in the peak direction of travel (e.g., towards the waterfront through the mid-afternoon, and from the waterfront through the evening). The service would run between the Caltrain terminal and the intersection of Beach/Broderick (via Third/Fourth, Stockton, Broadway, Van Ness, and Lombard). See Figure TRA-7.</li> <li>• Supplemental 47L-Van Ness, which would run every 10 minutes in the peak direction of travel throughout the day. Service would be provided between the Civic Center BART/Muni station and North Point Street, via Van Ness Avenue (see Chapter 4 Transportation Figure TRA-7).</li> <li>• Increased frequencies on the F-Market &amp; Wharves historic streetcar between the Ferry Building and Fisherman's Wharf (i.e., at Pier 39), which would run every 5 minutes throughout the day.</li> <li>• New E-Embarcadero historic streetcar service between Caltrain and Pier 39. This service would need to use the double-ended historic streetcars, and would run every 20 minutes throughout the day.</li> <li>• Supplemental Muni Metro Shuttle. This light rail vehicle service would run within the Market Street tunnel between the Embarcadero station and the West Portal station. Shuttle service would be provided every 20 minutes on weekends only.</li> <li>• Golden Gate Transit would augment two bus routes for peak weekend race day service (the 93 and 4 bus routes). These routes would both be configured to serve local drop-off/pick-up service in San Francisco, using the bus stops currently shared with Muni and already used for inbound drop-off and outbound pick-up. In addition, Golden Gate Ferry would provide additional high-speed boats during the peak weekend race days from Larkspur and Sausalito.</li> </ul>	Environmental Impact Report	CCSF



TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Transportation Management Measures (cont.)</b>				
TRA-2b (cont.)		<ul style="list-style-type: none"> <li>AC Transit would augment the Berkeley (F) Route, the Oakland (NU) Route, and the Alameda (O) Route to provide extra service for peak weekend race days. In addition, the City is working with AC Transit on the feasibility of extending the existing route network beyond the Temporary Transbay Terminal on weekends, considering that the primary spectator areas would be along The Embarcadero west to Crissy Field.</li> <li>SamTrans would augment the SamTrans 120 line to the Daly City BART station on peak weekend race days to provide additional transit service northbound during the morning period and southbound during the afternoon period.</li> <li>BART would augment service to and from the East Bay and South Bay by providing additional cars to existing scheduled trains, and to run special "event" trains. Trip planning strategies for visitors destined to and from the San Francisco International Airport and the Oakland International Airport would be pursued by the City and BART, along with MTC.</li> <li>Caltrain would augment regular service with two extra weekend trains in each direction during peak weekend race days.</li> <li>WETA would run additional ferry service during peak weekend race days on the Vallejo, Alameda/Oakland, and Harbor Bay routes. In addition, limited event service may be available at the new Oyster Point ferry terminal in South San Francisco that is projected to be open by 2012. WETA is also considering providing limited event service to Treasure Island on the augmented Alameda/Oakland service, provided that ADA complying modifications can be made at Pier 1 at Treasures Island.</li> <li>Blue &amp; Gold would augment regular service between San Francisco and Tiburon, as well as between San Francisco and Angel Island during the midday peak period on peak weekend race days.</li> </ul>		CCSF
TRA-2c	Alternatives B, C, D,E	<p><b>Satellite Parking Facility Program.</b> As a means to reduce the number of vehicles traveling to and from the northern waterfront, the City would implement satellite parking facilities and frequent transit or shuttle service between the satellite parking facilities and the various venues. Parking facilities could include existing public and private garages and lots, as well as other undeveloped parcels such as Mission Bay Lot A and Candlestick Park. In the vicinity of the Presidio, UCSF Parnassus campus, and USF parking facilities have been identified as potential satellite parking facilities that would serve spectators destined to the Presidio.</p> <p><b>Public Information Program.</b> As a means to facilitate access to and from venues and spectator viewing areas by all modes, while encouraging the use of transit and alternate modes, the City would develop and implement a Public Information Program. For event days that overlap with other special events, a coordinated public information program would be developed and provided to the public. The program would provide:</p> <ul style="list-style-type: none"> <li>Access information for all modes before, during and after the events;</li> <li>Maps and guidelines;</li> <li>Special signage;</li> <li>Marketing campaign to encourage transit use and bicycle use to event sites;</li> <li>Web-based event information;</li> <li>Media and press releases to update information on a regular basis; and</li> <li>Public information for commuters, businesses and deliveries.</li> </ul>	Environmental Impact Report	CCSF
TRA-2d	Alternatives B, C, D,E	<p><b>Public Information Program.</b> As a means to facilitate access to and from venues and spectator viewing areas by all modes, while encouraging the use of transit and alternate modes, the City would develop and implement a Public Information Program. For event days that overlap with other special events, a coordinated public information program would be developed and provided to the public. This would be available online at least 10 days in advance of each race series event. The program would include, but not be limited to:</p> <ul style="list-style-type: none"> <li>Staffed information kiosks located at the Jefferson Street entrance to SAFR, and at the Mason/Marina entrance to Crissy Field;</li> <li>Digital and physical special signage;</li> <li>Web-based event special-event information, possibly through a free cell phone application, and printed material, on race schedule, safe dike routes, visitor orientation information, transit schedules, etc</li> </ul>	Environmental Impact Report	CCSF
TRA-3	Alternatives B, C, D, E	<p><b>Presidio and Other NPS Sites Public Information Program.</b> As a means to facilitate access to and from venues and spectator viewing areas by all modes, while encouraging the use of transit and alternate modes, the City would develop and implement a Public Information Program. For event days that overlap with other special events, a coordinated public information program would be developed and provided to the public. This would be available for NPS and Presidio Trust review and coordination on parklands access at least 30 days in advance of each annual race series, and available to the public online at least 10 days in advance of each race series event. The program would include, but not be limited to:</p> <ul style="list-style-type: none"> <li>Staffed information kiosks located at the Jefferson Street entrance to SAFR, and at the Mason/Marina entrance to Crissy Field;</li> <li>Digital and physical special signage;</li> <li>Web-based event special-event information, possibly through a free cell phone application, and printed material, on race schedule, safe dike routes, visitor orientation information, transit schedules, etc</li> </ul>	Environmental Impact Report	CCSF

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Transportation Management Measures (cont.)</b>				
TRA-4	Alternatives B, C, D, E	<p><b>Presidio and Other NPS Sites Roadway Management Strategies.</b> Chapter 4, Transportation Table TRA-25 and Table TRA-26 present the roadway management strategies determined as part of this transportation analysis by alternative and profile day. These roadway management strategies would be operationalized by the City for adjacent roadways to parklands in San Francisco, in coordination with NPS and the Trust. The NPS and Trust will operationalize those measures related to parklands and Trust roadways identified therein for coordination with the City. These would both use a set of trigger points to initiate roadway restrictions for the various profile days for 2012 and 2013, the ICS Operations Section Chief and respective Division Supervisor would make a decision for either NPS or Trust based on observable conditions, past experience, professional judgment and take action. The Roadway Management Strategies outline the actions and responsible agencies for such.</p> <p>The roadway management strategies identify San Francisco waterfront access roads to be restricted and/or temporarily redesignated for bike, transit, and pedestrian use during peak and medium high weekend race days in 2012 and 2013. It also identifies where there is a need for re-routing traffic and traffic management, such that principal intersections (adjacent to or providing access to parklands) that fail would be managed by CCSF traffic and parking control officers to facilitate improved movements and reduce adverse impacts. On days with restricted access, for example, to Mason Street and McDowell Avenue, public access would be supported with a short loop shuttle from the Presidio Transit hub to facilities on Mason Street; registered program participants, otherwise, may be required to sign up in advance for special permits for the peak AC34 weekend days when such roadways are restricted. Restricted NPS and Trust roadways/areas, designated in these tables, would include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• In San Francisco, the area north of Bay Street east of Van Ness Avenue and Fillmore Street, the area north of Chestnut Street between Fillmore Street and Lyon Street. In addition, access to Upper Fort Mason would be restricted on high attendance event days.</li> <li>• Within the Presidio, Mason Street between Lyon Street and the Warming Hut, Long Avenue, McDowell Avenue between Lincoln Boulevard and Crissy Field Avenue, and Crissy Field Avenue.</li> <li>• Within the Marin Headlands, Conzelman Road between Alexander Avenue and McCullough Road, and the Barry-Baker tunnel.</li> </ul> <p>Chapter 4, Transportation Table TRA-25 and Table TRA-26 present the roadway management strategies for the action alternatives for 2012 and 2013 conditions for the peak weekday and two weekend profile days. Roadway management strategies for other profile days are noted in footnotes to these tables.</p>	NPS and Presidio Trust/Agreement and/or Permit	NPS and Presidio Trust, in coordination with CCSF and other agencies
TRA-5	Alternatives B, C, D, E	<p><b>Traffic Control Officers at Intersections.</b> Traffic control officers at intersections would facilitate bicycle and pedestrian flows, to reduce overall delays at intersections.</p> <p>Within San Francisco, at intersections identified operating at LOS E or LOS F on weekend event days, and at other key intersection, traffic control officers, SFPD, or NPS Park Police, as appropriate, would be deployed during peak and other congested race periods in 2012 and 2013 to assist with traffic control. CCSF parking and traffic management, and SFPD would manage non-federal intersections and USPP and NPS would manage internal NPS and Presidio Trust intersections. A combined CCSF and SFPD would manage the interface intersections between federal lands and CCSF jurisdictions.</p> <p>North of Golden Gate bridge, CHP and NPS would manage traffic intersections under their jurisdiction, such as northbound and southbound Highway 101 ramps to Alexander Avenue, Alexander Avenue and Danes Drive, and other adjacent intersections to Fort Baker and the Marin Headlands, including the Fort Baker-Barry tunnel.</p>	NPS and Presidio Trust/Agreement and/or Permit	NPS and Presidio Trust, CCSF in coordination with other agencies
TRA-6	Alternatives B, C, D, E	<p><b>Enhanced Muni 22-Fillmore, 28-19th Avenue, and 43-Masonic Bus Service.</b> SFMTA would provide additional bus service on the enhanced 22-Fillmore, 28-19th Avenue, and the 43-Masonic routes. The three enhanced routes are presented in Chapter 4, Transportation Figure TRA-8, and would include:</p> <p><b>22-Fillmore Short</b> - The 22-Fillmore Short would run local between Marina Boulevard and McAllister Street, where there is a trolley coach turnaround loop. It would connect with the 30-Chestnut, the augmented 30X-Marina Express and 30L-Marina Limited, the 45-Union/Stockton and 41-Union Street lines, and the 24-Divisadero, 1-California, 2-Clement, 3-Jackson, 38/38L-Geary, 31-Balboa and 5-Fulton lines. Fillmore Street has one travel lane in each direction, and therefore is too narrow to effectively run limited stop service (the limited stop buses would not be able to bypass the local buses). The stop closest to NPS sites would be at Fillmore Street and Jefferson Street (Note: to be confirmed by SFMTA).</p> <p><b>28-19th Avenue Short</b> - The 28-9th Avenue Short would run between 19th Avenue and Judah Street (N line) and the Golden Gate Bridge Toll Plaza. This enhanced route service would run as a local, and referred to as a short line to differentiate this short line from the 28L-19th Avenue Limited that currently runs on a different route, and because there are only two local-only stops between Judah and the Toll Plaza (at Irving and at Balboa). The stop closest to NPS sites would be at the Golden Gate Bridge Toll Plaza.</p>	NPS and Presidio Trust/Agreement and/or Permit	CCSF

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Transportation Management Measures (cont.)</b>				
TRA-6 (cont)		The temporary Doyle Drive creates over a 1.0 mile-long barrier separating the Presidio from Crissy Field, between McDowell Avenue in the west and the Richardson Drive Francisco intersection in the east. Terminating the route at the Toll Plaza would keep the bus from the additional congestion along the temporary Doyle Drive, and it would serve the Fort Point and west end of the Crissy Field viewing places. All the other SFMITA buses serve the east side of the Presidio. From the Toll Plaza spectator would be able to walk down the hill or connect with the Golden Gate Transit Route 4 bus, other GG buses, and the Presidio shuttles.  <b>43-Masonic Limited</b> - The 43-Masonic Limited would run between Forest Hill Station (connecting with the K, L, M & T lines) and the current terminal at Chestnut and Fillmore. The limited stops would be at transfer locations: FHS; 9th & Judah; Carl & Cole; Masonic at Haight, Hayes, Fulton and Turk; Presidio & Geary, Presidio & California, Chestnut & Fillmore. The 43-Masonic Limited would also stop at the intersection of Presidio Boulevard/Letterman Drive to serve the inner part of the Presidio, and at the intersection of Lombard/Lyon for access to the east end of Crissy Field (via the intersection of Richardson Drive/Francisco Street).		
TRA-7	Alternatives B, C, D, E	Service would be provided at 10-minute headways between buses on peak weekend event days in 2012 and 2013.  <b>Expanded Shuttle Service.</b> If funded, shuttle service may be increased and routes may be adjusted in response to the nature of the event day and observed demand on the shuttle routes. The downtown shuttle enhancements would include providing express service between downtown San Francisco and the Presidio on weekends during peak weekend events. Shuttle service to Crissy Field would include improved, direct service from the Presidio Transit Center, and increased frequencies on peak weekend event days to the shoreline.	NPS and Presidio Trust/ Agreement and/or Permit	CCSF
TRA-8	Alternatives B, C, D, E	<b>Transportation Enhancement Measure: Golden Gate Transit Augmented 4 Short Route</b>  On peak weekend events days on the augmented Golden Gate Transit Route 4 service would be augmented to provide service to the Marin Headlands and Fort Baker area. Specifically, Route 4 would be modified to include a stop near Conzelmann Road when traveling southbound, and at the Golden Gate North Vista Point when traveling northbound. Route 4 would also stop at the Manzanita park-and-ride lot to the north. This measure would increase transit access to the Marin Headlands and Fort Baker for AC34 spectators.		Golden Gate Transit Authority
TRA-9	Alternatives B, C, D, E	<b>Visitor Use Management &amp; Monitoring Strategies.</b> Visitor Use Management and Monitoring strategies would be developed for NPS AC34 primary venues and viewing areas affecting NPS lands and facilities where management actions could be implemented to mitigate adverse impacts of crowding on access as well as provide for orientation and information to insure smoother visitor flows on arrival and departure from the shoreline areas.  Demand distribution strategies implemented by the Project Sponsors would proactively manage the distribution of spectators, and would include on-approach strategies that would provide guidance to spectators as they approach the event areas. On-site crowd management strategies would include management actions, such as bicycle separations from pedestrian flows at affected areas, and a Mason St. Crissy transit shuttle, to ensure visitor safety, minimize congestion at key locations, and optimize distribution of visitors.  Management actions would be location-specific to reflect the different peaking characteristics and spectator volumes for the various locations. Crowd levels would be monitored during the events by the NPS through the Incident Command System in concert with CCSF staff. Visitor use management and monitoring would include the following:  <b>Personnel</b> - Staffing plans would be developed for the various spectator attendance levels for each viewing location. Both the headcount requirements and the labor mix would be driven by combined visitor flow and destination estimates, and NPS Event Management experience. For the lowest attendance levels, crowds would be managed primarily by law enforcement and ICS personnel, except that resource monitors would be in place for all event days per Section 7 permit Conservation Measures. To accommodate higher attendance levels and pathway flow rates, additional law enforcement personnel would be scheduled, as incident rates would increase in proportion to visitor flow volumes and crowding levels. Personnel staffing would be planned as a mix of static and "floating" positions; floating positions would be responsible for area coverage, whereas stationary positions would manage critical visitor flow points to location (including at intersections to facilitate pedestrian crossings) as situations warrant. Some shift occurrences would be planned in advance, such as for the beginning and ending of major events. SFPD would provide additional commissioned officers who would be deputized to work with NPS in NPS areas during AC34 race days, especially on 2012 and 2013 weekends and Fridays.  <b>Barriers, Barricades, Fencing and Other Flow Management Equipment</b> – A mix of soft barriers (e.g., removable aesthetic flow management guides) and hard barriers (salmon signs and portable parade barriers) provided by the City would be stationed at key entry points. This equipment would either be set in place and removed, as necessary according to site conditions, soft barriers would be used primarily to frame entry and exit points, and	NPS/Presidio Trust Agreement and/or Permit	CCSF for funding and implementation, in coordination with NPS and Presidio Trust

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
TRA-9 (cont.)		<p style="text-align: center;"><b>Transportation Management Measures (cont.)</b></p> <p>to steer arriving and departing visitors through the defined entry points when very crowded or congested. Hard barriers would be used when it is necessary to temporarily restrict or suspend access into a given area – usually when conflicts in flow of different modes may occur or the maximum safe crowding condition has been reached in a given area, or in response to urgent safety considerations. When this equipment is in place, crowd control personnel would be assigned to support visitor management, re-direct the visitor flow to nearby areas, and to be in position to quickly remove this equipment once adequate public space has become available.</p> <p><b>Signage</b> – Signage would be installed to call attention to closed sensitive resource areas in NPS areas, key services and entry points on City property adjacent to NPS sites, and to provide visitors with wayfinding options at key decision-making points. The signage, developed by the City, would integrate directional and informational components to educate and alert visitors on how to navigate through the impacted areas. Signs would be designed to be seen from a distance and during peak crowding conditions. Signage would be sized and elevated with simple text and universal icons representing specific services (restrooms, information, first aid, etc.). Any signage on NPS lands would conform to its sign regulations.</p> <p><b>Safety Measures (dynamic)</b> – Although all policies in effect within the NPS lands would remain in effect, some additional protective measures would need to be implemented that are event-specific, such as public path zones, in which bikes must either be walked, or not be permitted at all. For example, the high volumes of pedestrians and bicyclists expected along the SAFR Promenade during peak AC34 conditions would necessitate a walking-only policy during many of the AC34 events, as would the pinch-point at Ft. Mason. City staff or “ambassadors” would be stationed by CCSF near these areas (Ft. Mason pinch-point, Mason/Marina intersection, Ft. Mason/Gashouse Cove entry, Laguna and Bay St, etc). Other joint measures would be planned by NPS, Presidio Trust and CCSF to facilitate efficient loading and unloading of highly-attended viewing locations.</p> <p><b>Changeable Message Signs</b> – Changeable message signs would be used by CCSF on city lands near parklands entry points, including the southbound approaches of the Presidio Parkway, to guide arriving and departing vehicles and pedestrians, and to call attention to a major condition or service (such as by providing directions to the central bus pickup location immediately adjacent to parklands).</p> <p><b>Two-way Radios</b> – Two-way radio communication would be facilitated by the City and provided for all personnel involved in crowd control, for reasons of crowd flow, safety and for emergency situations. For locations with multiple staff personnel, radio equipment requirements would be driven by staff member responsibility, as messages communicated via radio are often unique to each role, and personnel would likely be transmitted on different channels. In the case where multiple personnel are performing similar duties at the same location (e.g., at the same pathway intersection), radio use may be restricted to only one within that paired team.</p> <p><b>Portable Public Announcement Systems</b> – Portable public announcement systems (similar to those devices used by park tour guides) provided by CCSF to NPS and USPP could be used at peak congested periods, such as departures at the end of the day to inform or direct visitors to safe crossings to allow crowd control personnel to clearly communicate to large volumes of spectators passing through a key area (such as to inform bicyclists that they are approaching a no-riding zone). Equipment requirements would be determined based upon planned activity within each zone.</p> <p><b>Information Stations</b> – Information stations or hubs, as provided for by Project Sponsors, would be placed in the vicinity of key primary park entry points (eg. Mason and Marina Blvd, Jefferson St entry near SAFR). These stations would offer general information, viewing times and locations with expected low crowding levels, and transit information, and would also serve to shift demand away from crowded venues and times. Event viewing tips would be featured by the City at key arrival points, such as Aquatic Park and Marina Green (similar to the tip board program featured at the Disney theme parks).</p> <p><b>Special Activity Programming</b> – Additional programmed activities supplementing the AC34 races may be scheduled at permitted venues near the event viewing locations. Although these activities would function primarily to enhance the overall spectator experience (due to gaps between races), these would also be used to strategically manage inbound and outbound pedestrian flow at the viewing locations. For example, scheduling a popular activity or performance at Marina Green immediately after a major race event would serve to spread the departure rate of spectators across a larger period of time, thus reducing the intensity of roadway congestion and peak demand on public transportation services in that vicinity.</p> <p><b>Communication Channels</b> – Communication channels and real-time information would be managed and disseminated by Project sponsors in coordination with jurisdictional IC teams. This may include traditional media, web, email, twitter, and SMS, to aid in the distribution of demand across all event activities. Some of these, such as SMS blasts and tweets, would also help to inform pedestrian spectators while on site, such as board sailors, and other water recreationalists, as to when races are over, or to advise visitors to avoid certain exit routes due to congestion.</p>	SFMTA	SFMTA
TRA-10	Alternatives B, C, D, E	<p><b>Temporary Bicycle Lanes/Routes</b></p> <p>During AC34 2013, SFMTA will implement temporary bicycle lanes within the curb parking or curb travel lane on peak weekend event days (six days in 2012 for Alternatives B, C and D and five days for Alternative E, and 11 to 24 days in 2013 for all alternatives). Streets where temporary bicycles could be implemented on all or a portion of the street include:</p> <ul style="list-style-type: none"> <li>Van Ness Avenue between North Point Street and Bay Street (within curb bus lane)</li> </ul>	SFMTA	SFMTA



TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Transportation Management Measures (cont.)</b>				
TRA-10 (cont.)		<ul style="list-style-type: none"> <li>Bay Street between Van Ness Avenue and Laguna Street (within curb parking lane and right-turn-only lane)</li> </ul> <p>A City traffic control officer will be stationed at the Laguna/Beach Street pinch point. NPS and CCSF will investigate potential improvements at this location, to determine if short-term improvements to provide additional bicycle and pedestrian right-of-way could be implemented for AC34 2012 or 2013 events.</p> <p>A temporary alternative bicycle route on Cervantes Street between Bay Street and Marina Boulevard will be signed. On peak event days, temporary parking restrictions would be implemented on the east curb of Cervantes Street north of Bay Street (a bicycle lane is currently provided on Bay Street between Laguna Street and Cervantes Street).</p>		
TRA-11	Alternatives B, C, D, E	<b>Temporary Bicycle Parking.</b> SFMTA would provide temporary secure and managed bicycle parking at key locations serving the NPS sites for 2012 and 2013 peak and medium high weekend race days (six days in 2012 for Alternatives B, C, and D and five days for Alternative E, and 11 days in 2013 for all Alternatives), consistent with the bicycle parking demand identified in Chapter 4, Transportation Table TRA-27 for NPS sites. The location of the bicycle parking stations and number of bicycles to be accommodated at each station would be determined by the NPS, in coordination with CCSF but at a minimum would include Crissy Field and SAFR.	NPS and Trust/Agreement and/or Permit	CCSF
TRA-12	Alternatives B, C, D, E	<b>NPS Parking Management Strategy.</b> NPS would actively manage parking lots/area at Crissy East, West Bluff, and Battery East in San Francisco on all peak weekend event days (six days in 2012 for Alternatives B, C and D, five days for Alternatives E, and 11 days in 2013 for all Alternatives). In addition, Crissy East would be actively managed on 13 other average race weekend days, and ten peak race weekdays in 2013 when the races are offshore. Fort Baker and Conzelman Road in the Marin Headlands would be actively managed on two peak race weekend days in 2012 under Alternative E, and five peak weekend race days in 2013, as needed.	NPS and Trust/Agreement and/or Permit	CCSF
TRA-13	Alternatives B, C, D, E	<b>NPS Staff, Park Partners, Residents, Deliveries and Registered Program Participants Access to Presidio and other NPS Sites.</b> NPS and the Trust, in coordination with the City would develop access strategies for NPS Staff, Park Partners, residents, deliveries and registered program participants. This would be developed to provide access to SAFR, Fort Mason, Fort Baker/Marin Headlands, and Crissy Field during peak and medium-high weekend race days when some roadways would be closed to the general public. The strategy would include an identification of vehicular access points and control methods into the restricted areas, alternative means of access (e.g., shuttle bus service) and parking locations, and preferred days and times for access (e.g., before 10 a.m.) and deliveries (weekdays only). Most permits/identifications issued to those other than staff, employees and residents would require prearrangements, most likely performed via internet. On-site customer parking, when available, would be strictly limited to the duration of the visit.	NPS	CCSF and NPS
<b>Visitor Use-Experience Management and Protection Measures</b>				
VUE-1	Alternatives B, C, D, E	<b>Incident Command System.</b> NPS would implement an Incident Command System (ICS), commensurate with need and level of funding provided by project sponsors, as described in Management and Protection Measure BIO-1, above.	NPS and Trust/Agreement and/or Permit	Project sponsors (for funding)/NPS and Presidio Trust (for implementation in coordination with other agencies)
VUE-2	Alternatives B, C, D, E	<b>Visitor Use Management &amp; Monitoring Strategies.</b> NPS would implement visitor use management and monitoring strategies, as described in Management and Protection Measure TRA-9, above. These strategies would be implemented at primary venues and viewing areas affecting NPS lands and facilities, with identification of pre-determined points where a ladder of escalating management actions could be implemented to mitigate adverse impacts of crowding and to ensure the protection of park resources. These areas and strategies would be identified in an NPS Park Operations Plan.	NPS Agreement and/or Permit	Project sponsors (for funding and implementation in coordination with the NPS and Presidio Trust)
VUE-3	Alternative B	<b>Resource Management &amp; Monitoring Program.</b> (Alternative B) NPS would implement a Resource Management & Monitoring Program, as described in Management and Protection Measure BIO-3, above. At a minimum, cultural resource monitors would observe the following locations: Batteries Spencer, Yates, Cavallo, East, and Ridge; North of Battery Duncan; Hyde Street Pier Historic Fleet; and Upper Fort Mason.	NPS/Special Events Permit	Project sponsors (for funding)/NPS (for implementation)
	Alternatives C, D,E	<b>Resource Management &amp; Monitoring Program.</b> (Alternatives C,D,E) NPS would implement a Resource Management & Monitoring Program, as described in Management and Protection Measure BIO-3, above. At a minimum, cultural resource monitors would observe the following locations: Batteries Spencer, Yates, East, and Ridge, North of Battery Duncan; Hyde Street Pier Historic Fleet; and Upper Fort Mason.	NPS/Agreement and/or Permit	Project sponsors (for funding)/NPS (for implementation)
VUE-4	Alternatives B, C, D, E	<b>National Parks Event and Operations Plan.</b> NPS would prepare and implement an National Parks Event Operations Plan, as described in Management and Protection Measure BIO-4, above which would detail fencing, restrooms, emergency medical services, and other major site provisions.	NPS/CCSF Permit	Project sponsors (for funding)/NPS, Presidio Trust, and CCSF (for implementation)

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
VUE-5	Alternative B	<b>Educational Programming at AC34 Venues (Alternative B).</b> The project sponsor would provide for the development of educational installations on federal lands where it hosts AC34 activities, such as Crissy Field and SAFR. These would include ocean stewardship educational displays and a simulated experience at the Crissy Airfield.	NPS/Agreement and/or Permit	Project sponsors in coordination with NPS
	Alternative C	<b>Educational Programming at AC34 Venues (Alternative C).</b> NPS would emphasize ocean stewardship and maritime-themed educational programs within existing park and partner interpretive programs. These programs would be located at Crissy Field, SAFR, and Fort Baker. In addition, the Maritime Museum at SAFR may produce AC34-related interpretive displays in partnership with other maritime museums.	NPS/Management Measure	NPS
	Alternative D	<b>Educational Programming at AC34 Venues (Alternative D).</b> The project sponsor would provide for the development of ocean stewardship, bay ecology, and health-themed exhibits on peak weekends at Crissy Airfield and targeted maritime history exhibits at SAFR. Trained, visitor services staff would be stationed at primary viewing locations to provide information about the significance of park sites.	NPS/Agreement and/or Permit	Project sponsor in coordination with NPS
	Alternative E	<b>Educational Programming at AC34 Venues (Alternative E).</b> NPS would emphasize ocean stewardship programs within existing park and partner interpretive programs at Crissy Field and Fort Baker. In addition, the Maritime Museum at SAFR may produce maritime-themed interpretive displays in partnership with other maritime museums based on sponsor funding levels.	NPS/General Management Measure	NPS
	Alternative B	<b>Controlled Vessel Access to Aquatic Park Cove (Alternative B).</b> During race periods in 2012 and 2013, Aquatic Park Cove would be closed to visiting vessels and all other unauthorized vessel traffic. With a permit, visiting vessels would be allowed to anchor in the cove. On race days in 2013, NPS would receive assistance from the USCG marine enforcement unit to manage this access restriction. Unless explicitly authorized by NPS, motorized vessels would not be permitted within Aquatic Park Cove.	NPS/General Management Measure	NPS in cooperation with USCG
VUE-6	Alternative C	<b>Controlled Vessel Access to Aquatic Park Cove (Alternative C).</b> During race periods in 2012 and 2013, Aquatic Park Cove would be restricted to permitted and closed to all other unauthorized vessel traffic. With a permit, visiting vessels would be allowed to anchor in the cove. On race days in 2013, NPS would receive assistance from the USCG marine enforcement unit to manage this access restriction. Unless explicitly authorized by NPS, motorized vessels would not be permitted within Aquatic Park Cove.	NPS/General Management Measure	NPS in cooperation with USCG
	Alternatives D, E	<b>Controlled Vessel Access to Aquatic Park Cove (Alternatives D,E).</b> During race periods in 2012 and 2013, Aquatic Park Cove would be restricted to permitted and closed to all other unauthorized vessel traffic. With a permit, visiting vessels would be allowed to anchor in the cove. On race days in 2012 and 2013, NPS would receive assistance from the USCG marine enforcement unit to manage this access restriction. Unless explicitly authorized by NPS, motorized vessels would not be permitted within Aquatic Park Cove.	NPS/Management Measure	NPS in cooperation with USCG
VUE-7	Alternatives B, C, D, E	<b>Temporary Visitor Support Facilities.</b> The project sponsor would provide for the placement and maintenance of portable restrooms at NPS/Trust sites requiring them (e.g., Crissy Field, SAFR, Fort Mason, and Fort Baker), and with a portion of the restrooms meeting ADA standards, during the race periods in 2012 and 2013, such that waiting times are no greater than under existing busy days. Project sponsors would also provide additional restrooms and hand washing stations, as needed, during peak visitation periods. Portable restrooms, and any other temporary facilities within NPS parklands, would be provided by the project sponsors, subject to approval by NPS/Trust, and be of a nature and type that does not impact the NPS/Trust parklands scenic values and aesthetic. The cleaning regimen of portable restrooms, a responsibility of the project sponsors, would be maintained to ensure hygienic and clean visitor conditions. Waste and recycling containers would be provided by the project sponsors, subject to approval by NPS/Trust, be of a nature and type that does not impact the NPS parklands scenic values and aesthetic, meet NPS sustainability requirements, and meet demand requirements for weekday and weekend visitors. The waste collection regimen would be managed by the CCSF to ensure no overflows through regular collections and haul-outs during the day and before the next day begins, depending on visitation levels, increasing in frequency during peak afternoons and early evenings, to ensure that park sites are kept garbage-free and clean.	NPS and Presidio Trust/Agreement and/or Permit	CCSF
	Alternatives B, D, E	<b>After Hours Activities at Alcatraz Island (Alternative B,D,E).</b> Private events at Alcatraz Island would be limited to the hours of 7:00pm and 11:00pm, after normal public visiting hours, so as not to interfere with regular visitation to the island and to minimize potential impacts to the ferry embarkation point at Pier 31 ½. Such events could occur twice in 2012 and five times in 2013 on evenings when no other public uses are present, and in accordance with all NPS special event regulations. Private event activities would be limited to the cellhouse and include a programmatic component that increases understanding of the site significance through an interpretive tour. No outside lighting would be added for these events. Private events at Alcatraz Island would be authorized under a separate special events permit and NPS would limit the number of participants based on the type of event. However, it is assumed that such events would be limited to a maximum of 250 persons.	NPS/Agreement and/or Permit	NPS
VUE-8	Alternative C	<b>After Hours Activities at Alcatraz Island (Alternative C).</b> There would be no private AC34 events at Alcatraz Island under Alternative C.		N/A

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
VUE-9	Alternative B	<b>After Hours Activities at Fort Baker Pier (Alternative B).</b> Private events at Fort Baker pier would be limited to the hours of 7:00pm and 11:00pm, after normal public visiting hours, so as not to interfere with regular visitation. Events could not restrict fishing or other public uses during the day. Private security management would be required on the pier during tented events. Participation would be set by NPS, based upon the pier's load capacity, which is presently under investigation.	NPS/Agreement and/or Permit	Project sponsors
	Alternatives C, D, E	<b>After Hours Activities at Fort Baker Pier (Alternatives C, D, E).</b> There would be no programmed private AC34 events at Fort Baker Pier under Alternatives C, D and E. Any one-time AC34-related use would be subject to the terms and conditions of a separate special use permit.	N/A	N/A
VUE-10	Alternative B	<b>After Hours Activities at Crissy Field Area A (Alternative B).</b> NPS may authorize programmed evening events at the Crissy Field venue. If authorized, such after-hours events would occur no more than two times in 2012 and five times in 2013. Evening activities at Crissy Field Area A would run no later than 10:00pm and be subject to applicable noise and lighting restrictions described for the Resource Management and Protection Measures BIO-20 and NOI-2, above as well as other NPS special event regulations.	NPS/Agreement and/or Permit	Project sponsors
VUE-11	Alternatives C, D, E	<b>After Hours Activities at Crissy Field Area A (Alternatives C, D, E).</b> There would be no programmed AC34 events at Crissy Field (Area A) under Alternatives C, D, and E.	N/A	N/A
	Alternative B	<b>Timing of Programmed Activities at AC34 Spectator Venues (Alternative B).</b> Unless otherwise authorized by NPS, publically programmed AC34 activities at Crissy Field Area A would be restricted to the hours of 11am to 6pm. Publically programmed AC34 activities at SAFR would be restricted to the hours of 10am to 8pm. And programmed AC34 activities on Presidio Trust lands would generally occur between the hours of 9am and 10pm.	NPS and Trust/ Agreement and/or Permit	Project sponsors
	Alternative C	<b>Timing of Programmed Activities at AC34 Spectator Venues (Alternative C).</b> There would be no spectator venues on NPS lands under Alternative C.	N/A	N/A
	Alternative D	<b>Timing of Programmed Activities at AC34 Spectator Venues (Alternative D).</b> Unless otherwise authorized by NPS, publically programmed AC34 activities at Crissy Field Area A would be restricted to the hours of 11am to 6pm on race weekends only. Publically programmed AC34 activities at SAFR would be restricted to race weekends, between the hours of 10am to 8pm. And publically programmed AC34 activities on Presidio Trust lands would generally occur on race weekends between the hours of 9am and 10pm.	Agreement and/or Permit	Project sponsors
VUE-12	Alternative E	<b>Timing of Programmed Activities at AC34 Spectator Venues (Alternative E).</b> Unless otherwise authorized by NPS, publically programmed AC34 activities at SAFR would be restricted to race weekends between the hours of 10am to 8pm.	NPS/Agreement and/or Permit	Project sponsors
	Alternatives B, C, D, E	<b>Placement of Venue Amenities.</b> All AC34 venue-related amenities, if appropriate to the alternative, including concessions tents, information stations, temporary structures, portable restrooms and hand washing stations would be placed in locations that do not contribute to crowded conditions. All temporary event structures would be set back at least 25 feet from the Crissy Field Promenade and trails, including the Bay Trail, and be configured so as to minimize impacts to bay views. Other setback distances, at locations such as SAFR, would be dependent on siting and space availability so as to not contribute to further congestion or impede flow along promenades.	NPS and Presidio Trust/Agreement and/or Permit	Project sponsors
VUE-13	Alternatives B, C, D, E	<b>Fencing and Signage for Sensitive Resources and Visitor Protection.</b> The project sponsor would provide for the installation of fencing and signage, as necessary, to protect natural and cultural resources, and to manage visitor flow impacts. Temporary fencing would also be installed to ensure visitor safety. Fencing location/length and signage type would be determined in consultation with the appropriate land authority where impacts are anticipated. In any case, these fences would be light enough for removal, as warranted, between 2012 and 2013 race events, but substantial enough to deter visitors from entering the fenced off areas. Informational and regulatory signage would mark sensitive areas and state that entry into these areas is prohibited. Installation of temporary fencing required by the land authority would be completed no later than one week prior to the commencement of the 2012 and 2013 events and programs.	NPS and Presidio Trust/ Agreement and/or Permit	Project sponsors
VUE-14	Alternatives B, C, D, E	<b>Public Safety and Emergency Response.</b> To ensure continued public safety and access to emergency services, CCSF-funded emergency medical support would be stationed at various locations in San Francisco near and within GGNRA and SAFR (including pre-positioned San Francisco Fire Department (SFFD) paramedics at East Crissy, West Crissy, and SAFR) on all 2012 and 2013 race weekends and as needed on other AC34 race event days; and a emergency response team would be available for Conzelmann Road and Marin Headlands during peak weekend periods when access is impeded by Alexander Avenue and tunnel traffic (i.e., approximately 4 days in 2012, and 11 days in 2013). Advanced Life Support (ALS) emergency responses would be maintained, such that response times would average 5 minutes or less from time of notification, 90 percent of the time, in accordance with existing standards throughout the City of San Francisco for emergencies warranting ALS. Crowd control measures would be employed to ensure that all SFFD emergency access lanes are maintained at a minimum of 14 feet wide at all times and that a minimum of 3 feet of clear space is maintained around fire hydrants.	NPS and Presidio Trust/ Agreement and/or Permit	Project sponsors (for funding)/NPS and Presidio Trust (for implementation)
VUE-15	Alternatives B, C, D, E	<b>Unique Visitor Uses of Marine Area.</b> To facilitate continued unique uses of marine areas in parklands, the following will be instituted: non-motorized small craft zone off of Crissy Field would be established for 2012 and 2013; a communications system would be established to alert recreationalists and mariners when races are over; and marine areas re-opened; permitting of controlled access for non-motorized boats would be established for Aquatic Cove to ensure safety of swimmers; and rental storage lockers for sailboats would be made available by CCSF on City property east of East Crissy field for the peak and high medium-peak weekends, at a minimum, when access may be difficult in the afternoons.	NPS/Agreement and/or Permit; USCG SLR	USCG and CCSF in coordination with NPS

TABLE ALT-2: SUMMARY OF MANAGEMENT AND PROTECTION MEASURES (CONTINUED)

Measure Identification	Applicable Alternative	Management and Protection Measure Description	Measure Source/Description Location	Implementation Responsibility
<b>Visitor Use-Experience Management and Protection Measures (cont.)</b>				
VUE-16	Alternatives B, C, D, E	<b>Visitor Satisfaction Related to Parklands Facilities. (1)</b> Portable restrooms and hand washing stations, and any other temporary facilities at NPS sites (e.g., Crissy Field, SAFR, Fort Mason, and Fort Baker) would be provided by the project sponsors, subject to approval by NPS/Trust, and be of a nature and type that does not impact the NPS/Trust parklands scenic values and aesthetic. The cleaning regimen of portable restrooms, a responsibility of the project sponsors, would be maintained to ensure hygienic and clean visitor conditions. <b>(2)</b> Waste and recycling containers would be provided by the project sponsors, subject to approval by NPS/Trust, be of a nature and type that does not impact the NPS/Trust parklands scenic values and aesthetic, meet NPS sustainability requirements, and meet demand requirements for weekday and weekend visitors. The waste collection regimen would be managed by the CCSF to ensure no overflows through regular collections and haul-outs during the day and before the next day begins, depending on visitation levels, increasing in frequency during peak afternoons and early evenings, to ensure that park sites are kept garbage-free and clean. <b>(3)</b> The cost of restoration/repair of damage to NPS/Trust park facilities, furnishings, and/or turf, would be addressed by NPS/Trust maintenance staff whose expense would be reimbursed by the City pursuant to its Memorandum of Understanding with the NPS for NPS lands and the Presidio Trust for Presidio Trust managed areas.	NPS/Presidio Trust Agreement and/or Permit	Project sponsors
VUE-17	Alternative B	<b>Visitor Satisfaction Related to Parklands Facilities and Information (Alternative B).</b> Orientation and information booths would be established and staffed by the project sponsor at each primary viewing area (i.e., West Crissy Field and SAFR Aquatic Park) to provide the public with information about races and orientation to visitor services. In addition, NPS trained public information officers (PIOs), funded by the project sponsor, would be present at primary viewing areas. Social media would also be utilized to ensure the dissemination of current information about sites and race activities.	NPS/Agreement and/or Permit	CCSF
	Alternative C	<b>Visitor Satisfaction Related to Parklands Facilities and Information (Alternative C).</b> Information kiosks, along with social media updates, would be provided by project sponsor at main entrances to Crissy Field and SAFR. Printed material about the weekly race schedule and a map of NPS temporary visitor support facilities and transit would be made available at those locations and NPS and park partner primary visitor areas.		
	Alternative D	<b>Visitor Satisfaction Related to Parklands Facilities and Information (Alternative D).</b> Orientation and information booths, augmented by NPS-trained PIOs, similar to those under Alternative B, would be provided by project sponsors at primary viewing areas during race weekends.		
	Alternative E	<b>Visitor Satisfaction Related to Parklands Facilities and Information (Alternative E).</b> Information kiosks, would be provided by project sponsor at the main entrance to SAFR. Social media updates would also be provided. Printed material about the weekly race schedule and a map of NPS temporary visitor support facilities and transit would be made available at NPS and park partner primary visitor areas.		
VUE-18	Alternatives B, C, D, E	<b>Visitor Satisfaction, Safety, and Screening.</b> Real-time information regarding ferry service delays to and from Alcatraz Island would be provided by ACRM to the point of sales locations. Alcatraz Island Ferry passengers and their carry-on items may be subject to additional security screening at points of embarkation during race days.	NPS/Special Events Permit	Project sponsors in coordination with NPS
VUE-19	Alternatives B, C, D, E	<b>Temporary Bicycle Parking.</b> SFMTA would provide temporary secure and managed bicycle parking at Crissy Field and SAFR, as described under Management and Protection Measure TRA-11.	NPS and Trust/Agreement and/or Permit	CCSF
<b>Visual Resource Management and Protection Measures</b>				
VIS - 1	Alternatives B, D, E	<b>Temporary Weather Monitoring and Satellite Installations Restrictions (Alternatives B, D, E).</b> Any AC34 event-related weather monitoring and satellite equipment installed on NPS lands would be temporary, not interfere with existing operations (i.e., rooftop photovoltaic systems), be located as far from the water's edge as possible, and be subject to terms and conditions of an NPS special events permit and Section 106 of the National Historic Preservation Act, as applicable. In order to minimize obstructions of bay views, project sponsor would evaluate the potential for use of rooftop locations as an alternative to pier aprons for such installations. On Alcatraz Island, for example, such installations would be located in areas of limited visibility from visitor populated areas. Whenever possible, project sponsor would avoid the use of light or bright colored equipment for such installations, instead utilizing darker, earthen tones, to minimize contrast with the surrounding landscape. Project sponsor would also remove or cover equipment when not in use.	NPS/Agreement and/or Permit	Project sponsors with oversight by an NPS resource monitor
	Alternative C	<b>Temporary Weather Monitoring and Satellite Installations Restrictions (Alternative C).</b> There would be no weather monitoring or satellite equipment installed on NPS lands under Alternative C.	N/A	N/A

NOTES:

ACEA = America's Cup Event Authority; ACRM = America's Cup Race Management; CCSF = City and County of San Francisco; CARB = California Air Resources Board; GGBHTD = Golden Gate Bridge Highway and Transportation District; GGNRA = Golden Gate National Recreation Area; N/A = not applicable; NPS = National Park Service; OEWD = Office of Economic and Workforce Development; SAFR = San Francisco Maritime National Historical Park; SFPD = San Francisco Police Department; SFPUC = San Francisco Public Utilities Commission; USCG = United States Coast Guard; U.S. EPA = United States Environmental Protection Agency.



## **2.6 FEDERAL TEAM PREFERRED ALTERNATIVE**

As noted in Section 2.5, the federal team selected a preferred alternative after an eight-month-long alternatives development and screening process, during which time alternatives for the project's timing, location, race area configuration, spectator venues, and water-based work, among other elements, were analyzed. This process resulted in the identification of the first four alternatives identified in Section 2.4 (Alternatives A through D). In March of 2012, the federal team formally evaluated the relative merits of these alternatives during a two-day value analysis workshop. The alternatives were further evaluated using a process called Choosing by Advantages (CBA), where the relative importance of the advantages between alternatives is considered. The agencies' objectives for taking action served as the bases for development of the criteria against which the alternatives were evaluated. Among the four alternatives developed to that point (Alternatives A through D), the workshop found Alternative C to provide the most advantages. However, in using CBA to develop a preferred alternative, the federal team was able to craft an additional action alternative, based upon elements of previously developed alternatives that ranked highest during the value analysis, while leaving behind those elements that did not score as well. In this workshop, Alternative E—the Preferred Alternative, was created due to the advantages identified below. This alternative was also found to be the environmentally preferred action alternative, as described below. Alternative E is summarized in Table 1 and described more fully in Section 2.13.

Compared to the other alternatives, advantages of Alternative E include:

- Better support of balanced unique visitor experiences;
- Fewer impacts on day -to -day operations;
- Lower potential for impacts on natural resources;
- Reduced impacts from in-water construction; and
- More protective of avian species.

## **2.7 ENVIRONMENTALLY PREFERABLE ALTERNATIVES**

The NPS identifies the environmentally preferable alternative in its NEPA documents for public review and comment. The Council on Environmental Quality (CEQ) defines the environmentally preferred alternative as the alternative that best promotes the national environmental policy expressed in NEPA. As specified in NEPA Section 101(b), it is the continuing responsibility of federal agencies to:

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

4. preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;
5. achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

A comparative analysis of the alternatives yielded multiple environmentally preferable alternatives. The No Action Alternative is most closely aligned with the NEPA prescriptions because it contains no proposition that would directly conflict with the policies set forth in the Act. However, each of the action alternatives carries with it some level of risk and the potential for impacts to the natural and human environment. At the same time, NEPA also recognizes that a balancing of human need and resource use is sometimes appropriate, and encourages a wide range of beneficial uses of the environment, provided that safeguards are in place to prevent undesirable or unintended outcomes, which in the case of NPS refers to avoiding or minimizing impacts to park resources. Each of the action alternatives would, to varying degrees, advance the policy prescriptions outlined above by attracting new visitors to waterfront parklands where they would have the opportunity to learn about and to experience the very resources that the NPS is charged with preserving and promoting—and that NEPA was enacted to protect—while including detailed management and protection measures to ensure impacts to the natural and human environment are avoided and/or minimized. Such measures include specific actions designed to address visitor safety and experience, natural and cultural resource protection and restoration, and resource conservation and recycling, among many others.

When considering the major components of the action alternatives, along with the management measures described above, Alternative E emerges as the alternative that best promotes the policy expressed in NEPA. The Preferred Alternative (Alternative E) provides for the widest range of beneficial uses, while avoiding or minimizing impacts to park resources and providing for a quality visitor experiences. By timing the AC34 2012 events to coincide with Fleet Week, Alternative E would involve fewer days of 'exclusive' use of lands and waters under federal jurisdiction, freeing up these areas for use by others. In contrast to Alternative C, which would involve no organized events on NPS land, Alternative E would allow for use of SAFR, on weekends if there was agreement on the type and scale, and to a lesser extent Alcatraz on a few evenings for organized event-related activities. NPS would ensure that any such activities were limited in size, duration, and frequency, and restricted to areas where potential impacts to sensitive resources would be minimized or avoided altogether. As with landside activities, and compared to other action alternatives, Alternative E water-based work (i.e., dredging) would be substantially reduced. The eastward shift in Alternative E 2012 race areas would create the largest buffer between sensitive resources at Crissy Field and the race area, further limiting crowding along waterfront parklands within the project area and the potential impacts thereto. In addition, the aircraft and marine vessel buffers established for sensitive habitat areas would often be larger than those identified for other action alternatives. For these reasons, Alternative E is also the Environmentally Preferred Action Alternative.

## **2.8 ALTERNATIVE A – NO ACTION**

The No Action Alternative is included as an alternative for detailed analysis pursuant to 40 CFR 1502.14(d) of the Council on Environmental Quality’s NEPA regulations. Pursuant to CEQ guidance, for cases in which the federal action concerns a decision regarding a proposed project, the “no action” alternative would mean the proposed activity would not take place (CEQ 1981). In this Environmental Assessment, the No Action Alternative assumes that the NPS, USCG, Corps, and Presidio Trust would not issue permits, develop special regulations, or undertake other discretionary actions to authorize the 34th America’s Cup (AC34). As such, under Alternative A, there would be no AC34 races on San Francisco Bay, no organized AC34 activities on NPS lands, and no AC34-related water-based work.

Alternative A provides a baseline for comparing the other alternatives, evaluating the magnitude of change that would occur under each, and measuring the effect of those changes. Existing conditions within the project area, as described in Chapter 1, are summarized Section 2.3, above. A more detailed description of these conditions within the project area is provided in Chapter 3—Affected Environment. The No Action Alternative assumes a continuation of past, present, and reasonably foreseeable social, environmental, and economic conditions, including those under the purview of the NPS, USCG, Corps, and Presidio Trust.

## **2.9 ELEMENTS COMMON TO ACTION ALTERNATIVES**

### **2.9.1 General Race Area Location**

Under each action alternative, the AC34 sailing races would be held in Central San Francisco Bay, within an area bounded by the San Francisco waterfront to the south; the San Francisco-Oakland Bay Bridge, Treasure Island, and Yerba Buena Island to the east; portions of southern Marin County (including Angel Island) to the north; and the Golden Gate Bridge to the west. The area shown in **Figure ALT-1** represents the maximum area originally suggested by the project sponsors within which actual race courses could be developed and the races themselves conducted. It should be noted the actual race course(s) for the sailing races would be located within smaller portions of this race area, would vary among the alternatives, and would be determined based on government agency coordination and optimum race conditions in 2012 and 2013. Spectator boat area locations within the race area would also be influenced by those circumstances.

### **2.9.2 Spectator Venues and Secondary Viewing Areas**

Spectator venues analyzed in this document are defined as the primary viewing areas for visitors on federal lands where programmed AC34 events might be held. These include Aquatic Park, within the San Francisco Maritime National Historical Park (SAFR); and Crissy Field, within the Golden Gate National Recreation Area (GGNRA). Secondary viewing areas are defined as federal lands where programmed AC34 venues would not occur but where spectators of AC34 events could be drawn to view the races. Secondary viewing areas include points within the Presidio, Fort Mason, Alcatraz Island, Fort Baker, and the Marin Headlands. **Figure ALT-2** provides an index map that groups the potential AC34

spectator venues and secondary viewing areas in 2012 and/or 2013 into geographic subareas. **Figures ALT-3 through ALT-7** provide a more refined perspective of each individual subarea. Characteristics of these spectator venues and secondary viewing areas are summarized in Section 2.3, above. A more extensive discussion of each is provided in Chapter 3—Affected Environment. Angel Island and Treasure Island—under the management of the State of California (along with some limited National Park Service and United States Coast Guard jurisdictional areas respectively) and the City and County of San Francisco—might also serve, to varying extents depending on the alternative, as spectator venues or secondary viewing areas.

### 2.9.3 Race-Related Water-Based Work

The project sponsors have also proposed certain water-based work to support race-related venues on properties along the San Francisco waterfront, outside of NPS and USCG jurisdiction. Some of this work, such as construction of floating docks, placement of concrete block or helical anchors for mooring, bay dredging, and dredged material transport for ocean disposal, are addressed in this Environmental Assessment because they require authorization from the Corps. Sites along the San Francisco waterfront where one or more of these actions could occur include near-shore areas around several of San Francisco's waterfront piers and Marina Green. Figure ALT-1 shows the general locations of these areas. A more detailed description of the activities and specifications of the water-based work that could occur at these locations is provided under the respective action alternatives.

### 2.9.4 Racing Yachts

Two new classes of yachts would be raced during AC34: (1) the "AC45" class, planned for the America's Cup World Series (ACWS) in 2012; and (2) the "AC72" class, planned for exhibition in 2012 and races in 2013. **Figure ALT-8** provides conceptual renderings of the AC45 and AC72 yachts. The AC45 yachts would be approximately 45 feet long (hence the name AC45) and 23 feet wide, with a mast height of 70 feet, and a draft of approximately 9 feet. Each AC45 would be operated by a crew of five people. The AC72 yachts would be 72 feet long and 46 feet wide, with a mast height of 130 feet, and a draft of approximately 15 feet. Each AC72 would be operated by a crew of 11 people. The latter yacht class would be the fastest yacht class in the America's Cup competition to date, expected to sail in excess of 30 knots, sailing upwind at 1.2 times the speed of the true wind and downwind at 1.6 times the speed of the true wind.

The yachts would be launched from potential team base locations at either Pier 80 or Piers 30-32 on the San Francisco waterfront (see Figure ALT-1). They would be lifted by onsite cranes and lowered into the adjacent water. The yachts do not have engines; therefore, they would be either sailed or towed (by a support vessel) to and from the launch and race areas. Under the rules of the race, yachts are required to remain within the race area during racing. Due to the efficient design of the hulls, the yachts are very quiet and leave almost no wake.





## 2.9.5 Event Monitoring and Support Vessels

### 2.9.5.1 Watercraft

Umpires would officiate the races from rigid hulled inflatable boats (RIBs) within course limits, each measuring approximately 27 feet in length. Watercraft used to monitor the race would launch from either Marina Green or Pier 80 and motor to the race course.

### 2.9.5.2 Helicopters

Helicopters would be used during the 2012 and 2013 races to serve broadcasting and media operation needs. America's Cup Event Authority Television (ACEA TV) would use up to three helicopters for the match racing days. The helicopters would be choreographed and move around the race course to anticipate stages of each race for filming. The ACEA TV helicopters following each race would fly between 100 and 400 feet above sea level (ASL) within most offshore race areas. However, under no alternative would helicopters be permitted to fly lower than 1,000 feet ASL and within 1,000 feet (horizontal) of Crissy Field and Alcatraz Island mean high tide lines. As described below, additional buffer restrictions would apply under the various alternatives. The helicopters would normally perform coverage operations for up to three hours and require refueling once per day. A helicopter landing pad (helipad) would be used to serve as a temporary staging location for these helicopters, such as between individual races on a race day. An existing helipad site located in the southeast corner of Treasure Island (at California Avenue and Avenue N) is expected to be used for helicopter staging.

## 2.9.6 Procedures During Race Events

The America's Cup Race Management (ACRM) would designate an official AC34 Course Marshal, who would be responsible for managing on-water race event activities in accordance with ACRM's *America's Cup Course Marshal Instructions*, applicable laws and regulations, and conditions of the USCG Marine Event Permit and NPS Special Event Permit. The AC34 Course Marshal would establish a race course for each racing day within the conditions and parameters established under the USCG Special Local Regulation (SLR), final CEQA and NEPA documents, and various other regulatory approvals and permits. The course boundaries would be marked by ACRM-designated "stake boats." Stake boats would fly a unique identification flag and maintain a specific position, both provided by ACRM, for the duration of the race. All boats not officially affiliated with the AC34 races would be required to remain outside of the area delineated by the stake boats ('race area'). Attendant boats would be stationed at the starting lines and at each turning mark within the actual race course. Official media boats may also follow alongside the racing yachts within the race area. Several support boats, including 22 to 32 foot racing team (RIB) chase boats (up to two per team), emergency response, and tow and rescue boats, would also operate within an approximately 200-foot-wide reserve corridor outside but adjacent to the race course (within the race area). The total number of support vessels would vary, depending upon the number of teams competing in the race. If personal watercraft is used for race support, it would not enter into the 0.25-mile NPS legislative offshore boundaries. These areas would be monitored and managed as part of the race course through an integrated, marine management team, including the NPS and USCG.

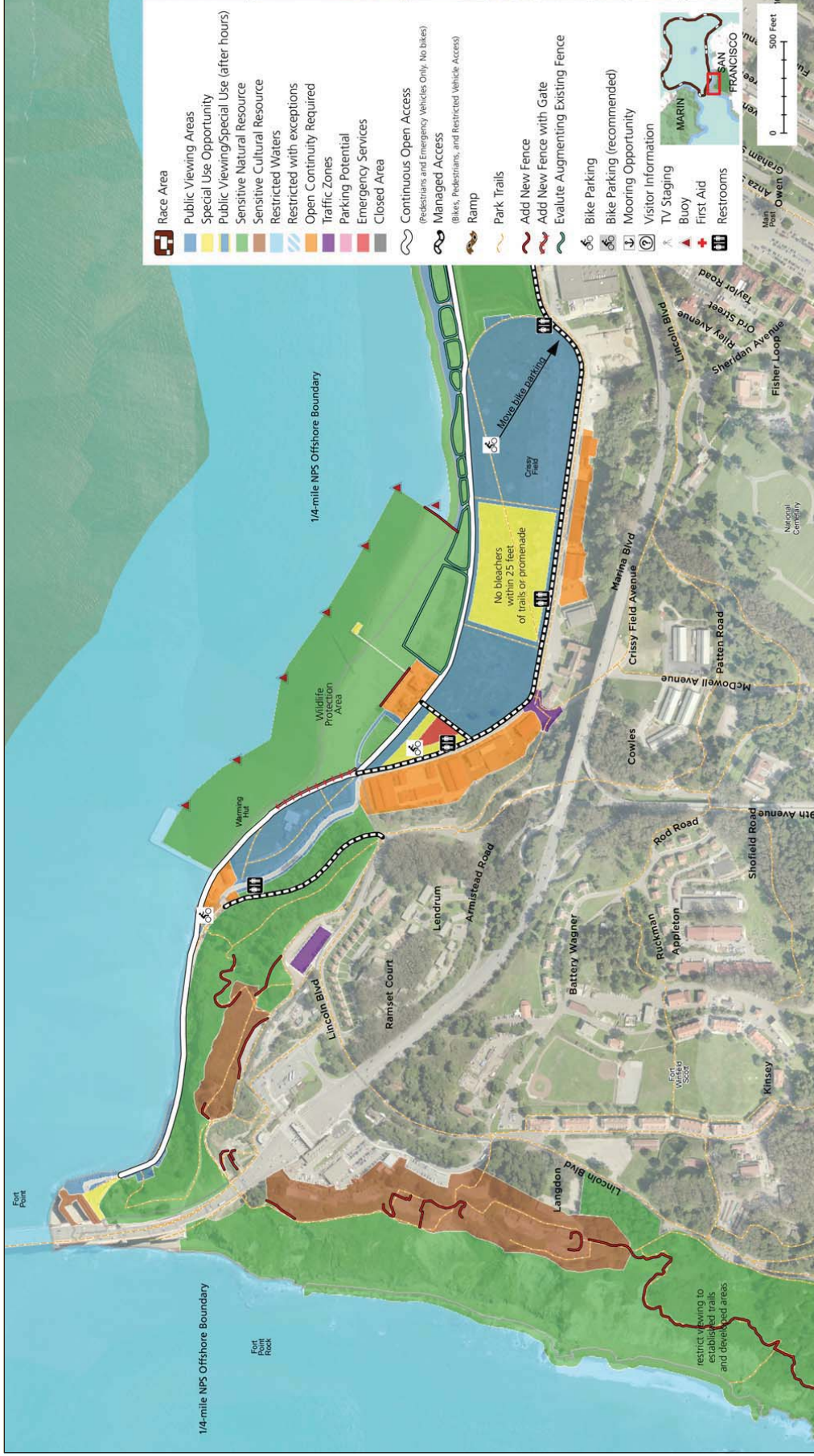
All race management personnel would scan for debris or other obstructions that could possibly damage or impede fair play. If possible, these items would be removed by race management personnel. Although unlikely, in the event that a large marine mammal is observed, the AC34 Course Marshal would postpone or abandon the race that day, depending on the direction the animal is moving or its proximity to the course. These actions would be taken to ensure the safety of the marine mammals as well as the racing boats and crews.

### **2.9.7 Fireworks and Entertainment**

The project sponsors have proposed the use of fireworks during nighttime entertainment for 2013 events. As currently envisioned, there would be up to four fireworks events, lasting between 30 and 45 minutes each. Fireworks would be launched from a barge positioned for best viewing at the America's Cup Village near Piers 27-29. As is typical for the annual Fourth of July fireworks events, it is anticipated that aerial shells would be launched from tubes (called mortars), using black powder charges, to altitudes of 200 to 1,000 feet, where they would explode and ignite internal burst charges and incendiary chemicals. Most of the incendiary elements and shell casings burn up in the atmosphere; however, portions of the casings and some internal structural components and chemical residue fall back to the ground or water, depending on prevailing winds. The project sponsors have coordinated and will continue to coordinate with both the NPS and the USCG regarding limits on the location, frequency, and duration of the fireworks to protect wildlife and other resources. Any proposed fireworks displays over water would be subject to approval by the USCG and subject to terms and conditions of the USCG Marine Event Permit and NPS Special Event Permit.

### **2.9.8 NPS Management Zone Planning**

In anticipation of the potential for AC34-related increases in visitation to lands and waters under its jurisdiction, the NPS created a management zone framework for parklands within the project area that were identified by the project sponsors and federal agency team as possible spectator venues and secondary viewing areas. This framework was designed to address a wide range of issue areas, including but not limited to protecting sensitive cultural and natural resources, preserving park visitor enjoyment and recreational opportunities, facilitating transportation access for park staff and partner organizations, and identifying facilities that may be suitable for special events, among others. This framework is conveyed graphically through "management zones," which the NPS prepared for Crissy Field, the San Francisco Maritime National Historical Park, Fort Mason, Alcatraz Island, Fort Baker, and the Marin Headlands. These "zones" are presented in **Figures ALT-9 through ALT-14**. By no means exhaustive, the proposed management zones represent parameters that the NPS established early in the planning process to provide guidance for potential uses in subareas, indicative of general management objectives that certain management and protection measures identified in Table ALT-2 are designed to advance. Discussed more fully in the sections that follow, park visitation would increase under each action alternative analyzed in this Environmental Assessment. To avoid and/or minimize potential impacts associated with such increases, the NPS would, to varying degrees depending upon the action alternative, undertake or require of the project sponsors as a condition of permit approval certain measures, as represented in Table ALT-2 and Figures ALT-9 through ALT-14, to ensure conformance with its management objectives.



AC34 / Environmental Assessment (210317)  
**Figure ALT-9**  
 West Crissy Field Management Zoning

SOURCE: AECOM





AC34 / Environmental Assessment (210317)  
**Figure ALT-10**  
 East Crissy Field Management Zoning

SOURCE: AECOM



AC34 / Environmental Assessment (210317) **Figure ALT-11**  
 San Francisco Maritime National Historical Park  
 and Fort Mason Management Zoning

SOURCE: AECOM