U. S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

MARIN HEADLANDS AND FORT BAKER TRANSPORTATION INFRASTRUCTURE AND MANAGEMENT PLAN

RECORD OF DECISION

Golden Gate National Recreation Area
Marin County, California

Introduction

Pursuant to §102 (2) (c) of the National Environmental Policy Act of 1969 (P.L. 91-190, as amended), and regulations promulgated by the Council on Environmental Quality (at 40 CFR 1505.2), the Department of Interior, National Park Service has prepared this Record of Decision regarding the *Marin Headlands and Fort Baker Transportation Infrastructure and Management Plan* and *Final Environmental Impact Statement* for Golden Gate National Recreation Area (GGNRA). Included is a description of background of the project, a statement of the decision made, synopses of other alternatives considered, a description of the environmentally preferred alternative, the basis for the decision, findings on impairment of park resources and values, measures to minimize or avoid environmental harm, and an overview of public involvement and agency consultation in the decision-making process.

Decision (Selected Action)

The National Park Service (NPS) will adopt and implement the agency preferred alternative (Alternative 3 - Enhanced Multi-modal Access) as described in the Final Environmental Impact Statement (Final EIS) released in March 2009. The approved Alternative 3 to be implemented is summarized as follows:

The NPS will rehabilitate or reconstruct roadway infrastructure without altering the character of the roadway, and will improve parking facilities. Additional transit options will be provided to and within the park to improve access to the park, subject to available funding. Trail enhancements will include improving or closing and/or rerouting some existing trails and constructing new trails. Bicycle access will be improved, as well as signage to assist visitors. Some infrastructure elements will be changed to fit within the available space. Parking fees will be established throughout the Marin Headlands and Fort Baker area to provide funding for the transit improvements. Section 2.2 of the Final EIS details elements that will be implemented as part of the selected action; some of these actions are referred to as "Elements Common to All Alternatives" and are described on pgs 20-30 of the Final EIS.

Main Actions

The main actions included in the Selected Alternative (Alternative 3 - Enhanced Multi-modal Access) are summarized below.

1. Improve roadways through light reconstruction and non-character altering road widening.

2. Widen roadways and parking areas, and realign roadways at specific locations, including Battery Spencer and Overlooks 1 and 2 on Conzelman Road, in order to improve the safety of bicyclists sharing the roadway with motorized vehicles. Widening at these specified locations will allow cars to partially back out to gain sight distance to see oncoming vehicles prior to entering the traveled way.
3. Construct a new bicycle/pedestrian path between Fort Baker and the Marin Headlands along the utility road north of East Bunker Road, with a new bicycle/pedestrian tunnel under Alexander Avenue (in lieu of widening East Bunker Road to provide a bike lane).
4. Permit cyclists on the Rodeo Valley Connector Trail, an existing trail between Conzelman Road north to Bunker Road. The trail starts east of Battery Rathbone-McIndoe on Conzelman Road, connecting to Bunker Road east of the riding stables. This will be a multi-use trail allowing use by pedestrians, equestrians, and bicyclists.
5. Provide an uphill bike lane to improve safety on Lower Conzelman Road (from the trailhead lot) and on Conzelman Road by widening the road. On Conzelman Road, the bike lane will be from Alexander Avenue to the intersection with McCullough Road.
6. Convert major intersections from a Y to a T configuration to improve safety (see below), except construct a roundabout at the Conzelman Road / McCullough Road intersection to facilitate bus turnarounds.
7. Terminate Field Road at the Point Bonita trailhead and construct a turnaround loop. Close the Mendell parking lot, Mendell Road, and the Bird Island Overlook parking lot to allow the restoration of natural and cultural resources, including historic earthworks. With these parking lot closures, the nearest large parking lot will be at Battery Alexander. Construct a new pedestrian trail from the Battery Alexander parking lot to the Point Bonita trailhead, pave the Point Bonita trailhead parking lot, and provide a pedestrian/bicycle path on the existing roads (Mendell Road) for access to the Bird Island Overlook.
8. Implement a wayfinding program and apply intelligent transportation systems (ITS) technologies (including electric changeable message signs and highway advisory radio alerts) to provide improved visitor information and safety, and to reduce congestion at key locations (including the Battery Spencer parking area).
9. Rehabilitate NPS Marin roads and trails maintenance yard in place (reduce in size by up to half, re-grade area to be less steep, move NPS vehicle parking to paved erosion-resistant areas, build a new garage to house equipment and materials, install vegetated drainage swales, and revegetate remainder of former yard). If needed to address parking demand, create some replacement parking in infill areas at Fort Cronkhite, possibly including the rehabilitated roads and trails maintenance yard. Construct an associated sidewalk along Old Bunker Road (2 to 4 feet wide) to connect the maintenance yard parking to the interior of Fort Cronkhite.
10. Eliminate informal parking areas along Conzelman Road shoulder to improve safety and reduce natural resource impacts, and construct a new parking area on Julian Road near the Conzelman Road intersection to replace some of the roadside parking.
11. Remove the unpaved Rodeo Beach parking lot to restore pre-existing wetland condition to re-establish natural hydrologic and wetland conditions by reversing past human disturbances to natural processes; replace some of the lost parking with replacement

parking in infill areas at Fort Cronkhite and/or the rehabilitated roads and trails maintenance yard. This removal will be conducted in phases based in implementation of replacement parking, parking needs, and provision of transit access. Decisions about replacement parking within this area will also be confirmed through the General Management Plan update process currently underway, and the cultural landscape report (CLR) also currently underway.

12. Shift Smith Road closer to Bunker Road to replace existing parking at the historic rifle range. Close the rifle range and adjacent pistol range to all vehicles and parking. Provide 150 parking spaces on a combination of permeable material and pavement for the new Rodeo Valley trailhead, special events, and a car-free-days program to replace parking removed from the rifle range. Close the Bunker Road bypass, and consider opening only for special event and car-free-days parking. Remove two existing trail bridges west of the rifle range. Provide new bridge connection from the trailhead to the Rodeo Valley Trail. Design the Smith Road parking area to accommodate large vehicles, including horse trailers; organize and delineate to provide adequate space for pedestrians, bicyclists, and equestrians to safely move through this area.
13. Reduce and organize the quantity of parking at selected sites (e.g., Battery Spencer) to improve safety and to provide improved pedestrian facilities.
14. Organize and delineate parking at remaining parking locations to improve safety, alleviate parking congestion, and reduce impacts on resources.
15. Construct a new Coastal Trail hiker segment parallel to Conzelman Road between current crossing on Conzelman Road and Field Road to Battery Alexander and Rodeo Beach Trail, providing a more coastal route for hikers. Re-grade and revegetate the trail segments that are replaced with reroutes.
16. Improve the Rodeo Valley Trail surface (make it hardened but permeable and not paved) to accommodate bicycles on the segment between Bunker Road and the new bridge at the Capehart residential neighborhood near the intersection of Bunker and McCullough Roads. Realign the trail west of the rifle range to restore riparian resources. Add signage for safety, including share the trail and slow speed signs.
17. Improve connections to the Rodeo Valley Trail at Smith Road (as described under item 12 above) and Dubois Road (trail). Improve Dubois Road (trail) between Julian Road and McCullough Road for bike/pedestrian use. Connect trail to new bike/pedestrian bridge at Capehart housing to access Rodeo Valley Trail.
18. Widen East Road to provide additional width where possible in the paved shoulder area for bicyclists and space for the San Francisco Bay Trail. Other than the existing pullout areas, no new formal parking is proposed on East Road. During the car-free days or special events, cars could be parked on East Road.
19. Upgrade the Rodeo Lagoon loop trail to make portions accessible.
20. Work with the San Francisco Municipal Transit System, Golden Gate Transit, or another provider to encourage expanding existing transit service and improve park access to the main Fort Baker post area, and facilitate transfers between transit providers.

21. Implement a new shuttle system for Fort Baker and the Marin Headlands to provide mobility within the park.
22. Implement a program of car-free days on a limited, trial basis for a maximum of seven days per year to provide an alternative visitor experience.
23. Institute a parking fee program for private vehicles in the Marin Headlands and Fort Baker to provide funding for improved transit service and car-free day operations.

Integrated actions to be implemented according to project component are presented below; specific descriptions of these actions are detailed in the Final EIS on pgs 38-47.

Roadways and Vehicular Circulation

Universal design concepts that maximize accessibility for all visitors (including visitors with disabilities) will be applied to all facility designs to the greatest extent possible. Roadway infrastructure will be improved through light reconstruction and roadway widening without altering historic character of roads in the study area. In most cases reconstruction will be accomplished within the existing road bench (the graded area between the inboard ditch and outboard shoulder that includes the travel lanes), though new retaining walls will be constructed in several narrow locations. Safety improvements will be implemented at critical intersections.

Most road widening in the study area will increase the width of roads from 2 to 4 feet to allow for Class 2 bicycle lanes or to improve safety on Class 3 bike routes. Roadways widened for uphill bike lanes will include Lower Conzelman Road and portions of Conzelman Road. Road widening at Battery Spencer will include excavation to increase the extent of an existing rock cut by approximately 328 feet (100 m) within the road curve. This will improve sight distance at this popular destination and improve the safety of vehicles, pedestrians, and cyclists on Conzelman Road and vehicles entering and exiting the parking area. Most of the existing roads will be reconstructed/rehabilitated on the same, or very similar, vertical and horizontal alignments.

To improve safety for either motorized vehicles or bicycles (Class 3), the following roads will be widened: McCullough Road, Bunker Road, Field Road, Mitchell Road, East Road, and the access road to the Marine Mammal Center. In addition, west of the tunnel the Bunker Road shoulders will be widened at select locations (i.e., blind corners) to improve sight distance and safety. The function of the following roads will change, resulting in closure or conversion:

- Field Road will be terminated at the Point Bonita trailhead, and Mendell Road will be closed to traffic, and converted to an unpaved multi-use trail.
- The southern section of Slacker Road (trail) will be closed and rerouted to a less steep path to address erosion problems while maintaining access to two research sites.
- Dubois Road (trail) will be converted to a pedestrian/bicycle trail.
- The Bunker Road bypass will be closed to traffic except for parking during special events and car-free days.

Other changes will include the following:

- Smith Road will be shifted closer to Bunker Road to restore natural resources.
- The intersection of Conzelman Road and McCullough Road will be replaced with a roundabout to allow for safe bus turnaround and to maintain traffic flow.

- The following intersections will be reconstructed from Y to T configurations to improve operations and safety:

  McCullough Road / Bunker Road

  Bunker Road / Field Road

  East Road / Alexander Avenue.

- The Bunker Road / Mitchell Road intersection will be converted to a three-way stop to improve safety. This measure will be reevaluated for effectiveness based on the results of monitoring for traffic safety and operations (e.g., long queues resulting in congestion), and if needed, the intersection will be converted to a T configuration.
- The intersection of U.S. 101 and Conzelman Road will be improved to accommodate the turning radius of buses. The east entrance to the visitor center on Field Road will be reconstructed to be aligned with Bodsworth Road. The entrance to Battery Alexander parking lot will be improved to allow for better sight distance and safer entering and exiting movements.

In addition to the Fort Baker traffic management and monitoring program that is common to all alternatives, signage as part of a wayfinding program and ITS technologies will be implemented to improve visitor information and safety and to reduce traffic congestion at key locations, such as Battery Spencer parking area.

Parking Management and Fees

Parking facilities will be reconfigured, delineated, and formalized in many locations to improve parking operations, reduce congestion, better match parking supply with demand, and reduce natural resource impacts. Parking spaces in the Marin Headlands will be reduced from approximately 1,593 existing spaces to about 1,330 spaces. Parking spaces in Fort Baker will be reduced slightly (from 961 spaces to 944), as compared to the Fort Baker Plan/EIS and to Alternative 1, because of East Road improvements.

A parking fee program will be implemented throughout the planning area to provide a source of funding for enhanced transit service to the Marin Headlands and Fort Baker. Parking areas where fees will be implemented will be determined during development of the parking fee program, with opportunities for public involvement. There could be a mix of fee payment options, including daily, monthly, and yearly passes for display in vehicles. Passes could be purchased at the visitor center or at parking pass vending machines in key locations throughout the study area. The parking needs of park staff, park partners, and visitors will be considered during development of the parking fee program. Fee payment options could include an annual parking pass that may reduce costs for more frequent park users. Details of implementation, administrative, and maintenance costs for the parking fee program will be considered in developing the final program budget and fee.

To replace some of the roadside parking closed along Conzelman Road, a new parking area will be provided on Julian Road near the Conzelman Road and McCullough Road intersection. The parking lot at Battery Mendell and Bird Island Overlook will be removed because Field Road will be terminated at the Point Bonita trailhead; however, parking will be available in the improved Battery Alexander and Point Bonita trailhead parking lots and on the roadside at the

terminus of Field Road. New parallel parking will also be provided along the road to the Marine Mammal Center.

The unpaved portion of the parking lot at Rodeo Beach will be removed to reduce erosion and to allow the restoration of the riparian corridor in that area. Some replacement parking will be provided in infill areas in the Fort Cronkhite, to be identified following completion of a Cultural Landscape Report (CLR), and coordinated with the General Management Plan update process currently underway. Replacement parking could also be located in the rehabilitated maintenance yard. An associated sidewalk (2 to 4 feet wide) will be constructed along Old Bunker Road to connect the maintenance yard parking as well as Marine Mammal Center parking to the interior of Fort Cronkhite. The removal of Rodeo Beach parking will be conducted in phases based on implementation of replacement parking, parking needs, and provision of transit access. Decisions about replacement parking within this area will also be confirmed through both the General Management Plan update and the CLR currently underway.

The rifle range will be closed to all vehicles and parking, with a new trailhead lot at Smith Road. Smith Road will be shifted closer to Bunker Road, and 150 parking spaces for special events or car-free days will be provided on a combination of reinforced grass and pavement to provide accessible access. Also during special events and car-free days, the Bunker Road bypass will be opened for parking; at all other times the bypass will be closed. If additional parking was needed during special events or car-free days, vehicles will be allowed to park on the shoulder of Bunker Road near the bypass.

Parking will be reorganized and delineated at the remaining locations, including the following: Conzelman Road (including Overlooks 1 and 2), Battery Spencer, Upper Fisherman's and Lower Fisherman's trailheads, Hawk Hill, Battery Alexander, internal parking at Fort Barry, and East Road parking. Except at Battery Alexander and Fort Barry, the number of parking spaces will be reduced to allow for these improvements. At Hawk Hill, head-in parking stalls will extend over the side of the hill and away from the driving lane using a 515-foot long, 14-foot high retaining wall. Additional parallel parking will be provided on the inboard side of Conzelman Road. The number of parking spaces will not change relative to existing conditions. The park will also consider operation of a seasonal weekend shuttle to Hawk Hill from other Marin Headlands parking lots to provide access to the Golden Gate Raptor Observatory program site if Hawk Hill parking is insufficient. To manage parking at the Battery Spencer parking area, signage will be provided (directing visitors to other areas when the lot is at capacity). The trailhead parking lot west of Highway 101 will be promoted as an alternative to the Battery Spencer lot.

Visitor amenities, such as information kiosks, benches, and vault toilets, will be installed at major parking areas, including parking areas at the new Smith Road trailhead, Battery Alexander, Hawk Hill, and Julian Road. These amenities will be designed to be compatible with the historic district and will be implemented based on the availability of funding.

Bicycle and Pedestrian Improvements

Universal design concepts that maximize accessibility for all visitors (including those with disabilities) will be applied to all facility designs to the greatest extent possible. All new or reconstructed trails will meet outdoor accessibility guidelines to the extent possible as outlined in the Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas: Final Report (United States Access Board 1999). While many trails occur in the project area, trail use will remain unchanged on most of these trails except as noted below:

Class 1 bicycle paths and Class 2 bicycle lanes (and multi-use trails) will be added at several locations in the study area, and pedestrian trails will be extensively improved. A new bicycle/pedestrian trail will be constructed to connect Fort Baker and bike lanes at Barry-Baker tunnel and the Marin Headlands. This facility will include a new separate bicycle/pedestrian tunnel parallel to Bunker Road under Alexander Avenue and the addition of a sidewalk on the north side of Danes Drive. This new pedestrian/bicycle trail will also provide a connection between the bus transfer on Alexander Avenue/U.S. 101, Fort Baker, and the Marin Headlands.

With the closure of Mendell Road, a Class 1 bicycle path will be provided between the Point Bonita trailhead and Bird Island Overlook, maintaining access to the overlook for both pedestrians and bicyclists. The Rodeo Valley trail will be widened with a hardened surface (permeable but not paved) between the Capehart housing area and Bunker Road at Rodeo Lagoon to provide a Class 1 bicycle path on the existing equestrian and hiking trail. The existing route will be realigned west of the rifle range to allow restoration of the riparian area. Signage for safety will be added, such as share the trail and slow speed signs.

To connect to Rodeo Valley Trail, Dubois Road (trail) will be converted to a pedestrian/bicycle trail between Julian Road and McCullough Road. Both pedestrians and bicyclists will use McCullough Road shoulder between Rodeo Valley trail and Dubois Road (trail).

A Class 2 bicycle lane will be added to Conzelman Road between Alexander Avenue and McCullough Road, providing a dedicated uphill (westbound) bicycle lane in this area; downhill (eastbound) bicycles will continue to share the travel lane with vehicles. Other roads in the study area will remain Class 3 bicycle routes, with shared bicycle/ vehicular travel lanes.

Some Class 3 bicycle routes will be improved through widening most roads in the study area by 2 to 4 feet. Paved shoulders on East Road will be widened to improve this bicycle route. Additional width will be provided where possible in the shoulder area for bicyclists. A 4-foot shoulder will be provided northbound from Fort Baker to the curve before the Sausalito/Marin City Sanitary District entrance, changing to a 3-foot shoulder from this point to the Alexander Avenue/East Road intersection. Southbound bicyclists from Alexander Avenue and Sausalito will have a consistent 3-foot wide shoulder until reaching the downhill grade north of Murray Circle, where the shoulder will become 2 feet wide. San Francisco Bay Trail will be extended along the east paved shoulder of East Road from the current Alexander Avenue connection.

Pedestrian facility improvements include improvements to existing trails, new trail construction, trail closures and rerouting, and other actions, including drainage improvements, erosion control, trail stabilization, and accessibility improvements.

- A new trail will be constructed between Battery Alexander and Rodeo Beach to replace the existing social trail.
- A new trail will be constructed between the Battery Alexander parking area and the Point Bonita trailhead to provide access from the parking area to the existing trail.
- Cyclists may use the Rodeo Valley Connector trail between Conzelman Road north to Bunker Road. The trail starts east of Battery Rathbone-McIndoe on Conzelman Road, connecting to Bunker Road east of the riding stables. This trail will be multi-use, allowing pedestrian, equestrian, and bicycle use. The trail will be improved for drainage and will include minor tread work and minor vegetation clearing. It will be re-routed to avoid a remediation site near

the hangar. Signage and calming measures will be provided at both ends of the trail to alert visitors they are in a developed area and could encounter vehicular traffic.

- A sidewalk will be constructed along the access road to the Marine Mammal Center.
- The Rodeo Lagoon loop trail will be improved with some alignment changes to make steep portions more accessible and address drainage and erosion issues.
- East Road will be widened to improve the bicycle route and accommodate the extension of the San Francisco Bay Trail along the east paved shoulder of the road from the current connection to Alexander Avenue.
- A new Coastal Trail hiker segment will be constructed parallel to Conzelman Road between the current crossing on Conzelman Road and Field Road to Battery Alexander and Rodeo Beach Trail, providing a more coastal route for hikers. The trail segments that are replaced with reroutes will be re-graded and revegetated. A total of approximately 14,930 feet of trail reroute will occur on existing roads, and a total of 11,325 feet of new off-road trail will be constructed.
- Duplicate trail segments in the vicinity of the rifle range, stables, and Fort Barry will be closed and revegetated.
- Slacker Road (trail) will be a rerouted pedestrian/equestrian-only trail, and will retain the connection to the SCA Trail. The existing route to the top of Slacker Hill will be converted from a road to a trail and some of the existing route will be removed and the site restored. The re-route will maintain access to the two Golden Gate Raptor Observatory (GGRO) research sites. Access to the east side of the launch site will be maintained for its views of the bay and city. The spur road leading from this trail that currently provides access to a raptor observatory research site will be closed and restored; access to this site will be provided through a new foot trail. Existing access to the other GGRO research site will be retained.
- Julian Road will continue to provide multi-use access.

Transit Services

Existing transit services will be expanded to improve access to and within the Fort Baker / Marin Headlands study area, with a goal to provide transit access within the park areas connected to adjacent transit service. Depending upon available funding, transit would be provided seven days a week and may be implemented by expanding or extending existing transit services. Service will be more frequent on weekends than on weekdays, and no determination has been made regarding a selection of service provider for the park shuttle service. No specific changes are identified for the existing GGT Route 70/80 service that stops at the Spencer Avenue bus pads adjacent to U.S. 101.

Expansion of the existing MUNI Route 76 service in the Marin Headlands will be encouraged on Saturdays, with a 30-minute service frequency on weekends. This route could also be extended to the new bus turnaround at the Point Bonita trailhead on Field Road. Either a new service provider or Golden Gate Transit will be encouraged.

Rerouting the existing GGT Route 10 on Alexander Avenue will be encouraged to provide direct service to the main post area of Fort Baker at 60-minute intervals seven days per week. This route will operate on Bunker Road and East Road to provide service to the main post area. The northbound transit interface will be on the east side of Highway 101 at the existing stop on the

Alexander Avenue exit ramp off northbound US 101. For the southbound transit interface, the park will work with GGT and other service providers to identify a feasible location for the interface (there currently is no existing GGT stop in the southbound direction near Highway 101). The park will work in collaboration with GGT, MUNI, and the shuttle service providers to develop an interface that could provide connections among these transit services. A new bicycle/pedestrian tunnel and trail under Alexander Avenue and sidewalks alongside Danes Drive will provide a bicycle and pedestrian connection between Fort Baker and these stops.

A new shuttle system serving Fort Baker and the Marin Headlands will be implemented to provide mobility within the park. Although this shuttle, funded by parking fees, will not provide service beyond the park areas and Alexander Avenue, it will be designed to coordinate with other transit operations in the area, including MUNI and GGT routes and the Fort Baker Conference Center shuttle, to make other transit connections possible. Trips could be operated up to every 60 minutes throughout the day, and 7 days/week, depending on funding availability. The transit ridership and funding will be monitored and service refined as appropriate. The shuttle system will be operated by a private contractor or a local transit provider such as Golden Gate Transit. This will not preclude expansion of the shuttle to make other transit connections in the future if other funding sources or partners were identified to make this service feasible. It is anticipated at this time, regardless of who operated the system, that no servicing garages, shops, or other facilities will be constructed in the Marin Headlands and Fort Baker area. If maintenance or other support facilities are needed, they will be evaluated under a separate planning effort and all applicable compliance will be undertaken.

Transit stops within the park will be improved in cooperation with service providers and will include the addition of benches, signage, and shelters at heavily used stops. To pay for the transit service expansion, parking fees or other potential revenue sources, such as lease revenues, will be investigated. The NPS will encourage public use of alternative modes of transportation through various media such as the park website, handouts, and signage. ITS and wayfinding will be implemented to encourage transit services.

Car-Free Days and Special Events

To allow visitors to experience the area with minimal vehicular traffic and to encourage visitors to use alternative modes of transportation to access the park and travel within it, a program of car-free days will be implemented on a limited, trial basis to allow the park flexibility in tailoring implementation and to coordinate with the public and park partners. Select trial periods will be limited to off-peak days with no more than seven trial days per year, e.g., the first Sunday of each month from April to October. After reviewing the program, GGNRA could adjust the number of car-free days or times and operations. Implementing the program will be coordinated with an extensive public information campaign, providing notice of the special operations and explaining the rationale and benefits of a car-free park experience. Prior to implementing the program to test car-free days, NPS will work with affected stakeholders, including park user group representatives, residents, and park partners to refine the details of the car-free area and operation to be tested in consultation with these groups. Other scenarios and strategies, including coordination with special events, may be tested. Detailed advance planning, with opportunity for public involvement, will address essential vehicle access and/or equipment drop-off, and park partners' concerns regarding operations, delivery vehicles, and other related issues.

In the Marin Headlands the car-free zone will include all roads west of the intersection of McCullough Road and Conzelman Road, with the exception of McCullough Road and the portion of Bunker Road between McCullough Road and Smith Road. The majority of visitors to the Marin Headlands will park at the new Smith Road trailhead parking. In addition, parking will be available on the Bunker Road bypass and shoulders of Bunker Road in this area. Equestrians will still park at the Smith Road parking area during car-free days as a result of closing parking at the rifle range. Visitors to the Golden Gate Raptor Observatory will be accommodated at Hawk Hill or Julian Road parking. (Figure 0.3 illustrates car-free zones and transit services that will be operated during car-free days.) In Fort Baker the car-free zone will include most of the internal roads of Fort Baker, outside of the Fort Baker Lodge area. Major through-roads will remain open, and their operation will be changed to a one-way loop, allowing visitors to drive in a clockwise direction from U.S. 101 to Alexander Avenue, East Road, Center Road, Bunker Road, and Danes Drive. The majority of visitors to Fort Baker will park along East Road, where the one-way southbound operation will allow additional parking in the northbound lane (parking could be accommodated in the pullout areas). Parking will be developed along East Road, as specified in the Fort Baker Plan/EIS, which states that East Road will be reconfigured through striping to provide capability for overflow parking on the existing paved surface to support event parking needs. In addition to East Road, parking will be allowed on Center Street, Bunker Road, the Bay Area Discovery Museum (BADM) lot, and in visitor lots.

BADM visitors, including families with small children, will have the option of parking at the BADM visitor parking area or at East Road and being transported via the shuttle bus to a bus stop at the museum. After leaving the museum, visitors parked on East Road will board the shuttle bus that will continue its one-way route to Bunker Road, Danes Drive, Alexander Avenue, and the East Road parking area.

In addition to regular transit operations described under "Transit Services," three special shuttle service routes will be implemented on car-free days to transport visitors from the new Smith Road trailhead, the Bunker Road bypass, and East Road parking areas to other destinations within the study area.

- One route will go from the Smith Road and Bunker Road bypass parking areas to Rodeo Beach/Fort Cronkhite and the Point Bonita trailhead (including also the Nike missile site, Bird Island Overlook, and Visitor Center).
- Another route will go from the Smith Road and Bunker Road bypass parking areas to points in Fort Baker via Bunker, McCullough, and Conzelman roads (including the Capehart housing area and Battery Spencer).
- A third route will transport visitors exclusively within Fort Baker.

For special events, transportation demand measures such as parking controls and road closures will be implemented to facilitate vehicular circulation and accommodate increased parking.

Natural and Cultural Resource Protection

Many of the previously listed infrastructure improvements will reduce impacts to natural resources and will restore natural functions and processes in specific locations. While these improvements will alter many historic roads and trails, impacts will be reduced to the extent feasible, mitigations will be implemented to enhance cultural resources, and ultimately the alternative will serve to rehabilitate historic roads and trails. Removing the unpaved Rodeo

Beach lot will allow for the restoration of the riparian corridor in that area. Native plant and wetland communities will be restored where Field Road, Mendell Road, and associated parking areas will be removed; where Smith Road will be realigned; where Slacker Road (trail) and the Coastal Trail will be rerouted/removed; and at fill removal sites in Rodeo Lagoon. Design guidelines for improving Mendell Road and Bird Island Overlook will protect these historic resources as well. The historic gun emplacement and historic setting on the north side of Battery Mendell will be restored. The rifle range and pistol range will be closed to all motor vehicle use to protect these historic sites. Parking areas in the Fort Cronkhite cantonment will be defined and paved, as appropriate, to address the ongoing degradation of historic road and landscape features due to parking pressures.

To help restore natural resources at the rehabilitated roads and trails maintenance yard, the yard area will be reduced by half (or may be less if used as replacement parking when unpaved Rodeo Beach parking lot is removed and revegetated). A new, approximately 4,500-square-ft building designed to be compatible with the historic district will be installed to protect equipment and materials from the corrosive environment and to move them out of public view. Vegetated drainage swales will be installed, and the former yard area will be revegetated. The new garage will be built as an infill project within an existing, well-established maintenance facility that already has lighting, hazardous material storage, other garages, offices, paved parking, and drives.

A fence and stairs will be constructed on the south side of Mitchell Road to direct pedestrian movements to a dedicated path and prevent shortcuts down the slope to the beach. Eroded gullies on Conzelman Road will be refilled and revegetated. The natural drainage patterns will be restored to the greatest extent feasible. Additional improvements will include (1) comprehensive erosion control measures on unpaved shoulders and ditches on steep road segments and drainage improvements in some locations, and (2) habitat restoration enhancement included as mitigation for project impacts.

The Rodeo Beach unpaved parking lot will be removed and restored to its pre-existing wetland condition to re-establish natural hydrologic and wetland conditions by reversing past human disturbances to natural processes. Changes to this area must be guided by the Fort Cronkhite cultural landscape report to avoid adverse impacts to the historic district. Associated actions include removing fill from the unpaved parking lot above Rodeo Beach, grading the site to re-establish pre-disturbance contours, and restoring natural hydrologic conditions to establish native emergent marsh community. These actions will restore the dispersed flow of water along the valley floor by removing drainage ditches, gullies, and culverts. The excavated material from the parking lot will be used in this restoration area. The project will result in the net restoration of 1.3 acres of a sedge-dominated emergent wetland habitat from what is now upland habitat and unpaved parking lot. The total estimated fill for this project is 2,300 cubic yards, with most of the fill coming from the parking lot excavated material. The road crossing at Mitchell Road will be reconstructed with a bridge or bottomless culvert to allow movement of water, sediments, and wildlife between the beach and the restored wetland complex.

Errata for Minor Changes Incorporated into the Final EIS

After release of the Final EIS, NPS internal review found minor errors or omissions in the document. These minor changes are considered to be insubstantial. Furthermore, these changes do not lead to any new impacts not being analyzed in the Final EIS, nor are determinations of significance substantially altered. There are no changes incorporated into the Selected Actions.

Table 2-2, Summary of Impacts and Mitigation is revised as follows:

- Page 84, Vehicular Safety (Mitigation Measures column, first row under the heading): Add Alt 3.
- Page 85-86: Biological Resources, Wetlands (Mitigation Measures column, bottom row p. 85, top row p. 86): Delete Alt 2 from WET-1; delete Alt 2 from WET-4.
- Page 87-88, Impacts on Cultural Resources, National Register Historic District Roads and Related Properties (Mitigation Measures column, bottom row): Add Alt 2 to all mitigation measures listed where not already included.
- Page 88 (Mitigation Measures column, top row): Delete CR-14; change existing CR-15 to CR-14. Add new CR-15: Photo-Documentation (Alts 2, 3, 4), and CR-16: Bunker Road and Rifle Range Cultural Landscape Management Requirements (Alt 2).
- Page 88-89, Additional Cultural Resources Impacts (Mitigation Measures column): Increase numbering for all mitigation measures by one; i.e., CR-16 becomes CR-17, etc.).
- Page 89-90, Recreation and Visitor Enjoyment (Mitigation Measures, all rows): Add VE-1 (Alts 3, 4).
- Page 90, Human Health, Safety, and the Environment (Mitigation Measures, first row under the heading): Add CON-8: Potential Unexploded Ordnance (UXO) (Alts 2, 3, 4).

Page 274, column 1, paragraph 1: Change CR-15 to CR-16.

Page 278-280: Increase numbering for all mitigation measures by one; i.e., CR-16 becomes CR-17, etc.

Other Alternatives Considered

Alternative 1 — No-Action Alternative

Alternative 1 provided for continuing existing park operations and management activities, and other actions as necessary for accomplishing transportation improvements and transportation demand management programs specified in the Fort Baker Plan/EIS and Record of Decision (June 9, 2000) would be implemented, as well as terms and conditions documented in a Finding of No Significant Impact approved on October 20, 2004 for the Marine Mammal Center Site and Facilities Improvement project (all described under "Actions Common to All Alternatives" in the Final EIS). Analysis of this "no action" alternative provided an environmental baseline from which to compare the other alternatives.

Alternative 2 — Basic Multi-Modal Access

Roadways would be rehabilitated within the existing roadway width; parking facilities would be improved; transit service would be expanded to the Marin Headlands on weekends; and minor pedestrian and bicycle facility enhancements would be implemented. No parking fees would be collected.

Alternative 4 — Maximum Multi-Modal Access

Roadways would be reconstructed and widened for bicycle lanes in various locations throughout the study area, and parking facilities would be improved. Transit options would be similar to

those provided in Alternative 3, with the addition of connections to regional transit centers outside the park. Extensive pedestrian and bicycle facility enhancements would be made, including closing and rerouting existing trails, and constructing new trails plus bicycle lanes on nearly all major roads. Parking fees would be collected to fund improved transit services. Car-free days would be implemented on a trial basis for a maximum of seven days per year.

Environmentally Preferred Alternative

In accordance with Director's Order #12 and the National Environmental Policy Act (NEPA), the NPS is required to identify the environmentally preferred alternative. The Council on Environmental Quality defines the environmentally preferred alternative as "*the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act's Section 101.*" Under §101(b) of the NEPA, 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.

Closely mirroring these criteria are the project's goals and objectives. Goals and objectives for this project emphasize natural and cultural resource protection, as well as enhancing visitor experience and improving safety of park users. Because project goals and objectives correlate very closely to these criteria, analyzing which alternative best meets project goals and objectives will also determine which alternative is environmentally preferred. Using this analysis approach, it was determined that the Enhanced Multi-modal Access Alternative (which is the agency's selected alternative) is the environmentally preferred alternative, as described in the summary below.

Promote public transit, pedestrian, and bicycle travel to and within the park to improve visitor experience and enhance environmental quality: The Enhanced Multi-modal Access Alternative will provide significant improvement in public transit and in pedestrian and bicycle travel to and within the park; consequently, it will enhance visitor experience. This alternative will continue to improve public transit to both the Marin Headlands and Fort Baker by encouraging increased service frequency by both the San Francisco Municipal Transit System and Golden Gate Transit; this will represent a major beneficial improvement. Also included in the Enhanced Multi-modal Access Alternative are improvements in transfer interfaces and transit stop amenities. This alternative will also provide exclusive access for bicyclists and pedestrians

on predetermined car-free days, thereby enhancing visitor experience for these user groups. For bicyclists this alternative will provide enhancements for all classes of bicycle routes within the project area. For instance, Class 1 (bike path) enhancements will include enhancing the bikeway along the Rodeo Valley trail between the Capehart housing area and Rodeo Lagoon. For pedestrians, substantial improvements are proposed for hiking trails, including, but not limited to, improving the Julian Road trail; rerouting the Coastal Trail and making trail enhancements on Conzelman Road from the existing Coastal Trail crossing on Conzelman Road to the Lower Fisherman's parking area; widening East Road to extend the San Francisco Bay Trail along the entire road shoulder; and improving and upgrading both Rodeo Valley and Rodeo Lagoon trails.

Rehabilitate the Marin Headlands / Fort Baker transportation road and trail infrastructure in a manner that protects resources and improves safety and circulation: In designing roadway and trail infrastructure improvements for all the alternatives, opportunities to incorporate project components that will enhance natural resources were selected wherever possible. Natural resource enhancement actions included as part of the Enhanced Multi-modal Access Alternative include removing the Rodeo Beach unpaved parking lot and restoring it to its pre-existing wetland condition to re-establish natural hydrologic and wetland conditions. Wetland fill removal and restoration of portions of Smith Road will also occur under the Enhanced Multi-modal Access Alternative. For project elements that will impact natural and cultural resources, mitigation measures and best management practices have been incorporated to lessen these impacts.

Reduce traffic congestion and improve safety at key park locations and connecting roads: As a key goal for this project, most project components in this analysis have been designed to reduce traffic congestion and improve safety. The roadway and intersection improvements proposed for the Enhanced Multi-modal Access Alternative will provide slightly more benefits, but fewer impacts than the other action alternatives. This alternative will also provide for changing major intersections from a Y to a T configuration to improve safety.

Measures to Minimize Harm

All practical means to avoid or minimize environmental harm from the Selected Actions have been adopted. The attached listing details all actions that will be implemented to minimize, eliminate, or avoid the impacts associated with implementing the project (See Attachment A).

Public Involvement in the EIS Process

Scoping

GGNRA hosted three public scoping meetings at the following locations:

- San Francisco — March 26, 2002, during a meeting of the GGNRA Advisory Committee at park headquarters. Ten members of the public attended.
- Marin City — April 10, 2002, at the Manzanita Community Center. Approximately 20 members of the public attended.
- Oakland — April 11, 2002, at the Metropolitan Transportation Commission Auditorium. Three members of the public attended, along with several agency staff members.

Public notification for the meetings was made through a postcard sent to approximately 1,750 individuals. Summaries of the comments received at each meeting and written comments from

the public were documented in the "Scoping Summary Report." The main issues identified by the public, as well as agencies and park partners, were considered in the development and evaluation of the alternatives in this document.

Input from the public was solicited on the study, the goals, and the process. The four conceptual approaches for the transportation plan that were presented included (1) simple improvements, such as signs; (2) circulation enhancements; (3) consolidated parking with a shuttle service in the Marin Headlands and Fort Baker; and (4) restriction of vehicles from the Marin Headlands and Fort Baker to provide the maximum level of auto reduction in the study area. Input on the various elements of these conceptual approaches was considered in formulating the preliminary range of action alternatives for the EIS.

Comments on the conceptual approaches presented related to maintaining vehicular access for park partners and aquatic recreationists, especially at the waterfront and for overnight parking at Horseshoe Bay; and concern about the closure of any roadways within the park or changes in park circulation, especially a one-way circulation plan that would increase traffic on Conzelman Road. Suggestions related to bicycling included providing more off-road mountain biking routes; changing Conzelman Road west of Hawk Hill to a bicycle only facility; providing a continuous bike connection between Golden Gate Bridge and the upper hills of the Marin Headlands; and accommodating bicycles on transit. Comments regarding parking fees varied with some supporting the use of parking fees to encourage the use of transit and others opposing parking fees and expressing concerns about impacts such as illegal parking and aesthetics of parking dispensers. General comments supported improved safety and transit access and maintaining existing rural park character. Summaries of the comments received at each meeting and written comments from the public were documented in the "Scoping Summary Report."

Alternatives Refinement Workshop

GGNRA held two public workshops to refine alternatives, on November 19, 2002, at Tamalpais High School in Mill Valley (11 community members attended), and on November 26, 2002, in San Francisco at park headquarters (15 community members attended) to solicit public input on the four preliminary alternatives. Each alternative included a package of multi-modal transportation improvements (transit, auto, pedestrian, bicycle) that combined elements of the concepts that were proposed in the earlier Transportation Management Study and April 2002 scoping meetings. These alternatives were: (1) basic access – improving multi-modal transportation network without changing the infrastructure, (2) enhanced access – modifying multi-modal transportation network with minor changes; (3) maximum access – expanding multi-modal transportation network with more substantial changes; and (4) no changes.

Summaries of the comments received at each workshop and written comments from the public were documented in a memorandum titled "Summary of November 2002 Alternatives Refinements Workshops" (Nelson/Nygaard 2003). Comments from these workshops were used to further refine the alternatives and identify the main issues to be addressed in finalizing the alternatives to be presented in the Draft EIS. Many of the comments and suggestions on the alternatives were similar to the comments at the earlier scoping meetings, including the transit, circulation, parking fee, bicycle, and waterfront access comments. New comments included suggestions to provide intercept parking with shuttles into the park; keep traffic lanes narrow to slow the speed of traffic; provide a parking pass as an option to daily parking fees; address parking needs at specific locations, and do not increase the parking supply. There were

numerous suggestions related to pedestrian, bicycle, and multi-use trails, including comments on the need for improved trail signing, new trails, improved trail connections, safety, and amenities such as bike lockers, benches, and information kiosks. Balancing improvements with the park's historic and natural resources were also mentioned by attendees. Details about general comments and those specific to individual alternatives can be found in a memorandum titled "Summary of November 2002 Alternatives Refinements Workshops."

Public Forum on Historic Resources

GGNRA held a public forum to review the initial findings of the *Marin Headlands / Fort Baker Historic Roads Characterization Study and Fort Baker Cultural Landscape Report* on March 14, 2002 at Fort Baker. The park presented a summary of the initial findings of the two reports and solicited comments. Comments are documented in a memorandum in the "Scoping Summary Report." The attendees inquired as to the reasons for limiting the studies to specific roadways, how the reports would be used in the study process for the transportation plan, and the schedule for finalizing the reports. No specific concerns were identified. This meeting initiated National Historic Preservation Act §106 compliance activities for the EIS process.

Other Public Outreach Activities

Updates were provided at regular GGNRA public meetings and published in Park News. During the working period prior to the release of Draft EIS, two information web pages were maintained by the Park. The first web page was for preliminary planning work completed between 1999 and 2002. The second web page was the site of a copy of the Draft EIS plus additional planning work completed between 2002 and 2006. As a courtesy the park also had informal briefing meetings with local community associations, park partners, and local elected officials.

Public Review of the Draft Environmental Impact Statement

The opportunity for public review of the Draft EIS was formally initiated on June 8, 2007 when the EPA notice of filing appeared in the *Federal Register*, with the comment period extending through August 13, 2007 (the NPS Notice of Availability was published on June 12, 2007). Fifty-one paper and 156 CD's of the Draft EIS were mailed to federal, state, and local agencies and to interested groups and individuals. In an effort to solicit ample public review, an extensive public notification effort was undertaken to announce the release of the Draft EIS. Public notification included letters, post cards mailers, newspaper public notices, and posting on the park's website. A public meeting was held in Sausalito on July 18, 2007 where the park hosted an open house, provided a public presentation that summarized the Draft EIS, and answered questions from the public. The public meeting was attended by approximate 80 people and was covered by San Francisco local television KTVU. Several media (radio, television, newspapers) reported on the project during the public review and comment period. A total of 321 correspondences were received on the Draft EIS. Public correspondences were accepted online via the NPS Planning, Environment and Public Comment website and by e-mail, fax, or letter to the Superintendent. Park staff also presented the proposed project at the Sausalito City Council meeting on June 10, 2007.

The public commented on all aspects of the proposals presented in the Draft EIS. The interest groups mostly represented in the comments included: mountain biking; hiking groups; water recreationists; park partners, and local general park users. Biking interests were supportive of the creation of bike lanes and expanded shoulders for safe travel, but also thought the plan lacked

sufficient off-road biking experiences. Both general and water based recreationists expressed concerns regarding the car-free pilot and the establishment of parking fees. Car-free comments contended they could be restricted from areas of the park, or they would have difficulty accessing areas with their equipment on those set-aside days. Although there was general support for use of parking fees, those opposed contended new parking fees may result in visitors parking illegally in areas not marked for parking in order to avoid the parking fee. Other portions of the project that received multiple comments include: Rodeo Valley Trail (mixed use concerns); Slacker Hill Trail (public access and use); Hawk Hill parking (loss of parking spaces); Alexander Avenue (Safety); Ferry Service (adding service); East Road/Bay Trail (safety and bicycle use).

Public Release of the Final Environmental Impact Statement

Consistent with release of the Draft EIS, over 51 paper copies and 147 CDs of the Final EIS were distributed to federal, state, and local agencies and to interested groups and individuals. Public outreach included notices in local newspapers, sending 4,000 notification flyers to the park's mailing list and notices to the park email list, and posting on the park's website. One article appeared in the local newspaper – the Marin Independent Journal on March 27, 2009.

NPS staff held a parkwide public meeting/open house on February 24, 2009, and this project was one of five projects set up with information and NPS staff to answer questions from the public. The open house was publicized by sending 4,000 notification flyers to the GGNRA mailing list, notices to the park email list, a press release, and posting on the park's website. Approximately 60 people attended. The NPS also contacted local representatives and county supervisors offering Final EIS briefings. Briefings were provided to: Tom Roth, Congresswoman Lynn Woolsey staff, Friday April 3; Adam Politzer, City Manager and Herb Weiner, Deputy Mayor, City of Sausalito, April 6; Sausalito City Council April 7.

Pursuant to NEPA, the "no action" minimum 30 days waiting period was initiated with the EPA's notice of filing published in the *Federal Register* on March 20, 2009 (the park's Notice of Availability was published on March 24, 2009). During this period GGNRA received 26 letters from the public responding to the Final EIS. The majority of the letters commented on the bicycle use closure on Slacker Hill and Car-free-days program at Fort Baker. The park reviewed each letter to ensure that issues raised had been adequately addressed in the Draft and Final EIS, and that these comments did not provide any new or substantive issues. These comments essentially reiterated concerns previously expressed, and the NPS confirmed that no new or substantive information emerged following release of the Final EIS. The responses to Draft EIS comments (in the Final EIS pgs 341-422) adequately respond to all letters received following release of the Final EIS, except pertaining to comments about Slacker Hill bicycle use closure. Accordingly a specific response for these comments is as follows:

Slacker Hill Trail Response: Many of the letters sent following release of the Final EIS were from cyclists opposed to closing Slacker Hill to bike use. Under 36 CFR 4.30 the GGNRA can make a determination that a route is not suitable for bicycle use due to natural resource values, safety considerations, or management objectives. The Park has determined that bicycle use on this route is not an appropriate use for this trail due to safety considerations and sensitive habitat conditions throughout the area. The area of greatest resource and safety concern to the park is from the SCA connector trail intersection to the historic Launch Control Site (also known as top of Slacker Hill). This section of trail is steep (>12%) and has significant drainage and erosion issues with excessive sedimentation creating impacts to red-legged frog habitat and other aquatic

resources in Rodeo Valley. The red-legged frog is a threatened species listed under the Endangered Species Act. This section of trail is not compatible with safe multi-use, which generally requires grades of less than 12% and a trail width of at least 5 ft. It does not connect with other multi-use trails. In order to meet safe multi-use trail conditions the trail would require realignment. This would require trail construction into known habitat for the mission blue butterfly, and/or disturb intact high quality coastal sage habitat. The mission blue butterfly is an endangered species listed under the Endangered Species Act and habitat mapping has indicated adjacent areas around the top of Slacker Hill contain mission blue butterflies (mbb). Management objectives for this area include restoring mbb habitat, and a Biological Opinion from the USFWS for this project requires that this area be restored (to mitigate impacts to mbb habitat) in order to enhance its habitat value. Pedestrian/equestrian use of the trail will allow the trail to stay in its current location, but be narrower while maintaining its current grade. The erosion and drainage improvement objectives of this section will be addressed by re-grading the trail to be better outsloped, and in part by constructing timber steps, a technique commonly used by the park for steep pedestrian use only trails where trail realignment is not practicable.

Regulatory Agency and Other Consultation

NPS staff sent an announcement of the scoping process and a scoping summary information packet to federal, state, local agencies, and organizations. NPS staff also issued formal letters requesting consultation from the U.S. Fish and Wildlife Service and the California State Historic Preservation Officer. In addition, several consultation meetings were held to discuss specific agency issues or concerns with Caltrans and the City of Sausalito. Consultation with Caltrans focused on the agency's transportation facilities within the Marin Headlands and Fort Baker area, including U.S. 101 and Alexander Avenue.

A public agency scoping meeting was held on May 6, 2002, with the Golden Gate National Recreation Area Parklands Transportation Task Force Technical Advisory Committee. The National Park Service presented the initial findings of the *Marin Headlands / Fort Baker Historic Roads Characterization Study and Fort Baker Cultural Landscape Report* to the Marin Subcommittee of the GGNRA Advisory Commission on February 13, 2002.

The NPS also contacted local representatives and county supervisors offering Final EIS briefings. At Sausalito's request, the park presented the Final EIS during the Sausalito City Council Meeting on April 7, 2009.

GGNRA will continue conversations with local and regional transportation providers, such as Golden Gate Transit and the San Francisco Municipal Transit System, regarding opportunities to expand transit service to the project study area as described in the Final EIS. No formal agreements for increased or additional service by these providers have been made at this time.

Regulatory Agencies

Endangered Species Act: In accordance with §7 of the Endangered Species Act, the NPS consulted with both the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) for species under their respective jurisdictions. A Biological Assessment (BA) was prepared for all affected listed species in the project area for review and consultation with these agencies. After reviewing the BO, and subsequent information provided by NPS, NMFS determined that the project is "*not likely to adversely affect*" ESA listed Central California Coast steelhead or designated critical habitat for Central California Coast coho salmon

in a letter dated August 7, 2007. The USFWS issued a Biological Opinion on April 17, 2007 determining that the selected alternative is "*not likely to adversely affect*" the salt marsh harvest mouse, California brown pelican, and the Pacific Coast Population of the western snowy plover, or designated critical habitat for the California red-legged frog. For the species' mission blue butterfly, California red-legged from, and the tidewater goby, the USFWS concluded that the selected action is "*not likely to jeopardize the continued existence*" of these species. The USFWS anticipates that there would be "*incidental take*" of these species and imposed non-discretionary measures to minimize harm; these safeguards are incorporated in the attached Measures to Minimize Harm.

Clean Water Act (CWA): To confirm the NPS mapping of waters of the U.S. within the project areas, the NPS submitted a set of maps along with a report describing each site along with field data sheets to the U.S. Corps of Engineers (Corps) on November 24, 2006. Corps staff visited the site to verify wetland boundaries in February and August, 2007. Based on this jurisdictional map the NPS estimated the project would discharge approximately 0.36 acres of fill material into waters of the US. Under §404 of the CWA (using Nationwide Permit authorities 14, 27, and 42), the NPS submitted a discharge application to the Corps in March 2009. In a letter dated July 28, 2009 the Corps authorized the park to use these authorities (and directed the park to adhere to three enclosures: Enclosure 1 - 2007 Nationwide Permit Guidance; Enclosure 2 - Design specifications for culvert replacement, bridge design, and road drainage; Enclosure 3 - NWP General Permit Conditions).

Concurrently the NPS requested CWA §401 Water Quality Certification from the California Regional Water Quality Control Board (RWQCB). The RWQCB issued a water quality Certification on May 5, 2009. Final authorization from the Corps is pending. To compensate for the loss of 0.36 acres of Corps jurisdictional wetlands, the Park will restore 0.60 acres of wetlands. The two areas to be restored are adjacent to Rodeo Lagoon (0.28 acres), and a second adjacent to the freshwater Rodeo Lake (0.32 acres). Details of this compensation can be found in the approved Wetland Statement of Findings attached to this ROD (Attachment B).

Coastal Zone Management Act (CZMA): The area of the project is in the CZMA jurisdiction of both the California Coastal Commission (CCC) and the San Francisco Bay Conservation and Development Commission (BCDC). The NPS sent a Consistency Determination to both agencies describing the project's consistency with CZMA and the Commission's Amended Coastal Zone Management Program for the San Francisco Bay segment of the California coastal zone. Based on CCC's letter to GGNRA, the NPS presumed Coastal Commission concurrence on June 19, 2009. The BCDC provided a letter of concurrence on July 23, 2009. Both agencies stipulated that the Car-free program is not part of their concurrence and that GGNRA will need to subsequently bring this initiative back for separate review and approval.

National Historic Preservation Act (NHPA)t: Because Forts Baker, Barry, and Cronkhite are listed as a historic district on the National Register of Historic Places, the NPS initiated consultation with the Advisory Council on Historic Preservation and the California State Historic Preservation Office (SHPO), as required by NHPA. The NPS submitted a Memorandum of Agreement (MOA) between Golden Gate National Recreation Area and the SHPO regarding the *Marin Headlands and Ft. Baker Transportation Infrastructure and Management Plan Environmental Impact Statement* on February 26, 2009. The SHPO signed the project §106 MOA on July 1, 2009, with the Federated Indians of Graton Rancheria Indian Tribe co-signing

as a concurring party. The executed MOA was submitted to the Advisory Council on Historic Preservation on July 7, 2009.

Other Consultations

Park Partner Meetings: NPS staff met with park partners on March 19, 2002, to present the information from the Transportation Management Study. During the past four years, park representatives have briefed park partners on several occasions at regular quarterly meetings. For the transportation management planning effort, park partners were surveyed to determine their range of services, overall program goals, the number of visitors and staff they expect on an average day, and any transportation concerns they have within the park. Park staff presented the Final EIS to park partners during a meeting on April 14, 2009.

Geologic Consultation: GGNRA contacted the U.S. Geological Survey and professors from local universities about the importance of the geologic formation at Conzelman Road across from the Battery Spencer parking area. University of California (UC) at Berkeley, UC Davis, California State University (CSU) Sonoma, CSU San Francisco, CSU San Jose, Stanford University, and College of Marin faculty were contacted in November 2004. The park determined that while the site has been used for decades by scientists and students for educational purposes, other nearby sites adequately serve this purpose as well.

Executive Order 11990 (Protection of Wetlands): Proposed actions having potential to adversely affect wetlands were addressed in the Draft and Final EIS. Because the proposed project could impact wetlands, a draft Wetland Statement of Findings (WSOF) was prepared pursuant to NPS Director's Order 77 (Appendix F of the Final EIS). The WSOF describes how the selected actions minimize wetland impacts to the greatest extent practicable and ensure "no net loss" of wetland functions or values. The approved WSOF is attached to this ROD (Attachment B).

Impairment Findings

The NPS determined that implementing the selected actions described herein will not constitute impairment to park resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the Final EIS, with due consideration for the public comments received and applicability of relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in 2006 NPS Management Policies. Based on analyses in the Final EIS, all uses that may occur in the park as a result of implementing the selected actions are appropriate, and none of the foreseeable cultural or natural resource impacts are unacceptable. While the project may have some adverse impacts, in most cases these adverse impacts are no more than moderate and many are transitory. In those cases where impacts are major, they are primarily associated with construction and are temporary in nature and mitigation measures were developed to minimize impact. Overall, completing the project will result in major benefits to park resources and values and will not lead to their impairment. While the EIS has described adverse impacts, in all cases these impacts are related to actions that are necessary to preserve and restore park resources and values. Overall, the selected actions will result in major benefits to park resources and values and project completion will not result in their impairment.

Basis for Decision

The decision to implement the selected action was based on careful consideration of the alternatives presented, the foreseeable environmental impacts, the project's goals and objectives, and public comments received throughout the planning process. The selected action best accomplishes NPS policies, the legislated purpose of GGNRA, and the statutory mission of the NPS to provide long-term protection of park resources. The selected action best accomplishes the stated purpose of the project, and best addresses the conditions of need described in the EIS.

Consistency with Agency Policy and Land Management Plans

All components of the project are related and necessary to achieve the plan's overall goals and objectives; for this reason, they have been included as the whole of the project. Based on the analysis in the Draft and Final EIS, the selected action is consistent with NPS's land management plans, such as the park's General Management Plan (GMP). The GMP provides the foundation and framework for the management and use of lands and articulates the desired conditions for natural and cultural resources and visitor experiences to best fulfill the park's purpose. In addition to consistency with the current GMP, the selected plan was also compared to preliminary alternatives to be considered in new GMP update and was deemed to be consistent as well. Furthermore, the Final EIS analysis conducted a consistency review of NPS's 2006 Management Policies and found that the selected actions are consistent with these policies.

Purpose and Need / Goals and Objectives

The purpose for the plan is to provide improved access to and within the Marin Headlands and Fort Baker for a variety of users, and to initiate these improvements in a way that minimizes impacts to the rich natural and cultural resources of the Marin Headlands and Fort Baker study area. The selected actions will:

- Promote public transit, pedestrian, and bicycle travel to and within the park to improve visitor experience and enhance environmental quality.
- Rehabilitate the Marin Headlands / Fort Baker transportation road and trail infrastructure in a manner that protects resources and improves safety and circulation.
- Reduce traffic congestion and improve safety at key park locations and connecting roads.

Conclusion

As documented in the Final EIS, the following key factors support implementation of all the selected actions comprising the *Marin Headlands and Fort Baker Transportation Infrastructure and Management Plan*:

- The environmental impact analyses demonstrate that the selected actions will have short-term impacts due to construction, but will ultimately secure long-term, substantial benefits for the Park's resources as well as for visitors to GGNRA.
- The selected actions will have a high likelihood of achieving the expressed purpose, need, goals, and objectives.
- The selected alternative is fully compliant with NPS's mission and policies, GGNRA's management plans, and other pertinent laws and regulations.

- The selected alternative specifies all feasible and prudent measures to minimize environmental harm.
- The completed conservation planning and environmental impact analysis process is a reasonable and rational effort supported by park partners, researchers, local communities, other government regulatory agencies, and environmental organizations.
- Selection of the Enhanced Multi-modal Access Alternative will enhance project area access for transit, pedestrians, and bicycle users, thus reducing auto trips and associated emissions.
- Undertaking the selected actions will not result in impairment or unacceptable impacts to park resources and values.

I hereby approve the selection of Alternative 3 (Enhanced Multi-modal Access as described above) for implementation by Golden Gate National Recreation Area.

Approved:

Jonathan B. Jarvis, Regional Director
Pacific West Region, National Park Service

8/11/09
Date

Marin Headlands and Fort Baker

Transportation Infrastructure and Management Plan

RECORD OF DECISION - ATTACHMENT A

Measures to Minimize Harm

In addition to the specific mitigation measures listed below by impact topic, all project work will adhere to §2.3 of the Final EIS (pgs 22-30), which outlines measures pertaining to: Construction Activities; Construction Sequencing; Construction Timing; Cultural and Natural Resource Monitoring; and Best Management Practices. Mitigation strategies contained in the approved Wetland Statement of Finding (WSOF, Attachment B) are also incorporated by reference.

Transportation Impacts: Traffic

SAF-1: Traffic Monitoring. Traffic accident rates will be monitored at the stop-controlled Bunker Road / Old Bunker Road / Mitchell Road intersection to determine if a redesigned intersection is needed to address long-term vehicular safety impacts.

SAF-2: Visual Barrier. Y-intersections at Bunker Road and McCullough Road and Bunker Road and Field Road will be replaced by T-intersections. To prevent visitors from driving on the closed remnant Y-intersections, which will be hazardous to vehicle safety, the park will plant native coastal scrub at both ends of the closed road connections. The vegetation will not be planted along the entire remnant road, but only at the ends to discourage driving and enhance safety.

Geology and Paleontology

GEO-1: Geologist Consultation at Battery Spencer. A geologist familiar with the geologic features of the rock cut on Conzelman Road at Battery Spencer will be consulted during the detailed design and construction of the rock cut excavation to see if the cut could be sculpted in a way to expose the most interesting geologic features. Selected portions of the excavated rock will be saved and considered for use in interpreting the geology of the Headlands.

Water Quality

WQ-1: Project Site Management. Active enforcement of penalties on activities that have direct, adverse effects on water quality will help reduce unplanned impacts. For example, penalties for littering, unleashed pets, and illegal dumping of debris and waste will continue to be enforced. In addition, all NPS and park partner operations that use fuels, solvents, or other potential pollutants will continue to use best management practices, and the National Park Service (NPS) will continue to enforce those practices through a system of environmental audits.

WQ-2: Implement Sustainable Trail Design and Construction Standards. To limit short- and long-term impacts resulting from trail construction or realignments, trail routes will be designed to follow natural topography, with minimal grades (generally 10% or less and short sections up to 15%). On steep slopes, poorly designed and constructed trails allow water to accumulate, and erode the trail. Where sloping trails are unavoidable, proper drainage will be provided by using water bars or grade dips to reduce the volume of surface runoff. Where trails cross wetlands or

riparian zones, boardwalks or other less disturbing trail construction methods will be used to avoid soil compaction and disturbance.

WQ-3: Implement Turbidity Monitoring and Response Plan. During construction project work immediately adjacent to Rodeo Creek or Rodeo Lagoon (e.g., building new trail bridges or excavating fill from the lagoon) monitoring for turbidity during and shortly after construction will be conducted, and any needed remedial measures will be taken. This will also likely be required as part of the NPDES permit.

WQ-4: NPDES General Construction Permit and Stormwater Pollution Prevention Plan. All projects with disturbance greater than 1 acre must obtain a NPDES stormwater permit from the San Francisco Regional Water Quality Control Board. If any individual contract disturbs 1 acre or more, an NPDES permit must be obtained and a stormwater pollution prevention plan prepared.

WQ-5: Adherence to MS4 Permit. As a small MS4 operator, GGNRA will develop and implement strategies that include a combination of structural and/or nonstructural best management practices, and it will ensure adequate long-term operation and maintenance of these controls. These measures will specifically focus on parking areas.

Wetlands

WET-1: Implement Mitigation Plan. A compensatory mitigation plan has been prepared by two wetland researchers from Colorado State University at the request of the NPS to offset impacts to wetlands from implementing the Enhanced Multi-modal Access Alternative. The plan is described in Cooper and Wolf, 2008 (Compensatory Wetland Mitigation Plan, Marin Headlands - Fort Baker Transportation Infrastructure Improvement Plan). The mitigation plan consists of two projects: the removal of fill along the north margin of Rodeo Lagoon by T-1111 (reference Site 15, Figure 3, WSOF) in which 0.28 acre of estuarine emergent wetlands will be restored, and the removal of fill along the south margin of Rodeo Lake north of the Marin Headlands Visitor Center, in which 0.32 acre of palustrine emergent and willow scrub wetland will be recovered.

Temporary impacts to wetland habitat, from culvert and ditch upgrade and maintenance work, and from culvert construction and removal, will be short-term, and native habitat will be encouraged to reestablish after completion of the work.

This mitigation plan will be submitted to the Army Corps of Engineers in support of the Section 404 permitting process.

WET-2: Implement WSOF Best Management Practices at Smith Road.

The parking area will be configured so that the lowest portion of the site collects and retains stormwater from the parking lot in a grassy bioswale or vegetated buffer zone..

Only drive isles will be paved, the parking areas will be pervious aggregate.

Stormwater from the surface of the parking lot will not be able to discharge directly into the Rodeo Creek wetland complex north of the site.

All site features designed to capture potential water pollutants and prevent their entry into the Rodeo Creek corridor will be maintained regularly to ensure proper function over the long-term.

WET-3: Culvert Placement. New culverts will be carefully nested in the road base at the same elevation as the water course, carefully aligned to minimize or avoid new erosion of soil substrate

on either side of culvert. If needed, the site will be dewatered to minimize adverse impacts to water quality. Upon completion, the site will be restored to pre-project conditions.

WET-4: Smith Road Parking Lot. The parking lot will be designed to the extent practicable to minimize impacts to the existing wetland area and will incorporate bioswales to filter runoff.

Wildlife and Aquatic Life

WLD-1: Conduct Preconstruction Bird Nesting Surveys. Cutting, mowing, or removing shrubs and grasses taller than 8" will not be conducted during the March 1-July 31 bird nesting season, unless a qualified biologist conducted a pre-project survey for nesting birds and determined that no birds are nesting within the study area. To the greatest extent possible, activities will be planned and conducted outside the bird nesting season. In intensively managed landscapes, vegetation will be maintained at a height of less than 8" throughout the March 1-July 31 nesting season, to discourage the nesting of ground-dwelling bird species.

To protect nesting raptors, trees will not be removed during January 1-July 31 unless qualified personnel conducted a pre-project survey and determined that no birds are nesting within the study area. If nesting raptors were detected, a qualified biologist will delineate a suitable buffer. This will also benefit any nesting land-birds, which typically nest from March 1-July 31.

WLD-2: Amphibian Management Requirements. Trench drains, directional barriers, or culverts will be installed under Bunker Road to connect Rodeo Lagoon and Rodeo Lake and provide safe migration corridors, minimizing effects to amphibians from vehicle strikes. Crews will avoid conducting ditch work when water is present to the extent possible.

Special Status Plant Species

WLD-3: Special Status Plant Requirements. Prior to any ground-disturbing or vegetation clearing activities, a qualified botanist will conduct surveys for special status plant species. However, no further mitigation will be required for the Sonoma alopecurus, marsh sandwort, soft bird's beak, yellow larkspur, showy Indian clover, and white-rayed pentachaeta because focused surveys have already determined that these species are not present in the study area.

A botanist will conduct surveys for special status plant species in all suitable habitats that could be disturbed at the appropriate time of year when the target species will be in flower and therefore clearly identifiable. Surveys will be conducted following U.S. Fish and Wildlife Service, California Department of Fish and Game, or other approved protocols for surveying for special status plant species. If no special status plants are found during focused surveys, the botanist will document the findings and no further mitigation will be required. If special status plants are found, the following measures will be implemented:

Information on special status plant populations will be recorded in the field on data forms from the California Natural Diversity Database and submitted to GGNRA for review. On approval by the NPS, these forms will be submitted to the California Natural Diversity Database.

If the populations can be avoided during project implementation, they will be clearly marked in the field by a qualified botanist.

If special status plant populations cannot be avoided, consultations with the California Department of Fish and Game and/or the U.S. Fish and Wildlife Service may be required, depending on the listing status of the species present. These consultations will determine appropriate mitigation

measures for any populations affected by project implementation. Appropriate measures could include the creation of offsite populations through seed collection or transplanting, preservation, and enhancement of existing populations, or restoration or creation of suitable habitat in sufficient quantities to compensate for the impact.

The project applicant will implement all mitigation measures determined necessary during this consultation.

Special Status Wildlife Species

WLD-4: Construction Activity Window. Ground-disturbing aspects of individual projects or contracts affecting more than 0.3 acre (0.12 ha) will be limited to working primarily between April 1-October 31 (the typical dry season), but could occur all year weather permitting.

WLD-5: Mission Blue Butterfly Management Requirements. The following avoidance, minimization, and compensation measures will be applied to minimize potential effects to mission blue butterfly habitat. Using a habitat compensation ratio of 5:1 for permanent effects and 1.1:1 for temporary effects as discussed during consultation with U.S. Fish and Wildlife Service, invasive nonnative plant control and habitat restoration actions will be undertaken on 91.5 acres to provide compensation for habitat impacts or losses resulting from project work (May & Associates 2007).

For project actions that result in the loss of existing or predicted mission blue butterfly habitat, host plants and associated litter may be salvaged and translocated to adjacent suitable habitat pending research results and feasibility. Such actions are intended to salvage any mission blue butterfly larvae and/or eggs that might be present on the host plants or in the litter below the host plants within the construction area or permanent buffer prior to habitat removal and project activities.

Measures to control dust, erosion, and sedimentation will be implemented as described under "Best Management Practices" in the Final EIS (sec. 2.3.5).

GGNRA will enforce measures to avoid accidental habitat degradation during construction phases, including establishment of buffer areas, flagging of *Lupinus albifrons* and other host plants in the vicinity of construction activity, and installation of temporary fencing.

Following construction, post-and-cable fencing with signs attached will be installed along the trail where needed to provide a barrier and restrict users to the trail tread and out of butterfly habitat. Signs will be installed at each end of the sections containing habitat to inform users that leaving the trail tread could result in a violation of the Endangered Species Act. At the trailheads signs will be posted to inform users of the presence of habitat and the need to stay on the trail at all times. Trail use on narrow, single-tread trails in mission blue butterfly habitat will be limited to hiking only (no bicycles, dogs, or horses), unless barrier fencing is installed (i.e., in high use areas such as around parking areas) to prevent access into adjacent habitat. Ranger patrols will be used along the trails for enforcement purposes.

Under guidance from a biological monitor, targeted nonnative plants that might become established in and adjacent to mission blue habitat following implementation of project actions will be removed before setting seed, for a period of five years consistent with the park's best management practices so that these nonnative species will not encroach into restoration areas.

Restoration activities, including removal of nonnative vegetation, will not be conducted during the mission blue butterfly flight period within 100 feet of existing patches of *Lupinus albifrons* unless

conducted by hand and with small (less than 10 people) trained crews guided by a biological monitor.

Seed collection and outplanting activities may occur during the mission blue flight period, provided that these activities are conducted by small (less than 10 people) trained crews of staff and volunteers under the guidance of a biological monitor.

Restoration activities performed outside the mission blue butterfly flight period will be performed under the following guidelines:

All host and nectar plant patches within 100 feet of invasive nonnative plant populations will be flagged, and where deemed appropriate by NPS natural resources staff, demarcated with temporary protective flagging or fencing during invasive plant and tree removal activities.

Access routes to and from invasive plant infestations will be selected and flagged by biological monitors during invasive plant control activities to minimize proximity to host plant patches.

When invasive plant control and tree removal activities occur within 100 feet of host plant patches, individual plant locations will be identified and demarcated by the biological monitor with pin flags. Prior to invasive plant control activities, the biological monitor will review all removal actions with contractors, staff, and volunteers to ensure that no vegetation material will be placed on host plants and that no inadvertent trampling will occur.

All herbicides used will be administered through the park's IPM coordinator, and only licensed personnel will be allowed to apply pesticides, under the oversight of NPS staff or the biological monitor. All herbicide use for project actions will be reported monthly to the IPM coordinator. Any herbicide application to invasive nonnative plant species within 100 feet of host plant habitat will be applied using either a low-volume, high-pressure nozzle or through wick application to reduce herbicide use and drift. Additional protective measures such as protective shielding or other practices will also be employed as directed by the IPM coordinator to reduce any potential for drift.

Nonnative tree material located on steep remote slopes will be retained onsite following removal and maceration to reduce inadvertent impacts to butterfly habitat, erosion, and non-designated trail establishment (e.g., many trees are located 600–1,000 feet from roads and trails). Macerated material (accomplished with chainsaws and other hand equipment) will be staged such that it will be located within and under higher stature coastal scrub habitat to the greatest degree feasible. All ingress and egress routes to these staging locations will be clearly demarcated by a biological monitor and will be located at least 100 feet from host plant habitat to the greatest degree feasible.

Maintenance and repair of the trails within 100 feet of predicted or existing habitat will not be undertaken during the flight period (from February 15-July 4) to ensure that mission blue butterfly adults will not be adversely affected.

During the flight period of the butterfly (February 15-July 4) all vehicles will observe a maximum speed limit of 25 mph on all construction roads and roads supporting adjacent or nearby predicted and existing mission blue butterfly habitat (Conzelman Road, McCullough Road, and East Road). The construction contractor(s) will be required to enforce this limit.

Grading activities along roadsides will be designed to deter visitors from accessing nearby mission blue butterfly habitat areas.

During trail construction and restoration, and during trailside maintenance activities, only hand tools will be used, which could include hand-held power tools such as chainsaws and weed-eaters.

Restoration areas will be monitored for five years following implementation and once every five years thereafter. All monitoring actions will be performed by a trained biologist familiar with host and nectar plant identification and locations to reduce any threat of inadvertent trampling during monitoring activities. Written reports on the findings of such monitoring will be sent to the U.S. Fish and Wildlife Service by the end of each monitoring year. Corrective actions will be taken if the invasive plant control and restoration performance measures are not met, as defined in the approved restoration action / site management plan.

The NPS will assess visitor-associated impacts to mission blue butterfly habitat in select areas near new and removed trail segments and habitat restoration areas. Written reports on the findings will be included in the annual report sent to the U.S. Fish and Wildlife Service.

A total of 91.5 acres of invasive nonnative plant control and habitat restoration actions will be provided as compensation for habitat impacts or losses resulting from the proposed action. The following provides a more detailed summary as to what the compensation actions will include and where they will be located:

Erosion gullies (which are mostly unvegetated) along Conzelman Road will be repaired by placing fill into the gullies using mechanized equipment and revegetating the areas to grassland and/or coastal scrub habitat, resulting in an increase of 1.0 acre of mission blue butterfly habitat.

Nonnative trees will be removed in or adjacent to existing and predicted mission blue habitat along Conzelman Road (2 eucalyptus, 21 acacia, 4 Monterey cypress), McCullough Road (1 Monterey cypress, 7 acacia), and East Road (21 eucalyptus).

Based on calculated effects to the federally endangered mission blue butterfly habitat and proposed compensation ratios as stated in the USFWS Biological Opinion, 91.5 acres of habitat should be restored to compensate for project effects to mission blue butterfly habitat.

This will include approximately 4.2 acres of grassland and coastal scrub restoration, accomplished as part of the MH/FB TIMP, including:

Closure and active restoration of the majority of the Slacker Road (trail) (up to 3.1 acres);

Closure and passive restoration of a portion of the Coastal Trail (0.1 acre); and

Repair and revegetation of the currently unvegetated erosion gullies along Conzelman Road (1.0 acre).

Approximately 45.4 acres of grassland, coastal scrub and coastal bluff habitat restoration has been accomplished through the implementation of a separate project – Coastal Corridor Enhancement Project implemented within the same Project Action Area. Enhancement actions included:

59.4 acres of perennial herbaceous non-native plant treatment and control;

5.0 acres of pampas and Harding grass treatment and control;

0.3 acres of invasive non-native shrub species treatment and control; and

Approximately 1.8 acres of invasive non-native tree removal.

The remaining compensation projects were identified by the park's natural resource staff as habitat compensation areas for effects from the Proposed Action, as they provide the most promising and beneficial restoration opportunities for existing and predicted mission blue butterfly habitats within

the project work areas. These projects total an additional 41.7 acres of mission blue butterfly habitat compensation:

Projects 23 and 31 (removal of dense Pampas grass south of the Coastal Trail and east of Hawk Hill, totaling 7.2 acres of mission blue butterfly habitat restoration)[1];

Project 27 (removal of coniferous trees and other herbaceous non-native plants at Battery Construction, totaling 7.4 acres of mission blue butterfly habitat restoration)[2];

Project 36 (removal of eucalyptus and other weeds near Fort Barry, totaling 2.2 acres of mission blue butterfly habitat restoration);

Project 37 (removal of coniferous trees near Fort Barry, totaling 2.0 acres of mission blue butterfly habitat restoration);

Project 26 (removal of eucalyptus trees and other weeds in the Kirby Cove area, totaling 22.9 acres of mission blue butterfly habitat restoration)[3].

However, some or all of these areas could be replaced by alternate sites before project implementation if other equally or more suitable areas (resulting in a total of at least 41.7 acres) were identified by the natural resource staff for mission blue butterfly habitat restoration within the project area. These alternative sites will be presented to the U.S. Fish and Wildlife Service for review and concurrence prior to implementation as a part of a pre-season report. Restoration within these areas could include (but will not be limited to) some or all of the following actions:

removing and controlling nonnative tree species (Monterey cypress, Monterey pine, eucalyptus, acacia, mirror bush, and other targeted species) by mechanical, helicopter removal, or equally sensitive methods and possibly involving herbicide "stump-painting";

removing and controlling other nonnative weed species (thoroughwort, French broom, pampas grass), possibly using approved herbicides under park guidance, in accord with NPS IPM policies;

rerouting or closing nondesignated "social" trails;

removing nonnatural sources of erosion;

undertaking other protective measures to minimize habitat disturbance;

planting native plant communities (coastal scrub, grassland).

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1. The portion of Projects 23 and 31 that are considered as habitat compensation for effects under the MH/FB TMP only consist of the removal of Pampas grass within predicted habitat (based on the GIS predictive model) polygon; removal of remaining invasive, non-native species (including additional Pampas grass) in Projects 23 and 31 are covered under the CCEP Proposed Action. Restoration of this portion of Projects 23 and 31 involving Pampas grass removal and control will be required to be completed either before or concurrently with the restoration and removal of other weed species as planned under the CCEP Proposed Action (before September 2007) so as to prevent the potential for the re-introduction of Pampas grass into these project areas.

2. Project 27 is mapped as occupying 36.7 acres under the initial CCEP study; however, only 7.4 acres will be restored under the MH/FB TMP as mission blue butterfly habitat compensation. The remaining 29.3 acres will be enhanced under the CCEP project. Restoration of this 7.4-acre portion of Project 27 will be required to be completed either before or concurrently with the restoration and removal of other weed species as planned under the CCEP Proposed Action (before September 2007) so as to prevent the potential for the re-introduction of weeds into these project areas.

3. If restoration of all of the 22.9 acres proposed within Project 26 is not feasible (either due to physical or historic constraints), Project 28 (mission blue habitat restoration from thoroughwort removal, near the eastern end of Conzelman Road) may be incorporated as an additional 5.4 acres of habitat compensation. Project 26A under the CCEP consists of an area separate from the Project 26 habitat compensation area under the MH/FB TMP; Project 26A, under the CCEP, only consists of thoroughwort removal.

All areas within mission blue butterfly habitat that are temporarily disturbed by project work will be restored following project completion to prevent the colonization of invasive weed species.

Prior to all removal of non-native trees in areas supporting public programs and in areas where there is high visitation, the park will prepare a public engagement strategy to identify and notify all internal and external stakeholders (including park partners, visitors, user groups, etc.). Notification will include any of the following depending upon the relationship of the stakeholder to the site: sending project information, scope and timelines; holding meetings and site walks; and giving presentations. Additionally, materials will be developed and distributed to interested stakeholders.

Project signage will be erected at least two months prior to the project start date and an on-site Project Information Coordinator will be stationed at the project location, likely two to four weeks prior to the project start date to notify visitors and park partners. Staff will also remain on site for the duration of the project and a phone number will be established to receive and respond to any public inquiries and concerns.

WLD-6: Coastal Trail Restoration for Mission Blue Butterfly Habitat Enhancement. The majority of the Coastal Trail that currently follows the old Slacker Road (trail) will be removed, and the road will be regraded back to natural topography in conjunction with revegetating disturbed areas. This closure and restoration will result in an increase of up to 3.1 acres (1.25 ha) of predicted mission blue butterfly habitat as grassland and/or coastal scrub habitat. Restoration will consist of regrading and revegetating the closed portions of the Slacker Road (trail), and possibly importing fill material, to create a natural appearing topography contiguous with the surrounding natural landscape, and planting native plant species, including mission blue butterfly habitat-associated plants.

Several small segments of the Coastal Trail south of and uphill from the rifle range will be closed by fencing at both ends of the trail, resulting in restoration of 0.1 acre (0.04 ha) of predicted mission blue butterfly habitat as coastal scrub through natural revegetation and community successional processes.

WLD-7: Tidewater Goby Management Requirements. Erosion and sediment control measures will be implemented along Mitchell Road as described under "Best Management Practices" in the Final EIS (sec. 2.3.5), including biofilters for Mitchell Road parking areas noted under the project description.

Silt fencing will be installed during construction to exclude individual gobies from entering the work area. Before any capture and relocation of tidewater gobies from the lagoon excavation site, a fish excluder screen will be put in place to isolate the northern fill removal site from the main body of the lagoon. This exclusion device will prevent fish from entering the work area from elsewhere in the lagoon. Prior to construction activities, a qualified or permitted biologist will use a beach seine (0.125-inch mesh diameter) to sample the enclosed work area within the lagoon for fish. If individual gobies were located within this area, they will be collected and relocated to nearby suitable habitat within Rodeo Lagoon.

For this mitigation, a qualified biologist means any person who has completed at least four years of university training in wildlife or fisheries biology or a related science, has demonstrated experience with handling fish, and has demonstrated field experience in the identification and life history of the tidewater goby. Resumes of all qualified biologists proposed to capture or handle tidewater gobies will be submitted to the U.S. Fish and Wildlife Service no later than 30 days prior to the

start of construction for approval. A permitted biologist is one who is authorized under an existing permit for the tidewater goby in accordance with the Endangered Species Act, section 10(a)(1)(A).

WLD-8: Central California Coast Steelhead Management Requirements. To minimize impacts to steelhead, free-spanning structures will be used to negate the need to perform any in-channel in Rodeo Creek. There will be no need to enter the channel, dewater the stream, or capture and relocate steelhead. Compensation actions to remove fill will avoid placing equipment in the water, which will also avoid impacts to steelhead. Any construction activities that may affect steelhead (removing fill from Rodeo Lagoon, constructing new Rodeo Creek crossings or removing existing crossings), will be performed only during June 15-October 15.

Mulch or erosion control fabric will be placed on any bare riparian ground resulting from project work.

A 100-foot (33 m) buffer will be maintained around riparian areas. Staging and vehicle use will occur outside the buffer area, and any activities within the buffer area will occur under supervision of the biological monitor.

Erosion and sediment control measures will be undertaken along Mitchell and Bunker roads, as described under "Best Management Practices" in the Final EIS (sec. 2.3.5).

Rehabilitation in riparian areas will be accomplished by hand treatment techniques, using erosion control materials if treatment areas are bare prior to rains, revegetating where needed, and where possible, returning native woody material (large woody debris) to streambanks.

Roadside maintenance work on Bunker and Mitchell roads and trail maintenance work along the Rodeo Valley trail in the vicinity of Rodeo Creek, Lake, or Lagoon will occur in the dry season as practicable.

Two existing bridges across Rodeo Creek are proposed for removal and the restoration of riparian habitat, resulting in an increase of 0.09 acre (0.036 ha) of willow scrub habitat. Permanent impacts from two new bridges over Rodeo Creek will affect 0.02 acre (<0.01 ha) of riparian habitat.

Following removal of fill from the area south of Rodeo Lake along Bunker Road, 0.32 acre (0.13 ha) of willow scrub and emergent wetland will be restored along the lake shore.

Following removal of fill from the area at the northeast corner of Rodeo Lagoon along Bunker Road, this area will be restored to willow scrub habitat, resulting in an increase of 0.28 acre (0.11 ha) of riparian habitat.

All areas along Rodeo Lake and Rodeo Creek temporarily disturbed by project work will be restored to the pre-project habitat type (or better) following project completion.

Following removal of fill from the area south of Rodeo Lake (along Bunker Road), this area will be restored to the former extent of the lake/lagoon as willow scrub and/or emergent wetland habitat along the existing lake shore, resulting in an increase of 0.38 acre of riparian or emergent wetland habitat.

Following removal of fill from the area at the northeast corner of Rodeo Lagoon (along Bunker Road), this area will be restored to willow scrub habitat, resulting in an increase of 0.59 acre (0.24 ha) of riparian habitat.

All areas along Rodeo Lake and Rodeo Creek temporarily disturbed by project work will be restored to the pre-project habitat type (or better) following project completion.

WLD-9: Red-legged Frog Management Requirements. Project activities in the vicinity of Rodeo Creek and Lake will occur during the non-breeding season for red-legged frogs (May through October).

Roadside maintenance work on the shoulders of Bunker and Mitchell roads, as well as trail maintenance work along the Rodeo Valley trail in the vicinity of Rodeo Creek, Lake, or Lagoon, will only occur in the non-breeding season (except as required for emergency situations such as clogged culverts causing flooding).

Before and during construction activities along Rodeo Lake, Lagoon, and Creek, a biological monitor will search a 50-foot radius around all work localities for the presence of red-legged frogs. Vegetation that will be disturbed within the project area will be removed during these surveys to aid in observations of the species. To prevent direct injury to California red-legged frogs, vegetation removal within suitable frog habitat will be accomplished by a progressive cutting of vegetation from the overstory level to ground level to allow frogs to move out of the work area. If any frogs are observed, activities will cease until the animal is removed and relocated by a qualified or permitted biologist. Captured frogs will be relocated to suitable habitat outside the construction zone, either upstream or downstream.

The biological effectiveness of structural measures, including underpasses and fencing, to reduce red-legged frog injury and mortality will be examined, and such measures will be implemented if feasible and with concurrence from the U.S. Fish and Wildlife Service.

For this mitigation a qualified biologist means any person who has completed at least four years of university training in wildlife biology or a related science, has demonstrated experience handling amphibians, and has demonstrated field experience in the identification and life history of the red-legged frog. Resumes of all biologists proposed to capture or handle red-legged frogs will be submitted to the U.S. Fish and Wildlife Service for approval no later than 30 days before the start of construction. A permitted biologist is one who is authorized under an existing permit for the red-legged frog in accordance with the Endangered Species Act, section 10(a)(1)(A).

Nets or bare hands will be used to capture red-legged frogs. Biologists will not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within two hours before and during periods when they are capturing and relocating red-legged frogs. To avoid transferring disease or pathogens between aquatic habitats during the course of surveys or handling of red-legged frogs, biologists will follow the Declining Amphibian Populations Task Force's "Code of Practice." Biologists will limit the duration of handling and captivity of red-legged frogs. While in captivity, individuals of these species will be kept in a cool, moist, aerated environment, such as a bucket containing a damp sponge. Containers used for holding or transporting adults of these species will not contain any standing water.

Silt fencing will be installed between Rodeo Lake and the work area during construction and restoration activities to exclude red-legged frog individuals from the work area and to protect existing lakeside riparian and emergent wetland habitat; if individuals are located within the work area or between the silt fencing and work area, a qualified and permitted biologist will collect and relocate any individuals to nearby suitable habitat.

To minimize downslope erosion and sedimentation in the vicinity of Rodeo Creek, Lake, or Lagoon, erosion control devices will be maintained during ground-disturbing activities and until all disturbed soils had been stabilized. Tightly woven fiber netting or non-binded materials (e.g., rice straw) will be used for erosion control or other purposes at the project site to avoid trapping red-

legged frogs. This limitation will be communicated to the contractor through special provisions in the bid solicitation package. No plastic mono-filament matting will be used for erosion control.

Erosion and sediment control measures will be used along Bunker Road.

Roadside maintenance work on Bunker and Mitchell roads and trail maintenance work along the Rodeo Valley trail in the vicinity of Rodeo Creek, Lake, or Lagoon will only occur in the dry season (except as required for emergency situations, such as clogged culverts causing flooding).

Posted speed limits will be enforced along Bunker Road in the vicinity of Rodeo Lake and Lagoon to minimize impacts from cars striking frogs that may cross the road between habitats, especially at night and during rain events.

An educational campaign will be undertaken for people working at Fort Cronkhite (NPS employees and partners) and residents, concerning the need to drive slower on rainy nights so as to detect and avoid red-legged frogs and other amphibians.

Two existing bridges across Rodeo Creek are proposed for removal and the restoration of riparian habitat, resulting in an increase of 0.09 acre (0.036 ha) of willow scrub habitat. Permanent impacts will result from the abutment of each new bridges over Rodeo Creek and will not exceed 0.02 acre (<0.01 ha) of riparian habitat.

Following removal of fill from the area south of Rodeo Lake along Bunker Road, 0.32 acre (0.13 ha) of willow scrub and emergent wetland will be restored along the lake shore.

Following removal of fill from the area at the northeast corner of Rodeo Lagoon along Bunker Road, this area will be restored to willow scrub habitat, resulting in an increase of 0.28 acre (0.11 ha) of riparian habitat

All areas along Rodeo Lake and Rodeo Creek temporarily disturbed by construction will be restored to the pre-project habitat type (or better) following project completion.

Following removal of fill from the area south of Rodeo Lake (along Bunker Road), this area will be restored to the former extent of the lake/lagoon as willow scrub and/or emergent wetland habitat along the existing lakeshore, resulting in an increase of 0.38 acre of riparian or emergent wetland habitat.

Following removal of fill from the northeast corner of Rodeo Lagoon (along Bunker Road), this area will be restored to willow scrub habitat, resulting in an increase of 0.59 acre (0.24 ha) of riparian habitat.

Smith Road will be shifted away from its current alignment adjacent to Rodeo Creek; the decommissioned portion of Smith Road will be restored to willow scrub along the creek, resulting in an increase of 1.35 acres (0.55 ha) of riparian habitat.

All areas along Rodeo Lake and Rodeo Creek that are temporarily disturbed by construction will be restored to the pre-project habitat type (or better) following project completion.

WLD-10: California Brown Pelican Management Requirements. Work on the Rodeo Beach trail and associated fencing from the southwestern corner of Rodeo Lagoon to the northwest corner where the footbridge crosses the mouth of the lagoon (near the brown pelican roosting site at the western edge of the lagoon) will be conducted between December and April, when pelicans tend to be sporadically present and in low numbers.

Protective fencing and educational signs will be installed along the new Rodeo Beach trail segment on the southwest side of Rodeo Lagoon, and along the western edge of the lagoon, to discourage visitor access to roosting sites. Interpretive materials with information on pelicans and other birds will be provided to the public.

WLD-11: Western Snowy Plover Management Requirements. To avoid any potential impacts to snowy plovers, pre-construction surveys will be done during the non-breeding season (July through April) when plovers may be present before any construction activities were undertaken on Rodeo Beach, including the installation of post-and-cable fence along the beach side of Rodeo Lagoon to keep people and pets from the lagoon. If plovers are present, no construction actions will be taken in those areas.

WLD-12: Salt Marsh Harvest Mouse Management Requirements. Silt fencing will be installed along the southernmost edge of construction and staging areas along Mitchell Road (along the northern edge of Rodeo Lagoon) during project activities. Only hand-clearing of vegetation will be permitted during roadside maintenance activities along Mitchell Road. Such vegetation clearing will occur prior to any maintenance grading and/or earthmoving activities.

WLD-13: Western Pond Turtle Management Requirements. A qualified biologist will conduct pre-construction surveys to determine if western pond turtles are present in the construction area before starting construction. If any pond turtles are found, the biologist will move them to the nearest area of suitable aquatic habitat that will not be affected by project activities.

WLD-14: Tree Removal Bat Habitat Assessment. An assessment of trees to be removed will include the potential to provide bat roosting habitat. If it is determined that such trees provide roosting habitat, measures will be developed to avoid and/or minimize adverse effects to roosting bats to the greatest extent feasible. Such measures might include allowing activities only at certain times or in certain seasons.

Air Quality

AQ-1: Dust Control. All active construction areas will be watered where soil is exposed in order to control dust frequency, depending on type of operation and wind exposure.

One or more persons will be designated to oversee the implementation of a comprehensive dust control program and to increase watering, as necessary.

All trucks hauling weed-free soil, sand, or any other loose materials will be covered, or all trucks will be required to maintain at least 2 feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer), in accordance with the California Vehicle Code (sec. 23114 of) during transit to and from the site.

Inactive storage piles will be covered.

Cultural Resources

CR-1: Conzelman Road Cultural Landscape Management Requirements. A specific design guideline must be carried out for the Battery Spencer pullout because of the high sensitivity of the historic battery entrance adjacent to head-in parking stalls. These design guidelines will also apply to Overlooks 1 and 2. The treatment will include retaining the opening to the entrance free of parked vehicles.

CR-2: Conzelman Road / McCullough Road Intersection Cultural Landscape Management Requirements. The design of the roundabout for the Conzelman Road / McCullough Road intersection cannot be mitigated, and the intersection will lose its historical integrity. To provide some linkage to the past intersection alignment, design treatment of the intersection island will be developed with respect to cultural and natural resource management concerns.

CR-3: Western Conzelman Road Cultural Landscape Management Requirements. Along the one-way segment of western Conzelman Road, design guidelines will be undertaken to ensure that the erosion repair strategy will be compatible with the historical road character (improvements will be within the road prism, drainage and the inboard ditch will be preserved), and the retaining wall design along the Lower Conzelman Road segment will be compatible with the historic district.

CR-4: Bunker Road and Rifle Range Cultural Landscape Management Requirements. The rifle and pistol ranges, as components of the cultural landscape, need their own archeological study and cultural landscape assessment, even for the work of removing the effects of existing informal parking. Minor widening of the western portion of Bunker Road (from the tunnel to Mitchell Road) will preserve the character-defining features of the resource.

CR-5: Bunker Road / Old Bunker Road / Mitchell Road Intersection Cultural Landscape Management Requirements. Administrative remedies, such as a three-way stop, will be tested at the Bunker Road / Old Bunker Road / Mitchell Road intersection for a minimum period of three years to determine whether the accident rate at the intersection could be reduced effectively without extensive alterations. If this measure was not effective, the historic Y configuration will be converted to a T intersection, and all adjacent grades will be erased, including the former leg of Old Bunker Road; this feature will cause a loss of integrity.

CR-6: McCullough Road Cultural Landscape Management Requirements. Widened areas of McCullough Road will be treated in a manner compatible with the surrounding landscape and will avoid changing the scale of the built feature.

CR-7: Field Road / Mendell Road Cultural Landscape Management Requirements. Design guidelines will ensure the compatibility of restored character of Mendell Road and the features at AA Position 81. Specifically, the features at AA Position 81 will need to be carefully mapped as a basis for guiding design work, and a cultural landscape assessment of the entire site will be required. For Mendell Road design guidelines for the surfacing material of the bike path will be needed to reflect the historical character of the roadway and compatibility with the historic setting.

CR-8: East Road Cultural Landscape Management Requirements. Attention must be given to the historic dump on the bay, with no fill into the dumpsite, protection of downslope and upslope drainage features, and protection of the large eucalyptus tree allée on the southernmost segment approaching the cantonment. Project work will be designed to protect, as practical, the eucalyptus windrow from root damage; to provide design guidelines/design details for roadside pullouts and walkways (SF Bay Trail); to prevent stormwater runoff or road drainage from impacting the downslope archeological feature (dump site); and to retain water drainage features along the road. Archeological testing is to be done at each drainage location extending into the dump.

CR-9: Dubois Road Cultural Landscape Management Requirements. Actions affecting Dubois Road cannot be mitigated and there will be a permanent change to the resource. However, due to retention of the alignment and its function as a circulation feature, it will not lose its integrity to a degree that will require removal from the National Register of Historic Places.

CR-10: Julian Road Cultural Landscape Management Requirements. The McCullough Road / Conzelman Road intersection will be designed to avoid impacting Julian Road. The new parking lot and restroom will be modestly scaled and compatibly designed to minimize impact to the unpaved Julian Road.

CR-11: Mitchell Road / Fort Cronkhite Cultural Landscape Management Requirements. As mitigation for effects of transportation improvements (and per the Presidio *General Management Plan Amendment,* existing mitigation for removing barracks at the Crissy Field / Fort Cronkhite cantonment level of integrity for the World War II era should be enhanced. Mitigations include maintaining the historic edge of the cantonment, including two curves on the end of Kirkpatrick and Edison streets. A cultural landscape report will be completed to inform infill parking design. This report will also inform the extent of wetland restoration so as to not adversely impact the component landscape. Design guidelines will be developed to ensure compatibility of road shoulder parking details and other restoration efforts. There could be some unknown archeological issues in the parking areas west and north of the Fort Cronkhite WWII cantonment area; therefore, subsurface archeological investigation will have to be undertaken before restoration design.

CR-12: Fort Barry Cantonment Cultural Landscape Management Requirements. A cultural landscape report will be completed before site-specific designs are developed.

CR-13: Trails Cultural Landscape Management Requirements. *Battery Rathbone – McIndoe Trails* — The route of the relocated Coastal Trail across the battery will need additional design consideration by the park's cultural resource specialists. A separate archeological survey will be required for this area, as well as a cultural landscape inventory and assessment, to guide detailed development of the trail alignment.

Battery Alexander to Rodeo Beach Trail (Battery Smith–Guthrie) — This project will repair nearby Nike revetments. To mitigate the visual impact of an added feature, rehabilitation of the red rock road from Battery Smith–Guthrie to Battery Alexander will be undertaken. A separate archeological survey will be required for this area, as well as a cultural landscape inventory and assessment, to guide detailed development of a trail alignment.

Rodeo Valley Trail — To minimize impacts, the width and unpaved character of trail will be retained, as well as most of the current alignment (approximately 900 feet will be realigned).

Battery Alexander Parking Area to Point Bonita Trailhead — The earthworks at the southern end of the trail (mine casemate) will be repaired. Design guidelines will be required to ensure that a sense of scale and character is retained.

Rodeo Lagoon (South Shore) Trail — Prehistoric resources could exist in this area. To avoid such resources, an archeological subsurface survey will be required before design.

New Coastal Trail Segments — A new trail will be constructed for access to Hill 129. The trail should use historic circulation routes where feasible and otherwise be compatible with them.

CR-14: Roads and Trails Maintenance Yard: Designs for parking and circulation will be developed to retain the footprint of the Fort Cronkhite parade ground. New features, including the maintenance garage, will be compatible with the World War II scene and consistent with the enhancement of the World War II cantonment area.

CR-15: Photo-documentation: Certain historic resources that will be damaged as a result of construction activities will be recorded through photo-documentation using 35mm black-and-white

and color photography. At a minimum, features to be recorded include the masonry conduit that is removed as a result of the Battery Spencer hillside removal; area where the Mendell roundabout will be constructed; Bunker/McCullough Roads intersection; Bunker/Field Roads intersection; McCullough /Conzelman intersection; and Bunker/Old Bunker/Mitchell Roads intersection; and structure FA-909, Electrical Substation on Bunker Road. The photo-documentation, along with the plans for changes to these areas, will be deposited in GGNRA Park Archive and Record Center.

Additional Cultural Resource Mitigation for Natural Resource Enhancement

Actions and Mitigations

Polygon 23, Southwest of Battery 129

Action: Remove pampas grass from coastal bluff edges to allow for expansion of mission blue butterfly (mmb) habitat.

Mitigation CR-17: Undertake an archeological survey in advance to identify resources in the area of removal and to guide the vegetation management effort away from adverse effects on cultural resources. Modify the project to explicitly include access routes through the mmb habitat area to the cultural resources to ensure ongoing access for maintenance and monitoring purposes.

Polygon 24, Slopes below Conzelman Road Southeast of Hawk Hill

Action: Remove thoroughwart shrub to allow for expansion of mission blue butterfly habitat.

Mitigation CR-18: Undertake an archeological survey in advance to identify resources in the area of removal and to guide the vegetation management effort away from any adverse effects on cultural resources. (This work should be done concurrent with survey work in adjacent Polygon 26.) Develop a component cultural landscape for Battery Orlando Wagner, sufficient to guide the project in selecting an appropriate vegetation treatment. Provide cultural resource monitoring of the vegetation management work while underway.

Polygon 26, Kirby Cove Bowl below Conzelman Road

Action: Conduct limited tree removal; remove thoroughwart, cape ivy, and pampas grass to allow for expansion of mission blue butterfly habitat.

Mitigation CR-19: Undertake an archeological survey in advance to identify resources in the area of removal and to guide the vegetation management effort away from adversely affecting the resources. This work should be done concurrent with survey work in adjacent Polygon 24. Develop a component cultural landscape for Batteries Gravelly and Kirby, sufficient to guide the project in selecting an appropriate vegetation treatment. Provide a forest management plan for the Kirby Cove historic windbreak, and implement treatment recommendations for managing the biological health of the tree stand in the context of impacts from the vegetation management effort. Provide cultural resource monitoring of the vegetation management work while underway.

Polygon 27, Top of Battery 129 / Hawk Hill

Action: Remove trees, thoroughwart, and pampas grass to allow for expansion of mission blue butterfly habitat.

Mitigation CR-20: Ensure that all trees are flush cut for removal, and develop a strategy for yarding cut material that will not impact cultural resources at Hill 129 or elsewhere. Develop a component cultural landscape for Battery Hill 129, sufficient to guide the project in selecting an appropriate vegetation treatment. Modify the project to explicitly include access routes through the habitat area to the cultural resources, so as to ensure ongoing access for maintenance and monitoring purposes.

Polygon 28a, Lower Conzelman Road between Battery Spencer and U.S. 101

Action: Remove thoroughwart to allow for expansion of mission blue butterfly habitat.

Mitigation CR-21: Provide cultural resource monitoring during project implementation to avoid impacts on the historic military era water catchment and delivery system.

Polygon 31, below West Conzelman Road, Upper to Lower Fisherman's

Action: Remove pampas grass from coastal bluff edges.

Mitigation CR-22: Provide for cultural resource monitoring during project implementation in case remote fortification components are found.

Polygon 36, Fort Barry Eucalyptus Grove (north of Battery Rathbone-McIndoe)

Action: Remove trees to allow for expansion of mission blue butterfly (mmb) habitat.

Mitigation CR-23: Modify the project to explicitly include access routes through mmb habitat area to the cultural resources to ensure ongoing access for maintenance and monitoring purposes. Provide for cultural resource monitoring during project implementation in the event that remote fortification components are found. Use the forthcoming Fort Barry and Fort Cronkhite cultural landscape reports to guide vegetation treatment.

Polygon 37, Fort Barry Scattered Pines (north of Polygon 36)

Action: Remove scattered trees and shrubs to allow for expansion of mission blue butterfly (mmb) habitat.

Mitigation CR-24: Provide an advance archeological survey to identify resources in the area of removal and to guide the vegetation management effort away from adversely affecting resources. Modify the project to explicitly include access routes through mmb habitat area to the cultural resources to ensure ongoing access for maintenance and monitoring purposes. Vegetation treatment will be guided by the forthcoming Fort Barry and Fort Cronkhite cultural landscape reports.

Site 2, Vicinity of T-1111 and Edge of Rodeo Lagoon

Action: Remove fill in two locations.

Mitigation CR-25: Protect historic military era drainage features in the project area. Fully prepare for the potential for pre-contact remains to exist below fill, provide for extensive monitoring of fill removal effort once close to native soil level. The vegetation treatment will be guided by the forthcoming Fort Barry and Fort Cronkhite cultural landscape reports.

Site 7, New Bike Path and Underpass under Alexander Avenue, above Fort Baker Cantonment

Action: Provide stabilization treatment for areas where a natural seep crosses the new bicycle path.

Mitigation CR-26: Undertake an archeological survey for the treatment area in advance to determine whether cultural features exist within the project area and guide treatment away from adverse effects on features.

Site 8, Gully Refilling and Revegetation below Conzelman Road

Action: Remove fill in segment of draw.

Mitigation CR-27: In conjunction with developing a forest management plan for the Kirby Cove historic windbreak, treatment methods will be designed to allow for fill removal without adversely affecting the historic tree stand. Vegetation treatment will be guided by the forthcoming Forts Barry and Cronkhite cultural landscape reports.

Visitor Use and Experience

VE-1: Prior to wetland restoration construction the park will prepare a public engagement strategy to identify and notify all internal and external stakeholders (including park partners, visitors, user groups, etc.). Notification will include any of the following depending upon the relationship of the stakeholder to the site: sending project information, scope and timelines; holding meetings and site walks; and giving presentations. Additionally, materials shall be developed and distributed to interested stakeholders. Project signage will be erected at least 2 months prior to project start dates and an on site Project Information Coordinator will likely be stationed at the project location at least 2-4 weeks prior to the project start date to notify visitors and park partners. Staff will also remain on site for the duration of any project and a phone number will be established to receive and respond to any public inquiries and concerns.

Noise

NOI-1: Noise Restrictions. Mitigation measures providing hourly restrictions for noise-generating construction activities will be developed by NPS staff in consultation with Marin County representatives.

NOI-2: Employ Noise Reducing Construction Practices. To reduce daytime noise and potential disturbance to wildlife species due to construction, contractors will muffle or control noise from construction equipment by using the following measures:

Equipment and trucks used for construction will utilize noise control techniques (e.g., improved mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds, and installation of sound blankets around the project site, wherever feasible). All vehicles will meet federal standards for the year they were built. Construction vehicles will be properly maintained and equipped with exhaust mufflers that meet state standards. To reduce noise and emissions, construction equipment will not be permitted to idle for long periods of time.

Impact tools (e.g., jackhammers and pavement breakers) used for construction will be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust will be used, and external jackets on the tools themselves will be used where feasible. Quieter procedures will be used, such as drilling rather than using impact equipment, whenever feasible.

Human Health, Safety, and the Environment

Hazardous Substances

CON-1: Underground Storage Tank Management. If construction is likely to occur before hazardous substance cleanup by the U.S. Army Corps of Engineers in areas where there are known or suspected underground storage tanks, soil contamination, or hazardous materials, then GGNRA will address the portions of these sites that would be disturbed before construction begins. Any such steps include further exploration to confirm existence of underground storage tanks, soil contamination, or hazardous materials. If such substances are confirmed, appropriate cleanup options will be determined prior to construction.

CON-2: Prepare Materials Management Plan. For each project phase, a materials management plan that addresses handling of potentially contaminated soils or materials will be prepared as a part of the project plans.

CON-3: Contamination Surveys. In areas where deeper excavation work may occur, and where there are indications that past military's use of an area may have resulted in some potential for contamination, additional survey work is to be undertaken during the design phase of each project. Surveys using electromagnetic subsurface diagnostic tools, ground-penetrating radar, seismic refraction, or resistivity tools will be conducted in areas to be excavated to determine potential for buried objects (such as storage tanks, vaults, pipelines, and buried drums). If any such objects are found, then steps will be taken to appropriately confirm and, if necessary, remove the objects and any contamination.

CON-4: Bunker Road at Rifle Range Contaminant Testing. Soil samples will be taken where Bunker Road crosses the rifle range to determine if any soils which could be disturbed by Bunker Road rehabilitation are contaminated with metals found elsewhere on the rifle range. If such soil contamination is confirmed, then the contaminated soils that would be affected by the road project will be removed and properly disposed. The drainage ditch, culvert repair, and replacement project on the rifle range would likely be scheduled to occur after the Corps cleanup of the contaminated rifle range soils.

CON-5: Stables Area Contaminants Testing. If/when parking area improvement work at the riding stables is determined to be on the site of the former Army fuel station, additional testing will be undertaken to confirm that the recent removal of underground storage tanks has fully cleaned up the site before construction.

CON-6: Lead-Contaminated Soils. If/when work occurs in areas close to buildings where lead-contaminated soils exist, appropriate measures to handle contaminated soils will be followed, in accordance with the materials management plan developed for such purposes.

CON-7: Spill Prevention and Control Plan. A spill prevention and control plan will be prepared, consisting of the following elements:

Proper storage, use, and disposal of chemicals, fuels, and other toxic materials are required.

Construction equipment is required to be refueled only in upland areas and in conformance with the avoidance zones to prevent fuel spills near sensitive habitats. Equipment will be inspected for hydraulic and oil leaks regularly, as well as prior to use in the park.

All heavy equipment used in the park is required to carry emergency spill-containment materials. For example, pans would be placed under equipment stored on site to reduce the potential for leaks of oil and other substances to leach into park lands. Absorbent materials will be on hand at all times to absorb any minor leaks and spills.

An emergency response plan will be prepared by the contractor(s), approved by NPS, and fully implemented during project implementation.

The asphalt batch plant will not be permitted in the park.

CON-8: Potential Unexploded Ordnance. In areas where there is a potential for unexploded ordnances (UXO), further investigation using aerial photos or other historical data will be undertaken to flag potential sites for a site investigation. Should no pictorial or physical evidence of UXOs be discovered, the park would define uncertainty risk and probability by utilizing outside expertise, such as that available through the Army Corps of Engineers or private researchers. Remediation actions would depend on the findings and may range from having trained UXO observers work with construction operators to prohibiting construction activities in certain sites.

Public Safety Services

PSS-1: Barry-Baker Tunnel Traffic Signals. The Barry-Baker tunnel alternating one-way traffic signal system is to be modified through installation of a "hard" telephone wire connection to the park dispatch center so that tunnel traffic signals can be readily switched to green in the direction of approaching emergency vehicles prior to actually arriving at tunnel portals. This affords emergency response vehicles the option of traveling to or from Marin Headlands over either Bunker Road or Conzelman Road.

- End -