

**ADDENDUM TO THE
TIER II
NATURAL ENVIRONMENT STUDY
FOR
STATE ROUTE 11 AND THE OTAY MESA EAST
PORT OF ENTRY**

OTAY MESA, SAN DIEGO, CALIFORNIA
DISTRICT 11-SD – ROUTE 11
PM 0.0/2.8
DISTRICT 11-SD – ROUTE 905
PM R8.4/10.1
DISTRICT 11-SD – ROUTE 125
PM 0.5
PROJECT ID 1100000023/EA056310



December 2011



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**ADDENDUM TO THE TIER II
NATURAL ENVIRONMENT STUDY
FOR
STATE ROUTE 11 AND THE OTAY MESA EAST PORT OF
ENTRY**

This Natural Environment Study Addendum (Addendum) discusses impacts of the Preferred Alternative to vegetation communities, aquatic resources, plant and animal species, and proposed mitigation and monitoring. Proposed State Route (SR)-11 would extend generally east and south for approximately 2.1 miles from the east side of the approved SR-905/SR-125 interchange, terminating at the proposed Otay Mesa East Port of Entry/Commercial Vehicle Enforcement Facility (POE/CVEF) sites. The combined POE/CVEF would extend from the eastern/southern terminus of proposed SR-11 to the U.S.-Mexico international border. The project also includes connectors to link SR-11 to SR-905 (under construction) and SR-125, as well as modifications to the approved SR-905 design to accommodate these connectors.

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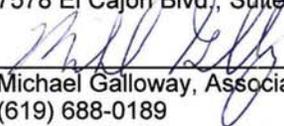
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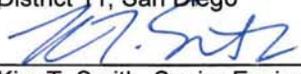
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Summary

The California Department of Transportation and the Federal Highway Administration are proposing to construct the State Route 11 and Otay Mesa East Port of Entry in San Diego County. The components of the proposed project include construction of the new Otay Mesa East Port of Entry; a new highway, State Route 11; and a Commercial Vehicle Enforcement Facility.

This Addendum addresses the impacts to biological resources and mitigation and monitoring requirements resulting from implementation of the Preferred Alternative, which is a modification of the Two Interchange Alternative analyzed in the Natural Environment Study, with a reduced version of the Siempre Viva Full Interchange Variation. In addition, the Port of Entry footprint has been reduced on the east side in response to U.S. Fish and Wildlife Service comments, to reduce impacts to natural communities, sensitive plants and designated critical habitat areas. Finally, this addendum addresses the anticipated biological resources impacts and benefits associated with the preservation and/or restoration of the Johnson Canyon and Lonestar mitigation parcels. With respect to each evaluated resource, the impacts of the Preferred Alternative would be less than the impacts of the Two Interchange Alternative with the Siempre Viva Road Full Interchange Variation that were reported in the Natural Environment Study and Draft Environmental Impact Report/Environmental Impact Statement.

Project Purpose and Need

The purpose and need of the proposed project is unchanged from that described in the Natural Environment Study.

Impacts to Natural Communities

The Preferred Alternative would directly impact 175.72 acres of natural communities of special concern, including impacts to 0.42 acre of mule fat scrub-disturbed and 175.3 acres of grassland communities.

The loss of grassland communities from development of the proposed project would contribute to cumulative losses of these communities in the region. The proposed project would not contribute to cumulative losses of mule fat scrub in the region because the California Department of Fish and Game permit that must be acquired before impacts to this community can occur would require that there be no net loss of jurisdictional areas.

The proposed project area is planned for development under the East Otay Mesa Specific Plan. In addition, local transportation facilities would likely be constructed by the County of San Diego to serve future development. Such cumulative development by others would be likely to ultimately impact many of the natural communities in the project area, and the developers of these projects would be required to provide appropriate mitigation.

Impacts to Aquatic Resources

The Preferred Alternative would directly impact 0.68 acre of California Department of Fish and Game jurisdictional areas, including impacts to 0.42 acre of mule fat scrub-disturbed and 0.26

acre of streambed. The Preferred Alternative also would directly impact 0.22 acre of U.S. Army Corps of Engineers jurisdictional non-wetland Waters of the U.S. drainages.

The proposed project would not contribute to cumulative losses of jurisdictional areas in the region because the federal and state permits that must be acquired before impacts to such resources can occur would require that there be no net loss of jurisdictional areas.

The proposed project area is planned for development under the East Otay Mesa Specific Plan. In addition, local transportation facilities would likely be constructed by the County of San Diego to serve future development. Such cumulative development by others would be likely to ultimately impact many of the aquatic resources in the project area, and the developers of these projects would be required to provide appropriate no-net-loss mitigation.

Impacts to Special Status Species

Impacts to as many as 34 locations of San Diego button-celery (*Eryngium aristulatum* var. *parishii*) are anticipated at the proposed mitigation parcels as the result of grading.

Approximately 85 acres of designated critical habitat for spreading navarretia (*Navarretia fossalis*) would be affected by work at proposed mitigation parcels. This work, however, is not likely to adversely affect critical habitat as it would enhance habitat for spreading navarretia by the creation and enhancement of vernal pools and removal of exotic vegetation.

While the federally listed endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*) would not be impacted by the proposed project, the Preferred Alternative would permanently impact 89.1 acres of San Diego fairy shrimp critical habitat. In addition, up to 14 pools containing this species, as well as up to 155.4 acres of critical habitat, could be impacted by enhancement/restoration activities at the proposed mitigation parcels.

The Preferred Alternative also would impact three locations where the federally listed endangered Quino checkerspot butterfly (*Euphydryas editha quino*) was observed. In addition, up to 95 acres of Quino checkerspot butterfly critical habitat could be impacted by enhancement/restoration activities at the proposed mitigation parcels.

Riverside fairy shrimp (*Streptocephalus woottoni*) would not be impacted as a result of the Preferred Alternative; however, this species is located within proposed mitigation parcels, and could be impacted by enhancement/restoration activities at these parcels.

Other special status, but non-listed, plant and animal species also would be impacted by the Preferred Alternative. In most cases, the mitigation proposed would offset the potential impacts to special status species. One exception to this is impacts to the burrowing owl (*Athene cunicularia*). The Preferred Alternative would directly impact nine locations (a multi-year total) of burrowing owl. Because these owls are part of one of the last breeding populations of the species left in San Diego County, and the impacts would be considered cumulative, additional mitigation would be required.

The proposed project area is planned for development under the East Otay Mesa Specific Plan. In addition, local transportation facilities would likely be constructed by the County to serve future development. Such cumulative development by others would be likely to ultimately

impact many of the special status species in the project area, and the developers of these projects would be required to provide appropriate mitigation.

Permits Required

Permit requirements for the Preferred Alternative would be the same as those reported in the Natural Environment Study for the Draft Environmental Impact Report/Environmental Impact Statement build alternatives.

Proposed Mitigation

As reported in the Natural Environment Study, mitigation for the loss of natural communities of special concern is proposed to occur on the Lonestar parcels acquired by the California Department of Transportation on Otay Mesa. The Lonestar parcels support non-native grassland, Diegan coastal sage scrub, eucalyptus woodland, a stock pond, vernal pools, and unvegetated basins. The majority of the acreage of the Lonestar parcels is within the City of San Diego Multi-Habitat Planning Area; some of it is also designated as Multiple Species Conservation Program Biological Resource Core Area.

Impacts to U.S. Army Corps of Engineers and California Department of Fish and Game jurisdictional areas require permitting and mitigation. Proposed mitigation would be completed via the restoration and preservation of U.S. Army Corps of Engineers non-wetland Waters of the U.S./California Department of Fish and Game streambed at Johnson Canyon, a drainage that extends onto one of the Lonestar parcels and supports jurisdictional features.

Prior to grading at Lonestar Ridge West mitigation parcel, San Diego button-celery seed would be collected and stored by an experienced restoration ecologist. After grading activities are complete the seed would be dispersed amongst the remaining created vernal pools.

Caltrans, with the approval of the U.S. Fish and Wildlife Service, would install seed and container plants of spreading navarretia in enhanced and created vernal pools at Lonestar Ridge West mitigation parcel from seed obtained from the Otay Mesa by an experienced restoration ecologist.

Impacts to San Diego fairy shrimp critical habitat would be offset by the preservation, restoration, and enhancement of vernal pools on the proposed mitigation parcels, as well as through the preservation of San Diego fairy shrimp critical habitat on the parcels. Proposed mitigation also would include collection of soil containing fairy shrimp cysts prior to grading on the mitigation parcels to use to inoculate other vernal pools.

Proposed mitigation for the loss of Quino checkerspot butterfly habitat, including critical habitat, would include preservation and enhancement of historically occupied Quino checkerspot butterfly critical habitat on the proposed mitigation parcels.

Proposed mitigation for impacts to Riverside fairy shrimp located within proposed mitigation parcels would include collection of soil containing fairy shrimp cysts prior to grading on the mitigation parcels to use to inoculate other vernal pools. In addition, approximately 0.39 acre of vernal pools would be created to provide additional Riverside fairy shrimp habitat.

As described in the Natural Environment Study, mitigation for impacts to other special status plant and animal species would be via preservation, creation, restoration, and enhancement of habitat and/or the translocation/planting of affected plant species. Proposed mitigation for impacts to the burrowing owl is through the preservation of non-native grassland on the Lonestar parcels (or equivalent mitigation parcels). To ensure suitable burrow opportunities are present, artificial burrows would be created at a 5:1 ratio for each burrow impacted. Impacts to burrowing owls during construction would be minimized by avoiding disturbance near burrows during the breeding season.

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List of Abbreviated Terms

BMPs	best management practices
BRCA	Biological Resource Core Area
BSA	biological study area
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CVEF	Commercial Vehicle Enforcement Facility
EIR/EIS	Environmental Impact Report/Environmental Impact Statement
ESAs	environmentally sensitive areas
FEIS/FEIR	Final Environmental Impact Statement/Final Environmental Impact Report
FHWA	Federal Highway Administration
NES	Natural Environment Study
EOMSP	East Otay Mesa Specific Plan
MHPA	Multi-Habitat Planning Area
MSCP	Multiple Species Conservation Program
PM	post mile
POE	Port of Entry
R/W	right-of-way
SR-	State Route
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WPCP	Water Pollution Control Program
WUS	Waters of the U.S.

Chapter 1. Introduction

The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) are proposing to construct the State Route (SR-) 11 and Otay Mesa East Port of Entry (POE; i.e., the proposed project) in San Diego County. The components of the proposed project include construction of the new Otay Mesa East POE; a new highway, SR-11; and a Commercial Vehicle Enforcement Facility (CVEF).

This Addendum addresses the impacts to biological resources and mitigation and monitoring requirements resulting from implementation of the Preferred Alternative, which is described below.

1.1 Additional Project History

The project history prior to circulation of the Tier II Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the SR-11 and Otay Mesa East POE is provided in the Natural Environment Study (NES). The Draft Tier II EIR/EIS was circulated to the public and responsible agencies on December 10, 2010. The public review period closed on February 1, 2011. Comments were received from a number of responsible agencies, including the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), and California Department of Fish and Game (CDFG). A Preferred Alternative was selected and modifications were made to the project design in response to comments requesting that the eastern boundary of the POE be moved to the west to reduce impacts to natural communities, sensitive plants/animals, and critical habitat for listed species, as well as to reflect additional conceptual design information that was not available prior to circulation of the Draft EIR/EIS. The Preferred Alternative is described below in Section 1.2.

It is important to note that the approved SR-905 and SR-125 projects overlap with the proposed project. The areas currently within Caltrans or other transportation agency ownership for construction of SR-905 and SR-125, as well as additional areas that have been previously cleared for impact under the approved SR-905 project, are shown on Figure A-1.

This Addendum addresses the impacts to biological resources that would result from implementation of the Preferred Alternative, which is a modified version of the Two Interchange Alternative, with the SR-125 Connector Variation and partial incorporation of the Siempre Viva Road Full Interchange Variation, that were analyzed in the NES.

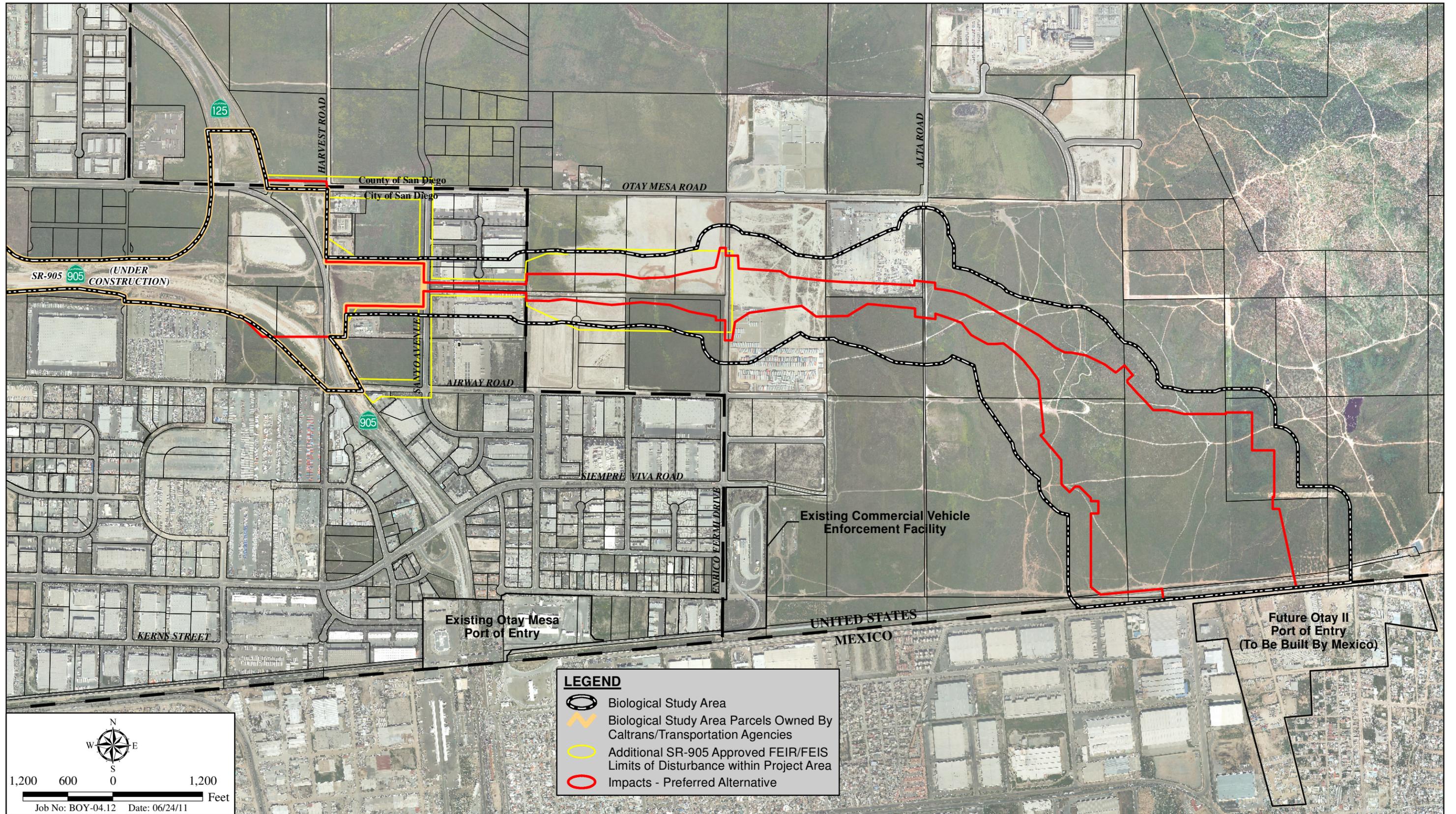
1.2 Description of the Preferred Alternative

The Preferred Alternative is essentially the same as the Two Interchange Alternative described in Section 1.2 of the NES, with full incorporation of the SR-125 Connector Variation and partial incorporation of the Siempre Viva Road Full Interchange Variation, with the exception of the following. These differences are depicted on Figure A-2, as well as other figures referenced below.

- The southeastern corner of the POE would not extend as far eastward under the Preferred Alternative. This change would reduce impacts to sensitive vegetation and steep slopes in that area. Under the Two Interchange Alternative, the POE extended all

the way to the eastern edge of the parcel located at the southeast corner of the Biological Study Area (BSA) (also refer to Figures A-1 and A-6).

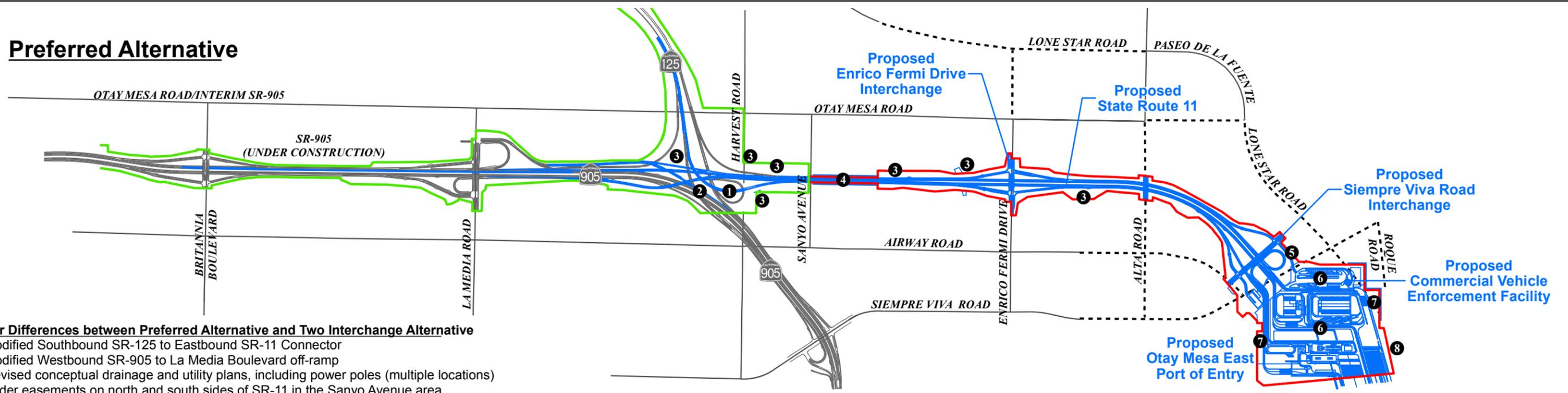
- The staff access road from the CVEF to the Siempre Viva Road half interchange would be upgraded to allow northbound commercial vehicles to leave the CVEF and access Siempre Viva Road directly, without accessing SR-11 (also refer to Figure A-5).
- A new ramp would be added to allow northbound access to SR-11 from Siempre Viva Road (also refer to Figure A-6). Unlike the Siempre Viva Road Full Interchange Variation of the Two Interchange Alternative, which was analyzed in the NES, the Preferred Alternative design of this interchange would not include the two loop ramps allowing southbound access from Siempre Viva Road into the POE and the third loop ramp allowing northbound passenger-only traffic from the POE to access Siempre Viva Road. As a hybrid of the half and full interchange versions of the Siempre Viva Road Interchange, the Preferred Alternative's footprint would be smaller than the full interchange but larger than the half interchange.
- In the Sanyo Avenue area (also refer to Figure A-5), the easements on either side of the SR-11 alignment would be wider than those identified for the Two Interchange Alternative.
- On the eastern edge of the SR-905/SR-125/SR-11 Interchange, adjacent to Harvest Road and the SDG&E and Calpeak electricity generation facilities (also refer to Figure A-5), the existing 69-kiloVolt power lines would be placed on new taller steel poles to accommodate the required vertical clearance from SR-11. The new poles would replace two existing wooden poles and would be located on new foundations outside of the highway right of way; one of the new poles would be in approximately the same location as the old pole and the other would be relocated, altering the alignment of the overhead power line.



Preferred Alternative Corridor/Biological Study Area and SR-905 Limits of Disturbance

STATE ROUTE 11 AND OTAY MESA EAST PORT OF ENTRY - TIER II NATURAL ENVIRONMENT STUDY ADDENDUM

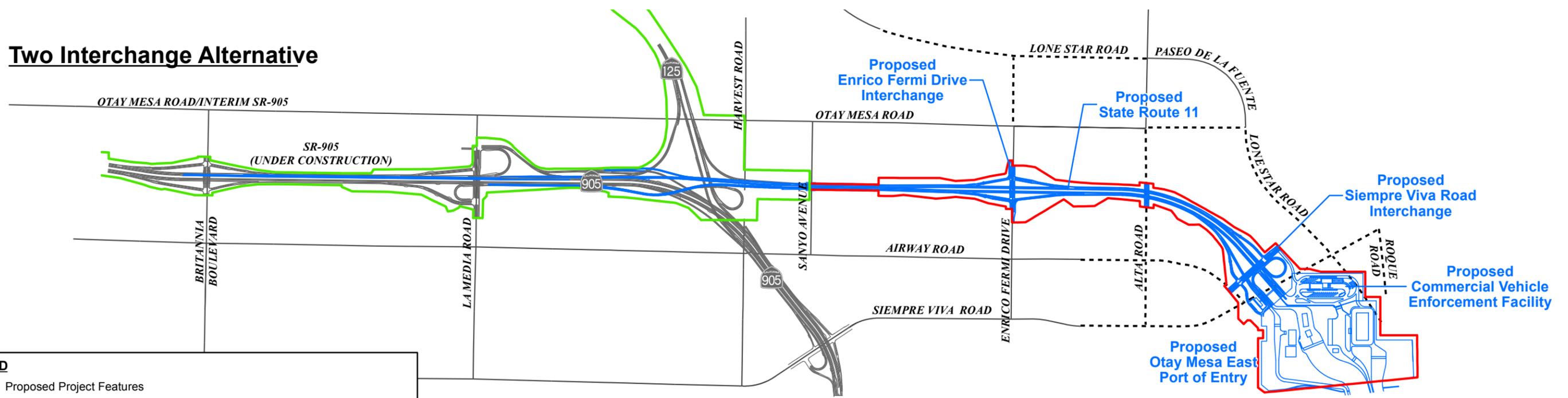
Preferred Alternative



Major Differences between Preferred Alternative and Two Interchange Alternative

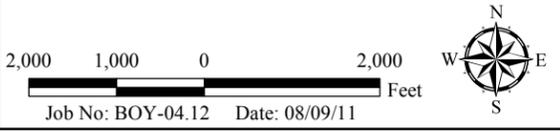
1. Modified Southbound SR-125 to Eastbound SR-11 Connector
2. Modified Westbound SR-905 to La Media Boulevard off-ramp
3. Revised conceptual drainage and utility plans, including power poles (multiple locations)
4. Wider easements on north and south sides of SR-11 in the Sanyo Avenue area
5. Addition of northbound access from CVEF to Siempre Viva Road (for commercial vehicles only)
6. Updated POE and CVEF layouts
7. Conceptual design identified for relocation of 30-inch high-pressure gas line within the POE/CVEF footprint
8. Eastern POE boundary moved westward to reduce impacts to sensitive species

Two Interchange Alternative



LEGEND

-  Proposed Project Features
-  Proposed Right of Way
-  Project Study Area Parcels Owned By Caltrans/Transportation Agencies
-  Future County Circulation Element Roads to be Built by Others (Would Require Revisions by the County to Accommodate the Proposed Project)



Comparative Overview of the Preferred Alternative and the Two Interchange Alternative

STATE ROUTE 11 AND OTAY MESA EAST PORT OF ENTRY - TIER II NATURAL ENVIRONMENT STUDY ADDENDUM

Chapter 2. Study Methods

Surveys performed for the NES (November 2010) are still considered valid for this Addendum. The reader is referred to Chapter 2 of the NES for detailed information regarding surveys conducted within the BSA.

Caltrans biologists conducted surveys of the Lonestar parcels and Johnson Canyon in 2010 and 2011 to update information obtained from biological surveys of the parcels conducted by Helix biologists between 2002 and 2009 (refer to Appendix A).

As noted in the NES (November 2010), the studies that were conducted were determined based on knowledge of species occurrences in the survey area from previous surveys and a habitat-based analysis. Additionally, a mandatory species list letter was received from the USFWS in 2006, and Caltrans received confirmation on November 7, 2008 and again on October 20, 2010, that the list is still valid.

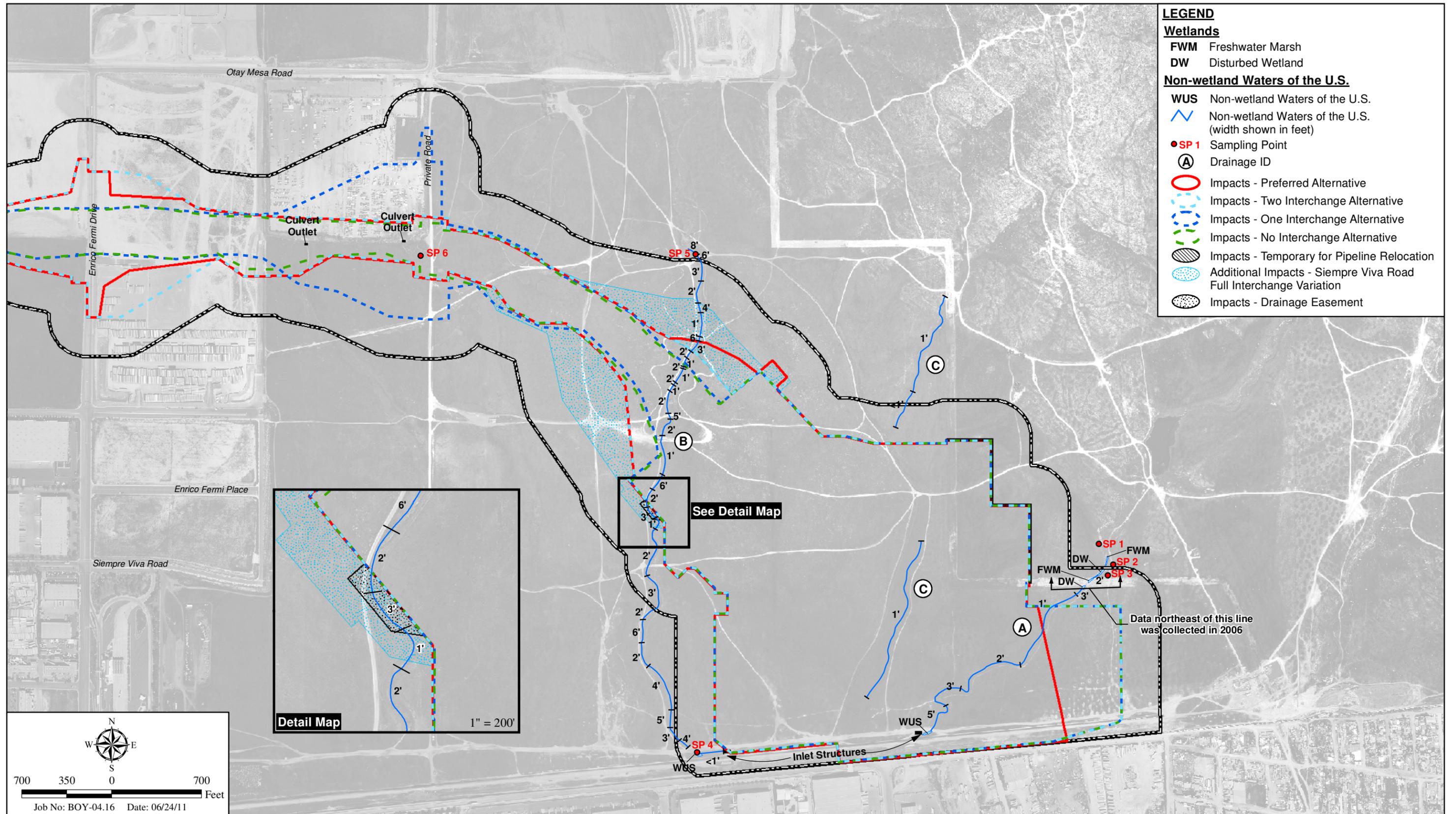
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Chapter 3. Results: Environmental Setting

No additional surveys were performed within the BSA since the public circulation of the NES (November 2010). Caltrans attended field meetings with CDFG and the California Regional Water Quality Control Board on May 24, 2011 to verify state jurisdictional waters and with USACE on June 2, 2011 to verify the jurisdictional delineation. As a result of the June 2, 2011 field meeting, the USACE requested that segments of Drainage B, that had been mapped as separated by dirt roads, be shown instead as a connected and continuous jurisdictional drainage. These revisions have been made for both USACE and CDFG jurisdictional areas along applicable segments of Drainage B, and are reflected on Figures A-3 and A-4 of this addendum. The revised (additional) impacts to USACE and CDFG jurisdictional areas in Drainage B identified for the Preferred Alternative would also apply to the Draft EIR/EIS Build Alternatives (with the EIR/EIS text changed accordingly). No other changes to the environmental setting within the BSA have occurred since the November 2010 NES.

The reader is referred to Chapter 3 of the NES for additional detailed information about the existing environmental setting, as well as additional figures showing existing biological resources within the BSA.

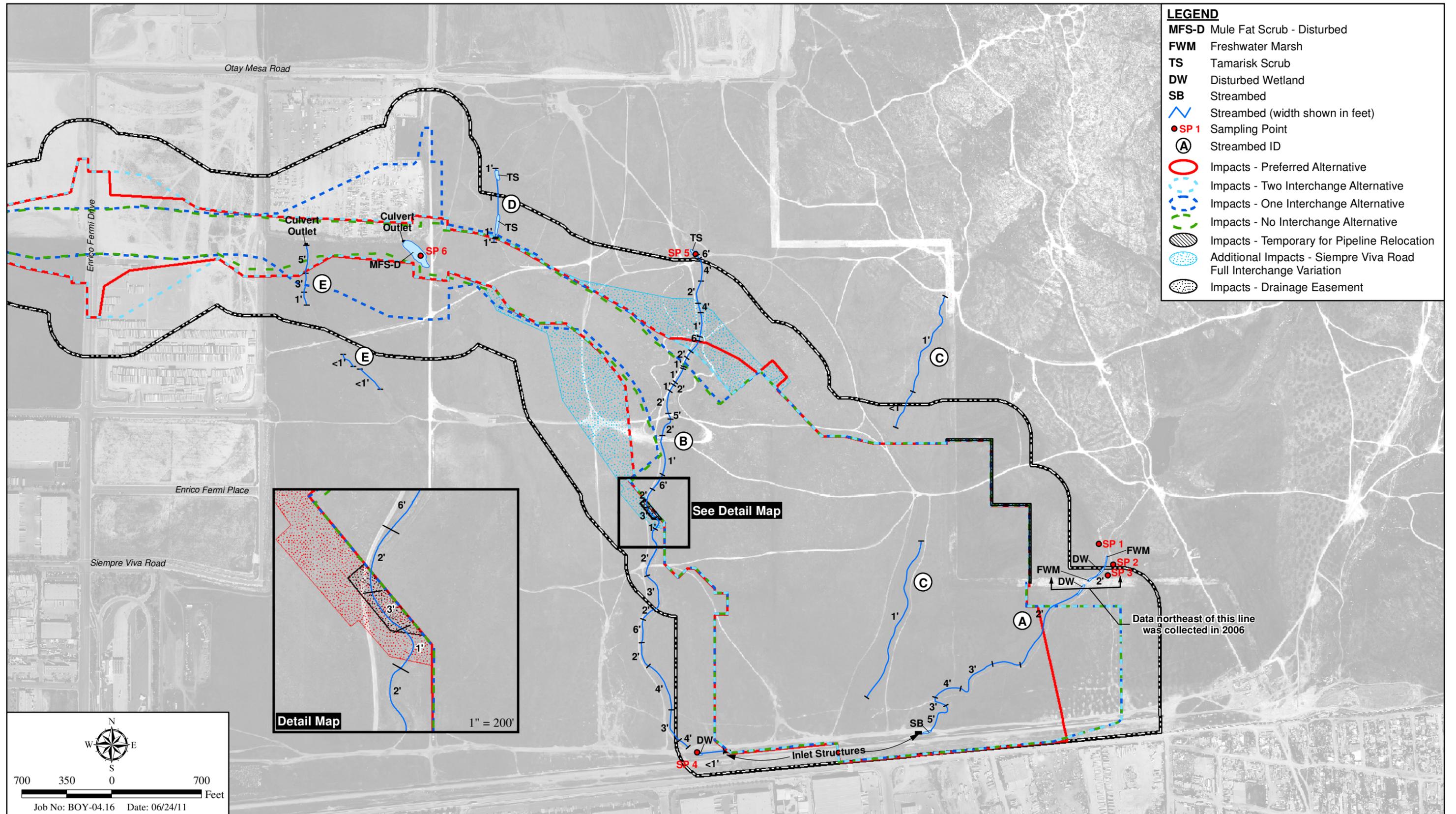
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USACE Jurisdictional Areas/Impacts

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Figure A-3



CDFG Jurisdictional Areas/Impacts

STATE ROUTE 11 AND OTAY MESA EAST PORT OF ENTRY - TIER II NATURAL ENVIRONMENT STUDY ADDENDUM

Figure A-4

Chapter 4. Results: Discussion of Impacts and Mitigation

The following section describes potential direct and indirect impacts associated with development of the Preferred Alternative based on existing conditions provided in the NES. Potential impacts and benefits associated with habitat restoration within the Lonestar and Johnson Canyon biological mitigation sites are also discussed. Additional mitigation/conservation measures may be required in the Biological Opinion for the project to be issued by the USFWS.

4.1. Natural Communities of Special Concern

Twelve natural communities of special concern occur within the BSA: vernal pool, basin with fairy shrimp, freshwater marsh, mule fat scrub-disturbed, disturbed wetland, Diegan coastal sage scrub, Diegan coastal sage scrub-disturbed, coastal sage scrub restoration, native grassland, non-native grassland, non-native grassland-disturbed, and grassland restoration. Refer to Section 3.1.2.2 of the NES for descriptions of these communities.

Permanent impacts to natural communities of special concern from the Preferred Alternative would include those from paved roadways, cut and fill slopes, drainage features, retaining walls, and all POE/CVEF facilities. Temporary and permanent easements are proposed outside of the project right-of-way (R/W). These easements would be necessary for the relocation of a natural gas pipeline along the northeastern boundary of the proposed POE/CVEF, as well as for modifying and maintaining a portion of an existing drainage along the western boundary of the Siempre Viva Interchange to minimize the potential for scour and associated erosion following project implementation. Impacts associated with these easements would be considered permanent. Construction best management practices (BMPs), installation of construction fencing, and monitoring construction limits would avoid additional impacts to adjacent environmentally sensitive areas outside the project impacts and R/W. Figures A-5 and A-6 depict the impacts to natural communities of special concern under the Preferred Alternative. Table A-1 presents the impact acreages to natural communities of special concern. Additional impacts would occur to tamarisk scrub, non-native vegetation, disturbed habitat, and developed areas under the Preferred Alternative (Table A-1); however, because these communities are either not natural or are not of special concern, mitigation would not be required.

A minimum 6-foot high fence would follow the length of the project alignment on both sides to preclude human access into the adjacent habitat and prevent wildlife from traversing the freeway or POE. During any nighttime construction, all project lighting (e.g., staging areas, equipment storage sites, roadway) would be directed onto the roadway or construction site and away from sensitive habitat. Light/glare shields may also be used to reduce the extent of illumination into adjoining areas.

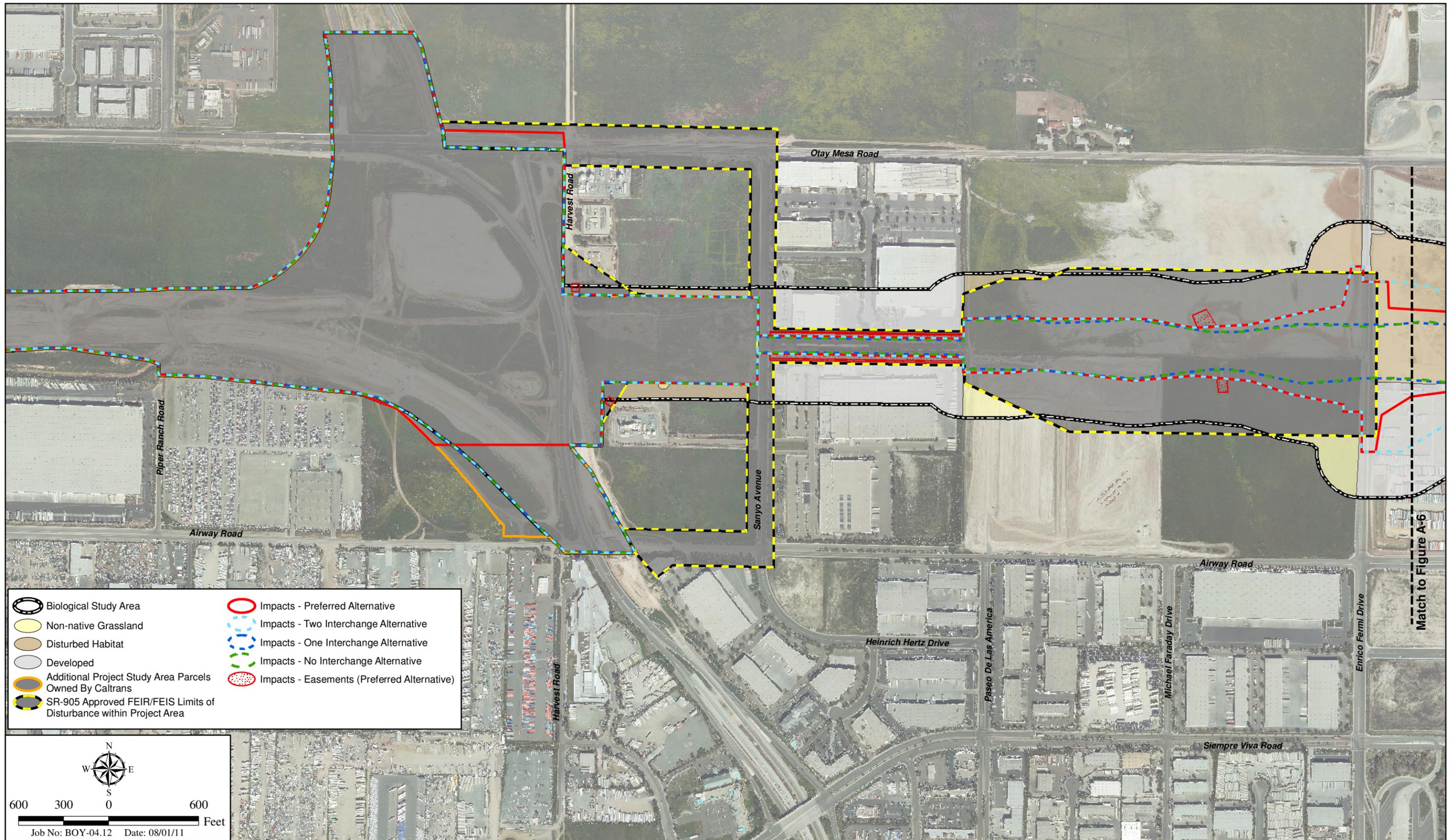
Table A-1 IMPACT SUMMARY FOR NATURAL COMMUNITIES	
Resource	Impacted Acreage*
Natural Communities of Special Concern	
Vernal Pool	0.00
Vernal Pool Watershed	0.00
Basin with Fairy Shrimp	0.00
Freshwater Marsh	0.00
Mule Fat Scrub-Disturbed	0.42
Disturbed Wetland	0.00
Diegan Coastal Sage Scrub (Including Disturbed and Restoration)	0.00
Native Grassland	0.2
Non-native Grassland	171.9
Non-native Grassland – Disturbed	0.00
Grassland Restoration	3.2
Total of Natural Communities of Special Concern	175.72
Other Communities	
Tamarisk Scrub	0.08
Non-native Vegetation	0.2
Disturbed Habitat	28.6
Developed	8.0
Total of Other Communities	36.88
TOTAL ACREAGE	212.60

Note: Impacts do not include those within the existing SR-905/SR-125 R/W (under construction) or the additional approved SR-905 Final Environmental Impact Statement/Final Environmental Impact Report (FEIS/FEIR) limits of disturbance.

* Upland habitats are rounded to the nearest 0.1 acre; wetland habitats are rounded to the nearest 0.01 acre. Total acreage includes 1.3 acres of impacts associated with easements outside of the proposed project R/W, which are considered permanent impacts. Therefore, all project impacts would be permanent.

The project area is planned for development under the East Otay Mesa Specific Plan (EOMSP). In addition, local transportation facilities would likely be constructed by the County of San Diego to serve future development. It is likely that such cumulative development by others would ultimately impact many of the natural communities of special concern in the project area, and the developers of these projects would be required to provide appropriate mitigation.

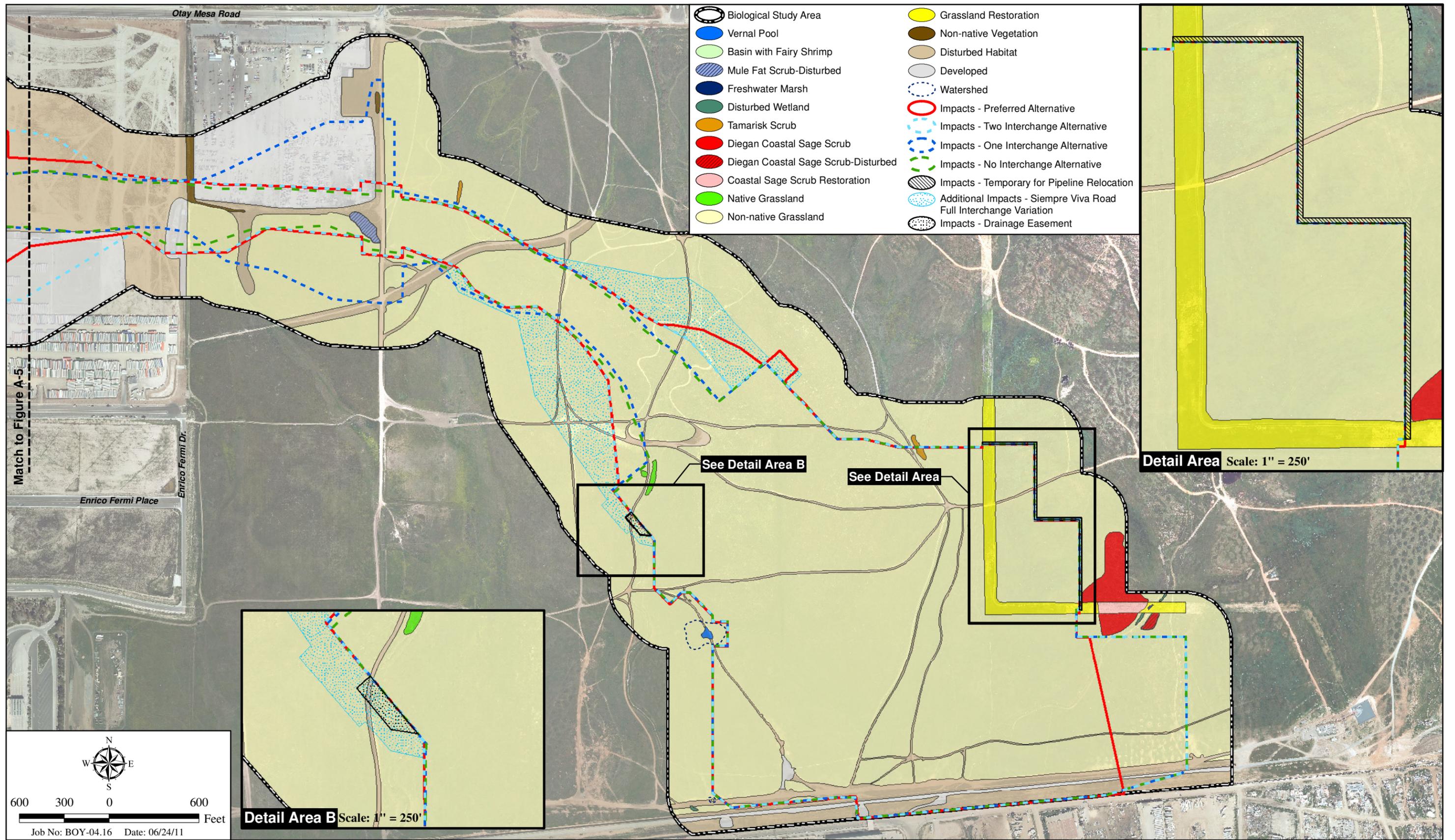
Mitigation for the loss of natural communities of special concern (i.e., native grassland, non-native grassland, and grassland restoration) is proposed to occur off site on three Lonestar parcels acquired by Caltrans on Otay Mesa (Table A-2). These parcels total approximately 183.2 acres and are located north/northeast of Brown Field, east and west of SR-125, and south of the Otay River Valley (Figure 2-1 of the NES). The Lonestar parcels support approximately 169 acres of non-native grassland, 12.4 acres of Diegan coastal sage scrub, 0.5 acre of



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Vegetation/Impacts Map

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Vegetation/Impacts Map

STATE ROUTE 11 AND OTAY MESA EAST PORT OF ENTRY - TIER II NATURAL ENVIRONMENT STUDY ADDENDUM

Figure A-6

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eucalyptus woodland, 0.85 acre of vernal pool, 0.1 acre of unvegetated basins, and an approximately 0.25-acre stock pond (HELIX Environmental Planning, Inc. 2009). The majority of the parcels are within the City of San Diego's Multi-Habitat Planning Area (MHPA); some of it is also designated as Multiple Species Conservation Program (MSCP) Biological Resource Core Area (BRCA).

Natural Community	Total Impacted Acreage	Mitigation Ratio¹	Proposed Mitigation (Acres)	Mitigation Location
Mule Fat Scrub-Disturbed	0.42	2:1	2:1 enhancement and/or restoration ²	Johnson Canyon
Native Grassland (dominated by coastal saltgrass)	0.2	2:1	0.4 restoration of NNG with native grassland	Lonestar Ridge West
Non-native Grassland	171.9	1:1	171.9 enhancement and preservation ³	Lonestar parcels
Grassland Restoration	3.2	1:1	3.2 restoration of NNG with native grassland ³	Lonestar Ridge West

Note: Impacts do not include those within the existing SR-905/SR-125 R/W or the additional SR-905 approved FEIS/FEIR limits of disturbance.

¹ Per County MSCP Tiers/Ratios: impacts are not located in an MSCP BRCA or the City of San Diego MHPA, but the mitigation proposed is.

² See Section 4.2.1.4 of the NES for more detail regarding this proposed mitigation because this community is an aquatic resource.

³ To also mitigate for habitat loss for the burrowing owl and other grassland-dependent special status species.

Prior to commencement of grading, the off-site mitigation parcels would be placed in conservation easements. Interim management of the Lonestar parcels would be the responsibility of Caltrans, while long-term management of the parcels is expected to be conducted by the County of San Diego Department of Parks and Recreation. In the event that this agency is unable to provide long-term management for the parcels, Caltrans would manage the parcels until they are transferred to an appropriate agency to manage and preserve the wildlife habitat in perpetuity. This would be done through deeds with restrictive covenants to protect and maintain the present and future uses of the parcels. These restrictive covenants would include a list of prohibitive uses that are inconsistent with the conservation purposes of the parcels. The parcels would be used for project mitigation and mitigation for other projects, as applicable, to preserve habitat. Should the Lonestar parcels prove to be infeasible for any reason, alternate land would be acquired by Caltrans as close as possible to the proposed project, with the concurrence of the resource agencies.

4.1.1. Mule Fat Scrub-Disturbed

Survey results, avoidance and minimization efforts, project impacts, compensatory mitigation, and cumulative impacts for mule fat scrub-disturbed would be the same as stated within Section 4.1.1 of the NES. This mitigation is summarized in Table A-2 above and is proposed to occur

within the Waters of the U.S. (WUS) located on the Johnson Canyon biological mitigation parcel, shown in Figure 2-1 of the NES.

4.1.2. Native Grassland

Survey results, avoidance and minimization efforts, project impacts, compensatory mitigation, and cumulative impacts for native grassland would be the same as stated within Section 4.1.2 of the NES.

4.1.3. Non-Native Grassland

4.1.3.1. Survey Results

Survey results for non-native grassland are provided within Section 4.1.3.1 of the NES.

4.1.3.2. Avoidance and Minimization Efforts

Avoidance and minimization efforts for non-native grassland would be the same as stated within Section 4.1.3.2 of the NES. In addition, the Preferred Alternative has been altered to minimize the impacts to non-native grassland from the POE. As shown in Figures A-2 and A-6 of this Addendum, the eastern boundary of the POE footprint was moved westerly to reduce impacts to non-native grassland and associated sensitive species.

4.1.3.3. Project Impacts

The Preferred Alternative would permanently impact 171.9 acres of non-native grassland, including 1.5 acre associated with proposed easements outside project R/W (refer to Figures A-5 and A-6).

4.1.3.4. Compensatory Mitigation

Proposed mitigation for permanent impacts of up to a maximum of 171.9 acres of non-native grassland includes enhancement of native upland habitat and preservation of non-native grassland at a 1:1 ratio (Table A-2). Because the grassland in the R/W is considered occupied by the burrowing owl, habitat for burrowing owl will be created at Lonestar Ridge West. Enhancement of native upland habitat and preservation of non-native grassland on the Lonestar parcels is proposed to satisfy this mitigation.

4.1.3.5. Cumulative Impacts

Cumulative impacts to non-native grassland would be the same as stated within Section 4.1.3.5 of the NES.

4.1.4. Grassland Restoration

4.1.4.1. Survey Results

Survey results for grassland restoration are provided within Section 4.1.4.1 of the NES.

4.1.4.2. Avoidance and Minimization Efforts

Avoidance and minimization efforts for grassland restoration would be the same as stated within Section 4.1.4.2 of the NES. In addition, the Preferred Alternative has been altered to minimize the impacts to grassland restoration from the POE. As shown in Figures A-2 and A-6 of this Addendum, the eastern boundary of the POE footprint was moved westerly to reduce impacts to grassland restoration and other sensitive resources.

4.1.4.3. Project Impacts

The Preferred Alternative would permanently impact 3.2 acres of grassland restoration, including 0.1 acre associated with a proposed easement outside project R/W (Figure A-6).

4.1.4.4. Compensatory Mitigation

Proposed mitigation for permanent impacts to 3.2 acres of grassland restoration includes restoration of native grassland where non-native grassland presently occurs at a 1:1 ratio (Table A-2). Because the grassland restoration in the R/W is considered occupied by the burrowing owl, habitat for burrowing owl will be created at Lonestar Ridge West, including the preservation native upland habitat and enhancement of non-native grassland.

4.1.4.5. Cumulative Impacts

Cumulative impacts to grassland restoration would be the same as stated within Section 4.1.4.5 of the NES.

4.2. Aquatic Resources

4.2.1. Survey Results

Survey results for aquatic habitat types (i.e., mule fat scrub-disturbed, freshwater marsh, tamarisk scrub, disturbed wetland, and non-wetland WUS/CDFG streambed) are provided within Section 4.2.1.1 of the NES.

4.2.2. Avoidance and Minimization Efforts

Avoidance and minimization efforts for aquatic resources would be the same as stated within Section 4.2.1.2 of the NES.

4.2.3. Project Impacts

Table A-3 and Figures A-3 and A-4 present the impacts to aquatic resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and California Department of Fish and Game (CDFG) for the Preferred Alternative.

Table A-3 IMPACT SUMMARY FOR JURISDICTIONAL FEATURES	
Resource¹	Impacted Acreage/ Linear Feet
CDFG Jurisdictional Areas (acres)	
Mule Fat Scrub-Disturbed	0.42
Streambed	0.26
TOTAL	0.68
CDFG Jurisdictional Drainages (linear feet)	
Drainage A	1,599
Drainage B	1,553
Drainage C	1,340
Drainage D	32
Drainage E	475
TOTAL	4,999
USACE Jurisdictional Areas (acres)	
Drainage A – WUS	0.11
Drainage B – WUS	0.08
Drainage C – WUS	0.03
TOTAL	0.22
USACE Jurisdictional Drainages (linear feet)	
Drainage A – WUS	1,599
Drainage B – WUS	1,553
Drainage C – WUS	1,340
TOTAL	4,492

Note: Impacts do not include previously permitted impacts associated with the SR-905 project. All reported impact numbers include 0.01 acre and 165 linear feet of impact to Drainage B, associated with a proposed easement outside project R/W. Impacts associated with the easement would be considered permanent. Therefore, all project impacts would be permanent.

¹ Impacted USACE jurisdictional areas overlap completely with CDFG jurisdictional areas impacted, so the total acreage of CDFG jurisdiction represents the total area of CDFG and USACE jurisdiction impacted.

² Wetland habitats are rounded to the nearest 0.01 acre.

The proposed project area is planned for development under the EOMSP. In addition, local transportation facilities would likely be constructed by the County to serve future development. Such cumulative development by others would be likely to ultimately impact many of the aquatic resources in the proposed project area, and the developers of these projects would be required to provide appropriate mitigation.

The total impact to USACE and CDFG jurisdictional areas for the Preferred Alternative would be 0.68 acre, including 0.01 acre associated with a permanent off-site easement (since the USACE jurisdiction completely overlaps with the larger area of CDFG jurisdiction).

4.2.4. Compensatory Mitigation

Impacts to USACE and CDFG jurisdictional areas require permitting and mitigation. Impacts to mule fat scrub-disturbed will require mitigation at a 2:1 ratio, and impacts to USACE non-wetland WUS/CDFG streambed will require mitigation at a 1:1 ratio. Therefore, the proposed mitigation for the Preferred Alternative is 1.10 acres.

Proposed mitigation would be completed via the restoration and preservation of USACE non-wetland WUS/CDFG streambed at Johnson Canyon (Figure 2-1 of the NES), a drainage that extends onto one of the Lonestar parcels and supports jurisdictional features. A jurisdictional delineation would be necessary to determine the extent of USACE/CDFG jurisdiction on the Lonestar parcel. Proposed mitigation would consist of removal of non-native vegetation (primarily tamarisk) and native vegetation planting and seeding for up to approximately 4,999 linear feet of Johnson Canyon.

4.2.5. Cumulative Impacts

Cumulative impacts to aquatic resources would be the same as stated within Section 4.2.1.5 of the NES.

4.3. Special Status Plant Species

As shown in Table 3 of the NES, seven listed plant species have potential to occur in the BSA: San Diego thornmint (*Acanthomintha ilicifolia*), Otay tarplant (*Deinandra conjugens*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), willow monardella (*Monardella viminea*), spreading navarretia (*Navarretia fossalis*), California orcutt grass (*Orcuttia californica*), and Otay Mesa mint (*Pogogyne nudiuscula*). The results of those surveys are shown on Figures 4-1a through 4-1d of the NES. San Diego thornmint, Otay tarplant, willow monardella, California orcutt grass, and Otay Mesa mint do not occur in the BSA; therefore, they are not discussed further. San Diego button-celery and spreading navarretia were observed in the BSA, but would not be impacted by the Preferred Alternative because they are outside of the R/W; however, San Diego button-celery was detected in the Lonestar Ridge West parcel (proposed for use as mitigation). Critical habitat for spreading navarretia also occurs in the Lonestar Ridge West parcel. Therefore, San Diego button-celery and spreading navarretia are further discussed below.

As shown in Table 4 of the NES, seven special status but non-listed plant species were observed in the BSA: California adolphia (*Adolphia californica*), small-flowered morning glory (*Convolvulus simulans*), variegated dudleya (*Dudleya variegata*), San Diego barrel cactus (*Ferocactus viridescens*), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), San Diego marsh-elder (*Iva hayesiana*), and San Diego County viguiera (*Viguiera laciniata*). Of these, five species would be impacted by one or more of the project alternatives, as discussed below. Two of the species, California adolphia and San Diego County viguiera, would not be impacted by any of the project alternatives, including the Preferred Alternative, because they are outside of the R/W, so they are not discussed further.

The differences in impacts to special status species between the Preferred Alternative and the Draft EIR/EIS Build Alternatives are depicted on Figures A-7 through A-10; with critical habitats, related impacts and mitigation sites shown on Figure A-11.

4.3.1. San Diego Button-Celery

4.3.1.1. Survey Results

San Diego button-celery was observed within the BSA, but outside of the project footprint in a single vernal pool during surveys conducted in 2006.

San Diego button-celery was detected in 34 locations during biological surveys conducted between 2002 and 2009 at Lonestar Ridge West where mitigation for the project is proposed. Caltrans biologists confirmed 25 of these locations totaling approximately 955 individuals during surveys conducted between April and June, 2011.

4.3.1.2. Critical Habitat

No designated critical habitat for San Diego button-celery occurs in the BSA or its vicinity.

4.3.1.3. Avoidance and Minimization Efforts

Vernal pools and their watersheds, located outside the alignment footprint, would be designated environmentally sensitive areas (ESAs) and depicted as such on project maps. No personnel or equipment would be allowed within these areas at any time. Pools and watersheds may be marked and protected by temporary fencing (e.g., orange plastic snow fencing) or another appropriate method to prevent encroachment or unnecessary disturbance to the sites. Prior to and during construction, barriers would be established in key areas to deter public entry into the site. In addition, fencing would be provided to restrict access to sensitive habitat adjoining the work limits.

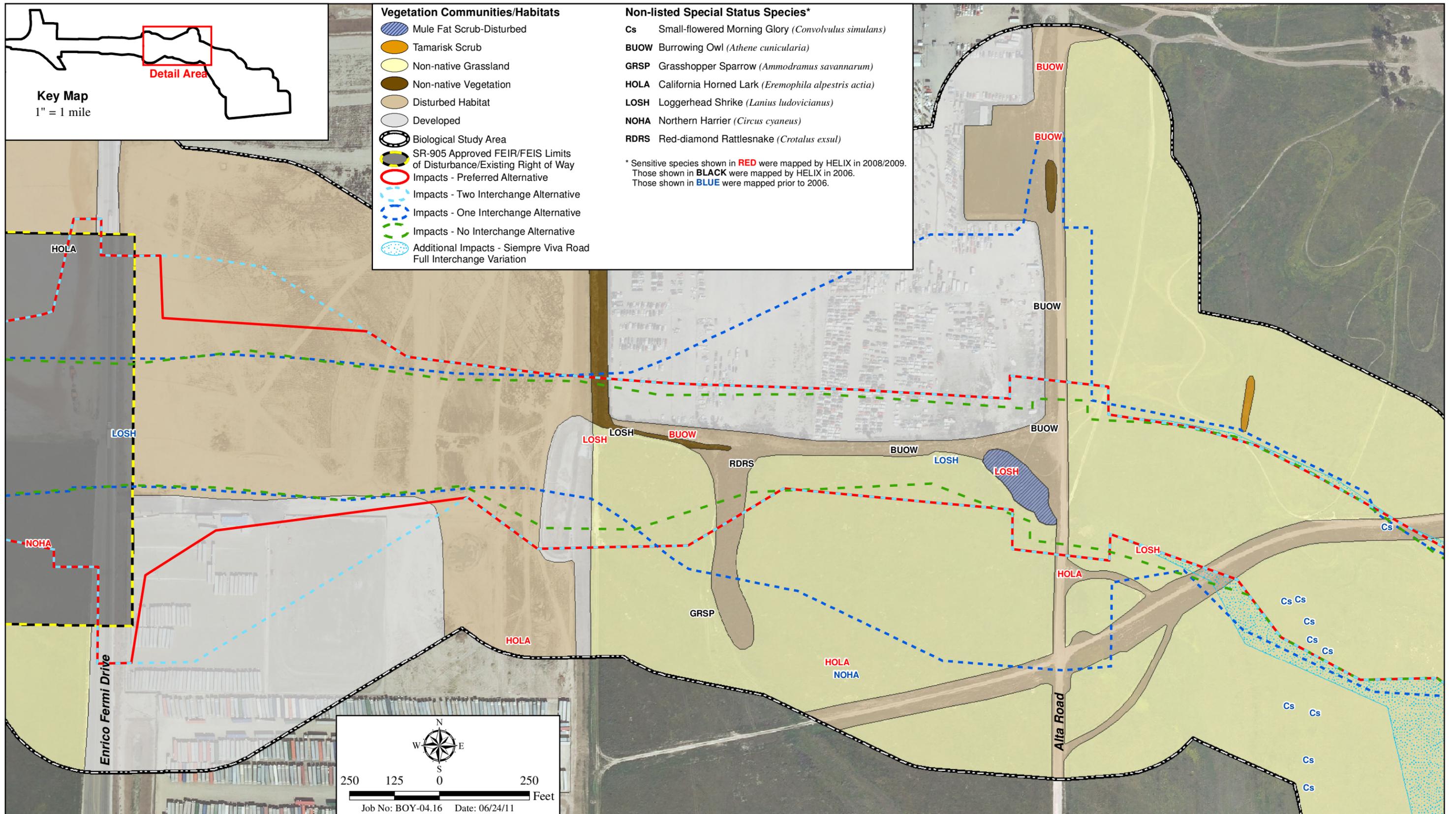
BMPs employed during construction would follow the applicable Caltrans guidelines and be detailed in the project's Storm Water Management Plan (SWMP), Storm Water Pollution Prevention Plan (SWPPP), and Water Pollution Control Program (WPCP). Specific plans would be reviewed by a biologist and modified, if necessary, prior to implementation. The biologist would have the ability to suggest changes to reduce the possibility of erosion and siltation or spills of chemicals and fuels that could potentially affect sensitive habitat areas, including (but not limited to) vernal pool basins and their watersheds.

Caltrans biologists marked San Diego button-celery locations in the field at Lonestar Ridge West during May and June 2011, prior to weeding of the site. Individuals to be preserved in place during weeding will be protected by temporary fencing or another appropriate method to prevent encroachment or unnecessary disturbance.

4.3.1.4. Project Effects

By implementing the appropriate avoidance and minimization measures, no impacts to San Diego button-celery are anticipated from implementation of the Preferred Alternative.

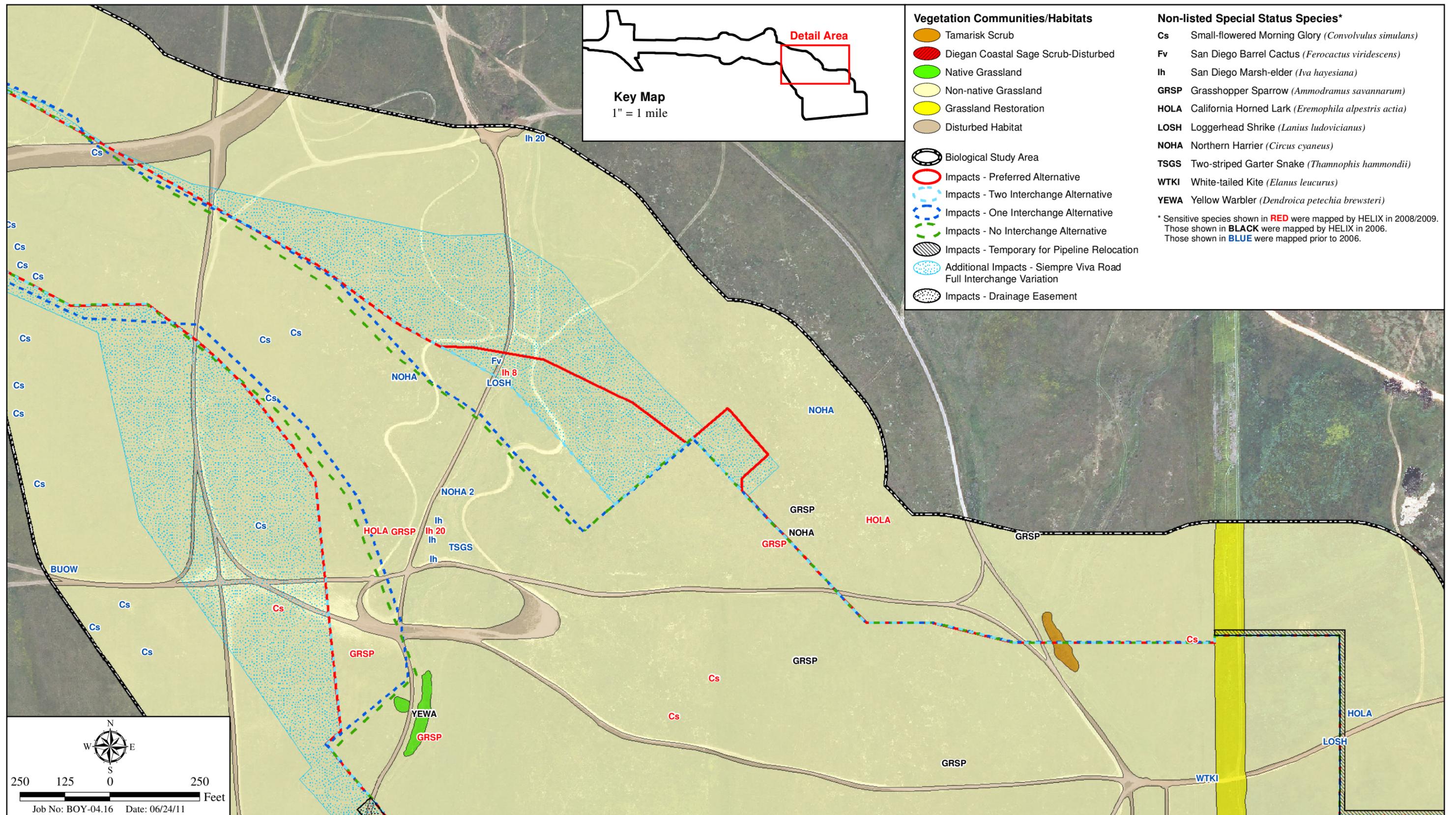
Impacts to as many as 34 locations of San Diego button-celery are anticipated at Lonestar Ridge West as the result of grading to enhance the site beginning in the summer of 2012.



Special Status Species/Impacts

STATE ROUTE 11 AND OTAY MESA EAST PORT OF ENTRY - TIER II NATURAL ENVIRONMENT STUDY ADDENDUM

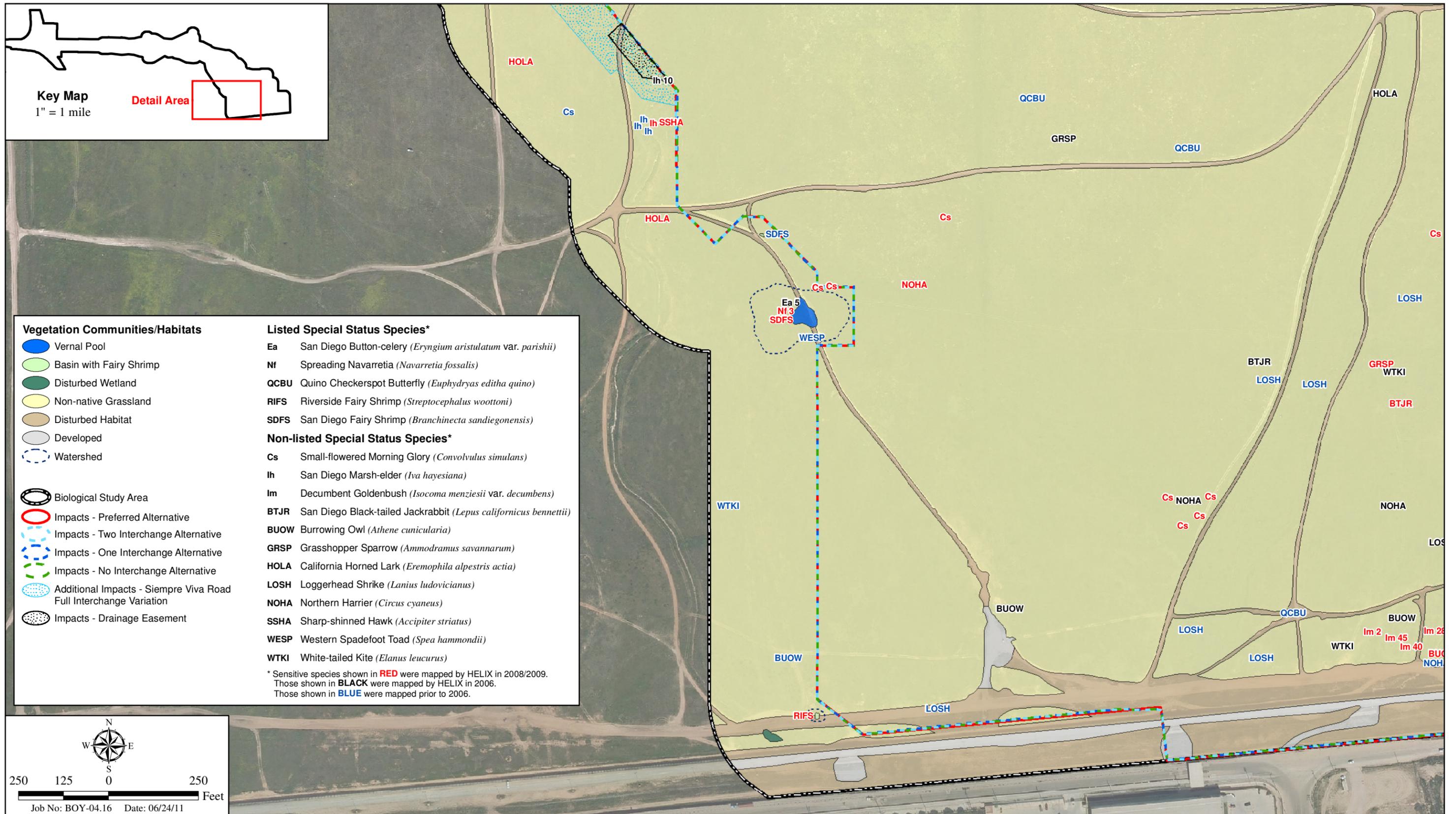
Figure A-7



Special Status Species/Impacts

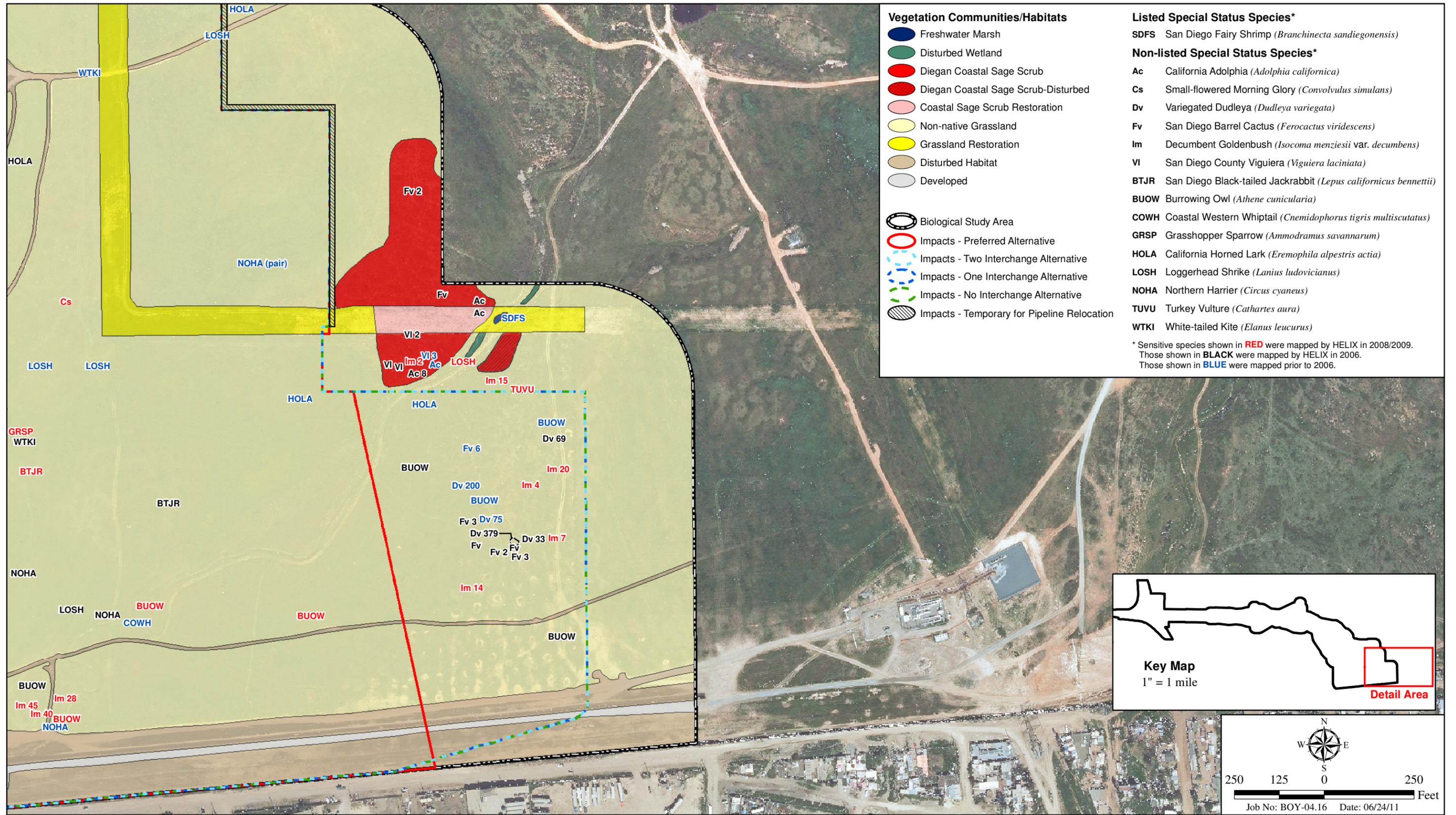
STATE ROUTE 11 AND OTAY MESA EAST PORT OF ENTRY - TIER II NATURAL ENVIRONMENT STUDY ADDENDUM

Figure A-8



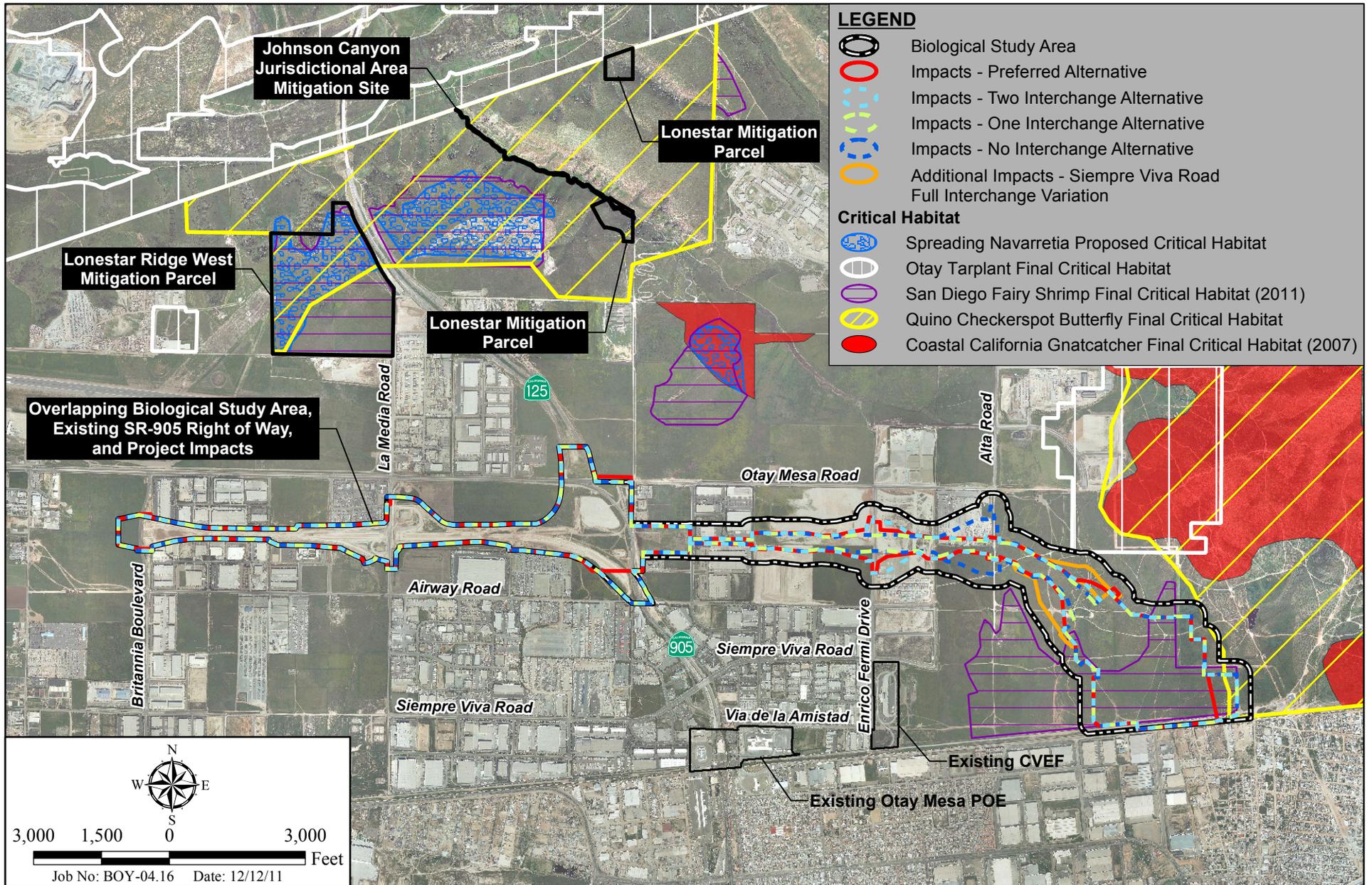
Special Status Species/Impacts

STATE ROUTE 11 AND OTAY MESA EAST PORT OF ENTRY - TIER II NATURAL ENVIRONMENT STUDY ADDENDUM



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Special Status Species/Impacts



Critical Habitat/Impacts and Mitigation Sites

STATE ROUTE 11 AND OTAY MESA EAST PORT OF ENTRY - TIER II NATURAL ENVIRONMENT STUDY ADDENDUM

Figure A-11

Compensatory Mitigation

Prior to grading at Lonestar Ridge West, San Diego button-celery seed will be collected and stored by an experienced restoration ecologist. After grading activities are complete the seed will be dispersed amongst the remaining created vernal pools. Caltrans, with the approval of USFWS and CDFG, will also collect seed of San Diego button-celery from a seed source in Otay Mesa and the restoration ecologist will apply the seed to the enhanced and created vernal pools at the site once grading is complete. A proposed site for seed collection would be the SR-125 Mitigation Site where the seed source came from vernal pools found within the J29-J30 Genetic Complex on Otay Mesa. The seed would be collected in May/June in areas where at least 20 individuals of each target species occur as a subpopulation and no more than 5 percent of the projected annual seed population of any individual plant or discrete population of plants will be collected to maintain the integrity of the plants at the SR-125 Mitigation Site.

4.3.1.5. Cumulative Effects

According to the San Diego County's MSCP Subarea Plan (County of San Diego 1997), only 29 percent of potential vernal pool habitat of the San Diego button-celery is conserved in the overall MSCP Plan area. The proposed mitigation at Lonestar Ridge West would impact up to 34 locations of San Diego button-celery; however, the mitigation work would include collection of seed of the impacted individuals for later dispersal on the site and the long-term preservation and enhancement of vernal pool habitat on the site. Therefore, with the proposed mitigation, the proposed project would not contribute substantially to cumulative losses of San Diego button-celery.

4.3.2. Spreading Navarretia

4.3.2.1. Survey Results

Spreading navarretia was observed within the BSA, but outside of the project footprint in a single vernal pool during surveys conducted in 2009.

Spreading navarretia was not detected at Lonestar Ridge West by HELIX biologists during surveys conducted between 2002 and 2009 or by Caltrans biologists during surveys conducted in 2010.

4.3.2.2. Critical Habitat

No designated critical habitat for spreading navarretia occurs in the BSA or its immediate vicinity.

Approximately 85 acres of designated critical habitat for spreading navarretia occurs at Lonestar Ridge West (Figure 4-2 of the NES).

4.3.2.3. Avoidance and Minimization Efforts

Vernal pools and their watersheds, located outside the alignment footprint, would be designated ESAs and depicted as such on project maps. No personnel or equipment would be allowed within these areas at any time. Pools and watersheds may be marked and protected by temporary fencing (e.g., orange plastic snow fencing) or another appropriate method to prevent encroachment or unnecessary disturbance to the sites. Prior to and during construction,

barriers would be established in key areas to deter public entry into the site. Additionally, fencing would be provided to restrict access to sensitive habitat adjoining the work limits.

BMPs employed during construction would follow the applicable Caltrans guidelines and be detailed in the project's SWMP, SWPPP, and WPCP. Specific plans would be reviewed by a biologist and modified, if necessary, prior to implementation. The biologist would have the ability to suggest changes to reduce the possibility of erosion and siltation or spills of chemicals and fuels that could potentially affect sensitive habitat areas, including (but not limited to) vernal pool basins and their watersheds.

4.3.2.4. Project Effects

By implementing the appropriate avoidance and minimization measures, no impacts to spreading navarretia are anticipated from implementation of the Preferred Alternative.

Approximately 85 acres of designated critical habitat for spreading navarretia would be affected by work at Lonestar Ridge West. This work, however, is not likely to adversely affect critical habitat as it would enhance habitat for spreading navarretia by the creation and enhancement of vernal pools and removal of exotic vegetation.

4.3.2.5. Compensatory Mitigation

Caltrans, with the approval of USFWS, will install seed and container plants of spreading navarretia in enhanced and created vernal pools at Lonestar Ridge West from seed obtained from the Otay Mesa by an experienced restoration ecologist. A proposed site for seed collection would be the SR-125 Mitigation Site where the seed source came from vernal pools found within the J29-J30 Genetic Complex on Otay Mesa. The seed would be collected in May/June in areas where at least 20 individuals of each target species occur as a subpopulation and no more than 5 percent of the projected annual seed population of any individual plant or discrete population of plants will be collected to maintain the integrity of the plants at the SR-125 Mitigation Site.

4.3.2.6. Cumulative Effects

According to San Diego County's MSCP Subarea Plan (County of San Diego 1997), only 22 percent of potential vernal pool habitat of the spreading navarretia is conserved in the overall MSCP Plan area. The proposed mitigation at Lonestar Ridge West would impact up to 85 acres of spreading navarretia critical habitat; however, this mitigation work would include collection of seed of the individual spreading navarretia from an approved off-site location for later dispersal on the site and enhancement of critical habitat that could otherwise be developed. Therefore, with the proposed mitigation, the proposed project would not contribute substantially to cumulative losses of spreading navarretia.

4.3.3. Small-Flowered Morning Glory

4.3.3.1 Survey Results

Survey results for small flowered morning glory are provided in Section 4.3.1.1 of the NES.

4.3.3.2 Avoidance and Minimization Efforts

No avoidance or minimization efforts were determined feasible for small-flowered morning glory, because it is found throughout non-native grassland that occupies the majority of the eastern portion of the necessary R/W.

4.3.3.3 Project Impacts

Up to 20 patches of small-flowered morning glory would be directly impacted by the Preferred Alternative (Figures A-7 through A-10).

4.3.3.4 Compensatory Mitigation

Project impacts to small-flowered morning glory would be mitigated by planting of seed or container stock at the Lonestar Ridge West parcel, representing at least 80 percent of the impacted small-flowered morning glory. The species would also be preserved concurrently with preservation of non-native grassland on the Lonestar Ridge West parcel because the species is present there, as it was observed during a survey for the Quino in 2009, as reported in the November 2010 NES.

4.3.3.5 Cumulative Effects

The proposed project would impact as many as 20 patches of small-flowered morning glory (and approximately 171.9 acres of its potential non-native grassland habitat). Small-flowered morning glory is a species of low-level sensitivity and was not evaluated for coverage under the MSCP. It is considered sensitive by the CNPS for being of limited distribution and fairly endangered in California, and the CNPS feels that it needs to be monitored for changes in population status. While considered sensitive by the CNPS across its range of southern and central California, small-flowered morning glory is common throughout the proposed project vicinity on Otay Ranch, in Otay Valley Regional Park, and on Otay Mesa. Populations also occur within the City of Chula Vista MSCP preserve as well as within the City of San Diego MHPA. While the proposed project's impacts would contribute to cumulative losses of this species, the losses would not be substantial because small-flowered morning glory would be preserved concurrently with the preservation of non-native grassland on the Lonestar parcels (or equivalent mitigation parcels), and at least 80 percent of the total number of small-flowered morning glory to be impacted would be replaced and preserved in perpetuity.

4.3.4. Variegated Dudleya

4.3.4.1 Survey Results

Survey results for variegated dudleya are provided within Section 4.3.2.1 of the NES.

4.3.4.2 Avoidance and Minimization Efforts

FHWA's selection of the Western Alternative in its Phase I ROD (FHWA 2008) eliminated many impacts to variegated dudleya that could have otherwise occurred (see Section 1.1 of the NES [2010]). Consideration of agency and public input received during the Tier II Draft EIR/EIS public review process has resulted in additional adjustments to the shape and internal layout of the POE and CVEF, which are now reflected in the Preferred Alternative analyzed in this NES Addendum. By moving the eastern boundary of the POE/CVEF footprint towards the west, impacts to the 756 individuals of variegated dudleya in the BSA have been avoided under the Preferred Alternative.

4.3.4.3 Project Impacts

As noted above, avoidance efforts in the design of the Preferred Alternative have eliminated potential impacts to variegated dudleya (refer to Figure A-10). No impacts to variegated dudleya are anticipated under the Preferred Alternative.

4.3.4.4 Compensatory Mitigation

Because the Preferred Alternative would avoid impacts to variegated dudleya, no mitigation measures are required.

4.3.4.5 Cumulative Effects

Because the Preferred Alternative would avoid impacts to variegated dudleya, it would not contribute to cumulative losses of this species.

4.3.5. San Diego Barrel Cactus

4.3.5.1. Survey Results

Survey results for San Diego barrel cactus are provided within Section 4.3.3.1 of the NES.

4.3.5.2. Avoidance and Minimization Efforts

Avoidance and minimization efforts for San Diego barrel cactus would be the same as stated within Section 4.3.3.2 of the NES. In addition, the Preferred Alternative has been altered to minimize the impacts to San Diego barrel cactus from the POE. As shown in Figure A-10 of this Addendum, the eastern boundary of the POE footprint was moved westerly to reduce impacts to San Diego barrel cactus and other sensitive resources.

4.3.5.3. Project Impacts

The Preferred Alternative POE would directly impact one individual of San Diego barrel cactus.

4.3.5.4. Compensatory Mitigation

Compensatory mitigation for impacts to San Diego barrel cactus would be the same as stated within Section 4.3.3.4 of the NES.

4.3.5.5. Cumulative Effects

Cumulative impacts to San Diego barrel cactus would be the same as stated within Section 4.3.3.5 of the NES.

4.3.6. Decumbent Goldenbush

4.3.6.1. Survey Results

Survey results for decumbent goldenbush are provided within Section 4.3.4.1 of the NES.

4.3.6.2. Avoidance and Minimization Efforts

The Preferred Alternative has been altered to minimize the impacts to decumbent goldenbush from the POE. As shown in Figure A-10 of this Addendum, the eastern boundary of the POE footprint was moved westerly to reduce impacts to decumbent goldenbush and other sensitive resources.

4.3.6.3. Project Impacts

The Preferred Alternative would directly impact up to 115 individuals of decumbent goldenbush.

4.3.6.4. Compensatory Mitigation

Proposed mitigation for impacts to decumbent goldenbush is through the planting of seed or container stock of this species on the Lonestar parcels (or equivalent mitigation parcels). The reason for this is that decumbent goldenbush is a County MSCP List A species for which 80 percent preservation is typically required. While Caltrans is not subject to the MSCP, Caltrans strives to be consistent with it. A mitigation plan would be prepared that identifies the locations for mitigation, responsible parties, methods of implementation, maintenance and monitoring requirements, final success criteria, and contingency measures.

4.3.6.5. Cumulative Effects

Cumulative impacts to decumbent goldenbush would be the same as stated within Section 4.3.4.5 of the NES.

4.3.7. San Diego Marsh-Elder

4.3.7.1. Survey Results

Survey results for San Diego marsh-elder are provided within Section 4.3.5.1 of the NES.

4.3.7.2. Avoidance and Minimization Efforts

No avoidance or minimization efforts were determined feasible for San Diego marsh-elder because of its location within the necessary R/W and easement.

4.3.7.3. Project Impacts

The Preferred Alternative would directly impact up to 41 individuals of San Diego marsh-elder.

4.3.7.4. Compensatory Mitigation

Project impacts to San Diego marsh elder would be mitigated by planting of seed from a seed source in Otay Mesa obtained from an approved nursery, to be planted at the Johnson Canyon mitigation site.

4.3.7.5. Cumulative Effects

The Preferred Alternative would impact as many as 41 individuals of San Diego marsh-elder. San Diego marsh-elder is a species of low-level sensitivity and was not evaluated for coverage under the MSCP. It is considered sensitive by the CNPS for being rare, threatened, and endangered in California but more common elsewhere. While considered sensitive by the CNPS across its range of San Diego County, San Diego marsh-elder is common throughout the proposed project vicinity in the Otay River, around Lower Otay Lake, and on Otay Mesa (Reiser 2001). With the impacts from the Preferred Alternative to San Diego marsh-elder mitigated by the proposed planting of seed at the Johnson Canyon mitigation site, the project would not substantially contribute to cumulative losses of this species.

4.4 Special Status Animal Species

As shown in Table 3 of the NES, four federally listed animal species have potential to occur in the BSA: San Diego fairy shrimp (*Branchinecta sandiegonensis*), Riverside fairy shrimp (*Streptocephalus woottoni*), Quino checkerspot butterfly (*Euphydryas editha quino*), and coastal California gnatcatcher (*Polioptila californica californica*). Focused surveys for both fairy shrimp species were conducted five times from 2001 to 2009 (wet season) and five times from 2000 to 2009 (dry season). Focused surveys for the Quino checkerspot butterfly and coastal California gnatcatcher were each conducted four times from 2001 to 2009.

San Diego fairy shrimp, Riverside fairy shrimp, and Quino checkerspot butterfly were observed in the BSA (Figures A-9 and A-10). Only Quino checkerspot butterfly and San Diego fairy shrimp critical habitat would be impacted and are described below. Riverside fairy shrimp would not be impacted within the BSA; however, this species is located within proposed mitigation parcels. Therefore, impacts to Riverside fairy shrimp also are discussed below. The coastal California gnatcatcher does not occur in the BSA; therefore, no discussion is provided below for these species.

The proposed project would include basins that would be capable of providing water detention, water retention/infiltration, and/or water quality treatment capacity. Surface water within the study area consists predominantly of ephemeral flows from storm events; therefore, water is only expected to be in the basins for short periods of time. Long-term maintenance of the basins would typically include regular inspection and as-needed biannual vegetation management (e.g., removal of woody or excess vegetation), removal of excess sediment, and removal of ponded water or other vector-related problems. Therefore, because the basins are expected to be dry most of the year, and they will be maintained, they are not expected to develop habitat that would attract animals.

The proposed project area is planned for development under the EOMSP. In addition, local transportation facilities would likely be constructed by the County to serve future development. Such cumulative development by others would be likely to ultimately impact many of the special

status animal species in the proposed project area, and the developers of these projects would be required to provide appropriate mitigation.

In addition, 21 special status but non-listed animal species have potential to occur in the BSA, and 14 of these were observed, including the burrowing owl (*Athene cunicularia*). These species also are discussed below.

4.4.1. San Diego Fairy Shrimp

4.4.1.1. Survey Results

San Diego fairy shrimp were found in a basin and freshwater marsh in the BSA during surveys conducted prior to 2006. Fairy shrimp were also discovered in a vernal pool in the southwest portion of the BSA in 2009.

San Diego fairy shrimp were also found in 14 disturbed pool basins at Lonestar Ridge West.

4.4.1.2. Critical Habitat

Approximately 89.1 acres of final designated critical habitat for the San Diego fairy shrimp would be directly impacted by the Preferred Alternative. The critical habitat impacted lacks two primary constituent elements essential for the primary biological needs of fairy shrimp, such as vernal pool basins and their associated watersheds, but does contain soils (e.g., Huerhuero loam) with an underlying claypan or hardpan layer that restricts water drainage necessary for the formation of vernal pools.

Approximately 155.4 acres of San Diego fairy shrimp habitat has been designated at Lonestar Ridge West (Figure A-11).

4.4.1.3. Avoidance and Minimization Efforts

The proposed western edge of the POE was shifted to the east to avoid direct impacts to a vernal pool supporting San Diego fairy shrimp and its watershed.

Vernal pools and their watersheds, located outside the alignment footprint, would be designated ESAs and depicted as such on project maps. No personnel or equipment would be allowed within these areas at any time. Pools and watersheds may be marked and protected by temporary fencing (e.g., orange plastic snow fencing) or another appropriate method to prevent encroachment or unnecessary disturbance to the sites. Prior to and during construction, barriers would be established in key areas to deter public entry into the site. In addition, fencing would be provided to restrict access to sensitive habitat adjoining the work limits.

BMPs employed during construction would follow the applicable Caltrans guidelines and be detailed in the project's SWMP, SWPPP, and WPCP. Specific plans would be reviewed by a biologist and modified, if necessary, prior to implementation. The biologist would have the ability to suggest changes to reduce the possibility of erosion/siltation or spills of chemicals and fuels that could potentially affect sensitive habitat areas, including (but not limited to) vernal pool basins and their watersheds.

Caltrans would implement avoidance and minimization measures to protect San Diego fairy shrimp at Lonestar Ridge West, including avoiding work during the wet season and avoiding driving and trenching through the pools during weeding of the site beginning in the summer of 2011.

4.4.1.4. Project Impacts

San Diego fairy shrimp would not be directly impacted by the Preferred Alternative. However, 89.1 acres of San Diego fairy shrimp critical habitat would be directly impacted.

Impacts to as many as 14 pools containing San Diego fairy shrimp are anticipated at Lonestar Ridge West as the result of grading to enhance the site beginning in the summer of 2012. The mitigation work will also affect up to 155.4 acres of critical habitat. However, this work is not likely to adversely affect critical habitat over the long-term as it will enhance habitat for San Diego fairy shrimp by the creation and enhancement of vernal pools and removal of exotic vegetation.

4.4.1.5. Compensatory Mitigation

Compensation for direct impacts to 89.1 acres of San Diego fairy shrimp critical habitat would involve the preservation of critical habitat at Lonestar Ridge West, which contains approximately 155.4 acres of San Diego fairy shrimp critical habitat. The critical habitat lost is of low quality, and the preservation and enhancement to create higher quality critical habitat with more constituent elements will compensate for the loss of critical habitat.

Soil will be collected from each of the existing vernal pool basins at Lonestar Ridge West prior to grading activities beginning in the summer of 2012 to be used for post-grading inoculation of the pools. Soil will be collected with hand tools in chunks when possible to avoid crushing or disturbing fairy shrimp cysts. The collected soil inoculum containing San Diego fairy shrimp will be used to inoculate the 18 enhanced vernal pools (totaling approximately 0.6 acre) and approximately 25 of the 100 shallower vernal pools created at the Lonestar Ridge West after grading and prior to the first rains. Approximately 3.21 acres of vernal pools will be created at Lonestar Ridge West to provide additional San Diego fairy shrimp habitat.

A draft mitigation and monitoring plan will be prepared outlining a planting scheme, site preparation, an exotics control program, irrigation, grading requirements, and success criteria. A two-year plant establishment period, and three-year habitat management and monitoring program will be implemented at Lonestar Ridge West.

4.4.1.6. Cumulative Effects

Cumulative impacts to San Diego fairy shrimp would be the same as stated within Section 4.4.1.5 of the NES.

4.4.2. Quino Checkerspot Butterfly

4.4.2.1. Survey Results

The Quino checkerspot butterfly was observed at three locations in the eastern portion of the BSA prior to 2006. It was not observed during protocol surveys conducted in 2006 and 2009. Numerous nectar sources (goldfields [*Lasthenia californica*], ground pink [*Linanthus dianthiflorus*], popcornflower [*Cryptantha/Plagiobothrys* sp.], common muilla [*Muilla maritima*],

fiddleneck [*Amsinckia intermedia*], onion [*Allium* sp.], and California buckwheat [*Eriogonum fasciculatum*]) and larval host plants (dwarf plantain and purple owl's clover) were found in the northeast, southwest, and southeast portions of the BSA during field surveys in 2009.

The Quino checkerspot butterfly was observed at three locations in the southwest portion of Lonestar Ridge West during surveys conducted by HELIX biologists between 2002 and 2009. Caltrans biologists did not detect Quino checkerspot butterfly during biological surveys conducted in 2010.

4.4.2.2. Critical Habitat

Designated critical habitat for the Quino checkerspot butterfly occurs adjacent to the eastern edge of the POE. The critical habitat contains primary constituent elements essential for the primary biological needs of the Quino checkerspot butterfly, including open areas with the butterfly's host plants such as dwarf plantain and purple owl's clover.

Approximately 87 acres of Quino checkerspot butterfly critical habitat has been designated at Lonestar Ridge West and approximately 27 acres of Quino checkerspot butterfly critical habitat has been designated at the other Lonestar and Johnson Canyon mitigation sites for a total of 114 acres (Figure A-11).

4.4.2.3. Avoidance and Minimization Efforts

The selection of the Western Alternative by FHWA in the Phase I Record of Decision and modifications to the eastern side of the POE during Tier II environmental studies eliminated impacts to Quino checkerspot butterfly critical habitat and impacts to Diegan coastal sage scrub habitat (FHWA 2008). Diegan coastal sage scrub habitat, located outside the alignment footprint, would be designated ESAs and depicted as such on project maps. No personnel or equipment would be allowed within these areas at any time. Diegan coastal sage scrub habitat may be marked and protected by temporary fencing (e.g., orange plastic snow fencing) or another appropriate method to prevent encroachment or unnecessary disturbance to the sites. Prior to and during construction, barriers would be established in key areas to deter public entry into the site. In addition, fencing would be provided to restrict access to sensitive habitat adjoining the work limits.

BMPs employed during construction would follow the applicable Caltrans guidelines and be detailed in the project's SWMP, SWPPP, and WPCP. Specific plans would be reviewed by a biologist and modified, if necessary, prior to implementation. The biologist would have the ability to suggest changes to reduce the possibility of erosion and siltation or spills of chemicals and fuels that could potentially affect sensitive habitat areas, including (but not limited to) Diegan coastal sage scrub habitat.

4.4.2.4. Project Impacts

The three locations where the Quino checkerspot butterfly was observed would be directly impacted by the Preferred Alternative. These observations occur within the location of the future POE.

Up to 95 acres of Quino checkerspot butterfly critical habitat would be affected by mitigation work at Lonestar Ridge West, the other Lonestar mitigation parcels, and the Johnson Canyon site. However, the work is not likely to adversely affect critical habitat as it would enhance

habitat for these species by the preservation, creation and enhancement of Quino checkerspot butterfly habitat and removal of exotic vegetation.

4.4.2.5. Compensatory Mitigation

Because of the low quality of the habitat to be impacted, the small number of individual Quino checkerspot butterflies observed, and because no Quino checkerspot butterflies have been observed in recent years, the focus of the mitigation proposed is on the preservation and restoration of Quino checkerspot butterfly habitat off site. The loss of Quino checkerspot butterfly is proposed to be mitigated through preservation and enhancement of historically occupied Quino checkerspot butterfly habitat at Lonestar Ridge West.

Direct impacts to Quino checkerspot butterfly will be mitigated through enhancement/preservation of approximately 114 acres of critical habitat at Lonestar Ridge West, the other Lonestar mitigation parcels, and the Johnson Canyon site. The affected habitat is of low quality, and the enhancement and preservation of higher quality critical habitat with more constituent elements will compensate for the loss of critical habitat. Appropriate larval host species and nectar species will be incorporated into the seed palette that would be utilized on the parcel. The mitigation plan, outlining the details of the entire upland revegetation effort (e.g., plant and soil salvaging, site preparation, success criteria, monitoring requirements), will be prepared and submitted to the appropriate resource agencies for review.

4.4.2.6. Cumulative Effects

Cumulative impacts to Quino checkerspot butterfly would be the same as stated within Section 4.4.2.5 of the NES, except that the Preferred Alternative would not impact any area of designated critical habitat for the Quino checkerspot butterfly.

4.4.3. Riverside Fairy Shrimp

4.4.3.1. Survey Results

Riverside fairy shrimp were found in one basin in the BSA, but outside of the alignment footprint during surveys conducted by HELIX in 2009.

Riverside fairy shrimp were found in one of the deeper disturbed pool basins and the stockpond at Lonestar Ridge West during surveys conducted by HELIX biologists between 2002 and 2009. Caltrans biologists detected Riverside fairy shrimp in the stockpond, but not in the disturbed pool basin in surveys conducted in 2010.

4.4.3.2. Critical Habitat

No designated critical habitat for the Riverside fairy shrimp occurs within the BSA or its vicinity.

4.4.3.3. Avoidance and Minimization Efforts

Vernal pools, located outside the alignment footprint, would be designated ESAs and depicted as such on project maps. No personnel or equipment would be allowed within these areas at any time. Pools and watersheds may be marked and protected by temporary fencing (e.g., orange plastic snow fencing) or another appropriate method to prevent encroachment or unnecessary disturbance to the sites. Prior to and during construction, barriers would be

established in key areas to deter public entry into the site. In addition, fencing would be provided to restrict access to sensitive habitat adjoining the work limits.

BMPs employed during construction would follow the applicable Caltrans guidelines and be detailed in the project's SWMP, SWPPP, and WPCP. Specific plans would be reviewed by a biologist and modified, if necessary, prior to implementation. The biologist would have the ability to suggest changes to reduce the possibility of erosion/siltation or spills of chemicals and fuels that could potentially affect sensitive habitat areas, including (but not limited to) vernal pool basins and their watersheds.

Caltrans would implement avoidance and minimization measures to protect Riverside fairy shrimp at Lonestar Ridge West, including avoiding work during the wet season and avoiding driving and trenching through the pools during weeding of the site beginning in the summer of 2011.

4.4.3.4. Project Effects

By implementing the appropriate avoidance and minimization measures, no impacts to Riverside fairy shrimp are anticipated from implementation of the Preferred Alternative.

Impacts to the disturbed pool basin containing the Riverside fairy shrimp are anticipated at Lonestar Ridge West as the result of grading to enhance the site beginning in the summer of 2012. Weeding will occur within the stockpond beginning the summer of 2011, but no grading of the stockpond is anticipated.

4.4.3.5. Compensatory Mitigation

Soil will be collected at the existing pool basin at Lonestar Ridge West prior to grading activities to be used for post-grading inoculation of the pools. Soil will be collected with hand tools in chunks when possible to avoid crushing or disturbing fairy shrimp cysts. The collected soil inoculum containing Riverside fairy shrimp will be used to inoculate the enhanced vernal pool and approximately 3 of the 11 deeper vernal pools created at Lonestar Ridge West after grading and prior to the first rains. Approximately 0.39 acre of vernal pools will be created at Lonestar Ridge West to provide additional Riverside fairy shrimp habitat.

4.4.3.6. Cumulative Effects

According to San Diego County's MSCP Subarea Plan (County of San Diego 1997), the Riverside fairy shrimp is considered to be covered (i.e., adequately conserved). The proposed mitigation at Lonestar Ridge West would impact 1 pool containing Riverside fairy shrimp; however, this mitigation work would include collection of soil inoculum for later dispersal on the site and enhancement of vernal pool habitat that could otherwise be developed. Therefore, with the proposed mitigation, the proposed project would not contribute substantially to cumulative losses of Riverside fairy shrimp.

4.4.4. Non-Listed, Special Status Animal Species

As shown in Table 4 of the NES, 21 special status but non-listed animal species have potential to occur in the BSA; 14 of these were observed including the burrowing owl.

4.4.4.1. Survey Results

Survey results for special status but non-listed animal species are provided within Section 4.4.3.1 of the NES.

In addition, it should be noted that since the BSA is composed primarily of grassland habitat, it provides potential foraging habitat for the golden eagle. Although this species was not observed during surveys conducted between 2006 and 2009 (HELIX 2009), the BSA falls within the territory boundary of a golden eagle pair reported to nest in O'Neal Canyon approximately 1.5 miles to the northeast (HELIX 2006, Wildlife Research Institute 2011). The BSA is outside of the core nest area and primary foraging area for the O'Neal Canyon golden eagle pair (Wildlife Research Institute 2011).

4.4.4.2. Avoidance and Minimization Efforts

Avoidance and minimization efforts for special status but non-listed animal species would be the same as stated within Section 4.4.3.2 of the NES.

4.4.4.3. Project Impacts

Project impacts to special status but non-listed animal species, with the exception of burrowing owl, would be the same as stated within Section 4.4.3.3 of the NES.

The Preferred Alternative would directly impact an estimated nine locations (a multi-year total of four individuals, three pairs, and two families) of burrowing owl. Because of the sensitivity of the burrowing owl, and because these owls are part of one of the last breeding populations of the species left in San Diego County (Unitt 2004), these impacts would require mitigation.

Because golden eagles (*Aquila chrysaetos*) tend to nest on cliff ledges or steep slopes, they are not expected to nest within several miles of the BSA. Therefore, the project will not impact nesting habitat. However, the project may impact up to 175.3 acres of grassland habitat, which potentially provides foraging habitat for the golden eagle.

4.4.4.4. Compensatory Mitigation

Impacts to non-listed, special status animal species would be offset by the proposed 1:1 mitigation for non-native grassland impacts by enhancement and/or preservation of up to 175.5 acres of native upland habitat at the Lonestar mitigation parcels.

With implementation of the avoidance measures described in Section 4.4.3.2 of the NES, the proposed project would not impact nesting birds and, therefore, would not violate the federal Migratory Bird Treaty Act (MBTA), so mitigation would not be required.

Impacts to golden eagles and burrowing owls are proposed to be mitigated through enhancement and preservation of up to 175.5 acres of upland habitat (see Table A-2) on the Lonestar parcels. The Lonestar parcels are within the potential foraging area for the golden eagle pair at O'Neal Canyon and the habitat value for foraging would be improved with the proposed restoration efforts.

To ensure suitable burrow opportunities for burrowing owls are present, burrows would be created at Lonestar Ridge West at a 5:1 ratio for each burrow impacted (for a total of up to 45

burrows). Approximately 50 artificial burrows would be constructed and installed at Lonestar Ridge West prior to the passive relocation. A total of 25 artificial burrows composed of wood boxes with wood tunnels and 25 artificial burrows composed of plastic boxes with corrugated plastic drainage pipe tunnels will be installed. The boxes and tunnels will be buried and covered with at least 12 inches of soil to provide long-term cover and sound insulation. Each artificial owl nest box will be installed with a one inch-diameter observation tube for future research purposes. Approximately 154 mima mounds installed at Lonestar Ridge West will consist of soil and vegetated matter. These natural mima mounds will provide potential habitat for California ground squirrels (*Spermophilus beecheyi*), which have been observed at Lonestar Ridge West during 2010 and 2011 site surveys, and would be expected to create burrows in the mounds that may then later be occupied by burrowing owls. A mitigation plan will be prepared and submitted to CDFG for approval that (1) describes the off-site preservation of burrowing owl habitat; (2) identifies the methods for artificial burrow and natural mound creation; and (3) outlines burrow and habitat maintenance requirements, burrow monitoring requirements, and reporting requirements.

4.4.4.5. Cumulative Effects

The majority of habitat that would be impacted by the proposed project and supports non-listed special status animal species is non-native grassland. Given the heavy development pressure throughout east Otay Mesa, the proposed project would contribute to cumulative losses of this natural community and these species. However, the proposed project would not impact habitat preserved within the South County segment of San Diego County's MSCP Subarea Plan or in the Southern Area of the City of San Diego's MSCP Subarea Plan, and therefore, would not compromise the goal of these plans to provide long-term habitat conservation for the non-listed special status animal species (with the exceptions of the burrowing owl and the golden eagle). The proposed project would impact a maximum of 175.3 acres of grassland outside of the San Diego County and City of San Diego habitat preservation areas, but with the proposed compensatory mitigation to enhance and preserve native upland habitat, the proposed project's contribution to cumulative losses of this natural community and these species would not be substantial. The proposed project would also contribute to the cumulative loss of limited burrowing owl habitat and golden eagle foraging habitat in San Diego County. However, with enhancement and preservation of native upland habitat at Lonestar Ridge West and installation of artificial and natural burrows for burrowing owls and enhanced foraging habitat for golden eagles; the cumulative losses as a result of the project would not be substantial.

4.4.5. Migratory Birds

Survey results, avoidance and minimization efforts, project impacts, compensatory mitigation, and cumulative impacts for migratory birds would be the same as stated within Section 4.4.4 of the NES.

4.5 Invasive Species

Survey results, avoidance and minimization efforts, project impacts, compensatory mitigation, and cumulative impacts associated with invasive species would be the same as stated within Section 4.5 of the NES.

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Chapter 5. Results: Permits and Technical Studies for Special Laws or Conditions

Necessary consultation and permit requirements are discussed in Chapter 5 of the NES. The reader is referred to the NES for detailed information pertaining to consultation and permitting.

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Chapter 6. References

County of San Diego

- 1997 Multiple Species Conservation Program, County of San Diego Subarea Plan. October 22.

Federal Highway Administration (FHWA)

- 2008 Record of Decision: Tier I SR-11 and Otay Mesa East POE. September.

HELIX Environmental Planning, Inc.

- 2009 Biological Technical Report for Lonestar Industrial Park. May 22.

- 2006 Biological Technical Report for the Otay Business Park. June 12.

United States Fish and Wildlife Service (USFWS)

- 2011 Biological Opinion for the State Route 11/Otay Mesa East Port of Entry, Otay Crossings Commerce Park, and Otay Business Park Projects, San Diego County, California. October.

Unitt, Philip

- 2004 San Diego County Bird Atlas. San Diego Natural History Museum.

Wildlife Research Institute, Inc.

- 2011 Golden Eagles of the San Diego Multiple Species Conservation Plan Area 2004-2010. 116 pp.

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APPENDIX A
Lonestar Ridge West Surveys

Date	Caltrans Stewardship and Ecological Studies Staff	Comment
February 25, 2010	Michael Galloway ¹ , Susan Scatolini ² , Michael Connelly, Rich Mallen	Vegetation Mapping, Plant Surveys
March 3, 2010	Michael Galloway, Susan Scatolini, Michael Connelly, Rich Mallen	Vegetation Mapping, Plant Surveys, Fairy Shrimp Surveys
March 22, 2010	Susan Scatolini	Fairy Shrimp Surveys
March 26, 2010	Michael Galloway, Kim T. Smith	Vegetation Mapping, Quino Checkerspot Butterfly Surveys
April 8, 2010	Michael Galloway	Vegetation Mapping, Plant Surveys, Quino Checkerspot Butterfly Surveys
April 14, 2010	Michael Galloway, Rush Abrams	Vegetation Mapping, Plant Surveys, Quino Checkerspot Butterfly Surveys
April 21, 2010	Michael Galloway, Bob James	Vegetation Mapping, Plant Surveys, Quino Checkerspot Butterfly Surveys
April 28, 2010	Michael Galloway, Ted Thurston	Vegetation Mapping, Plant Surveys, Quino Checkerspot Butterfly Surveys
May 4, 2010	Michael Galloway	Plant Surveys, Wildlife Surveys
July 7, 2010	Michael Galloway	Wildlife Surveys
July 15, 2010	Michael Galloway	Wildlife Surveys
July 23, 2010	Michael Galloway	Wildlife Surveys
August 3, 2010	Michael Galloway, Ted Thurston, Rich Mallen	Wildlife Surveys
March 9, 2011	Michael Galloway, Ted Thurston	Plant Surveys, Wildlife Surveys
March 18, 2011	Michael Galloway	Plant Surveys, Wildlife Surveys
March 23, 2011	Michael Galloway, Ted Thurston, Michael Connelly	Plant Surveys, Wildlife Surveys
March 30, 2011	Michael Galloway	Wildlife Surveys
April 7, 2011	Michael Galloway, Ted Thurston	Vegetation Mapping, San Diego Button-Celery Surveys
April 13, 2011	Michael Galloway, Ted Thurston	Vegetation Mapping, San Diego Button-Celery Surveys
April 21, 2011	Michael Galloway, Ted Thurston	Vegetation Mapping, San Diego Button-Celery Surveys
May 3, 2011	Michael Galloway, Ted Thurston	Vegetation Mapping, San Diego Button-Celery Surveys
May 26, 2011	Michael Galloway, Rachel Cotroneo	Vegetation Mapping, San Diego Button-Celery Surveys
June 24, 2011	Michael Galloway	Vegetation Mapping, San Diego Button-Celery Surveys
July 5, 2011	Michael Galloway	Wildlife Surveys
July 12, 2011	Michael Galloway	Wildlife Surveys
July 19, 2011	Michael Galloway	Wildlife Surveys

1) Michael Galloway has USFWS recovery permit TE221294 for surveying the Quino Checkerspot Butterfly

2) Susan Scatolini has USFWS recovery permit TE074955 for surveying the San Diego fairy shrimp and Riverside fairy shrimp

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