

DRAFT
ENVIRONMENTAL IMPACT REPORT

**NACIMIENTO LAKE DRIVE
AT SAN ANTONIO RIVER
BRIDGE REPLACEMENT**

**MONTEREY COUNTY BRIDGE NUMBER 449
STATE CLEARINGHOUSE NUMBER 2011101021**



MONTEREY COUNTY DEPARTMENT OF PUBLIC WORKS

NOVEMBER 2013

Preface

This document is a focused Environmental Impact Report (EIR) that was prepared by the Monterey County Department of Public Works (the “County”) in compliance with the California Environmental Quality Act (CEQA). This EIR describes the County’s proposal to replace the existing Nacimiento Lake Drive Bridge over the San Antonio River, the existing environmental setting at the bridge site, and the impacts of the project on that environmental setting.

In 2010, the County prepared an Initial Study (IS) on the proposed bridge replacement project. Per Section 15063 of the CEQA Guidelines, the purpose of the IS was to focus the EIR on the effects determined to be significant, identify the effects determined not to be significant, and explain the reasons for determining that potentially significant effects would not be significant.

The IS concluded that the project would result in a significant and unavoidable effect on a historic resource, namely the existing bridge, which is proposed to be demolished. In addition, the IS concluded that the project would likely result in significant impacts to various biological resources. The IS, therefore, concluded that the preparation of this EIR was warranted.

For all other resource categories, the IS concluded 1) that the project’s effects would not be significant, or 2) that significant effects would be mitigated by measures included as part of the project. The latter conclusion was reached for the following categories:

- Air Quality Impacts during Construction
- Noise Impacts during Construction
- Hazardous Material Impacts
- Water Quality Impacts
- Paleontological Impacts
- Archaeological Impacts

For the reasons stated above, this EIR focuses on the following two impact categories:

- **Historic Resources Impacts**
- **Biological Resources Impacts**

In October 2011, the County circulated a Notice of Preparation (NOP) of this EIR, a copy of which is contained in Appendix A. The 2010 IS was circulated with the NOP, a copy of which is contained in Appendix B.

Summary

A. PROJECT DESCRIPTION

The Monterey County Department of Public Works proposes to replace the existing Nacimiento Lake Drive Bridge over the San Antonio River, including a realignment of the roadway approaches to the bridge. The existing bridge is listed on the *Monterey County Register of Historic Resources* and, therefore, meets the definition of a historic resource under CEQA.

The project site is located in southern Monterey County, approximately five miles southwesterly of the community of Bradley and approximately two miles northwesterly of the Camp Roberts Army National Guard Training Facility.

The existing bridge, which was constructed in 1921, is a single-lane structure that is approximately 294 feet in length and 20 feet in width. The bridge is a four-span structure and the bridge type is known as a "steel pratt through truss." The existing bridge does not meet current structural/highway design or seismic safety standards.

The replacement bridge will be constructed approximately 130 feet downstream of the existing bridge. The replacement bridge, which will accommodate two lanes of traffic with shoulders, will be approximately 267 feet in length and 35 feet in width. The replacement bridge will have two spans with a center pier.

The existing bridge will remain open to traffic during the construction of the replacement bridge. The existing bridge will be removed when the replacement bridge is operational. Upon removal, the area will be restored.

B. SUMMARY OF ENVIRONMENTAL IMPACTS

Based on the results of an Initial Study prepared in accordance with the requirements of CEQA, the EIR was focused on the impacts of the project to biological and historical resources. A summary of these impacts is contained in Table S-1.

TABLE S - 1	
SUMMARY OF ENVIRONMENTAL IMPACTS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES	
Environmental Impact	Avoidance, Minimization, Mitigation Measure
Biological Resources [EIR Section 2.1]	
Impact BIO-1: Implementation of the proposed project would not result in the permanent loss of aquatic habitat. [No Impact]	No avoidance, minimization, or mitigation measures are required.
Impact BIO-2: The project will result in short-term, construction-related, impacts to aquatic habitat, including the potential degradation of water quality in the river. [Significant Impact; reduced to Less-than-Significant with Mitigation]	MM-BIO-2.1: Following completion of bridge falsework, the temporary gravel pads will be removed and the channel will be restored to pre-project conditions.
	MM-BIO-2.2: No equipment will be operated in the live stream channel.
	MM-BIO-2.3: Standard erosion control and slope stabilization measures will be required for work performed in any area where erosion could lead to sedimentation in the river.
	MM-BIO-2.4: Silt fencing will be installed between any activities conducted within, or just above the edge of the top-of-bank and the edge of the river to prevent dirt or other materials from entering the channel.
	MM-BIO-2.5: No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material will be allowed to enter into or be placed where it may be washed by rainfall or runoff into the river or aquatic habitat.
	MM-BIO-2.6: Machinery will be refueled at least 60 feet from any aquatic habitat, and a spill prevention and response plan will be prepared.
Impact BIO-3: The project will result in both permanent and temporary impacts to wetlands habitat located on the project site. [Significant Impact; reduced to Less-than-Significant with Mitigation]	MM-BIO-3.1: Wooden mats or similar products will be used where it is necessary for personnel and equipment to cross over and gain construction access within wetlands. This will reduce the intensity of impacts to the soil and vegetation, thus limiting the impact intensity and allowing these areas to quickly recover once construction is complete.
	MM-BIO-3.2: A qualified restoration ecologist will inspect the temporarily-impacted wetlands following construction. If it is determined these areas require revegetation or remedial soil treatment, a native seed mixture appropriate for that area will be applied. It is unlikely that the freshwater wetlands will require re-seeding, as these wetlands occur within the low-flow channel and temporary impacts should not affect the perennial rhizomes of these plants. In seasonal wetlands, areas determined to require active post-construction revegetation efforts may be seeded with species occurring at the site such as wire rush and Mexican rush.

TABLE S - 1	
SUMMARY OF ENVIRONMENTAL IMPACTS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES	
Environmental Impact	Avoidance, Minimization, Mitigation Measure
	MM-BIO-3.3: The permanent loss of 0.03 acres of freshwater emergent wetlands and 0.01 acres of seasonal wetlands will be mitigated at a 2:1 mitigation-to-impact ratio. Thus, 0.06 acres of freshwater emergent wetlands and 0.02 acres of seasonal wetlands will be created. The wetlands will be created within the biological study area (BSA), preferably within the area where the existing bridge will be removed. The wetlands will be adjacent to the riparian mitigation described above.
Impact BIO-4: The project will result in both permanent and temporary impacts to riparian habitat located on the project site. [Significant Impact; reduced to Less-than-Significant with Mitigation]	MM-BIO-4.1: Mitigation for impacts to riparian habitat will consist of the creation of in-kind habitat. 0.15 acres of willow and mulefat riparian scrub, as well as the 0.08 acres of wetlands (see MM-BIO-3.3), will be planted in areas close to the existing OHW of the San Antonio River. There is approximately 0.67 acres of non-wetland areas that does not currently support riparian vegetation available on-site that contains the existing bridge and road approaches to be removed by the project, and between the existing road and proposed bridge abutment. Since much of this area would require restoration following structure and roadway removal in any case, it presents a good opportunity for on-site, in-kind mitigation.
Impact BIO-5: The project will not impact any special status plants. [No Impact]	No avoidance, minimization, or mitigation measures are required.
Impact BIO-6: Construction activities have the potential to adversely affect steelhead and Monterey roach. [Significant Impact; reduced to Less-than-Significant with Mitigation]	MM-BIO-6.1: All work within the banks of the river will occur during the dry season (roughly 15 June to 15 October). See Section 2.1.8.4 for further details.
	MM-BIO-6.2: During demolition and construction activities, netting and other structures will be installed under the existing bridge and the proposed bridge to prevent debris from entering the channel, as such debris could degrade water quality and potentially injure fish in the river.
	MM-BIO-6.3: A construction personnel education program will be given by a qualified biologist before the commencement of construction to explain to construction personnel how best to avoid the accidental take of steelhead or roach. See Section 2.1.8.4 for further details.
	MM-BIO-6.4: A qualified biologist will be present to monitor all activities involving the placement of gravel (for temporary falsework pads) in the river, including the construction of a sandbag coffer dam to encompass the pads. For additional details regarding the duties of the biologist and other information related to this measure, please see Section 2.1.8.4.
	MM-BIO-6.5: While temporary falsework and associated pads are present within the river, a channel of free-flowing water between the pads will remain to allow fish to continue to move through the project area.

TABLE S - 1	
SUMMARY OF ENVIRONMENTAL IMPACTS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES	
Environmental Impact	Avoidance, Minimization, Mitigation Measure
Impact BIO-7: Construction activities have the potential to adversely affect up one or more of the following special status species of reptiles and amphibians: western pond turtle, California horned lizard, San Joaquin whipsnake, and silvery legless lizard. [Significant Impact; reduced to Less-than-Significant with Mitigation]	MM-BIO-7.1: Prior to the start of construction or demolition activities, a qualified biologist will conduct a preconstruction survey for these species. If any of the above animals are found within the BSA, the qualified biologist will relocate them to a suitable location outside of the BSA.
	MM-BIO-7.2: Prior to the start of construction or demolition activities, exclusion fencing will be installed around the work area and between the work area and the water's edge where feasible. When the fence is completed, the area within the fence will be surveyed for the species described above. The qualified biologist will safely relocate any individuals of these species that are detected within the exclusion fence to a suitable location outside of the BSA.
	MM-BIO-7.3: Each morning prior to the start of construction, a designated construction crew member who has received training in recognizing and handling these species by the qualified biologist will search the area within the exclusion fence for amphibians and reptiles. If any individuals of these species are found, the designated crew member will relocate those individuals to a suitable location outside of the BSA.
Impact BIO-8: Construction activities have the potential to adversely affect bald or golden eagles if they are nesting in the vicinity. [Significant Impact; reduced to Less-than-Significant with Mitigation]	MM-BIO-8.1: A winter survey covering a one-mile buffer around the project area will be conducted to determine if potential golden eagle nest sites are present within the buffer. For details regarding the timing, scope, and reporting requirements for this survey, please see Section 2.1.8.6.
	MM-BIO-8.2: A preconstruction eagle survey will be undertaken. The survey will cover the one-mile buffer and determine if any golden or bald eagle nests are present/active. The survey results will be provided to the USFWS prior to the start of construction.
	MM-BIO-8.3: If any nests are determined to be present within one-half mile of the project site at the start of construction, a Disturbance Permit from the USFWS will be obtained by the County.
Impact BIO-9: Construction of the project is not expected to result in any substantial effects on burrowing owls. [Less-than-Significant Impact]	No avoidance, minimization, or mitigation measures are required.

TABLE S - 1	
SUMMARY OF ENVIRONMENTAL IMPACTS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES	
Environmental Impact	Avoidance, Minimization, Mitigation Measure
<p>Impact BIO-10: If present, the project has the potential to adversely affect least Bell's vireos. [Significant Impact; reduced to Less-than-Significant with Mitigation]</p>	<p>MM-BIO-10.1: The project will fully mitigate for impacts to riparian habitat, the habitat type of greatest value to the least Bell's vireo. This mitigation is described in MM-BIO-4.1.</p>
	<p>MM-BIO-10.2: Project activities will be timed to avoid the least Bell's vireo breeding season (1 April to 31 July) to the greatest extent practicable.</p>
	<p>MM-BIO-10.3: Where vegetation is to be removed by the project, potential nesting substrates (e.g., bushes, trees, grass, and suitable artificial surfaces) that will be disturbed by the project will be removed during the non-breeding season (1 August to 31 March), if feasible, to help preclude nesting.</p>
	<p>MM-BIO-10.4: If it is not feasible to schedule vegetation removal and commencement of construction activities during the non-breeding season, then pre-construction surveys for nesting birds will be conducted by a qualified ornithologist to detect any least Bell's vireos using the areas and to ensure that no nests will be disturbed during project implementation. This survey will be conducted no more than 7 days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees, shrubs, and other potential nesting habitats in and immediately adjacent to the impact areas for nests. In the unlikely event that nesting least Bell's vireos are detected during such a survey, the biologist will determine an appropriate buffer (typically approximately 250 feet) in consultation with the USFWS and CDFW.</p>
<p>Impact BIO-11: The project has the potential to adversely affect up one or more of the following special status species of birds: white-tailed kite, loggerhead shrike, yellow warbler, and tricolored blackbird. [Significant Impact; reduced to Less-than-Significant with Mitigation]</p>	<p>MM-BIO-11.1: The project will fully mitigate for impacts to wetlands and riparian habitat, the habitats type of greatest value to these four bird species. This mitigation is described in MM-BIO-3.1 and MM-BIO-4.1.</p>
	<p>MM-BIO-11.2: Impacts to any of these species that may be nesting within the project limits will be avoided. The mitigation is the same as that for nesting birds protected by the Migratory Bird Treaty Act and California Fish & Game Code. Please see MM-BIO-16.1 through MM-BIO-16.3.</p>
<p>Impact BIO-12: Construction of the project is not expected to result in any substantial effects on western red bats. [Less-than-Significant Impact]</p>	<p>No avoidance, minimization, or mitigation measures are required.</p>

TABLE S - 1	
SUMMARY OF ENVIRONMENTAL IMPACTS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES	
Environmental Impact	Avoidance, Minimization, Mitigation Measure
Impact BIO-13: Construction of the project is not expected to result in any substantial effects on the Salinas pocket mouse. [Less-than-Significant Impact]	No avoidance, minimization, or mitigation measures are required.
Impact BIO-14: Construction of the project is not expected to result in any substantial effects on the American badger. [Less-than-Significant Impact]	No avoidance, minimization, or mitigation measures are required.
Impact BIO-15: If present, the project has the potential to adversely San Joaquin kit foxes. [Significant Impact; reduced to Less-than-Significant with Mitigation]	MM-BIO-15.1: All surveys, den destructions, and monitoring related to the kit fox will be conducted by a qualified biologist. The qualified biologist will conduct pre-construction surveys no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities. This survey will identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, assess the potential impacts to the kit fox by the proposed activity. The status of all dens will be determined and mapped.
	MM-BIO-15.2: Written results of the pre-construction survey will be submitted to the County immediately; the County will then notify the USFWS within 5 days after survey completion and prior to the start of ground disturbance and/or construction activities. If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the County shall be immediately notified, and shall in turn notify the USFWS and CDFW. If the preconstruction survey reveals an active natal or pupping den or new information, the County will contact the USFWS and CDFW immediately to obtain the necessary take authorization/permit. If a den is found, measures to avoid impacts to the den (including buffers and seasonal restrictions on work near the den) will be implemented, and if necessary, the foxes will be evicted after the non-breeding season.
Impact BIO-16: Construction activities associated with the project have the potential to adversely affect nesting migratory birds. [Significant Impact; reduced to Less-than-Significant with Mitigation]	MM-BIO-16.1: Construction activities will be avoided during the nesting season to the extent feasible. The nesting season for most birds in this region of California extends from 1 February to 31 August. If vegetation is to be removed by the project, potential nesting substrate (e.g., bushes, trees, snags, grass, and suitable artificial surfaces) that will be disturbed should be removed during the non-breeding season (i.e., they should be removed between 1 September and 31 January), if feasible, to help preclude nesting.

T A B L E S - 1	
SUMMARY OF ENVIRONMENTAL IMPACTS AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES	
Environmental Impact	Avoidance, Minimization, Mitigation Measure
	MM-BIO-16.2: If it is not feasible to schedule vegetation removal during the non-breeding season, then pre-construction surveys for nesting birds will be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. This survey will be conducted no more than seven days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees, shrubs, and other potential nesting habitats in and immediately adjacent to the BSA for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist, in consultation with the CDFW, will determine the extent of a buffer zone to be established around the nest, typically 250 feet for raptors and 50 feet for other birds, to ensure that no nests will be disturbed.
	MM-BIO-16.3: Alternatively, nest starts may be removed on a regular basis (e.g., every 2nd or 3rd day), starting in late January or early February, or measures such as exclusion netting may be placed over the existing bridge to prevent active nests from becoming established.
Historical Resources [EIR Section 2.2]	
Impact HIST-1: The project will demolish a locally-significant historic resource, the Nacimiento Lake Drive bridge over the San Antonio River. [Significant Unavoidable Impact]	MM-HIST-1.1: Prior to demolition, the bridge will be photo documented to an archival level in accordance with the standards of the Historic American Engineering Record (HAER).
	MM-HIST-1.2: The County will install a historic bridge marker or commemorative plaque at the site of the replacement bridge. The design of this feature will be submitted to the Monterey County Historic Resources Review Board for review and input.

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CHAPTER 1 PROPOSED PROJECT

1.1 PROJECT DESCRIPTION



The Monterey County Department of Public Works (the “County”) proposes to replace the existing Nacimiento Lake Drive Bridge over the San Antonio River, including a realignment of the roadway approaches to the bridge.¹ As shown on Figures 1 and 2, the project site is located in southern Monterey County, approximately 5 miles southwesterly of the community of Bradley and approximately 2 miles northwesterly of the

Camp Roberts Army National Guard Training Facility. The existing bridge, which was constructed in 1921, is a single-lane structure that is approximately 294 feet in length and 20 feet in width. The bridge is a four-span structure and the bridge type is known as a "steel pratt through truss." The existing bridge does not meet current structural/highway design or seismic safety standards.

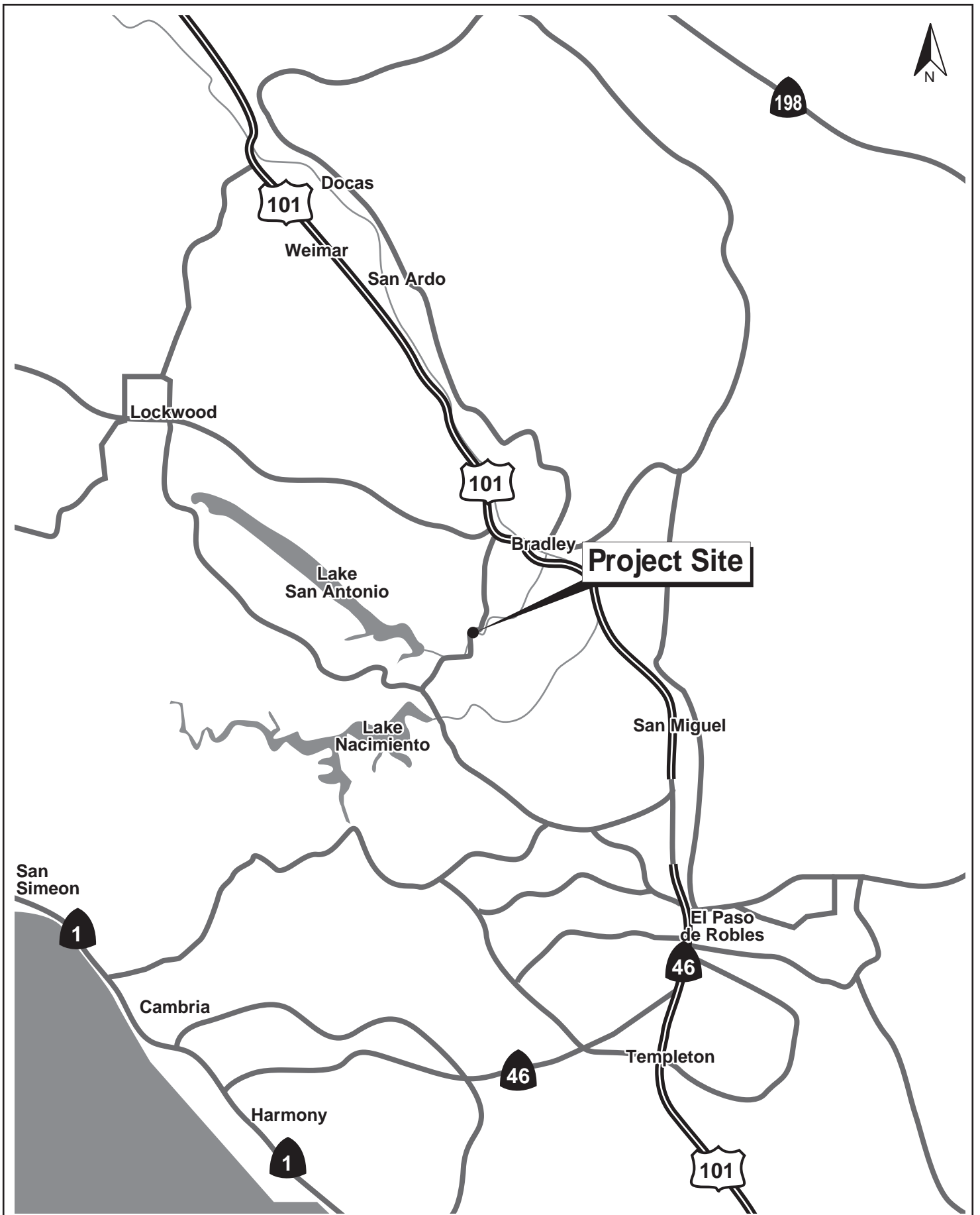
The replacement bridge will be constructed approximately 130 feet downstream of the existing bridge, as shown on Figure 3. The replacement bridge, which will accommodate two lanes of traffic with shoulders, will be approximately 267 feet in length and 35 feet in width. The replacement bridge will have two spans with a center pier. The bridge type will be a cast-in-place, post-tensioned, concrete box girder structure.

The center pier will have a diameter of approximately six to seven feet and will be supported on a large diameter cast-in-drilled-hole (CIDH) pile foundation. The depth of the foundation will be approximately 70 feet. The location of the center pier will be outside of the low-flow channel of the river.

The southern bridge abutment will be supported on two CIDH pile foundations, each with a diameter of approximately six to seven feet and a depth of approximately 55 feet. Excavation for this abutment will be to a depth of roughly five feet into the embankment fill.

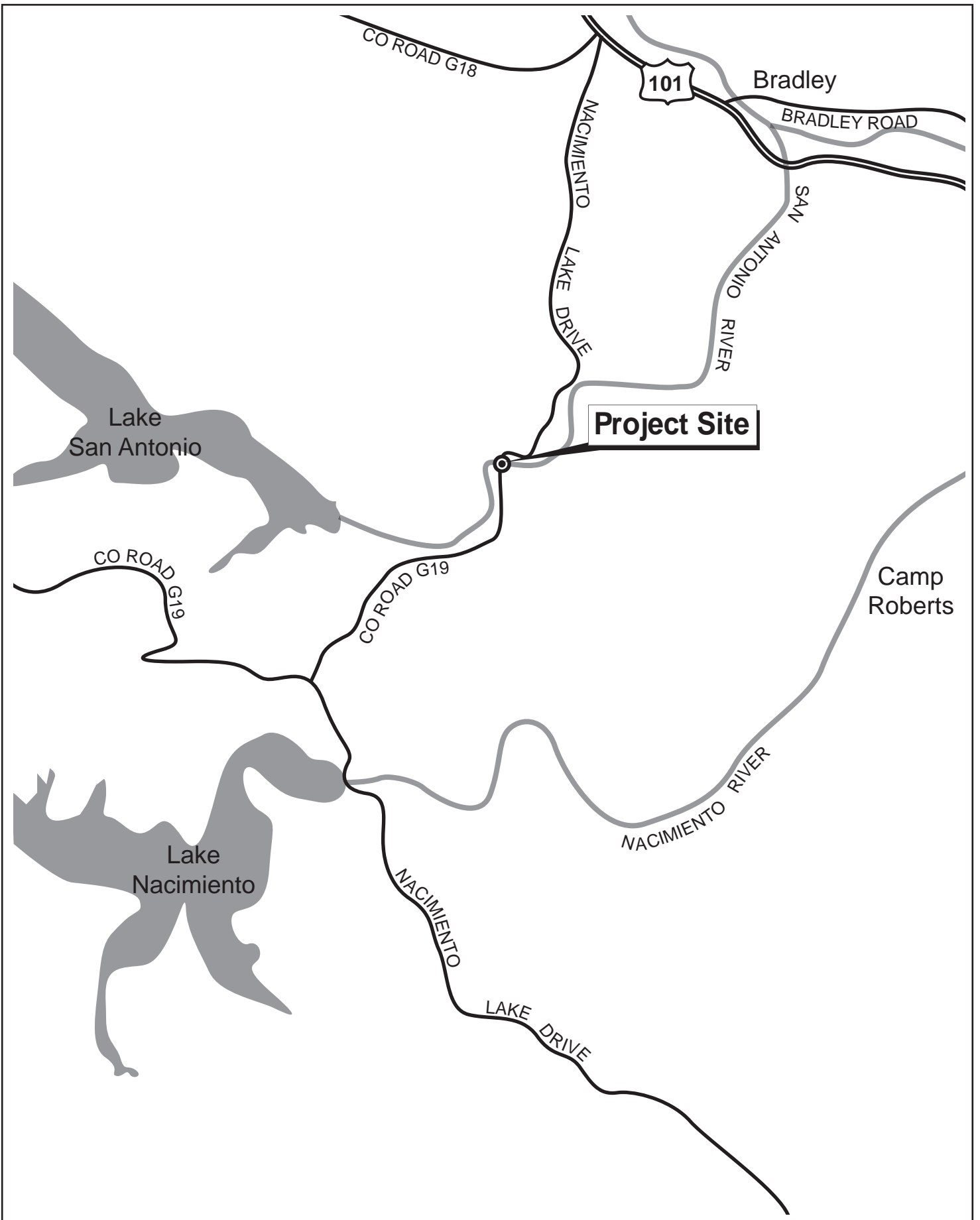
The northern bridge abutment will be supported on multiple CIDH pile foundations, each with a diameter of approximately two feet and a depth of approximately 25 feet. Excavation for this abutment will be to a depth of roughly 8 feet into the embankment fill.

¹The Monterey County Bridge Number is 449 and the Caltrans Bridge Number is 44C-0009.



REGIONAL MAP

FIGURE 1



VICINITY MAP

FIGURE 2



SITE PLAN

FIGURE 3

Rock slope protection, which will likely consist of 500-pound rocks, will be placed at each bridge abutment to prevent erosion and undermining of the structure. The length of the rock slope protection along the banks of the river at the southerly and northerly abutments will be approximately 120 feet and 80 feet, respectively.

The existing bridge will remain open to traffic during the construction of the replacement bridge. The existing bridge will be removed when the replacement bridge is operational. The entire bridge structure will be removed. Per Caltrans' standards, the piles will be removed down to a minimum of three feet below the existing ground surface. Upon removal, the area will be restored.

1.2 PROJECT FUNDING AND SCHEDULE

The proposed project is being funded by the Federal Highway Bridge Program and the Monterey County Department of Public Works.

The proposed project is expected to be constructed in roughly 15 months or less, with an approximate seasonal start date in June. Construction activities would generally occur from Monday through Friday between 7:00 am and 7:00 pm. No nighttime construction is proposed.

1.3 RIGHT-OF-WAY REQUIREMENTS

The project will require minor amounts of right-of-way from seven adjacent parcels, as shown in Table 1. No residences and/or businesses will be relocated and no structures will be impacted on these adjacent parcels as a result of the proposed project.

1.4 PROJECT OBJECTIVES

The objective of the project is to provide a safe crossing of the San Antonio River on Nacimiento Lake Drive. As used in this context, "safe" means a crossing that meets current design and seismic safety criteria. The current bridge, which was constructed in 1921, does not meet current design or seismic safety standards.

TABLE 1					
PRELIMINARY RIGHT-OF-WAY REQUIREMENTS (acres)					
Assessor's Parcel Number	Property Owner	Existing Use	Parcel Size	Right-of-Way Needed	
				Permanent	Temporary Construction Easement
454-91-015	Joseph	vineyard/agriculture	523.5	0.115	0.228
454-91-016	Joseph	agriculture	657.7	0.386	0.320
454-91-017	Cooper	vacant	12.5	0.262	0.831
454-91-018	Johnston	residential	1.0	none	0.077
454-91-019	Johnston	vacant		none	0.204
454-91-020	Johnston	vacant	1.3	none	0.128
454-91-021	Brown	rangeland/grazing	16.5	1.041	0.586

Note: The information in this table is preliminary and is subject to minor revision during the final design of the project.

1.5 USES OF THE EIR

The information contained in this EIR will be used by the County (the CEQA Lead Agency) as it considers whether or not to approve the proposed project. If the project is approved, the information in this EIR will also be used by other governmental agencies in issuing permits for the project, including the following:

- U.S. Army Corps of Engineers - Section 404 Permit
- Regional Water Quality Control Board - Section 401 Water Quality Certification
- California Department of Fish & Wildlife - Streambed Alteration Agreement

CHAPTER 2 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

Introductory Note: As stated in the Preface, an Initial Study (IS) was prepared by the County in 2010, a copy of which is contained in Appendix B. With two exceptions, the IS concluded 1) that the project's environmental impacts would not be significant, or 2) that any significant environmental impacts would be mitigated by measures included as part of the project. The two exceptions are the focus of this EIR and the subject areas are as follows:

- Biological Resources
- Historical Resources

2.1 BIOLOGICAL RESOURCES

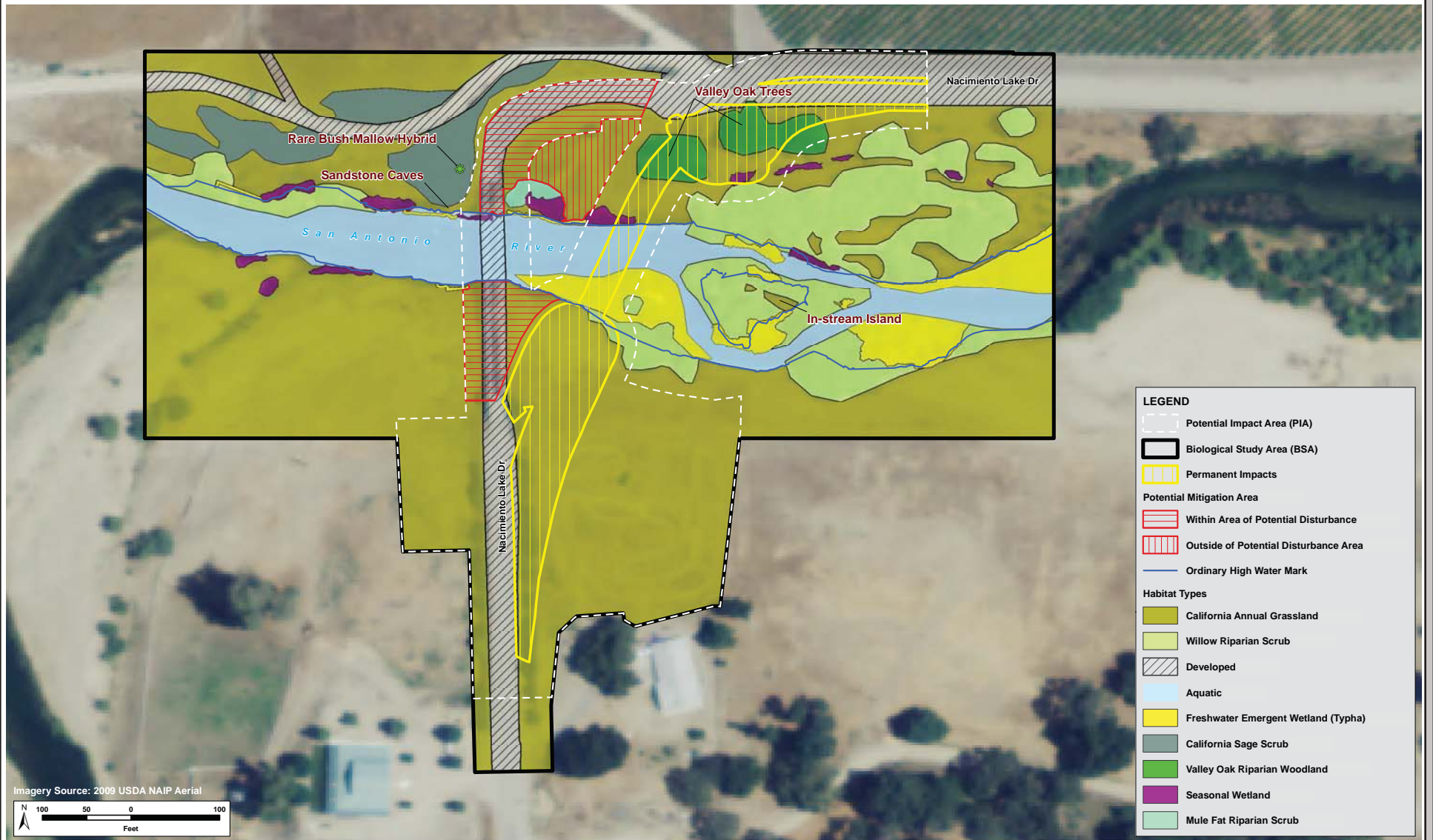
The information in this section is based primarily on the Natural Environment Study (May 2012) and Biological Assessment (June 2012) that were prepared for the project. These reports are in Appendix C and Appendix D, respectively.

2.1.1 Existing Habitats

For the project, a biological study area (BSA) totaling 12.25 acres was delineated. As shown on Figure 4 and in Table 2, nine biotic habitats were identified within the BSA: 1) freshwater emergent wetlands; 2) seasonal wetlands; 3) aquatic; 4) willow riparian scrub; 5) mulefat riparian scrub; 6) valley oak riparian; 7) California sage scrub; 8) California annual grasslands; and 9) developed area. Overall, the project area contains fairly natural, varied, minimally disturbed habitat of high quality for wildlife.

2.1.1.1 *California Annual Grasslands Habitat*

Approximately 6.64 acres of grasslands occur within the BSA in upland areas on both sides of the river channel. Soils tend to be more sandy on the southern side and near the sandstone outcrops on the western side of the existing bridge, and loamy on the northern side to the east of the existing bridge. In both areas, these grasslands have been disturbed by cattle grazing, occasional scouring from the river, flooding, and foot traffic, especially in areas nearest the existing road and under the bridge. The vegetation is dominated by non-native grasses such as ripgut, soft chess, wild oats, and red brome. Other weedy, non-native species are common, such as black mustard, milk thistle, redstem filaree, and, closer to the river, yellow sweetclover.



HABITATS AT PROJECT SITE

FIGURE 4

Habitat Type	Number of Acres
California Annual Grasslands	6.64
Developed	1.56
Willow Riparian Scrub	1.47
Aquatic	1.22
Freshwater Emergent Wetlands	0.54
California Sage Scrub	0.46
Valley Oak Riparian Woodland	0.20
Seasonal Wetlands	0.13
Mulefat Riparian Scrub	0.03
Total:	12.25

Note: The listed acreages represent the amount of habitat that is present within the biological study area (BSA). These acreages do not represent the impacts of the project. For a quantification of impacts, please see Table 4.

Some areas, such as the sandy benches in the uplands adjacent to riparian vegetation, support a relatively diverse suite of native grassland species, such as bigleaf lupine, telegraph weed, narrow-leaf milkweed, red sandspurrey, valley lessingia, and sandy soil suncup. Areas underlain with sandier soils also have sparser growth, while areas underlain with loamier, more disturbed soils has a high incidence of thatch and very little bare ground. Isolated coyote brush and French broom occur scattered in more disturbed areas and along the steep northern bank. California sagebrush has colonized the disturbed roadside along the southern bridge approach.

Annual grasslands lack the structural diversity necessary to support a high diversity of wildlife species, but these habitats are used as foraging, burrowing, and nesting locations by many taxa. Much of the ruderal grassland within the BSA occurs on the sandy terraces bordering the stream, and these areas offer suitable nesting habitat for western pond turtles, as well as burrowing and foraging habitat for silvery legless lizards and coast horned lizards. Western toads, western fence lizards, and gopher snakes are also expected to use the grassland habitats throughout the BSA.

While the ruderal grassland patches within the BSA are too limited in extent to support bird species associated with extensive grasslands, many bird species that nest or shelter in the more extensive grasslands nearby or in other adjacent habitats are likely to forage in these grassland patches from time to time. Such species include white-tailed kites, red-shouldered hawks, red-tailed hawks, loggerhead shrikes, and western meadowlarks. House finches, golden-crowned sparrows, and white-crowned sparrows were observed foraging in the grasslands during the site visit. Burrows of Botta's pocket gophers and California ground squirrels were found in the ruderal grasslands within the BSA.

2.1.1.2 *Developed Habitat*

The existing bridge and road approaches on each bank comprise approximately 1.56 acres of developed habitat within the BSA. These areas support little if any vegetation. Short-statured roadside weeds such as horehound and non-native grasses adapted to the increased runoff found next to hardscape, such as foxtails occur sporadically in the compacted gravelly areas next to Nacimiento Lake Drive.

2.1.1.3 *Willow Riparian Scrub Habitat*

Approximately 1.47 acres of the BSA contains willow riparian scrub habitat. These areas are closely associated with the banks of the river and contain a thick, brushy mix of native willow species such as sandbar willow, Goodding's willow, and red willow. On the outer, upland edges of this habitat, Fremont's cottonwoods and blue elderberry are interspersed among taller, more tree-like red willows. Closer to the lower stream bank, near the ordinary high water (OHW) mark, Goodding's willows occur as multi-stemmed trees. Thickets of sandbar willow occur in frequently flooded areas, or even as emergents below the OHW mark. Much of the sandy in-stream island and the shallow waters surrounding this sandbar support willow scrub. Patches also occur along the southern bank, where the banks are shallower, and in a large continuous area on a low shelf on the northern bank to the east of the proposed bridge. Due to frequent flooding, extreme shade, and thick carpets of leaf litter, the herbaceous understory in this habitat is sparse and infrequent, supporting wetland species such as bird's-foot trefoil.

Riparian habitats in California are exceptionally productive habitats, offering high habitat value for a wide array of wildlife species and contributing disproportionately to landscape-level biodiversity. The presence of water and abundant invertebrate fauna provide foraging opportunities for many taxa, and the diverse habitat structure provides ample cover and nesting opportunities. The robust willow riparian corridor within the BSA is expected to support a high diversity of wildlife species.

Leaf litter, downed trees, low-growing shrubs and forbs, and fallen logs provide upland refugia for arboreal salamanders, slender salamanders, western toads, and Pacific chorus frogs. Open sandy terraces within the riparian zone provide ideal habitat for silvery legless lizards and coast horned

lizards; and western fence lizards, southern alligator lizards, Skilton's skinks, and gopher snakes likely forage in the riparian zone in and adjacent to the BSA.

Healthy riparian habitats such as that found within the BSA provide critical nesting and foraging habitat for a diversity of bird species during the various stages of their annual cycle. During the site visit in February 2010, over-wintering birds including white-crowned sparrows, golden-crowned sparrows, yellow-rumped warblers, and ruby-crowned kinglets were observed foraging throughout the riparian forest within the BSA, while year-round residents such as northern flickers, black phoebes, song sparrows, and Bewick's wrens were observed beginning to establish breeding territories. Other breeding birds expected to use the willow riparian habitat within the BSA include tree swallows, ash-throated flycatchers, Pacific-slope flycatchers, warbling vireos, common yellowthroats, yellow warblers, spotted towhees, and California towhees. Many neotropical migratory birds, including western tanagers, willow flycatchers, Swainson's thrushes, MacGillivray's warblers, and Wilson's warblers, are expected to use the site during stopover periods.

The riparian corridor offers suitable habitat for a variety of mammalian species: pocket gopher and broad-footed mole burrows were observed in open areas of the riparian forest, and extensive American beaver activity was evident in the willow thickets within the BSA downstream of the existing bridge. Several bat species, including Brazilian free-tailed bats, California myotis, Yuma myotis, pallid bats, and western mastiff bats, are expected to forage aerially over the entire BSA, and medium-sized mammals such as raccoons, striped skunks, and non-native Virginia opossums are likely to forage in the riparian zone.

2.1.1.4 Aquatic Habitat

Aquatic, open water habitat covers approximately 1.22 acres of the site within the OHW marks of the San Antonio River. This water is cool (average temperature approximately 65° F) and has moderate to swift flows. River flows in this reach are heavily affected by water control activities associated with San Antonio Reservoir upstream of the site. For example, flows increased and waters were 1-2 feet deeper after the release of water from the reservoir in early June of 2010. Water quality was generally very clear prior to and following recovery from this release, but was very turbid in the 2-3 week time period just after the release. The substrate is a mix of silt and isolated large cobbles, with the channel branch to the north of the in-stream island supporting the only riffle observed on-site. This riffle has an all-cobble substrate and fast flows approximately 1 foot deep. Water depth in the remainder of the channel averages 3-4 feet deep, although a 7-8 feet deep pool was observed at the far western edge of the BSA.

A beaver dam was located bridging both channels on the western end of the in-stream island. The beaver dam on the northernmost channel was removed, possibly by high flows associated with the release, at some point between the June and July 2010 surveys. Along the northern riverbank near a sandstone outcropping, strong, naturally-occurring hydrogen sulfide plumes were observed.

Vegetation within the open water habitat was limited but included aquatic species such as duckweeds.

Many wildlife species are expected to occur in the aquatic habitat within the BSA. Non-native aquatic predators such as crayfish, bullfrogs, and green sunfish are expected to occupy the reach of the San Antonio River within the BSA.

Historically the San Antonio River supported a steelhead/rainbow trout run, and in recent years, the waterway has been stocked with non-migratory rainbow trout. No absolute barriers between the Salinas River Mouth and the San Antonio Dam have been identified by the National Marine Fisheries Service (NMFS) or the California Department of Fish & Wildlife (CDFW)², so therefore steelhead could occasionally occur within the BSA, but the fine sands comprising the substrate of the stream in this reach of the river do not constitute a suitable spawning substrate for steelhead. Other native fish species likely to occur within the BSA include hitch, speckled dace, and threespine stickleback.

Common amphibians such as western toads and Pacific chorus frogs are characteristic of Monterey County streams and are known to breed in the aquatic areas of the project's BSA. The deep and relatively slow-moving main stream within the BSA offers suitable aquatic habitat for western pond turtles, particularly adjacent to the existing bridge where partially submerged rocks offer basking sites. Great egrets, American coots, mallards, and buffleheads were observed foraging in the main stream within the BSA. Several bat species, including California myotis, Yuma myotis, Brazilian free-tailed bats, pallid bats, western red bats, and western mastiff bats are expected to forage aerially for insects over the river.

2.1.1.5 *Freshwater Emergent Wetlands Habitat*

Approximately 0.54 acres of the BSA supports freshwater emergent wetlands. These areas are dominated by a thick, 4-foot tall growth of cattails interspersed with California bulrushes. In areas with slower flows or where protected on the downstream side of lush growths of cattails and bulrushes, watercress occurs. This habitat is found on shallow underwater benches within the low flow channel of the San Antonio River and within the BSA often occurs along the outer, wetland edges of the willow riparian scrub on-site. Smaller patches of this habitat occur on the river banks to the west of the existing bridge, and here are associated with stinging nettles along their upland edges. Large patches occur mostly on the southern bank and on the southern shore of the in-stream island within the BSA, although the wetlands on-site are not as large or contiguous as the thick marshes associated with the northern bank and bend in the river channel just to the east of the BSA.

²Formerly the California Department of Fish & Game (CDFG).

The emergent wetlands within the BSA are extensive enough to provide suitable habitat for a number of wildlife species. Breeding amphibians such as Pacific chorus frogs may attach their egg masses to the bases of sedges, rushes, and other vegetation occurring along the moist edge of the stream, and may forage on invertebrates living within the shelter of the hydrophytic vegetation there. The cattail beds dominating these emergent wetland patches comprise nesting habitat for common yellowthroats and red-winged blackbirds, both of which were observed using the BSA during the site visit; these vegetation patches also offer potential nesting sites for colonies of tricolored blackbirds. Beavers may forage on cattails and sedges during the summer months.

2.1.1.6 California Sage Scrub Habitat

California sage scrub occurs in discrete patches, comprising approximately 0.46 acres, along the steep, south-facing riverbank in the northwest corner of the BSA. This area supports an open, patchy canopy about 3-4 feet tall dominated by California sagebrush, mixed with other shrubs such as California buckwheat, sticky monkeyflower, holly-leaved cherry coyote brush, and poison oak. The herbaceous layer is sparse but mostly comprised of native forbs in this habitat, and includes golden yarrow, California poppy, and white nightshade. This habitat occurs with sandstone outcrops and boulders that are located with the steep cutbank in this area, and a group of small sandstone cave openings are located to the west of the existing bridge.

The sage scrub within the BSA provides only a small amount of wildlife habitat by virtue of its limited extent and isolation from other sage scrub habitat patches, so it is unlikely to support substantial populations of sage scrub specialists. However, several species are expected to use the sage scrub habitat within the BSA for foraging, nesting, and/or shelter. Amphibians such as California newts and reptiles such as western fence lizards and coast horned lizards are expected to frequent this patch of habitat for foraging and shelter. Ground- and shrub-nesting birds such as California quail, Bewick's wrens, and California towhees are likely to be found in the scrub in and near the BSA. It is possible that a pair of loggerhead shrikes could nest here. Mammals expected to use the scrub within the BSA include brush rabbits and California pocket mice.

2.1.1.7 Valley Oak Riparian Woodlands Habitat

Three large, mature valley oak trees occur on the upper areas of the north bank to the east of the existing bridge. These trees have a combined canopy area of 0.2 acres, and comprise a small patch of valley oak riparian woodland habitat distinctly different in character than the willow riparian scrub that dominates much of the riparian habitat on-site. The open understory in this area is comprised of native and non-native upland species indicative of the surrounding California annual grassland in composition and vegetation structure. The trees themselves have a diameter-at-breast-height (dbh) of approximately 30, 36, and 32 inches, and are up to 50 feet tall.

The wildlife species expected to use the valley oak riparian habitat within the BSA are similar to those described in Section 2.1.1.3 for willow riparian habitat. Additionally, oak-associated birds such as acorn woodpeckers, oak titmice, and white-breasted nuthatches were observed utilizing the valley oaks within the BSA.

2.1.1.8 *Seasonal Wetlands Habitat*

Approximately 0.13 acres of the BSA supports seasonal wetlands associated with periodic flooding of the mid-level banks of the San Antonio River. These areas do not receive a sufficiently consistent source of water to support the growth of emergent hydrophytes such as seen in the freshwater emergent wetlands on-site. Instead, they support a mix of native and non-native hydrophytes that are adapted to soil saturation or shorter periods of flooding. Species observed in these areas included curly dock, clustered dock, swamp knotweed, sneezeweed, heliotrope, and wire rush.

The small patches of seasonal wetlands within the BSA are expected to support amphibian species similar to those described in Section 2.1.1.5 for Freshwater Emergent Wetland. The vegetation is too low and limited to host nesting birds, although birds nesting elsewhere in the project area may forage in this habitat on occasion. Small mammals may forage on the seasonal vegetation, as well.

2.1.1.9 *Mulefat Riparian Scrub Habitat*

A small (0.03 acres) patch of mulefat riparian scrub occurs within the BSA on a low-lying bank area to the east of the existing bridge. This area is heavily dominated by a low (4 feet) canopy of mulefat shrubs and supports few other species beyond sparse non-native grass herbaceous cover.

The wildlife species expected to use the mulefat riparian habitat within the BSA consist of a subset of those described in Section 2.1.1.3 for the willow riparian scrub habitat. Shrub-nesting birds such as bushtits were observed near the BSA and are likely to utilize the mulefat shrubs for nesting and foraging.

2.1.2 Existing Special Status Plants

Seventy-one (71) species of plants classified by the California Native Plant Society (CNPS) as rare, threatened, or of limited duration were evaluated to determine if they are present (or likely to be present) within the BSA. Please see Appendix C for the complete list. Of these 71 species, 47 were determined to be absent due to the lack of suitable habitat. Protocol-level surveys were undertaken for the remaining 24 species and the surveys determined that all but one species, a hybrid between the Abbott's and Jones' bush-mallow, is absent from the BSA.

One plant species listed under the Federal Endangered Species Act, the Santa Lucia purple amole (*Chlorogalum purpureum* var. *purpureum*), is known to occur in the nine-quadrangle area encompassing the BSA. Protocol-level plant surveys undertaken within the BSA during this species' blooming period in March, April, and May of 2010 failed to detect this species.

No plant species listed under the California Endangered Species Act occurs within the nine-quadrangle area encompassing the BSA.

2.1.2.1 *Abbott's and Jones' Bush-Mallow*

The Abbott's bush-mallow (*Malacothamnus abbotti*) is a deciduous shrub in the mallow family on CNPS List 1B.1, meaning it is seriously endangered in California. It typically blooms from May to October. It grows in sandy soils in riparian scrub communities at elevations between 443 and 1,608 feet and is only known to occur in Monterey County.

Jones' bush-mallow (*Malacothamnus jonesii*) is a deciduous shrub in the mallow family that blooms from May to July. The species is on CNPS List 4.3, indicating it is not very endangered in California. This plant typically grows in open chaparral and cismontane woodland communities at elevations between 524 and 2,723 feet. Jones' bush-mallow is only known to occur in Monterey and San Luis Obispo Counties.

One individual bush mallow was observed to the west of the existing bridge (see Figure 4), and was identified as a hybrid between Abbott's and Jones' bush-mallow (*Malacothamnus abbottii x jonesii*). This indicates there are or were populations of these two species within the project vicinity.

2.1.3 Existing Special Status Animals

Evaluations were undertaken to determine if special status animal species are present (or could be present) within the BSA. Special status species include those listed as threatened or endangered under the Federal Endangered Species Act and/or the California Endangered Species Act. It also includes species identified by the CDFW as California Species of Special Concern.

Forty-one (41) species were evaluated. Of these 41 species, 17 were determined to be absent due to the lack of suitable habitat within the BSA. For the remaining 24 species where suitable habitat is present, additional assessment was undertaken, the results of which are shown in Table 3.

Of the 24 species listed in Table 3, the following four were determined to be absent from the BSA: the foothill yellow-legged frog, the arroyo toad, the California red-legged frog, and the California tiger salamander. For the remaining 20 species, there is a potential for their presence within the BSA and therefore they could be impacted by project construction. Such impacts are described in Section 2.1.6 and avoidance measures are described in Section 2.1.8.

TABLE 3						
POTENTIAL FOR SPECIAL STATUS ANIMAL SPECIES TO OCCUR WITHIN BSA						
Common Name (Scientific Name)	Status	Habitat	Critical Habitat		Presence	Justification
			Designated?	On the Site?		
Steelhead (South-Central California Coast) (<i>Oncorhynchus mykiss irideus</i>)	FT	Spawns in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating to the ocean.	Yes	Yes, within the San Antonio River channel	Habitat Present	The San Antonio River below the dam is considered to be critical habitat. Steelhead were documented in the stream historically; there are no absolute barriers between the BSA and the Salinas River Mouth, so steelhead could potentially migrate up to the project area. However the current steelhead run in the Salinas River and its tributaries is estimated to be very low and aquatic habitat quality is poor due to low and irregular flows, warm water temperatures and presence of exotic predators, so steelhead are expected to occur in extremely low densities at most.
California Tiger Salamander (<i>Ambystoma californiense</i>)	FT, ST	Vernal or temporary pools in annual grasslands or open woodlands.	Yes	No	Habitat Present/ Species Absent	Potentially suitable breeding habitat occurs in the project vicinity; the BSA itself contains suitable foraging and aestivation habitat, though no still ephemeral pools suitable for breeding habitat occur on-site. However, regular vernal pool surveys at the Camp Roberts Army Nat'l Guard training facility south of the BSA have failed to detect any California tiger salamanders since 2001, indicating the species' absence from the region. Not expected to occur within the BSA.
California red-legged frog (<i>Rana draytonii</i>)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	Yes	No	Habitat Present/ Species Absent	The historical distribution of the red-legged frog includes the BSA, and although there are no records of the species in the San Antonio River, the river provides structurally suitable habitat. Well-established populations of predatory species such as bullfrogs limit the suitability of this habitat for red-legged frogs, and no red-legged frogs, larvae, or egg masses were detected during protocol-level surveys in 2010.
Arroyo Toad (<i>Bufo californicus</i>)	FE, CSSC	Sandy streambeds in cottonwood, sycamore, and willow riparian forests with stable, exposed sandy terraces for burrowing & still, shallow pools for breeding.	Yes	No	Habitat Present/ Species Absent	Arroyo toads have been documented in the San Antonio River upstream of the San Antonio Reservoir as recently as 1996. Populations of sunfish, bullfrogs, and other non-native predators in the San Antonio River downstream of the reservoir preclude the persistence of a population of arroyo toads in the BSA, and no arroyo toads were observed during multiple focused and protocol-level surveys for other special status amphibians. The species is thus not expected to occur within the BSA.

Common Name (Scientific Name)	Status	Habitat	Critical Habitat		Presence	Justification
			Designated?	On the Site?		
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	SE, SP	Occurs mainly along seacoasts, rivers, and lakes; nests in tall trees or in cliffs, occasionally on electrical towers. Feeds mostly on fish.	No		Species Present	Bald eagles breed along the shores of nearby Lake Nacimiento and Lake San Antonio, and a pair of eagles was observed using a large stick nest in a sycamore approximately 150 feet east of the BSA.
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	FE, SE	Nests in heterogeneous riparian habitat, often dominated by cottonwoods and willows.	Yes	No	Habitat Present	The BSA falls within the historical distribution for this species, and although the species' range has contracted substantially and no breeding individuals have been documented in the area in recent years, occasional individuals have been detected nearby along the upper Salinas River. The BSA contains potentially suitable breeding habitat for the species, though there is a low probability of occurrence.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	FE, ST	Flat or gently sloping grasslands, mostly on the margins of the San Joaquin Valley and adjacent valleys.	No		Habitat Present	Kit foxes have been regularly documented south of the BSA at the Camp Roberts training facility. Populations in the vicinity appear to be declining, but individuals continue to be detected in extremely low densities. The BSA offers ostensibly suitable foraging and potential denning habitat, although no dens were observed on the site during reconnaissance surveys. There is a low probability of occurrence by this species within the BSA.
Monterey roach (<i>Lavinia symmetricus subditus</i>)	CSSC	Fairly warm streams and rivers flowing into Monterey Bay.	No		Habitat Present	Monterey roach are abundant in the Salinas River watershed, particularly in the southern streams. The BSA provides suitable habitat for this species, and it is likely present within the river.
Western spadefoot (<i>Spea hammondi</i>)	CSSC	Grasslands, sandy washes, river floodplains, or other habitats with sandy or gravelly soils. Rainpools lasting at least 3 weeks are necessary for breeding.	No		Habitat Present	Suitable breeding habitat for this species occurs in the general project vicinity, and the BSA itself contains suitable foraging and aestivation habitat, though no rainpools suitable for breeding habitat were observed on the site itself. The species may occur on the site.

TABLE 3						
POTENTIAL FOR SPECIAL STATUS ANIMAL SPECIES TO OCCUR WITHIN BSA						
Common Name (Scientific Name)	Status	Habitat	Critical Habitat		Presence	Justification
			Designated?	On the Site?		
Foothill yellow-legged frog (<i>Rana boylei</i>)	CSSC	Partially shaded shallow streams and riffles with a rocky substrate. Occur in a variety of habitats in coast ranges.	No		Habitat Present/ Species Absent	The historical distribution of the foothill yellow-legged frog included areas in southern Monterey County, and although there are no records of the species in the San Antonio River, the river provides structurally suitable habitat, particularly upstream of the reservoir. However, no yellow-legged frogs were detected during protocol-level surveys for red-legged frogs, and if yellow-legged frogs were present, they should have been detectable. Therefore this species is determined to be absent from the BSA.
Western pond turtle (<i>Actinemys marmorata</i>)	CSSC	Ponds, slow-moving streams & rivers, irrigation ditches; reservoirs with abundant emergent and/or riparian vegetation.	No		Habitat Present	CNDDDB records for this species occur in the Nacimiento and Salinas Rivers in the project vicinity. The BSA provides suitable nesting and aquatic habitat for this species.
California horned lizard (<i>Phrynosoma blainvillii</i>)	CSSC	Open habitats with sandy, loosely textured soils, such as chaparral, coastal scrub, annual grassland, & clearings in riparian woodlands with the presence of native harvester ants.	No		Habitat Present	A recent CNDDDB record exists approximately 2 miles downstream of the BSA; other CNDDDB records in the vicinity as well. The BSA provides suitable habitat for the species.
San Joaquin whipsnake (<i>Masticophis flagellum ruddocki</i>)	CSSC	Flatlands, salt flats, and low foothills with scattered brush and sparse vegetation with squirrel burrows.	No		Habitat Present	San Joaquin whipsnakes have been documented in the Salinas Valley north of the BSA. The BSA provides potentially suitable habitat where the more open sandy terraces of the stream support squirrel or other small mammal burrows.
Silvery legless lizard (<i>Anniella pulchra pulchra</i>)	CSSC	Loosely textured, moist soils in chaparral, scrub, and riparian corridors featuring sandy terraces.	No		Habitat Present	The project area offers suitable soils in the sandy terraces and scrub within the BSA.

POTENTIAL FOR SPECIAL STATUS ANIMAL SPECIES TO OCCUR WITHIN BSA						
Common Name (Scientific Name)	Status	Habitat	Critical Habitat		Presence	Justification
			Designated?	On the Site?		
Burrowing Owl (<i>Athene cunicularia</i>)	CSSC	Found in open, dry grasslands, deserts, and ruderal areas. Requires suitable small mammal burrows for shelter and nesting.	No		Habitat Present	Burrowing owls are recorded in the CNDDDB as occurring just south of the project area at the Camp Roberts Army National Guard training facility. The ruderal areas of the BSA could potentially provide habitat for burrowing owls, although the tall vegetation and proximity of trees and shrubs limit the suitability of the BSA for this species.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSSC (breeding)	Grasslands, open woodlands, and other open areas featuring hunting perches and sharp branches or barbed wire for impaling prey items. Nests in dense patches of shrubbery.	No		Habitat Present	Loggerhead shrikes breed throughout the Salinas River watershed and have been observed in the project vicinity at Lake San Antonio. The BSA offers suitable foraging and nesting habitat for the species.
Yellow warbler (<i>Dendroica petechia</i>)	CSSC (breeding)	Nests in dense stands of willow and other riparian habitat.	No		Habitat Present	Yellow warblers have been confirmed nesting near the BSA along the upper Salinas River downstream of its confluence with the San Antonio River. The BSA offers suitable nesting habitat for the species.
Tricolored blackbird (<i>Agelaius tricolor</i>)	CSSC (breeding)	Nests colonially in cattails or other emergent vegetation around freshwater ponds.	No		Habitat Present	Tricolored blackbirds have been confirmed nesting near the project site along the Salinas River just upstream of the confluence with the San Antonio River. The BSA offers suitable nesting habitat for the species.
Western red bat (<i>Lasiurus blossevillii</i>)	CSSC	Roosts in forest or woodlands, especially in or near riparian habitat.	No		Habitat Present	Western red bats have been documented throughout the Salinas River watershed. A few individuals could potentially roost in the Valley oak trees within the BSA, but not in sufficient numbers to form maternity roosts or to breed on-site.
Pallid bat (<i>Antrozous pallidus</i>)	CSSC	Forages over many habitats; roosts in buildings, large oaks or redwoods, rocky outcrops and rocky crevices in mines and caves.	No		Habitat Present	Pallid bat roosts, including maternity colonies, have been documented in the project vicinity on bridges over the Salinas River. Although suitable roosting habitat is absent from the BSA, the species could forage on the site.

TABLE 3						
POTENTIAL FOR SPECIAL STATUS ANIMAL SPECIES TO OCCUR WITHIN BSA						
Common Name (Scientific Name)	Status	Habitat	Critical Habitat		Presence	Justification
			Designated?	On the Site?		
Salinas pocket mouse (<i>Perognathus inornatus psammophilus</i>)	CSSC	Open grasslands on alluvial sandy soils, often near stream courses.	No		Habitat Present	CNDDDB records for Salinas pocket mice occur just south of the BSA. The BSA provides suitable habitat for this species.
American badger (<i>Taxidea taxus</i>)	CSSC	Burrows in grasslands and occasionally in infrequently disked agricultural areas.	No		Habitat Present	American badgers are widespread in the Salinas Valley, and multiple occurrences are recorded in the CNDDDB near the BSA, on the Camp Roberts Army National Guard Training Facility. The BSA contains suitable badger habitat, although no dens were observed during the site visit.
Golden eagle (<i>Aquila chrysaetos</i>)	SP	Breeds on cliffs or in large trees (rarely on electrical towers), forages in open areas.	No		Habitat Present	Golden eagles are well documented throughout the project vicinity, and occasional individuals could forage in the grasslands and sandy terraces within the BSA, or nest in large oaks near the BSA (although the species is not expected to nest close to the BSA as long as bald eagles are also nesting nearby).
White-tailed Kite (<i>Elanus leucurus</i>)	SP	Open habitats such as grassy plains, agricultural fields, open oak woodlands, and marshes. Nests in tall shrubs and trees.	No		Habitat Present	White-tailed kites occur in open riparian areas throughout the Salinas River watershed. The BSA provides suitable nesting and foraging habitat for the species, although no nests were observed during the site visit.

Notes:

CNDDDB = California Natural Diversity Data Base FE = federally endangered

CSSC = California Species of Special Concern FT = federally threatened

SE = state endangered SP = state fully protected

ST = state threatened

Source: H.T. Harvey & Associates (2012).

2.1.4 Impacts to Existing Habitats

As shown in Table 2, there are nine habitats located within the project’s BSA. Two of these habitats, California annual grasslands and developed, are not considered sensitive habitats or natural communities of concern. Therefore, any effects of the bridge replacement project on these habitats would not be considered significant.

The remaining seven habitats are considered sensitive due to their relatively high ecological value, as well as the fact that they have been cumulatively impacted by regional development over the years. Table 4 quantifies the temporary and permanent effects of the project on these habitats.

TABLE 4 IMPACTS ON SENSITIVE HABITATS [Expressed in Acres]		
Habitat Type	Permanent Impacts	Temporary Impacts
Willow Riparian Scrub	0.01	0.05
Aquatic	0.00	0.08
Freshwater Emergent Wetlands	0.03	0.06
California Sage Scrub	0.00	0.00
Valley Oak Riparian Woodland	0.20	0.00
Seasonal Wetlands	0.01	0.02
Mulefat Riparian Scrub	0.00	0.01
Total:	0.25	0.22
Source: H.T. Harvey & Associates (2012).		

2.1.4.1 Impacts on Aquatic Habitat

The project has been designed to avoid any permanent impacts to aquatic habitat. The center pier of the replacement bridge will be located outside the active river channel, above the OHW level. In addition, both abutments of the new bridge will be located outside of aquatic habitat, above the OHW mark. Overall bridge-related shading of aquatic habitat in this portion of the river will not be substantially increased as shading from the new bridge will be offset by the reduction in shading when the existing bridge is demolished.

During construction, no dewatering will be required. However, it is expected that a sandbag cofferdam will be installed to encompass 0.08 acre of temporary fill needed for bridge falsework (i.e., the temporary support system for the new bridge). The temporary fill will consist of two pads comprised of clean, washed gravel, each extending roughly 25-35 feet into the low-flow channel from each bank. The pads will be removed after bridge construction has been completed.

Without proper avoidance measures in place, construction activities will also have the potential to substantially degrade the water quality of the river.

For a discussion of temporary impacts to fish species, including the threatened steelhead, please see Section 2.1.6.

Impact BIO-1: Implementation of the proposed project would not result in the permanent loss of aquatic habitat. **[No Impact]**

Impact BIO-2: The project will result in short-term, construction-related, impacts to aquatic habitat, including the potential degradation of water quality in the river. **[Significant Impact]**

2.1.4.2 *Impacts on Wetlands Habitat*

Permanent impacts will occur to 0.03 acres of freshwater emergent wetlands due to shading impacts that will occur following placement of the southern bridge abutment and proposed bridge deck. Additionally, permanent impacts will occur to approximately 0.01 acres of seasonal wetlands due to placement of fill associated with the center bridge pier on the northern bank and rock slope protection placed for the northern abutment, as well as a small area of increased shading under the proposed bridge deck at the northern bank. The maximum extent of temporary impacts that may occur to wetlands due to construction staging and access needs include 0.06 acres of freshwater emergent wetlands and 0.02 acres of seasonal wetlands.

Impact BIO-3: The project will result in both permanent and temporary impacts to wetlands habitat located on the project site. **[Significant Impact]**

2.1.4.3 *Impacts to Riparian Habitat*

Approximately 0.01 acres of willow riparian scrub habitat will be permanently affected within the footprint of fill placement, all within the area of the southern abutment of the new bridge. An additional 0.05 acres of willow riparian scrub will be temporarily impacted along the north bank where construction access is needed. In these areas, woody vegetation removal will be limited to trimming of the willow habitat. Similarly, approximately 0.01 acres of mulefat scrub will be temporarily affected by construction access needs. The woody, mulefat-dominated vegetation within

this area will also be trimmed. While these areas support few trees, they do support sufficiently developed woody vegetation that trimming impacts may take multiple years to recover. Additionally, some individual shrubs and trees may be killed by the trimming, depending on the extent required for access. Therefore, woody vegetation trimming of these riparian habitats has been analyzed conservatively and is considered a permanent effect.

The project will also result in permanent effects on three mature oak trees that form a small patch (0.2 acres) of valley oak riparian woodland on the north bank of the corridor (see Figure 4). While not all 0.2 acres of the canopy falls within the area needed for the proposed structure and the fill prisms for the northern abutment, these trees will require removal and therefore all such habitat within the BSA will be lost. The trees are approximately 30, 36, and 32 inches in diameter, measured at breast height. Removal of these trees will have a small effect on the amount of channel shading in late afternoon and early morning.

Impact BIO-4: The project will result in both permanent and temporary impacts to riparian habitat located on the project site. **[Significant Impact]**

2.1.5 Impacts to Special Status Plant Species

As described in Section 2.1.2, one individual bush mallow (a special status plant species) was observed to the west of the existing bridge (see Figure 4), and was identified as a hybrid between Abbott's and Jones' bush-mallow (*Malacothamnus abbottii x jonesii*). This rare bush mallow hybrid and its habitat will be completely avoided by project activities.

No other special status plants are present, or expected to be present, in the project's BSA.

Impact BIO-5: The project will not impact any special status plants. **[No Impact]**

2.1.6 Impacts to Special Status Animal Species

As described in Section 2.1.3, various special status animal species may be present within the project's BSA. The following discussion describes the potential impacts of the project on these species.

2.1.6.1 *Impacts to Steelhead and Monterey Roach*

As shown in Table 3, the project's BSA is within designated critical habitat for South-Central California Coast steelhead, a federally threatened fish species. Although no steelhead were observed during surveys by project biologists, they are likely to occur in the reach of the San Antonio River

within the project area, albeit in low numbers and irregularly. Spawning is not expected to occur within the project reach due to the absence of suitable gravel substrate. However, the reach of river on the project site provides potentially suitable rearing habitat for juvenile steelhead, and it provides a freshwater migration corridor (though spawning is expected to be limited, if it occurs at all, upstream from the site).

Monterey roach, a California Species of Special Concern, is a small omnivorous fish that is known to frequent the warmer southern portions of the Salinas River watershed, which includes the project area. Although Monterey roach were not observed during surveys by project biologists, they are likely present within the project area.

All portions of the new bridge structure will be located outside of the low-flow channel of the river and the existing bridge structure will be removed entirely. Therefore, the project will not result in permanent impacts to in-stream habitat for steelhead or Monterey roach or other aquatic species.

Temporary impacts to steelhead and roach habitat will include the construction of temporary shoring pads extending approximately 25-35 feet into the low-flow channel from both banks. Installation of these pads will result in temporary loss of aquatic habitat, potential degradation of water quality in and downstream of the BSA, and potential injury or mortality of fish using the BSA during project activities.

The use of pile drivers to install bridge piers could result in impacts to salmonids. Such impacts include mortality of, or inner ear injury to, individual fish, disorientation leading to increased predation risk, or avoidance of the disturbance, leading to temporary loss of habitat. However, no installation of in-water piles is proposed. Further, piles will be installed using only non-impact methods (i.e., vibratory hammer). Vibratory hammers (even when used in water installation) typically generate sound levels that are below the thresholds known to adversely impact fish. Thus, the installation of piles is not expected to adversely affect salmonids.

Impact BIO-6: Construction activities have the potential to adversely affect steelhead and Monterey roach. **[Significant Impact]**

2.1.6.2 *Impacts to Amphibians and Reptiles of Special Concern*

As described in Table 3, habitat utilized by the following four special status species is present within the project's BSA: western pond turtle, California horned lizard, San Joaquin whipsnake, and silvery legless lizard. None of these species was observed during biological surveys of the BSA, but based on habitat and known occurrences in the area, they could be present in small numbers. If present during construction, individuals could be harmed or killed.

Impact BIO-7: Construction activities have the potential to adversely affect up one or more of the following special status species of reptiles and amphibians: western pond turtle, California horned lizard, San Joaquin whipsnake, and silvery legless lizard. **[Significant Impact]**

2.1.6.3 *Impacts to Bald Eagles and Golden Eagles*

Known breeding pairs of bald eagles occur at both Lake San Antonio and Lake Nacimiento, and at several locations along the San Antonio and Nacimiento Rivers. During the February reconnaissance survey of the BSA, a pair of eagles was observed approximately ¼-mile south of the BSA, perching in a blue oak. During diurnal red-legged frog surveys in late May, a pair of eagles, likely the same birds observed earlier in the year, was observed using a large stick nest in a sycamore approximately 150 feet southeast of the BSA, which had appeared to be occupied by a red-tailed hawk during the initial reconnaissance survey in February. This nesting pair of bald eagles may forage on fish in the river in the vicinity of the BSA, or they may forage upstream at Lake San Antonio.

No golden eagles were observed during project site surveys, but they have been regularly observed nesting and foraging in southern Monterey County. The BSA supports some suitable foraging habitat for this species (e.g., in the grasslands), and a few oak trees large enough to support nests are present within the BSA. However, due to the territorial nature of large raptors such as eagles, it is unlikely that a nesting pair of golden eagles would be present on the site if bald eagles are nesting just ¼-mile away, and therefore, golden eagles are unlikely to nest in or near the BSA.

Nesting bald eagles and golden eagles are sensitive to increases in disturbance near their nesting territories, and are known to abandon their nests due to noises and activities related to heavy machinery and increased human presence. Therefore, if eagles nest close to the BSA, construction of the project could disturb the eagles sufficiently that they abandon their nest, resulting in the loss of nestlings and temporal loss of habitat while the disturbance occurs.

Impact BIO-8: Construction activities have the potential to adversely affect bald or golden eagles if they are nesting in the vicinity. **[Significant Impact]**

2.1.6.4 *Impacts to Burrowing Owls*

Burrowing owls are not expected to occur within the BSA in large enough numbers that project activities would substantially affect the populations of or habitats for this species. Furthermore, because no suitable roosting or nesting sites are present, the project is not expected to have any potential for causing the injury or mortality of burrowing owls (e.g., in burrows). Therefore, no avoidance or mitigation measures specific to burrowing owls are deemed necessary. This species, along with other native bird species in the vicinity of the BSA, is protected by both the Migratory Bird Treaty Act and the California Fish and Game Code, which prohibit the take of migratory birds

and their nests. The project will implement measures to avoid and minimize effects (described in Section 2.1.8) on active nests of all birds protected under these regulations. In the unlikely event that burrowing owls nest on or near the BSA, those measures will result in the avoidance of effects on a burrowing owl nest.

Impact BIO-9: Construction of the project is not expected to result in any substantial effects on burrowing owls. **[Less-than-Significant Impact]**

2.1.6.5 *Impacts to the Least Bell's Vireo*

The least Bell's vireo is a small neotropical migratory songbird that is both federally- and state-endangered. Least Bell's vireos historically nested in the upper Salinas River Valley in the Project vicinity. The last documented nest in the area was located along the Salinas River near Bradley, approximately 5 miles northeast of the BSA, in 1983. Since that time, occasional singing males have been detected along the upper Salinas River. However, intensive point count surveys along the Salinas and Nacimiento Rivers just south of the project area between 1992 and 2007 failed to detect any least Bell's vireos, indicating that their presence in the vicinity is extremely sporadic, if the species currently occurs in the region at all. No vireos were observed during the reconnaissance survey; however, least Bell's vireos are neotropical migrants and as such would not have been present during the winter, when the survey was conducted. The BSA includes willow clusters that offer ostensibly suitable nesting habitat for least Bell's vireos, although these relatively sparse clusters of willows do not represent the thick willow shrub thickets preferred by this species. Due to the absence of high-quality habitat, there is a low probability that least Bell's vireos occur in the BSA.

The above paragraph notwithstanding, the possibility of up to one pair of least Bell's vireos establishing a breeding territory within the BSA cannot be ruled out. In the unlikely event that least Bell's vireos occupy riparian habitat in or near the BSA prior to the commencement of construction, the project could potentially result in the removal of nesting and foraging habitat. If present, construction activities could result in harm to nesting vireos.

Impact BIO-10: If present, the project has the potential to adversely affect least Bell's vireos. **[Significant Impact]**

2.1.6.6 *Impacts to Other Special Status Nesting Birds*

As described in Table 3, habitat utilized by the following four special status bird species is present within the project's BSA: white-tailed kite, loggerhead shrike, yellow warbler, and tricolored blackbird. Each of these species is known to occur in the project vicinity during the nesting season, and all have been documented nesting in the Salinas Valley.

The project will result in permanent and temporary impacts to the wetlands and riparian habitat used by these bird species. In addition, if one or more of these species are nesting within the project limits, they could be harmed by construction activities.

Impact BIO-11: The project has the potential to adversely affect up one or more of the following special status species of birds: white-tailed kite, loggerhead shrike, yellow warbler, and tricolored blackbird. **[Significant Impact]**

2.1.6.7 *Impacts to the Western Red Bat*

The breeding range of western red bats includes the San Antonio River Valley below the reservoir, and the species has been documented breeding in the Salinas Valley. However, the BSA does not support large cottonwoods, eucalyptus, or sycamore trees, which are the preferred nesting substrate for the species. Western red bats may occasionally roost in the foliage of trees on the site, and may forage over the site, but they are not expected to form maternity roosts there.

The project will result in the removal of trees, totaling 0.27 acres of forest or scrub riparian habitat, that offer potential day-roosting sites for low numbers of western red bats. If any red bats are flushed from roosts due to project-related disturbance during daylight hours (when project activities would occur), the potential for predation by predatory birds would increase. However, the project is expected to result in impacts to few such bats, if any.

Impact BIO-12: Construction of the project is not expected to result in any substantial effects on western red bats. **[Less-than-Significant Impact]**

2.1.6.8 *Impacts to the Salinas Pocket Mouse*

Several Salinas pocket mice were trapped on the Camp Roberts Army National Guard training facility in the mid-1990s. While no pocket mouse burrows were observed during reconnaissance surveys by project biologists, the BSA provides suitable habitat for the species. The scarcity of captures during concerted small mammal trapping surveys at Camp Roberts, as well as the dearth of other records in the vicinity, indicate that the species occurs locally and in low densities in the project vicinity. Thus, the species is expected to occur in the project's BSA in only low numbers, if at all.

If Salinas pocket mice are present within the BSA, they could suffer injury or mortality due to construction activities such as excavation, grading, filling, or vehicular access. Additionally, a small amount of suitable habitat will be lost as a result of project activities. However, these impacts will not have a substantial effect on Salinas pocket mouse populations, and the amount of habitat that will be lost is small compared with the total amount of suitable habitat available regionally.

Impact BIO-13: Construction of the project is not expected to result in any substantial effects on the Salinas pocket mouse. [**Less-than-Significant Impact**]

2.1.6.9 *Impacts to the American Badger*

Numerous badgers have been documented on the lands of the Camp Roberts California Army National Guard training facility to the south of the BSA. No badgers or badger dens were observed in the BSA during the reconnaissance survey, but suitable open grasslands occur adjacent to the project area, and the grassy and ruderal portions of the BSA offer potential foraging and limited denning habitat for badgers. Because of the small size of the BSA, not more than one badger would be expected to occur in the BSA.

Because of the low probability of a badger occurring on the BSA, no avoidance or minimization measures specific to badgers are recommended. However, the conservation measures described in Section 2.1.8 for San Joaquin kit foxes will also avoid or minimize impacts to badgers. If a badger den is discovered in the course of preconstruction surveys for kit foxes, or at any other time during project activities, the CDFW will be consulted regarding the establishment of an appropriate disturbance-free buffer around the den, as well as any other avoidance or minimization measures to be taken.

The number of badgers that could potentially occupy the BSA is very low, and the amount of potential badger habitat lost as a result of project activities (0.68 acres of permanent and 2.11 acres of temporary impact to grassland) is minute compared with the amount of suitable habitat available regionally. Therefore, the project will not have substantial effects on regional populations of badgers, or on their habitats.

Impact BIO-14: Construction of the project is not expected to result in any substantial effects on the American badger. [**Less-than-Significant Impact**]

2.1.6.10 *Impacts to the San Joaquin Kit Fox*

The federally endangered and state threatened San Joaquin kit fox is a California endemic, currently restricted to the San Joaquin Valley and the interior central and southern Coast Ranges. Several CNDDB records of San Joaquin kit foxes exist just south of the project area on the Camp Roberts Army National Guard Training Facility. Surveys for kit foxes at Camp Roberts began in 1986, and an annual live-trapping program intended to estimate the kit fox population on the base ran from 1988 to 2002. Spotlighting surveys conducted on a biannual basis since 2002 have continued to detect kit foxes on the base in very low numbers.

No dens of appropriate size or shape indicating potential use by kit foxes were found within the BSA during the reconnaissance survey, or during subsequent focused surveys for wetlands, rare plants, and red-legged frogs. The BSA offers suitable kit fox denning and foraging habitat. Given the extremely low population numbers for the closest known kit fox population and the lack of records elsewhere in the project area, there is a low probability of occurrence of this species within the BSA. However, the possibility that kit foxes could occasionally use the site for foraging (though denning is unlikely) cannot be ruled out.

There is a very low probability of kit foxes occurring within the BSA. However if individuals do occur in the project area during construction, impacts could occur. Individuals could be struck and suffer injury or mortality from construction machinery or from increased construction-related traffic on the road during the construction process. Occupied dens could be collapsed during earth moving, grading, and excavating activities, potentially causing injury or mortality as well as loss of denning habitat.

Impact BIO-15: If present, the project has the potential to adversely San Joaquin kit foxes. **[Significant Impact]**

2.1.7 Impacts to Migratory Birds

The Migratory Bird Treaty Act and California Fish and Game Code protect migratory birds, including their eggs, nests, and young. Most of the migratory birds that have the potential to breed within the BSA are not special-status species and are regionally common. Migratory bird species that were observed during the reconnaissance survey and likely nest in the area included acorn woodpeckers, red-shafted flickers, Bewick's wrens, black phoebes, song sparrows, and red-winged blackbirds. Intact nests from previous years, likely belonging to black phoebes, were observed at several places on the existing bridge structure. A number of other bird species, including Pacific-slope flycatchers, warbling vireos, and black-headed grosbeaks may also nest in trees, shrubs, and other habitats within and adjacent to the BSA.

If one of more of these migratory bird species are nesting within or immediately adjacent to the project impact area, construction activities could result in direct impacts (e.g., the loss of the nest) or indirect impacts (e.g., nest abandonment).

Impact BIO-16: Construction activities associated with the project have the potential to adversely affect nesting migratory birds. **[Significant Impact]**

2.1.8 Avoidance, Minimization, and/or Mitigation Measures

2.1.8.1 *Aquatic Habitat*

The following measures, which are included in the project, will reduce the project's significant effects on aquatic habitat to a less-than-significant level:

MM-BIO-2.1: Following completion of bridge falsework, the temporary gravel pads will be removed and the channel will be restored to pre-project conditions.

MM-BIO-2.2: No equipment will be operated in the live stream channel.

MM-BIO-2.3: Standard erosion control and slope stabilization measures will be required for work performed in any area where erosion could lead to sedimentation in the river.

MM-BIO-2.4: Silt fencing will be installed between any activities conducted within, or just above the edge of the top-of-bank and the edge of the river to prevent dirt or other materials from entering the channel.

MM-BIO-2.5: No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material will be allowed to enter into or be placed where it may be washed by rainfall or runoff into the river or aquatic habitat.

MM-BIO-2.6: Machinery will be refueled at least 60 feet from any aquatic habitat, and a spill prevention and response plan will be prepared.

2.1.8.2 *Wetlands Habitat*

The following measures, which are included in the project, will reduce the project's significant effects on wetlands habitat to a less-than-significant level:

MM-BIO-3.1: Wooden mats or similar products will be used where it is necessary for personnel and equipment to cross over and gain construction access within wetlands. This will reduce the intensity of impacts to the soil and vegetation, thus limiting the impact intensity and allowing these areas to quickly recover once construction is complete.

MM-BIO-3.2: A qualified restoration ecologist will inspect the temporarily-impacted wetlands following construction. If it is determined these areas require revegetation or remedial soil treatment (e.g., light ripping to reduce any soil compaction), a native seed mixture appropriate for that area will be applied. It is unlikely that the freshwater wetlands will require re-seeding, as these wetlands occur within the low-flow channel and temporary impacts should not affect the perennial rhizomes of these plants. In seasonal wetlands, areas determined to require active post-construction revegetation efforts may be seeded with species occurring at the site such as wire rush and Mexican rush.

MM-BIO-3.3: The permanent loss of 0.03 acres of freshwater emergent wetlands and 0.01 acres of seasonal wetlands will be mitigated at a 2:1 mitigation-to-impact ratio. Thus, 0.06 acres of freshwater emergent wetlands and 0.02 acres of seasonal wetlands will be created. The wetlands will be created within the BSA as shown on Figure 4, preferably within the area where the existing bridge will be removed. The wetlands will be adjacent to the riparian mitigation described in MM-BIO-4.1. The recommended planting palette for the freshwater emergent wetland is *Typha latifolia* and *Schoenoplectus californicus*. The recommended planting palette for the seasonal wetland is *Juncus balticus*, *Juncus mexicanus*, and *Helenium puberulum*.

2.1.8.3 Riparian Habitat

The following measure, which is included in the project, will reduce the project’s significant effects on riparian habitat to a less-than-significant level:

MM-BIO-4.1: Mitigation for impacts to riparian habitat will consist of the creation of in-kind habitat based on the following ratios:

Riparian Mitigation Requirements				
Habitat Type	Impact Type	Mitigation Ratio	Mitigation Required	Totals
Valley Oak Riparian	tree removal, fill & structure placement, 3 trees	10:1 (planted trees: removed trees)	30 trees	Approx. 0.4 acres
Willow Riparian Scrub	tree removal, fill & structure placement, 0.01 acres	3:1 (restored canopy area: removed canopy area)	0.03 acres	0.13 acres
	trimming (temporary), 0.05 acres	2:1 (restored canopy area: removed canopy area)	0.10 acres	
Mulefat Riparian Scrub	trimming (temporary), 0.01 acres	2:1 (restored canopy area: removed canopy area)	0.02 acres	0.02 acres

The 0.15 acres of willow and mulefat riparian scrub, as well as the 0.08 acres of wetlands (see MM-BIO-3.3), will be planted in areas close to the existing OHW of the San Antonio River. Similar to the existing habitat, mulefat and willow riparian planting will be somewhat dense, as follows:

Recommended Riparian Planting Palette			
Growth Form	Scientific Name	Common Name	On-Center Spacing / Propagule Type
Willow and Mulefat Riparian Scrub - 0.15 acres			
Tree	<i>Populus fremontii</i>	Fremont's cottonwood	12-ft/rooted cutting
Tree	<i>Salix laevigata</i>	Red willow	10-ft/rooted cutting
Tree/Shrub	<i>Salix exigua</i>	Sandbar willow	8-ft/rooted cutting
Tree/Shrub	<i>Sambucus mexicana</i>	Blue elderberry	8-ft/rooted cutting
Shrub	<i>Baccharis salicifolia</i>	Mulefat	6-8 ft/Deepot
Shrub	<i>Artemisia ludoviciana</i>	Mugwort	6-8 ft/Deepot
Valley Oak Riparian Woodland - 30 trees or approx. 0.4 acres			
Tree	<i>Quercus lobata</i>	Valley oak	24-ft/rooted cutting
Grass	<i>Festuca rubra</i>	Red fescue	6-8 ft/Deepot
Grass	<i>Bromus carinatus</i>	California brome	6-8 ft/Deepot

There is approximately 0.67 acres of non-wetland areas that does not currently support riparian vegetation available on-site that contains the existing bridge and road approaches to be removed by the project, and between the existing road and proposed bridge abutment (Figure 4). Since much of this area would require restoration following structure and roadway removal in any case, it presents a good opportunity for on-site, in-kind mitigation. Additionally, replanting these areas with wetland and riparian mitigation will reduce colonization of the disturbed areas by weedy species.

For additional details and specifications regarding the riparian habitat to be created on-site, please see Section 4.1.2.4 of Appendix C.

2.1.8.4 *Steelhead and Monterey Roach*

The following measures, which are included in the project, will reduce the project's significant effects on steelhead and Monterey roach to a less-than-significant level. It should also be noted that these measures were coordinated with, and reviewed by, the NMFS. In a letter dated 27 August 2012, NMFS concurred that the project is not likely to adversely affect steelhead due to the inclusion of these measures (see Appendix E).

- MM-BIO-6.1:** All work within the banks of the river will occur during the dry season (roughly 15 June to 15 October, although the County may engage in consultation with NMFS to extend this period, if dry weather permits). During this time, stream flows are expected to be at annual lows to mid flows (though releases from the dam upstream will influence flow levels to some extent), and movement of steelhead or roach through the BSA, if they are present at all, will be minimal.
- MM-BIO-6.2:** During demolition and construction activities, netting and other structures will be installed under the existing bridge and the proposed bridge to prevent debris from entering the channel, as such debris could degrade water quality and potentially injure fish in the river.
- MM-BIO-6.3:** A construction personnel education program will be given by a qualified biologist before the commencement of construction to explain to construction personnel how best to avoid the accidental take of steelhead or roach. The approved biologist will conduct a training session that will be scheduled as a mandatory informational field meeting for contractors and all construction personnel. The field meeting will include topics on species identification, life history, descriptions of habitat requirements during various life stages, review of habitat sensitivity, required practices before the start of construction and a discussion of general measures that are being implemented to conserve the species as they relate to the project, penalties for noncompliance, and boundaries of the construction area. Emphasis will be placed on the importance of the habitat and life stage requirements within the context of project avoidance and minimization measures. Handouts, illustrations, photographs, and/or project mapping showing areas where minimization and avoidance measures are being implemented will be included as part of this education program. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures. Training shall be conducted in languages other than English for workers who do not speak or understand English.
- MM-BIO-6.4:** A qualified biologist will be present to monitor all activities involving the placement of gravel (for temporary falsework pads) in the river, including the construction of a sandbag coffer dam to encompass the pads. The biologist will inspect the areas where these coffer dams will be constructed prior to construction and will ensure that any fish have vacated the coffer dam area before in-water work begins. The coffer dam will be constructed starting from the upstream end. Just prior to completion of the coffer dam, the biologist will walk a seine net through the area within the coffer dam so that

fish move out of the gap in the downstream end. Once all fish have moved out of the work area, the coffer dam will be completed so that fish cannot re-enter this area. Should there be any problem with this method, the County will contact NMFS and discuss further options. If at any time an individual steelhead or roach appears to be at risk of injury or mortality due to project-related activities, all work will stop until the qualified biologist has confirmed that the steelhead or roach have vacated the work area.

MM-BIO-6.5: While temporary falsework and associated pads are present within the river, a channel of free-flowing water between the pads will remain to allow fish to continue to move through the project area.

2.1.8.5 *Special Status Reptiles and Amphibians*

The following measures, which are included in the project, will reduce the project's significant effects on the western pond turtle, California horned lizard, San Joaquin whipsnake, and silvery legless lizard to a less-than-significant level:

MM-BIO-7.1: Prior to the start of construction or demolition activities, a qualified biologist will conduct a preconstruction survey for these species. If any of the above animals are found within the BSA, the qualified biologist will relocate them to a suitable location outside of the BSA.

MM-BIO-7.2: Prior to the start of construction or demolition activities, exclusion fencing will be installed around the work area and between the work area and the water's edge where feasible. When the fence is completed, the area within the fence will be surveyed for the species described above. The qualified biologist will safely relocate any individuals of these species that are detected within the exclusion fence to a suitable location outside of the BSA.

MM-BIO-7.3: Each morning prior to the start of construction, a designated construction crew member who has received training in recognizing and handling these species by the qualified biologist will search the area within the exclusion fence for amphibians and reptiles. If any individuals of these species are found, the designated crew member will relocate those individuals to a suitable location outside of the BSA.

2.1.8.6 *Gold Eagles and Bald Eagles*

The following measures, which are included in the project, will reduce the project's significant effects on golden eagles and bald eagles to a less-than-significant level:

- MM-BIO-8.1:** A winter survey covering a one-mile buffer around the project area will be conducted to determine if potential golden eagle nest sites are present within the buffer. The survey for eagle nests should take place during the winter because many trees drop leaves during that time. Potential nest trees will be rechecked during preconstruction surveys. The survey will be conducted by qualified biologist using spotting scopes and aerial photos. The County will provide this information to the U.S. Fish & Wildlife Service (USFWS) Office of Bird Protection.
- MM-BIO-8.2:** A preconstruction eagle survey will be undertaken. The survey will cover the one-mile buffer and determine if any golden or bald eagle nests are present/active. The survey results will be provided to the USFWS prior to the start of construction.
- MM-BIO-8.3:** If any nests are determined to be present within one-half mile of the project site at the start of construction, a Disturbance Permit from the USFWS will be obtained by the County.

2.1.8.7 *Least Bell's Vireo*

The following measures, which are included in the project, will reduce the project's significant effects on least Bell's vireos to a less-than-significant level. It should also be noted that these measures were reviewed by the USFWS. In a letter dated 17 October 2012, USFWS concurred that the project is not likely to adversely affect the least Bell's vireo due to the inclusion of these measures (see Appendix F).

- MM-BIO-10.1:** The project will fully mitigate for impacts to riparian habitat, the habitat type of greatest value to the least Bell's vireo. This mitigation is described in MM-BIO-4.1.
- MM-BIO-10.2:** Project activities will be timed to avoid the least Bell's vireo breeding season (1 April to 31 July) to the greatest extent practicable.
- MM-BIO-10.3:** Where vegetation is to be removed by the project, potential nesting substrates (e.g., bushes, trees, grass, and suitable artificial surfaces) that will be disturbed by the project will be removed during the non-breeding season (1 August to 31 March), if feasible, to help preclude nesting.
- MM-BIO-10.4:** If it is not feasible to schedule vegetation removal and commencement of construction activities during the non-breeding season, then pre-construction

surveys for nesting birds will be conducted by a qualified ornithologist to detect any least Bell's vireos using the areas and to ensure that no nests will be disturbed during project implementation. This survey will be conducted no more than 7 days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees, shrubs, and other potential nesting habitats in and immediately adjacent to the impact areas for nests. In the unlikely event that nesting least Bell's vireos are detected during such a survey, the biologist will determine an appropriate buffer (typically approximately 250 feet) in consultation with the USFWS and CDFW.

2.1.8.8 *Special Status Bird Species*

The following measures, which are included in the project, will reduce the project's significant effects on the white-tailed kite, loggerhead shrike, yellow warbler, and tricolored blackbird to a less-than-significant level:

MM-BIO-11.1: The project will fully mitigate for impacts to wetlands and riparian habitat, the habitats type of greatest value to these four bird species. This mitigation is described in MM-BIO-3.1 and MM-BIO-4.1.

MM-BIO-11.2: Impacts to any of these species that may be nesting within the project limits will be avoided. The mitigation is the same as that for nesting birds protected by the Migratory Bird Treaty Act and California Fish & Game Code. Please see MM-BIO-16.1 through MM-BIO-16.3.

2.1.8.9 *San Joaquin Kit Fox*

The following measures, which are included in the project, will reduce the project's significant effects on the San Joaquin kit fox to a less-than-significant level. It should also be noted that these measures were reviewed by the USFWS. In a letter dated 17 October 2012, USFWS concurred that the project is not likely to adversely affect the San Joaquin kit fox due to the inclusion of these measures (see Appendix F).

MM-BIO-15.1: All surveys, den destructions, and monitoring related to the kit fox will be conducted by a qualified biologist. The qualified biologist will conduct pre-construction surveys no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities. This survey will identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, assess the potential impacts to the kit fox by the proposed activity. The status of all dens will be determined and mapped.

MM-BIO-15.2: Written results of the pre-construction survey will be submitted to the County immediately; the County will then notify the USFWS within 5 days after survey completion and prior to the start of ground disturbance and/or construction activities. If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the County shall be immediately notified, and shall in turn notify the USFWS and CDFW. If the preconstruction survey reveals an active natal or pupping den or new information, the County will contact the USFWS and CDFW immediately to obtain the necessary take authorization/permit. If a den is found, measures to avoid impacts to the den (including buffers and seasonal restrictions on work near the den) will be implemented, and if necessary, the foxes will be evicted after the non-breeding season.

2.1.8.10 *Nesting Migratory Birds*

The following measures, which are included in the project, will reduce the project's significant effects on nesting migratory birds to a less-than-significant level:

MM-BIO-16.1: Construction activities will be avoided during the nesting season to the extent feasible. The nesting season for most birds in this region of California extends from 1 February to 31 August. If vegetation is to be removed by the project, potential nesting substrate (e.g., bushes, trees, snags, grass, and suitable artificial surfaces) that will be disturbed should be removed during the non-breeding season (i.e., they should be removed between 1 September and 31 January), if feasible, to help preclude nesting.

MM-BIO-16.2: If it is not feasible to schedule vegetation removal during the non-breeding season, then pre-construction surveys for nesting birds will be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. This survey will be conducted no more than seven days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees, shrubs, and other potential nesting habitats in and immediately adjacent to the BSA for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist, in consultation with the CDFW, will determine the extent of a buffer zone to be established around the nest, typically 250 feet for raptors and 50 feet for other birds, to ensure that no nests will be disturbed.

MM-BIO-16.3: Alternatively, nest starts may be removed on a regular basis (e.g., every 2nd or 3rd day), starting in late January or early February, or measures such as exclusion netting may be placed over the existing bridge to prevent active nests from becoming established.

2.2 HISTORICAL RESOURCES

2.2.1 Existing Setting

The existing Nacimiento Lake Drive bridge was constructed in 1921. The bridge is a single-lane, four-span structure that is known as a "steel pratt through truss." The existing bridge is listed on the *Monterey County Register of Historic Resources* and, therefore, meets the definition of a historic resource under CEQA. However, the bridge is not eligible for the *National Register of Historic Places* and/or the *California Register of Historic Resources*. Photos of the existing bridge are shown on Figure 5 on the following page.

Background

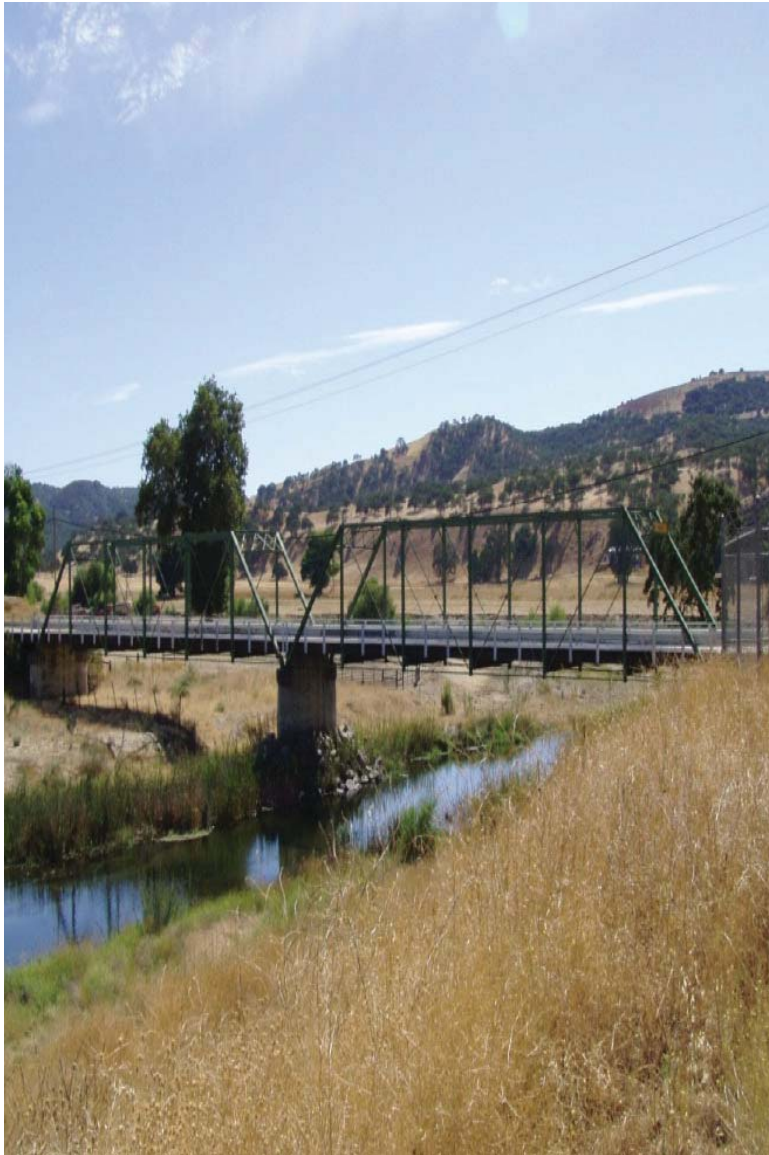
At the recommendation of the Monterey County Historic Resources Review Board, the Monterey County Board of Supervisors added five County-owned bridges to the *Monterey County Register of Historic Resources* in December 1998. One of these bridges is the Nacimiento Lake Drive bridge, which is the subject of this EIR.³ All five of the bridges are single- or multi-span structures consisting partially or entirely of pin-connected steel "Pratt" trusses.⁴ All five bridges were constructed between 1915 and 1932. According to the staff report to the Board of Supervisors recommending the addition of the bridges to the *Monterey County Register of Historic Resources*:

The Historical Resources Review Board has determined that these structures possess an acceptable degree of integrity of location, design, setting, materials, workmanship, feeling, and association to qualify for designation as being of historical significance. They embody the distinctive characteristics of a type (Pratt through-truss), period (early 20th century), and method of construction (pin connection) that is significant in the area of engineering.

The staff report notes that all five bridges do not meet current standards, are "a present safety liability for the County," and "should ultimately be replaced with adequately-designed two-lane structures." The staff report goes on to state that "listing these structures on the County's Historic Register will require compliance with Monterey County Code Chapter 18.25 (Preservation of Historic Resources) in the event future funding is obtained to upgrade or replace any of these bridges for safety reasons." Finally, the staff report specifically notes that the Nacimiento Lake Drive bridge will be demolished and replaced as seismic retrofit was determined to not be economically feasible.

³The other four bridges are as follows: Elm Avenue over the Arroyo Seco River (#320), Lockwood-San Lucas Road over the Salinas River (#406), Parkfield-Coalinga Road over Little Cholame Creek (#434), and Cholame Road over Little Cholame Creek (#440).

⁴The Pratt truss, patented in 1844 by Thomas and Caleb Pratt, is the most common bridge truss type in the United States.



PHOTOGRAPHS OF THE EXISTING BRIDGE

FIGURE 5

Monterey County Code Chapter 18.25 (Preservation of Historic Resources) states that the demolition of historic resources cannot occur without notice being given to the Historic Resources Review Board. Section 18.25.190 states that the Board may take steps designed toward preservation of such resources. Section 18.25.220 encourages public agencies that own historic resources within the County to seek the advice of the Board before removing them. The code, however, does not directly address the procedure to be followed if the resource is owned by the County itself.

2.2.2 Impacts to Historic Resources

The project proposes to demolish the existing Nacimiento Lake Drive bridge over the San Antonio River. The bridge is listed on the *Monterey County Register of Historic Resources* and, therefore, meets the definition of a historic resource under CEQA.

Impact HIST-1: The project will demolish a locally-significant historic resource, the Nacimiento Lake Drive bridge over the San Antonio River. **[Significant Impact]**

2.2.3 Avoidance, Minimization, and/or Mitigation Measures

MM-HIST-1.1: Prior to demolition, the bridge will be photo documented to an archival level in accordance with the standards of the Historic American Engineering Record (HAER).

MM-HIST-1.2: The County will install a historic bridge marker or commemorative plaque at the site of the replacement bridge. The design of this feature will be submitted to the Monterey County Historic Resources Review Board for review and input.

The above mitigation will not reduce the impact of the demolition of the Nacimiento Lake Drive bridge to a less-than-significant level. In fact, there is no feasible mitigation that will reduce the demolition of this historic bridge structure to a less-than-significant level. **[Significant Unavoidable Impact - Statement of Overriding Considerations Required]**

For a discussion of the alternatives to the demolition of the bridge that were evaluated, please see Chapter 3, *Alternatives to the Project*.

CHAPTER 3 ALTERNATIVES TO THE PROJECT

3.1 INTRODUCTION

CEQA Guidelines Section 15126.6 states, in part, that “an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.”

As described in Section 1.4, the objective of this project is to provide a safe crossing of the San Antonio River on Nacimiento Lake Drive. A “safe” crossing is defined as one that meets current structural/highway design and seismic safety standards.

ALTERNATIVES

- Purpose is to identify ways to mitigate or avoid significant effects of the project.
- Alternative(s) limited to those that would feasibly attain most of the project objectives.
- Discussion of infeasible or unreasonable alternatives is not required.
- Number of alternatives limited to a “reasonable range”.
- Alternatives must include the “No Project Alternative”.

By definition, the replacement bridge that will be constructed as part of the proposed project will fully meet the project objective. Specifically, the new bridge will 1) provide a crossing of the San Antonio River on Nacimiento Lake Drive, and 2) will comply with all current highway design and seismic safety standards. The project will, however, result in one significant, unavoidable, environmental impact, namely the demolition of the existing historic bridge. In addition, the project will result in a number of biological impacts at the river crossing, although the project include measures that will reduce such impacts to a less-than-significant level. This section of the EIR will, therefore, focus on whether there are any feasible alternatives to the demolition of the existing bridge and the impacts to biological resources.⁵

3.2 NO PROJECT ALTERNATIVE

Under the No Project Alternative, the existing bridge on Nacimiento Lake Drive over the San Antonio River would remain in use and in place. No changes to the existing bridge or roadway would occur. This alternative would avoid all of the identified significant impacts of the project, namely impacts to biological resources and the demolition of the existing historic bridge.

⁵CEQA Guidelines Section 15364 defines “feasible” as follows: “Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.”

The No Project Alternative would not, however, meet the project objective. It would leave in place an existing 1-lane crossing with a posted speed limit of 15 mph that does not meet current highway design standards. It would leave in place a bridge structure that does not comply with current seismic safety standards, meaning that its integrity is vulnerable in the event of an earthquake. The project is located in a region where strong seismic shaking is anticipated to occur. If the bridge were to become unusable, it would cut off a primary access route to numerous properties and the community of Lake Nacimiento.

3.3 BRIDGE RETROFIT ALTERNATIVE

The Bridge Retrofit Alternative would seismically-retrofit the existing bridge instead of replacing it with a new bridge. If retrofitting were feasible, it would substantially improve the safety of the crossing, although the 90-degree substandard curve just beyond the northern end of the bridge would remain in place. This alternative would allow the existing historic bridge to remain in place. In addition, when compared to the proposed project, the magnitude of biological impacts would be reduced because no new bridge would need to be constructed on an adjacent alignment.

The primary questions with regard to the feasibility of a retrofit strategy are:

- What would need to be done?
- How much would it cost and would funding be available?

To answer these questions, the following information was prepared by the project's structural engineers:

There are several structural issues noted about the existing bridge. The existing steel grid deck, stringers and beams are corroded, and the diagonal bracing below the steel grid deck is heavily corroded and loose. Corroded members are vulnerable to failure under both vertical and lateral loading, and would need to be replaced. The piles supporting the bridge are timber, are visible, and have been exposed by scour at Pier 4. Timber members are subject to cracking and decay due to aging and repeated exposure to wet and dry cycles. These problems with timber tend to reduce the capacity of old timber piles. Due to the loss of lateral support, piles that are exposed by scour are generally vulnerable to failure under lateral loading. The laboratory reports indicate that the existing paint system contains 14.9% lead, where lead levels greater than 0.5% are considered a health hazard. Additionally, the 1977 maintenance records indicate a safe load capacity of 21 tons per vehicle and 24 tons per truck, which is substantially below modern truck loads. Because of these issues, the existing structure is a danger to the public and cannot be left as it is.

The bridge was evaluated for its capacity to handle seismic loading. It was determined that the substructure of the existing bridge is vulnerable to collapse at the piers/bents under seismic loading, due to inadequate pile capacities. In the longitudinal direction the existing

columns do not have adequate shear capacity. The superstructure is also vulnerable to becoming unseated at all piers/bents due to inadequate shear capacities at the superstructure to substructure connections.

Retrofit strategies have the objectives of preventing collapse of the existing structure and providing an economical and constructable retrofit, with minimum impact to the waterway and to existing traffic. Due to the pier/bent inadequacies noted above, the existing bridge would need to be retrofitted with large CIDH columns/piles at each side of each of the existing piers and the abutments. These outrigger type columns/piles would dominate the appearance of the bridge and substantially change its historic integrity and character. Additionally, an economic analysis determined that retrofit of the existing bridge would have a cost similar to the construction of a new bridge.

Because of the numerous structural, roadway and safety issues noted above, and the fact that a retrofit would cost as much as new bridge construction, it was determined that the appropriate strategy is to replace the existing structure with a new bridge. This decision was made on January 15, 1998 at the seismic retrofit strategy meeting with Caltrans in Sacramento.⁶

For the above reasons, it was determined that the Bridge Retrofit Alternative is not feasible from an economic/funding perspective.

3.4 BUILD NEW BRIDGE AND KEEP EXISTING BRIDGE ALTERNATIVE

This alternative would be similar to the proposed project, except that the existing bridge would not be demolished after the new bridge is constructed. This alternative would meet the project objective of providing a safe crossing of the San Antonio River on Nacimiento Lake Drive. It would also have the advantage of preserving the existing historic bridge.

If the existing bridge were to be left in place, presumably it would be closed to the public because the structural engineers determined that a seismic retrofit would still be required even if the bridge were only used by pedestrians.⁷ If the County were to desire that pedestrians could still use the bridge, monies would be needed to fund a retrofit. In any case, the County rejected this option for the following economic, safety, and environmental reasons:

⁶Caltrans oversees the funding and administration of the seismic safety retrofit program.

⁷Source: Structure Type Selection Report for Nacimiento Lake Drive Bridge Replacement (County Bridge 449), Biggs Cardosa Associates, April 2010.

- The existing structure would remain seismically vulnerable to collapse from both gravity and seismic loads. The existing elements of the steel deck (i.e., deck grid, stringers, beams and diagonal bracing) are corroded and are vulnerable to failure under both vertical and lateral loading. The piles supporting the bridge are timber, are visible, and have been exposed by scour at Pier 4. Timber members are subject to cracking and decay due to aging and exposure and typically have reduced capacity, which increases vulnerability to vertical and lateral loads. A collapse of the structure would result in substantial damage to the ecosystem of the San Antonio River at this location.
- Retention of the existing structure would be a liability to the County.
- Retention of the existing bridge would still require the expenditure of public funds for maintenance and repairs for an unused facility in order to avoid an eventual collapse due to deterioration.
- The existing paint containing elevated levels of lead would remain in place or, if abatement is mandated by regulatory agencies, substantial costs would likely be involved.
- Retention of the existing bridge would preclude the ability of the County to create replacement riparian and wetlands habitat on the project site, which is required due to the impacts of the new bridge. The County would need to purchase land at an off-site location for the purpose of implementing this mitigation.

3.5 LOCATION ALTERNATIVE

The Location Alternative would construct a new crossing of the San Antonio River at an alternate location. This alternative was not considered because it does not meet the objective of having a safe crossing on Nacimiento Lake Drive. Further, while it would be theoretically possible to realign Nacimiento Lake Drive such that it would cross the river at a new location either upstream or downstream, there would be no benefit to that option (when compared to the proposed project) for the following reasons:

- There would be significant additional issues associated with a new alignment including loss/change of access to existing properties, effects on existing land uses in the area, and the environmental impacts of constructing a new road.
- There would still be similar biological impacts for the new river crossing.
- There would be the same issues associated with the retention of the existing bridge as described above in Section 3.4.

CHAPTER 4 SIGNIFICANT UNAVOIDABLE IMPACTS

This EIR has identified one significant unavoidable impact that will result if the proposed project is approved and implemented. This impact is the demolition of the existing Nacimiento Lake Drive bridge over the San Antonio River, which is a structure listed on the *Monterey County Register of Historic Resources*. There are no feasible mitigation measures that will reduce this impact to a less-than-significant level. In addition, there are no feasible alternatives that will avoid this impact. A statement of overriding considerations will be adopted for this significant unavoidable impact.

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