

INFORMATION HANDOUT

**For Contract No. 08-0Q3004
At 08-SBd-138-R17.1/R19.2**

**Identified by
Project ID 08-00020191**

MISCELLANEOUS

SR-138 Arroyo Toad Management Plan
SR-138 Cactus Salvage Plan
SR-138 Nesting Bird Management Plan
SR-138 Reptile Management Plan

STATE ROUTE 138 REALIGNMENT EAST OF INTERSTATE 15



Arroyo Toad Management Plan

FOR THE STATE ROUTE 138 REALIGNMENT EAST OF INTERSTATE 15 PROJECT

from 1.6 miles east of Interstate 15 (I-15) to 0.1 mile east of Summit Post Office Road

SAN BERNARDINO COUNTY, CALIFORNIA

*Sections 24 & 25, Township 3 North, Range 6 West &
Sections 19, 20, 29 & 30, Township 3 North, Range 5 West*

USGS 7.5' Cajon, California Quadrangle

8-SBd-138-PM (17.1-19.2)

EA 0Q3001

November 2015



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Arroyo Toad Management Plan

State Route 138 Realignment East of Interstate 15 Project

San Bernardino County

Sections 24 & 25, Township 3 North, Range 6 West &

Sections 19, 20, 29 & 30, Township 3 North, Range 5 West

USGS 7.5' Cajon, California Quadrangle

1.6 mi. east of jct. with I-15 to 0.1 mi. east of Summit Post Office Road

8-SBd-138-PM (17.1-19.2)

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November 2015

STATE OF CALIFORNIA
Department of Transportation

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Executive Summary

This arroyo toad (*Anaxyrus* [formerly genus *Bufo*] *californicus*) management plan has been prepared and is proposed to be implemented by the California Department of Transportation (Caltrans) for the proposed State Route 138 (SR-138) Realignment East of Interstate 15 (I-15) Project in unincorporated San Bernardino County (Project). The proposed Project, which is scheduled to commence as early as 2016, includes the realignment of this section of SR-138 for the purpose of increasing road sight distance and to improve the highway to current safety standards. Portions of the Project alignment are within an area known to be occupied by the federally-endangered arroyo toad. The site is also located within 0.45 mile of designated critical habitat for this species. It has been determined in the Project Biological Opinion (FWS-SB-1537.7) that the Project “may affect, but is not likely to adversely affect” the arroyo toad. Implementation of this arroyo toad management plan would serve as part of the impact minimization and mitigation measures required by the terms and conditions of the Project’s Streambed Alteration Agreement (1600-2015-0035-R6).

The proposed arroyo toad management plan includes the following methods:

- At a minimum, two (2) pre-construction surveys for arroyo toad. The first survey will be conducted following a rain event during the mid-spring breeding season no later than fourteen (14) days prior to commencement of Project activities. The surveys will be conducted by a biologist knowledgeable of arroyo toad identification (including larva and metamorph life stages). The surveys will be conducted by walking the entire Project site and adjoining areas within 150 meters, including areas that may be indirectly impacted by the Project, to identify the presence of arroyo toad or their habitat.
- The avoidance of impacts to any wetland and/or riparian habitat other than those specified in the Project description provided in the Streambed Alteration Agreement (CDFW 2015). Habitat adjacent to the Project site, will not to be disturbed and will be designated as an Environmentally Sensitive Area (ESA). A solid structure or solid pipe with cabling will be utilized in conjunction with fencing and gate at several drainage locations, in order to prevent people from driving through and off-roading in washes. Ingress and egress will occur from the existing roadway and shall avoid all identified wetland areas and minimize impacts to streambed habitats to the greatest extent possible.
- A CDFW-approved Designated Biologist (DB) responsible for ensuring Project compliance with applicable permit conditions and requirements to protect natural resources, including but not limited to, the arroyo toad.

- Construction monitoring by the DB while Project activities are occurring to ensure Project conditions are being met. The DB will have the authority to immediately stop any Project activity.
- Attendance of a Worker Environmental Awareness Program (WEAP) for all Project personnel prior to the commencement of any on-site Project activities. The WEAP will educate personnel about sensitive environmental issues, including but not limited to the arroyo toad and the requirements of the arroyo toad management plan.
- Installation of escape ramps (at the end of each work day) placed at each end of all open trenches to allow for the escape of trapped wildlife.
- If an arroyo toad, or suspected arroyo toad, is observed on-site by Project personnel, all Project activities within 100 feet will be halted and the DB notified immediately for identification and to determine the best course of action. If the animal encountered is determined to be an arroyo toad, the CDFW and USFWS will be contacted immediately. If possible, any and all arroyo toads encountered on-site will be permitted to leave the impact area on their own accord. If on-site arroyo toads do not vacate the area on their own and with authorization from CDFW and USFWS, arroyo toads encountered on-site and in harm's way may be captured, temporarily transported and relocated safely offsite suitable habitat. Arroyo toads may only be handled by biologists possessing a federal 10(a)(1)(B) permit authorizing take of the arroyo toad, a Memorandum of Understanding (MOU) and/or a Scientific Collecting Permit (SCP) issued by the CDFW for this species.
- Prior to Project initiation a detailed restoration plan identifying locations where restoration will take place, the seed and container plants that would be used, the methods that would be used to prepare and maintain the site, and the performance standards will be submitted to and reviewed for approval by USFWS.
- Best Management Practices (BMPs) will be implemented to minimize direct and indirect impacts in the Project area.
- Submittal of Minimization Measures Report summarizing the methods and results of the pre-construction surveys, avoidance measures implemented and the effectiveness of these measures submitted to the CDFW within thirty (30) days of the initiation of Project activities.

In addition to implementation of the above impact avoidance and minimization measures, Caltrans proposes to purchase 12 acres of credits from the Riverside-Corona Resource Conservation District (RCRCD) to mitigate Project-related impacts to Waters of the United States and Waters of the State of California.

This plan is an integral part of the impact minimization and mitigation measures developed for this Project. Implementation of this plan, along with other impact avoidance,

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minimization and mitigation required for this Project is expected to substantially reduce the level of Project-related effects to the federally-endangered arroyo toad.

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List of Abbreviated Terms

Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
BA	Biological Assessment
BMPs	Best Management Practices
BO	Biological Opinion (FWS-SB-1537.7)
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Data Base
CSC	California Species of Concern
DB	Designated Biologist
ESA	Environmentally Sensitive Area
FESA	Federal Endangered Species Act
KP	kilometer post
m	meter(s)
mi	mile(s)
MOU	Memorandum of Understanding
OHV	Off-highway Vehicles
Project	State Route 138 Realignment East of Interstate 15 Project
SCP	Scientific Collecting Permit
SR-138	State Route 138
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WEAP	Worker Environmental Awareness Program

Chapter 1. Introduction

For the purpose of increasing road sight distance and to improve the highway to current safety standards, California Department of Transportation (Caltrans) proposes the realignment of a 2.1-mile segment of State Route 138 (SR-138) from Post Mile (PM) 17.1, which is 1.9 miles east of the junction with Interstate 15 (I-15) to PM 19.2, which is 0.6 mile east of Summit Post Office Road in unincorporated San Bernardino County, California (Project). The Project alignment traverses seven (7) tributaries to Crowder Creek, which is a tributary to Lytle Creek and ultimately the Santa Ana River. The Project site is located west of the City of Hesperia at Latitude 34°19.809 N, Longitude 117°26.552 W; Sections 24 and 25 of Township 3 North, Range 6 West and Sections 19, 20, 29, and 30 of Township 3 North, Range 5 West, U.S. Geological Survey (USGS) 7.5 minute *Cajon, California* quadrangle (Figures 1 & 2).

The proposed Project includes:

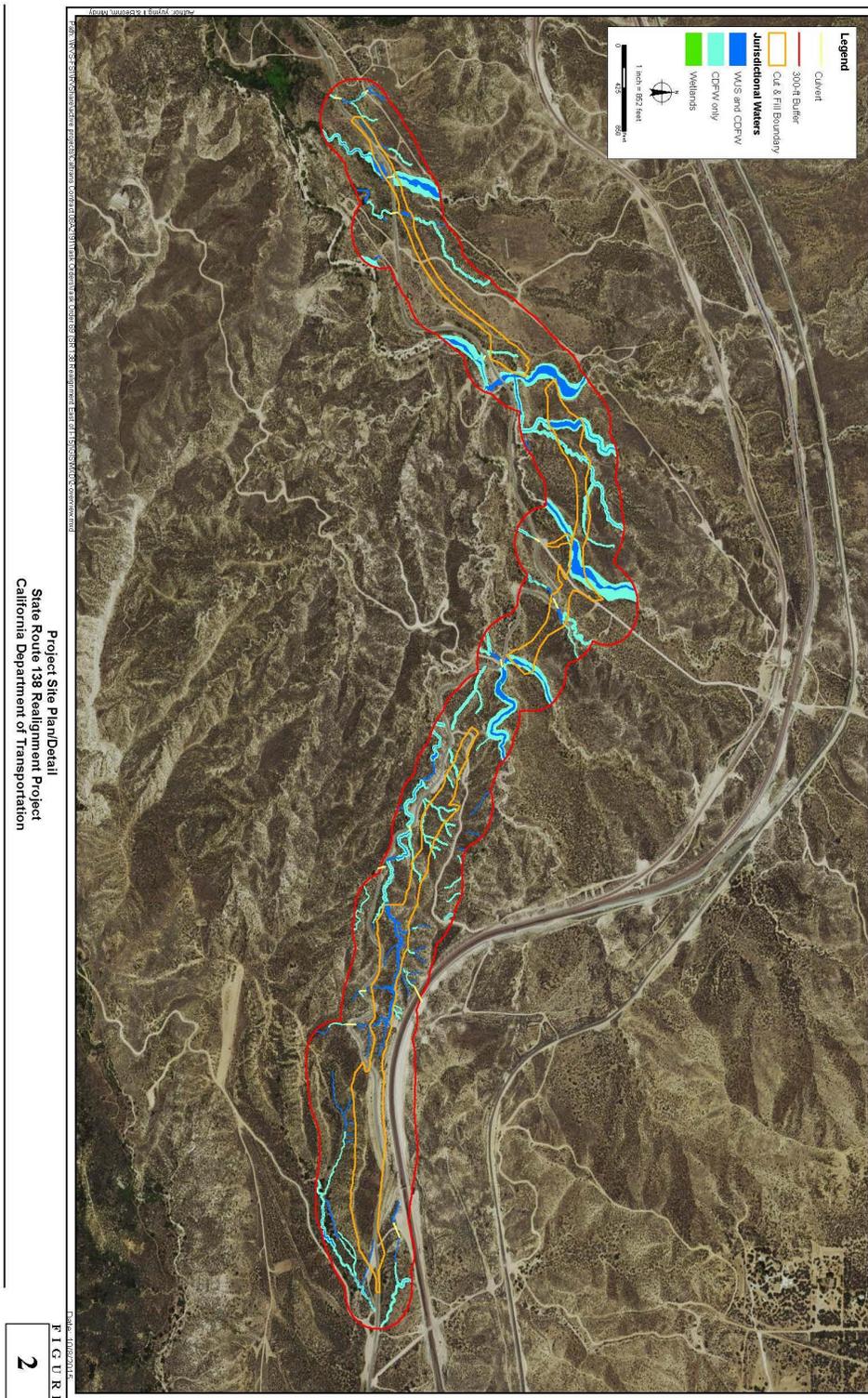
- The construction of a 2.1-mile two-lane (39.4-foot wide) highway,
- The construction of three (3) new bridges and wildlife crossings, which will result in the excavation of 1,160 cubic yards of stream bank and placement of 2,657 cubic yards of rock slope protection within the streambeds,
- The installation of eleven (11) new culverts,
- The removal of fifteen (15) existing culverts,
- The demolition and subsequent restoration (including the streambed crossings) of the existing alignment of SR-138,
- Grading and infill of 0.452 acres of streambed,
- Installation of ingress/egress along Double Drain Creek, and
- Restoration of demolished roadways and stream crossings

The eastern portion of the Project alignment is located in an area that is known to be occupied by the federally-listed as endangered arroyo toad (*Anaxyrus* [formerly genus *Bufo*] *californicus*). Additionally, westerly areas of the alignment, which are not currently known to be occupied by the arroyo toad, have the potential to support this species, as intermittent drainage crossings appear to be suitable. The Project alignment is located outside of designated critical habitat for the species. The nearest areas of designated critical habitat for the arroyo toad are Unit 20 (Upper Santa Ana

Figure 1. Project Regional Map



Figure 2. Project Impact Area/Vicinity Map



River Basin/Cajon Wash), which is located 1.24 miles southwest of the western limits of the alignment and Unit 22 (Upper Mojave River Basin), which is located 0.45 mile southeast of the eastern limits of the alignment. For these reasons, implementation of the proposed Project is considered to have the potential to impact this federally listed species.

This Arroyo Toad Management Plan has been prepared in accordance with the requirements of the Project's Biological Opinion (FWS-SB-1537.7), Final Streambed Alteration Agreement Notification (No. 1600-2015-0035-R6) and in consideration of the legal requirements found in Section 7 (a)(2) of the Federal Endangered Species Act (FESA) (16 U.S. C 1536(c)) and the California Environmental Quality Act (CEQA).

1.1. Purpose

In order to satisfy the requirements of the Project's BO and the Streambed Alteration Agreement for the Project and to comply with the FESA and CEQA, Caltrans has developed the following arroyo toad management plan to avoid (where possible) and minimize Project effects to the arroyo toad.

Chapter 2. Background

The arroyo toad was formerly considered one of three subspecies in the southwestern toad (*Anaxyrus* [formerly *Bufo*] *microscaphus*) complex. When the arroyo toad was listed as endangered on December 16, 1994 (59 FR 64859) it was classified as *Bufo microscaphus californicus*. Based on genetic studies by Gergus (1994, 1998), the three former subspecies of the southwestern toad (*B. m. microscaphus*, *B. m. californicus*, and *B. m. mexicanus*) are now considered to represent three distinct species. Frost et al (2006) revised the long-standing genus *Bufo* in North America replacing *Bufo* with *Anaxyrus*. All three species are separated geographically (allopatric), and exhibit differences in morphology and vocalizations.

The arroyo toad is a small toad (5-8 cm, females larger than males) that ranges from light olive green or gray to tan or even salmon above, with whitish to buff underparts that are usually unspotted. A light-colored, V-shaped stripe is usually evident across the head and eyelids, and the anterior portion of the oval parotoid glands are also distinctly pale in coloration. Unlike the larger California toad (*A. boreas halophilus*), which shares its habitat, the arroyo toad usually lacks a light mid-dorsal stripe, and if such a stripe is present it extends only partly down the back. Arroyo toads have a rough, warty skin, in contrast to the much smoother skin of the California toad.

The arroyo toad occurs in coastal and desert drainages from Monterey County, California, to northwestern Baja California, Mexico. This species is known from Monterey, Santa Barbara, Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties in California. Jennings and Hayes (1994) estimate that the species has lost up to 76% of their historic habitat in the last 100 years. Many of the remaining populations exist on U.S. Forest Service land. The areas that typically support or historically supported high densities of arroyo toads are located in the lower and middle portions of river basins, usually associated with third order or larger streams. Many such areas have been lost to or degraded by urban development, water diversions, agriculture, sand and gravel mining activities, and reservoir construction. Additionally, American bullfrogs (*Lithobates catesbeianus*) and various nonnative predatory fish have been introduced widely throughout the known range of the species, and prey on both larval and adult arroyo toads.

Because of the ongoing threats to the species, the USFWS listed the arroyo as endangered in 1994. In 2011, the USFWS issued the final rule designating critical

habitat for the species. The Project site is located outside of designated critical habitat for the arroyo toad. Designated critical habitat, Unit 22 (Upper Mojave River Basin) is, however, located within 0.45 mile of the Project site. The species is also designated as a “California Species of Concern” or CSC by the CDFW.

The arroyo toad is a habitat specialist that favors shallow pools and open sand and gravel channels along low-gradient reaches of medium to large-sized streams for breeding. These streams can have either perennial or intermittent stream flow and often experience periodic flooding that scours away vegetation and deposits fine sediments. Arroyo toads have recently been reported in habitats inconsistent with these parameters, however, primarily in San Diego County (USFWS 1998). In some portions of their range, arroyo toads utilize smaller streams and canyons where low-gradient breeding sites are more sparsely distributed. Sub-adult and adult arroyo toads often use alluvial terraces adjacent to breeding habitat for foraging and burrowing. These areas are typically sparsely to moderately vegetated with shrubs and trees such as mulefat (*Baccharis salicifolia*), Fremont cottonwood (*Populus fremontii*), California sycamore (*Platanus racemosa*), willows (*Salix* sp.), and coast live oak (*Quercus agrifolia*). The understory vegetation present in such areas may consist of scattered herbs and short grasses (both native and nonnative), interspersed with areas of leaf litter or patches of bare and disturbed ground. Areas of fine sand or friable soil must also be present for arroyo toads to burrow in, and can be interspersed with gravel or cobble deposits. Upland habitats utilized by adult arroyo toads during both the breeding and nonbreeding seasons include alluvial scrub, coastal sage scrub, chaparral, grasslands, and oak woodlands. Sub-adult and adult arroyo toads have been found foraging at night around the driplines of oak trees, often relatively far from water. Arroyo toads have also been found in active agricultural fields, although such areas probably do not provide viable habitat over the long term.

The arroyo toad typically breeds in pools whose average depth in cross section is 30 cm or less at the time of egg deposition. These pools have extensive areas of their bottoms covered by sand or well-sorted gravel deposits with a minimum of embedded silt. Nightly or near nightly emergence and surface activity seems to occur from late February to early July when the males are calling and females are foraging intensively to prepare for egg production. The peak of male calling activity begins in early to mid April and extends through late May, with some males calling sporadically as late as the end of June. The advertisement call is a clear, whistling trill. Males generally select a calling area on the open shoreline of a pool where the slope is low and little or no vegetation breaks the horizon line (Sweet 1992). The late

breeding season and long periods of dependence on surface water of arroyo toad larvae and juveniles restrict them from occurring in areas where the riverbed dries out by early summer. The larval period for arroyo toad lasts about 65 to 85 days, depending on water temperatures. Metamorphosis may occur at any time between April and the beginning of September, depending on when breeding occurred, weather, and water quality. Peak metamorphosis occurs from the end of June to mid-July in the northern part of the arroyo toad's range and from late April to mid-May in southern California, often later at higher altitudes.

Little is known of the seasonal and annual movements of adult arroyo toads, but sub-adults and some adult males move along stream courses as much as 0.6 miles during a single breeding season (USFWS 2001). Dispersing arroyo toads are also thought to move over five miles along streams during long term movements. The extent of arroyo toad movements away from occupied stream channels is influenced by rainfall amounts, humidity, temperature, availability of surface water, width of streamside terraces and floodplains, vegetative cover, and topography (USFWS 2001).

Chapter 3. Methods

3.1. Pre-construction Surveys

At a minimum, two (2) pre-construction surveys for arroyo toad will be conducted prior to commencement of on-site Project activities. The first survey will be conducted following a rain event during the mid-spring breeding season no later than fourteen (14) days prior to commencement of Project activities. The surveys will be conducted by a biologist knowledgeable of arroyo toad identification (including larva and metamorph life stages). The surveys will be conducted by walking the entire Project site and adjoining areas within 150 meters, including areas that may be indirectly impacted by the Project, to identify the presence of arroyo toad or their habitat.

3.2. Wetland Habitat Avoidance and Minimization of Impacts to Streambeds

Project implementation shall not impact any wetland and/or riparian habitat other than those specified in the Project description provided in the Streambed Alteration Agreement (CDFW 2015). Habitat adjacent to the Project site, will not to be disturbed and will be designated as an Environmentally Sensitive Area (ESA). A solid structure or solid pipe with cabling will be utilized in conjunction with fencing and gate at several drainage locations, in order to prevent people from driving through and off-roading in washes. Ingress and egress will occur from the existing roadway and shall avoid all identified wetland areas and minimize impacts to streambed habitats to the greatest extent possible. No Project-related activities would be permitted within the established ESAs.

Any lighting or fencing adjacent to jurisdictional streambeds will require concurrence from CDFW in order to ensure wildlife (including arroyo toad) movement within the open space and conserved areas is not hindered. Fencing (if any) will be routinely monitored by the DB to ensure wildlife (including arroyo toad) are not trapped against the fence or otherwise impacted by installation, or the presence of the fence.

3.3. Designated Biologist

Caltrans will retain a Designated Biologist (DB), approved by the CDFW that is responsible for ensuring Project compliance with applicable permit conditions and

requirements to protect natural resources, including but not limited to, the arroyo toad. Caltrans will submit the name, qualifications, resume or curriculum vitae and contact information of the DB(s) to CDFW via email to:

Nick.Buckmaster@wildlife.ca.gov. Caltrans will obtain CDFW written approval of the DB(s) at least fourteen (14) days prior to commencement of Project activities (including site preparation). Change of DB(s) will be approved in writing by CDFW at least five (5) days in advance.

The DB(s) will be knowledgeable and experienced in the identification, natural history, safe capture and handling of special-status species, including the arroyo toad while Project activities are occurring to ensure compliance with Project-specific permits, the requirements of the various management plans for sensitive species (including arroyo toad) and to ensure impacts to wildlife habitat are minimized.

3.4. Construction Monitoring

Construction monitoring will be conducting on-site by the DB. The DB will conduct routine clearance sweeps of the Project impact area for special-status species prior to initiation of Project activities. The DB will ensure that the limits of grading and the jurisdictional areas (i.e., streambeds). The DB will be responsible for monitoring activities that result in the clearing or grading of sensitive habitats, as well as grading, excavation and/or ground disturbing activities in streambeds. The DB will be responsible for photographing the construction process. The DB will have the authority to immediately stop any Project activity that violates the terms and conditions of the respective Project permits and management plans and/or when a special-status species is detected on-site and is threatened by Project activities.

If/when special-status species not addressed in the Project permits or management plans is encountered within the Project impact area, the DB will immediately stop work within 100 feet of the area and notify CDFW via email

(Nick.Buckmaster@wildlife.ca.gov) and via telephone at (760) 872-1110.

Consultation with CDFW is required prior to cancellation or a stop work order.

All night work (dusk till dawn) in the vicinity of culverts and/or bridges between March 1 and September 1 will require CDFW concurrence prior to commencement.

No work shall occur during wet weather conditions (e.g., rain).

3.5. Environmental Awareness Training

Attendance of a Worker Environmental Awareness Program (WEAP) will be required for all Project personnel prior to the commencement of any on-site Project activities. The WEAP will be given by the DB, or other knowledgeable biologists, and will educate personnel about sensitive environmental issues including, but not limited to the description, ecology, legal status, Project-specific impact avoidance and minimization measures for the arroyo toad and the fines and penalties that could result from non-compliance with these measures.

3.6. Escape Ramps

Escape ramps installed at each end of all trenches left open overnight will be constructed at the end of each work day to allow for the escape of entrapped wildlife. The ramps will be constructed of dirt, wood planks or other suitable material that is placed at an angle no greater than 30 degrees. Open pits and trenches will be inspected by the DB each morning for wildlife that may still be present from the previous night. All wildlife found within the open pits or trenches will be safely relocated by the DB to offsite suitable habitat out of harm's way.

3.7. Arroyo Toad Handling and Relocation

If an arroyo toad, or suspected arroyo toad, is observed on-site by Project personnel, all Project activities within 100 feet will be halted and the DB notified immediately for identification and to determine the best course of action. If the animal encountered is determined to be an arroyo toad, the CDFW and USFWS will be contacted immediately. If possible, any and all arroyo toads encountered on-site will be permitted to leave the impact area on their own accord. If on-site arroyo toads do not vacate the area on their own and with authorization from CDFW and USFWS, arroyo toads encountered on-site and in harm's way may be captured, temporarily transported and relocated safely offsite suitable habitat. Arroyo toads may only be handled by biologists possessing a federal 10(a)(1)(B) take permit issued by the USFWS authorizing take of the arroyo toad, a Memorandum of Understanding (MOU) and/or a Scientific Collecting Permit (SCP) issued by the CDFW authorizing handling of this species. Without a take permit, MOU and SCP, handling and arroyo toad will not be allowed.

Arroyo toads shall be handled in accordance with any and all terms and conditions set forth in the Project's BO (FWS-SB-1537.7), permit conditions, and the authorized

biologist's SCP, MOU. In general, when found on-site, arroyo toads will be captured by hand, temporarily placed in a holding bucket (i.e., five-gallon bucket), and immediately transported to the CDFW and USFWS-approved and designated relocation area.

Prior to handling arroyo toads, all field equipment (i.e., boots, waders, seine nets, dip nets, buckets, etc.) that come into contact with on-site waters or toads, will be thoroughly cleaned, disinfected and freed of debris (e.g., mud, dirt, leaves) in accordance with decontamination guidelines approved by the USFWS (e.g., *Decontaminate Your Equipment Between Ponds* by Lynch S. and A. Fesnock). Thorough mechanical cleaning (e.g., scrubbing with a stiff brush) of equipment must take place offsite, or at least outside and away from arroyo toad habitat and jurisdictional areas. Once equipment is free of debris, it will be disinfected with bleach solution. Soaking equipment in bleach solution is recommended over spraying.

Authorized biologists will avoid use of insecticides, sunscreens, or any other lotions, creams or products on their skin, clothing, footwear or field equipment immediately prior to and during toad handling.

3.8. Restoration

Prior to Project initiation a detailed restoration plan identifying locations where restoration will take place, the seed and container plants that would be used, the methods that would be used to prepare and maintain the site, and the performance standards will be submitted to and reviewed for approval by USFWS. Surface disturbance and vegetation removal associated with restoration will be monitored by the Project DB.

3.9. Fencing

The new alignment will have locked gates installed to exclude Off Highway Vehicles (OHV) and other unauthorized access of the surrounding area. About 1.4 acres of unauthorized OHV roads around SR-138 will no longer be accessible.

3.10. Best Management Practices

Best Management Practices (BMPs) will be implemented to minimize direct and indirect impacts in the Project area.

3.11. Reporting

The results of the pre-construction surveys for arroyo toad will be included in the Minimization Measures Report to be submitted to the CDFW within thirty (30) days of the initiation of Project activities. Caltrans will submit the report summarizing the methods and results of the pre-construction surveys, avoidance measures implemented and the effectiveness of these measures.

California Natural Diversity Data Base (CNDDDB) forms and maps will be submitted to the CNDDDB within five (5) working days of any on-site observations of special-status species, including arroyo toad. The CNDDDB form is available at: www.dfg.ca.gov/whdab/pdfs/natspec.pdf. This information will be sent via US mail to: California Natural Diversity Data Base, 1807 13th Street, Suite 202, Sacramento, CA 95814, Phone (916) 324-3812. Copies will be sent via US mail to: CDFW Inland Deserts Region, 407 West Line Street, Bishop, CA 93514, Attn: Nick Buckmaster, Phone (760) 872-1110. Notification #1600-2015-0035-R6.

USFWS will be notified in writing within one week of arroyo toad handling and relocation. The notice will include the date, time, personnel and any of other pertinent information on the relocation effort.

A report summarizing the Project's arroyo toad relocation efforts will be submitted to the USFWS following Project completion. The report will include data such as schedule, personnel, findings, and actions taken.

A monitor log will be kept containing all monitor activities. A monthly report will be submitted to USFWS with all monitoring activities within the month.

Chapter 4. Conclusion

The Project site is located within an area that is known to be occupied by the arroyo toad. Caltrans proposes the demolition of the existing roadway and the construction of a new highway alignment. Caltrans has determined that Project implementation “may affect, but is not likely to adversely affect” the arroyo toad. As part of the Project’s impact avoidance and minimization measures, this management plan for the arroyo toad has been developed. Additionally, Caltrans proposes to purchase 12 acres of credits from the Riverside-Corona Resource Conservation District (RCRCD) to mitigate Project-related permanent impacts to Waters of the United States and Waters of the State of California.

Implementation of this plan, along with the Project’s other impact avoidance and minimization measures should reduce Project-related effects on the federally-endangered arroyo toad.

Chapter 5. References

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Cactus Salvage Plan

State Route 138 Realignment East of Interstate 15 Project

San Bernardino County

Sections 24 & 25, Township 3 North, Range 6 West &

Sections 19, 20, 29 & 30, Township 3 North, Range 5 West

USGS 7.5' Cajon, California Quadrangle

1.9 mi. east of jct. with I-15 to 0.6 mi. east of Summit Post Office Road

8-SBd-138-PM (17.1-19.2)

EA 0Q3001

November 2015

STATE OF CALIFORNIA
Department of Transportation

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Executive Summary

This cactus salvage plan has been prepared and is proposed to be implemented by the California Department of Transportation (Caltrans) for the proposed State Route 138 (SR-138) Realignment East of Interstate 15 (I-15) Project in unincorporated San Bernardino County (Project). The proposed Project, which is scheduled to commence as early as March 2016, includes the realignment of this section of SR-138 for the purpose of increasing road sight distance and to improve the highway to current safety standards. Portions of the Project alignment are within an area known to be occupied at least two cactus species, including the sensitive short-joint beavertail, which is the California Native Plant Society's (CNPS) List 1B.2. Implementation of this salvage plan will serve as part of the impact minimization and mitigation measures required by the terms and conditions of the Project's Steambed Alteration Agreement (1600-2015-0035-R6).

The proposed cactus salvage plan includes the following methods:

- A pre-construction surveys for all cactus species prior to initiation of the project. The survey will be conducted by walking the entire project site and adjoining areas within 10 meters. All cacti found will be marked via GPS, and will subsequently be transplanted with Caltrans's right-of-way, out of harm's way. Specific methods for the translocations are included in the plan.
- A CDFW-approved Designated Biologist (DB) responsible for ensuring Project compliance with applicable permit conditions and requirements to protect natural resources, including but not limited to, the short-joint beavertail.
- Construction monitoring by the DB while Project activities are occurring to ensure Project conditions are being met. The DB will have the authority to immediately stop any Project activity.
- Attendance of a Worker Environmental Awareness Program (WEAP) for all Project personnel prior to the commencement of any onsite Project activities. The WEAP will educate personnel about sensitive environmental issues, including but not limited to the short-joint beavertail and the requirements of this salvage plan.
- Submittal of Minimization Measures Report summarizing the methods and results of the pre-construction surveys, avoidance measures implemented (transplantations) and the effectiveness of these measures submitted to the CDFW within thirty (30) days of the initiation of Project activities.

Implementation of this plan, along with other impact avoidance, minimization and mitigation required for this Project is expected to substantially reduce the level of project-related effects to cactus species.

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List of Abbreviated Terms

Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
CNPS	California Native Plant Society
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Data Base
CSC	California Species of Concern
cm	Centimeters
DB(s)	Designated Biologist(s)
KP	kilometer post
m	meter(s)
mi	mile(s)
MOU	Memorandum of Understanding
PM	Post Mile
Project	State Route 138 Realignment East of Interstate 15 Project
SCP	Scientific Collecting Permit
SR-138	State Route 138
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WEAP	Worker Environmental Awareness Program

Chapter 1. Introduction

For the purpose of increasing road sight distance and to improve the highway to current safety standards, California Department of Transportation (Caltrans) proposes the realignment of a 2.1-mile segment of State Route 138 (SR-138) from Post Mile (PM) 17.1, which is 1.9 miles east of the junction with Interstate 15 (I-15) to PM 19.2, which is 0.6 mile east of Summit Post Office Road in unincorporated San Bernardino County, California (Project). The project alignment traverses seven (7) tributaries to Crowder Creek, which is a tributary to Lytle Creek and ultimately the Santa Ana River. The project site is located west of the City of Hesperia at Latitude 34°19.809 N, Longitude 117°26.552 W; Sections 24 and 25 of Township 3 North, Range 6 West and Sections 19, 20, 29, and 30 of Township 3 North, Range 5 West, U.S. Geological Survey (USGS) 7.5 minute Cajon, California quadrangle (Figures 1 & 2).

The proposed project includes:

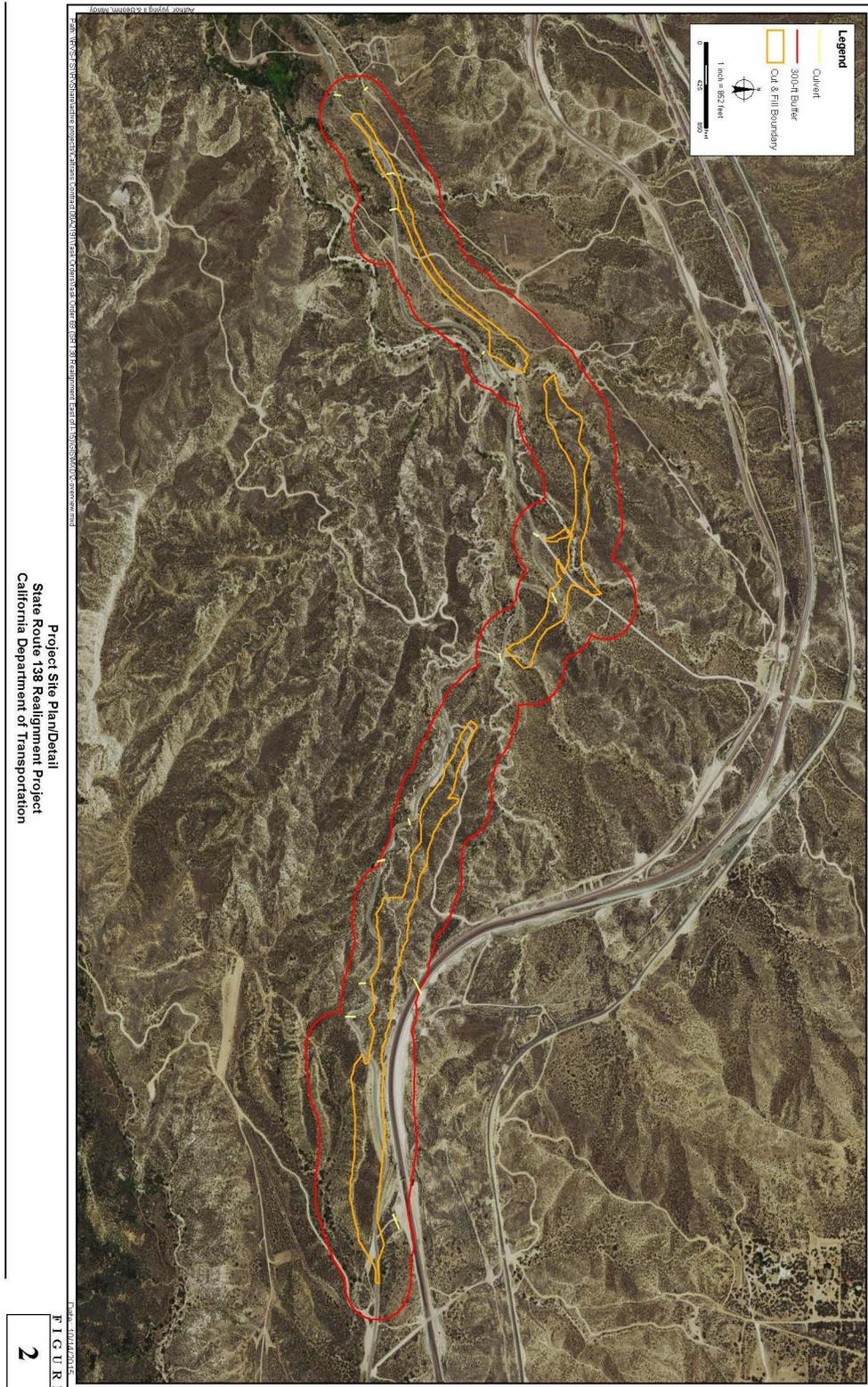
- The construction of a 2.1-mile two-lane (39.4-foot wide) highway,
- The construction of three (3) new bridges and wildlife crossings, which will result in the excavation of 1,160 cubic yards of stream bank and placement of 2,657 cubic yards of rock slope protection within the streambeds,
- The installation of eleven (11) new culverts,
- The removal of fifteen (15) existing culverts,
- The demolition and subsequent restoration (including the streambed crossings) of the existing alignment of SR-138,
- Grading and infill of 0.452 acres of streambed,
- Installation of ingress/egress along Double Drain Creek, and
- Restoration of demolished roadways and stream crossings

Portions of the Project alignment are located in areas that are known to be occupied by the short-joint beavertail (*Opuntia basilaris* var. *brachyclada*), a cactus species that is included on the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants. This taxon is on the Inventory's List 1B.2 ("rare, threatened, or endangered in California and elsewhere"). At least one additional species of cactus is known to occur along the alignment: California cholla (*Cylindropuntia californica*). This species is protected under the County of San Bernardino Development Code, Section 88.01.060-Desert Native Plant Protection Ordinance." This Ordinance provides regulations for the removal or harvesting of specified desert native plants in order to preserve and protect the plants and to provide for the conservation and wise use of desert resources.

Figure 1. Project Regional Map



Figure 2. Project Impact Area/Vicinity Map



This cactus salvage plan has been prepared in accordance with the requirements of Final Streambed Alteration Agreement Notification No. 1600-2015-0035-R6 and in consideration of the California Environmental Quality Act (CEQA).

1.1. Purpose

In order to satisfy the requirements of the Streambed Alteration Agreement (Notification No. 1600-2015-0035-R6) for the Project and to comply with CEQA, Caltrans has developed the following cactus salvage plan to avoid (where possible) and minimize Project effects to native cacti.

Chapter 2. Background on Short-joint Beavertail

CNPS list 1B.2 short-joint beavertail is a small, spreading cactus species, and typically occurs within chaparral, Joshua tree woodland, Mojave desert scrub, and Pinyon-juniper woodland, and is often found on sandy soils or coarse, granitic loam.

Short-joint beavertail occupies northern slopes of the San Gabriel and western San Bernardino Mountains. At the western end of its range it occurs from Quigley Canyon and ranges east-northeast to the Anaverde Valley west of Palmdale. From there, it appears to follow the San Andreas rift zone to the Cajon Pass, although it departs somewhat from the rift zone near Mill Creek Summit within the Angeles National Forest. It occurs mostly at elevations between 3,000 ft.-6,500 ft. (900 m-2,000 m).

Plants from the Anaverde Valley and west of there appear to have intermediate morphology, and are may be intergrades with *Opuntia basilaris* var. *basilaris*. There are several reports east of Cajon Pass in the northern San Bernardino Mountains, extending through Horsethief Canyon and Summit Valley to the Mojave River Forks south of Hesperia. Most of these populations also show intergradation with a similar sub-species *Opuntia basilaris* var. *basilaris*. Populations have been observed in Horsethief Canyon east of Cajon Pass, along the Pacific Crest Trail. Many of these plants appear to intergrade with *O. basilaris* var. *basilaris*, although some specimens retain all of the characteristics of var. *brachyclada* (MacKay 1998).

Short-joint beavertail is a member of the cactus family (Cactaceae), and more specifically fits within the sub-genus *Platyopuntia* of the genus *Opuntia*, having flattened joint and no tubercles. It has bluish-gray stems with no spines, but possesses glochids borne on areoles 0.2 to 0.6 in (0.5-1.5 cm) apart. Variety *brachyclada* is distinguished from other members of the species by having small joints which are 1.2 to 2.4 in. (3-6 cm) long, rather than the 2.8-6.0 in. (7-15 cm) long joints possessed by other members of this species. These joints are often almost cylindrical and club-shaped instead of flattened, but older joints within a clone seem to flatten as they age (MacKay 1998).

Chapter 3. Methods

3.1. Pre-construction Surveys and Transplantations

Pre-construction surveys for short-joint beavertail and other cacti will be conducted prior to commencement of onsite Project activities. The surveys will be conducted by biologists familiar with the local flora. Much of the vegetation of the project alignment is shrub cover that is quite dense. Therefore, systematic transects a maximum of 10 meters (33 ft) apart will be slowly walked during the surveys. The survey transects shall extend at least 10 meters beyond the outer boundaries of proposed grading areas. All cacti, regardless of species, found during the surveys shall be moved out of harm's way, using the following methods.

1. Upon locating an individual of any cactus species the biologist shall record its location with a sub-meter global positioning system (GPS) unit. This will allow a transplanting team to return prior to grading to move the plants out of the grading areas. The transplantations should be completed, with the plants in the ground at their new locations, no later than three days before scheduled grading in a particular area. The new locations of the transplanted plants shall be recorded with a sub-meter GPS unit. All plants shall be photographed before and after the translocations.
2. Prior to cactus excavation, the south side of every plant (determined with a compass) should be marked with temporary paint or other marking method that will eventually wash off and/or fade away. In addition to marking the plant, data will be recorded on a standardized field data sheet (Appendix A) prior to digging up the plant. The data collected will include a sequential transplant number, species, the UTM coordinates of the plant's original location, the UTM coordinates of the plant's new location (recorded after it is moved), the plant's size (*Opuntia basilaris* var. *brachyclada* only; length X width, measured in centimeters), the plant's reproductive state at the time of transplantation, and an estimate of the plant's overall health and vigor. A recommended grading scale for a plant's health is: A = plant full, green, and with no dead or moribund stems; B = plant mostly full and green, with a few dead or moribund stems; C = plant with approximately ½ dead or moribund stems; and D = plant with mostly dead or moribund stems. Plants that appear to be completely dead will not be transplanted.

3. Cactus should be excavated so that the root ball is left undamaged, but minor filament roots may be cut or torn during excavation. The root ball typically does not extend beyond the canopy of the cactus, and does not need to be extensive for successful transplantation (can be roughly equal to twice the cactus canopy in area).
4. The cactus should be kept in a shaded dry location and left with the root and soil ball exposed to the air for drying out and callusing, for at least 24 hours, but not longer than 7 days. The drying locations can be at or near the recipient sites if the above conditions exist (shaded and dry).
5. Cacti should be loaded onto the bed of a pick-up truck and delivered to recipient sites. Recipient sites shall be determined during the transplantation process, and will be within reasonable distances from the sites of origin and within Caltrans's right-of-way. Some portions of the project alignment are not near established roads. Therefore, it will sometimes be necessary to walk the plants cross-country to recipient sites. Small plants can be moved by carrying them with a shovel, but larger plants will need to be carried by two personnel using a device similar to a medical "stretcher," or by similar means.
6. When planting the cactus into the recipient site, as much of the native soil should be planted with the cactus as possible. The soil type and quality of the recipient site should be as similar to the salvage site as possible. No soil amendments (fertilizers, sand, etc.) shall be used when planting.
7. When planting the cactus, care should be taken to orient each cactus identical to its orientation prior to the salvage. A compass and the temporary paint on the south side of each cactus will aid in this effort.
8. After planting, each cactus should be watered to a depth of 6 inches or greater to aid in establishment and recovery from transplantation. Watering can be applied from a water truck, backpack sprayers, or other mobile water storage method. Temporary irrigation lines should not be established.

3.2. Designated Biologist

Caltrans will assign a Designated Biologist (DB), approved by the CDFW that is responsible for ensuring Project compliance with applicable permit conditions and requirements to protect natural resources, including but not limited to, the short-joint beavertail. Caltrans will submit the name, qualifications, resume or curriculum vitae and contact information of the DB(s) to CDFW via email. Caltrans will obtain

CDFW written approval of the DB(s) at least fourteen (14) days prior to commencement of Project activities (including site preparation). Change of DB(s) will be approved in writing by CDFW at least five (5) days in advance.

The DB(s) will be knowledgeable and experienced in the identification of the local cactus species, and will ensure compliance with Project-specific permits and the requirements of this salvage plan.

3.3. Construction Monitoring

Construction monitoring will be conducted on-site by the DBs. The DBs will conduct routine clearance sweeps of the Project impact area for special-status species prior to initiation of Project activities, including any cacti that may have been overlooked during the salvage process. The DBs will ensure that the limits of grading and the jurisdictional areas (i.e., streambeds). The DB will be responsible for monitoring activities that result in the clearing or grading of sensitive habitats, as well as grading, excavation and/or ground disturbing activities in streambeds. The DBs will be responsible for photographing the construction process. The DBs will have the authority to immediately stop any Project activity that violates the terms and conditions of the respective Project permits and management plans and/or when a special-status species is detected onsite and is threatened by Project activities. If/when special-status species not addressed in the Project permits or management plans is encountered within the Project impact area, the DB will immediately stop work within the area and notify CDFW via email and via telephone at (760) 872-1110. Consultation with CDFW is required prior to cancellation or a stop work order.

3.4. Environmental Awareness Training

Attendance of a Worker Environmental Awareness Program (WEAP) will be required for all Project personnel prior to the commencement of any on-site Project activities. The WEAP will be given by the DB, or other knowledgeable biologists, and will educate personnel about sensitive environmental issues including, but not limited to the description, ecology, legal status, Project-specific impact avoidance and minimization measures for the short-joint beavertail and other cacti. Project personnel shall be instructed to inform the DB of any cacti encountered within the designated grading areas prior to grading.

3.5. Post Construction Monitoring of Salvaged Cacti

In order to evaluate the efficacy of the salvage effort, all salvaged cacti will be inspected by qualified biologists six months after the completion of the project. The inspections will document the health and vigor of transplanted plants and note any mortalities.

3.6. Reporting

The results of the pre-construction surveys for cactus will be included in the Minimization Measures Report to be submitted to the CDFW within thirty (30) days of the initiation of Project activities. Caltrans will submit the report, which will summarize the methods and results of the pre-construction surveys, and list all transplanted cacti and their transplanted locations.

California Natural Diversity Data Base (CNDDDB) forms and maps will be submitted to the CNDDDB within five (5) working days of any onsite observations of special-status species, including short-joint beavertail. The CNDDDB form is available at: www.dfg.ca.gov/whdab/pdfs/natspec.pdf. This information will be sent via US mail to: California Natural Diversity Data Base, 1807 13th Street, Suite 202, Sacramento, CA 95814, Phone (916) 324-3812. Copies will be sent via US mail to: CFWD Inland Deserts Region, 407 West Line Street, Bishop, CA 93514, Attn: Nick Buckmaster, Phone (760) 872-1110. Notification #1600-2015-0035-R6.

A separate memorandum report summarizing the cactus relocation efforts will be submitted to the Caltrans following the post construction monitoring inspections. The report will include data such as schedule, personnel, and findings.

Chapter 4. Conclusion

The Project site is located within an area that is known to be occupied by the short-joint beavertail and at least one other cactus species. Caltrans proposes the demolition of the existing roadway and the construction of a new highway alignment. As part of the projects impact avoidance and minimization measures, this salvage plan for the cactus has been developed. Implementation of this plan, along with the project's other impact avoidance and minimization measures, should reduce project-related effects on cacti occurring in the project footprint.

Chapter 5. References

- California Department of Transportation. 2015. Agreement No. 08A2191, Task Order No. 69. Unpublished contracts document between AMEC & Caltrans.
- Baldwin, Bruce. 2012. The Jepson Manual, Vascular Plants of California, 2nd Edition. University of California Press. Berkeley, California. Online at <http://ucjeps.berkeley.edu/IJM.html>.
- MacKay, P.J. 1998. Short-joint beavertail. *Opuntia basilaris* Engelm. & Bigel. var. *brachyclada* (Griffiths) Munz. Species account prepared for the West Mojave Management Plan, Bureau of Land Management, Barstow, CA.

Appendix A. Cactus Salvage Field Data Sheet

A = plant full, green, and with no dead or moribund stems; B = plant mostly full and green, with a few dead or moribund stems; C = plant with approximately ½ dead or moribund stems; and D = plant with mostly dead or moribund stems

STATE ROUTE 138 REALIGNMENT EAST OF INTERSTATE 15



Nesting Bird Management Plan

FOR THE STATE ROUTE 138 REALIGNMENT EAST OF INTERSTATE 15 PROJECT

from 1.6 miles east of Interstate 15 (I-15) to 0.1 mile east of Summit Post Office Road

SAN BERNARDINO COUNTY, CALIFORNIA

*Sections 24 & 25, Township 3 North, Range 6 West &
Sections 19, 20, 29 & 30, Township 3 North, Range 5 West*

USGS 7.5' Cajon, California Quadrangle

8-SBd-138-PM (16.8-18.7)

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Nesting Bird Management Plan

State Route 138 Realignment East of Interstate 15 Project

San Bernardino County

Sections 24 & 25, Township 3 North, Range 6 West &

Sections 19, 20, 29 & 30, Township 3 North, Range 5 West

USGS 7.5' Cajon, California Quadrangle

1.6 mi. east of jct. with I-15 to 0.1 mi. east of Summit Post Office Road

8-SBd-138-PM (16.8-18.7)

EA 0Q300

December 2015

STATE OF CALIFORNIA
Department of Transportation

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District 8/Riverside and San Bernardino Counties / Caltrans

Executive Summary

This nesting bird management plan has been prepared and is proposed to be implemented by the California Department of Transportation (Caltrans) for the proposed State Route 138 (SR-138) Realignment East of Interstate 15 (I-15) Project in unincorporated San Bernardino County (Project). The proposed Project, which is scheduled to commence as early as March 2016, includes the realignment of this section of SR-138 for the purpose of increasing road sight distance and to improve the highway to current safety standards. The Project alignment and adjacent area has a high potential to support nesting native birds. Implementation of this nesting bird management plan would serve as part of the impact minimization and mitigation measures required by the terms and conditions of the Project's Steambed Alteration Agreement (1600-2015-0035-R6).

The proposed nesting bird management plan includes the following methods (abbreviated here but treated in full in the document):

- Establishing a Designated Biologist (DB) approved by the CDFW that is responsible for ensuring Project compliance with applicable permit conditions and requirements to protect natural resources. The DB must have prior nest monitoring and bird survey experience and be able to identify by sight and/or sound bird species potentially occurring within the Project area and their respective nesting requirements
- If Project activities cannot be avoided during the nesting period from December 15 through September 30, the DB(s) will survey the entirety of the Project site footprint, and within the CDFW recommended 500-foot buffer surrounding the Project site for both diurnal and nocturnal nesting birds, prior to commencing Project related activities (including clearing and grubbing and/or site preparation).
- In addition to the pre-construction survey described above, during the nesting period from December 15 through September 30, the DB(s) will perform a daily sweep for diurnal and nocturnal nesting birds on the first day of ground disturbing activity and/or construction and once every subsequent week during which Project construction occurs during the nesting season.
- Implementation of Avoidance and Minimization Measures including: Establishing Nest Buffers and Active Nest Monitoring; Noise Monitoring, and Worker Environmental Awareness Program (WEAP) training for all onsite project personnel.
- Nesting Bird Survey and Active Nest Documentation.
- Survey Timing and Coordination establishment (including developing a Nesting Bird Responsibility Matrix).

- Submittal of both Pre-construction and Construction Phase Nest Survey and Monitoring Reports

This plan is an integral part of the impact minimization and mitigation measures developed for this Project. Implementation of this plan, along with other impact avoidance, minimization and mitigation required for this Project is expected to substantially reduce the level of project-related effects to native nesting birds.

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List of Abbreviated Terms

Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
BA	Biological Assessment
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Data Base
CSC	California Species of Concern
DB	Designated Biologist
FESA	Federal Endangered Species Act
KP	kilometer post
m	meter(s)
mi	mile(s)
MOU	Memorandum of Understanding
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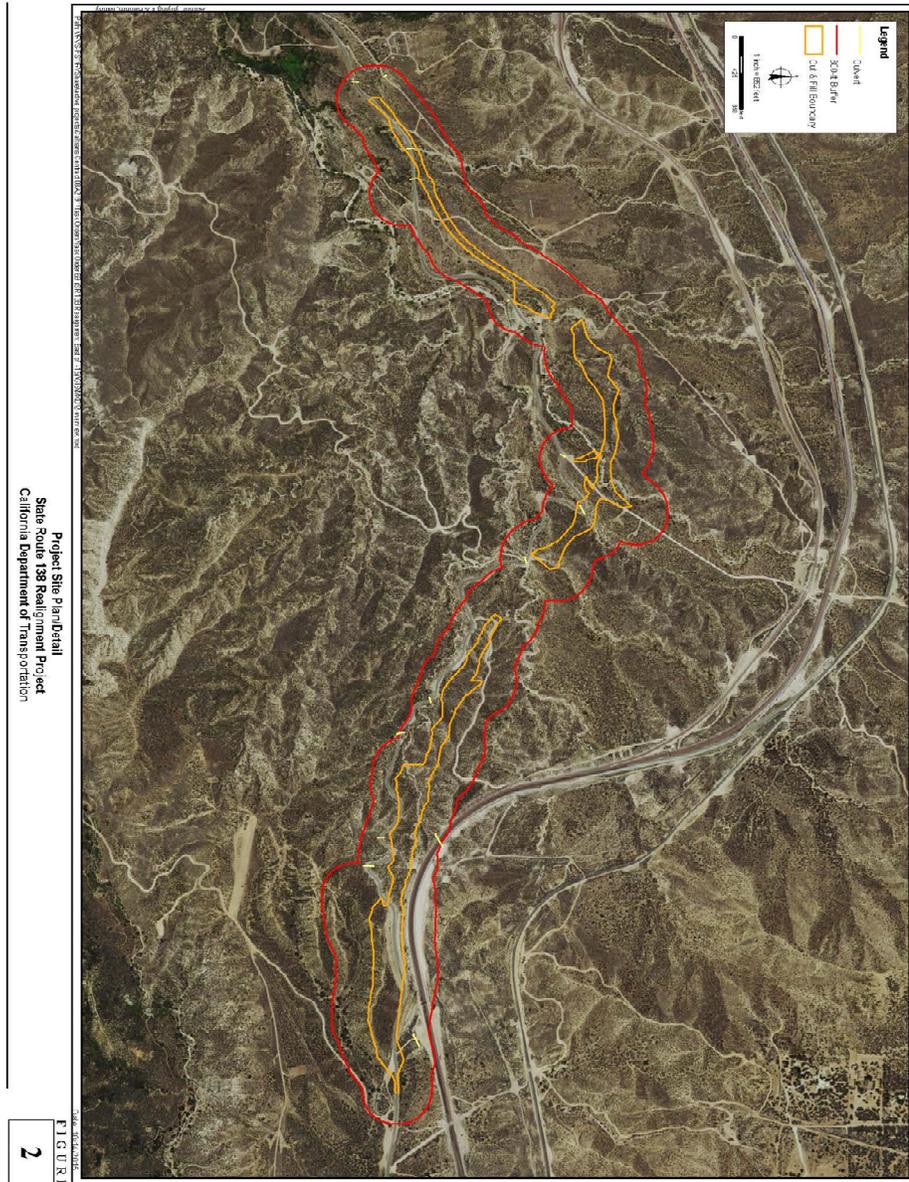
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For the purpose of increasing road sight distance and to improve the highway to current safety standards, California Department of Transportation (Caltrans) proposes the realignment of a 2.1-mile segment of State Route 138 (SR-138) from Post Mile (PM) 17.1, which is 1.9 miles east of the junction with Interstate 15 (I-15) to PM 19.2, which is 0.6 mile east of Summit Post Office Road in unincorporated San Bernardino County, California (Project). The project alignment traverses seven (7) tributaries to Crowder Creek, which is a tributary to Lytle Creek and ultimately the Santa Ana River. The project site is located west of the City of Hesperia at Latitude 34°19.809 N, Longitude 117°26.552 W; Sections 24 and 25 of Township 3 North, Range 6 West and Sections 19, 20, 29, and 30 of Township 3 North, Range 5 West, U.S. Geological Survey (USGS) 7.5 minute *Cajon, California* quadrangle (Figures 1 & 2).

The proposed project includes:

- The construction of a 2.1-mile two-lane (39.4-foot wide) highway,
- The construction of three (3) new bridges and wildlife crossings, which will result in the excavation of 1,160 cubic yards of stream bank and placement of 2,657 cubic yards of rock slope protection within the streambeds,
- The installation of eleven (11) new culverts,
- The removal of fifteen (15) existing culverts,
- The demolition and subsequent restoration (including the streambed crossings) of the existing alignment of SR-138,
- Grading and infill of 0.452 acres of streambed,
- Installation of ingress/egress along Double Drain Creek, and
- Restoration of demolished roadways and stream crossings

Figure 2. Project Impact Area/Vicinity Map



1.1. Purpose

The purpose of this Nesting Bird Management Plan (NBMP) is to provide Project-specific avoidance and minimization measures to ensure that impacts to nesting birds do not occur during Project implementation, and that the Project complies with all applicable laws related to nesting birds and birds of prey. The NBMP shall include at a minimum monitoring protocols; survey timing and duration; the creation, maintenance and submittal to CDFW of a bird-nesting log; and Project-specific avoidance and minimization measures, as spelled out in the California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement (SAA) (Notification No. 1600-2015-0035-R6) for the Project; and to comply with the Migratory Bird Treaty Act (MBTA), Sections 3503, 3503.5, and 3513 of the California Fish and Game Code, Bald and Gold Eagle Protection Act of 1940 (BGEPA) (16 U.S.C. 668-668d), and California Environmental Quality Act (CEQA). Caltrans has developed the following Nesting Bird Management Plan to avoid (where possible) and minimize Project effects to nesting native birds.

Chapter 2. Background

Amec Foster Wheeler Environment and Infrastructure, Inc. (Amec Foster Wheeler) performed focused surveys for the least Bell's vireo (*Vireo belli pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*) at suitable habitat patches within 750 feet of the State Route 138 Realignment Project in 2011. These surveys were required because this project may directly or indirectly impact habitat for these state and federally listed endangered species. No least Bell's vireos or southwestern willow flycatchers were detected during these surveys. On 16 May 2011 three vocal willow flycatchers were present. This date is within the normal spring migration period for this species in southern California, and no willow flycatchers were found on any other survey visit. Therefore, Amec Foster Wheeler concludes that these birds were migrants of one of the more northerly subspecies, and not southwestern willow flycatchers (subspecies *E.t. extimus*). During the performance of these surveys, Amec Foster Wheeler biologists observed forty-eight (48) bird species, all of which were native species, and forty (40) of these were potential breeders on or directly adjacent to the alignment.

Amec Foster Wheeler biologists also surveyed the proposed SR 138 realignment area in 2001 for listed riparian-nesting birds. Least Bell's vireo was not detected during the surveys, but a singing male was found at the edge of the survey area on May 16, 2001. This bird was not found on subsequent visits; there is a moderate probability that it occupied habitat downstream from the survey area in Crowder Canyon. Two willow flycatchers were observed during the 2001 surveys. The first, on May 15, responded to taped vocalizations, but was not found on six subsequent surveys. The second, on June 2, was detected as it called, but did not respond to taped vocalizations. It was not found on five subsequent surveys. Amec Foster Wheeler biologists assume that these willow flycatchers were not southwestern willow flycatchers, but migrants of other subspecies.

Amec Foster Wheeler biologists found sixty-one (61) bird species on or near the project alignment during the 2001 surveys. Of these, all but two were native species, with at least fifty-one (51) of the species with potential to breed on or adjacent to the project alignment.

Chapter 3. Methods

3.1. Designated Biologist

Caltrans will retain a Designated Biologist (DB), approved by the CDFW that is responsible for ensuring Project compliance with applicable permit conditions and requirements to protect natural resources. The DB must have prior nest monitoring and bird survey experience and be able to identify by sight and/or sound bird species potentially occurring within the Project area and their respective nesting requirements. Caltrans will submit the name, qualifications, resume or curriculum vitae and contact information of the DB(s) to CDFW via email to: Nick.Buckmaster@wildlife.ca.gov. Caltrans will obtain CDFW written approval of the DB(s) at least fourteen (14) days prior to commencement of Project activities (including site preparation). Change of DB(s) will be approved in writing by CDFW at least five (5) days in advance. If a State listed Species of Special Concern, or threatened or endangered species are found within the Project work area, the DB(s) will immediately stop work within the Project work area and notify both Caltrans and CDFW, by calling Scott Quinnell (Caltrans) at (909) 383-383-6936 and Nick Buckmaster (CDFW) at (760) 872-1110, or by sending a notification to the email address list above. Notifications must reference #1600-2015-0035-R6. Consultation with CDFW is required prior to cancellation of a stop work order.

3.2. Pre-construction Surveys

If Project activities cannot be avoided during the nesting period from December 15 through September 30, the DB(s) will survey the entirety of the Project site footprint, and within the CDFW recommended 500-foot buffer surrounding the Project site for both diurnal and nocturnal nesting birds, prior to commencing Project related activities (including clearing and grubbing and/or site preparation). The surveys will be recorded on standardized Nesting Bird Survey Forms (please refer to Appendix A). The surveys will be conducted by the DB(s) at the appropriate time(s) of day, no more than three days prior to commencement of Project activities. Documentation of surveys and findings shall be submitted to CDFW for review prior to conducting Project activities. If an active avian nest is located, the DB(s) will implement and monitor the specific avoidance and minimization measures defined in this NBMP to ensure that impacts to nesting birds do not occur and that the Project complies with all applicable laws related to nesting birds and birds of prey. Copies of the nesting log will be submitted to CDFW for review according to the timeframe specified herein.

3.3. Construction Phase Nesting Bird Survey Methods

In addition to the pre-construction survey described in the previous subsection, during the nesting period from December 15 through September 30, the DB(s) will perform a daily sweep for diurnal and nocturnal nesting birds on the first day of ground disturbing activity and/or construction and once every subsequent week during which Project construction occurs during the nesting season. The weekly nest surveys will include potential nesting areas in the active construction areas within the Project footprint and a 500-foot buffer surrounding the Project site (footprint). The surveys will be recorded on standardized Nesting Bird Survey Forms (please refer to Appendix D).

The nest surveys will be conducted in general accordance with the methodology described in Ralph, et al. 1993. Specifically, the nest surveys will be conducted during periods of fair weather and periods of high winds and/or rain will be avoided. Preferably, the surveys will be conducted during the morning hours, to facilitate observations during peak bird breeding and nest-tending activity. During the heat of the day, breeding and nest-tending behavior may not be as apparent.

The DB will have the authority to halt construction activities if it appears that construction activities are causing stress to the nesting birds. Such action will be taken through coordination with CDFW, Caltrans, and the onsite construction inspector. Determination of “stress” will be based on monitoring of the nest(s) prior to any construction. The biological monitor will note nest visiting frequency/feeding schedule, etc. to help determine consistency in schedules and behavior (i.e., prior to construction, after commencement of construction). These measures will minimize the likelihood that active nests are abandoned or fail due to Project activities.

The DB(s) may determine if the number of nest survey/monitoring days per week is sufficient to comply with all applicable laws and regulations. It is anticipated that monitoring frequency may be decreased later in the nesting season if the DB deems there is little or no potential for nesting activity.

3.4. Avoidance and Minimization Measures

Nest Buffers and Active Nest Monitoring - If an active nest is located during nesting surveys, the appropriate buffer will be implemented for the species. Generally, the recommended standard nest buffer distances will be 300 feet for passerine birds and 500 feet for raptors. However, appropriate nest buffer distances are dependent upon a number of factors including the local environment, type of construction activity, species involved, stage of the nesting cycle and tolerance of the individual birds

involved. Therefore the buffer will be ultimately determined by the overseeing DB based upon the life history of the bird species, sensitivity to noise, vibration, and general disturbance, current site conditions (barriers, terrain, etc.), ambient levels of human activity, the various Project-related activities necessary to construct the Project, and other features. Environmentally Sensitive Area (ESA) fencing will be placed around active nests as directed by the DB and in accordance with Project safety requirements.

If the buffer overlaps with the Project site, the DB(s) will survey the nest to observe the avian behavior. This plan allows for nest buffers to be reduced by the DB if species sensitivity and localized conditions (e.g., existing barriers and traffic disturbance between the nest and the proposed activity, sound attenuation, terrain, and/or existing level of human activity within the buffer and in the surrounding area) warrant reducing the buffer(s).

To minimize potential adverse impacts associated with nest monitoring, the DB(s) will observe the behavior of birds on active nests from distance with binoculars where practicable. Active nests will only be closely approached by the DB(s) when absolutely necessary and time spent in the close vicinity of the nest will be minimized. Active nests will not be approached when any predators are present and nests will be accessed from different directions. Access routes used to observe the nest will not “dead-end” at the nest during each visit to further reduce the potential for nest discovery by predators.

Noise Monitoring - The document *The Effects of Highway Noise on Birds* (Dooling and Popper, 2007) presents policies, procedures, and practices to be used by agencies that sponsor new construction or reconstruction projects. Most of these policies can be applied to this project. Noise Abatement Criteria (NAC) specified in Dooling and Popper 2007 are the same as those specified in 23 Code of Federal Regulations (CFR) 772. This report defines a noise increase as substantial when the predicted noise levels with project implementation exceed existing noise levels by 12 dBA -Leq(h). The report also states that a sound level is considered to approach an NAC level when the sound level is within 1 dB of the NAC identified in 23 CFR 772. For example, a sound level of 66 dBA is considered to approach the NAC of 67 dBA, but 65 dBA is not. The DB will record the ambient noise level at various points along the Project alignment prior to commencement of construction. If nests are found within 500 feet of the project during the nesting bird preconstruction survey, the noise level near these nests will be checked during each weekly visit. If the noise level near the nest is determined to be 12dBA or more over the previously recorded ambient noise level and the birds are

exhibiting signs of stress, the Project proponent may be required to install sound barriers (earthen berms, plywood or block walls) to reduce the noise level reaching these nest(s). The DB will be expected to take into account the various tolerances different bird species have to disturbance when nesting. For example, Anna's Hummingbird (*Calypte anna*) are very tolerant of disturbance, and often nest in residential backyards. This species would be less likely to be affected by construction noise. New nests that are discovered within 500 feet of the Project after construction has begun may not require noise monitoring, as the ambient noise level at the time of such nesting will include any noise generated by the Project.

WEAP Training - All Project participants working in the field (including contractors, sub-contractors, Caltrans workers, etc.) will attend a worker environmental awareness program (WEAP) presentation. The WEAP training will be presented by the DB and will emphasize appropriate work practices and compliance with environmental laws and regulations. The presentation will also address Project-specific wildlife avoidance and minimization measures, including methods and procedures for protecting nesting birds. Project personnel will be required to attend the WEAP prior to conducting any ground disturbance, staging or any other onsite activities and sign a document stating that they understand and agree to comply with the information and impact avoidance and minimization measures presented in the WEAP.

3.5. Nesting Bird Survey and Active Nest Documentation

Active Nest Naming Convention - The naming convention for all active nests discovered during the SR 138 Realignment Project will be as follows:

- Nests will be numbered sequentially (1, 2, 3...).
- North American Bird Banding Laboratory four-letter code for the bird species http://www.birdpop.org/DownloadDocuments/Alpha_codes_sci.pdf.
- Number of nests found for that species as an ongoing tally.
- In parenthesis, at the end of the identification code, include the current nest status in all capital letters (i.e., ACTIVE, INACTIVE, INCOMPLETE NEST, ABANDONED, FAILED, FLEDGED).

Personnel may choose to refer to the nest as "Nest-#" or the species name and number (RTHA-#).

Weekly Active Avian Nest Status Summary - The status of all active nests will be recorded on a standardized Weekly Active Avian Nest Status Summary. The full form is included in Appendix D and the basic format is shown in Table 1 below.

TABLE 1
Weekly Active Avian Nest Status Summary

Date of Discovery	Date of Nest Status (Updated Weekly)	Nest Label	Species Label	Noise near Nest (>12dBA over ambient?)	GPS Coordinates	Nest Status (Updated Weekly)	Buffer Size

3.6. Survey Timing and Coordination

Table 2 (below) provides a nesting bird related activity matrix and specifies responsibilities for the procedures included in this Nesting Bird Management and Monitoring Plan.

TABLE 2
Nesting Bird Responsibility Matrix

Activity/Issue	Responsibility	Action
Nesting Bird Monitoring	Designated Biologist(s)	Prepare nest survey report for each site visit.
Bird Distress	Designated Biologist(s)	Immediately stop work if bird distress is noted. Document in monitoring report.
Impacts to Nests	Contractor & Designated Biologist(s)	Report to Caltrans. Provide memo and approach for future avoidance.
Proposing Reduction in Buffer	Designated Biologist	Biologist to provide list of equipment, schedule, and timing of potential impacts

		within a 500' buffer of raptor nest and 300' buffer of passerine nest. Obtain concurrence from CDFW.
--	--	--

3.7. Reporting

Pre-Construction Nest Survey Report - documentation via emails of surveys and findings will be submitted to CDFW (referencing SAA#1600-2015-0035-R6) for review and concurrence prior to conducting Project activities. If no nesting birds are observed, Project activities may be initiated.

Biological Construction Monitoring Reports - Monitoring forms for all monitoring activities, including nest surveys will be documented and submitted on a weekly basis to Caltrans. Caltrans will submit these to CDFW for review on a monthly basis.

The following specific information will be documented:

1. Monitoring Reports will be prepared for each day of monitoring activity and submitted to Caltrans on a monthly basis, by the 10th of each month.
2. The Appendices of this Nesting Bird Management and Monitoring Plan will be updated on a weekly basis and will be submitted to Caltrans and the construction team monthly. These updates will include:
 - a. Mapping of any new complete nest locations (Appendix B).
 - b. Providing status updates and on-going descriptions of individual bird nests (Appendix B).
 - c. Summarizing new nest observations and other survey information (Appendix B).

Memoranda will be prepared documenting any change in this Nesting Policy Plan. California Natural Diversity Data Base (CNDDDB) forms and maps will be submitted to the CNDDDB within five (5) working days of any onsite observations of special-status species. The CNDDDB form is available at: <http://tinyurl.com/or27yok>. This information will be sent via US mail to: California Natural Diversity Data Base, 1807 13th Street, Suite 202, Sacramento, CA 95814, Phone (916) 324-3812. Copies will be sent via US mail to: CDFW Inland Deserts Region, 407 West Line Street, Bishop, CA 93514, Attn: Nick Buckmaster, Phone (760) 872-1110. Notification #1600-2015-0035-R6.

Chapter 4. Conclusion

The Project site is located within an area that is known to be occupied by a variety of common native birds and provides potential habitat for the least Bell's vireo and southwestern willow flycatcher. Caltrans proposes the demolition of the existing roadway and the construction of a new highway alignment. As part of the project's impact avoidance and minimization measures, this management plan for nesting birds has been developed. Implementation of this plan, along with the project's other impact avoidance and minimization measures, should reduce project-related effects on nesting native birds. .

Chapter 5. References

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Dooling, R.J. and Arthur N. Popper. 2007. *The Effects of Highway Noise on Birds.* Environmental BioAcoustics LLC, Rockville, MD 20853, September 30, 2007. Prepared for The California Department of Transportation Division of Environmental Analysis, 1120 N Street Sacramento, CA 94274.

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Ralph, C. John; Geupel, Geoffrey R.; Pyle, Peter; Martin, Thomas E.; DeSante, David F. 1993. *Handbook of Field Methods for Monitoring Landbirds.* Gen. Tech. Rep. PSW-GTR-144-www. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 41 p.

Salmon, T. P., and W. P. Gorenzel. 2005. *Cliff Swallows,* University of California Agriculture and Natural Resources Publication 7482. 5pp.
<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7482.html>

Appendix A. Nesting Bird Field Form

[Type here]

CALTRANS
State Route 138 Realignment Project
Nesting Bird Survey Form (Form A)

Date:	Start Time:	Completion Time:	Biologist(s):
Weather Conditions			
Air Temp:	Cloud cover (%):	Wind Speed (mph):	Precipitation:
Survey Location Details			
Start Post Mile:	End Post Mile:	Northing :	Easting:
Description of Proposed Construction Activities			
Active Nest(s) Observed Within Surveyed Area? Yes: _____ No: _____			
Date of Nest Discovery	Nest Label	GPS Coordinates	Nest Stage / Status
Additional Comments			

NOTES:

1. If an active nest is found, fill out Form B - Nest Information Form

[Type here]

.....

CALTRANS

State Route 138 Realignment Project ~~371 Expansion Project~~

Form B - Nest Notification Form

Date:				
Biologist(s):				
Nest Detected During : Nest Monitoring Survey _____ Construction Monitoring _____				
Location				
Nest ID No.	Species	Approximate Post Mile	Northing	Easting
Nest Description (substrate, visual and/or acoustic buffers present, etc.):				
Proposed or Ongoing Construction within 500 feet of nest?				
Yes _____ No _____ (Describe Below)				
Description of Nest Stage:				
Distance to Construction Work (feet):				
Established Buffer (feet):				

[Type here]



Behavioral Observations & Justification for Buffer Distance:

[Type here]

[Type here]

CALTRANS

**State Route 138371 Realignment Expansion Project
Form C - Weekly Active Avian Nest Status Summary**

Date of Nest Discovery	Date of Weekly Nest Status Update	Nest Label	GPS Coordinates	Nest Stage / Status (Updated Weekly)	Ambient Noise Level at Nest (dBA)	Construction Noise Level at Nest (dBA)	Buffer Size (ft)

[Type here]

[Type here]

[Type here]

STATE ROUTE 138 REALIGNMENT EAST OF INTERSTATE 15



Reptile Management Plan

FOR THE STATE ROUTE 138 REALIGNMENT EAST OF INTERSTATE 15 PROJECT

from 1.6 miles east of Interstate 15 (I-15) to 0.1 mile east of Summit Post Office Road

SAN BERNARDINO COUNTY, CALIFORNIA

*Sections 24 & 25, Township 3 North, Range 6 West &
Sections 19, 20, 29 & 30, Township 3 North, Range 5 West*

USGS 7.5' Cajon, California Quadrangle

8-SBd-138-PM (17.1-19.2)

EA 0Q3001

December 2015



For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn Kenneth Holmes, Environmental Stewardship & Monitoring Branch, 464 W. 4th Street, San Bernardino, CA 92401; (951) 323-8091 voice, or use the California Relay Service TTY number, (800) 735-2929.

Reptile Management Plan

State Route 138 Realignment East of Interstate 15 Project

San Bernardino County

Sections 24 & 25, Township 3 North, Range 6 West &

Sections 19, 20, 29 & 30, Township 3 North, Range 5 West

USGS 7.5' Cajon, California Quadrangle

1.6 mi. east of jct. with I-15 to 0.1 mi. east of Summit Post Office Road

8-SBd-138-PM (17.1-19.2)

EA 0Q3001

December 2015

STATE OF CALIFORNIA
Department of Transportation

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District 8/Riverside and San Bernardino Counties / Caltrans

Approved By: _____ Date: _____

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Biological Studies and Permits Branch
District 8/Riverside and San Bernardino Counties / Caltrans

Executive Summary

This reptile management plan has been prepared and is proposed to be implemented by the California Department of Transportation (Caltrans) for the proposed State Route 138 (SR-138) Realignment East of Interstate 15 (I-15) Project in unincorporated San Bernardino County (Project). The proposed Project, which is scheduled to commence as early as 2016, includes the realignment of this section of SR-138 for the purpose of increasing road sight distance and to improve the highway to current safety standards. Portions of the Project alignment are within an area known to be occupied and/or provide suitable habitat for several reptile species that are designated by the California Department of Wildlife (CDFW) as “California Species of Concern” (CSC). These include: coast horned lizard (*Phrynosoma blainvillii*), coastal whiptail (*Aspidoscelis tigris stejnegeri*) and two-striped garter snake (*Thamnophis hammondi*). Implementation of this reptile management plan would serve as part of the impact minimization and mitigation measures required by the terms and conditions of the Project’s Streambed Alteration Agreement (1600-2015-0035-R6).

The proposed reptile management plan includes the following methods:

- Pre-construction surveys for coast horned lizard, coastal whiptail and two-striped garter snake. The surveys will be conducted by a biologist knowledgeable in the identification, habitat requirements, life history and appropriate survey methods for the coast horned lizard, coastal whiptail and two-striped garter snake. The surveys will be conducted by walking the entire Project site and adjacent areas, including areas that may be indirectly impacted by the Project, to identify the presence of these species and/or their habitat.
- The avoidance of impacts to any wetland and/or riparian habitat other than those specified in the Project description provided in the Streambed Alteration Agreement (CDFW 2015). Ingress and egress will occur from the existing roadway and shall avoid all identified wetland areas and minimize impacts to streambed habitats to the greatest extent possible.
- A CDFW-approved Designated Biologist (DB) responsible for ensuring Project compliance with applicable permit conditions and requirements to protect natural resources, including but not limited to, the coast horned lizard, coastal whiptail and two-striped garter snake.
- Construction monitoring by the DB while Project activities are occurring to ensure Project conditions are being met. The DB will have the authority to immediately stop any Project activity.
- Attendance of a Worker Environmental Awareness Program (WEAP) for all Project personnel prior to the commencement of any on-site Project activities. The WEAP will

educate personnel about sensitive environmental issues, including but not limited to the coast horned lizard, coastal whiptail and two-striped garter snake and the requirements of the reptile management plan.

- Installation of escape ramps (at the end of each work day) placed at each end of all open trenches to allow for the escape of trapped wildlife.
- With authorization from CDFW, coast horned lizards coastal whiptails and two-striped garter snakes encountered on-site and in harm's way will be captured, temporarily transported and relocated safely offsite suitable habitat. These species may only be handled by biologists possessing a Memorandum of Understanding (MOU) and/or a Scientific Collecting Permit (SCP) issued by the CDFW for these species.
- Prior to Project initiation a detailed restoration plan identifying locations where restoration will take place, the seed and container plants that would be used, the methods that would be used to prepare and maintain the site, and the performance standards will be submitted to and reviewed for approval by USFWS.
- The new alignment will have locked gates will be installed to exclude Off Highway Vehicles (OHV) and other unauthorized access of the surrounding area. About 1.4 acres of unauthorized OHV roads around SR-138 will no longer be accessible.
- Best Management Practices (BMPs) will be implemented to minimize direct and indirect impacts in the Project area.
- Submittal of Minimization Measures Report summarizing the methods and results of the pre-construction surveys, avoidance measures implemented and the effectiveness of these measures submitted to the CDFW within thirty (30) days of the initiation of Project activities.

This plan is an integral part of the impact minimization and mitigation measures developed for this Project. Implementation of this plan, along with other impact avoidance, minimization and mitigation required for this Project is expected to substantially reduce the level of Project-related effects to the coast horned lizard, coastal whiptail and two-striped garter snake.

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List of Abbreviated Terms

Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
BA	Biological Assessment
BMPs	Best Management Practices
BO	Biological Opinion (FWS-SB-1537.7)
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Data Base
CSC	California Species of Concern
DB	Designated Biologist
ESA	Environmentally Sensitive Area
FESA	Federal Endangered Species Act
ft	Feet
m	Meter
MOU	Memorandum of Understanding
OHV	Off-highway Vehicles
PM	Post Mile
Project	State Route 138 Realignment East of Interstate 15 Project
SCP	Scientific Collecting Permit
SR-138	State Route 138
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WEAP	Worker Environmental Awareness Program

Chapter 1. Introduction

For the purpose of increasing road sight distance and to improve the highway to current safety standards, California Department of Transportation (Caltrans) proposes the realignment of a 2.1-mile segment of State Route 138 (SR-138) from Post Mile (PM) 17.1, which is 1.9 miles east of the junction with Interstate 15 (I-15) to PM 19.2, which is 0.6 mile east of Summit Post Office Road in unincorporated San Bernardino County, California (Project). The Project alignment traverses seven (7) tributaries to Crowder Creek, which is a tributary to Lytle Creek and ultimately the Santa Ana River. The Project site is located west of the City of Hesperia at Latitude 34°19.809 N, Longitude 117°26.552 W; Sections 24 and 25 of Township 3 North, Range 6 West and Sections 19, 20, 29, and 30 of Township 3 North, Range 5 West, U.S. Geological Survey (USGS) 7.5 minute *Cajon, California* quadrangle (Figures 1 & 2).

The proposed Project includes:

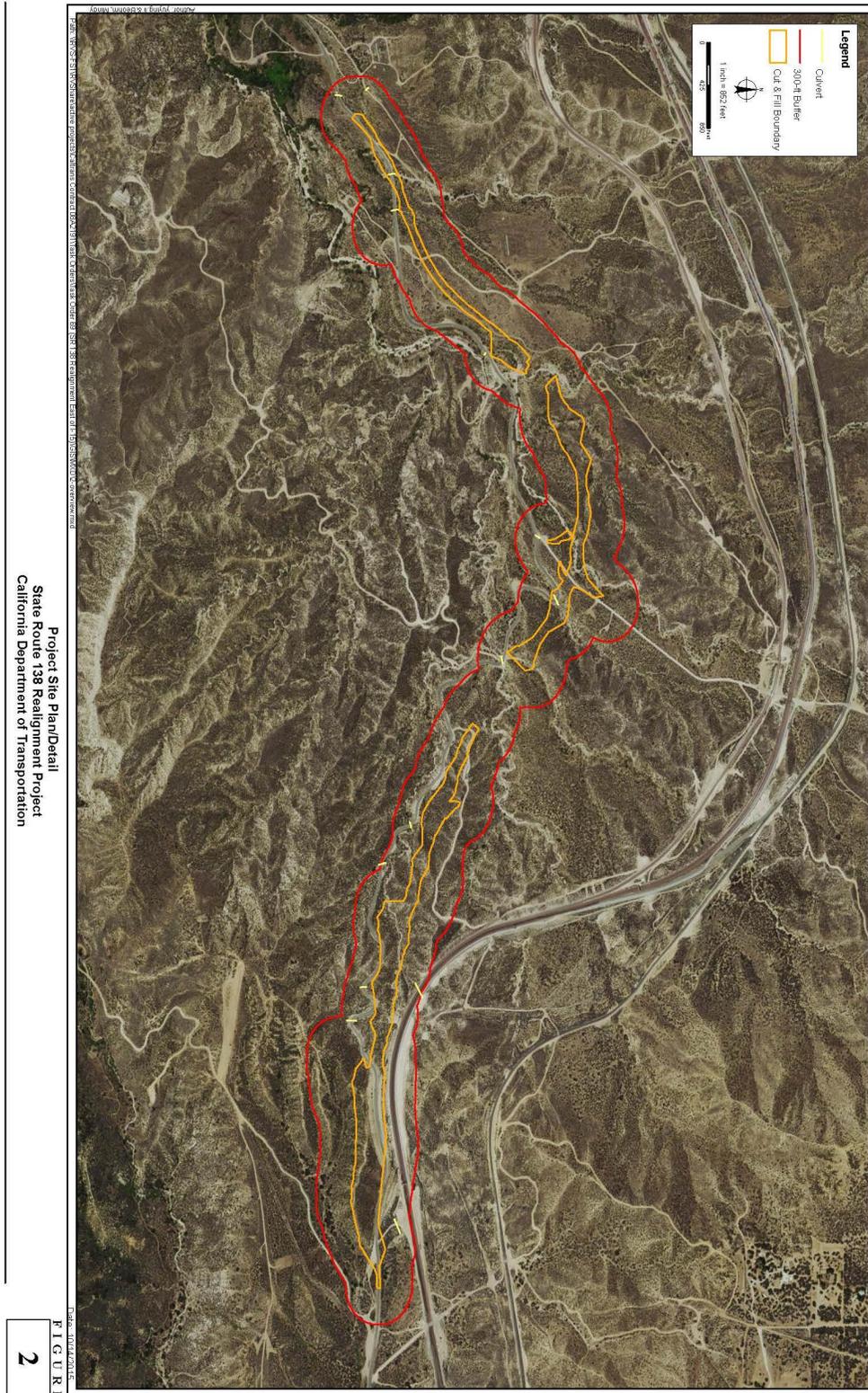
- The construction of a 2.1-mile two-lane (39.4-foot wide) highway,
- The construction of three (3) new bridges and wildlife crossings, which will result in the excavation of 1,160 cubic yards of stream bank and placement of 2,657 cubic yards of rock slope protection within the streambeds,
- The installation of eleven (11) new culverts,
- The removal of fifteen (15) existing culverts,
- The demolition and subsequent restoration (including the streambed crossings) of the existing alignment of SR-138,
- Grading and infill of 0.452 acres of streambed,
- Installation of ingress/egress along Double Drain Creek, and
- Restoration of demolished roadways and stream crossings

The Project alignment is located in an area that is known to be occupied by and/or provides suitable habitat for the coast horned lizard (*Phrynosoma blainvillii*), coastal whiptail (*Aspidoscelis tigris stejnegeri*) and two-striped garter snake (*Thamnophis hammondi*). These species are designated as “California Species of Concern” (CSC) by the California Department of Wildlife (CDFW).

Figure 1. Project Regional Map



Figure 2. Project Impact Area/Vicinity Map



For these reasons, implementation of the proposed Project is considered to have the potential to impact these state-designated CSCs.

This reptile management plan has been prepared in accordance with the requirements of Final Streambed Alteration Agreement Notification (No. 1600-2015-0035-R6) and in consideration of the legal requirements found in the California Environmental Quality Act (CEQA).

1.1. Purpose

In order to satisfy the requirements of the Streambed Alteration Agreement for the Project and to comply with CEQA, Caltrans has developed the following reptile management plan to avoid (where possible) and minimize Project effects to the coast horned lizard, coastal whiptail and two-striped garter snake.

Chapter 2. Background

2.1. Coast Horned Lizard

The coast horned lizard, often called "horny toad", is designated as a CSC by the CDFW. Its populations are declining due to loss, degradation and fragmentation of suitable habitat, extensive collecting, and introduction of the Argentine "grease" ant which out-compete, often eliminating, the native ant species (*Pogonomyrmex* sp.) eaten by horned lizards.

The coast horned lizard occurs throughout most of southern California, west of the desert and Cascade-Sierran highlands, ranging south through Baja California, Mexico (Stebbins 2003). It has been recorded from Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, and Ventura counties of southern California (Hagar 1992). Its elevational range extends from sea level to about 1,800 meter (m) (6,000 feet [ft]) in southern California mountains (Zeiner et. al 1988). Coast horned lizards are found in a variety of habitats including coastal sage scrub, chaparral, broad-leaved woodlands washes, and grasslands. Its diet consists primarily of harvester ants (*Pogonomyrmex* spp.), although other insects are also readily taken (Hagar 1992). Habitat requirements of coast horned lizards include: the presence of harvester ants; loose sandy soil where it buries itself; cover (rocks or brush) to escape from predators; and sunny/warm basking sites (Stebbins 2003, Sherbrooke 1981).

2.2. Coastal Whiptail

The coastal whiptail is designated as a CSC by the CDFW. The coastal whiptail is associated with sparsely vegetated sage scrub, grasslands, and woodlands from sea level to 2,134 m (7,000 ft). This species is especially fond of riparian corridors with sandy soils (Jones and Lovich 2009). This subspecies of the western whiptail occurs in cismontane Southern California, generally west of the Peninsular Ranges and south of the Transverse Ranges, from Baja Mexico to Ventura County, California. The coastal whiptail primarily preys upon small invertebrates such as spiders, centipedes, grasshoppers and termites but is known to occasionally eat other small lizards as well. Habitat loss and fragmentation are the primary threats to the coastal whiptail.

2.3. Two-striped Garter Snake

The two-striped garter snake is managed as a CSC by the CDFG. This species is one of the most aquatic of the garter snakes and it typically inhabits perennial and intermittent drainages, as well lakes, ponds, vernal pools and artificial aquatic habitats (e.g., retention ponds) from sea level to over 2,134 m (7,000 ft) (Jennings and Hayes 1994, Stebbins 2003). It also occurs in mixed oak, oak woodlands and chaparral on coastal slopes of mountains and foothills in areas in proximity to aquatic habitats.

Two-striped garter snakes prey on tadpoles, frogs, toads, fish, fish eggs, and earthworms.

Loss and fragmentation of habitat threaten the continued survival of the two-striped garter snake. Urban development and loss of wetlands has greatly reduced this species range and continues to be the primary threat to this species in southern California (Stebbins 2003).

Chapter 3. Methods

3.1. Pre-construction Surveys

Pre-construction surveys for coast horned lizard, coastal whiptail and two-striped garter snake will be conducted prior to commencement of on-site Project activities. The surveys will be conducted by biologists knowledgeable in the identification of all three species. The surveys will be conducted by walking the entire Project site and adjoining areas, including areas that may be indirectly impacted by the Project, to identify the presence of these species and their habitat.

3.2. Wetland Habitat Avoidance and Minimization of Impacts to Streambeds

Project implementation shall not impact any wetland and/or riparian habitat other than those specified in the Project description provided in the Streambed Alteration Agreement (CDFW 2015). Habitat adjacent to the Project site, will not be disturbed and will be designated as an Environmentally Sensitive Area (ESA). Ingress and egress will occur from the existing roadway and shall avoid all identified wetland areas and minimize impacts to streambed habitats to the greatest extent possible. No Project-related activities would be permitted within the established ESAs.

Any lighting or fencing adjacent to jurisdictional streambeds will require concurrence from CDFW in order to ensure wildlife (including coast horned lizard, coastal whiptail and two-striped garter snake) movement within the open space and conserved areas is not hindered. Fencing (if any) will be routinely monitored by the DB to ensure wildlife (including coast horned lizard, coastal whiptail and two-striped garter snake) are not trapped against the fence or otherwise impacted by installation, or the presence of the fence.

3.3. Designated Biologist

Caltrans will retain a Designated Biologist (DB), approved by the CDFW that is responsible for ensuring Project compliance with applicable permit conditions and requirements to protect natural resources, including but not limited to, the coast horned lizard, coastal whiptail and two-striped garter snake. Caltrans will submit the

name, qualifications, resume or curriculum vitae and contact information of the DB(s) to CDFW via email to: Nick.Buckmaster@wildlife.ca.gov. Caltrans will obtain CDFW written approval of the DB(s) at least fourteen (14) days prior to commencement of Project activities (including site preparation). Change of DB(s) will be approved in writing by CDFW at least five (5) days in advance.

The DB(s) will be knowledgeable and experienced in the identification, natural history, safe capture and handling of special-status species, including the coast horned lizard, coastal whiptail and two-striped garter snake while Project activities are occurring to ensure compliance with Project-specific permits, the requirements of the various management plans for sensitive species and to ensure impacts to wildlife habitat are minimized.

3.4. Construction Monitoring

Construction monitoring will be conducting on-site by the DB. The DB will conduct routine clearance sweeps of the Project impact area for special-status species, including the coast horned lizard, coastal whiptail and two-striped garter snake, prior to initiation of Project activities. The DB will ensure that the limits of grading and the jurisdictional areas (i.e., streambeds) are clearly staked and/or marked prior to conducting Project-related activities. The DB will be responsible for monitoring activities that result in the clearing or grading of sensitive habitats, as well as grading, excavation and/or ground disturbing activities in streambeds. The DB will be responsible for photographing the construction process. The DB will have the authority to immediately stop any Project activity that violates the terms and conditions of the respective Project permits and management plans and/or when a special-status species is detected on-site and is threatened by Project activities. If/when special-status species not addressed in the Project permits or management plans is encountered within the Project impact area, the DB will immediately stop work within the area and notify CDFW via email (Nick.Buckmaster@wildlife.ca.gov) and via telephone at (760) 872-1110. Consultation with CDFW is required prior to cancellation or a stop work order.

All night work (dusk till dawn) in the vicinity of culverts and/or bridges between March 1 and September 1 will require CDFW concurrence prior to commencement.

No work shall occur during wet weather conditions (e.g., rain).

3.5. Environmental Awareness Training

Attendance of a Worker Environmental Awareness Program (WEAP) will be required for all Project personnel prior to the commencement of any on-site Project activities. The WEAP will be given by the DB, or other knowledgeable biologists, and will educate personnel about sensitive environmental issues including, but not limited to the description, ecology, legal status, Project-specific impact avoidance and minimization measures for the coast horned lizard, coastal whiptail and two-striped garter snake and the fines and penalties that could result from non-compliance with these measures.

3.6. Escape Ramps

Escape ramps installed at each end of all trenches left open overnight will be constructed at the end of each work day to allow for the escape of entrapped wildlife. The ramps will be constructed of dirt, wood planks or other suitable material that is placed at an angle no greater than 30 degrees. Open pits and trenches will be inspected by the DB each morning for wildlife that may still be present from the previous night. All wildlife found within the open pits or trenches will be safely relocated by the DB to offsite suitable habitat out of harm's way.

3.7. Reptile Handling and Relocation

If coast horned lizard, coastal whiptail or two-striped garter snake, or when any reptile species, is observed on-site by Project personnel, all Project activities will be temporarily halted and the DB notified immediately. The DB will possess a Scientific Collecting Permit (SCP) issued by the CDFW authorizing handling of the coast horned lizard, coastal whiptail, two-striped garter snake and other reptile species that have the potential of occurring in the vicinity of the Project site. The DB will safely capture on-site reptiles at imminent risk of injury or mortality by hand, tongs, snake hook and/or lizard noose, transport and release at nearby offsite areas with suitable habitat.

Prior to handling, all field equipment (i.e., boots, snake hooks, snake tongs, buckets, containers, etc.) that come into contact with captured reptiles, will be thoroughly cleaned, disinfected and freed of debris (e.g., mud, dirt, leaves). Thorough mechanical cleaning (e.g., scrubbing with a stiff brush) of equipment will take place offsite, or at least outside and away from jurisdictional areas. Once equipment is free of debris, it

will be disinfected with bleach solution. Soaking equipment in bleach solution is recommended over spraying.

3.8. Restoration

Prior to Project initiation a detailed restoration plan identifying locations where restoration will take place, the seed and container plants that would be used, the methods that would be used to prepare and maintain the site, and the performance standards will be submitted to and reviewed for approval by USFWS. Surface disturbance and vegetation removal associated with restoration will be monitored by the Project DB.

3.9. Fencing

The new alignment will have locked gates installed to exclude Off Highway Vehicles (OHV) and other unauthorized access of the surrounding area. About 1.4 acres of unauthorized OHV roads around SR-138 will no longer be accessible.

3.10. Best Management Practices

Best Management Practices (BMPs) will be implemented to minimize direct and indirect impacts in the Project area.

3.11. Reporting

The results of the pre-construction surveys for coast horned lizard, coastal whiptail and two-striped garter snake will be included in the Minimization Measures Report to be submitted to the CDFW within thirty (30) days of the initiation of Project activities. Caltrans will submit the report summarizing the methods and results of the pre-construction surveys, avoidance measures implemented and the effectiveness of these measures.

California Natural Diversity Data Base (CNDDDB) forms and maps will be submitted to the CNDDDB within five (5) working days of any on-site observations of special-status species, including coast horned lizard, coastal whiptail and two-striped garter snake. The CNDDDB form is available at: www.dfg.ca.gov/whdab/pdfs/natspec.pdf. This information will be sent via US mail to: California Natural Diversity Data Base, 1807 13th Street, Suite 202, Sacramento, CA 95814, Phone (916) 324-3812. Copies will be sent via US mail to: CDFW Inland Deserts Region, 407 West Line Street,

Bishop, CA 93514, Attn: Nick Buckmaster, Phone (760) 872-1110. Notification #1600-2015-0035-R6.

A report summarizing the Project reptile protection measures will be submitted to the CDFW following Project completion. The report will include data such as schedule, personnel, findings, and actions taken.

Chapter 4. Conclusion

The Project site is located within an area that is known to be occupied by and/or provides suitable habitat for special-status reptile species, including the coast horned lizard, coastal whiptail and two-striped garter snake. Caltrans proposes the demolition of the existing roadway and the construction of a new highway alignment. As part of the Projects impact avoidance and minimization measures, this management plan for special-status reptiles has been developed. Implementation of this plan, along with the Project's other impact avoidance and minimization measures, should reduce Project-related effects on the special-status reptiles potentially occurring on-site.

Chapter 5. References

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- Jennings, M.R. and M.P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. California Department of Fish and Game, Sacramento.
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