FOR CONTRACT NO.: 10-0G8004

INFORMATION HANDOUT

MATERIALS INFORMATION

1. Foundation Report
2. United State Fish and Wildlife Biological Opinion
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4. California Department of Fish and Game Amendment of Lake and Streambed Alteration Agreement
5. Central Valley Regional Water Quality Control Board 401 Certification
6. United States Army Corps of Engineers Nationwide Permit

ROUTE: 10-SJ-12-0.1/R4.4

M e m o r a n d u m

Flex your power!
Be energy efficient!

To: MR. GARY JOE
Branch Chief, Branch 17
Office of Bridge Design Services
Structure Design
Division of Engineering Services

Attention: Ramon Reyes

Date: May 25, 2011

File: 00-SJ-12 PM 2.64
EA 10-0G8001
ID 1000000052
Bouldin Island UC
Br. No. 29-0336

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Foundation Report

Introduction

The Office of Geotechnical Design North has prepared this Foundation Report (FR) to provide foundation recommendations for construction of the Bouldin Island Undercrossing (UC), Br. No. 29-0336, as part of the Bouldin Island rehabilitation/median barrier project on State Route (SR) 12 in San Joaquin County.

Scope of Work

The scope of our work for this FR includes review of the General Plan, Foundation Plan, foundation design loads provided by Bridge Design Branch 17, evaluation of subsurface conditions based on the available geotechnical and geologic data, a field exploration program, and engineering and seismic analyses.

Project Description

The Bouldin Island rehabilitation/median barrier project covers a 4 mile segment of SR 12 on Bouldin Island from the Sacramento County line at the Mokelumne River Bridge (PM 0.1) to the Potato Slough Bridge (PM 4.4).

To improve a deteriorating roadway surface and driver safety, the project proposes to replace the existing two lane freeway with a new roadway section that includes 12 foot travel lanes in each direction and eight foot outside shoulders, five foot inside shoulders, and a concrete median barrier. Formerly served by an at-grade crossing, a bridge

undercrossing will be installed at PM 2.64 to maintain access between the properties to the north and south of SR 12. The proposed bridge structure is located approximately 50 feet south of the existing SR 12 and 7.5 miles west of I-5 between Lodi and Rio Vista.

At the bridge location, an at-grade crossing is currently utilized by adjacent property owners. The proposed freeway will feature a new continuous median barrier preventing the aforementioned access. The proposed Bouldin Island UC will provide a safe and continuous crossing for the adjacent property owner's equipment and personnel.

This proposed structure type is a single span CIP/PS voided slab on diaphragm abutments founded on Standard Class 140 Alt "W" piles. Foundation and design loads provided by Bridge Design Branch 17 are presented in **Table 1** and **Table 2**.

Table 1. General Foundation Information from Bridge Design

Support No.	Design Method	Pile Type	FG Elev. (ft)	Cut-off Elev. (ft)	Pile Cap Size (ft)		Permissible Settlement Under Service Load (in)	Number of Piles Per Support
					B	L		
Abut 1	WSD	Class 140	2.11	-5.39	3	55	1	8
Abut 2	WSD	Class 140	2.11	-5.39	3	55	1	8

Table 2. Foundation Design Loads from Bridge Design

Support No.	Service-1 Limit State (kips)			Strength Limit State (Control Group, kips)				Extreme Event Limit State			
	Total Load		Permanent Load	Compression		Tension		Compression		Tension	
	Per Support	Max Per Pile	Per Support	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile	Per Support	Max Per Pile
Abut 1	991	123	689	NA	NA	NA	NA	NA	NA	NA	NA
Abut 2	991	123	689	NA	NA	NA	NA	NA	NA	NA	NA

Field Investigation

Our subsurface investigation consisted of two rotary wash borings (R-11-001 and (R-11-002) that were drilled to depths of 111.5 and 136.5 feet below existing ground surface at the proposed bridge abutment locations. Soil was collected in each boring using a split spoon Standard Penetration Testing (SPT) sampler. In addition to the borings two Cone Penetrometer Tests soundings were conducted (CPT-10-001 and CPT-10-002) that reached depths of about 100 feet. The CPT soundings produce a continuous electronic record of pressure transducer data that correlates to soil type and strength characteristics.

Full-sized Logs-of-Test-Borings (LOTB) will be prepared by Geotechnical Services, Office of Geotechnical Support, Branch D, Contracts, Graphics & Records to be incorporated in the project plans.

Site Geology and Subsurface Conditions

Information regarding the regional geology can be found on the Geologic Map of the Sacramento Quadrangle, published by CDMG dated 1987. According to this map, the entire site is located in intertidal deposits, which consist mostly of peaty mud, labeled as Qi. This soil is composed of soft mud and peat that were deposited in marshes, swamps, and adjacent waterways. This formation was deposited primarily in the Quaternary Period of the Cenozoic Era. This formation is a relatively young deposit that has been formed over the last 1.6 million years.

The soils underlying the proposed bridge abutments were classified based on field classification of boring samples in combination with Standard Penetration tests, Pocket Penetrometer readings and Cone Penetration Tests. The near surface soils consist of about 7 feet of very loose/soft peat underlain by about 5 feet of loose to very loose silty to clayey sand. Below these soils are layers of dense to very dense sand, silty sand, and clayey sand interbedded with layers of soft to very stiff clay, silty clay, and sandy clay and clayey silt to a depth of 97 feet (elevation 109 feet). Below a depth of 97 feet, the soils consist of very dense sand and clayey sand and very stiff clay and clayey silt to the maximum depth explored of 136.5 feet (elevation 148.5).

Topography and Drainage

The topography of the project site is generally flat. The most prominent drainage feature is the Mokelumne River, which runs to the north of the site. The elevation at the proposed bridge site ranges from approximately -11.5 to -12.5 feet.

Ground Water

The groundwater depth was measured at a stabilized depth of 3 feet (approximate elevation -15 feet) in boring R-11-001 in March 2011.

Scour

As the bridge structure is not located adjacent to any waterways, scour is not a consideration for this project.

Corrosion

For the roadway portion of this project, soil samples were tested for corrosion characteristics. The test results indicate that the soils within the project limits are non-corrosive.

Seismic Recommendations

Based on the Caltrans 2009 Seismic Design Procedure, the nearest active fault to the site is the Great Valley fault 5 (Fault ID No. 24) with a Mmax of 6.5 which is located west of the proposed bridge site. The rupture distance to the fault plane from the bridge site is estimated to be about 12 miles. The fault is referred to as a reverse fault with a dip angle of 15 degrees to the west.

Based on the log of test borings a Vs30 (average shear wave velocity for the top 100 feet of soil column) was estimated using the SPT blow counts and the correlation formulas for both cohesive and granular soil. The estimated shear wave velocity is 700 feet per second.

Using the above shear wave velocity, the design Acceleration Response Spectrum, (ARS) curve is controlled by the USGS 5% probability of exceedance in 50 years (return period of 975 years). The spectral acceleration (SA) by the probabilistic method is higher than

both the deterministic SA and the statewide minimum SA. The design ARS curve was obtained from "USGS 2008 Interactive Deaggregation (Beta)" web site, and is attached. The estimated peak ground acceleration as shown on the ARS curve is 0.36g.

A liquefaction analysis indicates that the granular soil from elevation -29 to -34 feet in boring R-11-001 and from elevation -19 to -24 feet and -29 to -34 feet in boring R-11-002 have potential to liquefy during a seismic event. The ground surface elevation is approximately -12 feet.

The potential for surface rupture at the site due to fault movement is considered insignificant since there are no known faults projecting towards or passing directly through the project site.

The recommended design ARS curve with an estimated peak ground acceleration of 0.36g is attached on **Plate No. 1**.

Foundation Recommendations

Recommendations for Standard Class 140 Alternative “W” piles at Abutments 1 and 2 are presented in **Table 3**.

Table 3. Foundation Recommendations for Abutments

Supp Loc	Pile Type	Cut-off Elev (ft)	Service Limit State Per Support (kips)		Required Nominal Resistance (kips)				Design Tip Elev (ft)	Spec Tip Elev (ft)	Nominal Driving Resist. Required (kips)
					Strength Limit		Extreme Event				
			Total	Permanent	Comp φ=0.7	Tension φ=0.7	Comp φ=1.0	Tension φ=1.0			
Abut 1	14” Class 140 Alt. W	-5.39	991	689	NA	NA	NA	NA	(a-I) -114	-114	280
Abut 2	14” Class 140 Alt. W	-5.39	991	689	NA	NA	NA	NA	(a-I) -114	-114	280

Notes:

1. Recommendations are based on Working Stress Design (WSD) for abutments and the loads provided by Bridge Design.
2. A factor of safety of 2.0 is used to calculate the available geotechnical resistance in Service Limit State.

3. The design tip elevations recommended herein are controlled by (a-I) compression (Service Limit State).
4. The design tip elevations controlled by settlement is not applicable.
5. The design tip elevations controlled by lateral load is typically provided by Bridge Design.
6. The specified tip elevations recommended herein shall not be raised if controlled by lateral load.

Pile Data recommendations for Standard Class 140 Alternative "W" piles at Abutments and Bents are presented in **Table 4**.

Table 4. Pile Data Table

Support Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
		Compression	Tension			
Abut 1	14" Class 140 Alt. "W"	246	N/A	(a-I) -114	-114	280
Abut 2	14" Class 140 Alt. "W"	246	N/A	(a-I) -114	-114	280

Notes:

1. The design tip elevations recommended herein are controlled by (a-I) compression (Service Limit State), (a-II) compression (Strength Limit State) and (a-III) compression (Extreme Limit State).
2. The design tip elevations controlled by settlement is not applicable.
3. The design tip elevations controlled by lateral load is typically provided by Bridge Design.
4. The specified tip elevations recommended herein shall not be raised if controlled by lateral load.

Construction Considerations

1. Pile acceptance criteria for all driven piles shall be based on the Gates formula (Caltrans Standard Specifications Section 49-1.08).
2. Piles, to be driven through embankment fills, shall be predrilled according to Caltrans Standard Specifications Section 49-1.06.
3. To mitigate settlement due to soft near surface soils, wick drains and a settlement waiting period of 6 months has been specified for the embankment fills for the entire project. The settlement waiting period must be completed before installation of the piles for this structure may begin.

Disclaimer and Contact Information

The foundation recommendations included in this report are based on specific project information regarding structure type, location, and design loads provided by the Office of Bridge Design Branch 17. If any changes are made during final project design, OGDN should review the changes to determine if these foundation recommendations are still applicable. Any questions regarding this report should be directed to the attention of Ben Barnes at 916-227-1039.

BENJAMIN M. BARNES, P.E.
Transportation Engineer, Civil
Office of Geotechnical Design North
Geotechnical Services

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN M. BARNES
No. 66090
Exp. 6/30/2012
CIVIL
STATE OF CALIFORNIA

Attachment: Plate No. 1 – Design Response Spectrum

c: Iorzua Akuva (D10 Project Manager)
Qiang Huang (GS, OGDN-E)
Mark Willian (GS Corporate)
Structure R.E. Pending File
Rebecca Harnagel (DES Office Engineer, Office of PS&E)
Dave Dhillon (D10 DME)

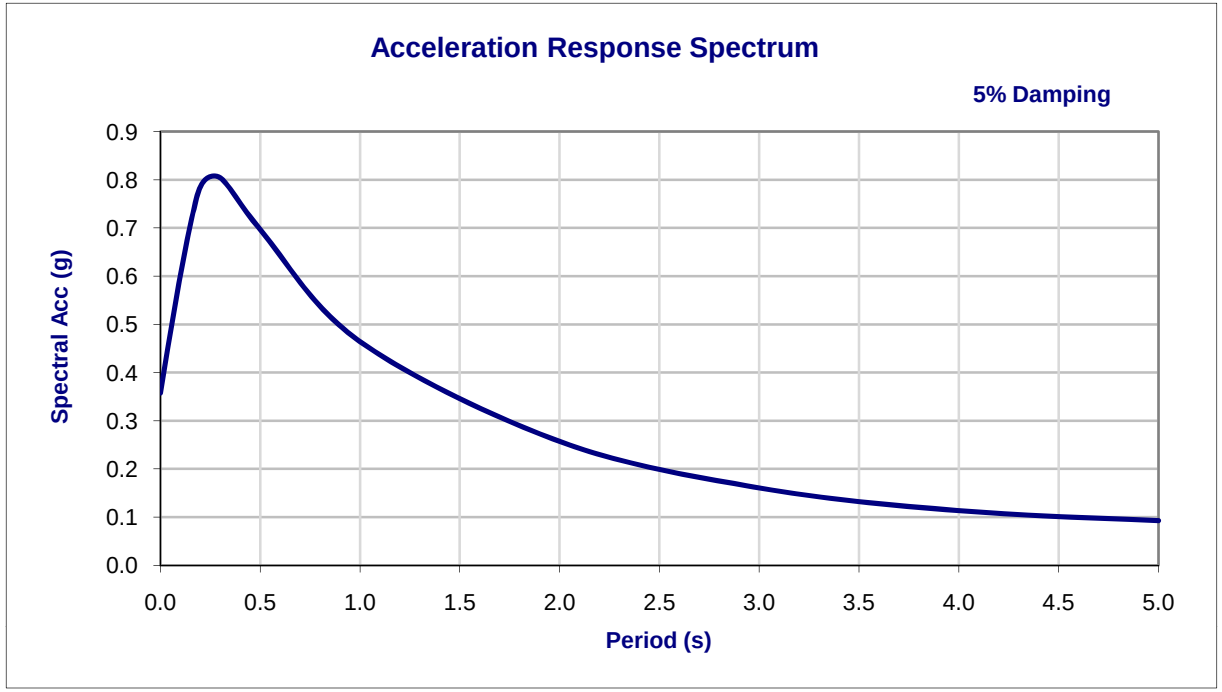
Bouldin Island UC

Bridge No. **29-0336**
EFIS **1000000052**

Latitude 38.113258
Longitude -121.535035

Control **Probabilistic**

Period (s)	Sa(g)
0.000	0.358
0.100	0.602
0.200	0.785
0.300	0.804
0.500	0.697
1.000	0.464
2.000	0.257
3.000	0.161
4.000	0.113
5.000	0.093



Deterministic Procedure Data

Fault	Green Valley Fault		R_{rup}	20.3	km
Fault ID	24		R_{jb}	19.1	km
Style	R		R_x	18.3	km
Mmax	6.5		V_{S30}	213	m/s
Dip	15	deg	$Z_{1.0}$	NA	m
Z_{TOR}	7	km	$Z_{2.5}$	NA	km

Notes

Please note the Design ARS curve is based on a 5% probability of exceedance in 50 years (return period of 975 years).

Final

Design Response Spectrum

Plate No. 1

United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish and Wildlife Office
650 Capitol Mall, 8th Floor
Sacramento, California 95814

In Reply Refer To:
81420-2009-F-1030-R001-1

JUL 26 2012

Ms. Carrie Swanberg
Interim Chief, Southern Central Region Biology
California Department of Transportation, District 6
855 M Street, Suite 200
Fresno, California 93721

Subject: Reinitiation of the Biological Opinion for the Bouldin Island Rehabilitation Project, San Joaquin County, California (California Department of Transportation EA 10-0G800; 10-SJ-12 PM 0.1/R4.4)

Dear Ms. Swanberg:

This is the U.S. Fish and Wildlife Service's (Service) response to the California Department of Transportation's (Caltrans) request to reinitiate the biological opinion for the proposed Bouldin Island Rehabilitation Project (project) in San Joaquin County, California (Service file number 81420-2009-F-1030-1), dated December 24, 2009, which addressed effects to the threatened giant garter snake (*Thamnophis gigas*; referred to as the GGS in the existing biological opinion text), the threatened the delta smelt (*Hypomesus transpacificus*; referred to as the DS in the original biological opinion text) and the delta smelt's designated critical habitat. Under the provisions of the July 1, 2007, Pilot Program Memorandum of Understanding between the Federal Highway Administration (FHWA) and Caltrans, FHWA assigned, and Caltrans assumed, FHWA's responsibilities under the National Environmental Policy Act as well as its responsibilities for environmental review, consultation, and coordination under other Federal environmental laws.

Your letter, dated May 24, 2012, requesting to amend the biological opinion, was received in this office on May 25, 2012. Your electronic-mail (e-mail), confirming reinitiation of the biological opinion, was received by us on June 1, 2012. Under consideration is Caltrans' proposal to modify the scope of the project description to include new infrastructure to address access problems experienced by the property owner as a result of the initial proposed design; this will result in additional adverse effects to the giant garter snake. Also under consideration is Caltrans' proposal to compensate for additional project impacts to the species at the Sutter Basin Conservation Bank. This document has been prepared in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*) (Act).

In reviewing the request, the Service has relied upon: (1) the Service's December 24, 2009, original biological opinion; (2) the consultation history; and (3) other information available to the Service.

Consultation History

May 24, 2012. Caltrans e-mailed the Service regarding a forthcoming project description change. Caltrans attached an electronic copy of the amendment request letter and informed the Service that it had mailed a hard-copy request letter.

May 25, 2012. The Service received from Caltrans a hard-copy letter requesting to amend the biological opinion based on a change in the project description that will include construction of an undercrossing and access roads to connect property on the northern and southern sides of State Route (SR) 12 for the benefit of the local property owner. The new construction will lead to additional impacts to giant garter snake upland and aquatic habitat.

June 7, 2012. Caltrans e-mailed the Service to clarify that it was requesting reinitiation of consultation based on the aforementioned project description change.

The following changes are made to the December 24, 2009, original biological opinion. Segments of removed text are delineated by a strike-through line and new segments of text are highlighted by an underline.

On page 2, second paragraph under the introduction: Add a reference to the filling of additional irrigation ditches due to the newly proposed project activities. This is now amended to read:

> Caltrans has determined, and the Service concurs, that the proposed project is not likely to adversely affect the DS or adversely modify its designated critical habitat, given the avoidance and minimization measures and Best Management Practices (BMPs) to be implemented during construction of the project. The proposed project is located within designated critical habitat for the DS, and would include the filling of ~~an~~ several active irrigation ditches along the south and north side of the current State Route 12 (SR-12) alignment. Available information indicates that DS are not likely to be present within ~~this~~ these irrigation ditches, and the ditches do~~es~~ not contain the primary constituent elements (PCEs) of DS critical habitat. However, DS are known to occur immediately downstream of the proposed project area, within Potato Slough and the Mokelumne River, and designated critical habitat also occurs downstream of the proposed project area [California Department of Fish and Game (CDFG), 2009a and CDFG, 2009b]. The irrigation ditches transport~~s~~ water either to a secondary dewatering canal to the east or to Bouldin Island's primary dewatering canal, where it is then pumped through a mechanical pump house back into the South Mokelumne River. Caltrans proposes to implement the following conservation measures and BMPs for erosion control and water quality in order to minimize the potential for effects to the DS and its designated critical habitat during construction activities:

On pages 5-6, first paragraph and associated bullet points under **Description of the Proposed Action**: Add a new section describing the additional work required because of the project description change. This is now amended to read:

> The following project description is based on information provided by Caltrans in its revised mini B.A. (Caltrans, 2009). According to Caltrans, the proposed project intends to address the inherent and persistent problems associated with this stretch of highway, arising from the compressive layers of peat and clay located under the existing alignment. Previous maintenance and rehabilitation projects performed as early as 1995 have not been successful and improvements intended to resist differential settlements and cracking have not lasted long. Caltrans, in cooperation with the Federal Highway Administration (FHWA), proposes to rehabilitate and reconstruct an approximately 4.3 mile (mi) segment of SR-12 from Post Mile (PM) 0.1 to R4.4 in San Joaquin County. This segment is located approximately 10 mi west of the SR-12/Interstate (I)-5 intersection and approximately 14 mi west of the City of Lodi. Construction activities will include:
>
> - Construction of a new structural section to the south of the existing SR-12 alignment, with standard 12-foot (ft) travel lanes, eight-ft shoulders, and five-ft inside shoulders. As a result of discussions with the local reclamation district and property owner, Caltrans will undertake all widening activities south of the existing alignment in order to prevent encroachment upon the existing levee of the South Mokelumne River.
>
> - Installation of a new concrete barrier at the center line of the new highway section throughout Bouldin Island. It will include three manually operated gates for emergency maintenance vehicle access.
>
> - Removal of the existing highway section following construction of the new alignment.
>
> - Replacement in-kind of culverts within the project limits and extension of the structures to match the new alignment.
>
> - Acquisition of new right-of-way (ROW) on the south side of the current alignment; this will be required to incorporate the majority of the widening activities.
>
> - Filling of an irrigation ditch and a portion of a small pond located to the south of SR-12 to make way for the new alignment.
>
> <u>Due to the proposed installation of the concrete barrier at the center line of the highway, access by the property owner to agricultural lands between the north and south of SR-12 will be blocked. To address this problem, Caltrans proposes to construct an undercrossing at PM 2.64 to facilitate access between both sides of SR-12. Retaining walls will be</u>

installed on the south side of the highway to support the SR-12 bridge approaches over the undercrossing. Access roads (also referred to as driveways # 6 and 7) also will be constructed in order to enable the property owner and his staff to access and manage lands on each side of SR-12.

Undercrossing Schedule and Design

It will take approximately 140 days to complete the structure. The undercrossing will measure 60 ft and nine inches (in) long. Vertical clearance will be 15 ft, and the total height of the structure from original ground to the top of the deck will be 18 ft. Sixteen steel pipes will be required for construction, and each pipe will measure 80 ft long, with a diameter not to exceed one ft, six in. Metal beam guardrail will be used on the edges of the approaches and a concrete barrier will be installed on the edges of the bridge deck. The road underneath the crossing will be 24 ft. wide.

Retaining Walls

These will be located along the approach to the bridge of the undercrossing on the south side of the new alignment. The walls are necessary to maintain a 2:1 slope so that work is kept within the Caltrans ROW. The total length of the wall to the west of the undercrossing will be 505 ft, and to the east of the undercrossing will be 517 ft. Wall height will vary from four to 10 ft above ground level. One hundred forty concrete or steel pipes will be required to build the walls, with each pipe measuring 80 ft in length.

Access Roads

Two access roads, or driveways, will be required to connect land on either side of SR-12. One will be located on the northern side and one on the southern side and will connect to the undercrossing structure.

On page 10, #11 under *Proposed Giant Garter Snake Conservation Measures*: Modify the total amounts of affected giant garter snake upland and aquatic habitat, and proposed compensation credits. This is now amended to read:

11. To minimize the effects of the permanent loss of suitable GGS habitat, Caltrans proposes using a 3:1 compensation ratio to purchase ~~7.74~~ 15.57 credits for the loss of ~~2.58~~ 5.19 ac of aquatic habitat, and a 0.5:1 compensation ratio to purchase ~~8.46~~ 9.25 credits for the loss of ~~16.92~~ 18.50 ac of upland habitat existing within 200 ft of the aquatic habitat, at the closest Service-approved conservation bank prior to ground breaking; Caltrans proposes to use the Sutter Basin Conservation Bank. This comes to a total of ~~16.2~~ 24.82 credits. Caltrans also proposes to restore and revegetate the approximately 16 ac strip of the existing SR-12 alignment once it is removed and the realignment constructed immediately due south.

On pages 10-11, under **Action Area**: Modify the action area to include areas where the undercrossing and access road work will be performed. This is now amended to read.

> The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The action area is bounded to the north by the southern fork of the Mokelumne River, to the west by the main segment of the Mokelumne River, to the south by the San Joaquin River and Potato Slough, and to the east by Little Potato Slough, within which lies the ~~88.6 ac~~ project footprint, defined by Caltrans as the areas of cut and fill plus actual ground disturbance, and includes the 4.3 mi segment of SR-12 that will be realigned, the ~~2.58~~ 5.19 ac of permanently affected aquatic GGS habitat in the form of irrigation ditches, ~~and~~ a pond, and a portion of rice fields, and the ~~16.92~~ 18.50 ac of permanently affected upland GGS habitat. The project footprint further incorporates the Caltrans ROW along SR-12, some of which will be newly acquired; the ROW encompasses portions of ruderal and agricultural land located directly south of the existing SR-12 alignment within which realignment and construction activities will occur, and in which an access road, designated staging areas for equipment storage, and vehicle parking areas will be present. The action area further includes a segment of a private dirt road at which an undercrossing structure will be constructed, in addition to portions of private property (i.e. ruderal and agricultural lands) located outside the Caltrans ROW to the north of the existing SR-12 and to the south of the proposed SR-12 realignment on which two access roads will be constructed and connected to the dirt road/undercrossing. Permanent construction easements will be required to cover these additional activities, and will affect a total of 5.14 ac. ~~The action area also includes the borrow site, from which fill material will be obtained, but which is not yet identified~~. Aquatic areas immediately downstream of in-water construction work in the agricultural irrigation ditches along SR-12 are also areas in which effects are anticipated to occur, as this waterway connects with the Mokelumne River via a primary dewatering canal and pump house.

Page 19, first three paragraphs under **Effects of the Proposed Action**: Add the effects from the undercrossing and access road activities. This is now amended to read:

> Direct effects to the GGS include the loss of suitable habitat during the course of fill, road construction, and realignment activities, as well as from undercrossing and access road construction. Permanent effects will result in the loss of ~~2.58~~ 5.19 ac of aquatic habitat due to direct filling of several water bodies, including: the irrigation ditch located just south of the current SR-12 alignment and which runs the length of the action area; a small segment of a secondary irrigation ditch, set perpendicular to the highway, and situated just east of where the first irrigation ditch terminates on its eastern end; ~~and~~ the northern portion of a small pond, also located south of the existing SR-12 alignment on the eastern edge of the action area; and a segment of an irrigation ditch located north of the existing highway alignment, in addition to a segment of an irrigation ditch and a portion of rice fields located to the south of the proposed SR-12 realignment, all of which are located outside the

Caltrans ROW at the site of the proposed undercrossing and driveway access roads. Permanent effects will also result in the loss of ~~16.92~~ 18.50 ac of upland habitat (i.e. emergent wetland vegetation found on the banks of the ditches and pond, plus ruderal vegetation, and portions of ruderal and agricultural lands) situated within 200 ft of suitable GGS aquatic habitat due to construction activities to realign and expand the highway southwards. These permanent effects to aquatic and upland areas deprive the GGS of its essential habitat components. The irrigation ditches, ~~and~~ pond, and rice fields will become completely inaccessible to the species, as will their banks and associated upland habitat. Although predominantly aquatic, the GGS requires terrestrial refuge and cover in burrows and crevices as part of its natural life-cycle functioning. If habitat is destroyed, there will no longer be suitable upland habitat for purposes of hibernation during the colder months of the GGS's inactive period. And without hibernacula during these overwintering months (approximately October ~~1~~ 2 through April 30), this could harm the GGS and perhaps even lead to mortality. The GGS also uses burrows as refuge from extreme heat during its active period (Wylie *et al.,* 1997; Wylie *et al.,* 2004a), so their removal during construction activities between May and October could also result in harm and injury to individuals utilizing them.

Excavation and the movement of large equipment will remove vegetative cover and basking sites on the banks of the irrigation ditches and pond, and within the rice fields used by the GGS, and will fill or crush burrows in upland areas that the GGS could potentially use as upland refugia during both its active and inactive seasons. Harassment to, direct injury to, or mortality of individuals could occur from these construction actions, as well as from the increased presence of heavy construction equipment, vehicles, and personnel during realignment and lane work within the SR-12 cut and fill perimeter and within the expanded Caltrans ROW and during undercrossing and access road work outside of the Caltrans ROW. However, Caltrans plans to conduct ground vegetation and shrub removal during the GGS active period when the species is more likely to be in the water. Additionally, Caltrans proposes to keep staging and vehicle areas a minimum distance of 200 ft away from GGS aquatic habitat, in order to minimize their impact on the species. Construction activities extending beyond October 1 that occur within previously-disturbed upland habitat likely will not lead to additional effects to GGS habitat during this period, as this land will have been made previously unavailable to the species because of those project activities already undertaken during the GGS active season.

While the main segment of the primary agricultural ditch will be permanently removed and paved over for construction of the realigned highway, and several additional irrigation ditches will be filled in permanently in order to construct the undercrossing and associated access roads, the dewatering of other segments of the water bodies could temporarily reduce aquatic habitat for the snake and the associated foraging potential this habitat provides. This could result in short-term secondary effects deriving from the displacement and reduction of prey and transitory changes in hydrology during in-water work. During dewatering, Caltrans proposes efforts to ensure that prey species will not be supported, so as to discourage GGS from either remaining on-site or from being attracted to the area.

Page 20, second paragraph under **Cumulative Effects**: Include the additional private action that the property owner will carry out beyond the Caltrans ROW. This is now amended to read:

> Delta Wetlands owns the agricultural land to the south of the project's action area and the proposed SR-12 realignment. At an unspecified time in the future, a new irrigation ditch will be established at some unknown location by the landowner within the property. This could in fact serve to benefit the GGS by providing another aquatic source as essential habitat. Additionally, the property owner will further excavate new irrigation ditches in private agricultural land located outside the Caltrans ROW to replace those that will be filled as a result of the construction of the undercrossing and access roads.

Page 21, under **Amount or Extent of Take**: Clarify how take estimates are made; modify the amount of take to reflect the effects from the additional undercrossing and access road construction activities; and include additional effects to the species that will be exempted from section 9 prohibitions. This is now amended to read:

> The Service anticipates that incidental take of the GGS will be ~~difficult~~ infeasible to detect or quantify because the species is cryptically colored, secretive, and aversive to human activities, and often retreats into burrows, soil crevices, or vegetative cover. Most close-range observations represent chance encounters that are difficult to predict. Thus, it is ~~problematic~~ infeasible to quantify an exact number of GGS individuals that are anticipated to be taken as a result of the proposed action. In instances when take calculations ~~are difficult to accurately calculate~~ cannot be determined accurately, the Service may estimate take in numbers of ~~individuals per~~ acres of permanently lost or degraded habitat as a result of the project action~~, as these impacts reflect a significant biological effect to the species~~; since take is expected to result from these impacts to habitat, the quantification of acreage becomes a direct surrogate for the species that will be taken. Therefore, the Service anticipates take incidental to this project as ~~all GGS inhabiting, utilizing, or moving through~~ the ~~19.5~~ 23.69 ac of suitable habitat that will be permanently lost (~~16.92~~ 18.50 ac of upland and ~~2.58~~ 5.19 ac of aquatic) within the action area (and which includes all upland habitat within 200 ft of suitable aquatic habitat). Upon implementation of the *Proposed Avoidance and Minimization Measures* considered herein and the following *Reasonable and Prudent Measures* and *Terms and Conditions*, incidental take for this project within this acreage in the forms of harm~~,~~ and harassment~~,~~ due to habitat loss ~~direct injury, or mortality of the GGS,~~ deriving from road realignment and accompanying construction, dewatering and fill activities, and undercrossing and access road construction, as well as in the forms of injury or mortality as a result of crushing by heavy equipment and vehicles, in addition to predatory effects from improper trash disposal, are hereby exempt from the prohibitions described under section 9 of the Act.

Page 23, #1 under **Reporting Requirements**: Remove the reference to the in-lieu fund and insert the reference to the closest Service-approved conservation bank. This is now amended to read:

1. Before construction starts on this project, the Service shall be provided with the final documents related to protection of conservation acres, including but not limited to, proof of purchase of credits ~~through the in-lieu species fund~~ at the closest Service-approved giant garter snake conservation bank. Caltrans proposes to use the Sutter Basin Conservation Bank.

The remainder of the original December 24, 2009, biological opinion is unchanged. This concludes the reinitiation of formal consultation for the proposed Bouldin Island Rehabilitation Project. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

Please contact Jen Schofield, Fish and Wildlife Biologist, or Thomas Leeman, San Joaquin Valley Division Chief, of the Sacramento Fish and Wildlife Office at the letterhead address or at (916) 414-6600 if you have questions regarding this letter.

Sincerely,

for Kim S. Turner
Assistant Field Supervisor

cc:
Jim Starr, California Department of Fish and Game, Stockton, California

CALIFORNIA DEPARTMENT OF FISH AND GAME
BAY DELTA REGION
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5520
WWW.DFG.CA.GOV

STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2010-0077-3
Unnamed Irrigation Ditches

CALIFORNIA DEPARTMENT OF TRANSPORTATION
STATE ROUTE 12 BOULDIN ISLAND REHABILITATION PROJECT

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Game (DFG) and California Department of Transportation (Permittee) as represented by Virginia Strohl.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified DFG on February 16, 2009 that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, DFG has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement

PROJECT LOCATION

The Project is located along 4.3 miles of State Route 12 between the Mokelumne River bridge and Little Potato Slough Bridge in San Joaquin county. The Project is located between post mile .1 and 4.4, west of the City of Lodi and east of the city of Rio Vista. Latitude 38 6 47.515 N, Longitude: 121 32 45.615 W.

PROJECT DESCRIPTION

Caltrans proposes to rehabilitate and reconstruct State Route 12 in San Joaquin County from post mile .1 to 4.4. The scope of work includes construction of a new structural section to the south of the existing state route 12. After construction of the new highway section, the existing highway section will be removed. Culverts within the project limits will be replaced in-kind and extended to match the new alignment. This new alignment will require the filling of 4.77 acres of ditches and wetlands and the temporary disturbance of .06 acres of ditches.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: Giant garter snake (GGS) habitat.

The adverse effects the project could have on the fish or wildlife resources identified above include: Direct loss of GGS habitat.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee (Caltrans and/or its Designee) shall meet each administrative requirement described below.

1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to DFG personnel, or personnel from another state, federal, or local agency upon request.

1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to Resident Engineers, contractors, subcontractors, inspectors, and monitors.

1.3 Notification of Conflicting Provisions. Permittee shall notify DFG if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another

local, state, or federal agency. In that event, DFG shall contact Permittee to resolve any conflict.

1.4 Project Site Entry. Permittee agrees that DFG personnel may enter the project site at any time to verify compliance with the Agreement.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee (Caltrans and/or its Designee) shall implement each measure listed below.

2.1 Permittee shall conduct all work according to the project description stated above as well as the plans submitted to DFG that are not in conflict with the above stated project description. Permittee shall notify the DFG of any modifications made to the plans submitted to DFG that pertain to impacts to agricultural ditches, creeks or the riparian corridors.

2.2 Permittee shall provide a Designated Onsite Biologist, approved by the Department, to monitor weather forecasts for rain events in coordination with the Department. The Designated Onsite Biologist and Caltrans Water Quality staff shall work together to ensure protection of aquatic resources before and during rain events. Storm Water Prevention Plan measures shall be monitored for proper installation and maintained to prevent sediment transport into the creek. The Resident Engineer shall make corrections suggested by the Designated Onsite Biologist to ensure compliance with this Agreement.

2.3 Permittee shall only work within the agricultural ditches and riparian areas between May 1 and October 1 of any year.

2.4 Permittee shall not work within Potato Slough.

2.5 Permittee shall ensure that dewatered habitat remains dry for a minimum of 15 consecutive days before workers excavate or fill dewatered habitat. The Designated Onsite Biologist shall ensure that the dewatered habitat does not support any GGS prey which might keep or attract snakes into the area.

2.6 Permittee shall not use temporary or permanent erosions control devices containing plastic, including photo- or bio-degradable plastic netting.

2.7 Permittee shall conduct focused surveys for burrowing owls within 15 days prior to the beginning of work within the creek or any

agricultural ditches. The project impact areas plus 250 feet shall be surveyed for suitable habitat, burrows, and owls. Surveys shall occur two hours before to 1 hour after sunset or from 1 hour before to 2 hours after sunrise. Occupied burrows within 250 feet of project areas shall not be disturbed during the nesting season, February 1 through August 31. After August 31, if occupied burrows are located within 160 feet of the project impact area, disturbance shall be kept to a minimum. If avoidance requirements cannot be met, on-site passive relocation should be implemented during the non-nesting season. If it is necessary to evict owls from burrows outside of the nesting season, then the Applicant will submit a mitigation plan for approval by DFG prior to burrow disturbance.

2.8 Permittee shall be in compliance with Migratory Bird Treaty Act (MBTA) and Fish and Game Code 3503. To avoid potential impacts to nesting birds, Permittee shall remove vegetation or install exclusion measures during the time period of August 15 to February 15. If construction activities that have the potential to violate MBTA and Fish and Game Code 3503 are scheduled during the nesting season, focused surveys for active nests shall be conducted within 72 hours of said construction activities. If active nests are identified, a 50-foot no-work buffer for non-raptors and a 1000-foot no-work buffer for raptors shall be established. If active nests are found, Caltrans shall consult with DFG and the United States Fish and Wildlife Service (USFWS) regarding appropriate action to comply with the MBTA of 1918 and the Fish & Game Code of California.

2.9 Permittee shall allow any wildlife encountered during the course of construction to leave the construction area unharmed. This authorization does not allow for the trapping, capture, or relocation of the giant garter snake, or any other state or federally listed species.

2.10 Permittee shall ensure that the Designated Onsite Biologist conducts a pre-construction survey for GGS no more than 24 hours prior to the commencement of construction activities , including site preparation and grading. If construction activities stop for a period of two or more weeks, a new GGS survey shall be completed no more than 24 hours prior to the re-initiation of these activities.

2.11 This authorization does not allow for the removal of any trees within the riparian zone. If the project changes such that tree removal becomes necessary, the Permittee shall consult with the DFG.

2.12 If any state or federal listed species, or state species of special concern, are observed during project surveys, Permittee shall submit California Natural Diversity Data Base (CNDDB) forms to the

CNDDB for all preconstruction survey data within five working days of the sightings, and provide DFG Region 3 with copies of the CNDDB forms and survey maps.

2.13 Permittee shall install, monitor and maintain high-visibility Environmentally Sensitive Area fencing, on a daily basis, to protect sensitive resources. Permittee shall remove as little vegetation as is necessary to conduct construction activities.

2.14 Permittee shall conduct an employee orientation program, presented by the Designated Onsite Biologist, for all persons who will work on-site during construction and landscape establishment activities.

2.15 Permittee shall have readily available, at all times, plastic sheeting or visquine and will cover exposed spoil piles and exposed areas to prevent these areas from losing loose soil into the stream. These covering materials shall be applied when it is evident rainy conditions threaten to erode loose soils into the stream.

2.16 Permittee shall not operate equipment or vehicles in water-covered portions of the stream, canals, ditches, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in this Agreement and as necessary to complete authorized work.

2.17 Permittee shall locate staging and storage areas for equipment, materials, fuels, lubricants and solvents, outside of irrigation and agricultural ditches and canals. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to irrigation or agricultural ditches will be positioned over drip pans. Any equipment or vehicles driven and/or operated within or adjacent to the irrigation or agricultural ditches will be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life. Vehicles will be moved away from the canals and ditches prior to refueling and lubrication.

2.18 Permittee shall prevent raw cement/concrete or washings thereof, asphalt, straw, paint or other coating material, oil or other petroleum products, or any other substances related to project activities which could be hazardous to aquatic life, wildlife, or riparian habitat from contaminating the soil and/or entering the waters of the State. Permittee may be subject to a citation for placing materials where they may enter a irrigation or agricultural ditches.

2.19 Permittee shall not dump any litter or construction debris within the irrigation or agricultural ditches. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.

2.20 Any materials placed in seasonally dry portions of canals or ditches, that could be washed downstream or could be deleterious to aquatic life, wildlife, or riparian habitat shall be removed by Permittee prior to inundation by high flows.

3. Compensatory Measures

To compensate for adverse impacts to fish and wildlife resources identified above that cannot be avoided or minimized, Permittee (Caltrans and/or its Designee) shall implement each measure listed below.

3.1 Permittee shall purchase 16.2 acres of conservation credits for GGS habitat at the Sutter Basin Conservation Bank.

3.2 Permittee shall purchase 4.77 acres of wetland credits at the Cosumnes Floodplain Mitigation Bank to offset wetland impacts.

CONTACT INFORMATION

Any communication that Permittee or DFG submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or DFG specifies by written notice to the other.

To Permittee:

Virginia Strohl
2015 E. Shields Ave, Suite 100
Fresno, Ca 93726
(559) 243-8196
Virginia_strohl@dot.ca.gov

To DFG:

Department of Fish and Game
Bay Delta Region
7329 Silverado Trail
Attn: Lake and Streambed Alteration Program – Melissa Escaron
Notification #1600-2010-0077-R3
mescaron@dfg.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute DFG's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

DFG may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before DFG suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before DFG suspends or revokes the

Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused DFG to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes DFG from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects DFG's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 et seq. (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

DFG may amend the Agreement at any time during its term if DFG determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by DFG and Permittee. To request an amendment, Permittee shall submit to DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter DFG approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to DFG a completed DFG "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). DFG shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (Fish & G. Code, § 1605, subd. (f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of DFG's signature, which shall be: 1) after Permittee's signature; 2) after DFG complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html.

TERM

This Agreement shall expire on December 31, 2013, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify DFG in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR VIRGINIA STROHL REPRESENTING CALIFORNIA DEPARTMENT OF TRANSPORTATION

for Virginia Strohl — Date 6/17/10

FOR DEPARTMENT OF FISH AND GAME

for — Date 07/07/10

Scott Wilson
Environmental Program Manager

Prepared by: Melissa Escaron
Staff Environmental Scientist

State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5520
www.dfg.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

August 20, 2012

Javier Almaguer
Interim Senior Biologist
Central California Biology Branch- North
California Department of Transportation-District 6
855 M Street, Suite 200
Fresno, Ca
93721

Subject: Amendment of Lake or Streambed Alteration Agreement
Notification No. 1600-2010-0077-3
Bouldin Island Rehabilitation Project

Dear Ms. Swanberg:

The Department of Fish and Game ("Department") has received a request from The Department of Transportation ("Permittee") to amend Lake or Streambed Alteration Agreement 1600-2010-0077-3 ("Agreement") and the required fee in the amount of $560.25 for a major amendment. The request to amend the Agreement includes the construction of an undercrossing at post mile 2.64 to provide access between the north and south sides of State Route (SR) 12. In addition, two aggregate-base access roads will be built to provide access to each side of SR 12 for the adjacent property owner. This work is necessary because the concrete barrier that is proposed as part of the larger SR 12 Rehabilitation Project does not allow the adjacent property owner access to manage agricultural lands between the north and south sides of SR12.

The construction of the undercrossing and the driveways will permanently impact .37 acres of agricultural ditches which may provide aquatic habitat for giant garter snakes (GGS). Prior to commencing the work described in this Amendment, the Permittee shall purchase 1.1 acres of GGS aquatic habitat credits at the Sutter Basin Conservation Bank, to offset construction impacts at a 3:1 impact to mitigation ratio.

This Amendment does not relieve the Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 et seq. (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Furthermore, the Department finds that given the nature of the proposed project and the sensitivity of the resources at the proposed project site, that incidental take coverage under the California Endangered Species Act (CESA) is necessary to avoid illegal take of GGS. Accordingly, the Department advises the Permittee to obtain incidental take coverage for GGS.

The Department hereby agrees to amend the agreement. All other conditions in the Agreement remain in effect unless otherwise noted herein.

Please sign and return one copy of this letter to acknowledge the amendment. Copies of the Agreement and this amendment must be readily available at project worksites and must be presented when requested by a Department representative or agency with inspection authority.

If you have any questions regarding this matter, please contact Melissa Escaron, Staff Environmental Scientist at **(707)339-0334** or mescaron@dfg.ca.gov.

Sincerely,

C Weightman

Craig Weightman
Acting Environmental Program Manager
Bay Delta Region

Date: 9/6/12

cc: Melissa Escaron, Staff Environmental Scientist

ACKNOWLEDGEMENT

I hereby agree to the above-referenced amendment.

Print Name: Javier Almaguer Date: 8/31/2012

Signature: Javier Almaguer

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

28 August 2012

Carrie Swanberg
California Department of Transportation
P.O. Box 2048
Stockton, CA 95201

CERTIFIED MAIL
7011 2970 0003 8939 2009

ORDER AMENDING CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION; CALIFORNIA DEPARTMENT OF TRANSPORTATION, BOULDIN ISLAND REHABILITATION PROJECT (WDID#5B39CR00180A1), SAN JOAQUIN COUNTY

This Order responds to your 24 May 2012 request for an amendment of the Bouldin Island Rehabilitation Project 401 Water Quality Certification (WDID#5B39CR00180). The original Water Quality Certification (Certification) was issued on 13 September 2010. The requested amendment is hereby approved. The original Certification is therefore amended as described below. Please attach this document to the original Certification.

REASON FOR AMENDMENT

The California Department of Transportation is requesting a project description change to include the following construction of an undercrossing, retaining wall, and an access road:

An undercrossing, a retaining wall, and an access road will be constructed at post mile 2.64. The undercrossing will be approximately 60.75-feet long by 18-feet tall, with a road approximately 24-feet wide. The undercrossing will require the installation of 16 steel pipes approximately 80-feet long by 1.5-feet wide. A metal beam guardrail will be installed on the edges of the approaches and a concrete barrier will be installed on the edges of the bridge deck. The retaining wall will be installed on the south side of State Route 12 to support bridge approaches over the undercrossing. The retaining walls on both sides of the undercrossing will be up to 520-feet long and 10-feet high. The retaining walls will require the installation of 140 concrete or steel drainage pipes, each approximately 80-feet long. The access roads will be 20-feet wide and constructed from aggregate base.

The project will permanently impact 5.14 acre of waters of the United States.

APPLICATION FEE RECEIVED

Fees of $2,466.00 were submitted for this amendment. Total fees of $40,000.00 for the original Certification were submitted to the Central Valley Regional Water Quality Control Board as required by §3833(b)(3)(A) and by § 2200(a)(3) of the California Code of Regulations.

CENTRAL VALLEY WATER BOARD CONTACT PERSON:

Trevor Cleak, Environmental Scientist
11020 Sun Center Drive #200
Rancho Cordova, CA 95670-8114
tcleak@waterboards.ca.gov
(916)464-4684

WATER QUALITY CERTIFICATION:

I hereby issue an Order amending the existing Clean Water Act, Section 401 Technically Conditioned Water Quality Certification for the Bouldin Island Rehabilitation Project (WDID#5B39CR00180A1). All other conditions and provisions of the original Water Quality Certification and any previously approved Amendments remain in full force and effect, except as modified based on the conditions of this Order. Failure to comply with the terms and conditions of the original Water Quality Certification, previously approved Amendments, or of this Order may result in suspension or revocation of the Water Quality Certification.

Frederick J. Morse

for Pamela C. Creedon
Executive Officer

Enclosure: Project Information

cc: Distribution List, page 3

DISTRIBUTION LIST

Leah M. Fisher
United States Army Corps of Engineers
Sacramento District Office
Regulatory Division
1325 J Street, Suite 1350
Sacramento, CA 95814-2922

Jen Schofield
United States Fish & Wildlife Service
Sacramento Fish & Wildlife Office
2800 Cottage Way
Sacramento, CA 95825

Jeff Drongesen
Department of Fish and Game
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

Bill Jennings
CA Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, CA 95204

Bill Orme (Electronic copy only)
State Water Resources Control Board
401 Certification and Wetlands Unit Chief

Jason A. Brush (Electronic copy only)
Wetlands Office Supervisor (WTR-8)
United States Environmental Protection Agency

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY PERMIT

Permittee: State of California, Department of Transportation
Attn: Iorzua Akuva, Project Manager
1976 E. Martin Luther King Jr. Blvd
Stockton, California 95205

Permit Number & Name: SPK-2010-00241, SR12 Bouldin Island Rehabilitation Project

Issuing Office: United States Army Corps of Engineers
Sacramento Engineering District
1325 J Street, Room 1350
Sacramento, California 95814-2922

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. A notice of appeal options is enclosed.

Project Description:

California Department of Transportation (Caltrans), in cooperation with the Federal Highway Administration (FHWA), has proposed to rehabilitate and reconstruct State Route (SR) 12 from the Sacramento county line at the Mokelumne River Bridge to the Potato Slough Bridge (PM 0.1 - R4.4). The proposed work would include constructing a new structural section to the south of the existing SR 12 and an undercrossing with permanent access roads at PM 2.64.

During stage 1, a K-rail would be placed at the edge of the travel way along the eastbound lane and surcharge material would be placed to a height of 10-ft above the proposed travel way. The surcharge would be allowed to settle for a period of approximately nine months, after which the surcharge would be removed and the structural section constructed. The structural section would include standard 12-ft travel lanes and 8-ft shoulders, as well as 5-ft inside shoulders and a concrete median barrier. The barrier would travel the length of the highway section on Bouldin Island and would include three manually operated gates for emergency maintenance vehicle access. Stage 2 would entail the construction of the tie-ins between the new highway section and the Mokelumne River and Potato Slough Bridges and the removal of the K-rail. Stage 3 would entail the removal of the existing highway section and construction of the new section.

Existing culverts at four locations would be extended to account for the new roadway. The existing culverts would be removed once the new roadway is completed and the old roadway is removed. Also during the time that the surcharge is placed and allowed to settle, temporary plastic culverts would be installed to allow water to flow through the surcharge.

Widening and new right-of-way (ROW) acquisition would occur to the south of the existing roadway to eliminate encroaching upon the existing levee of the South Mokelumne River. Out of the existing 6.58 acres of waters of the U.S. on-site, approximately 6.36 acres (2.95 acres of irrigation ditches and 3.41 acres of wetlands) located on the north and south sides of SR 12 would be permanently filled as a result of the project. To ensure impacts to aquatic resources are mitigated, Caltrans has proposed to construct approximately 2.58 acres of irrigation ditches and/or biofiltration swales on-site, and purchase 3.26 acres of ***Floodplain Mosaic Wetland*** credits and 0.37 acre of ***Shaded Riverine Aquatic*** credits, at Cosumnes Floodplain Mitigation Bank.

All work is to be completed in accordance with the attached plan(s).

Project Location:

The project site is located on State Route 12 (SR 12) between Mokelumne River Bridge and Potato Slough Bridge (PM 0.1 - R4.4), in sections 11-12, and unsectioned portions of Township 3 North, Range 5 East, MDB&M, Latitude 38.124623°, Longitude -121.577013°, near Terminous, San Joaquin County, California, and can be seen on the *Terminous* USGS Topographic Quadrangle.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on August 31, 2017. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places, unless we have designated Caltrans to consult on our behalf.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. All terms and conditions of the September 13, 2010, Section 401 Water Quality Certification, as amended August 28, 2012, (WDID#5B39CR00180 & 5B39CR00180A1) are expressly incorporated as conditions of this permit.

2. To mitigate for the permanent loss of approximately 3.26 acres of wetlands and 0.37 acre of other waters of the U.S., you shall purchase 3.26 acres of ***Floodplain Mosaic Wetland*** credits and 0.37 acre of ***Shaded Riverine Aquatic*** credits at Cosumnes Floodplain Mitigation Bank. Evidence of this purchase shall be provided to this office prior to proceeding with any activity otherwise authorized by this permit.

3. To mitigate for the loss of 2.58 acres of waters of the U.S. (irrigation/drainage ditches), you shall re-create approximately 2.58 acres of irrigation/drainage ditches, in similar locations as the pre-existing features. Permanently filled ditches shall be replaced with biofiltration swales and/or ditches of the same size, quality and function, in accordance with Caltrans specifications. Specific detailed plans and photo documentation of the completed work shall be submitted to this office within 30 days of activity completion.

4. To mitigate for temporary impacts to waters of the U.S., including wetlands, you shall revegetate temporarily impacted areas with regionally appropriate native vegetation within 30 days of completion of authorized work in waters of the U.S. Removal of native trees and/or shrubs within temporary impacted riparian areas shall be replaced at a 2:1 ratio, in accordance with Caltrans specifications. Specific detailed plans and photo documentation of the completed work shall be submitted to this office within 30 days of activity completion.

5. Your responsibility to complete the required compensatory mitigation and restoration as set forth in Special Conditions 3 and 4 will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from this office.

6. Within 30 days following completion of mitigation/restoration activities, submit to this office a report describing the mitigation/restoration activities including color photographs of the restored area. The compass angle and position of all photographs shall be similar to pre-construction photographs. Your responsibility to complete the required compensatory mitigation and restoration as set forth in Special Conditions 2, 3, and 4 will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from this office.

7. Within 60 days following completion of the authorized work in waters or at the expiration of the construction window of this permit, whichever occurs first, you shall submit as-built drawings and a description of the work completed within waters at the project site, including the on-site compensatory mitigation and avoidance area(s), to this office for review. The drawings shall include the following:

a. The Department of the Army Permit number.

b. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in the same scale as the attached permit drawings. The drawing should show all "earth disturbance," wetland impacts, structures, and the boundaries of any on-site and/or off-site mitigation or avoidance areas. The drawings shall contain, at a minimum, 1-foot topographic contours of the entire site.

c. Ground and aerial photographs of the completed work. The cameral positions and view-angles of the ground photographs shall be identified on a map, aerial photograph, or project drawing.

d. A description and list of all deviations between the work as authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings the location of any deviations that have been listed.

8. Prior to any work in waters of the U.S., you shall submit to this office, for review and acceptance, final design plans, maps, and/or drawings which outline or detail the activities authorized by this DA permit, including but not limited to; de-watering, grading, access, Disposal, Staging, and Borrow (DSB), and Environmentally Sensitive Areas (ESA). Plans, maps and/or drawings may be submitted electronically to regulatory-info@usace.army.mil.

9. Prior to proceeding with any activity otherwise authorized by this permit, you shall install Environmentally Sensitive Area (ESA) fencing and employ appropriate water quality protection measures and/or Best Management Practices (BMP's), to ensure unauthorized fills and unforeseen impacts to waters of the U.S. are avoided. All fencing surrounding avoidance areas shall allow unrestricted visibility of these areas to discourage vandalism, destruction or disturbance. An example of fencing includes; high-visibility orange plastic or similar type.

10. You shall notify this office of the start of the authorized work within seven (7) calendar days of initiating construction activities. Along with this notification, you shall submit a copy of the project construction/work schedule or similar report.

11. You shall notify this office of any proposed modifications to the project, including revisions to any of the work plans or documents cited in this authorization, for review and approval prior to construction work associated with the proposed modification.

12. You shall follow Caltrans specifications and standards described in the Storm Water Pollution Prevention Plan (SWPPP) and/or Water Pollution Control Plan (WPCP), to prevent erosion and sedimentation during and after construction. Construction work within waters of the U. S. shall be performed when the flows are at their seasonal low or when they have ceased and the areas are dry,

typically late summer through early fall. Between construction seasons all equipment and materials, with the exception of ESA fencing, will be removed from waters of the U.S. and all disturbed areas will be stabilized to prevent erosion and sedimentation.

13. No construction activities shall occur within standing or flowing waters. For ephemeral or intermittent streams, this may be accomplished through construction during the dry season. In perennial streams, this may be accomplished through dewatering of the work area. Any proposed dewatering plans must be approved, in writing, by this office prior to commencement of construction activities.

14. All equipment staging, including Temporary Construction Areas (TCA's), shall take place within Caltrans approved areas within the project boundary. Prior to construction implementation, you shall ensure all equipment staging, TCA's, demolition and excavation, off pavement detours, borrow and fill areas, and upland disposal areas have been evaluated under National Environmental Policy Act, Section 401 and 404 of the Clean Water Act, Section 7 of the Endangered Species Act and Section 106 of the National Historical Preservation Act and all required permits have been obtained.

15. This Corps permit does not authorize you to take an endangered species, in particular the Federally-listed giant garter snake (*Thamnophis gigas*) or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (e.g., an Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with "incidental take" provisions with which you must comply). The enclosed Fish and Wildlife Service Biological Opinion (Service file number 81420-2009-F-1030-1, dated December 24, 2009, and amendment 81420-2009-F-1030-R001-1, dated July 26, 2012), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the Biological Opinion. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the attached Biological Opinion and subsequent amendment, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The Fish and Wildlife Service is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. You must comply with all conditions of the Biological Opinion, including those ascribed to Caltrans and the Corps.

16. You shall have a biological monitor, who is familiar with environmentally sensitive areas monitor all construction activities within waters of the U.S., including wetlands, and within 100 feet of all avoided waters. The monitor shall insure unauthorized activities do not occur within avoided waters of the U.S. during project implementation. The monitor shall have the authority to stop work immediately, if unauthorized activities occur.

17. If any of the above conditions are violated or unauthorized activities occur, you shall stop work immediately and notify the Sacramento District, Regulatory Division Office. You shall provide us

with a detailed description of the unauthorized activity(s), photo documentation, and any measures taken to remedy the violation.

18. You are responsible for all work authorized herein. To ensure that involved contractors are aware of the terms, conditions and limitations of this authorization, you shall post a copy of the permit authorization and associated drawings at the project site during all phases of construction to ensure that contractors are aware of the terms and conditions of this authorization.

19. You must sign the enclosed *Compliance Certification* form and return it to this office within 30 days after completion of the authorized work.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant.

Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Name Tony Singh for Iorzua Akuva
Title Project Manager
Permittee

08-30-2012
Date

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below

Paul Mannuccia

(For the District Engineer)

8/31/2012
Date

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

Name_____
Title_____
Transferee

Date

COMPLIANCE CERTIFICATION

Permit Number & Name: SPK-2010-00241, State Route (SR) 12 Bouldin Island Rehabilitation Project (EA 10-0G800).

Permittee: State of California
Department of Transportation
Attn: Iorzua Akuva, Project Manager
1976 E. Martin Luther King Jr. Blvd
Stockton, California 95205

County: San Joaquin

Date of Permit: August 30, 2012

Within 30 days after completion of the activities authorized by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Sacramento District
1325 J Street, Room 1350
Sacramento, California 95814-2922
DLL-CESPK-RD-Compliance@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the Corps of Engineers.

* * * * * * * * *

I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.

_____ _____
Signature of Permittee Date