Hamilton City Flood Damage Reduction and Ecosystem Restoration Project

Glenn County, California

PG&E Utilities Relocation and Bridge Abutment Protection

Final

Environmental Assessment

August 2019

Prepared by

Sacramento District

Environmental Resources Branch

US Army Corps of Engineers

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ACRONYMS

APE	Area of Potential Effect
BMPs	Best Management Practices
CDFG	California Department of Fish and Wildlife
CAR	Coordination Act Report
DDR	Design Document Report
EA	Supplemental Environmental Assessment
ESU	Evolutionary Significant Unit
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
FONSI	Finding of No Significant Impact
GCAPCD	Glenn County Air Pollution Control District
HPTP	Historic Property Treatment Plan
NAA	Non-Attainment Areas
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
PA	Preferred Alternative
PA	Programmatic Agreement
PG&E	Pacific Gas and Electric
PM	Particulate Matter
RD	Reclamation District

RECs	Records of Environmental Consideration
RWQCB	Regional Water Quality Control Board
sDPS	southern Distinct Population Segment
SHPO	State Historic Preservation Office
SIPs	State Implementation Plans
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VOCs	volatile organic compounds
WRDA	Water Resource Development Act

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1 PURPOSE AND NEED

1.1 Background and Need for Proposed Action

The United States Army Corps of Engineers (USACE), has undertaken a project to protect the community of Hamilton City from flooding and to restore a more natural river and ecosystem function to the area surrounding the Sacramento River in and near Hamilton City. The Hamilton City, Glenn County, California Project for flood damage reduction and ecosystem restoration (Project) was authorized for construction in Title I, Section 1001(8) of the Water Resources Development Act of 2007 (WRDA 2007) (Pub. L. No. 110-114, Title I, §1001(8), 121 Stat. 1041, 1050 (November 8, 2007) in accordance with the December 22, 2004 Report of the Chief of Engineers (Chief's Report) recommending construction of the Project as identified and environmentally analyzed in the *Hamilton City Flood Damage Reduction and Ecosystem Restoration, California Final Feasibility Report and Environmental Impact Statement/Environmental Impact Report* dated July 2004 (2004 EIS/EIR). Detailed information concerning the Project, and the purpose and need for the Proposed Action, may be found in the Report of the Chief of Engineers dated December 22, 2004, and in Chapter 2 of the 2004 EIS/EIR.

1.2 Proposed Action

Refinements to the Project's original design are documented in the April 2019, *Hamilton City Flood Damage Reduction and Ecosystem Restoration Design Documentation Report* (2019 DDR), resulting in the identification of new, potential environmental effects since preparation of the 2004 EIS/EIR. This has led to the need for a supplemental environmental analysis.

Construction of the new setback levee and floodplain restoration have already been completed for Phase 1 of the Project. The setback levee has also been partially completed for Phase 2A of the Project. The Proposed Action in this Hamilton City, Glenn County, California Project (Project), Final Environmental Assessment (EA) addresses only those design changes for Phase 2B of the Project (Figure 1). These changes consist of actions to realign a natural gas pipeline, the relocation of existing power poles, changes to rock revetment, and the addition of a new special status species since the 2004 EIS/EIR.

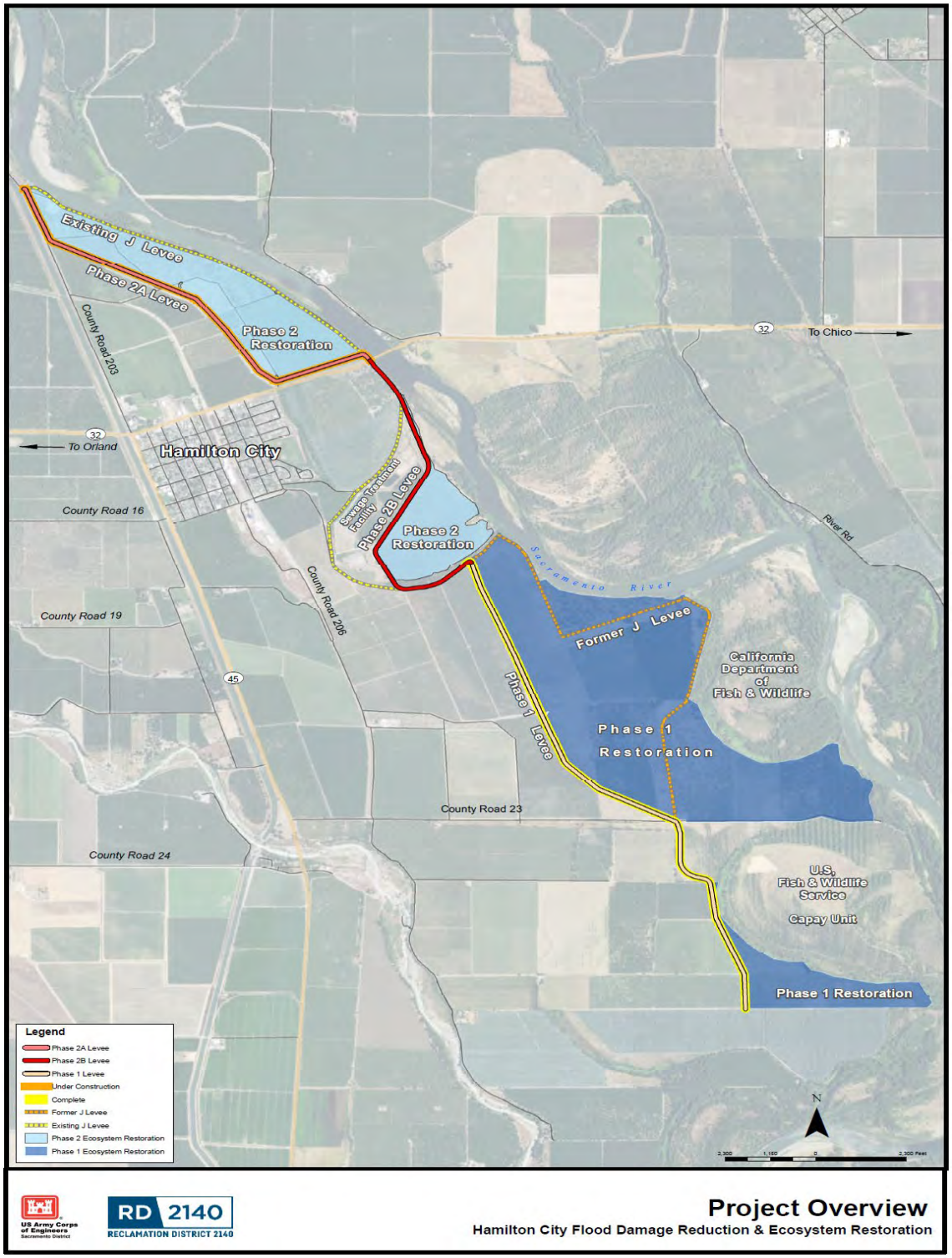

Figure 1. Hamilton City, Glenn County, California Project Overview

Natural Gas Pipeline

Decades prior to the construction of the setback levee, PG&E installed a natural gas line that runs from Canal Road, cuts through the former orchards, and runs under the Gianella Bridge on Highway 32, which crosses the Sacramento River. The existence of the gas pipeline was not identified at the time of the Project's original design, and therefore was not addressed in the 2004 EIS/EIR. The Proposed Action would relocate the PG&E gas pipeline to just outside of the new setback levee footprint, removing it from the newly created floodplain (Figure 2).

Figure 2. PG&E Pipeline Existing Location and Proposed New Alignment

The proposed relocation of the PG&E pipeline would maintain the pipeline on the land side of the levee. This would prevent it from being located in a floodplain and in the potential meander path, should the river naturally create a new channel. Approximately 4,300 linear feet of pipeline would be removed and 4,600 linear feet of new pipeline would be laid as part of the relocation.

Utility Poles

Environmental impacts relating to the exact location of the potential power pole relocations were not disclosed in the 2004 EIS/EIR; however impacts to those utilities were considered and included during the original plan formulation. During refinement of the setback levee alignment, several power poles have been identified that are located within the new levee alignment that would need to be relocated.

Rock Revetment and Green Sturgeon

Since the Project was originally analyzed in 2004, additional modeling of river flows and hydrology have been conducted that refined the amount of rock rip-rap that would need to be

placed under the Gianella Bridge (2019 DDR). This change in rip-rap amount came from refinements to hydrological estimates resulting from the Project. Approximately 700 linear feet of rock would be placed above and below the OHWM to prevent scour and protect the Gianella Bridge from effects of the river flows. At the time the 2004 EIS/EIR was written, the southern distinct population segment (sDPS) of North American green sturgeon () was not listed as a threatened or endangered species and designated critical habitat had not been identified. Because rock placement would now occur in designated critical habitat for the sDPS of North American green sturgeon, potential effects to green sturgeon need to be analyzed. Impacts to salmonids from rock placement were sufficiently analyzed in the 2004 EIS/EIR.

1.3 Purpose of the EA

This EA describes: (1) the existing environmental resources in the Proposed Action area; (2) evaluates the environmental effects of the Proposed Action on these resources that were not covered by the 2004 EIS/EIR; and (3) identifies any measures necessary to avoid or reduce any possible effects to a less than significant level. This EA is intended to supplement the 2004 EIS/EIR.

Based on the results of this EA, the District Engineer, Commander of the Sacramento District, will decide whether or not the Proposed Action qualifies for a Finding of No Significant Impact (FONSI) under NEPA or whether a supplemental EIS must be prepared. An EA and a FONSI would be sufficient if it is determined that the proposed refinements do not result in significant effects on the environment beyond the significant effects identified in the 2004 EIS/EIR and if the magnitude of impacts are within the range of impacts identified in the 2004 EIS/EIR.

1.4 Other Associated Documentation

Since the 2004 EIS/EIR, several additional environmental reports were prepared to ensure any minor implementation or design changes would not result in additional impacts not previously evaluated in the 2004 EIS/EIR. Per the Council on Environmental Quality regulation 40 CFR § 1502.9, further NEPA documentation would be required if substantial changes are made to the Proposed Action or Project, and those changes are relevant to environmental concerns, or there are significant new circumstances or information relevant to environmental concerns relating to the proposed action or its effects. The following Memoranda for Record (MFRs) and Records of Environmental Consideration (RECs) prepared by USACE determined that minor changes previously identified were within the bounds of the environmental effects and alternatives analysis of the 2004 EIS/EIR and no supplementation would be required for those changes because environmental circumstances had not changed significantly. These reports include:

- MFR, Environmental Review of Design Modifications, Hamilton City, Limited Reevaluation Report, February 18, 2011
- MFR, Hamilton City Flood Damage Reduction and Ecosystem Restoration Project Regulatory Determination, August 11, 2015

- REC, Environmental Review of Hamilton City Flood Damage Reduction and Ecosystem Restoration Project, California: Feasibility Report and Final Environmental Impact Statement for the Proposed Economic Reevaluation Report. February 15, 2016
- MFR, Environmental Review of Hamilton City Flood Damage Reduction and Ecosystem Restoration Project: Updated Environmental Information, June 1, 2017
- MFR, Environmental Review of Hamilton City Flood Damage Reduction and Ecosystem Restoration Project: Phase 2A Construction Contract Option, September 1, 2017
- MFR, Environmental Review of Hamilton City Flood Damage Reduction and Ecosystem Restoration Project: Reconsultation with U.S. Fish and Wildlife Service for Potential Additional Impacts to Giant Garter Snake and Valley Elderberry Longhorn Beetle, June 1, 2018

2 ALTERNATIVES

2.1 No Action Alternative

NEPA requires the lead agency, USACE, to analyze a no action alternative that establishes the benchmark to compare the effects of the action alternatives. For consistency in this EA, the no project alternative is referred to as the no action alternative. The no action alternative constitutes the future without project conditions that would reasonably be expected in the absence of the Proposed Action and serves as the environmental baseline for NEPA against which the effects and benefits of the action alternatives are evaluated.

For this EA, the no action alternative would be continuing with the authorized Project as described and analyzed in the 2004 EIS/EIR. No changes from the authorized Project would be implemented, and the new levee would be constructed as authorized. The PG&E pipeline, would remain in place within the now reconnected floodplain, and would be exposed to scour action from high river flows. Rock revetment would be placed at the Gianella Bridge and would consist of 1,000 linear feet of riprap as described in the 2004 EIS/EIR

2.2 Alternative 1 –The Preferred Alternative

USACE and RD 2140 propose to relocate the PG&E gas pipeline from its current location (in what would become active floodplain once the "J" levee is removed) to the landside of the newly built setback levee (Figure 3). PG&E would perform this relocation by shutting off the gas flow, purging the line of any gas, digging to below the level of the pipeline, and removing and disposing of approximately 4,300 feet of pipeline. The gas flow would be cut off from an isolation point on the east side of the Sacramento River, just north of the Gianella Bridge to a second isolation point west of the new setback levee along a farm road near the intersection of Walsh Avenue and Shasta Avenue. In order to prevent a disruption of service, a new pipeline would first be installed to the west, or landside, of the new setback levee, and would be operational prior to shutting the old pipeline down. The new pipeline would be approximately 4,700 feet and would follow the setback levee alignment to the Gianella Bridge, where it would tie into the existing line under the bridge.

To remove the pipeline, a trench would be dug along the existing pipeline, approximately five and a half feet deep and three feet wide to expose the pipeline, and allow for it to be cut and removed. This trench would then be backfilled, the soil compacted, and the area would be planted with native, riparian vegetation as part of the restoration of the floodplain.

The pipeline relocation would involve digging a trench approximately 8 feet deep and 5 feet wide in the new alignment, laying in new pipe in the trench, making all connections and pressure testing to ensure the line can transmit natural gas, and backfilling over the pipeline.

The excavated pipeline would be tested to determine if it would need to be chemically cleaned and if it could be recycled at a metal recycler. Additionally, the exterior pipe wrap coating would be tested for asbestos to determine if abatement would be required prior to disposal or recycling. Based on the testing results, the pipeline would be disposed of at a permitted Class I or Class II landfill or metal recycler. All referenced investigations, environmental analysis and/or any response will be performed consistent with applicable law and the Project's cost-sharing agreement.

In addition, PG&E and RD 2140 would remove several existing power lines and associated poles and relocate them outside of the alignment of the new setback levee. Figure 3 shows the current alignment of the power lines and where they would be relocated under the preferred alternative. Two areas of PG&E power pole relocations are outside of the project area that has already been evaluated for environmental effects.

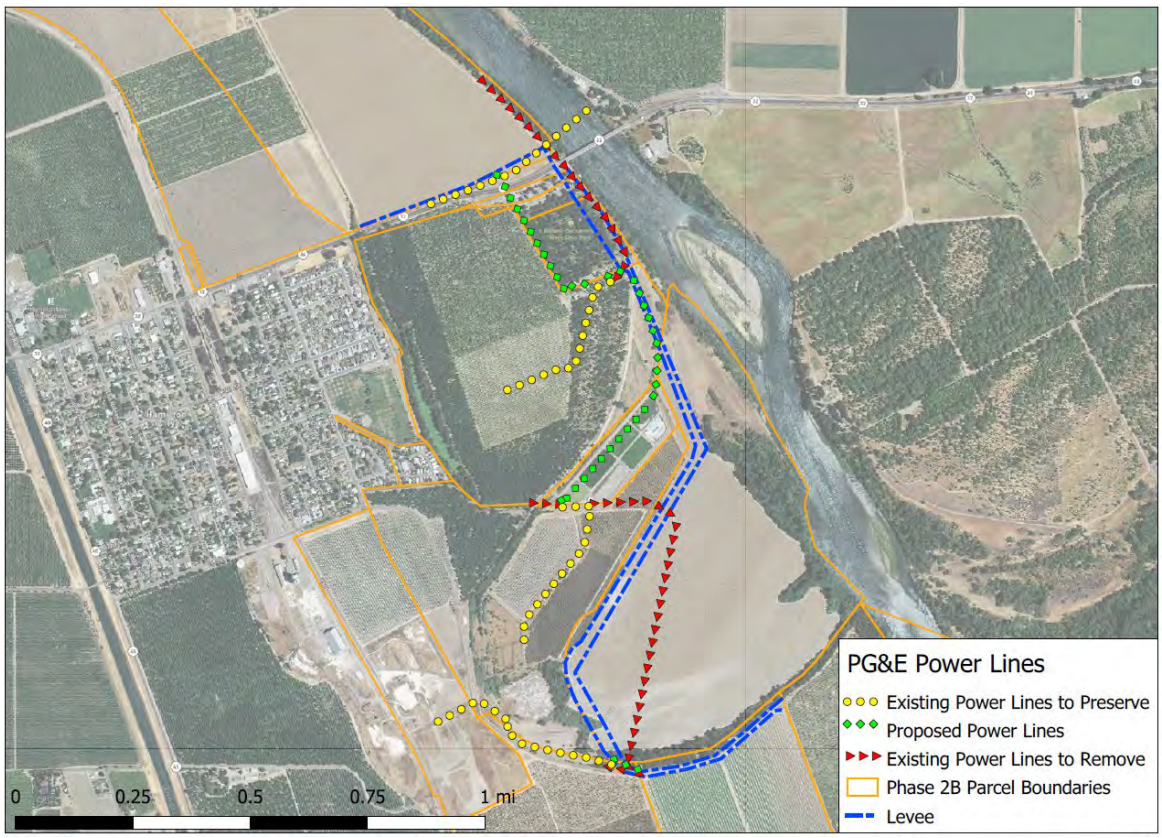

Figure 3. Current PG&E Power Line Locations and Proposed Realignments

Finally, USACE would place 7,100 cubic yards of rock slope protection would along approximately 700 linear feet of the Sacramento River near the Gianella Bridge to protect the bridge from erosion (Figure 4). The rock will be placed into the water from the landside end using backhoes and dump trucks. Approximately 6,000 cubic yards would be placed below the OHWM. The total area below the OHWM to be covered is just under 1 acre, but with 0.3 acres of rock placed on the river bottom. The 2004 EIS/EIR identified placement of approximately 1,000 linear feet of rock to be placed under and around the Gianella Bridge.[1] However, at the time of that analysis, green sturgeon had not yet been listed as an ESA threatened species and critical habitat had not yet been identified. Regardless of the previous amount of rock analyzed in the 2004 EIR/EIS (1,000 linear feet) and in the 2004 NMFS biological opinion (100 linear feet) the rock placement of 700 linear feet has these additional impacts that have not previously been identified. The potential impact analysis to green sturgeon from this project activity will be analyzed in a separate biological assessment and will reinitiate consultation with NMFS.

Figure 4. Location of rock revetment to reinforce Gianella Bridge

The revetment area should be free of debris and unwanted brush and vegetation through spraying, mechanized, or hand vegetation management practices. These actions were confirmed as correct by H. Carota *pers. com* on June 30, 2019.

[1] The amount of rock revetment consulted on with the National Marine Fisheries Service in 2004 was erroneously proposed at 100 linear feet instead of the intended amount of 1,000 linear feet. Although, NMFS concurred with our effects determination to listed Chinook salmon and steelhead and their designated critical habitat, USACE is reinitiating consultation with NMFS in 2019 for two Chinook salmon ESUs, the CV steelhead ESU, along with the sDPS of northern green sturgeon under this new correct amount of 700 linear feet.

2.3 Alternatives Considered but not Carried Forward for Further Analysis

Initially the USACE considered leaving the PG&E pipeline in its current location and protecting it in place as well as capping the pipeline and abandoning it in place. These alternatives were removed from consideration due to on-going safety and access concerns relating to the pipeline being located within what will be an active floodplain. In addition, hydraulic analysis determined that a significant amount of rock would be needed to ensure the safety of the active pipeline if it were to remain the floodplain. The analysis indicated that scour depths in the reconnected floodplain could be in the range of 6 to 33 feet depending on the location within the floodplain. In order to protect the pipeline from potential scour if the river begins to laterally migrate into the newly connected floodplain, riprap scour protection would need to be installed at least 3 feet thick along the entire length of the existing pipeline (~4,300 feet) and additional rock would need to be placed along approximately 1,400 linear feet of the bank along the Sacramento River to prevent potential river realignment over the pipeline. After a meeting on September 17, 2018 with USACE, RD 2140 and PG&E, it was determined that leaving the pipeline in its current location after removing the "J" levee would be not be practicable due to high costs and reduction in floodplain restoration acreage due to the large amount of rock protection that would be required. Therefore this alternative was not carried forward for further analysis.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Resources Not Considered in Detail

Some resources were eliminated from further analysis in this EA because they were either adequately covered in the 2004 EIS/EIR, or because the proposed action of this EA would not create additional impacts to the resources. This is true for either the no action alternative or the proposed action. These resources are:

- Aesthetics (Section 4.1.1 in the 2004 EIS/EIR)
- Geology and soils (Section 4.2.1 in the 2004 EIS/EIR)
- Hazardous or toxic waste (Section 4.2.9 in the 2004 EIS/EIR)
- Land use (Section 4.2.4 in the 2004 EIS/EIR)
- Noise (Section 4.2.8 in the 2004 EIS/EIR)
- Recreation (Section 4.2.6 in the 2004 EIS/EIR)
- Socioeconomics (Section 4.2.3 in the 2004 EIS/EIR)

3.2 Resources Considered in Detail

There could be effects to the resources considered below if the Proposed Action is approved. As a result, they will be discussed in detail below.

3.2.1 Air Quality

The Project is located in Glenn County and is under the authority of the Glenn County Air Pollution Control District (GCAPCD). Thresholds for GCAPCD are shown in Table 1. National General Conformity *de minimus* standards for nonattainment area are shown in Table 2.

The Air Quality Section, Section 4.2.1, of the 2004 EIS/EIR adequately characterizes the basis of significance, regulatory setting, and the affected environment for this resource.

Table 1. Emissions thresholds for Glenn County. (Sacramento Metropolitan Air Quality Management District , 2019)

EMISSION THRESHOLDS (GCAPCD)		
Mass Emission Threshold		
	Construction Phase	**Operational Phase**
NO_X (ozone precursor)	85 lbs/day	65 lbs/day
ROG (VOC) (ozone precursor)	NONE	65 lbs/day
PM_{10}	Zero (0) If all feasible BACT/BMPs are applied, 80 lbs/day and 14.6 tons/year	Zero (0) If all feasible BACT/BMPs are applied, 80 lbs/day and 14.6 tons/year
$PM_{2.5}$	Zero (0) If all feasible BACT/BMPs are applied, 82 lbs/day and 15 tons/year	Zero (0) If all feasible BACT/BMPs are applied, 82 lbs/day and 15 tons/year
Concentration Thresholds (Based on California Ambient Air Quality Standard identical for both phases)		
CO	20 ppm 1-hour standard (23 mg/m^3); 9ppm 8-hour standard (10 mg/m^3)	
NO_2	0.18 ppm 1-hour standard (339$\mu g/m^3$); 0.03 ppm Annual Arithmetic Mean (57$\mu g/m^3$)	
SO_2	0.25 ppm 1-hour standard (665$\mu g/m^3$); 0.04 24-hour standard (105 $\mu g/m^3$)	
Lead	1.5 $\mu g/m^3$ 30-day average	
Visibility Reducing Particles	Extinction coefficient of 0.23 per kilometer-visibility of 10 miles or more due to particles when relative humidity is less than 70%	
Sulfates	25 $\mu g/m^3$ 24-hour standard	
H_2S	0.03 ppm (42 $\mu g/m^3$) 1-hour standard	
Vinyl Chloride	0.01 ppm (26 $\mu g/m^3$) 24-hour standard	
Greenhouse Gas Emissions (GHG) Thresholds		
	Construction Phase	**Operational Phase**
GHG as CO_2E	1,100 metric tons/year	1,100 metric tons/year

Table 2. *De Minimus* tables for national air quality standards. (Environmental Protection Agency, 2018), *Denotes areas in which Glenn County is in nonattainment status

40 CFR 93.153(b)(1)-Nonattainment area (NAA) de minimus levels	
	Tons/year
*Ozone (VOCs or NOx):	
Serious NAAs	50
Severe NAAs	25
Extreme NAAs	10
Other ozone NAAs outside an ozone transport region:	100
Other ozone NAAs inside an ozone transport region:	
VOC	50
Nox	100
Carbon Monoxide: All maintenance areas	100
SO_2 or NO_2: All NAAs	100
*PM_{10}:	
Moderate NAAs	100
Serious NAAs	70
$PM_{2.5}$ (direct emissions, SO_2, NOx, VOC, and ammonia	
Moderate NAAs	100
Serious NAAs	70
Pb: All NAAs	25

No Action

Under the no action alternative, the project would proceed as authorized. The effects of this action on air quality were adequately analyzed in the 2004 EIS/EIR. The pipeline would remain in its current alignment and would not be relocated. Potential scour around the pipeline could impair its integrity leading to potential leaks or breakages which could result in large amounts of hydrocarbon being released.

Preferred Alternative

The pipeline relocation and power line relocations would occur in 2019 and be complete before the additional rock revetment work begins. The revetment would be placed in 2020, when the new setback levee is completed and the existing "J" levee is removed. Therefore, the air quality analysis for the revetment includes an estimate of emissions from the remaining levee construction and removal work to be completed in the same year.

Total estimated emissions for the Project are based on the project size, equipment required for construction and hauling, and length of time to complete construction. The estimated total emissions for the Project are shown in Table 3 for the pipeline realignment and Table 4 for the revetment and associated work.

Initial estimates show the emission remaining under *de minimis* levels for total project annual emissions. However, NO_x daily emissions in 2020 could temporarily exceed the daily emissions threshold. NO_x daily emissions were also estimated to be exceeded during the Phase 2A levee construction, while the annual estimated emissions fell below the threshold. USACE coordinated with the Glenn County Air Pollution Control District (GCAPCD) in 2017 about the daily NO_x emissions for Phase 2A. GCAPCD stated that emissions such as these are considered to be minor due to their temporary nature. Annual thresholds would not be exceeded. Therefore there would be no new or significant adverse effect on air quality. Additionally, during construction, Best Management Practices (BMPs) would be utilized, such as water trucks for dust control and using emissions efficient vehicles to mitigate temporary impacts to air quality during construction. The following six BMP's are included in the 2004 EIS/EIR and would be adhered to for these activities:

a) Construction equipment operating on the site and trucks used for hauling material to and from the site shall be properly equipped with required emission control devices operating properly to minimize exhaust pollutant emissions.
b) Trucks hauling construction materials shall be covered or the material shall be sufficiently wetted to eliminate visible dust emissions.
c) No burning of waste material or cleared vegetation shall occur.
d) Watering shall be used to minimize dust emissions from any unpaved haul road and levee road. Watering shall be performed as needed to eliminate visible dust emissions from any unsurfaced haul roads and levee roads.
e) Proper measures would be implemented to ensure haul-trucks do not create dust emissions on roads adjacent to residences or on unpaved surfaces. Implemented dust control measures would comply with local air quality district regulations.
f) All disturbed soil areas or constructed soil bodies shall be wetted sufficiently to keep them damp at all times during construction hours to eliminate visible dust emissions.

Table 3. Estimated emissions for the Hamilton City, Glenn County, California Project – Pipeline Realignment. Calculated using Sacramento Metropolitan Air Quality Management District emissions calculator. (Sacramento Metropolitan Air Quality Management District, 2019).

	Daily Emissions Estimate (2019)	Total Emissions Estimate (2019)
ROG	2.53 (lbs/day)	0.03 (tons/year)
CO	54.52 (lbs/day)	0.72 (tons/year)
NO_x	9.38 (lbs/day)	0.12 (tons/year)
PM_{10} Total	6.90 (lbs/day)	0.19 (tons/year)
$PM_{2.5}$ Total	1.62 (lbs/day)	0.04 (tons/year)
SO_x	0.09 (lbs/day)	0.00 (tons/year)
CO_2	8,741.31 (lbs/day)	115.39 (tons/year)
CH_4	1.69 (lbs/day)	0.02 (tons/year)
N_2O	0.08 (lbs/day)	0.00 (tons/year)
CO2e	8,806.82 (lbs/day)	105.46 (metric tons/year)

Table 4. Estimated emissions for the Hamilton City, Glenn County, California Project– Additional Rock Revetment and Remaining Construction of the Setback Levee. Calculated using Sacramento Metropolitan Air Quality Management District emissions calculator (Sacramento Metropolitan Air Quality Management District, 2019).

	Daily Emissions Estimate (2020)	Total Emissions Estimate (2020)
ROG	11 (lbs/day)	1.36 (tons/year)
CO	66 (lbs/day)	8.10 (tons/year)
NO_x	113 (lbs/day)	13.43 (tons/year)
PM_{10} Total	103 (lbs/day)	9.23 (tons/year)
$PM_{2.5}$ Total	24 (lbs/day)	2.18 (tons/year)
SO_x	0.25 (lbs/day)	.03 (tons/year)
CO_2	24,149 (lbs/day)	2,908.08 (tons/year)
CH_4	4 (lbs/day)	.50(tons/year)
N_2O	.5 (lbs/day)	.06 (tons/year)
CO2e	24,390 (lbs/day)	2,664.50 (metric tons/year)

3.2.2 Cultural Resources

The Cultural Resources section (8.1.4) of the 2004 EIS/EIR sufficiently characterizes the basic regulatory setting. The areas discussed in this EA have been added to the Project Area of Potential Effect (APE) for Phase 2, and are covered by record searches conducted at the Northeast Information Center by USACE personnel and contractors in 2001, 2007, 2014, and 2019. Archaeological surveys of the original Hamilton City APE, encompassing all elements of the proposed setback levee and ecosystem restoration, took place in 2008, conducted by Far Western Anthropological Research Group, Inc. (Far Western) under contract with USACE. Inventory and evaluation efforts by Far Western and USACE staff in subsequent years have identified a number of historic properties in the APE, but none of the historic properties identified are located within the footprint of the work described in this EA. Pedestrian survey and tribal consultation undertaken by USACE staff in 2019 did not identify any new historic properties in APE additions. All activities were performed according to the *Programmatic Agreement (PA) Among the U.S. Army Corps of Engineers, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Hamilton City Flood Damage Reduction and Ecosystem Restoration Project*, dated September 15, 2010, which guides compliance with Section 106 of the National Historic Preservation Act.

USACE has previously consulted with the SHPO regarding the APE, inventory efforts, and findings of eligibility and effect for Phases 1 and 2. USACE made a finding of "no adverse effect to historic properties" for Phase 1, with conditions (i.e., avoidance of unevaluated sites). USACE made a finding of adverse effect due to impacts expected from setback levee construction for Phase 2 in letters dated April 7, 2017; SHPO concurred in a letter dated May 12, 2017. The Phase 2 finding of adverse effect triggered mitigation activities. Mitigation comprised controlled data recovery excavations at four archaeological sites, and an interpretive

banner for use by the Mechoopda Tribe of Chico Rancheria (Mechoopda) based on content shared by the tribe.

Analysis of the potential impacts was based on evaluation of the changes to historic properties within the area covered by this EA that may result from implementation of the Project. The term "historic property" refers to any cultural resource that has been found eligible for listing, or is listed, in the National Register of Historic Places (NRHP). Section 106 of the NHPA outlines the process by which Federal agencies are required to determine the effects of their undertaking on historic properties. In making a determination of the effects to the historic properties, consideration was given to:

- Specific changes in the characteristics of historic properties in the study area.
- The temporary or permanent nature of changes to historic properties and the visual study area around the historic properties.
- The existing integrity considerations of historic properties in the study area and how the integrity was related to the specific criterion (or criteria) that makes the cultural resource a historic property.
- Basis of Significance. Any adverse effects on cultural resources that are listed or eligible for listing in the NRHP (*i.e.*, historic properties) are considered to be significant. Effects are considered adverse if they alter, directly or indirectly, any of the characteristics of a cultural resource that qualify that resource for the NRHP so that the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association is diminished.

No Action

Under the no action alternative, there would be no additional effects on existing cultural resources in the project area because conditions would remain unaltered from the authorized project. The pipeline would remain in place and not be relocated. Rock revetment would remain as described in the 2004 EIS/EIR.

Preferred Alternative

Activities associated with placing rock revetment near the Gianella Bridge and the potential impacts to cultural resources were adequately covered in the 2004 EIS/EIR, as they were part of the original APE. Therefore this analysis only focuses on the construction impacts associated with the pipeline and power pole relocations, which are the new additions to the Phase 2 APE.

The majority of the pipeline work is located within the established APE for the Project; however, one work area on the east side of the Sacramento River is located outside the APE. Following the design refinements, USACE added the pipeline area to the APE and assessed the effects of the work proposed in this EA, with concurrence by the State Historic Preservation Officer (SHPO) in a letter dated April 25, 2019. No change was made to the existing finding of adverse effect for Phase 2, although there are no historic properties in the APE addition.

Other APE additions include two areas of PG&E power pole relocations outside of the established APE. These two areas were added to the APE in letters from USACE dated May 30, 2019; SHPO concurrence was received June 26, 2019. USACE again found no change to the existing finding of adverse effect for Phase 2, although there are no historic properties in the APE addition.

USACE has consulted with the Mechoopda, the Grindstone Indian Rancheria of Wintun-Wailaki Indians of California, and the Paskenta Band of Nomlaki Indians regarding APE delineation, inventory, evaluation, eligibility, and other matter according to the requirements of the PA. Consultation is ongoing with Native American tribes through a series of in-person meetings, written communication, and phone call as the project progresses. If potential historic properties of tribal significance are disclosed by tribes during the consultation process, USACE would ensure that they are addressed in accordance with the PA.

No previously identified historic properties are located in the footprint of the pipe or power pole relocations. Impacts to unknown cultural resources could result from both the removal of the old pipeline alignment, new pipeline alignment installation, and installation of new power poles, all of which entail ground-disturbance. Archaeological monitors would be used during construction to identify any previously undocumented resources. Any cultural resources found during construction would be addressed in accordance with the PA.

Mitigation

Consistent with the requirements of the PA, the USACE has drafted, consulted on, and implemented a Historic Property Treatment Plan (HPTP), executed in 2015, to guide responses to unanticipated discoveries and mitigate for adverse effects to known historic properties. Fieldwork activities associated with the mitigation have already been carried out in Phase 2.

No documented historic properties are expected to be impacted by the proposed actions described in this EA; therefore no additional mitigation activities would be required. Any previously unknown resources discovered during construction would be treated in accordance with the PA and HPTP.

3.2.3 Water Quality

Section 5.3.3 of the 2004 EIS/EIR adequately characterizes the basis of significance, regulatory setting, and the affected environment for this resource.

No Action

Under the no action alternative, the project would proceed as authorized. The pipeline would remain in its current alignment and would not be relocated. The pipeline would be in an area that is reconnected to the floodplain. This would make it susceptible to erosive forces and the pipeline could be exposed in the future which could have adverse impacts to water quality from exposure to natural gas leakages. Additionally, up to 1,000 linear feet of rock revetment would be used to protect the Gianella Bridge, as described in the 2004 EIS/EIR. The effects of rock revetment were adequately analyzed in the 2004 EIS/EIR.

Preferred Alternative

Activities associated with the removal component of the pipeline could have temporary effects on water quality from operation of heavy equipment and exposure of bare soils at the footprint of the old pipeline; although this floodplain will be immediately replanted with native vegetation to cover the soils and prevent erosion. The new pipeline will be on the landside of the setback levee and any runoff generated during construction would be contained within that area and prevented from entering the waterway.

Water that enters any excavation areas during pipeline relocation activities may need to be discharged into settling containers prior to discharge. Additionally, before the new pipeline can be tied into existing pipeline, it would need to be hydrotested with water from a nearby municipal fire hydrant. This water would be clean and would be land discharged within the project area or used for dust suppression associated with other activities. PG&E has a valid programmatic land discharge permit from the State Water Resources Control Board (Order WQ 2017-0029-DWQ, General Permit No. CAG670001) that would be used for any land discharge. BMPs specified in the permit would be adhered to. These include:

- discharge groundwater/stormwater that enters excavations and new component test water to land after filtration by 25 micron and 5-micron filter and following a dissolved oxygen (DO) reading with a result above 1mg/L;
- weekly DO monitoring during the duration of discharge; and
- hydrostatic test water is potable, and obtained from a municipal source.

Removal and relocation of the power lines and associated power poles would not have an effect on water quality conditions beyond what was already evaluated in the 2004 EIS/EIR.

Placement of rock revetment at the Gianella Bridge, could have short term impacts on water quality in the Sacramento River from heavy equipment operating in or near the water. Rock placed below the water surface would likely cause temporary and localized increases in turbidity. Once the area stabilizes, the turbidity increase would discontinue. BMP's identified in the 2004 EIS/EIR would be implemented to minimize and reduce any potential impacts to water quality. USACE would obtain a Section 401 Water Quality Certification Permit from the Regional Water Quality Control Board (RWQCB) prior to construction and would implement any additional BMP's recommended by the RWQCB.

After the project is completed and the floodplain is restored, the conversion of farmland to native habitat would likely have an overall beneficial effect on water quality in the long term by reducing surface runoff and increasing excess nutrient uptake after vegetation is established, reducing tillage, reducing use of well water and pumps for irrigation, and reducing use of agricultural chemicals. Due to the short term nature of the potential construction related impacts, the Project would have an overall net benefit to water quality after the project is complete and 1,400 acres of floodplains are restored as authorized.

All statutes of the Clean Water Act (CWA) have been met for this project as indicated below in *Chapter 5, Section 5.2:*

3.2.4 Special Status Species

After the 2004 EIS/EIR was finalized, the southern distinct population segment (DPS) of North American green sturgeon (*Acipenser medirostris*) was listed as threatened under the Endangered Species Act in 2006. In 2010, critical habitat was designated in the Sacramento River for green sturgeon. The proposed rock revetment would overlap with a small amount of critical habitat for green sturgeon (Figure 5).

For all other special status species, Section 5.3.8 of the 2004 EIS/EIR adequately characterizes the regulatory setting and effected environment for this resource.

Figure 5. Location of Rock Revetment to be placed for the Preferred Alternative.

No Action

Under the no action alternative, the Project would proceed as authorized. Although the effects of this action on most special status species were adequately analyzed in the 2004 EIS/EIR, it did not evaluate effects of the authorized Project on green sturgeon which could potentially be present within this reach of the Sacramento River as an adult or juvenile, and may be adversely impacted.

The pipeline would remain in its current alignment and would not be relocated out of an area that would be reconnected to the floodplain. This would make the pipeline susceptible to erosive forces which could have an adverse impact to special status fish should a leak or breakage occur. Additionally, up to 1,000 linear feet of rock revetment would be used to protect the Gianella Bridge, as described in the original 2004 EIS/EIR.

Preferred Alternative

The 2004 EIS/EIR evaluated placing approximately 1,000 linear feet of rock into the Sacramento River to protect the Gianella Bridge. After additional refined hydraulic analysis, it was determined that approximately 700 linear feet of rock (7,100 cubic yards, just under 1 acre) would be needed. Of that, approximately 6,000 cubic yards would be placed below the OHWM, primarily over existing revetment or other hardened surfaces (Figure 4). Rock would be placed around existing trees and therefore would not impact the existing shaded riparian habitat. Trees would be protected in place with coir fabric. Rock would be placed with heavy equipment such as backhoe and/or excavators.

As discussed in the 2004 EIS/EIR, the placement of rock by itself represents an adverse impact to instream habitat. However, removal of the existing "J" levee and restoration of the adjoining floodplain would provide approximately 1,400 acres of additional habitat for anadromous fish and other special status species by providing access to additional floodplain habitat. Overall, the net effect would be beneficial.

During placement of the rock, BMPs would be implemented to minimize impact to any special status anadromous fish. The BMPs are adequately described in the 2004 EIS/EIR. However, in addition to the BMPs already identified, in-water work would be limited to June 1 - October 31 to avoid impacts to migrating green sturgeon, as recommended by the *NOAA Restoration Center's Program to Facilitate Implementation of Restoration Projects in the Central Valley of California* (2018). Green sturgeon typically migrate through this area of the river in spring, therefore by placing the rock in the summer and fall months, green sturgeon are unlikely to be present. Consultation under the Endangered Species Act is currently ongoing with NMFS. If additional BMPs are identified during consultation, they would be incorporated to the extent feasible to further reduce any potential impact to special status fish species.

Removal and relocation of the power lines and associated power poles would not have an effect on special status species beyond what was already evaluated in the 2004 EIS/EIR.

Construction of the pipeline realignment would occur entirely on the land side of the existing levee and would be completed prior to removal of the existing levee. The pipeline removal component will occur within the floodplain and may result in temporary effects to water quality when the floodplain initially becomes inundated with water. However, these short pulses of water turbidity are not expected to be above baseline turbidity levels and would not be likely to affect salmonid or green sturgeon behavior.

3.2.5 Transportation

Sections 4.3.9 and 5.3.12 of the 2004 EIS/EIR adequately characterizes the basis of significance, regulatory setting, and the affected environment for this resource.

No Action

Under the no action alternative, the project would proceed as authorized. The effects of this action on traffic were adequately analyzed in the 2004 EIS/EIR.

The pipeline would remain in its current alignment and would not be relocated. The pipeline would be in an area that is reconnected to the floodplain. This would make it susceptible to erosive forces and the pipeline could be exposed in the future. Additionally, up to 1,000 linear feet of rock revetment would be used to protect the Gianella Bridge.

Preferred Alternative

Relocation of the pipeline and power lines, and installation of erosion protection features at Gianella Bridge would require traffic controls along Highway 32 starting at approximately the entrance to the Irving Finch River access on the west side to approximately the eastern shore of the Sacramento River, just over the Gianella Bridge, on the east side. The traffic controls would likely be in place at night from 6pm to 6am, Sunday night through Saturday; daytime controls would also be possible Monday-Saturday from 6am to 6pm and would result in temporary partial closures to one lane of Highway 32. There could also be increased traffic on Highway 32 and Canal Rd., as trucks and equipment are entering and leaving the proposed project site over a period of approximately 12 weeks.

Under the expected conditions, short-term construction-related effects to traffic as a result of the preferred alternative would not be considered significant because BMPs would be implemented to minimize any short term impacts, such as advanced notification of temporary road closures, detours, and flaggers to direct traffic. This traffic management plan would be consistent with the access management plan required in the 2004 EIS/EIR during construction.

3.2.6 Utilities

While the 2004 EIS/EIR did consider utility impacts in the project costs and features, it did not characterize the regulatory setting and the affected environment for this resource.

There are several public utilities in the project area that could be affected by construction of the Project. The utilities present vary by phase, but generally include power lines leading to a substation adjacent to Phase 2 and PG&E's underground natural gas distribution pipeline.

No Action

Under the no action alternative, the Project would proceed as authorized. The pipeline would remain in its current alignment and would not be relocated. The pipeline would be in an area that would be reconnected to the floodplain once the authorized project is complete. This

would make it susceptible to erosive forces and the pipeline could become exposed in the future and lead to disruption of service as well as potential public safety issues.

Some PG&E power poles in Phase 2 that fall within the new levee alignment would still need to be relocated under the no action alternative. The relocations would be done without disruption to services. Power would be temporarily rerouted to other lines during the relocation until the new lines are functional.

Preferred Alternative

Implementation of the preferred alternative would not disrupt or diminish the quality of any utility services for any extended period of time. Any power poles running on or through the new levee or in portions of the "J" Levee that are being removed would be either temporarily or permanently relocated without disrupting service. Figure 6 shows the current alignment of the power lines and where they would be relocated under the preferred alternative.

While the preferred alternative replaces an active natural gas line, gas service to customers would not be interrupted, as both Hamilton City and the City of Chico have a separate gas supply that would be used during the pipeline installation. As there would be no interruption of utility service during relocation of the pipeline, the proposed action would have not have any adverse effects on the utility resource to consumers.

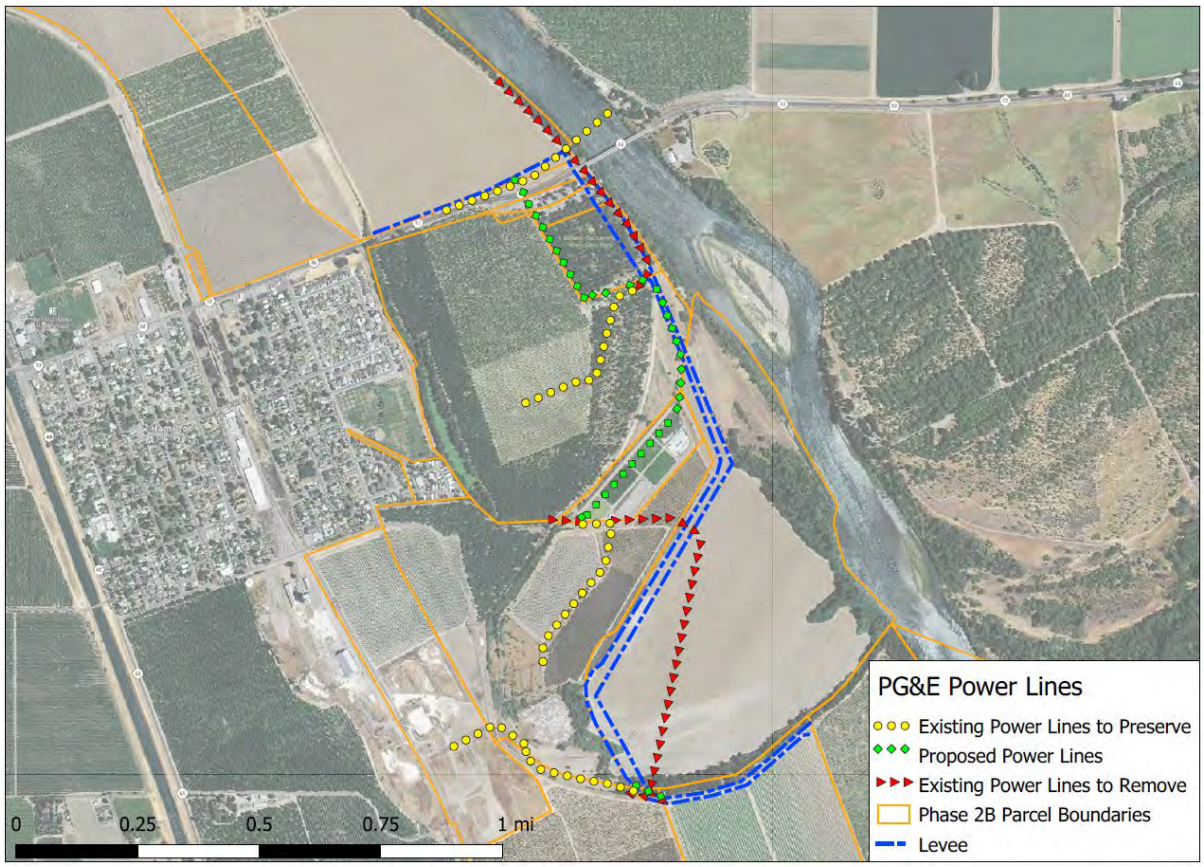

Figure 6. Current PG&E Power Line Locations and Proposed Realignments

4 CUMULATIVE EFFECTS

Cumulative effects for the project were adequately covered in the 2004 EIS/EIR. Construction associated with the pipeline relocation was not included in the 2004 EIS/EIR, but those activities would generally fit within the scope of construction activities originally considered.

5 COMPLIANCE WITH FEDERAL STATUES AND EXECUTIVE ORDERS

Compliance with all applicable Federal, State and local laws was identified documented in the 2004 EIS/EIR. Compliance with the following regulations listed in this section has either been updated since the 2004 EIS/EIR or they are new regulations that were not in place in 2004 and, consequently, not covered in the 2004 EIS/EIR.

Clean Air Act of 1972, as amended (42 U.S.C. 7401, et seq.)

Full compliance. The Clean Air Act (CAA) established National Ambient Air Quality Standards (NAAQS) and required state and local agencies to develop State Implementation Plans (SIPs) for areas that exceed the *de minimus* thresholds. An updated air quality analysis was conducted as part of this EA. As the *de minimus* thresholds would not be exceeded, there is no need for further consultation.

Clean Water Act of 1972, as amended (33 U.S.C. 1251, et seq.)

Full compliance. The Clean Water Act (CWA) is the primary federal law governing water quality. In California, the U. S. Environmental Protection Agency (USEPA) has delegated the authority to regulate Section 401 under the CWA to state agencies, RWQCB in the case of this proposed project. This project would introduce fill materials into waters of the U.S., and requires a 401 water quality certification. USACE would obtain the 401 water quality certification prior to construction. The USACE does not permit itself under Section 404; however the 404(b)(1) Evaluation prepared in 2004 has been updated to capture the placement of erosion protection along the Gianella Bridge abutment. BMP's identified in the 2004 EIS/EIR would be implemented to minimize and reduce any potential impacts to water quality, as well as any additional requirements included in the 401 water quality certification. Although placement of erosion protection below the water surface along the bridge abutments would represent a permanent loss of approximately 0.3-acre of waters of the U.S., the project would have a long-term increase of over 1,400 acres of jurisdictional waters when construction of the levee setbacks is completed. No mitigation is required. The Project is in full compliance with the CWA.

Endangered Species Act of 1973, as amended (16 U.S.C. 1531, et seq.)

Full compliance. The USFWS regulates and enforces protection of plants and wildlife, including freshwater fish, while NMFS is responsible for marine species and anadromous fish. Both agencies were consulted in 2004, with a Biological Opinion issued by USFWS and a letter received from NMFS indicating a not likely to adversely affect determination for Central Valley steelhead, Spring- and Winter-run Chinook salmon, and their designated critical habitat. Since

the 2004 consultation, the sDPS Northern green sturgeon was listed as threatened under the ESA. A request for concurrence of not likely to adversely affect green sturgeon has been submitted to NMFS.

Fish and Wildlife Coordination Act of 1958, as amended (16 U.S.C. 661, et seq.)

Full compliance. The Fish and Wildlife Coordination Act (FWCA) requires federal agencies to consult with USFWS, NMFS, and California Department of Fish and Wildlife (CDFW) to determine a project's impacts to fish and wildlife and recommend the best measures to mitigate those impacts. Both USFWS and CDFW were coordinated with during the preparation of the 2004 EIS/EIR and USACE received a Coordination Act Report (CAR). Both USFWS and NMFS made recommendations for the entire Project regarding conservation measures, and USACE has incorporated those recommendations into the Phase 2B designs of the Project.

Migratory Bird Treaty Act of 1936, as amended (16 U.S.C. 703, et seq.)

Full compliance. The Migratory Bird Treaty Act (MBTA) protects migrating birds from harm due to federal projects through various treaties and conventions between the United States, Canada, Japan, Mexico, and Russia. Migratory birds are protected through pre-construction surveys for nesting migratory birds and implementation of buffer areas if nesting birds are found. As there would be no impacts to migratory birds as a result of the Project, the Proposed Action is in compliance with the MBTA.

National Environmental Policy Act of 1969, as amended (42 U.S.C. 431, et seq.)

Full compliance. NEPA applies to all federal actions, including this proposed action that affects the human environment. This Final EA is prepared in compliance with NEPA.

National Historic Preservation Act of 1966, as amended (54 U.S.C. 300101)

Full compliance. Corps project activities are in compliance with Section 106 of the National historic Preservation Act of 1966, as amended (NHPA) so long as they are undertaken pursuant to procedures described in the Project's *Programmatic Agreement (PA) Among USACE, the California State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation*. The Archaeological Resources Protection Act and the Native American Graves Protection and Repatriation Act do not apply to the Project, nor the activities covered under this EA, because it is not Federal land.

6 REFERENCES

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7 LIST OF PREPARERS

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8 LIST OF AGENCIES, INTERESTED GROUPS AND PUBLIC CONSULTED

U.S. Fish and Wildlife Service, Sacramento Field Office

National Marine Fisheries Service, Central Valley Office

Central Valley Regional Water Quality Control Board

Glenn County Air Quality Management District

Reclamation District 2140

Pacific Gas and Electric Company

The Nature Conservancy

Mechoopda Tribe of Chico Rancheria

California State Historic Preservation Officer

Glenn County Planning Department

California Department of Fish and Wildlife

Central Valley Flood Protection Board

California Department of Water Resources