ADDENDUM to the

Initial Study and Mitigated Negative Declaration for the Lake Fordyce Dam Seepage Mitigation Project

SCH No. 2020090506

Addendum Prepared by HDR

Prepared for the State Water Resources Control Board

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1. Introduction

On October 30, 2020, the State Water Resources Control Board (State Water Board), the California Environmental Quality Act (CEQA) Lead Agency for the Lake Fordyce Seepage Mitigation Project (Project), adopted an Initial Study/Mitigated Negative Determination (2020 IS/MND)[1] and Mitigation Monitoring and Reporting Plan (MMRP) for the Project. Prior to this adoption, the State Water Board released a Notice of Intent to Adopt a Mitigated Negative Declaration and made a draft IS/MND available for a 30-day public and agency review period which began on September 24, 2020. The State Water Board filed a Notice of Determination (NOD) with the Office of Planning and Research on October 30, 2020.

This Addendum concerns Project modifications proposed by Pacific Gas and Electric Company (PG&E) after the adoption of the 2020 IS/MND and MMRP and filing of the NOD. This Addendum describes these modifications and discusses potential environmental effects resulting from the modified Project (as compared to the impacts analyzed in the 2020 IS/MND).

CEQA Guidelines section 15164, subdivision (b) states that an addendum to an adopted negative declaration may be prepared "if only minor technical changes or additions are necessary or none of the conditions described in Section 15162" calling for a subsequent environmental impact report (EIR) or negative declaration have occurred. CEQA Guidelines section 15162 requires the lead agency to prepare a subsequent environmental impact report if "substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects." (Cal. Code Regs., tit. 14, § 15162, subd. (a)(1).) CEQA Guidelines section 15164, subdivision (c) provides that an addendum need not be circulated for public review but can be included in or attached to the final adopted negative declaration.

As discussed in Section 2 of this Addendum, PG&E has proposed modifications of certain Project elements to provide a stable foundation for the cofferdam. This Addendum describes the proposed modifications and their potential environmental impacts.

[1] State Water Resources Control Board, Lake Fordyce Dam Seepage Mitigation Project Initial Study/Mitigated Negative Declaration, October 2020, available at. https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/fordyce/2310a_20201030_ismnd_signed.pdf.

This document has been prepared in accordance with the requirements of CEQA (Pub. Resources Code, § 21000 et seq.) and the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.). This Addendum relies on expert opinion, technical studies, and other evidence to substantiate its findings.

2. Proposed Changes to the Project Description

The Project involves repairs to Lake Fordyce Dam to reduce seepage. The Project as originally proposed in the 2020 IS/MND included the construction of a cofferdam in Lake Fordyce to create a dry work area on the upstream face of the dam. PG&E has since proposed modifications to construction methods of the cofferdam to improve its safety and structural integrity.

The primary Project modifications relate to dredging (both method and volume), amount of imported material associated with cofferdam construction, disposal of dredged sediments, and Project construction timing. To provide a stable base for the cofferdam, the lake bottom along the cofferdam alignment would be mechanically dredged to stable bedrock, as opposed to the original proposal of suction dredging a smaller amount of surficial silt. A barge-mounted clam-shell excavator would be used to remove approximately 5,000 cubic yards of mud, sand, and gravel from the lakebed beneath the cofferdam alignment. The dredged material would consist of a relatively thin layer of surficial silt (approximately 500 cubic yards), and the remainder would consist primarily of sand and gravel (Figure 2.1-1). The dredged material would be placed on a barge for transport to shore, unloaded into a dump truck using an excavator or loader, and hauled to a designated flat surface area of the staging area downstream of the dam for disposal. The dredged material would be contained in a plastic lined K-rail enclosure to prevent turbid runoff from entering the lake or Fordyce Creek. Every 2,000 cubic yards of sediment disposed of in the staging area downstream of the dam will be tested for mercury, and if determined hazardous will be disposed of in accordance with applicable state and federal requirements.

To minimize turbidity in Lake Fordyce during the dredging operation, applicable Water Quality Control Practices described in the 2020 IS/MND would be employed, including conducting the dredging and dredged material transfer operations within the confines of impermeable turbidity curtains. A small earthen bulkhead of rock material would be installed on the shore for loading and unloading materials to and from the barges and subsequently altered to facilitate cofferdam construction. After dredging to bedrock is complete, the dredged cofferdam alignment would be backfilled and leveled with approximately 0 to 9 feet (5,000 cubic yards) of excavator-placed, 12-inch minus rockfill to form a stable foundation for the bin walls. The rock fill would remain in place in the reservoir after construction is completed while the steel bin walls of the cofferdam would be removed in year four of the Project.

Cofferdam construction, including dredging and material backfill, would occur during the first two construction years, likely starting in August of the first year, after the reservoir water elevation is lowered. Cofferdam construction would use single work shifts, as

opposed to the original proposal of double work shifts. Construction activities would occur over an approximately 3-month window, between mid-July and mid-October each year. Because of the limited construction window and additional dredging, construction would occur over four years instead of three. While construction activities would remain the same as anticipated in the 2020 IS/MND, the sequence of activities has shifted within the construction schedule. The likely year-by-year construction sequence in general includes the following activities:

Construction Year One (once reservoir drawdown is complete):

- access road improvements;
- mobilization and establishment of staging/laydown areas;
- stockpiling project material;
- dredging and lakebed rockfill;
- partial cofferdam construction; and
- geotechnical exploration and testing above minimum pool.

Construction Year Two (once reservoir drawdown is complete):

- maintenance of road improvements;
- dredging and lakebed rockfill;
- complete cofferdam construction and install in-stream flow bypass system;
- dewatering of the work area;
- geotechnical exploration and testing below minimum pool;
- investigation of abandoned LLO; and
- rewatering of the work area.

Construction Year Three (once reservoir drawdown is complete):

- maintenance of road improvements and in-stream flow bypass system;
- dewatering of the work area;
- construct seepage berm and place granular fill pad material;
- construct concrete plinth;
- construct grout curtain;
- begin liner installation; and
- rewatering of the work area.

Construction Year Four (once reservoir drawdown is complete):

- maintenance of road improvements and in-stream flow bypass system;
- dewatering of the work area;

- performance of selected grouting to the abandoned low level outlet;
- complete liner installation;
- completion of site restoration;
- rewatering of the work area; and
- removal of cofferdam steel bins.

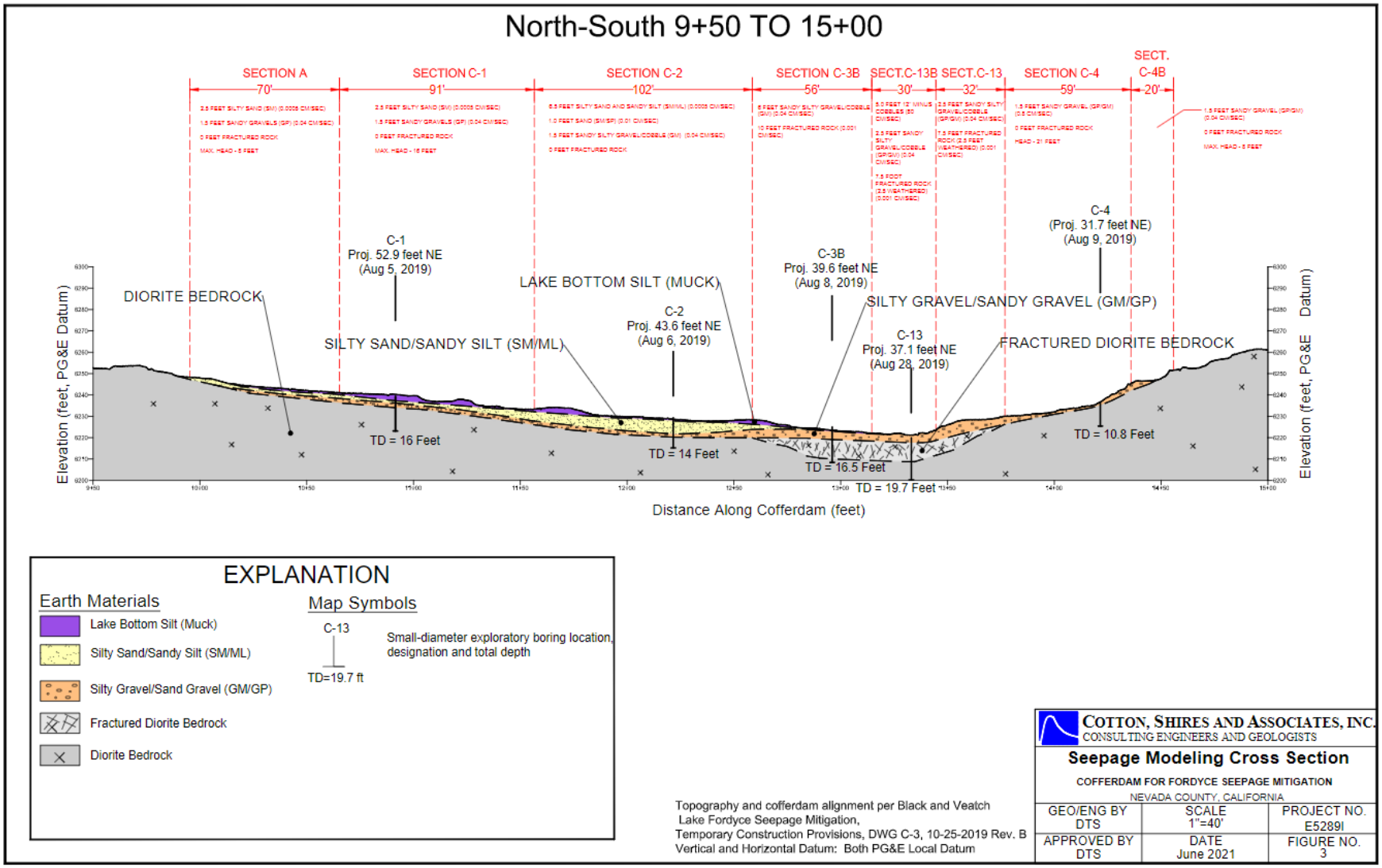
Table 2.1 shows the dredging and fill quantities required for PG&E's proposed modifications to cofferdam construction. Truck trips to deliver materials would vary by construction season, construction phase, and the availability of storage space in the staging areas. A maximum of 50 material delivery trips would occur during a single day. This maximum would occur only while material is being imported for cofferdam construction.

Table 2.1. Approximate Dredge and Fill Quantities for Seepage Repair

Component	Dredge Volume (cubic yards)	Dredge Area (square feet)	Fill Volume (cubic yards)	Fill Area (square feet)	Fill Material Source
Cofferdam	5,000	32,400	14,200	23,400	Teichert Cool Cave quarry

Note: Table 2.1 updates the data in the cofferdam row of Table 2-2 in the 2020 IS/MND.

Figure 2.1-1. Sediments Along the Cofferdam Alignment



As explained in the 2020 IS/MND, two staging areas within the work area would be used during construction: 1) a 1.25-acre site on the downstream side of the dam and 2) a 1.13-acre site on the upstream side of the dam. The 1.25-acre site would be used for construction offices, parking, and material storage as discussed in the 2020 IS/MND. In addition, one of PG&E's proposed modifications to the Project is to use the 1.25-acre site for disposal of the dredged material from the cofferdam foundation alignment.

PG&E has incorporated applicable turbidity control measures identified in section 2.6.1. of the 2020 IS/MND and PG&E's June 24, 2021 proposed modifications to the Project, for handling of dredged materials into the Project. Dredged materials would be deposited in the 1.25 acre upland staging area located downstream of the dam and be contained by a concrete K-rail detention area lined with plastic sheeting. In addition, straw wattles and/or gravel bag berms may be placed beyond/outside the detention area to prevent turbid water in the dredged materials from discharging into Lake Fordyce or Fordyce Creek.

Table 2-4 of the 2020 IS/MND presents an overview of the various permits or approvals that may be required for the Project. Additionally, on July 30, 2021, PG&E obtained a *Notice of Applicability* of *Waiver of Report of Waste Discharge and Waste Discharge Requirements* from the Central Valley Regional Water Quality Control Board for Project implementation that addresses the disposal of dredged material to land.

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3. Potential Impacts of the Revised Project Description

This Addendum was prepared to consider the potential environmental impacts associated with PG&E's proposed modifications to the Project (as discussed in Section 2) to resource areas evaluated in the 2020 IS/MND. Previously adopted Mitigation Measures (MM) identified in the 2020 IS/MND and MMRP are still applicable and required for the Project.

The following resource areas have been eliminated from further analysis in this Addendum because PG&E's proposed modifications to the Project have no potential to affect these resources and the 2020 IS/MND's analyses remain current and applicable, even with the proposed modifications:

- Agriculture and Forestry Resources
- Energy
- Land Use/Planning
- Mineral Resources
- Population and Housing
- Public Services
- Utilities/Service Systems
- Wildfire
- Mandatory Findings of Significance

The following sections provide further analysis of resources areas which could potentially be affected by PG&E's proposed modifications to the Project. None of the conditions described in CEQA Guidelines section 15162 requiring the preparation of a subsequent IS/MND have occurred. Therefore, this Addendum provides further analysis for the following resource areas:

- Aesthetics
- Biological Resources
- Geology/Soils
- Hazards & Hazardous Materials
- Noise
- Transportation
- Air Quality
- Cultural Resources
- Greenhouse Gas Emissions
- Hydrology/Water Quality
- Recreation
- Tribal Cultural Resources

3.1. Aesthetics

While the Project would require a full fourth year of construction, the presence of construction equipment, materials, and the cofferdam structure would still only cause

temporary and/or limited impacts to the visual environment. Additionally, the Project, as described and analyzed in the 2020 IS/MND, anticipated a potential fourth year of construction due to weather conditions.

The permanent rock fill at the foundation of the cofferdam would be below the water surface and would not change the Project's long-term visual impacts. On-site disposal of dredged material would not change the Project's long-term visual impacts because this material would be consistent with the existing rocky character of the visual environment at the downstream staging area. The dredged material is anticipated to be approximately 5,000 cubic yards and would not change or block existing views of the reservoir or surrounding landscape. Further, the change in construction methods for the cofferdam would reduce the number of nighttime work shifts, which would reduce potential impacts from lighting and glare. Therefore, PG&E's proposed modifications to the Project would not result in new or increased impacts on aesthetics.

3.2. Air Quality

The cofferdam construction modifications would require additional material delivery truck trips, alternate but similar construction equipment, and an extended construction timeline to accommodate the additional dredging and fill activities.

Based on updates to the 2020 IS/MND's air quality modeling to account for the additional delivery truck trips and extended construction timeline, construction-related emissions would increase. However, these increases in emissions would not create new exceedances of the Northern Sierra Air Quality Management District's (NSAQMD) Level A emissions thresholds. Table 3.2-1 shows the maximum daily emissions from the adopted 2020 IS/MND along with the revised maximum daily construction-related emissions, which account for PG&E's proposed modifications to the Project.

Table 3.2-1. Maximum Daily Construction-Related Emissions

	ROG (lb/day)	NO_X (lb/day)	CO (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)[2]
2020 IS/MND Maximum Daily Emissions [1]	11.77	103.71	218.05	101.53	13.12
Revised Maximum Daily Emissions	11.95	126.10	220.53	125.07	15.74
NSAQMD Level A Thresholds	24	24	N/A	79	N/A

	ROG (lb/day)	NO_X (lb/day)	CO (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)[2]
Exceeds Level A Threshold?	No	Yes	—	Yes	—
NSAQMD Level B Thresholds	136	136	N/A	136	N/A
Exceeds Level B Threshold?	No	No	—	No	—
2020 IS/MND Maximum On-Road Emissions[3]	0.43	17.92	10.00	0.67	0.32
Revised Maximum On-Road Emissions	0.60	40.30	12.48	1.18	0.58
PCAPCD Threshold	82	82	N/A	82	N/A
Exceeds PCAPCD Threshold?	No	No	—	No	—

Source: 2020 AECOM modeling calculations (2020 IS/MND Table 3.4-2), updated 2021

Notes:

1. Maximum daily emissions are assumed to occur during cofferdam construction (Season one) based on information provided by the contractor. In addition, it was assumed rock blasting would occur during access road improvements; as such, blasting activities are not anticipated to occur during this worst-case analysis. Similarly, helicopter activity is anticipated to occur during mobilization and demobilization activities. As such, helicopter usage is not anticipated to overlap with the maximum daily scenario.
2. NSAQMD does not have a threshold for CO and PM2.5 emissions; maximum daily emissions shown for informational purposes.
3. Maximum on-road emissions conservatively include total daily emissions associated with on-road vehicle travel for comparison to the Placer County Air Pollution Control District (PCAPCD) thresholds due to the portion of the access road (approximately 1,400 feet) located within the PCAPCD jurisdiction.

CO = carbon monoxide; lb/day = pounds per day; NOX = nitrogen oxides; PM10 = particulate matter less than 10 microns in diameter; PM2.5 = particulate matter less than 2.5 microns in diameter; ROG = reactive organic gases

As shown in the above table, PG&E's proposed modifications to the Project would not result in new or substantially increased impacts on air quality. Previously adopted MM-AQ-1 (Mitigations for Use during Project Design and Construction) and MM-AQ-2 (Recommended Dust Control Plan Conditions) would still apply and reduce impacts of additional truck trips and the extended construction timeline. Implementation of MM-AQ-1 would reduce emissions associated with the Project, including emissions of NO_X, ROG, and PM associated with idling trucks, to be less than significant, while MM-AQ-2 would ensure compliance with NSAQMD Rule 226 (Dust Control) and PCAPCD Rule 228 (Fugitive Dust).

3.3. Biological Resources

The Project would not result in a change in impacts to Biological Resources as analyzed in the 2020 IS/MND. The discrete modifications to the Project do not have the potential to impact special status species; riparian habitat or sensitive natural community; protected wetlands; or movement of native or migratory fish or wildlife. Additionally, the limited changes to the Project would not conflict with any local policies or ordinances protecting biological resources or provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan. As discussed in Section 3.5 of the 2020 IS/MND, there are no riparian habitat, sensitive natural communities, or special status plants identified in the Project area. PG&E's proposed modifications to the Project would not result in new or increased impacts on biological resources.

3.4. Cultural Resources

Cofferdam dredging and sediment replacement would occur in the same footprint analyzed previously in the 2020 IS/MND as such there would be no change to the cultural resources identified in Table 3.6-1. Although the depth of the cofferdam dredging has increased compared to the depth analyzed in the 2020 IS/MND, the previously adopted mitigation measures such as MM-CUL-2 (Procedures for Unanticipated Discovery of Archaeological Resources) and MM-CUL-3 (Worker Training) are still applicable. Therefore, PG&E's proposed modifications to the Project would not result in new or increased impacts on cultural resources.

3.5. Geology and Soils

The Project would not result in a change in impacts to Geology and Soils as analyzed in the 2020 IS/MND. As the 2020 IS/MND stated that there is low to moderate seismicity in the area, placing rock at the cofferdam foundation would not pose an increased threat to Fordyce Dam. Rather, the cofferdam and its construction methods were modified to increase stability of the cofferdam structure. Further, the permanent rock fill would be located upstream of the Fordyce Dam and would be unlikely to migrate toward the dam during a seismic event because the rock fill would be placed in a dredged area. Finally,

Project construction would occur in areas with a low potential for paleontological resources. To address the inadvertent discovery of paleontological resources given the depth of dredging, previously adopted MM-GEO-1 (Discovery of Paleontological Resources) remains applicable and would avoid or reduce the potential for impact to a less-than-significant level. Therefore, PG&E's proposed modifications to the Project would not result in new or increased impacts on geology and soils.

3.6. Greenhouse Gas Emissions

The Project would not result in a change in impacts to greenhouse gas emissions as analyzed in the 2020 IS/MND. While increased dredging and fill activities would result in an increase in the number of material delivery truck trips during construction, emissions would remain below the relevant annual thresholds for greenhouse gas emissions. Modification to the Project would not conflict with any applicable plans, policy or regulations adopted for the purpose of reducing greenhouse gas emissions. Additionally, modifications to the Project would continue to facilitate repairs to a dam that supports hydroelectric energy production, which is consistent with California's renewable energy targets. Therefore, PG&E's proposed modifications to the Project would not create new threshold exceedances and would not result in new or substantially increased impacts on greenhouse gas emissions.

3.7. Hazards and Hazardous Materials

Project modifications have the potential to impact hazards and hazardous material exposures to the public and/or environmental through transport and disposal of dredged soils. While increased dredging during cofferdam construction could encounter potentially contaminated soils, PG&E has committed to test every 2,000 cubic yards of dredged sediments for mercury contamination, and to dispose of any soils determined hazardous at an offsite facility in accordance with applicable state and federal regulations. Further previous sampling discussed in the 2020 IS/MND indicated that contaminated soils are not anticipated. Any potential increase in the risk of a spill or release of hazardous materials from the additional work would still be reduced by the implementation of a Stormwater Pollution Prevention Plan (SWPPP). Therefore, PG&E's proposed modifications to the Project would not result in any new or increased impacts on hazards or hazardous materials.

3.8. Hydrology and Water Quality

Project modifications have the potential to impact water quality standards, or substantially degrade surface water quality. In particular, the change in dredging method from diver assisted suction dredge to clam-shell dredge along with the increased amount of dredging necessary for a stable cofferdam foundation has the potential to increase turbidity in Lake Fordyce and Fordyce Creek. However, PG&E has committed to the use of turbidity curtains upstream of and surrounding the cofferdam

and dredging barge which would effectively control turbidity. Applicable water quality control practices included in the Project Description, discussed in section 2.6.1 of the 2020 IS/MND, would control turbidity from the increased dredging. Further, turbidity monitoring and adaptive management strategies included in MM-HYD-1 (Monitor and Implement Adaptive Management Strategy) would be applied during all construction activities, including dredging and fill placement for the modified cofferdam foundation. Additionally, as discussed in 2020 IS/MND Section 3.11.2, MM-HYD-1 would ensure that turbidity levels in the Project area are maintained at or below a "severity of ill effect" (SEV) of 3.5 on the Newcombe (2003) ranking model. Dredged materials disposed of on-site would be contained in a lined K-rail enclosure to ensure that sediment would not impair water quality in nearby surface waters during a storm event. The on-site disposal area is located downstream of Fordyce Dam, in an upland area without hydraulic connectivity.

Additionally, implementing the SWPPP, including final stabilization requirements, would reduce impacts to water quality from erosion of sand, gravel, and fines in the temporary and permanent stockpile. Therefore, PG&E's proposed modifications to the Project would not result in new or increased impacts on hydrology and water quality.

3.9. Noise

Although the quantity of dredging would be increased, and a fourth construction year would be required, construction would still be considered a temporary impact to noise levels in the vicinity of the Project. Further, reducing double shifts to a single shift per day would reduce construction noise levels at sensitive times. Therefore, PG&E's proposed modifications to the Project would not result in new or increased impacts on noise.

3.10. Recreation

While the fourth year of construction could disrupt recreation in the area, changes in the Proposed Project would not create new or increased disruptions over impacts analyzed in the 2020 IS/MND. Additionally, the Project, as described and analyzed in the 2020 IS/MND, anticipated a potential fourth year of construction due to weather conditions. Rock fill placed in Lake Fordyce would be well below the normal water line and would not impact boaters. Therefore, PG&E's proposed modifications to the Project would not result in new or increased impacts on recreation.

3.11. Transportation

There would be additional truck trips to transport the increased quantity of dredged material and rock fill required for the modifications to the cofferdam construction methods. However, consistent with the analysis in the 2020 IS/MND, increased construction truck trips would be minimal, temporary, and would not create long-term

impacts on roadway use. Further, PG&E's proposed modifications to the Project would not conflict with the policies in the adopted transportation plan. Therefore, these modifications would not result in new or substantially increased impacts on transportation.

3.12. Tribal Cultural Resources

Cofferdam dredging and sediment replacement would occur in the same footprint analyzed previously in the 2020 IS/MND. Although the depth of the cofferdam dredging has increased compared to the depth analyzed in the 2020 IS/MND, the previously adopted mitigation measures such as MM-CUL-2 (Procedures for Unanticipated Discovery of Archaeological Resources) and MM-CUL-3 (Worker Training) are still applicable. Therefore, PG&E's proposed modifications to the Project would not result in new or increased impacts on cultural resources.

4. Conclusion

Based on the above analysis, PG&E's proposed modifications to the Project do not alter the conclusions of the 2020 IS/MND regarding environmental impacts. As discussed in the previous section, the State Water Board has determined that PG&E's proposed modifications will not create any new potentially significant effects or substantially increase the severity of any previously identified potentially significant effects. No substantial changes to the circumstances under which the Project will be undertaken have occurred, and no new information of substantial importance regarding effects of the Project or previously adopted mitigation measures has been identified. Therefore, the State Water Board has determined that preparation of a subsequent mitigated negative declaration is not required pursuant to CEQA Guidelines section 15162 and has prepared this Addendum.

Both this Addendum and the 2020 IS/MND are available on the State Water Board **Drum Spaulding Project** web page[2]. The State Water Board, as the CEQA Lead Agency, will consider this Addendum with the previously adopted 2020 IS/MND prior to making a decision on the Project in accordance with CEQA Guidelines section 15164, subdivision (d).

[2] https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/drum_spaulding_ferc2310.html