DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
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CECW-SPD

MAR 2 9 2019

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

SUBJECT: Dry Creek Ecosystem Restoration Feasibility Report and Integrated Environmental Assessment

1. Purpose: Request your review of the enclosed Dry Creek Ecosystem Restoration Feasibility Report and Integrated Environmental Assessment (FR/EA). I request that you concur with my finding that the recommended restoration of Dry Creek is feasible, and approve budgeting for this project based on the Final FR/EA. This is the decision document for the subject project.

2. Authorization: The Dry Creek Ecosystem Restoration study is authorized by Section 1028 of the Water Resources Reform and Development Act (WRRDA) of 2014 (33 U.S.C. 2283b). Section 1028 authorizes the Secretary to carry out measures to improve fish species habitat within the boundaries, as well as downstream, of a water resources project constructed by the Secretary that includes a fish hatchery, if the Secretary: (i) has been explicitly authorized to compensate for fish losses associated with the project; and (ii) determines that the measures are feasible, consistent with authorized project purposes and the fish hatchery, and in the public interest. Therefore, upon completion and approval of a feasibility study meeting these conditions, ecosystem restoration measures may be considered for construction funding in accordance with existing budgetary policies and procedures.

3. Background: Dry Creek is a water resource serving numerous purposes within Sonoma and Marin Counties, CA. Dry Creek is the largest tributary to the Russian River and has served historically as a vital resource for aquatic and terrestrial habitat of the nation's wildlife that live, breed, and migrate through the Russian River ecosystem.

a. The construction of the Warm Springs Dam (WSD) on Dry Creek was authorized by Section 203 of the Flood Control Act of 1962, Public Law 87-874. WSD was constructed in 1983, 13.9 miles upstream of Dry Creek's confluence with the Russian River, creating Lake Sonoma. WSD provides flood risk management benefits and a source of water for municipal and industrial uses, and maintains minimum instream flow requirements for beneficial uses including recreation and fish habitat. Construction, operation, and maintenance of the WSD, Lake Sonoma, regulated stream flows, and other project purposes have substantially degraded the downstream riverine ecosystem structure, function, and dynamic processes along Dry Creek within Sonoma County affecting the fish resources of the Russian River.

b. For this reason Congress authorized the expansion of the WSD hatchery in Section 95 of the Water Resources Development Act of 1974, Public Law 93-251. That provision modified the WSD to authorize and direct the Secretary, acting through the Chief of Engineers, "to compensate for fish losses on the Russian River which may be attributed to the operation of the Coyote Dam component of the project through measures such as possible expansion of the capacity of the fish hatchery at the Warm Springs Dam component of the project."

c. The Russian River ecosystem, including Dry Creek, is a nationally significant resource for three species of Federally-listed salmonids, including the endangered central California coast (CCC) coho salmon (*Oncorhynchus kisutch*) and the threatened California coastal (CC) Chinook salmon (*O. tshawytscha*) and CCC steelhead (*O. mykiss*) trout, as well as an abundance of other native aquatic and riparian species that support a functional riverine ecosystem. While construction and operation of the WSD greatly degraded the habitat for endangered salmonids and other aquatic species, regulated cold water discharges from the dam also provide a vital opportunity for the restoration of downstream habitat. Unlike unmanaged systems, the WSD water management regime (i.e. consistent summer low flows and attenuated winter flood flows) provides readily available cold water, which is incredibly scarce in this part of California. This scarcity of cold water has contributed to the decline of freshwater aquatic ecosystems throughout the American West. The operation of WSD ensures that Dry Creek will remain a stable cold water refuge while other streams in the area are increasingly affected by rising temperatures. Such cold water, when paired with ecosystem restoration to restore habitat complexity and connectivity, will provide an opportunity to prevent the extinction and/or extirpation of ESA-listed salmonids and other aquatic species.

4. Recommended Plan: The plan recommended in the Final FR/EA, which is the National Ecosystem Restoration (NER) plan, would consist of 2.6 river miles of habitat restoration spread out along 14 miles of lower Dry Creek. There are 3 major tributary connections (Fall Creek, Pena Creek, and Mill Creek) located at or downstream of the restoration sites on the mainstem of Dry Creek. These tributaries will provide approximately 32,617 acres of improved spawning habitat for salmonids in the Dry Creek watershed and are important for aquatic species' survival during various life-stages, including the listed salmonids. Restoring varied habitats that allow for a multitude of life-history adaptations is critical for population resiliency. In addition, important spawning tributaries are more or less evenly distributed throughout the 14-mile length of lower Dry Creek. By spreading out mainstem restoration within each of the three morphological zones (lower, middle, and upper reaches), the project will likely increase favorable habitat availability to juvenile fish flushed out of tributaries.

The project would result in an output of 22.82 average annual habitat units (AAHU) in benefits at a first cost of $44,768,306 (October 2018 prices). While built within the current FEMA floodplain, the recommended plan would not increase flood risks along Dry Creek. Restoration features would improve hydrologic connectivity with the floodplain by constructing combinations of riffles, large woody debris, backwaters, alcoves, pool enhancements, and side channels, at multiple sites along lower Dry Creek's mainstem. These measures will add hydraulic roughness and reduce velocities as well as create habitat complexity and increase habitat connectivity (both latitudinally with the floodplain and longitudinally up and down the river). Restoration of native vegetation through invasive species reduction and by riparian revegetation with native plant species will create restored riparian zones which increase scarce resting, nesting, feeding, and rearing habitat for neotropical migrant birds, as well as directly benefit listed aquatic species by providing shade, cover, and resting pools. All flows would remain within the existing or constructed river banks, and there would not be an increase in the base flood elevations, or downstream or backwater flooding. Current operation of Warm Springs Dam would not be affected.

5. Non-Federal Responsibilities: The non-federal sponsor is Sonoma County Water Agency. The total project first cost is estimated to be $44,768,306 at October 2018 prices, which includes $2,727,429 for monitoring and adaptive management. The federal share for pre-construction engineering and design and project implementation is 65% of the total project costs, which equals $29,099,399. The non-federal share is 35% of total costs and estimated to be $15,668,907. Included in the total project first costs and in the non-federal share is $5,690,146 for lands, easements, rights-of-ways, and relocations. The non-federal sponsor shall provide all lands, easements, and rights-of-way, perform or ensure the performance of all relocations, and provide relocation assistance, as determined by the Federal Government to be required for the initial construction or the operation and maintenance of the project, all in compliance with applicable provisions of the Uniform Relocation and Assistance and real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601-4655) and the regulations contained in 49 C.F.R. Part 24. The non-federal sponsor is also responsible for 100% of annual operation, maintenance, repair, rehabilitation, and replacement costs, which are estimated to cost $195,144 annually at October 2018 prices and federal discount rate of 2.875%.

6. National Environmental Policy Act (NEPA) Compliance: The FR/EA analysis of alternatives, evaluation of environmental effects, and integrated FR/EA format comply with NEPA requirements. Signing the Finding of No Significant Impact will complete the NEPA compliance requirements for this project.

a. Public information meetings and opportunities for public input have been abundant. The Public Policy Facilitating Committee (PPFC) has been meeting annually since 1999 to discuss, disseminate information, and take public comment on the implementation of Section 7 of the federal Endangered Species Act (ESA) as called for in a Memorandum of Understanding with the U.S. Army Corps of Engineers (Corps), National Marine Fisheries Service (NMFS), and the Sonoma County Water Agency. The PPFC Committee Members include three members of the Sonoma County Board of Supervisors, one member of Mendocino County Board of Supervisors, an official from the California Department of Fish and Wildlife, an official from the NMFS, an official from the California North Coast Regional Water Quality Control Board, and a representative from the Mendocino Farm Bureau and the Mendocino County Russian River Flood Control and Water Conservation Improvement District. Additionally, the Dry Creek Advisory Group, representing a range of interests to inform efforts to implement the NMFS 2008 Biological Opinion in the Dry Creek watershed, met eight times from August 2009 through December 2011. Two Dry Creek Community public meetings were held during the feasibility analysis, in February 2017 and February 2018.

b. Public and agency review for the Draft FR/EA occurred between 29 September 2017 and 12 November 2017.

7. Stakeholder Input: The planning process included extensive coordination with a wide range of potentially affected/interested parties, including federal, state, and local government agencies. Input from interest groups and the general public was also solicited during the public review of the Draft FR/EA. No public comments were received and all agency comments were reviewed and considered as documented in the EA.

8. Technical Review: In accordance with the Corps Engineering Circular (EC 1165-2-217) on review of decision documents, all technical, engineering and scientific work underwent an open, dynamic and rigorous review process to ensure technical quality. This included District Quality Control review, Agency Technical Review, Major Subordinate Command review, and a Corps Headquarters policy and legal review. The requirement to perform Independent External Peer Review was waived by Corps HQ. All comments from the above referenced reviews have been addressed and incorporated into the final document.

9. Policy Compliance Review: Washington level review indicates the plan recommended by the reporting officers is technically sound, environmentally and socially acceptable, and economically justified; and that the plan meets the criteria set out in Section 1028 of WRRDA 2014 (33 U.S.C. 2283b) because the ecosystem measures pertain to the WSD that includes a fish hatchery explicitly authorized to

compensate for fish losses on the Russian River, and the measures are feasible, consistent with authorized project purposes and the fish hatchery, and in the public interest. The plan complies with all essential elements of the U.S. Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies. The recommended plan complies with other administration and legislative policies and guidelines. The views of interested parties, including federal, state, and local agencies, have been considered.

10. Recommendation: The San Francisco District Commander recommends implementation of the NER Plan, Alternative 4. The total area of available habitat created over the period of analysis is approximately 47 acres or 2.6 river miles. The total annual NER outputs are approximately 23 AAHUs with a cost of approximately $953,000 per acre.

11. I have reviewed the report and concur with the recommended plan for ecosystem restoration on Dry Creek. I recommend that you concur with my finding that the recommended plan is feasible, and approve budgeting for this project based on the Final FR/EA.

JAMES C. DALTON, P.E.
Director of Civil Works

10 Encls
1. Report Summary
2. Project Map
3. Peer and Legal Review Certifications
4. Sponsor Letter of Support and Financial Self Certification
5. Policy Review – Documentation of Review Findings
6. Transmittal to House, Senate, and Office of Management and Budget
7. Independent External Peer Review
8. Draft Finding of No Significant Impact
9. Office of Management and Budget Briefing Slides
10. Final Integrated Feasibility Report/Environmental Assessment