ADDENDUM

to the

FINAL ENVIRONMENTAL IMPACT REPORT
(SCH No. 2012111083)

PREVIOUSLY CERTIFIED BY THE LEAD AGENCY
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

for the

SAN JOAQUIN RIVER RESTORATION PROGRAM: SALMON CONSERVATION AND RESEARCH FACILITY AND RELATED FISHERIES MANAGEMENT ACTIONS PROJECT

March 2015

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1. INTRODUCTION

The California Department of Fish and Wildlife (CDFW or the Department) has prepared this addendum to comply with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). CDFW is a lead agency under CEQA with respect to the Salmon Conservation and Research Facility (SCARF) and Related Fisheries Management Actions Project (Project), part of the San Joaquin River Restoration Program (SJRRP) (See generally Pub. Resources Code, § 21067; and CEQA Guidelines, § 15367)[1].

On June 4, 2014, CDFW certified a Final Environmental Impact Report (EIR[2]) (SCH#2012111083) pursuant to CEQA for the Project. Since that document was prepared, the following aspects of the Project have been modified in the following ways:

(1) The quarantine activities at the SCARF may instead occur at the interim salmon conservation hatchery (referred to as the Interim Facility) or U.S. Bureau of Reclamation (Reclamation) property at Friant Dam;

(2) Water usage estimates for the SCARF have been updated;

(3) Recirculation systems, chiller equipment, and additional tanks will be installed at the Interim Facility; and

(4) Rearing tanks and recirculation and chiller equipment will be installed near the existing trailer on Reclamation property at Friant Dam.

The purpose of this Addendum is to document these modifications to the project description and related impacts and verify that they will not result in any new or more significant impacts than those that were disclosed in the previously certified EIR.

[1] The “CEQA Guidelines” are found in Title 14 of the California Code of Regulations, commencing with section 15000.
[2] All references to the EIR are to the Final EIR, which includes the Draft EIR, with some modifications, and the responses to comments.

2. BACKGROUND

CDFW's current effort under CEQA arises from its plans to construct and operate the Project. The Project is related to the Settlement Agreement for the SJRRP, reached as a result of federal court action in *Natural Resources Defense Council (NRDC) et al. v. Kirk Rodgers et al.* (*NRDC v. Rodgers* 2006). The United States (U.S.) Department of the Interior, U.S. Department of Commerce, Natural Resources Defense Council (NRDC), and the Friant Water Users Authority (FWUA) signed the Settlement Agreement settling that litigation. The Settlement Agreement identified two major goals that are being implemented through the SJRRP: (1) a Restoration Goal to restore and maintain fish populations in good condition, including naturally reproducing and self-sustaining populations of salmon and other fish in the Restoration Area (defined as the main stem of the San Joaquin River from below Friant Dam to the confluence with the Merced River), and (2) a Water Management Goal. Pursuant to a Memorandum of Understanding between the Settling Parties, CDFW and several other state agencies (State Agency MOU), CDFW and the other state agencies agreed to assist the Settling Parties in the Settlement Agreement's implementation, consistent with the state agencies' authorities, resources, and broader regional resource strategies. Therefore, the Implementing Agencies of the Program are Reclamation and the U.S. Fish and Wildlife Service (USFWS) from the U.S. Department of Interior, the National Marine Fisheries Service (NMFS) from the U.S. Department of Commerce, and CDFW and DWR from the State of California Natural Resources Agency. More information regarding the overall Program can be found on the Program's website: http://www.restoresjr.net/.

In furtherance of the State Agency MOU, CDFW will undertake several related actions, including (1) constructing and operating the SCARF; (2) reintroducing Chinook salmon to the Restoration Area[3] (including donor stock collection, broodstock development, and/or direct translocation); (3) managing Chinook salmon runs in the Restoration Area; (4) conducting research and monitoring related to Chinook salmon in the San Joaquin River; and (5) managing and supporting recreation within the Restoration Area. These actions will be adaptively managed to address uncertainties, such as changes in abundance of source populations, regulatory obligations, flow conditions/constraints, fish stocking, and passage/habitat conditions within the Restoration Area.

CDFW has developed an Interim Facility while the SCARF is under development. The Interim Facility is located on the same property as the planned SCARF. The Interim Facility was determined by CDFW to be categorically exempt from CEQA (See Cal. Code of Regs., tit. 14 §§ 15301, 15304, and 15306).

[3] The Restoration Area includes the San Joaquin River below Friant Dam to the confluence of the Merced River, as set forth in the Settlement Agreement.

3. CONSIDERATION OF PROJECT CHANGES, CHANGED CIRCUMSTANCES, AND POTENTIALLY SIGNIFICANT NEW INFORMATION

CDFW's consideration of the 2014 EIR is constrained by a legal presumption of adequacy. (*Laurel Heights Improvement Association*, *supra*, 6 Cal.4th at p. 1130.) That presumption is tempered, however, by changes to the project, changed circumstances, or potentially significant new information. (See Cal. Code of Regs., tit. 14, § 15162, subd. (a); and Cal. Code of Regs., tit. 14, § 15162, subds. (a) and (b)). The only such changes or new information related to the Project and CDFW's review and consideration of the Project are the following:

(1) The quarantine activities at the SCARF will instead occur at the Interim Facility, or Reclamation property at Friant Dam;

(2) Water usage estimates for the SCARF have been updated;

(3) Recirculation system, chiller equipment, and additional tanks will be installed at the Interim Facility; and

(4) Rearing tanks and recirculation and chiller equipment will be installed near the existing trailer on Reclamation property at Friant Dam.

CDFW has determined as set forth below that the changes listed above do not require preparation of a subsequent EIR or a supplement to the 2014 EIR. The purpose of this Addendum is to document these modifications to the project description and impacts and verify that they will not result in any new or more significant impacts than those that were disclosed in the previously certified Final EIR.

3.1 Relocation of SCARF Quarantine Aspects

3.1.1 Changes to the EIR

As previously disclosed in the 2014 EIR, Silverado Fisheries Base near Yountville, CA, and/or the Center for Aquatic Biology and Aquaculture (CABA) in Davis, CA may be used for quarantine. The EIR also indicated that quarantine facilities would be located at the SCARF; however, the tanks intended for this use will instead be used for juvenile rearing or adult holding and will not be used for quarantine. Alternatively, existing tanks and water re-use/recirculation facilities at the Interim Facility and Reclamation's Friant property (discussed in Sections 3.3 and 3.4 of this Addendum) may be repurposed for quarantine. In the future, minor construction may be necessary to retrofit existing facilities (see Table 2). To show this minor change in scope to the Project, changes to the EIR are shown in ~~strikethrough~~ and **bold** text below.

The following revision has been made to EIR Executive Summary, Table ES-1, page ES-35:

> Impact GEO-OP-3: Potential for Project Structures, Specifically the Aeration Tower and Rearing/Holding~~/Quarantine~~ Tanks, to Affect Soil Stability

A corrected version of Figure 2-3, page 2-11 is shown on page 7 of this document.

The following revisions have been made to EIR Section 2.4.3, page 2-13:

> **Adult Captive Rearing and Holding ~~and Quarantine~~ Area**: This would be a canopy-covered area consisting of six 8-foot, six 20-foot, and three 30-foot diameter circular culture tanks (Figure 2-3). The 8-foot diameter tanks would be used for early feeding and juvenile segregations; the larger tanks would be used for rearing fish up to three years of age and adult holding~~, and quarantine~~. The canopy above this area would be constructed of metal. The individual tanks would be covered with domes, netting, or other material suitable to prevent predation by birds and other animals, and to prevent escape. These tanks also would have bottom drains to continuously capture and convey waste out of the tanks and to the treatment system.

The following revision has been made to EIR Section 2.4.3, page 2-29:

> As part of ongoing CDFW operations, spring-run donor stock from the FRFH are being segregated and transported to the Silverado Fisheries Base for quarantine. **In the future, quarantine may occur at the Interim Facility and/or potentially at the Reclamation property at Friant Dam.** Beginning in spring 2013, the fish were moved to the Interim Facility site to establish a broodstock (see "Broodstock Collection" in Section 2.4.4, "Reintroduction"). In 2014, some two-year-old (2012

brood year) females might be available for spawning at the Interim Facility. Offspring would be reintroduced to the Restoration Area no earlier than 2015, provided that all necessary permits have been issued to the SJRRP. Adults could begin returning from these releases as early as 2016.

The following revision has been made to EIR Section 9.4.3, page 9-12:

Impact GEO-OP-3: Potential for Project Structures, Specifically the Aeration Tower and Rearing/Holding~~/Quarantine~~ Tanks, to Affect Soil Stability (Significance Criterion C, Project Level, No Impact)

Proposed SCARF operations would require an aeration tower and several tanks. As described in Impact GEO-CONSTRUCT-4, these facilities would be built according to recommendations included in the Geotechnical Investigation Report (Geocon 2012) and include incorporation of Mitigation Measure GEO-CONSTRUCT-4. Inclusion of these recommendations and mitigation in the design and construction of the facilities would minimize impacts related to geologic and soil stability. As a result, SCARF operation of these facilities would not change the structures in any way and thus would not have any impact on geologic or soil stability. Therefore, there would be no impact related to geologic and soil stability during the operational phase of SCARF.

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Figure 2-3: Detailed Site Plan for the Salmon Conservation and Research Facility

SCARF and Related Management Actions Project
Draft Environmental Impact Report

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3.1.2 Finding

There will be no significant impact on environmental resources as a result of the potential alternative locations of the SCARF quarantine activities, as demonstrated by the discussion below and as summarized in **Table 1**, which appears at the end of this document.

The EIR Project Description included quarantine facilities located at the SCARF. However, tanks that would have been used for the quarantine process will instead be used for rearing juvenile fish and for adult holding and will not be used for quarantine. Fish quarantine may occur at the Silverado Fisheries Base near Yountville, California, at the CABA in Davis, California, as described in the EIR, or alternatively at the Interim Facility or in tanks on Reclamation property at Friant Dam. Potential relocation of the quarantine activities to the Interim Facility may result in minor construction-related impacts because existing tanks and those proposed as part of the water re-use/recirculation system installation (discussed in Section 3.3 of this addendum) would be repurposed for use as quarantine. Minor construction may be necessary to retrofit those facilities. Any operational impacts would be the same as if the SCARF facilities were used. Similarly, if the Reclamation Friant property is used for quarantine, rearing tanks and recirculation equipment (discussed in Section 3.4 of this addendum) would be repurposed for this use. If additional construction is required to repurpose this equipment for quarantine purposes, construction and operation-related impacts would be minimal

In Chapter 9, *Geology, Soils, and Seismicity,* of the EIR, Impact GEO-OP-3 cites the possibility that tanks used for rearing, holding, and the quarantine process at the SCARF could affect soil stability. The EIR determined that no impact would occur from the presence of such tanks. Quarantine occurring elsewhere would repurpose existing facilities or tanks and recirculation equipment discussed in Sections 3.3 and 3.4 of this addendum. There would be no change in the level of impact as a result of the relocation of quarantine activities.

CDFW finds that the potential relocation of SCARF quarantine activities to the offsite quarantine facilities, the Interim Facility, and/or the Reclamation property will not result in any previously undisclosed significant effects on the environment or a substantial increase in the severity of any previously disclosed significant environmental effects. Furthermore, to the extent the potential for such effects exists, CDFW finds that adherence to and implementation of the conditions of Project approval, as well as adherence to and implementation of the conditions of approval imposed by CDFW through the issuance of the accompanying Mitigation Monitoring and Reporting Program will avoid or reduce the potential for such effects to below a level of significance. CDFW has determined that the CEQA review is sufficient and will not require preparation of a subsequent EIR.

3.2. Updated Water Usage Estimates for the SCARF

3.2.1 Changes to the EIR

CDFW is continuing to assess engineering and hatchery design and operational considerations of the SCARF. The information below is based on a preliminary assessment of estimated water needs for the SCARF. These estimates are subject to revision as a result of final analysis and determination of water needs.

Previous estimates included in the EIR reported SCARF baseline needs for facility startup but did not take into account the following:

- Flow needs to support operations at the Interim Facility after full-scale SCARF operations commence;

- Research functions of the SCARF, which are not specifically known at this time but would require additional water above the baseline conditions reported in the EIR; and

- Potential management scenarios requiring additional supply. Such management scenarios may include:

    - Holding some juveniles as yearlings instead of releasing them as smolts, which would require more holding capacity and water flow; and

    - Adjusting for increased temperatures in the water supply (a situation recently experienced as supply from Friant Dam reached 69.2°F; temperatures typically do not rise above 58°F and should be as low as 50°F for proper salmon egg development); higher temperatures result in less dissolved oxygen available for fish. Increased water temperatures also cause an increase in fish metabolic activity, causing them to require more oxygen.

To show this minor change to the Project, changes to the EIR are shown in ~~strikethrough~~ and **bold** text below.

EIR Table 2-2 (page 2-27) is replaced with the following:

Table 2-2. Estimated Monthly Flow Rates for the Fully Operational SCARF

Month	Baseline Inflow Requirement of SCARF	Interim Facility Water Needs	Research, Management Scenarios	Total SCARF Water Needs[1]
	Cubic feet/second (CFS)			
January	2.8	2.0	1.9	5.7
February	3.3	2.0	1.0	6.3
March	8.4	2.0	1.9	12.3
April	11.7	2.0	2.5	16.2
May	14.9	2.0	3.2	20.0
June	2.2	2.0	0.8	5.0
July	2.2	2.0	0.8	5.0
August	2.2	2.0	0.8	5.0
September	2.6	2.0	0.9	5.5
October	2.8	2.0	0.9	5.7
November	2.8	2.0	0.9	5.7
December	2.8	2.0	0.9	5.7

[1]SCARF inflows and outflows are approximately the same. The SCARF would result in little consumptive use (only evaporation and infiltration).

The text on EIR page 2-26 referring to EIR Table 2-2 is revised below:

> Water demand for SCARF aquaculture operations would range from approximately ~~2-15~~ **5 to 20** cfs (Table 2-2)~~, although it may be as high as 20 cfs~~. Water flowing through the facility and discharging to the San Joaquin River is considered a non-consumptive use (although some water would be lost to evaporation and infiltration during the treatment process in settling ponds). Water demand would peak during the spring-run Chinook outmigration periods during which time the flow from smolt production tanks (via side-release drains) to the volitional release channel would increase substantially (Table 2-2). Water from circular tank side drains would supply the volitional release channel, allowing juveniles to be released directly into the secondary channel of San Joaquin River (Figure 2-3).

EIR Table 17-1 (page 17-11) has been replaced with the following:

Table 17-1. San Joaquin River Simulated Average Monthly Flow Rates at Friant Dam Compared to Estimated Monthly Flow Rates for the Fully Operational SCARF

Month	Average Simulated 2030 Flow Releases at Friant Dam[1]	Baseline Inflow Requirement of SCARF	Interim Facility Water Needs	Research, Management Scenarios	Total SCARF Water Needs[2]
	Cubic feet/second (CFS)				
January	882	2.8	2.0	1.9	5.7
February	897	3.3	2.0	1.0	6.3
March	1,416	8.4	2.0	1.9	12.3
April	2,130	11.7	2.0	2.5	16.2
May	1,309	14.9	2.0	3.2	20.0
June	1,285	2.2	2.0	0.8	5.0
July	976	2.2	2.0	0.8	5.0
August	357	2.2	2.0	0.8	5.0
September	350	2.6	2.0	0.9	5.5
October	363	2.8	2.0	0.9	5.7
November	433	2.8	2.0	0.9	5.7
December	533	2.8	2.0	0.9	5.7

***Scaled proportionately from 2 different flow release values**
[1]Source: Reclamation and DWR 2012, Table 13-69
[2]SCARF inflows and outflows are approximately the same. The SCARF would result in little consumptive use (only evaporation and infiltration).

Text on EIR page 17-10 referring to EIR Table 17-1 is revised below:

> Table 17-1 shows a comparison between average simulated 2030 monthly flows at Friant Dam to the estimated monthly flow rates for the fully operational SCARF. The SCARF would result in little consumptive use associated with operational water supplies (i.e. nearly all the operational water would be returned to the river with a small portion lost to evaporation and infiltration). Even in the reach between the dam and the SCARF's discharge point to the San Joaquin River, the inflow to the SCARF is a small portion of the average simulated flows of the San Joaquin River, ranging from ~~0.3 to 1.1~~ **0.39 to 1.6** percent. Water diversions would not be expected to substantially affect San Joaquin River flow downstream of Friant Dam and flows would essentially remain unchanged as a result of SCARF operations. This impact is less than significant.

3.2.2 Finding

There will be no significant impact on environmental resources as a result of the updated water usage estimates for the SCARF, as demonstrated by the discussion below and as presented in Table 1 (shown at the end of this document).

The updated baseline water needs for the SCARF will not result in an impact beyond the current less-than-significant impact that is described in Impact UTL-OP-1. Updated baseline water needs for the SCARF are estimated to require no more than 1.6 percent of the average simulated 2030 flow releases from Friant Dam. SCARF inflows and outflows are approximately the same (consumptive use will occur only as a result of evaporation and infiltration). Water diversions would not be expected to substantially affect the San Joaquin River flow downstream of Friant Dam and flows would essentially remain unchanged as a result of SCARF operations.

3.3 Interim Facility Water Recirculation System

3.3.1 Description of Proposed Project Modifications

Purpose and Need

CDFW has developed an Interim Facility while the SCARF is under development. Currently, the facility is composed of a 500 square-foot metal shed that houses several small fish tanks and egg incubation equipment, and two outdoor 16-foot diameter circular tanks. In order to meet an increasing fish inventory and growing biomass, additional fish rearing capacity and additional cool water supply is required. Proposed modifications to the Project include installation of additional tanks, water recirculation systems and associated appurtenances that would allow the Project to meet fish production goals while operating within the existing water supply. The modifications to the Project would include installation of three types of water recirculation systems: (1) a water reuse system that would recirculate about 70% of the fish water supply, (2) a water recirculation system that would recirculate about 95% of the fish water supply and have a water chiller component and (3) self-contained rearing units. These modifications would enable CDFW to maximize the use and lower the temperature of the limited quantity of water available to the facility and serve as a pilot for investigating new water conservation technology for other State fish hatcheries.

Water Supply Source for the Interim Facility

The water supply for the Interim Facility is diverted from the supply to SJFH that originates from Friant Dam. Currently, the SJRRP has an informal agreement with SJFH to use no more than 0.6 cubic feet per second (cfs) from the SJFH's existing supply of 35 cfs. In order for the Interim Facility to achieve production goals for the SJRRP until the SCARF is operational, it would need 1.8 cfs of water. SJFH is unable to provide the full amount of water needed by the Interim Facility because of its obligation to meet its trout stocking allotments for eleven counties. Water recirculation technology would allow the Interim Facility to meet its SJRRP obligations using only 0.6 cfs and not the full 1.8 cfs that would otherwise be needed (Figure 1).

Water Temperature Control Requirement

The ongoing drought[4] in California is impacting water quality conditions for in-state fisheries and is influencing water agency decisions regarding supply and conveyance from Central Valley reservoirs. In anticipation of impacts to water quality and quantity of water supplied to fish hatcheries statewide, CDFW is proactively developing contingency plans in the event actions must be taken to either improve the quality of water supplied, or move fish to another location if a sufficient quantity of water cannot be supplied. Based on the objectives set in the Fisheries Management Plan (SJRRP,

[4] On January 17, 2014, the governor of California proclaimed a State of Emergency and on April 25, 2014 the governor issued an executive order directing certain actions to mitigate the effects of the drought. The Order also suspended CEQA for certain actions to be taken by state agencies.

2010), optimal temperatures for adult Chinook salmon are below 59°F, the critical range is between 62.6 degrees Fahrenheit (°F) and 68°F, and lethal temperatures are over 68°F (based on a 7-day average).

Water temperatures at the SJFH have historically been within approximately 45°F and 55°F year-round, with occasional peaks above 58°F in November or December. In comparison, due to the recent drought, temperature measurements taken in early September indicated that inflows to the Interim Facility were at 65.9 °F, which is considered within the critical range for Chinook salmon. As part of its response to the drought emergency, CDFW installed a temporary water chiller system comprised of a 50-ton chiller unit powered by one of two alternate, diesel-powered electrical generators, two recirculation pumps and one 1,100 gallon diesel fuel storage tank. The temporary water chiller system effectively reduced the water supply temperatures by 8°F, to within the suitable range for salmonids, even when influent water temperatures peaked at over 70°F in October. The temporary chiller was removed in mid-December when influent water temperatures dropped to suitable levels. Installing the proposed 95% water recirculation systems and chillers would reduce temperatures to acceptable levels and prevent the need for similar emergency action in the future.

Environmental Setting

The Interim Facility is located at SJFH approximately one mile downstream of Friant Dam and is within the floodplain of the San Joaquin River at an elevation of 320 feet. Non-paved areas on and around the facility grounds support mostly non-native grasses and ruderal vegetation, with some ornamental non-native plants. Weeds and non-native grasses are regularly maintained through mowing and herbicide use. Several manmade ponds occur immediately adjacent to the facility and down gradient to the southeast, functioning in varying degrees as hatchery effluent treatment ponds. The four ponds immediately adjacent to the Interim Facility are unused fish rearing ponds. Nearby settling ponds located west of the facility remove solids from SJFH effluent before it reaches the San Joaquin River. The unused fish rearing ponds are perennially inundated and contain a range of obligate wetland plant species. Aquatic vegetation common in these ponds includes mosquito fern (*Azolla filiculoides*), water primrose (*Ludwigia peploides*), and pale smartweed (*Persicaria lapathifolia*). Along the perimeter of these ponds are emergent wetland vegetation including broadleaf cattail (*Typha latifolia*), and Pacific rush (*Juncus effusus ssp. Pacificus*). Along the edges of these ponds are riparian tree species including Goodding's black willow and red willow (*Salix gooddingii* and *S. laevigata,* respectively).

Common species in the ruderal margins of the facility include ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), wild oats (*Avena fatua*), hare barley (*Hordeum murinum ssp. leporinum*), and rattail fescue (*Vulpia myuros*). Forbs commonly occurring in non-native grasslands on site include red-stem filaree (*Erodium cicutarium*), broad-leaf filaree (*Erodium botrys*), telegraph weed (*Heterotheca grandiflora*), and smooth cat's-ear (*Hypochaeris glabra*). There is also one mature valley oak tree (*Quercus lobata*) immediately adjacent to the Interim Facility.

Existing Facility and Proposed Modifications

The proposed modifications would occur just west (for electrical installation and fence relocation) and northeast (for tank installation) of the Interim Facility. The tank installation area contains mainly fruit trees, non-native plants and one oak tree.

Existing components of the Interim Facility include a 500 square-foot metal fisheries shed containing a drum filter, four 16-tray vertical egg incubators, two 3-foot diameter circular tanks, and three 6-foot diameter circular tanks (Figure 2). Adjacent to the shed are two existing outdoor 16-foot diameter circular tanks, one of which would be relocated to avoid conflict with future SCARF construction (Figure 3). There are also two 8-foot by 20-foot shipping containers, one 8-foot by 20-foot fish tagging trailer and one portable toilet. There is currently no electrical power at the facility and a small mobile generator is used as needed.

The proposed modifications to the Project would involve the relocation and installation of one outdoor tank and the installation of an additional three outdoor tanks, recirculation system components, associated plumbing, water chillers, water filters, self-contained rearing units, generator and propane tank installation, improvements to the metal rearing shed, fence relocation, and electrical equipment. Additionally some components would require new concrete foundations. Improvements and installation would require the use of hand tools and heavy machinery. Details of improvements and construction are provided below.

Water Reuse (Partial) Recirculation System

Each of the outdoor circular tanks would be retrofitted with a partial water recirculation system that includes a water recirculation pump, a CO_2 stripper with blower, connection to an oxygen monitoring and control system and a dome shaped fabric cover (Figures 3 to 5). The partial recirculation systems would be installed adjacent to each outside tank and would be placed at or above ground level with the exception of possible underground conduit for plumbing and electrical supply.

Partial Recirculation System includes the following components:

- CO_2 strippers including sump, stand, blower and water pump
- Dome tank frames and covers
- Polygeyser water clarifiers (15-cubic feet)
- microscreen drum filters
- Construction of approximately 8.5-foot by 4-foot concrete pads for each reuse system.

95% Recirculation System Description

The 95% recirculation systems would also be used when water chilling is required. Two of these units would be installed; one for an outside 16-foot diameter tank, and one for all three inside 6-foot diameter tanks. The 95% recirculation systems are composed of

water chillers for temperature control, filters for solids filtration, fluidized bed sand filters for treatment of ammonia and nitrite, ultraviolet (UV) filters for pathogen control and gas balancing columns for the addition of oxygen and the removal of carbon dioxide and water recirculation pumps. The 95% water recirculation system would require substantially more filtration devices to process accumulated waste products. Dissolved oxygen (DO) and temperature will be monitored daily, and pH, ammonia and nitrite will be monitored weekly. The systems will operate such that DO will remain above 70% saturated, ammonia below 0.0125 parts per million (ppm)(un-ionized form), and pH above 6.0. The systems will be fitted with backup electrical power generators and will be monitored by 24 hour onsite/on-call hatchery personnel. Facilities and equipment associated both the outdoor and indoor 95% recirculation systems are summarized below.

95% Recirculation (Outdoor Broodstock Rearing Component) includes the following:

- 42-inch diameter Fluidized Bed Biofilter
- Micro-screen Drum Filter
- 1-horsepower Water Pumps
- Polygeyser Water Clarifier (10-cubic feet)
- 600 Watt UV Filters
- 10-horsepower Chillers
- 16-inch x 16-inch x 48-inch Aeration Column
- 100 gallon per minute (GPM) Sump Tank
- Water Quality Monitoring and Alarm System and associated probes and switches
- Construction of a (approximately) 10-foot by 10-foot concrete pad for recirculation system
- Construction of 4-foot by 5-foot concrete pads for water chillers

95% Recirculation (Indoor Broodstock Rearing Component):

- 30-inch diameter Fluidized Bed Biofilter
- Micro-screen Drum Filter
- 0.75-horsepower Water Pumps
- Polygeyser Water Clarifier (3-cubic feet)
- 600 Watt UV Filter
- Stainless steel Sump Tank (144-inch x 24-inch x 30-inch)
- 5-horsepower Chillers
- 16-inch x 16-inch x 48-inch Aeration Column
- 100 gallon per minute (GPM) Sump Tank
- Water Quality Monitoring and Alarm System and associated probes and switches
- Construction of 8 foot-by 8-foot concrete pads for recirculation system
- Construction of 3-foot by 5-foot concrete pads for water chillers

Self-contained Rearing Units

An additional component of the Project includes installation of two self-contained rearing units composed of chillers, water recirculation, filtration, and treatment systems. The self-contained rearing units are intended to be used during times of drought, or when temperatures of the water supply to the Interim Facility become too high to be suitable for salmon. The two units, each with four six-foot diameter holding tanks, may also be used if space is limited at the Interim Facility to support growing fish and hold subsequent years of broodstock. The systems are designed and installed to be set up and taken down based on seasonal need to address drought conditions impacting water supply temperature.

Each unit is a fully self-contained, recirculating fish holding system with components capable of sustaining survival of salmonids fed up to 8 lbs of fish feed per day. Each unit has the option to run at 95% recirculation or at approximately 10% flow-through water (90% re-circulated). The systems would be installed on an existing concrete pad that was once part of a previous hatchery residence adjacent to Brook Trout Drive. Each of the eight, 6-foot diameter aboveground tanks would be set up on a new 30-foot by 40-foot concrete pad.

Self-contained Rearing Units (Two Units) - Each unit includes the following components:

- One 30-inch diameter, fluidized bed bioreactor, capable of treating 50 GPM, using 1,000 lbs of aquaculture filter media (#60 silica sand, assuming working volume of 500-850 lbs sand), by converting ammonia to nitrate from not less than 6 lbs of fish feed per day.
- One packed column, 2-feet by 2-feet by 2-feet aeration tower.
- Manual Backwash Mechanical filter sufficient for system (60 GPM, 24 inches) with media and backwash valve.
- Two .75 horsepower water pumps at no less than 50 GPM each.
- One 600 watt UV sterilizer (three 200 UV lamps) supplying not less than 150 mJ/cm^2. Inlet/outlet flow rate 200 GPM, 120V 50/60 Hz. Including quartz sleeves and ballasts.
- One 5 horsepower water chiller, 208-240V, 25 amp, 30-60 GPM, sufficient to chill 1,500 gallons of recirculated water to 55°F when ambient temperatures exceed 100°F and makeup source water (10% flow) is 60°F.
- Approximately 400 gallon plastic sump with all necessary holes and bulkheads for plumbing system including 3-inch overflow for pass-through flow.
- Additional 4-foot by 4-foot by 4-foot packed column aeration tower to receive water coming from chiller, before spilling into sump.

Recirculation System Installation Timeline

The timeliness of the installation of the recirculation system is important, particularly due to the ongoing drought in California. Construction is scheduled to begin in spring of 2015.

Construction Characteristics

Tank Installation

To provide sufficient space for future construction, one of the existing 16-foot diameter circular tanks would be relocated to the northeast of the shed. An additional 16-foot diameter circular tank and two 20-foot circular tanks would also be installed on the northeast side of the shed, totaling five large outdoor circular tanks. Locations of tanks, equipment and plumbing are shown in Figures 3 and 4, below. These tanks would be partially buried approximately 1.5 feet below ground surface. Tank installation activities would disturb a 3,000-square foot area and would require excavation up to a depth of 2.5 feet. Approximately 60 cubic yards of sand and/or gravel would be used as a foundation for the tanks (1 foot deep) and to line trenches for associated plumbing. Recirculation equipment would be placed at or above ground level, with the exception of underground plumbing and electrical conduit.

A backhoe and hand tools would be used throughout the duration of proposed tank installation work. Once construction is complete, much of the excavated material would be placed around the tanks or used to fill the location where the existing 16-foot tank would be removed. Any additional material would be relocated onsite to a location away from water sources, sensitive vegetation or habitats and where appropriate sediment waddles may be used to prevent sediment runoff. If needed, the material would be later used as fill material during SCARF construction.

Project construction would require removal of one valley oak tree (*Quercus lobata*) with a diameter at breast height of 1.8 feet. Other non-native trees and grasses, and shrubs in the ruderal margins of the facility may also require removal.

Generator, Propane Tank, Fence Relocation

One generator and one propane tank (exact size to be determined) will be installed west of the shed. The generator will be placed on a constructed 8 foot by 14 foot concrete pad. The propane tank will be placed on a constructed 5 foot by 15 foot concrete pad. The existing fence line may need to be relocated further west to provide adequate space for vehicle passage around the facilities. To relocate the fence, some minor grading and less than 0.10 acres of fill may be necessary to level the ground surface.

Shed Improvements

The concrete floor slab will be extended by 192 square feet (8-foot by 24-foot). Interior above ground interior plumbing will be improved, two micro-strainers and indoor UV units will be installed to clean incoming water, and new egg incubation trays will be installed. New electrical connections will be installed for new equipment. Two outdoor 8-inch basket strainers will be installed on the north side of the shed to remove debris

from supply water. The strainers may be placed on a 4-foot by 16.5-foot concrete pad.

Water Supply Plumbing

Water supply plumbing would be installed within the indoor and outdoor tank area. Approximately 60 linear feet of trenching (up to 3.5 feet deep and 1.5 feet wide) would be required to connect the tanks to effluent plumbing. Supply lines would require trenching (40-feet long by 3.5-feet deep by 1.2-feet wide), in addition to 60 linear feet of trenching (3.5-feet deep by 1.5-ft wide) for the drain line, which would occur just south of the Interim Facility on previously disturbed land. Two junction boxes (4 feet by 4 feet by 4 feet) would also be installed. Equipment necessary for all plumbing and pipeline installation work include mechanized trenchers and backhoes.

Electrical

An electrical service panel[5] would be installed, supplying electricity to each piece of equipment, electrical outlets within the shed, and outlets adjacent to each of the large outdoor tanks for ancillary purposes. Electricity would be provided from an existing electrical pole. Electric power lines would extend from the power pole by approximately 70 feet, by an overhead connection to an electrical service panel located adjacent to the back of the shed. Trenching for an underground conduit would be required between the electrical service panel and the recirculation systems and to the shed (Figure 3). Trenching would be approximately 3 feet deep and 2 feet wide, for a total length of approximately 126 feet.

The total area of ground disturbance would not exceed a maximum of 22,500 square feet, and total excavated materials would not exceed 9,500 cubic feet of earth. Construction equipment that may be used for all electrical installation work includes mechanical trenchers, backhoes, and hand tools.

Construction Best Management Practices

During construction of the proposed Interim Facility water recirculation facility, a suite of best management practices (BMPs) as outlined in Mitigation Measure GEO-CONSTRUCT-1a, would be implemented to minimize any erosion-related effects. BMPs that would be implemented include:

- Implement practices to minimize the contact of construction materials, equipment, and maintenance supplies with stormwater.
- Limit fueling and other activities involving hazardous materials to use in designated areas only; provide drip pans under equipment and conduct daily checks of vehicle condition.
- Reduce erosion of exposed soil, including stabilization for soil stockpiles, watering for dust control, establishment of perimeter silt fences, and/or placement of fiber rolls.
- Implement practices to maintain water quality, including silt fences, stabilized

[5] The size of the electrical panel is expected to be 400-amp, but could be larger.

construction entrances, and storm-drain inlet protection.
- Develop spill prevention and emergency response plans to handle potential fuel or other spills.
- Where feasible, limit construction to dry periods.

Operations and Maintenance

The estimated electrical needs of the facility are currently being determined. The electrical service would be installed under contract during facility construction. The facility would be staffed seven days per week, normally between the hours of 8:00 a.m. and 5:00 p.m. Several pumps and motors associated with the water recirculating system would operate continuously.

Wastewater Generation

Wastewater from Interim Facility operations is processed by an existing treatment system for the SJFH. Interim Facility effluent is first directed into two percolation ponds, which are used exclusively by the Interim Facility, and then conveyed into a series of earthen water treatment ponds. Some of these ponds are used for worm farming which provides for further treatment and processing of wastewater prior to eventual discharge to the San Joaquin River.

The proposed Project modifications would not increase total waste above previous target levels, although waste would be concentrated in a lower volume of water discharged. The Central Valley Regional Water Quality Control Board (CVRWQCB) regulates wastewater discharges from the SJFH into the worm farm ponds under National Pollutant Discharge Elimination System CVRWQCB General Order No. R5-2010-0018-01 (General Order), and has opted to also regulate Interim Facility discharges under the same permit. Wastewater sampling and analysis occurs quarterly and is submitted to the CVRWQCB. Waste generated by the Interim Facility may at times be twice the concentration of the SJFH, but effluent from the Interim Facility is only about 1.6% of the total SJFH effluent.

Aquaculture facilities in California that feed less than 5,000 pounds per month are not considered to be a point source and are not required to obtain coverage under the General Order. It is estimated that fish reared in the Interim Facility using recirculation would consume up to a maximum of 60 pounds of food per day (1,860 pounds per month), potentially discharging an estimated 30 percent more (18 pounds) waste per day, over and above existing conditions. Interim Facility operations would therefore not be required to obtain NPDES coverage under the General Order. However, because waste concentrations in discharged water from the Interim Facility would be increased, CDFW would consult with the CVRWQCB to ensure the additional waste discharged would not pose a threat to water quality of the San Joaquin River.

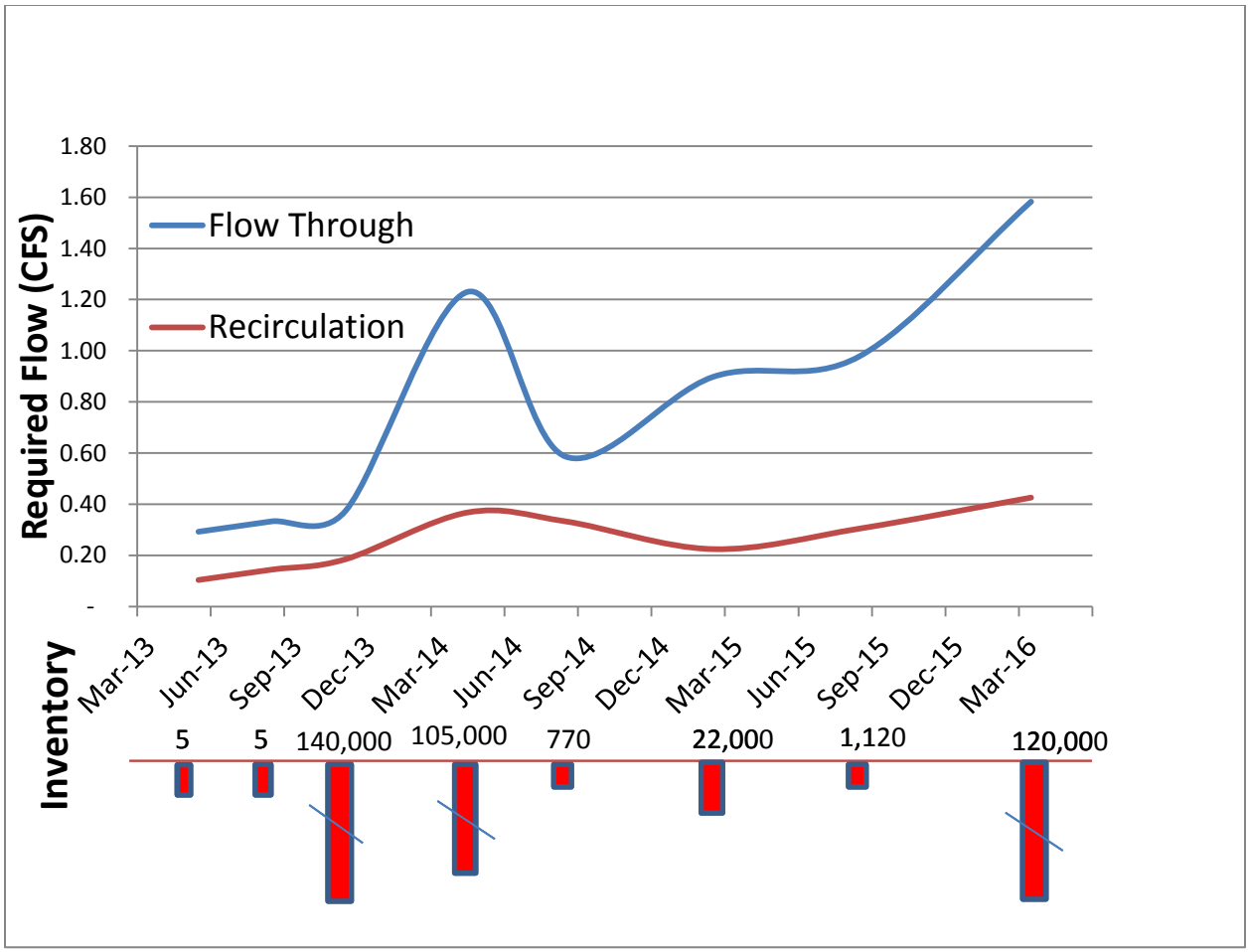

Figure 1. Flow requirements at the Interim Facility for flow-through versus recirculated water.

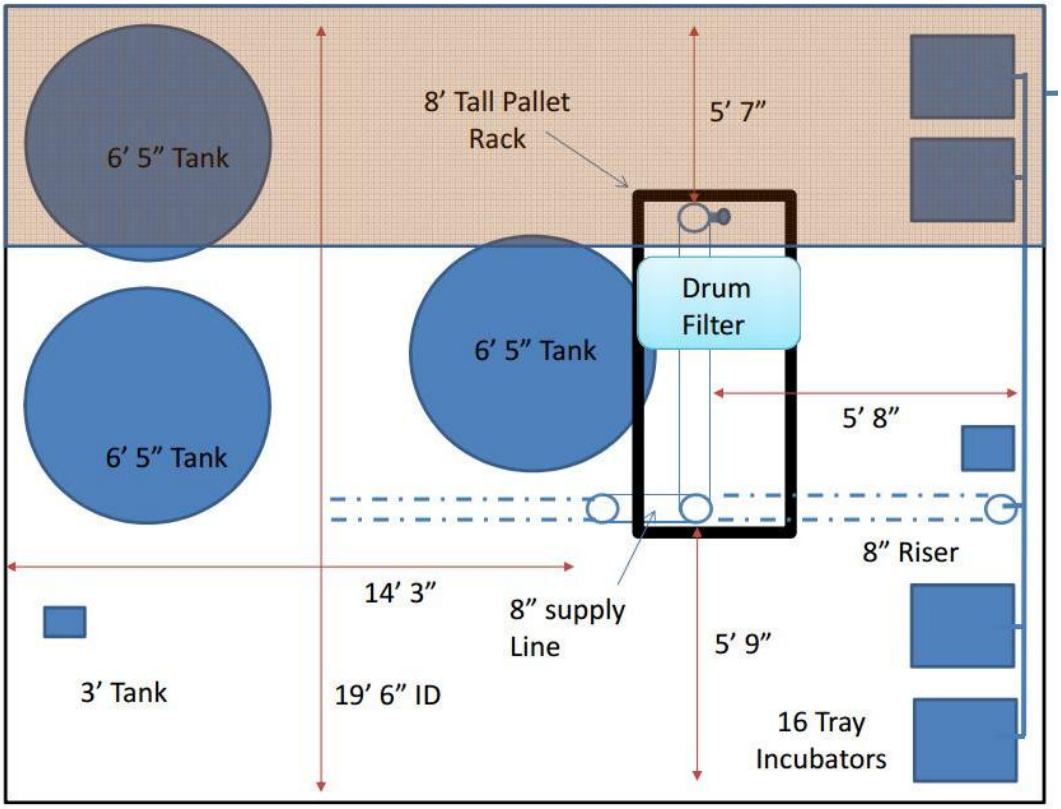

Figure 2. Current layout of facilities in the fisheries shed at the Interim Facility.

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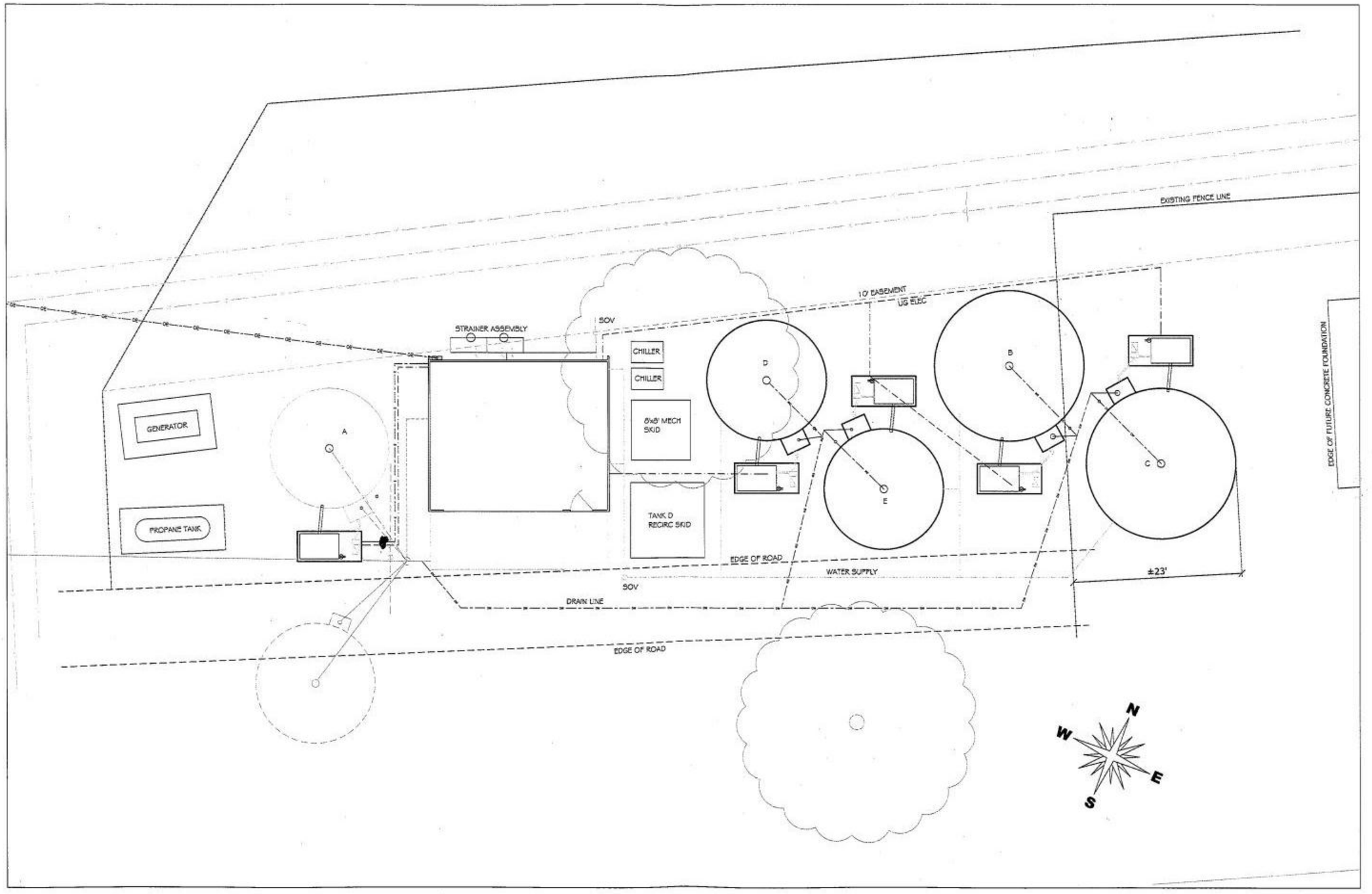
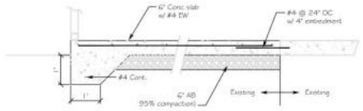
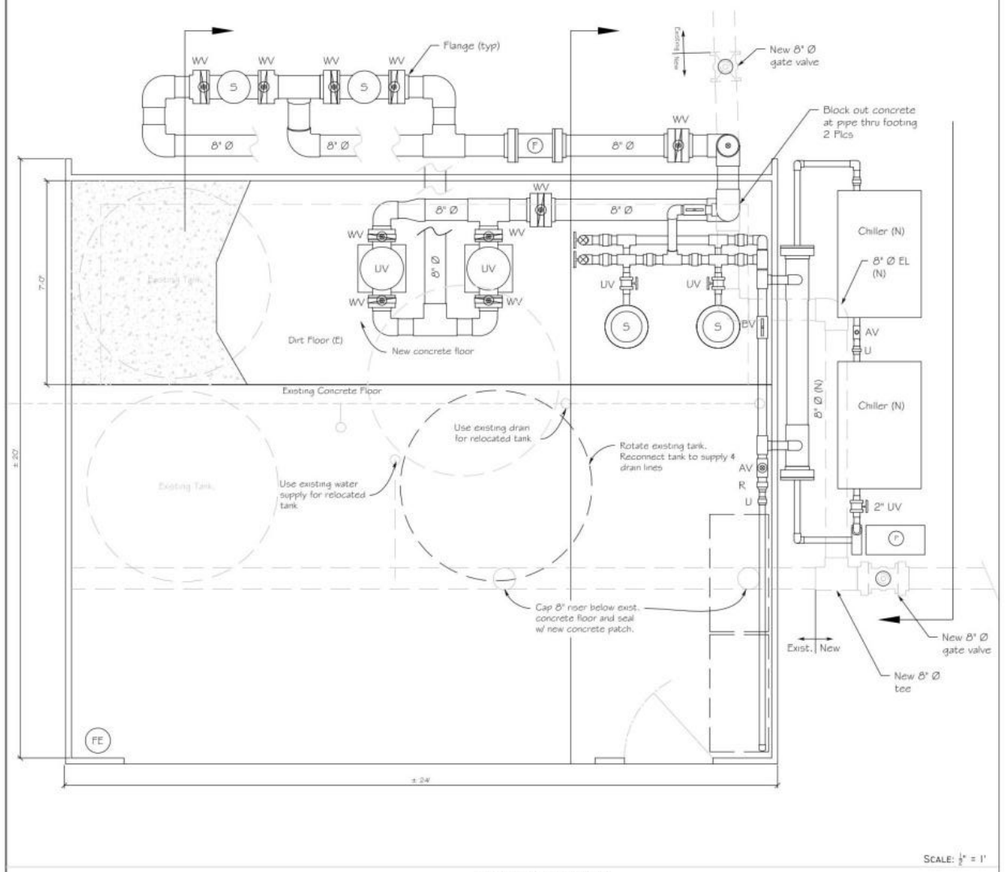


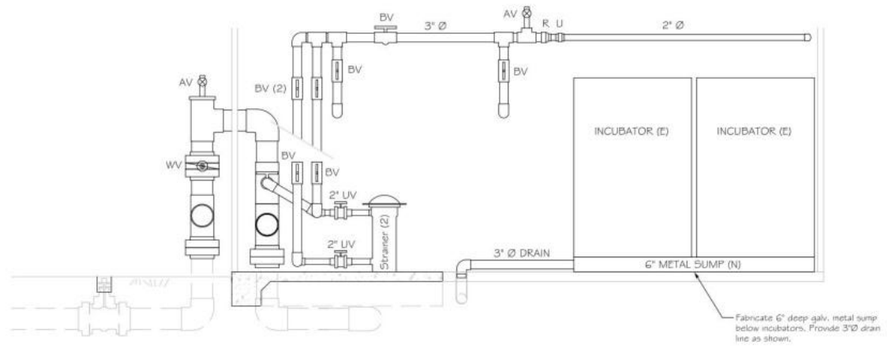
Figure 3. Engineering drawings of expected layout for the recirculation project.

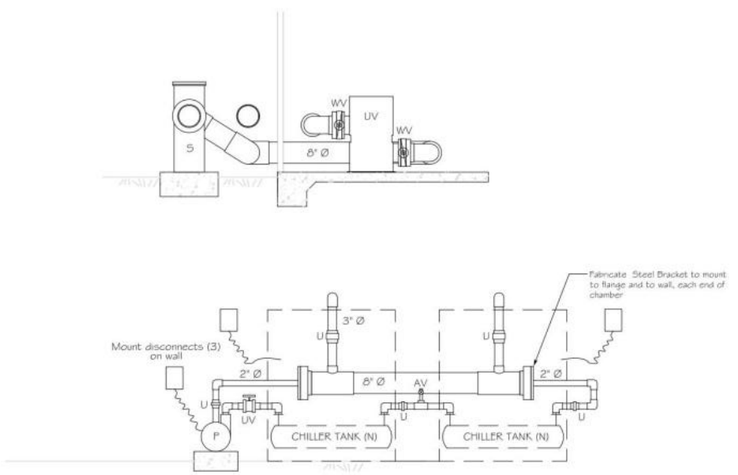


Legend

BV Ball Valve
WV Wafer Valve
AV 1" Ø Air Vent w/ Ball Valve
UBV Union Ball Valve
U Union
UV Ultraviolet Unit (State Supplied)
S Strainer
P Pump
R Reducer
F Mag Flow Meter - McCrometer Ultra Mag 8" Ø
FE Fire Extinguisher







BUILDING PLAN

STATE FIRE MARSHALL
CALIFORNIA STATE FIRE MARSHAL
APPROVED
Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.
SFM #: _____
Reviewed by: _____

ENGINEER'S STAMP: REGISTERED PROFESSIONAL ENGINEER, CATHERINE M. SIRK, C37216, CIVIL, STATE OF CALIFORNIA
ENGINEER'S STAMP: REGISTERED PROFESSIONAL ENGINEER, ROBERT G. BENSON, C32809, CIVIL, STATE OF CALIFORNIA

REVISION 1 APPROVED
REVISION 2 APPROVED
REVISION 3 APPROVED
DESIGNED & DRAWN: Katherine M Sirk
CHECKED: ROBERT G. BENSON
APPROVED: R. G. BENSON Date 11-21-2013

STATE OF CALIFORNIA
THE NATURAL RESOURCES AGENCY
California Department of Fish and Wildlife
ENGINEERING SECTION

SAN JOAQUIN SALMON CONSERVATION AND RESEARCH FACILITY
FRESNO COUNTY
Interim Facility Tank & Recirculation System Installation
CENTRAL REGION

PI399009 C13-09
SHEET 2 OF 3
DRAWING NUMBER: H08-2013-001

Figure 4. Engineering drawings of expected layout for the building plan and equipment detail

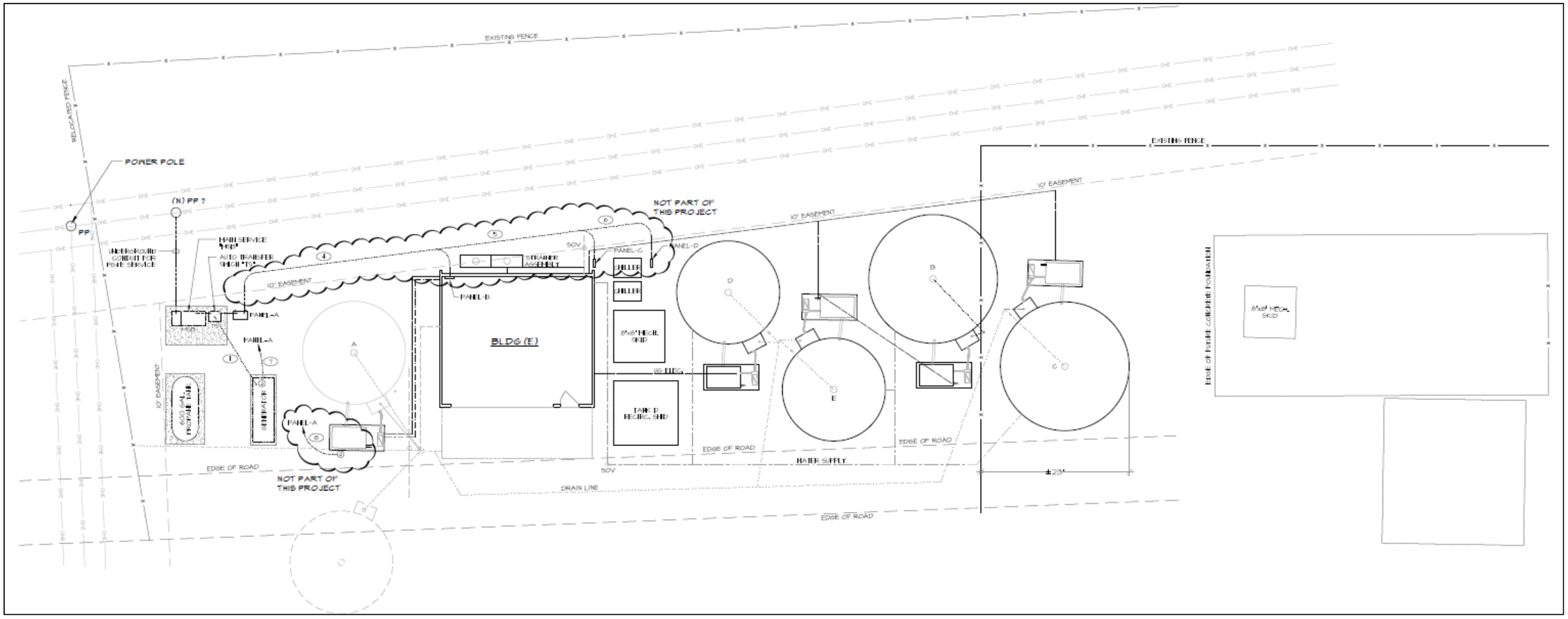


Figure 5. Engineering drawings of the expected layout for the electrical plan for the recirculation project.

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3.3.2 Finding

There will be no significant impact on environmental resources as a result of implementation of the proposed Interim Facility water recirculation system, as demonstrated by the discussion below and as presented in Table 2 (shown at the end of this document).

Construction of the proposed water recirculation system would result in an increase in operation of construction equipment and construction vehicles at the SCARF site, which would result in short-term, temporary impacts related to traffic, noise, and air quality. In addition, construction of this Project modification could affect sensitive biological resources and could result in temporary water quality impacts due to excavation and soil-disturbing activities. Operation of the proposed water recirculation system may produce noise due to operation of pumps and generators, which may be noticeable to nearby residences. Similar to the Project, implementation of EIR mitigation measures and stormwater and erosion control BMPs would minimize construction and operation-related effects of this project modification. The following EIR mitigation measures would be applicable to the proposed Project modifications:

- AES-CONSTRUCT-4
- BIO-CONSTRUCT-1a
- BIO-CONSTRUCT-1b
- BIO-CONSTRUCT-3b through BIO-CONSTRUCT-3d
- BIO-CONSTRUCT-5
- BIO-CONSTRUCT-6a through BIO-CONSTRUCT-6c
- BIO-CONSTRUCT-7a
- BIO-CONSTRUCT-7b
- BIO-CONSTRUCT-9
- BIO-CONSTRUCT-10
- BIO-CONSTRUCT-11a
- BIO-CONSTRUCT-11b
- GEO-CONSTRUCT-1a
- GEO-CONSTRUCT-1b
- GEO-CONSTRUCT-3
- HAZ-CONSTRUCT-3
- NOISE-OP-1

CDFW finds that the proposed Interim Facility recirculation system will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any previously disclosed potentially significant environmental effects. Furthermore, to the extent the potential for such effects exists, CDFW finds that adherence to and implementation of the conditions of Project approval, as well as adherence to and implementation of the conditions of approval imposed by CDFW through the issuance of the accompanying Mitigation Monitoring and Reporting Program will avoid or reduce the potential for such effects to below a level of significance. CDFW has determined that the CEQA review is sufficient and will not require preparation of a subsequent EIR.

3.4. Water Recirculation and Chiller Equipment at Reclamation Property, Friant Dam

3.4.1 Description of Proposed Project Modifications

Purpose and Need

CDFW operates a satellite spawning, incubation, and rearing facility on Bureau of Reclamation-owned property (Reclamation property) at Friant Dam, where fall-run Chinook salmon are reared and held prior to release into the San Joaquin River. The satellite facility provides a small amount of additional space to rear fall-run Chinook salmon and is maintained separately from the Interim Facility site. Spawning and rearing activities at the satellite facility are conducted in a manner consistent with the streamside conservation stock actions described in the EIR (pages 2-35 and 2-45), where eggs obtained via translocation or artificial spawning are incubated until hatching and reared to fry.

The satellite facility includes a portable egg incubation trailer and six 3-foot tanks used for rearing and holding juvenile salmon. To mitigate rising temperature impacts and to protect incubating and rearing Chinook salmon, CDFW proposes to install recirculation/chiller equipment at the incubation trailer and install new tanks with recirculation/chiller equipment for rearing and holding salmon on Reclamation property.

The improvements at the Reclamation property are necessitated by and a response to ongoing drought conditions in California that are causing water temperatures at the existing satellite facility to exceed suitable levels for incubation and rearing. The recirculation/chiller equipment will prevent temperature-related mortality of the fall-run Chinook seasonally incubated and reared at the facility.

In addition, some spring-run Chinook activities anticipated for the in-river holding pens may instead be implemented at the satellite facility. Translocation spring-run Chinook salmon from the Feather River Fish Hatchery (FRFH) were intended to be reared using in-river rearing pens at various locations, because they cannot be reared at the Interim Facility unless they first go through appropriate quarantine for testing/clearance, due to biosecurity restrictions in place to limit transfer of fish pathogens into CDFW facilities. However, in-river rearing concerns include the potential for fish mortality due to high in-river temperatures and river flow issues, exacerbated by this year's drought, and space limitations. Using the Reclamation property with additional tank space and recirculation/chilling equipment will enable the rearing of translocated FRFH fish consistent with biosecurity restrictions while reducing such in-river rearing concerns. The facilities at the Reclamation property would also allow for egg incubation and rearing of younger juveniles, increasing the time for translocated juveniles to imprint on San Joaquin River water.

Although these emergency response actions would meet the criteria for a CEQA

exemption (see Pub. Resources Code, § 21080 subd. (b)(4)), CDFW determined that including the activities in this Addendum would leverage the analysis in the EIR and provide for full public disclosure and informed decision making.

Environmental Setting

The Reclamation property is located off of Millerton Road, approximately 1,000 feet downstream of Friant Dam. The proposed water recirculation/chiller equipment for the incubation trailer would be located at the existing trailer site. As shown in Figure 7, two locations within the property are being considered for the proposed new tanks with recirculation/chiller equipment. The two potential locations are covered in gravel. To the west, the Project area is bordered by chain-link fencing; on the opposite side of the fence is ruderal vegetation and the San Joaquin River.

Existing utility lines within the Project area include a 6-inch water main that parallels the fence line, and electrical power lines from nearby utility buildings.

Proposed Modifications

Proposed modifications include the installation of water recirculation/chiller equipment for the incubation trailer and new tanks with recirculation/chiller equipment for rearing and holding salmon. The systems are not yet at final design so additional modifications to the facilities may be necessary. Figure 6 presents a concept design for the proposed new tanks and recirculation/chiller system. CDFW would permit, provide, install and maintain all new equipment. Reclamation would provide heavy construction equipment, space, access, and utility infrastructure (i.e., water supply and electricity) to accommodate the proposed modifications.

Potential Equipment Locations at Reclamation Friant Dam Site

Recirculation/chiller equipment for the existing incubation trailer would be installed adjacent to the current location of the trailer, but there are two different locations where the new tanks could be installed.

Two locations on the Reclamation property are being considered for the tank installation area (Figures 7 through 10). Area 1 is adjacent to the southern edge of a bank of utility buildings. Area 2 is on a gravel road between the utility buildings and the river.

Recirculation/Chiller Equipment to Existing Trailer

New equipment that would be installed includes a chiller, mechanical filter, UV sterilizer, aeration system, two pumps, sump, fluidized bed filter, and a 25 kilowatt (kW) back-up generator.

Additional space required adjacent to the existing trailer would be as follows:

- Recirculation/chiller equipment: 8 feet x 16 feet
- Back-up generator: 8 feet x 4 feet x 5 feet

Power needs would be as follows:

- Four 20-amp receptacles and one 30-amp receptacle would be installed for the recirculation/chiller equipment at the existing trailer
- Back-up generator power demand is estimated at a maximum of 106 amps and 20 kilowatts when all systems are running, and around 20 amps with only pumps running

As with existing CDFW activities at the site, water would be obtained from Reclamation's water supplies to its facilities, and no additional supply would be needed beyond current use. Once operational, the recirculation system may decrease water usage.

Installation of New Translocation/Rearing Tanks with Recirculation/Chillers

New equipment that would be installed includes four 95% recirculation systems with chillers, each containing five six-foot-diameter 500-gallon circular tanks, a sump tank, bio-filter, and rotary drum filter; two pumps; and associated above ground plumbing. To sustain fish life in the event of power failure, a 100 kW back-up generator will be installed and will service all four systems. CDFW may also need to install some fencing and/or shade structures (e.g., awnings or carport) at the site.

Additional space required for the tanks and chillers would be as follows:

- Approximately 90 feet x 30 feet, although additional configurations may be possible
- Back-up generator would be approximately 8 feet x 5 feet x 7 feet

Power needs would be as follows:

- Twenty 20-amp receptacles and four 30-amp hardwire setup would be installed for the new tanks and recirculation/chiller
- Back-up generator power demand is estimated at 372 amps and 60 kilowatts when all systems are running, or around 80 amps with only pumps running

Water supply needs would be as follows:

- 60 GPM with recirculation (or 350 GPM with flow-through), typically used September through May. As with existing CDFW activities at the site, water would be obtained from Reclamation's water supplies to its facilities.

Construction Characteristics

Tank Installation

Tank installation activities on the Reclamation property would include ground disturbing activities only to provide water and power to the equipment. Tanks and their associated equipment would be installed on the existing gravel surface using hand tools, with no additional grading or compaction necessary. Although the final tank configuration has not been determined, the total area of the new installation is approximately 2,700 square feet.

Water Supply Plumbing

Reclamation would provide a new water supply pipeline to connect with existing 6-inch water lines. Minimal trenching (no more than 3.5 feet deep) would be necessary for installation of water main connections. Construction equipment required for water supply plumbing work includes a mechanized trencher and backhoe.

Electrical

Three 20-amp receptacles and one 30-amp receptacle would be installed for the recirculation/chiller equipment at the existing trailer; twelve 20-amp receptacles and four 30-amp hardwire setup would be installed for the new tanks and recirculation/chiller. Electricity would be provided from an existing electrical supply. Minor trenching for underground conduits (no more than 3 feet deep) may be necessary depending on the site selected. If trenching is necessary, a mechanical trencher, backhoe, and other hand tools would be used.

Construction Best Management Practices

Similar to the Interim Facility water recirculation system, a series of BMPs would be implemented to minimize any erosion-related and stormwater runoff effects. Refer to Section 3.3.1, above, for a list of BMPs that would be implemented during construction.

Operation and Maintenance

The facility would be staffed seven days per week when operational, normally between the hours of 8:00 a.m. and 5:00 p.m. Several pumps and motors associated with the water recirculating system would operate continuously. The estimated electrical needs of the modified facility are currently being determined. Effluent would be discharged directly to the San Joaquin River, and CDFW will obtain approval from the CVRWCB to ensure compliance with all discharge requirements.

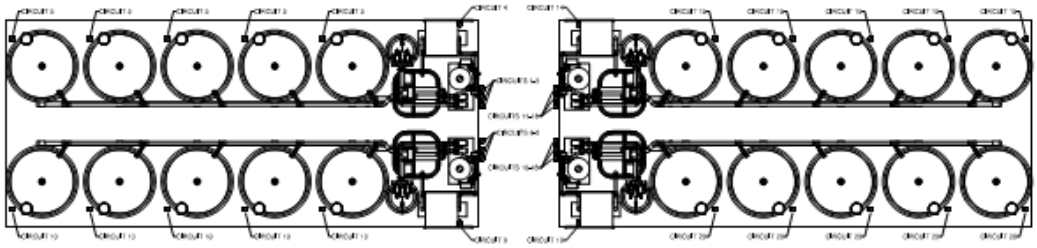

Figure 6. Recirculation and chiller for translocation and rearing – Concept Design

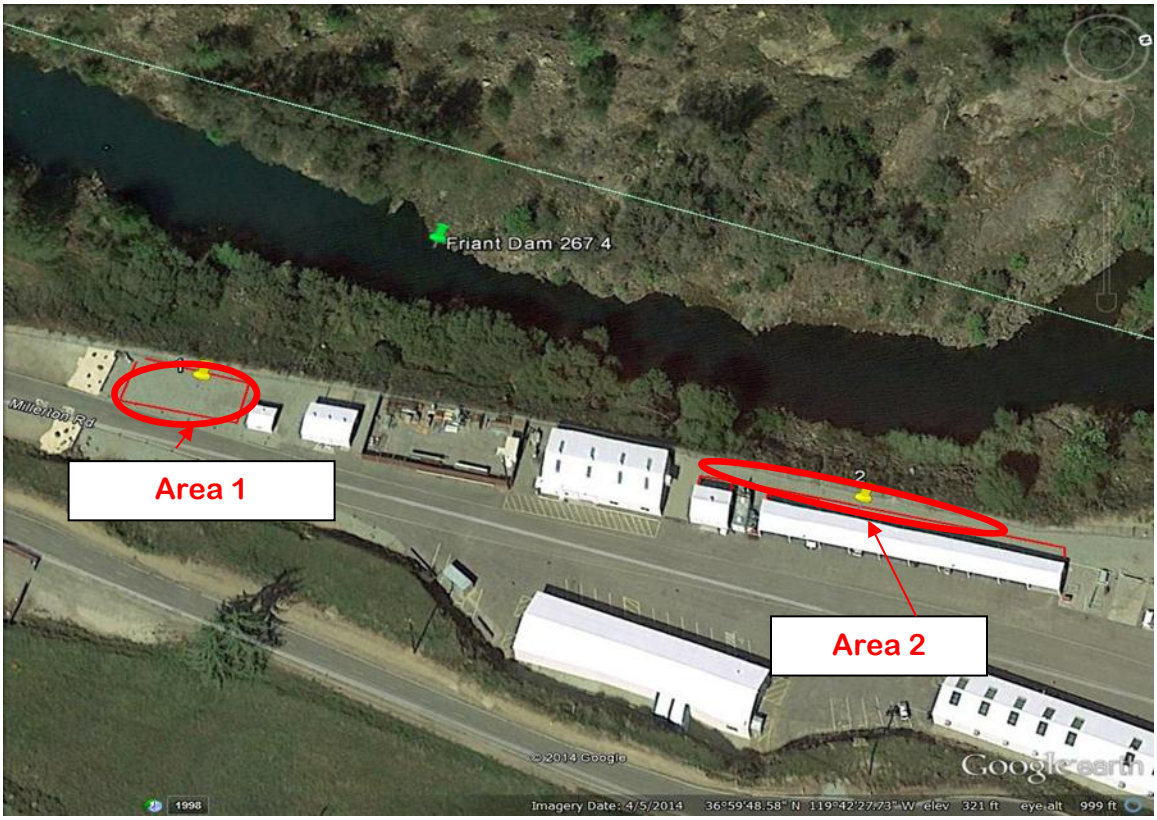

Figure 7. Overview of the areas selected for possible placement of fish tanks

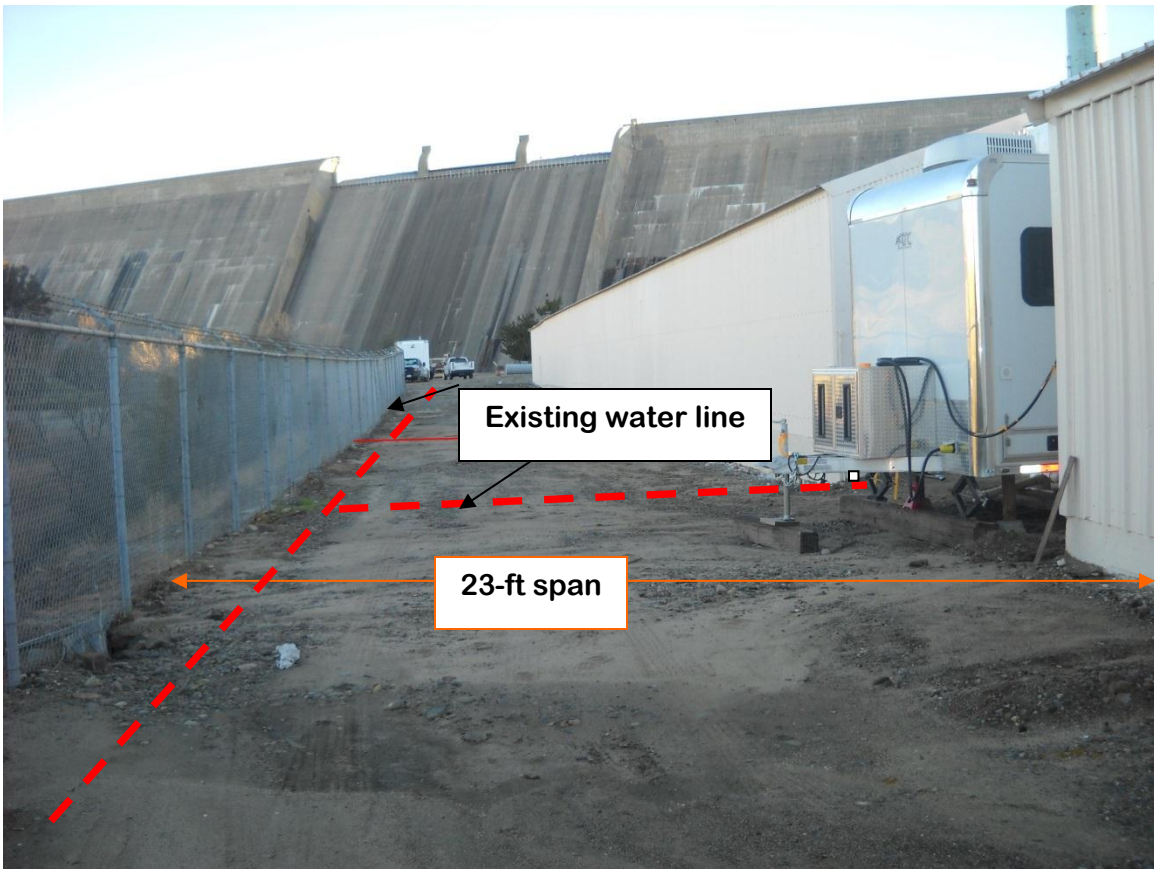

Figure 8. View of Area 2

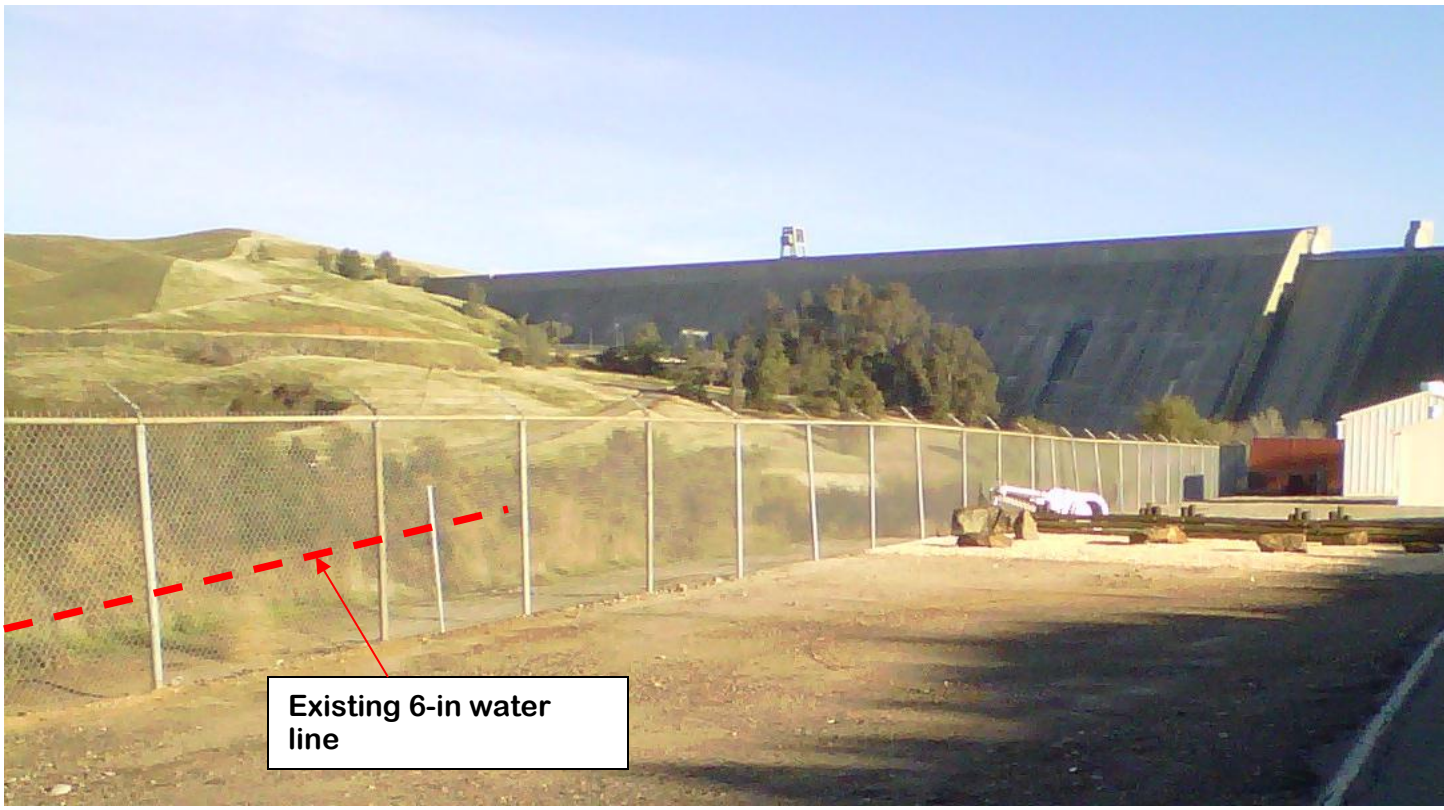

Figure 9. View of Areas 1 and 2

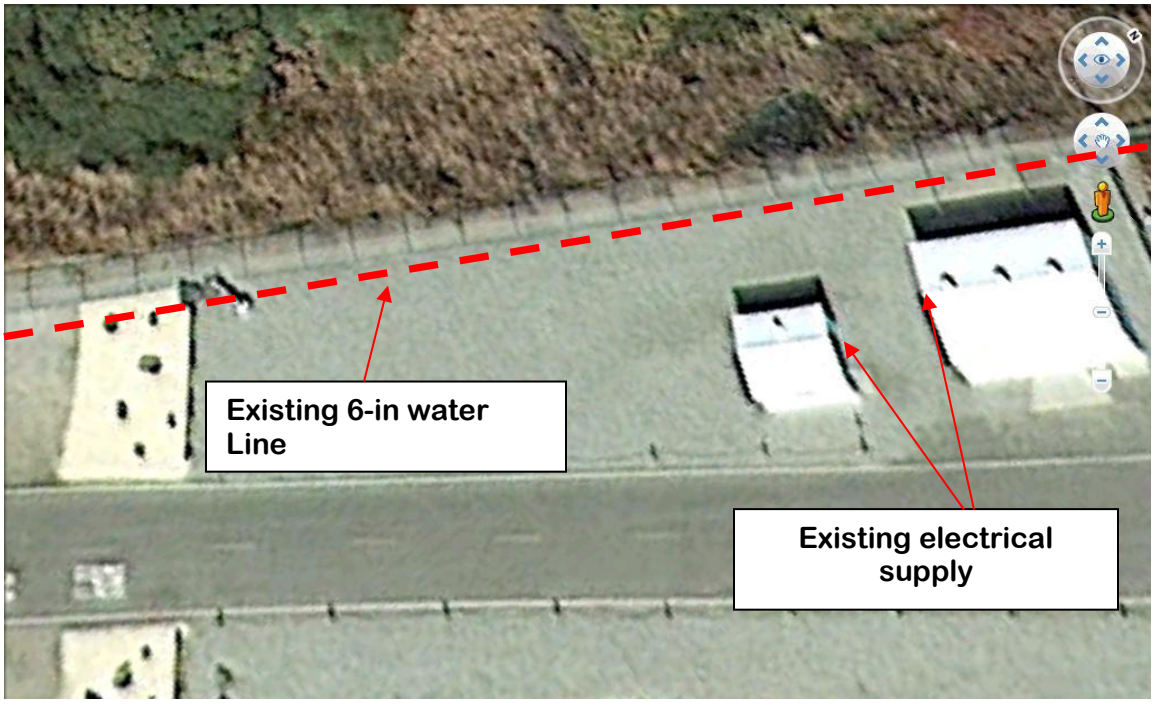

Figure 10. Google Earth View of Area 1

3.4.2 Finding

There will be no significant impact on environmental resources as a result of the proposed water recirculation and chiller equipment at the Reclamation property, as demonstrated by the discussion below and as presented in Table 2 (shown at the end of this document).

Construction of the proposed water recirculation and chiller equipment would result in an increase in operation of construction equipment at the Reclamation property but such activities would be limited to approximately 1-2 days. Thus, construction-related impacts associated with traffic, noise, and air quality would be minimal and would not affect areas outside of the Reclamation property. Additionally, given that the Reclamation property is already developed and contains no vegetation, construction of this project modification would have minimal impacts on sensitive biological resources. As described in Table 2, construction activities could cause noise disturbance on migratory birds present in the vicinity. In addition, construction of this Project modification could result in temporary water quality impacts due to trenching if a rainfall event were to occur during the construction period. Implementation of EIR mitigation measures and stormwater and erosion control BMPs, where applicable, would minimize construction-related effects of this Project modification (see Table 2 for additional details). Operation of the proposed water recirculation system may produce noise due to operation of pumps and chillers. If power fails and back-up generators are required, noise may be temporarily increased. However, since the closest residences are approximately 0.3 miles away, construction and operation of this system would not be noticeable to these residences. The following EIR mitigation measures would be applicable to the proposed Project modifications:

- BIO-CONSTRUCT-6a through BIO-CONSTRUCT-6c
- BIO-CONSTRUCT-7a
- BIO-CONSTRUCT-7b

CDFW finds that the proposed water recirculation and chiller equipment will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any previously disclosed potentially significant environmental effects. Furthermore, to the extent the potential for such effects exists, CDFW finds that adherence to and implementation of the conditions of Project approval, as well as adherence to and implementation of the conditions of approval imposed by CDFW through the issuance of the accompanying Mitigation Monitoring and Reporting Program will avoid or reduce the potential for such effects to below a level of significance. CDFW has determined that the CEQA review is sufficient and will not require preparation of a subsequent EIR.

4. SUMMARY OF RELEVANT IMPACTS FROM EIR

Tables 1 and 2 summarize the EIR impacts relevant to the proposed Project modifications considered in this Addendum. The right-hand column indicates whether any changes are needed to the EIR impact or mitigation measure. As shown, none of the proposed Project modifications would require changes to the EIR's impact analysis or mitigation measures.

Table 1: Relevant Impacts of the Proposed Relocation of Quarantine Aspects and Updated Water Usage Estimates for SCARF

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Relocation of Quarantine Aspects	Updated Water Usage Estimates	
Impact GEO-OP-3: Potential for Project Structures, Specifically the Aeration Tower and Rearing/Holding/Quarantine Tanks, to Affect Soil Stability	The EIR (page 9-12) identifies the Project's operational effects on soil stability. The EIR concluded that because the tanks would be built according to recommendations included in the Project's geotechnical report, operation of the tanks would not have any impact on soil stability. Potential relocation of SCARF quarantine activities to the Interim Facility will not result in any previously undisclosed potentially significant effects on the environment as existing tanks and facilities proposed for water re-use/recirculation system installation at this facility would be repurposed for quarantine. Construction to retrofit facilities at the Interim Facility or Reclamation property for quarantine would be minor. Fish entering the SCARF from other locations would be quarantined prior to entering the SCARF. The tanks that would have been used for the quarantine process at the SCARF would solely be used for rearing juvenile and adult fish, and would be built according to recommendations included in the Project's geotechnical report. Thus, this Project modification would not result in a change to this impact topic.		No

Impact UTL-OP-1: Availability of Supplies to Accommodate Non-Potable Water Use during SCARF Operations		Operation of the SCARF with the proposed updated baseline water needs would require no more than 1.6 percent of the average simulated 2030 flow releases from Friant Dam. The incremental increase in water diversions would be very minor and would not result in new, significant impacts or increase the severity of existing impacts related to water use during SCARF operations beyond those presented in the EIR.	No
Impact FISH-OP-3: Accidental or Otherwise Unauthorized Releases of Hatchery Fish due to Major Flood Events, Natural Disasters (e.g., Earthquakes), or Human Disturbance (e.g., Vandalism)	The EIR (pages 6-47 to 6-48) identifies the potential for inadvertent release of SCARF fish due to flooding, vandalism, or other catastrophic natural or manmade disaster. Potential relocation of quarantine activities at the Interim Facility would expose additional fish to this potential risk in comparison to existing conditions. However, as described in the EIR, the impact of unintentional release on fisheries resources is low due to the low probability of unintentional releases, the low risk of disease spread due to biosecurity measures that would be in place at the hatchery, and the temporary nature of the ecological effects on the system. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with the accidental release of fish beyond those identified in the EIR.	Impacts would be similar to the Interim Facility Recirculation System (see column to the left). The proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with the accidental release of hatchery fish due to major flood events or natural disasters beyond those identified in the EIR.	No

Impact FISH-OP-4: Spread of Fish Pathogens from SCARF-produced Fish into Wild Fish Populations in the San Joaquin River	The EIR (page 6-49) identifies the potential for spread of fish pathogens from SCARF-produced fish. As previously described, incoming fish may be quarantined at the Interim Facility instead of the SCARF itself. Similar to the Project, before fish enter the SCARF, fish quarantined at the Interim Facility must pass a fish health assessment. As described in the EIR, pathogen monitoring would include tests for bacteria, viruses, fungi, protozoa, other parasites, and non-infectious diseases in accordance with the Hatchery Genetic Management Plan. Diagnostic procedures for pathogen detection will follow American Fisheries Society professional standards. Therefore, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with spread of fish pathogens from SCARF-produced fish into wild fish populations in the San Joaquin River.	Impacts would be similar to the Interim Facility Recirculation System (see column to the left). The proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with spread of fish pathogens from SCARF-produced fish into wild fish populations in the San Joaquin River beyond those identified in the EIR.	No

Table 2: Relevant Impacts of the Proposed Interim Facility Recirculation System and Friant Dam Recirculation and Chiller Equipment

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact AES-CONSTRUCT-1: Adverse Effects on Scenic Vistas from the SCARF Construction	Construction activities would involve the use of some heavy equipment (e.g., trenchers and backhoes), which could be visible to nearby residences. Like the other Project activities analyzed in the EIR, the addition of these pieces of equipment would not involve new impacts on scenic resources or a substantial increase in the severity of previously identified effects on scenic vistas.	Installation of the proposed recirculation and chiller equipment at the Friant Dam site would not involve new impacts on scenic vistas or a substantial increase in the severity of previously identified effects on scenic vistas.	No
Impact AES-CONSTRUCT-2: Damage to Scenic Resources along a Scenic Corridor, Including, but Not Limited to, Trees, Rock Outcroppings, and Historic Buildings within a State Scenic Highway	One valley oak tree with a breast height diameter of 1.8 feet would require removal to accommodate installation of the new tanks. Since removal of this tree was already accounted for in the EIR, the severity of impacts on the scenic quality of the San Joaquin River Parkway would not change.		No
Impact AES-CONSTRUCT-3: Changes to Existing Visual Character or Quality from SCARF Construction	For the same reasons described above for Impact AES-CONSTRUCT-1, construction activities and equipment associated with this Project modification would be temporary and would not substantially increase the severity of previously identified effects on the existing visual character or quality of the Project area.	Construction activities would be short-term and involve no new grading and compaction of this already-developed site. The new equipment would be similar to existing structures at the site and would not significantly alter the visual character or quality of the Reclamation property.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact AES-CONSTRUCT-4: New Sources of Light or Glare from the SCARF Construction	As shown in Figure 5, new outdoor lighting would be installed near the outdoor tank. The proposed modification would not result in new, significant impacts or increase the severity of existing light or glare impacts beyond those identified in the EIR. Implementation of EIR Mitigation Measure AES-CONSTRUCT-4 would reduce this impact to a less-than-significant level.		No
Impact AQ-CONSTRUCT-2: Potential for SCARF Construction to Violate ROG, NO_x, $PM_{10,}$ $PM_{2.5}$, CO, or SO_x Significance Thresholds and Contribute Substantially to an Existing or Projected Air Quality Violation	The EIR (pages 5-10 through 5-12) identifies construction-related air quality impacts from construction of the Project. Like other Project components analyzed in the EIR, the water recirculation system would generate fugitive dust and exhaust emissions. The proposed recirculation system would not result in new, significant impacts or substantially increase the severity of existing impacts in a manner that exceeds ROG, NO_x, $PM_{10,}$ $PM_{2.5}$, CO, or SO_x thresholds established by San Joaquin Valley Air Pollution Control District (SJVAPCD). Implementation of SJVAPCD Regulation VIII (described on EIR page 5-11) would ensure dust air emissions are less than significant.	Impacts would be similar to the Interim Facility Recirculation System (see column to the left). This Project modification would not result in new, significant impacts or substantially increase the severity of existing impacts in a manner that exceeds ROG, NO_x, $PM_{10,}$ $PM_{2.5}$, CO, or SO_x thresholds established by SJVAPCD beyond those presented in the EIR.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact AQ-CONSTRUCT-3: Potential for SCARF Construction to Expose Sensitive Receptors to Substantial Pollutant Concentrations	The EIR (page 5-12) describes the Project's potential to expose sensitive receptors to pollutant concentrations. Similar to other Project components analyzed in the EIR, construction of the proposed water recirculation system would generate fugitive dust that contains PM_{10} and $PM_{2.5}$, and diesel particulate matter, which could affect sensitive receptors nearby. Construction would be temporary (3 months) and would not result in new, significant impacts or substantially increase the severity of existing air quality effects on nearby receptors.	As discussed above, the nearest residences are approximately 0.3 miles away. Construction would be limited and would involve no new grading or compaction, and limited trenching. This would not result in new, significant impacts or substantially increase the severity of existing air quality effects on nearby receptors.	No
Impact AQ-CONSTRUCT-4: Potential for SCARF Construction to Create Objectionable Odors Affecting a Substantial Number of People	The EIR (page 5-12) addresses the Project's potential to generate objectionable odors. Similar to other Project components, construction of the proposed water recirculation system would involve use of diesel-powered equipment and possibly paint that may be detected by nearby sensitive receptors. Given the Project's short-term construction duration, the proposed water recirculation system would not result in new, significant impacts or substantially increase odor effects.	Construction would be limited and would involve no new grading or compaction, and limited trenching with mechanical equipment. The nearest sensitive receptors are 0.3 miles away. This Project modification would not result in new, significant impacts or substantially increase the severity of existing impacts related to odor beyond those presented in the EIR.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact AQ-OP-2: Potential for SCARF Operations to Expose Sensitive Receptors to Substantial Pollutant Concentrations	The EIR (pages 5-13 to 5-14) discusses potential impacts related to exposure of diesel particulate matter from truck exhaust to nearby residences. The nearest receptors are no closer than 50 to 75 feet from the site. Similar to other Project components, vehicles coming and going to the Interim Facility would also generate diesel particulate matter (DPM) from truck exhaust but the few additional trucks would not represent a substantial increase in particulate emissions and these vehicles would also be required to comply with California Air Resources Board (CARB) regulations that limit diesel truck idling. Thus, the proposed modifications would not result in new, significant impacts or substantially increase operational emission impacts on sensitive receptors.	The nearest sensitive receptors are located approximately 0.3 mile away. Due to the distance between this project modification and the nearest sensitive receptor, this project modification would not result in new, significant impacts or substantially increase operational emission impacts on sensitive receptors.	No
Impact AQ-OP-3: Potential for SCARF Operations to Create Objectionable Odors Affecting a Substantial Number of People	The EIR (page 5-14) discusses the potential for SCARF operations to create objectionable odors. The proposed recirculation system would increase waste increases in discharged water, which could generate objectionable odors that are detected by nearby sensitive receptors. As described in Section 3.3.1, the system would add an estimated 30 percent more of additional waste discharge per day; however total waste at the SCARF site would be within the allowable limits for the greater hatchery complex. Therefore, the proposed modifications are not expected to substantially increase objectionable odors at the SCARF site.	This project modification would increase the amount of fish holding capacity at the Reclamation property and would thereby increase waste that would be discharged to the San Joaquin River. This increase in waste could generate objectionable odors. However, since the closest sensitive receptors are approximately 0.3 mile away and since CDFW already operates a satellite and rearing facility on the Reclamation property, the increase in odors generated by the project modification would not substantially increase objectionable odors.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact FISH-CONSTRUCT-1: Sedimentation and Turbidity in the San Joaquin River from Construction-related Erosion, Which Could Adversely Impact Fish and Their Habitat	The EIR (pages 6-38 to 6-39) identifies the potential for construction-related increases in sedimentation and turbidity due to ground-disturbing activities occurring near San Joaquin River. Like other Project components evaluated in the EIR, the proposed water recirculation system could potentially affect fish species and their habitat. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with sedimentation and turbidity beyond those identified in the EIR. Similar to the Project, implementation of erosion and stormwater control BMPs and Mitigation Measure GEO-CONSTRUCT-1a and GEO-CONSTRUCT-3 would reduce potential impacts to fish species and their habitat.	No site grading would be required, therefore there would be minimal construction-related sedimentation and turbidity due to ground-disturbing activities occurring near San Joaquin River. This Project modification would not result in new, significant impacts or substantially increase the severity of existing impacts related to sedimentation and turbidity beyond those identified in the EIR.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact FISH-CONSTRUCT-2: Risk of Release of Construction-related Hazardous Materials, Chemicals, and Waste to the San Joaquin River, Potentially Harming Fish	The EIR (pages 6-39 to 6-40) identifies the risk of releasing hazardous substances into waterways during construction, which could potentially impair water quality and fish species. Like other Project components evaluated in the EIR, construction of the proposed water recirculation system would require use of hazardous materials like fuels, lubricating oil, and grease, which could harm aquatic organisms if a spill were to occur. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with the risk of release of construction-related hazardous materials to the San Joaquin River which could harm fish beyond those identified in the EIR. Similar to the Project, implementation of erosion and stormwater control BMPs and Mitigation Measure GEO-CONSTRUCT-1a would reduce potential impacts to fish species and their habitat.	Impacts would be similar to the Interim Facility Recirculation System (see column to the left). The proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with the risk of release of construction-related hazardous materials to the San Joaquin River which could harm fish beyond those identified in the EIR.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact FISH-OP-3: Accidental or Otherwise Unauthorized Releases of Hatchery Fish due to Major Flood Events, Natural Disasters (e.g., Earthquakes), or Human Disturbance (e.g., Vandalism)	The EIR (pages 6-47 to 6-48) identifies the potential for inadvertent release of SCARF fish due to flooding, vandalism, or other catastrophic natural or manmade disaster. Operation of the proposed water recirculation system would provide additional fish rearing capacity at the Interim Facility in comparison to existing conditions; however overall rearing numbers would remain as previously described in the EIR,. As described in the EIR, the impact of unintentional release on fisheries resources is low due to the low probability of unintentional releases, the low risk of disease spread due to biosecurity measures that would be in place at the hatchery, and the temporary nature of the ecological effects on the system. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with the accidental release of fish beyond those identified in the EIR.	Impacts would be similar to the Interim Facility Recirculation System (see column to the left). The proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with the accidental release of hatchery fish due to major flood events or natural disasters beyond those identified in the EIR.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact FISH-OP-5: Inadvertent Propagation or Spread of Invasive or Nuisance Species	The EIR (pages 6-49 to 6-51) identifies the potential for inadvertent propagation or spread of invasive or nuisance species. The proposed water recirculation system would provide additional fish rearing capacity at the Interim Facility in comparison to existing conditions and could incrementally increase the potential for providing suitable habitat for aquatic invasive species. Once established within hatcheries, aquatic invasive species (AIS) may be released downstream with hatchery return flow discharges and in transport water associated with fish releases. However, as described in the EIR, the SCARF would be required to develop and implement a Hazard Analysis and Critical Control Point Plan (HACCP) which includes methods to prevent the introduction of AIS within and outside the facility. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with the inadvertent propagation or spread of invasive or nuisance species beyond those identified in the EIR.	Impacts would be similar to the Interim Facility Recirculation System (see column to the left). The proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with the inadvertent propagation or spread of invasive or nuisance species beyond those identified in the EIR.	No.

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact FISH-REINTRO-3: Reductions in Fitness or Population Viability of Naturally Spawning Chinook Salmon due to Straying of Conservation Stock	The EIR (pages 6-54 to 6-56) identifies the potential for increased straying of adult spring-run Chinook salmon and reduced fitness or population viability of this species. Although the proposed water recirculation system would provide additional fish rearing capacity at the Interim Facility, this modification to rearing capacity was accounted for in the SCARF operations analysis. Thus, the potential to unintentionally change the genetic composition of wild populations and reduce fitness of Chinook salmon was previously evaluated in the EIR. As described in the EIR, the Proposed Project would select and collect hatchery-origin broodstock in a manner that would capture phenotypic and genotypic diversity of the source population(s), and conduct genetic management to minimize domestication selection and to maximize effective population size of the broodstock, experimental population, and the combined broodstock and experimental) populations. As such, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts associated with reduced fitness due to straying of conservation stock.		No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact FISH-REINTRO-4: Reductions in Fitness or Population Viability of Naturally Spawning Chinook Salmon due to Straying by Fish Translocated from the Feather River Fish Hatchery	The EIR (pages 6-56 to 6-58) identifies the potential for fitness reduction in San Joaquin River basin populations due to selection of traits advantageous in the San Joaquin River among straying transplanted fish. Because translocated fish from the Feather River Fish Hatchery would not be held at the Interim Facility, this impact does not apply to this project modification.	The facility would be used for incubating and rearing translocated fish to increase imprinting and reduce straying that could affect naturally spawning Chinook salmon. The proposed modification is consistent with measures discussed in the EIR to reduce straying and would not result in new, significant impacts or increase the severity of existing impacts associated with the reduced fitness or population viability of naturally spawning Chinook salmon due to straying by fish translocated from the Feather River Fish Hatchery beyond those identified in the EIR.	No
Impact BIO-CONSTRUCT-1: Impacts to Special-Status Plant Species	The EIR (pages 7-36 to 7-37) describes potential Project-related impacts to special-status plant species, including Sanford's arrowhead (*Sagittaria sanfordii*) which was observed in one of the Interim Facility percolation ponds. Construction of the proposed water recirculation system would require ground disturbance and possibly some minor vegetation removal. As described in the EIR, implementation of Mitigation Measures BIO-CONSTRUCT-1a and -1b would reduce impacts to special-status plants. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to special-status plant species beyond those identified in the EIR.	As the Reclamation property is already developed, the proposed modification would not result in impacts on special-status plant species.	No.

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact BIO-CONSTRUCT-3: Impacts to California Tiger Salamander and Western Spadefoot	The EIR (page 7-39) discusses potential Project-related impacts to California tiger salamander and western spadefoot. Construction of the proposed water recirculation system could also result in potential impacts on these species but implementation of Mitigation Measures BIO-CONSTRUCT-3b through -3d would reduce this impact to less than significant. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to California tiger salamander and western spadefoot beyond those identified in the EIR.	As the Reclamation property is already developed, the proposed modification would not result in impacts on California tiger salamander or western spadefoot.	No.
Impact BIO-CONSTRUCT-5: Impacts to Burrowing Owl	The EIR (page 7-43) discusses potential Project-related impacts to burrowing owl. Construction of the proposed water recirculation system could also result in impacts on this species but implementation of Mitigation Measures BIO-CONSTRUCT-5 would reduce this impact to less than significant. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to burrowing owl beyond those identified in the EIR.	As the Reclamation property is already developed, the proposed modification would not result in impacts on burrowing owl.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact BIO-CONSTRUCT-6: Impacts to Raptors including Special-status Species	The EIR (page 7-44) discusses potential Project-related impacts to raptors including special-status species. Construction of the proposed water recirculation system could also result in impacts on raptors but implementation of Mitigation Measures BIO-CONSTRUCT-6a through-6c would reduce this impact to less than significant. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to raptors beyond those identified in the EIR.	No trees would be removed during construction of this proposed modification. Impacts would be similar to the Interim Facility Recirculation System (see column to the left). The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to raptors beyond those identified in the EIR.	No
Impact BIO-CONSTRUCT-7: Impacts to Special-Status Passerine Species and Birds Protected under the MBTA	The EIR (page 7-45) discusses potential Project-related impacts to special-status passerine species and birds protected under the MBTA. Construction of the proposed water recirculation system could also result in impacts on raptors but implementation of Mitigation Measures BIO-CONSTRUCT-7a and BIO-CONSTRUCT-7b would reduce this impact to less than significant. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to special-status passerine species and birds protected under the MBTA beyond those identified in the EIR.	Although this project modification does not involve any tree removal, construction activities at the Reclamation property could cause noise disturbance to special-status birds if present in the near vicinity. Implementation of Mitigation Measure BIO-CONSTRUCT-7a and BIO-CONSTRUCT-7b would reduce this impact to less than significant. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to special-status passerine species and birds protected under the MBTA beyond those identified in the EIR.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact BIO-CONSTRUCT-9: Impacts to American Badger	The EIR (page 7-47) discusses potential Project-related impacts to American badger. Construction of the proposed water recirculation system could also result in impacts on American badger but implementation of Mitigation Measures BIO-CONSTRUCT-9 would reduce this impact to less than significant. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to American badger beyond those identified in the EIR.	As the Reclamation property is already developed, the proposed modification would not result in impacts on American badger.	No
Impact BIO-CONSTRUCT-10: Impacts to San Joaquin Kit Fox	The EIR (page 7-48) discusses potential Project-related impacts to San Joaquin kit fox. Construction of the proposed water recirculation system could also result in impacts to San Joaquin kit fox but implementation of Mitigation Measures BIO-CONSTRUCT-10 would reduce this impact to less than significant. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to San Joaquin kit fox beyond those identified in the EIR.	As the Reclamation property is already developed, the proposed modification would not result in impacts on San Joaquin kit fox.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact BIO-CONSTRUCT-11: Impacts to Riparian Habitat and Freemont Cottonwood Woodlands	The EIR (page 7-49) discusses potential Project-related impacts to riparian habitat. Construction of the proposed water recirculation system could result in impacts on riparian habitat but implementation of Mitigation Measures BIO-CONSTRUCT-11a and -11b would reduce this impact to less than significant. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to riparian habitat beyond those identified in the EIR.	As the Reclamation property is already developed, the proposed modification would not result in impacts to riparian or woodland habitat.	No
Impact BIO-CONSTRUCT-12 Impacts to Federally Protected Wetlands	The EIR (page 7-50) discusses potential Project-related impacts to federally protected wetlands. The proposed water recirculation system is outside of any wetland footprint identified in the wetland delineation. Construction of the proposed water recirculation system is would not result in impacts to wetlands.	As the Reclamation property is already developed, the proposed modification would not result in impacts on wetlands.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact BIO-OP-1:Impacts to Special-Status Species and Their Habitats	The EIR (page 7-52) discusses the potential for impacts on special-status species due to operations of the SCARF. Similar to the Project, noise generated by the pumps and generators associated with the proposed water recirculation system would be slightly higher but would be of similar character and magnitude to the SJFH. Outdoor lighting would be installed outside the outdoor tanks, which could displace individual wildlife species from suitable habitat; however similar to the Project, implementation of Mitigation Measure AES-CONSTRUCT-4 would require lighting to be shielded. A few additional workers may be needed at the Interim Facility but this slight increase in human activity would not substantially increase potential effects on special-status species. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to special-status species and their habitat beyond those identified in the EIR.	Operation of proposed modifications would slightly increase the level of human activity at the Reclamation property in comparison to existing conditions. However, since the Reclamation property is already developed and regularly used by humans, the increase in noise, lighting and human activity due to operation of the facilities is not expected to result in substantially more severe impacts to special-status species and their habitat.	No
Impact BIO-OP-4: Noise Effects on Wildlife	The EIR (page 7-53) discusses potential operational noise effects on wildlife. As described in the row above, operation of pumps and back-up generators at the proposed Interim Facility's recirculation system would incrementally increase noise levels. These pieces of equipment would result in minor increases in noise and would not greatly increase noise at the site.	Impacts would be similar to the Interim Facility Recirculation System (see column to the left). However, since the Reclamation property is already developed and regularly used by humans, the facilities would not result in significant increases in noise affecting wildlife at the site.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact GEO-CONSTRUCT-1: Potential for Substantial Soil Erosion or the Loss of Topsoil from SCARF Construction	The EIR (page 9-6) discusses the potential for substantial soil erosion or the loss of topsoil from SCARF construction. Construction of the proposed water recirculation system would result in additional soil disturbance, which could cause loss of soil productivity and potential degradation of receiving waters. However, as described in Section 3.3.1, above, erosion and stormwater control BMPs would be implemented, which would minimize soil erosion effects. Therefore, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts to federally protected wetlands beyond those identified in the EIR.	Construction of the proposed Friant Dam recirculation system and chiller equipment would result in minor additional soil disturbance, which could cause loss of soil productivity and potential degradation of receiving waters. As described in Section 3.4.1, above, the site is already graded and has a gravel surface, and erosion and stormwater control BMPs would be implemented as necessary for minor trenching work, which would minimize soil erosion effects. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts to federally protected wetlands beyond those identified in the EIR.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact GHG-CONSTRUCT-1: Potential for SCARF Construction to Generate Substantial GHG Emissions	The EIR (pages 10-6 to 10-7) discusses the potential for SCARF construction to generate substantial greenhouse gas (GHG) emissions. Construction of the proposed water recirculation system would result in a slight increase of GHG emissions due to use of gas powered construction equipment (e.g., trenchers and backhoes). Provided that SCARF construction would generate 114 metric tons CO_2e when amortized over the Project's 9-year operation period (substantially less than the SJVAPCD's approved zero equivalency value of 230 metric tons of CO_2e per year), the incremental increase of GHG emissions associated with the proposed modifications is not expected to substantially increase construction-related GHG emissions beyond what was disclosed in the EIR.	Construction-related GHG emissions generated by the proposed modification would be limited to those created during trenching for connection of utilities, less than the Interim Facility Recirculation System. Refer to the column to the left for detailed information.	No
Impact GHG-REINTRO-1: Potential for Fish Reintroduction Activities to Generate Substantial GHG Emissions or Conflict with the CARB's Applicable Plans, Policies, or Regulations Adopted for the Purpose of Reducing the Emissions of GHGs	The EIR (page 10-9) discusses the potential for fish reintroduction activities to generate substantial GHG emissions. Since the proposed water recirculation system would provide additional fish rearing capacity, fish reintroduction activities would incrementally increase. This would also result in a slight increase of truck and vehicle trips for the collection, transport, and/or release of Chinook salmon. Since the Project's total operational emissions are substantially less than the significance threshold of 1,100 CO_2e, this modification is not expected to substantially increase operational GHG emissions beyond what was disclosed in the EIR.	Operation-related GHG emissions associated with the proposed modification would be similar to the Interim Facility Recirculation System. Refer to the column to the left for detailed information.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact HAZ-CONSTRUCT-1: Risk to the Public or Environment, including Nearby Sensitive Receptors, due to an Accidental Spill Resulting from the Transport, Use, and Disposal of Hazardous Materials during SCARF Construction	The EIR (page 11-9) discusses the potential for SCARF construction to increase risks to the public/environment due to an accidental spill resulting from transport, use and disposal of hazardous materials. The proposed water recirculation system would involve use of construction equipment that use fuels, lubricating oil, grease, and/or hydraulic fuel (similar to equipment used for the Project). Similar to the Project, the proposed modifications would be required to comply with the same federal, state, and local regulations to ensure that there are no significant risks to construction workers, the public or environment due to construction-related transport, use, storage, or disposal of hazardous materials. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Potential risks to the public or environment due to an accidental spill resulting from transport, use, and disposal of hazardous materials during construction of the proposed modification would be similar to the Interim Facility Recirculation System. Refer to the column to the left for detailed information.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact HAZ-CONSTRUCT-3: Potential for SCARF Construction Activities to Impede Fire or Emergency Response Because of a Temporary Increase in Vehicle Traffic	The EIR (pages 11-10 to 11-11) discusses the potential for SCARF construction activities to impede fire response or emergency response due to temporary increases in vehicle traffic. The proposed water recirculation system would require a minor increase in number of employee vehicle trips and truck trips. As described in the EIR, implementation of Mitigation Measure HAZ-CONSTRUCT-3 would minimize any potential interference with an adopted emergency response plan or emergency evacuation plan. The proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	The proposed recirculation and chiller equipment near Friant Dam would require a minimal increase in number of employee and truck vehicle trips above normal operations. Construction would last for only one to two days. Additional trips would be needed to deliver tank equipment and piping and for staff to visit the site occasionally.	No
Impact HAZ-CONSTRUCT-4: Potential Fire Hazard from the Use of Construction Equipment within or near Vegetation Areas in the Proposed SCARF Site	The EIR (pages 11-11 to 11-12) discusses the potential fire hazards from use of construction equipment near vegetated areas. Similar to other Project components, construction of the proposed water recirculation system would occur within or near vegetated areas. Like the Project, the proposed modification would be required to comply with the Public Resources Code requirements for construction activities at sites with forest-, brush, or grass-covered land. Thus, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	As the Reclamation property is already developed and is not located near vegetation, construction of the proposed modification would not result in impacts related to fire hazards due to use of construction equipment.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact HYD-CONSTRUCT-1: Violate Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Water Quality during SCARF Construction	The EIR (pages 12-16 to 12-17) discusses the potential for increased susceptibility to erosion and during project construction, which may impact water quality. Similar to other Project components, construction of the proposed water recirculation system would also expose soils and could increase the susceptibility to erosion. However, as described in Section 3.3.1, above, the proposed Project modification would implement BMPs to protect water quality and minimize erosion. Thus, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	The proposed recirculation and chiller equipment near Friant Dam may require some trenching, which could potentially expose soils and increase susceptibility to erosion. The proposed Project modification would implement BMPs to protect water quality and minimize erosion. This modification is not expected to result in new, significant impacts or increase the severity of impacts related to water quality beyond those identified in the EIR. Refer to the column to the left for detailed information.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact HYD-CONSTRUCT-3: Substantially Alter the Existing Drainage Pattern of the Site or Area, Including through the Alteration of the Course of a Stream or Rivers, Resulting in Substantial Erosion or Siltation On-site or Off-site from SCARF Construction	The EIR (pages 12-17 to 12-18) discusses the potential to substantially alter the existing drainage pattern of the Project site. Similar to other Project components, construction of the proposed water recirculation system would increase the area of disturbance and create approximately 1,000 square feet of impermeable surfaces. Similar to other Project components, runoff from the proposed recirculation system would follow existing stormwater drainage patterns and be routed to an existing reinforced concrete pipe that serves the SJFH that currently discharges stormwater into the secondary channel of the San Joaquin River. Implementation of erosion and stormwater control BMPs, along with Mitigation Measures GEO-CONSTRUCT-1a and GEO-CONSTRUCT-1b, would ensure that the quantity and delivery of stormwater from the site would not appreciably change following construction. Thus, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	There will be no grading or increase in impervious surfaces due to installations at the facility. Therefore, the project will not substantially alter the existing drainage pattern of the area.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact HYD-CONSTRUCT-4: Substantially Alter the Existing Drainage Pattern of the Site or Area, Including Through the Alteration of the Course of a Stream or River, or Substantially Increase the Rate or Amount of Surface Runoff Resulting in Flooding On-site or Off-site from SCARF Construction	See discussion above for Impact HYD-CONSTRUCT-3.	See discussion above for Impact HYD-CONSTRUCT-3.	No
Impact HYD-CONSTRUCT-6: Place Structures Within a 100-year Flood Hazard Area Resulting in Impeding or Redirecting Flood Flows from SCARF Construction	A flood analysis for the SCARF has been prepared in compliance with Mitigation Measure HYD-CONSTRUCT-6, which concluded that no project modifications were necessary to address this issue. These additional facilities would be minor and would not substantively affect the conclusions of the flood analysis. Thus, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	The Reclamation property is outside of the 100-year flood hazard area. Therefore, the project modifications would not result in impacts related to impeding or redirecting flood flows.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact HYD-CONSTRUCT-7: Expose People or Structures to Significant Risk of Loss, Injury or Death Involving Flooding, Including Flooding Resulting from the Failure of a Levee or Dam during SCARF Construction	The EIR (page 12-20) describes impacts associated with exposing construction workers to substantial safety risk should Friant Dam fail during construction. Similar to other Project components, the proposed recirculation system would also be subject to inundation and substantial safety risk in the event of dam failure. However, as described in the EIR, a 2005 investigation indicated the risk of dam failure from seismic hazards is low; therefore this impact would be less than significant. Thus, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Similar to the Interim Facility Recirculation System, the proposed recirculation and chiller equipment would be subject to inundation and substantial safety risk in the event of dam failure. However, this modification is not expected to result in new, significant impacts or increase the severity of impacts related to water quality beyond those identified in the EIR. Refer to the column to the left for detailed information.	No.
Impact HYD-OP-1 Create or Contribute Runoff Water Exceeding the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff from SCARF Operations	See discussion above for Impact HYD-CONSTRUCT-3.	Currently, the satellite facility uses an existing stormwater drain that releases effluent to the San Joaquin River. The facilities would also rely on this same drain for release of additional effluent. This drain is expected to have capacity to handle additional runoff generated at the site. In addition, as described above for Impact HYD-CONSTRUCT-3, because the project modification would not result in any increases in impervious surfaces, the impact related to generation of runoff potentially exceeding the capacity of existing or planned stormwater drainage systems would be less than significant.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact HYD-OP-2: Effects of SCARF Return Flows on Downstream Flooding and Flood Risk	The EIR (pages 12-20 to 12-21) describes downstream flooding impacts associated with SCARF return flows. The proposed recirculation system would decrease the total water requirement from 1.8 to 0.6 cfs. Thus, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	The proposed 95% recirculation system near the Friant Dam would require a water supply of 60 gallons per minute (0.13 cfs) and would be discharged directly to the river. Like the Project, discharges from this facility would incrementally contribute to downstream flooding when the San Joaquin River is flowing at or above flood stage. Given that discharges from the Project modification would be minimal, this incremental contribution would not result in new, significant impacts or increase the severity of existing impacts related to downstream flooding beyond what was described in the EIR.	No
Impact HYD-OP-4: Effects of Hatchery Diversions for SCARF Operations on Surface Water Supply	See discussion above for Impact HYD-OP-2.	See discussion above for Impact HYD-OP-2.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact HYD-OP-6: Water Quality Effects of SCARF Operations to Total Suspended Solids and Turbidity	The EIR (pages 12-22 to 12-23) describes water quality effects of SCARF operations to total suspended solids (TSS) and turbidity. The proposed recirculation system would provide additional fish rearing capacity at the Interim Facility and could result in a greater accumulation of organic solids from uneaten food and biological waste. As described in the EIR, SCARF employees would monitor levels of TSS and turbidity and the Project modifications would be operated in compliance with NPDES requirements. Thus, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Similar to the Interim Facility Recirculation System, the proposed recirculation and chiller equipment would provide additional fish rearing capacity and could result in a greater accumulation of organic solids. However, this Project modification includes a solids filter for water treatment and is not expected to result in new, significant impacts or increase the severity of impacts related to water quality beyond those identified in the EIR. Refer to the column to the left for detailed information.	No
Impact HYD-OP-7: Water Quality Effects of SCARF Operations to Dissolved Oxygen, pH and Salinity	The EIR (pages 12-23 to 12-24) describes water quality effects of SCARF operations to DO, pH and salinity. The proposed recirculation system would provide additional fish rearing capacity at the Interim Facility and could affect pH, DO, and salinity levels. As described in the EIR, SCARF employees would monitor DO, pH and salinity to ensure that such levels are maintained within levels acceptable for fish production and health. Thus, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Similar to the Interim Facility Recirculation System, the proposed recirculation and chiller equipment would provide additional fish rearing capacity and could affect pH, DO, and salinity levels. Like the Interim Facility, this project modification would not feed reared fish more than 5,000 pounds per month and therefore is not considered a point source subject to NPDES permits. Additionally, since CDFW would coordinate with the CVRWQCB to ensure compliance with any applicable discharge requirements, the Project modification is not expected to result in new, significant impacts or increase the severity of impacts related to water quality beyond those identified in the EIR.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact HYD-OP-8: Water Quality Effects of SCARF Operations on Eutrophication of Receiving Waters	The EIR (pages 12-24 to 12-26) describes water quality effects of SCARF operations on eutrophication of receiving waters. The proposed recirculation system would provide additional fish rearing capacity at the Interim Facility, which could potentially increase nutrient concentrations and contribute to eutrophication. As described in the EIR, an evaluation of the nutrient concentrations of hatchery discharges shows that they often differ very little from the nutrient content of hatchery source water. The potential increase in downstream receiving water nutrient concentrations from the is expected to be small and would therefore not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Similar to the Interim Facility Recirculation System, the proposed recirculation and chiller equipment would provide additional fish rearing capacity and could potentially increase nutrient concentrations and contribute to eutrophication. However, this Project modification is not expected to result in new, significant impacts or increase the severity of impacts related to water quality beyond those identified in the EIR. Refer to the column to the left for detailed information.	No
Impact HYD-OP-9: Effects of SCARF Operations on Discharge Water Temperature	During operation of the Project modification, recirculating fish water through chillers would ensure that water temperatures are at acceptable levels and is not expected to affect SCARF discharge on river temperatures. Additionally, as described in the EIR, compliance with National Pollutant Discharge Elimination System (NPDES) requirements and Sacramento and San Joaquin River Basin Plan limitations would also ensure that the impact to water quality from discharge water temperatures are less than significant.	Similar to the Interim Facility Recirculation System, recirculating fish water through chillers would ensure that water temperatures are at acceptable levels and discharge is not expected to affect river temperatures. Refer to the column to the left for additional information.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact LU-OP-1: Potential for the SCARF to Divide an Established Community	The proposed recirculation system would be installed just west and northeast of the Interim Facility. Construction and operation of this Project modification would not divide an established community.	The proposed recirculation and chiller equipment would be installed near an existing trailer at the Friant property and the new equipment and tanks for rearing and translocation would be installed on Reclamation's property off of Millerton Road. Construction and operation of this Project modification would not divide an established community.	No
Impact LU-OP-2: Potential for the SCARF to Conflict with Existing and Planned Land Uses within or adjacent to the SCARF Site or with Applicable Land Use Plans, Policies, and Regulations		The *Friant Community Plan* categorizes the Friant property as land zoned for corporation yard. The proposed modification would not encroach on neighboring properties and would not conflict with applicable land use plans, policies, and regulations.	No
Impact NOISE-CONSTRUCT-1: Potential for SCARF Construction to Expose Persons to or Generate Noise Levels in Excess of Standards Established in a Local General Plan or Noise Ordinance or in the Applicable Standards of Other Agencies	The EIR (pages 14-12 to 14-14) describes construction-related noise effects on nearby residences. Construction of the proposed recirculation system would require the operation of a few additional pieces of construction equipment, which could temporarily increase the noise levels at the SCARF site. However, similar to the Project, construction of the proposed recirculation system would be limited to daytime hours and would be temporary. The slight increase in noise generated by construction of the recirculation system would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Similar to the Interim Facility Recirculation System, construction of the proposed recirculation and chiller equipment near Friant Dam would result in temporary noise increases. For the same reasons described for the Interim Facility recirculation system, this Project modification would not result in new, significant impacts or increase the severity of existing impacts related to construction noise. Refer to the column to the left for additional information.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact NOISE-CONSTRUCT-2: Potential for SCARF Construction to Expose Persons to Excessive Ground-borne Vibration or Ground-borne Noise Levels	The EIR (pages 14-14 to 14-15) describes construction-related vibration effects on nearby residences. Construction of the proposed recirculation system would require the operation of a few additional pieces of construction equipment, which would temporarily increase the vibration levels at the SCARF site. However, given that Project-generated vibration levels would be substantially below the standards listed in EIR Section 14.3.1 (0.2 PPV inch per second or 94 VdB), operating a few additional pieces of equipment for the proposed recirculation system would not substantially increase vibration levels such that the Federal Transit Administration vibration standard would be exceeded. Construction of the recirculation system would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Similar to the Interim Facility Recirculation System, construction of the proposed recirculation and chiller equipment near Friant Dam would temporarily increase the vibration levels at the site. For the same reasons described for the Interim Facility recirculation system, this Project modification would not result in new, significant impacts or increase the severity of existing impacts related to construction vibration. Refer to the column to the left for additional information.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact NOISE-OP-1: Potential for SCARF Operations to Result in a Substantial Permanent Increase in Ambient Noise Levels in the Project Vicinity above Levels Existing without the Project or Result in the Generation of Noise Levels in Excess of Standards Established in a Local General Plan or Noise Ordinance or in the Applicable Standards of Other Agencies	The EIR (pages 14-15 to 14-16) describes operation-related noise effects on nearby residences. Operation of the proposed recirculation system may produce noise from the running water and operation of pumps and motors, which could be noticeable to residences to the east of the Interim Facility. Similar to the Project, implementation of Mitigation Measure NOISE-OP-1 would ensure that potential operational noise effects associated with the recirculation system would be less than significant.	The proposed recirculation and chiller equipment near Friant Dam would not be located close to any sensitive receptors. Thus, operation of the recirculation pumps is not expected to be noticeable to any nearby residences. This Project modification would not result in new, significant impacts or increase the severity of existing impacts related to operation noise.	No
Impact TR-CONSTRUCT-1: Potential Impacts on Roadway and Intersection Operating Conditions from SCARF Construction-related Traffic	The EIR (pages 16-11 to 16-12) describes potential impacts on roadway and intersection operations from SCARF construction traffic. Similar to the Project, construction of the proposed recirculation system would involve no more than 10 worker vehicles with up to 25 roundtrips per day, and no more than 22 haul-truck trips spread throughout each work day. Similar to the Project, these additional vehicles could adversely affect transportation and traffic during construction. Implementation of Mitigation Measure HAZ-CONSTRUCT-3 would reduce this impact to a less-than-significant level. The recirculation system would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Similar to the Interim Facility Recirculation System, construction of the proposed recirculation and chiller equipment near Friant Dam would temporarily increase number of worker vehicles. However, construction would last for only one to two days. Therefore, this Project modification would not result in new, significant impacts or increase the severity of existing impacts of construction-related traffic. Refer to the column to the left for additional information.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact TR-CONSTRUCT-2: Potential Impacts on Transit, Bicycle, and Pedestrian Facilities from SCARF Construction-related Traffic	Construction of the proposed recirculation system would involve additional worker vehicles and/or haul trucks, which could disrupt alternative modes of transportation on area roadways. Similar to the Project, implementation of Mitigation Measure HAZ-CONSTRUCT-3 would reduce this impact to a less-than-significant level. The recirculation system would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Construction of the proposed recirculation system at Friant Dam would involve additional worker vehicles, which could disrupt alternative modes of transportation on area roadways. However, construction would last for only one to two days and all construction equipment is on site. The recirculation system would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	No
Impact UTL-CONSTRUCT-2: Use of Water for SCARF Construction	Similar to the Project, construction of the proposed recirculation system would require a relatively minor amount of water to wet exposed ground surfaces. Therefore, this Project modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Construction of the proposed recirculation system would require a relatively minor amount of water to wet exposed, already graded ground surfaces. Therefore, this Project modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	No
Impact UTL-CONSTRUCT-3: Disposal of Solid Waste Generated during SCARF Construction	Similar to the Project, construction of the proposed recirculation system would generate a small amount of solid waste and would likely be transported to American Avenue, which has sufficient capacity. Therefore, this Project modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	Similar to the Project, construction of the proposed recirculation system would generate a small amount of solid waste and would likely be used on-site or transported to American Avenue, which has sufficient capacity. Therefore, this Project modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	No

Impact	Proposed Project Modifications		Changes Needed to Impact or Mitigation Measure?
	Interim Facility Recirculation System	Friant Dam Recirculation and Chiller Equipment	
Impact UTL-OP-1: Availability of Supplies to Accommodate Non-Potable Water Use during SCARF Operations	The EIR (pages 17-10 to 17-11) describes water supply impacts during SCARF operations. Operation of the proposed recirculation system would require approximately 0.6 cfs, which would come from the SJFH. Since this represents a decrease from 1.8 cfs (should a flow through system be in place) and because no new entitlements or resources would be needed, the proposed modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond those identified in the EIR.	The proposed new tanks and 95% recirculation system near the Friant Dam would require a water supply of 60 gallons per minute (0.13 cfs). Reclamation would provide a new water supply pipeline to connect with the existing 6-inch water lines within the Reclamation property. Since this represents a relatively minor amount of water and would be returned to the river, this Project modification would not result in new, significant impacts or increase the severity of existing impacts related to this topic beyond what was described in the EIR.	No
Impact UTL-OP-4: Stormwater Generation during SCARF Operations	As described above for Impact HYD-CONSTRUCT-3, the proposed recirculation system would result in a slight increase in impermeable surfaces. Like other Project components, runoff from this Project modification would be routed into 42-inch RCP serving the existing SJRRP. No additional stormwater facilities would be required.	As described above for Impact HYD-CONSTRUCT-3, the proposed recirculation system would not increase impermeable surfaces. Runoff from the site would follow existing drainage patterns. No additional stormwater facilities would be required.	No

5. FINDINGS

There will be no significant impact on environmental resources as a result of the four proposed Project modifications: relocation of the quarantine aspects at the SCARF, updating water usage requirements, and installation of both the Interim Facility water recirculation system and the water recirculation and chiller equipment at Reclamation property near Friant Dam, as described in Tables 1 and 2 (above) and as demonstrated by the analysis below and throughout this addendum.

Changes to the environment that occur as a result of implementation of the Project have been previously described in the EIR for the SCARF and are categorized as having the following impacts on the environment: no impact, less than significant, or less than significant with mitigation. Impacts categorized as being less than significant with mitigation are addressed by the Mitigation Monitoring and Reporting Program, which is presented as Appendix D in the EIR. Relocation of the quarantine aspects of the SCARF would not change any construction-related aspects of the Project as the tanks would still be used for rearing juvenile fish and adult holding. If the Interim Facility is used for quarantine, existing tanks and facilities proposed as part of water re-use/recirculation system installation at this facility would be repurposed for this use. If the Reclamation property is used for quarantine, construction-related effects associated with tank installation would be similar to or less severe than those disclosed for the proposed recirculation systems, and would be less than significant. Any additional construction at these two sites would have impacts similar to those previously disclosed in the EIR. Updating the water usage estimates at the SCARF would not result in a substantial increase in water demands (no more than 1.6 percent of the average simulated 2030 flow releases from Friant Dam). In addition, implementation of the Project would enable the Interim Facility to hold the anticipated quantity of fish without increasing its reliance upon water from the SJFH. Also, the proposed recirculation systems at both the Interim Facility and Reclamation's property near Friant Dam would not increase total waste above previous target levels, but allows fish production goals to be met using less water and when influent water temperatures exceed thermal objectives for salmon.

In conclusion, CDFW finds that relocation of the quarantine aspects at the SCARF, updating water usage requirements, and installation of both the Interim Facility water recirculation system and the recirculation facility and chiller equipment proposed on Reclamation's property will not result in any previously undisclosed, potentially significant effects on the environment or a substantial increase in the severity of any previously disclosed, potentially significant environmental effects. Furthermore, to the extent the potential for such effects exists, CDFW finds that adherence to and implementation of the conditions of Project approval, as well as adherence to and implementation of the conditions of approval imposed by CDFW through the issuance of the accompanying Mitigation Monitoring and Reporting Program will avoid or reduce the potential for such effects to below a level of significance. CDFW has determined that the CEQA review is sufficient and will not require preparation of a subsequent EIR.

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6. REFERENCES

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U.S. Bureau of Reclamation (Reclamation) and Department of Water Resources (DWR). 2012. San Joaquin River Restoration Program Final Program Environmental Impact Statement/Report. July. Available: http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=2940 Accessed: November 7, 2012.