CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

ORDER NO. R6V-2015-0034
NPDES NO. CA0102806

WASTE DISCHARGE REQUIREMENTS FOR THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE FISH SPRINGS FISH HATCHERY

Inyo County

The following Discharger is subject to Waste Discharge Requirements (WDRs) as set forth in this Order:

Table 1. Discharger Information

WDID	**6B140800002**
Discharger	State of California, Department of Fish and Wildlife (Primary – Facility Owner & Operator) and City of Los Angeles Department of Water and Power (for the limited purpose of inspecting supply well pumps flow measuring equipment)
Land Owner	City of Los Angeles Department of Water and Power
Name of Facility	Fish Springs Fish Hatchery
Facility Address	215 Fish Springs Road
	Big Pine, CA 93513

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude*	Discharge Point Longitude*	Receiving Water
001	Fish Hatchery and Egg Incubation Wastewater	37º, 05', 42" N	118º, 15', 17" W	Fish Springs Creek Owens Valley Ground Water Basin

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**June 10, 2015**
This Order shall become effective on:	**August 1, 2015** **(First day of the second month after adoption)**
This Order shall expire on:	**July 31, 2020** **(Effective plus 5 yrs minus 1 day)**
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations as application for issuance of new waste discharge requirements.	**January 2, 2019** **(180 days prior to expiration)**

I, Patty Z. Kouyoumdjian, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on **June 10, 2015.**

Patty Z. Kouyoumdjian

Patty Z. Kouyoumdjian, Executive Officer

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TABLES

ATTACHMENTS

I. FACILITY INFORMATION

Information describing the Fish Springs Fish Hatchery (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Lahontan Region (hereinafter (Water Board), finds:

A. Legal Authorities. This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.

B. Background and Rationale for Requirements. The Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through K are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections V.B Receiving Water Limitations, Groundwater Limitations and VI.C.4 (Construction, Operations, and Maintenance) are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. Notification of Interested Parties. The Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

E. Consideration of Public Comment. The Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes Order R6V-2006-0030 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Water Board from taking enforcement action for past violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. General Waste Discharge Prohibitions

1. The discharge of waste[a] that causes violation of any narrative or numeric water quality objective contained in the Basin Plan is prohibited.
2. Where any numeric or narrative water quality objective contained in the Basin Plan is already being violated, the discharge of waste that causes further degradation or pollution is prohibited.
3. The discharge of untreated sewage, garbage, or other solid wastes, or industrial wastes into surface waters of the Region is prohibited.
4. The discharge of hatchery wastewater except to the authorized discharge point (Discharge Point 001) is prohibited.
5. There shall be no discharge, bypass, or diversion of hatchery wastewater from the transport or treatment facilities to surface waters except as in compliance with Standard Provisions for bypass (Attachment D).
6. The discharge shall not cause pollution as defined in Section 13050 of the California Water Code, or a threatened pollution.
7. Neither the treatment nor the discharge of hatchery wastewater shall cause a nuisance as defined in Section 13050 of the Water Code.
8. The discharge shall not cause a violation of any applicable water quality standards for receiving water adopted by the Water Board or the State Water Board.
    a. The discharge of any therapeutic or pharmaceutical aquaculture drug or chemical resulting in toxicity in receiving waters is prohibited.
    b. This permit does not authorize the discharge of any pesticides in receiving waters. Unless authorized by a separate permit authorized by the Water Board, the discharge of any pesticides resulting in detectable concentrations in receiving waters is prohibited.
9. The use of any aquaculture drug or chemical not authorized for discharge in Section VI.C.2.a of this Order that may be potentially discharged to waters of the United States or of the State is prohibited. Modifications to the authorized discharge of aquaculture drugs and chemicals at the Facility may be allowed by the Water Board as specified in Section VI.C.2.a of this Order. The discharge of hazardous or toxic substances including cleaning chemicals, solvents, oil, grease or other petroleum products, is prohibited.
10. Practices that may allow accumulated sludge, grit, and solid residues to be discharged to surface waters are prohibited.
11. The discharge of pesticides to surface or ground waters is prohibited. Compliance with this prohibition will be assessed or measured by evidence of pesticide application to liquid water or by analyzing water samples (from either surface or groundwaters) for the presence of pesticides.

[a] "Waste" is defined to include any waste or deleterious material including, but not limited to, waste earthen materials (such as soil, silt, sand, clay, rock, or other organic or mineral material) and any other waste was defined in the section 13050(d) of the California Water Code.

12. Further discharge to previous discharge location EFF-002 is prohibited.

13. The discharge of waste that could affect the quality of waters of the state that is not authorized by the State or Regional Board through waste discharge requirements, waiver of waste discharge requirements, NPDES permit, cease and desist order, certification of water quality compliance pursuant to Clean Water Act section 401, or other appropriate regulatory mechanism is prohibited.

B. Storm Water Runoff and Storm Water Collection Systems Prohibitions and Requirements

1. This permit does not supersede any obligation to obtain and maintain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit) or any other permit when such permits are applicable. However, this permit does include substantive requirements applicable for the General Permit for Stormwater Discharges Associated with Industrial Activities (Industrial General Permit).

2. Unless otherwise authorized by a separate waste discharge permit or specifically authorized by this permit, discharges of material other than storm water to a separate storm sewer system, or waters of the State are prohibited. Prohibited non-storm water discharges must either be eliminated or permitted by a separate NPDES permit.

3. Non-Storm Water Discharges

   a. The following non-storm water discharges are authorized by this Order provided that they satisfy the conditions specified in Paragraph b. below: fire hydrant flushing; potable water sources, including potable water related to the operation, maintenance, or testing of potable water systems; drinking fountain water; atmospheric condensates including refrigeration, air conditioning, and compressor condensate; irrigation drainage; landscape watering; springs; groundwater; foundation or footing drainage.

   b. The non-storm water discharges as identified in Paragraph a. above are authorized by this Order if all the following conditions are met:

      i. The non-storm water discharges are in compliance with the Basin Plan requirements.

      ii. Best Management Practices (BMPs) are specifically included in the Storm Water Pollution Prevention Plan (SWPPP) to (1) prevent or reduce the contact of non-storm water discharges with materials or equipment which may contribute contaminants to the discharge and (2) minimize, to the extent practicable, the flow or volume of non-storm water discharges.

      iii. The monitoring program includes quarterly visual observations of each non-storm water discharge and its sources to ensure that BMPs are being implemented and are effective.

      iv. The non-storm water discharges are reported and described in the subsequent quarterly report and are summarized in the annual report.

4. Unless specifically granted, authorization pursuant to this permit does not constitute an exemption to applicable discharge prohibitions in the Basin Plan.

5. Chemical storage and use containers not designed for outdoor use must be protected from exposure to storm water.

6. Liquids that may spill, leak, or leach from materials and or equipment used in the Facility must be protected from exposure to storm water.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

a. The discharge of fish hatchery wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached Monitoring and Reporting Program (Attachment E):

Table 4.. Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	6.0 Net over influent concentration[1]	--	--	15.0
Priority Pollutants – none					
Non-Conventional Pollutants					
Flow	mgd [2]	26	--	--	--
Formaldehyde	mg/L	0.65	1.3	--	--
Hydrogen Peroxide	mg/L		1.3	--	--
Nitrate, Total (as N)	mg/L	--	--	--	1.0 [3]
Nitrogen, Total (as N)	mg/L	--	--	--	1.8 [3]
Potassium Permanganate	mg/L	0.12	0.25	--	--
Settleable Solids	mg/L	0.1	--	--	--
Total Dissolved Solids (TDS)	mg/L	--	--	--	265 [3]

[1] Report compliance with respect to the limit as:
Effluent Limit = Influent Concentration + Allowed Net Over Influent Concentration

[2] mgd = million gallons per day

[3] Effluent limitations for Nitrate (as N), Total nitrogen (as N), and Total Dissolved Solids are equal to the instantaneous maximum value. Where the influent water concentration equals or exceeds this value, then the effluent limitation is equal to the influent quality. Report compliance with respect to the limit as:
Effluent Limit = Instantaneous Maximum; Not to Exceed Influent Supply Water Concentration

2. Interim Effluent Limitations – Not Applicable

B. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. This Discharger shall not cause or contribute to a violation of any applicable water quality standard for receiving water adopted by the Water Board or the State Water Board as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the federal Clean Water Act or amendments thereto, the Water Board may revise and modify this Order in accordance with such more stringent standards.

2. The following receiving water limitations are based on water quality objectives contained in the Basin Plan which apply to all surface waters (including wetlands) within the Lahontan Region and are a required part of this Order. The discharge shall not cause or contribute to the following in Fish Springs Creek:

   a. **Ammonia**: The neutral, unionized ammonia species (NH_3) is highly toxic to freshwater fish. The fraction of toxic NH_3 to total ammonia species (NH_4 + NH_3) is a function of temperature and pH.

      Ammonia concentrations shall not exceed the values listed for the corresponding conditions in Attachment G, Table G-1G-2. For temperature and pH values not explicitly in these tables, the most conservative value neighboring the actual value may be used or criteria can be calculated from numerical formulas available on page 3-4 of the Basin Plan.

   b. **Bacteria, Coliform:** Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes. The fecal coliform concentration during any 30-day period shall not exceed a log mean of 20/100 ml, nor shall more than 10 percent of all samples collected during any 30-day period exceed 40/100 ml.

   c. **Biostimulatory Substances:** Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.

   d. **Chemical Constituents:** Waters shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses.

      i. The receiving waters have been designated as municipal and domestic supply (MUN) and shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) established for drinking water and specified in Title 22 of the California Code of Regulations – Table 64431-A (MCLs for Inorganic Chemicals), Table 64444-A (MCLs for Organic Chemicals), Table 64449-A (Secondary MCLs, Consumer Acceptance Limits), and Table 64449-B (Secondary MCLs, Ranges).

This incorporation-by-reference is prospective and therefore includes future changes to the incorporated provisions, as changes take effect.

ii. Waters designated as agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect the water for agricultural use.

e. **Chlorine, Total Residual:** For the protections of aquatic life, total chlorine residual shall not exceed either a median value of 0.002 mg/L or a maximum value of 0.003 mg/L. Median values shall be based on daily measurements taken within any six-month period.

f. **Color:** Waters shall be free of coloration that causes nuisance or adversely affects the water for beneficial uses**.**

g. **Dissolved Oxygen:** The dissolved oxygen concentration, as percent saturation, shall not be depressed by more than 10 percent, nor shall the minimum dissolved oxygen concentration be less than 80 percent of saturation. The minimum dissolved oxygen concentration shall not be less than that specified for "COLD" beneficial use class in Table 3 in Attachment G of this Order.

h. **Floating Materials:** Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses. The concentrations of floating material shall not be altered to the extent that such alterations are discernable at the 10 percent significance level.

i. **Nondegradation of Aquatic Communities and Populations:** All wetlands shall be free from substances attributable to wastewater or other discharges that produce adverse physiological responses in humans, animals, or plants; or which lead to the presence of undesirable or nuisance aquatic life. All wetlands shall be free from activities that would substantially impair the biological community as it naturally occurs due to physical, chemical and hydrological processes.

j. **Oil and Grease:** Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect the water for beneficial uses. The concentration of oils, greases, or other film or coat generating substances in the receiving waters shall not be altered.

k. **pH:** Changes in normal ambient pH levels shall not exceed 0.5 pH units, nor shall the effluent contribute to the ambient pH exceeding the range between 6.5 and 8.5. The Water Board recognizes that some waters of the Region may have natural pH levels outside of the 6.5 to 8.5 range. Compliance with the pH objective for these waters will be determined on a sampling event by sampling event basis.

l. **Radioactivity:** Radionuclides shall not be present in concentrations which are deleterious to human, plant, animal, or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life. Waters shall not contain concentrations of radionuclides in excess of limits listed in the

subsequent table as specified in Title 22 of the California Code of Regulations:

Table 5.. Radioactivity Numerical Limitations

Constituent	Limit
Radioactivity, Gross Alpha	15 pCi/L
Radium-226 + Radium-228	5 pCi/L

m. **Sediment:** The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses.

n. **Taste and Odor**: Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish or other edible products of aquatic origin, that cause nuisance, or that adversely affect the water for beneficial uses. The taste and odor of waters shall not be altered.

o. **Temperature:** The natural receiving water temperature shall not be altered.

p. **Toxicity:** Waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for "experimental water" as defined in "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association, et al. 1998).

q. **Turbidity:** Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.

3. **Specific Numeric Surface Water Limitations for the Owens River above Tinemaha Reservoir Outlet**

Table 6, below, from Table 3-17 of the Basin Plan, describes limitations applicable to surface waters tributary to the Owens River. For Fish Springs Creek, the specific surface water limitations that apply are the limitations set at the Owens River above the Tinemaha Reservoir Outlet. Discharges from the Facility shall not cause or contribute to exceedances of the following limitations.

Fish Springs Creek is formed primarily from the comingled discharge of various groundwater wells pumped by the City of Los Angeles Department of Water and Power. Groundwater is pumped from hatchery supply wells and conveyed to the race ways via piping through Fish Springs Hatchery. Other wells located to the north and south of the hatchery discharge into canals that flow towards the hatchery. The confluence of these three surface water features (Big Pine canal from north, Fish Springs Creek hatchery discharge, and unnamed canal from south) forms Fish Springs Creek primarily from pumped groundwater.

The pumped groundwater contains natural constituents (primarily total dissolved solids and nitrate) in concentrations that exceed the numerical receiving water limitations set below the hatchery for the Owens River (at Tinemaha Reservoir).

In addition to surface water runoff from the eastern slope of the Sierra Nevada Mountains, the City of Los Angeles Department of Water and Power conveys pumped groundwater in the Owens Valley through surface water features to the Owens River. The water pumped by the City of Los Angeles groundwater production wells is regulated under terms of a stipulated legal agreement between the City of Los Angeles and Inyo County. Further agreements exist between the City of Los Angeles and California Department of Fish and Wildlife to satisfy compensatory mitigation measures of the stipulated legal agreement. The City of Los Angeles could continue discharging to Fish Springs Creek whether the hatchery used the water or not. Because surface and groundwater in the Upper Owens Hydrologic Area (Department of Water Resources # 603.2) are interconnected, the intake water (pumped groundwater) and receiving water (Fish Springs Creek) are the same water body. Prior to groundwater pumping in this area, groundwater naturally contributed to Fish Springs Creek surface water flows.

The Water Board recognizes these limitations may not be appropriate for Fish Springs Creek below the hatchery. The Water Board intends to consider future numerical site specific objectives for Fish Springs Creek and will exercise appropriate enforcement discretion before pursuing enforcement action for violations of the following numeric receiving water limitations until site specific objectives for Fish Springs Creek are adopted.

Table 6.. Surface Water Limitations

Constituent	Limit (mg/L)	
	Annual Average	90th Percentile
Total Dissolved Solids (TDS)	207	343
Chloride	17.9	42
Sulfate	26.8	59
Fluoride	0.57	0.9
Boron	0.61	1.5
Nitrate (NO3) as N	0.6 as N	1.1 as N
Total Nitrogen	0.9 as N	1.5 as N
Orthophosphate Dissolved (as P)	0.32	0.56

B. GROUNDWATER LIMITATIONS

The Discharger shall not cause or contribute to a violation or exceedance of these groundwater limitations, which are based on water quality objectives contained in the Basin Plan (pages 3-11 and 3-12) and are a required part of this Order. Water quality objectives that apply to the Owens Valley Ground Water Basin include the following:

1. **Bacteria, Coliform:** The median concentration of coliform organisms over any 7-day period shall be less than 1.1 MPN per 100 milliliters.
2. **Chemical Constituents:** Groundwaters shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) based upon drinking water standards specified in Title 22 of the California Code of Regulations.
3. Waters shall not contain concentrations of chemical constituents in amounts that adversely affect the water for agricultural purposes.
4. Ground waters shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.
5. **Radioactivity:** Groundwaters shall not contain concentrations of radionuclides in excess of the limits specified below:

Table 7.. Surface Water Limitations

Constituent	Limit
Radioactivity, Gross Alpha	15 pCi/L
Radium-226 + Radium-228	5 pCi/L

6. **Taste and Odor:** Groundwaters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses. At a minimum, concentrations shall not exceed adopted secondary maximum contaminant levels specified in Title 22 of the California Code of Regulations.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.**
2. **Water Board Standard Provisions for WDRs. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:**
3. **Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.**

   a. Reporting Requirements

      i. Pursuant to Water Code section 13267(b), and Attachment D, the Discharger shall immediately notify the Water Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within 5 days of the time the Discharger becomes aware of the circumstances. An adverse condition includes,

but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.

ii. Pursuant to Water Code section 13260(c), and Attachment D, any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Water Board at least 140 days in advance of implementation of such proposal.

iii. The owner(s) of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with WDRs in the operations or use of the owned property. Pursuant to Water Code section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Water Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Water Board.

iv. If the Discharger becomes aware that any information submitted to the Water Board is incorrect, the Discharger shall immediately notify the Water Board, in writing, and correct the information.

v. Reports required by the WDRs, and other information requested by the Water Board, must be signed by a duly authorized representative of the Discharger. Under section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1000) for each day of violation.

vi. If the Discharger becomes aware that their WDRs are no longer needed (because the Discharge will cease) the Discharger shall notify the Water Board in writing and request that their waste discharge requirements be rescinded.

b. Right to Revise Waste Discharge Requirements

The Water Board reserves the right to revise all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all interested parties.

c. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

d. Waste Discharge Requirements Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation, and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDR conditions.

e. Enforcement

The Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

f. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

g. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

h. Definitions

i. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

ii. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

i. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency from a storm or flood having a recurrence interval of once in 100 years.

B. Monitoring and Reporting Program Requirements

The Discharger and Landowner shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

a. If new applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Water Board will revise and modify this Order in accordance with such standards.

b. If toxicity testing, or information specified below in Section VI.C.2 of this Order, or the drug and chemical use reporting required in the Monitoring and Reporting Program (Attachment E) indicates that any drug or chemical is, or may be, discharged at a level that will cause, have the reasonable potential to cause, or contribute to an in stream excursion above any chemical-specific water quality criteria or objective, narrative water quality objective for chemical constituents from the Basin Plan, or narrative water quality objective for toxicity from the Basin Plan, this Order may be reopened to establish effluent limitations.

c. Toxicity testing requirements, as specified in Section VI.C.2. of this Order, are based on exposure times of 48 or 96 hours. If the Discharger provides sufficient justification that shorter exposure times are a closer approximation of actual exposure times, then this Order may be reopened to account for shorter exposure times.

d. If effluent monitoring data for chloride, sulfate, fluoride, phosphorous or boron indicates the discharge may cause, have the reasonable potential to cause, or contribute to an excursion of the numeric Water Quality Objectives or narrative Water Quality Objectives contained in the Basin Plan for the Owens River (above Tinemaha Reservoir), or the Water Board establishes new site Specific Objectives for Fish Springs Creek, then this Order may be reopened to establish effluent limitations for these parameters. Influent data will also be collected as part of this permit cycle and may be used to establish intake credits in future permits.

2. Special Studies and Additional Monitoring Requirements

a. **Chemical and Aquaculture Drug Use**

Attachment H of this Order lists all aquaculture drugs and chemicals that may potentially be used at the Facility, as well as expected application methods and dosages. This Order authorizes the discharge of oxytetracycline, penicillin G, florfenicol, amoxycillin trihydrate, erythromycin, vibrio vaccine (not discharged/directly injected), enteric redmouth bacterin (not discharged/directly injected), Romet-30, MS-222, PVP Iodine, formaldehyde, hydrogen peroxide, potassium permanganate, sodium chloride, acetic acid, and Chloramine-T to surface waters in accordance with label directions, effluent limitations, best management plan requirements, monitoring and reporting requirements and other conditions of this Order.

Other aquaculture chemicals or drugs that may enter the wastewater discharge can only be authorized if the Discharger notifies the Water Board in writing of the intent to use a new drug or chemical. The notification shall contain the following supplemental information:

i. The common name(s) and active ingredient(s) of the drug or chemical proposed for use and discharge.

ii. The purpose for the proposed use of the drug or chemical (i.e. list the specific disease for treatment and specific species for treatment).

iii. The amount proposed for use or disposal, and the resulting calculated estimate of concentration in the discharge. Calculations used to derive estimated concentrations must also be submitted.

iv. The location, duration, and frequency of the proposed use or disposal.

v. Material Safety Data Sheets and available toxicity information.

vi. Any related Investigational New Animal Drug (INAD), New Animal Drug Application (NADA) information, extra-label use requirements and/or veterinarian prescriptions.

The Discharger shall also submit acute toxicity test information on any new chemical or drug applied in solution for immersive treatment in accordance with methods specified in the USEPA Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA 600/4-90/027) using Ceriodaphnia dubia (C. dubia) to determine the No Observed Adverse Effect Level (NOAEL) and Lowest Observed Adverse Effect Level (LOAEL).

Where exposure of aquatic life to any aquaculture drug or chemical may be long-term or continuous, the Discharger also shall conduct and/or submit the results of chronic toxicity testing in accordance with EPA/21-R-02-013, Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002, using C. dubia, to determine the No Observed Effect Concentration (NOEC) or Inhibition Concentration (IC25).

b. **Reporting of Unanticipated Discharges**

i. The Discharger shall provide to the Water Board an oral report within 24 hours of discovery of the failure in, or damage to an aquatic animal containment system resulting in an unanticipated material discharge of pollutants to waters of the United States or State. The Discharger must describe the cause of the failure or damage to the containment system and identify materials that have been released to the environment as a result of this failure/damage.

ii. The Discharger must provide a written report within 7 days of discovery of the failure or damage, documenting the cause, the estimated time that elapsed before the failure or damage was repaired, an estimate of the material released as a result of the failure or damage, and steps being taken to prevent a reoccurrence.

iii. In the event of a spill of drugs, chemicals, pesticides, or feed that results in a discharge to waters of the United States or State, the Discharger must provide an oral report of the spill to the Water Board within 24 hours of discovery of its occurrence and a written report within 7 days. The report shall include the identity and quantity of the material spilled.

3. Best Management Practices and Pollution Prevention

The Discharger shall implement a Best Management Practices (BMP) Plan to include the requirements specified in this Order and as required by 40 CFR Part 451.3(d). An existing BMP plan may be modified for use under this section. The Discharger shall develop and implement the BMP Plan to prevent or minimize the generation and discharge of wastes and pollutants to waters of the United States and waters of the State and ensure disposal or land application of wastes is in compliance with applicable solid waste disposal regulations. The Discharger shall review and certify the BMP Plan in writing to the Water Board and must amend and re-certify the BMP Plan whenever there is a change in the Facility or in the operation of the Facility that materially increases the generation of pollutants or their release or potential release to surface waters.

a. **Best Management Practices (BMP) Plan - Aquaculture Operations**

The BMP plan must include, at a minimum, the following BMPs:

i. **Solids Management**

(a) Conduct fish feeding a manner that limits feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth and

minimizes the discharge of unconsumed food and waste products to surface waters.

(b) Clean aquaculture raceways and sediment pond using procedures and at frequencies that minimize the disturbance and subsequent discharge of accumulated solids during routine activities such as inventorying, grading, and harvesting.

(c) Report the final disposition of all other solids and liquids, including aquaculture drugs and chemicals, not discharged to surface waters in the effluent.

(d) Fish mortalities must be removed and properly disposed of on a regular basis to prevent discharge to waters of the U.S., except in cases where the discharge to surface waters is determined to benefit the aquatic environment. Procedures must be identified and implemented to collect, store, and dispose of fish and other solid wastes in an environmentally safe manner and in manner so as to minimize discharge to waters of the United States or waters of the State.

ii. **Operations and Maintenance**

(a) Maintain facility and wastewater treatment technologies to prevent the overflow of any floating matter or bypassing of treatment technologies.

(b) Inspect the facility and the wastewater treatment system on a routine basis in order to identify and promptly repair any damage.

(c) Ensure storage and containment of drugs, chemicals, fuel, waste oil, organic wastes, pesticides/biocides, or other materials to prevent spillage or release into the aquatic animal production Facility, waters of the United States, or waters of the State.

(d) Implement procedures for properly containing, cleaning, and disposing of any spilled material.

(e) Prevent fish from being released within the U.S. Food and Drug Administration (FDA) required withdrawal time of any drug or chemical with which they have been treated.

(f) All drugs and pesticides must be used in accordance with applicable label directions (FIFRA or FDA), except under the following conditions, both of which must be reported in advance to the Executive Officer:

(g) Participation in Investigational New Animal Drug (INAD) studies, using established protocols; or

(h) Extra label drug use, as prescribed by a veterinarian.

(i) Limit the number of raceways treated during chemical treatments to insure compliance with effluent limitations and provisions of this Order.

(j) Implement protocols to ensure that pesticides stored or used on site will not spill, drift, or transport by stormwater into the discharge, into waters of the US, or into waters of the State.

iii. **Recordkeeping**

(a) Maintain records for aquatic animal rearing units documenting the feed amounts and estimates of the numbers and weight of aquatic animals in order to calculate representative feed conversion ratios.

(b) Maintain records documenting the frequency of cleaning, inspections, maintenance and repairs.

(c) Maintain records documenting compliance with training requirements.

iv. **Training**

(a) Adequately train all relevant Facility personnel in spill prevention and how to respond in the event of a spill in order to ensure the proper clean-up and disposal of spilled material.

(b) Train staff on the proper operation and cleaning of production and wastewater treatment systems, including training in feeding procedures and proper use of equipment.

(c) The Discharger shall ensure that its operations staff are familiar with the BMP Plan and have been adequately trained in the specific procedures it requires.

b. **Best Management Practices (BMP) Plan - Storm Water Pollution Prevention Plan (SWPPP)**

Storm water runoff and infiltration of storm water at the Facility has the potential to come in contact with pollutants directly associated with aquaculture activities and secondary activities such as, but not limited to: vehicle maintenance, transportation of fish, construction, maintenance of structures on the Facility, or outdoor storage of unused or salvaged items. Pollutants that may come in contact with storm water and discharge to waters of the State in runoff or infiltration to groundwater include, but are not limited to, chemicals, fuel, waste oil, vehicle wash water, cleaning solutions, landscaping supplies, landscaping wastes, and storage of other materials with the potential for discharge to surface waters. The Discharger shall develop, and implement in accordance with the requirements in Attachment K, a SWPPP that describes site-specific BMPs for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State. The SWPPP must be reviewed at least annually, in accordance with Attachment K, and updated to represent current site conditions.

4. Compliance Schedules – Not Applicable

5. Construction, Operation and Maintenance Specifications

a. Collected screenings, sludges, and other solids, including fish carcasses, shall be disposed of in a manner approved by the Executive Officer and consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.

b. All aquaculture drugs and chemicals not discharged to receiving waters in accordance with the provisions of this Order shall be disposed of in an

environmentally safe manner, according to label guidelines, Material Safety Data Sheet guidelines and the Discharger's BMP Plan (see Section VI.C.3. of this Order). Any other form of disposal requires approval from the Executive Officer. For all aquaculture drugs and chemicals not authorized for discharge to receiving waters, the disposal onto permeable ground, or in any manner or in quantities that may result in a discharge to surface water or to groundwater, is prohibited (see also Section III, Discharge Prohibitions).

c. All facilities used for transport and treatment of hatchery wastewater shall be adequately protected against either structural damage or significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

d. The vertical distance between the water surface elevation and the lowest point of a pond dike or the invert of an overflow structure shall not be less than 2 feet (0.46 meters).

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Other Special Provisions - Order Continuation After Expiration Date

If this Order is not revised and renewed prior to expiration, then the Order shall be continued until revised and renewed, provided that compliance with the requirements contained herein is maintained and that the Discharger has applied for renewal of the Order at least 180 days prior to the expiration date.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. Limitation Bases

1. **Average Monthly Effluent Limitation (AMEL).**

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month. The Discharger will calculate and report the net effluent over influent concentration as necessary for constituents with Intake credits. Additional samples, above specified minimum, may be collected to demonstrate compliance.

2. **Maximum Daily Effluent Limitation (MDEL).**

If a daily discharge exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that calendar day.

3. **Instantaneous Minimum Effluent Limitation.**

   If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken at different times within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation). Duplicate samples taken at the same time and location for QA/QC purposes will not be subject to duplicate fines. QA/QC includes splitting a sample and/or collection of duplicate samples for analysis by a different laboratory. Reanalysis of samples after re-calibration and maintenance of field test instruments will not be subject to duplicate fines.

4. **Instantaneous Maximum Effluent Limitation.**

   If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample, unless the influent supply water equals or exceeds the instantaneous maximum effluent limitation. In that case, the effluent concentration may not exceed the influent supply water concentration, for those parameter listed in Table 4, Footnote 3, and for that sampling event only. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken different times within a calendar day that both exceed the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation). Duplicate samples taken at the same time and location for QA/QC purposes will not be subject to duplicate fines. QA/QC includes splitting a sample and/or collection of duplicate samples for analysis by a different laboratory. Reanalysis of samples after re-calibration and maintenance of field test instruments will not be subject to duplicate fines. The Discharger will calculate and report whether the influent supply water concentration equals or exceeds the instantaneous maximum effluent limitation.

B. INTAKE CREDIT FOR Pollutants

The Water Board determines that pollutant intake water credits are allowed on a pollutant-by-pollutant and discharge-by-discharge basis for the constituents listed below if the influent supply water concentration exceeds the instantaneous maximum effluent limitation. Water Board staff compiled data provided by the CA DFW (Attachment L) from submitted self-monitoring reports to describe: Effluent Quality (Table 1), Influent Supply Water Quality (Table 2), and Receiving Water Quality (Table 3). The following analysis demonstrates that criteria for pollutant intake credits are satisfied and meet 40 CFR 122.45(g).

1. The observed maximum ambient background concentration, and the intake water concentration of the pollutant exceeds the most stringent applicable objective for that pollutant;

Constituent	***Maximum Intake (mg/L) (average 1994-2014)***	***Objective (mg/L) (average 1994-2014)***
Nitrate, Total (as N)	*0.986 (06/11/06)*	*0.6*
Nitrogen, Total (as N)	*0.785 (11/04/13)*	*0.9*
Total Dissolved Solids	*291 (12/02/96)*	*207*

This comparison is made using Table 2 (CA DFW) and Table 6 (Permit). This condition is satisfied, except that the maximum observed influent supply water concentration for total nitrogen (as N) is less than the receiving water objective. However, the data set is incomplete, total nitrogen is naturally occurring in supply groundwater over which the discharger has no control, and the discharger uses best practicable treatment or control (settling ponds) for solids removal.

2. The intake water credits provided are consistent with any TMDL applicable to the discharge that has been approved by the Water Board, State Water Board, and U.S. EPA;

   There are no applicable TMDLs. This condition is satisfied.

3. The intake water is from the same water body as the receiving water body. The Discharger may demonstrate this condition by showing that:

   a. The ambient background concentration of the pollutant in the receiving water, excluding any amount of the pollutant in the facility's discharge, is similar to that of the intake water;

Constituent	***Receiving Water (mg/L) (average 1994-2014)***	***Intake Water (mg/L) (average 1994-2014)***
Nitrate, Total (as N)	*0.8*	*0.8*
Nitrogen, Total (as N)	*0.6*	*0.5*
Total Dissolved Solids	*230.5*	*234*

This comparison is made using Table 3 (CA DFW - Receiving) and Table 2 (CA DFW - Supply). This condition is satisfied.

   b. There is a direct hydrological connection between the intake and discharge points;

      The surface and groundwaters of the Upper Owens Hydrologic Areas are interconnected. This is further explained in the Fact Sheet. This condition is satisfied.

   c. the water quality characteristics are similar in the intake and receiving waters; and

Constituent	***Effluent Water (mg/L) (average 1994-2014)***	***Intake Water (mg/L) (average 1994-2014)***
Nitrate, Total (as N)	*0.75*	*0.8*
Nitrogen, Total (as N)	*1.1*	*0.5*
Total Dissolved Solids	*218*	*234*

This comparison is made using Table 1 (CA DFW - Effluent) and Table 2 (CA DFW – Supply). The intake supply water (pumped groundwater) flows through the hatchery and forms the headwaters of Fish Springs Creek (receiving water). Other pumped or diverted water enters, and alters, Fish Springs Creek just downstream of the hatchery discharge location. In the previous permit, effluent data were used to represent receiving water quality. In some historical permits, receiving water data were collected immediately below the effluent discharge location. Comparing total nitrogen for average intake (0.5 mg/L), effluent (1.1 mg/L), and receiving (0.6 mg/L), indicates that hatchery discharges may increase the concentration in the receiving water.

However, the maximum total nitrogen for the intake water (0.785 mg/L) exceeds the average total nitrogen for the receiving water (0.6 mg/L), yet remains below the maximum total nitrogen for the receiving water (1.27 mg/L), the total nitrogen receiving water objective (0.9 mg/L), and the effluent limitation (1.8 mg/L). This condition is satisfied.

d. The intake water pollutant would have reached the vicinity of the discharge point in the receiving water within a reasonable period of time and with the same effect had it not been diverted by the Discharger.

Historically Fish Springs formed the headwaters of Fish Springs Creek. Whether the hatchery existed or not, the City of Los Angeles Department of Water and Power would likely continue pumping groundwater to be discharged into Fish Springs Creek at this location. Additionally, the hatchery operates under terms of a court agreement requiring the City of Los Angeles Department of Water and Power to support CA DFW hatcheries in the Owens River valley. This condition is satisfied.

4. The Water Board may also consider other factors when determining whether the intake water is from the same water body as the receiving water body;

The Water Board has considered that: (1) the receiving water quality objectives set for the Owens River at Tinemaha Reservoir may not be representative of Fish Springs Creek, (2) the hatchery has no control over the intake supply water quality, (3) discharge from pumped groundwater into Fish Springs Creek would occur whether the hatchery was present or not, (4) and the hatchery does not increase concentrations for the constituents of concern, except for a slight increase in total nitrogen. Yet with the allowed intake credit, effluent concentrations for total nitrogen would likely remain below the receiving water objective (assuming the intake supply water equals the maximum observed concentration of 0.785 mg/L, yet remain below the effluent limitation of 1.8 mg/L). Further, with drought conditions, it is possible the supply water concentrations for total nitrogen may increase if deeper groundwater of lower quality is pumped. This condition is satisfied.

5. The Facility does not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses; and

There is no evidence that water quality of beneficial uses in the receiving water have been impaired. This condition is satisfied.

6. The timing and location of the discharge does not cause adverse effects on water quality and beneficial uses that would not occur if the intake water pollutant had been left in the receiving water body.

The discharge is a result of pumped groundwater flowing through the hatchery operations to the same point the former Fish Springs discharged to form the headwaters of Fish Springs Creek. The detention time for water flowing through the hatchery is insignificant. This condition is satisfied.

7. Where the above conditions are met, the Water Board may establish effluent limitations allowing the facility to discharge a mass and concentration of the intake water pollutant that is no greater than the mass and concentration found in the facility's intake water. A Discharger may add mass of the pollutant to its waste stream if an equal or greater mass is removed prior to discharge, so there is no net addition of the pollutant in the discharge compared to the intake water. Where

proper operation and maintenance of a facility's treatment system results in the removal of an intake water pollutant, the Water Board may establish limitations that reflect the lower mass and concentration of the pollutant achieved by such treatment.

The only pollutants added from the hatchery are fish waste solids, which are removed through settling ponds. This condition is satisfied.

8. Where intake water for a facility is provided by a municipal water supply system and the supplier provides treatment of the raw water that removes an intake water pollutant, the concentration of the intake water pollutant shall be determined at the point where the water enters the water supplier's distribution system.

   This condition is not applicable.

9. Where a facility discharges pollutants from multiple sources that originate from the receiving water body and from other water bodies, the Water Board may derive an effluent limitation reflecting the flow-weighted amount of each source of the pollutant provided that adequate monitoring to determine compliance can be established and is included in the permit.

   This condition is not applicable.

10. When calculating the flow-weighted effluent limitation, the pollutant from the receiving water body shall be assumed to have a concentration that is no greater than the concentration in the facility's intake water; the same pollutant from other sources shall be assumed to have a concentration that is no greater than the most stringent applicable criterion/objective. The permit shall specify how compliance with mass- and concentration-based limitations for the intake water pollutant will be assessed. This may be done by basing the effluent limitation or receiving water limitation on ambient background concentration data. Alternatively, the Water Board may determine compliance by simultaneously monitoring the pollutant concentrations in the intake water and in the effluent. This monitoring may be supplemented by monitoring internal waste streams or by a Water Board evaluation of the use of best management practices.

    Footnotes to the Effluent Limitations Table 4 describe how compliance will be assessed. This condition is satisfied.

Intentionally Blank

A.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)

The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative

Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic

Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)

CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for

purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)

DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)

ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters

All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation

The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation

The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median

The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = ($X_{n/2}$ + $X_{(n/2)+1}$)/2 (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)

MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)

Sample results which are less than the laboratory's MDL.

Persistent Pollutants

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Water Board.

Reporting Level (RL)

The RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Source of Drinking Water

Any water designated as municipal or domestic supply (MUN) in the Water Board**'s** Basin Plan.

Standard Deviation (σ)

Standard Deviation is a measure of variability that is calculated as follows:

$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

Toxicity Reduction Evaluation (TRE)

TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

ACRONYMS & ABBREVIATIONS

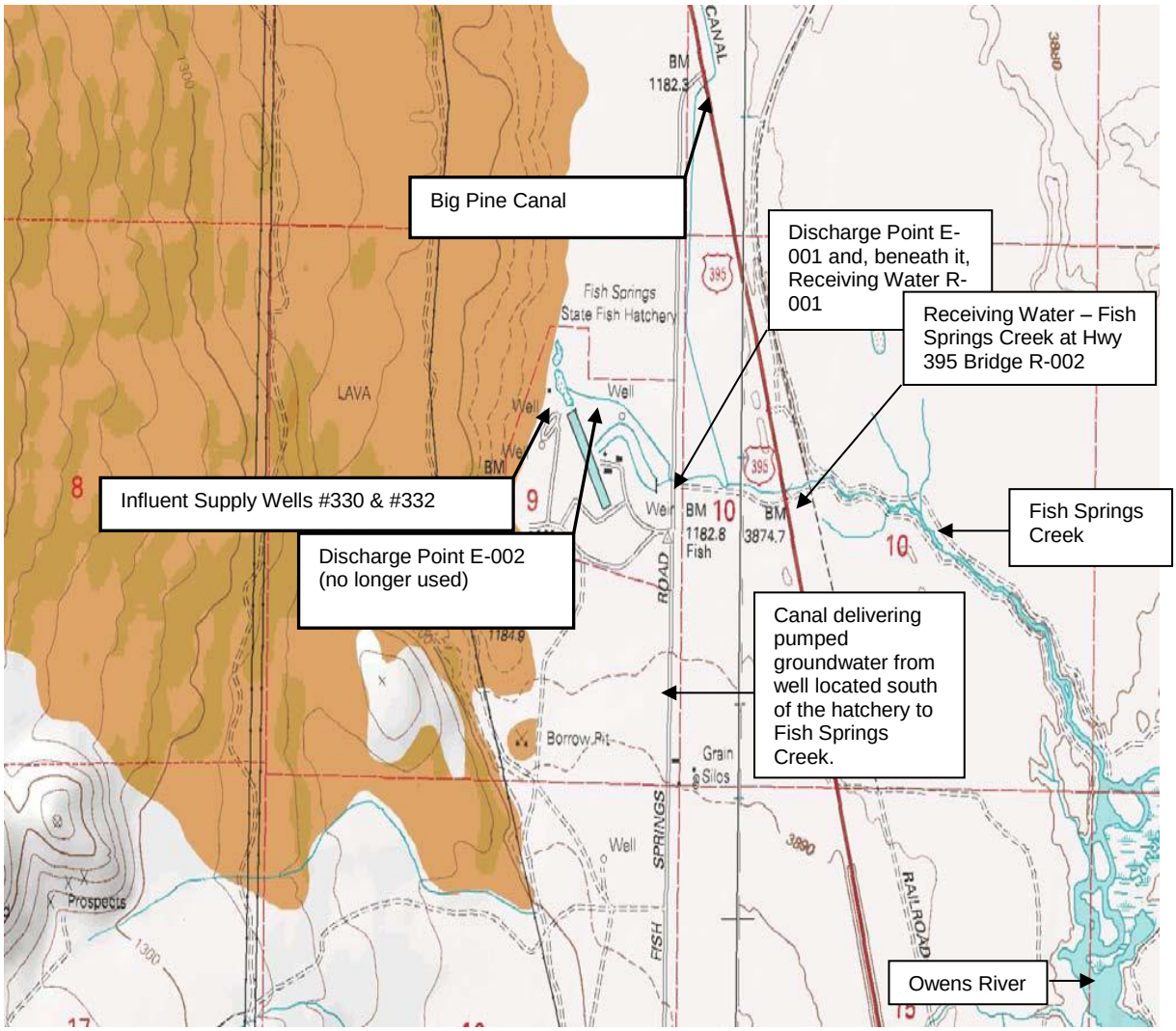
AMEL Average Monthly Effluent Limitation Background Concentration
BAT Best Available Technology Economically Achievable
BCT Best Conventional Pollutant Control Technology
BMP Best Management Practices
BOD Biochemical Oxygen Demand
BPJ Best Professional Judgment
BPT Best practicable treatment control technology
C Water Quality Objective
CAAP Concentrated Aquatic Animal Production
CCC Criterion Continuous Concentration
CCR California Code of Regulations
CEQA California Environmental Quality Act
CFR Code of Federal Regulations
CFS Cubic Feet Per Second
CMC Criterion Maximum Concentration
CTR California Toxics Rule
CV Coefficient of Variation
CVM Center for Veterinary Medicine
CWA Clean Water Act
CWC California Water Code
DFW Department of Fish and Wildlife
DPH State of California Department of Public Health
DMR Discharge Monitoring Report
EC Electrical Conductivity
ECA Effluent Concentration Allowance
ELAP California Department of Health Services Environmental Laboratory Accreditation Program
ELG Effluent Limitations, Guidelines and Standards
FDA United States Food and Drug Administration
GPD Gallons Per Day
IC25 Inhibition Concentration (25%)
I**NAD** Investigational New Animal Drug
IRIS Integrated Risk Information System
LA Load Allocations
LC50 Lethal Concentration (50%)
LOAEL Lowest Observed Adverse Effect Level
LOEC Lowest Observed Effect Concentration
LRP Low Regulatory Priority
LTA Long-Term Average
MCL Maximum Contaminant Level
MDEL Maximum Daily Effluent Limitation
MDL Method Detection Limit
MEC Maximum Observed Effluent Concentration
MGD Million Gallons Per Day
mg/L Milligrams Per Liter
ML Minimum Level
MPN Most Probable Number
MRP Monitoring and Reporting Program
NADA New Animal Drug Application
ND Not Detected

NOAEL No Observed Adverse Effect Level
NOEC No Observable Effect Concentration
NPDES National Pollutant Discharge Elimination System
NSPS New Source Performance Standards
NTR National Toxics Rule
POTW Publicly-Owned Treatment Works
PPM Parts Per Million
QA Quality Assurance
QA/QC Quality Assurance/Quality Control
RPA Reasonable Potential Analysis
ROWD Report of Waste Discharge
RWQCB Regional Water Quality Control Board or Water Board
SIP State Implementation Policy

(Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California)

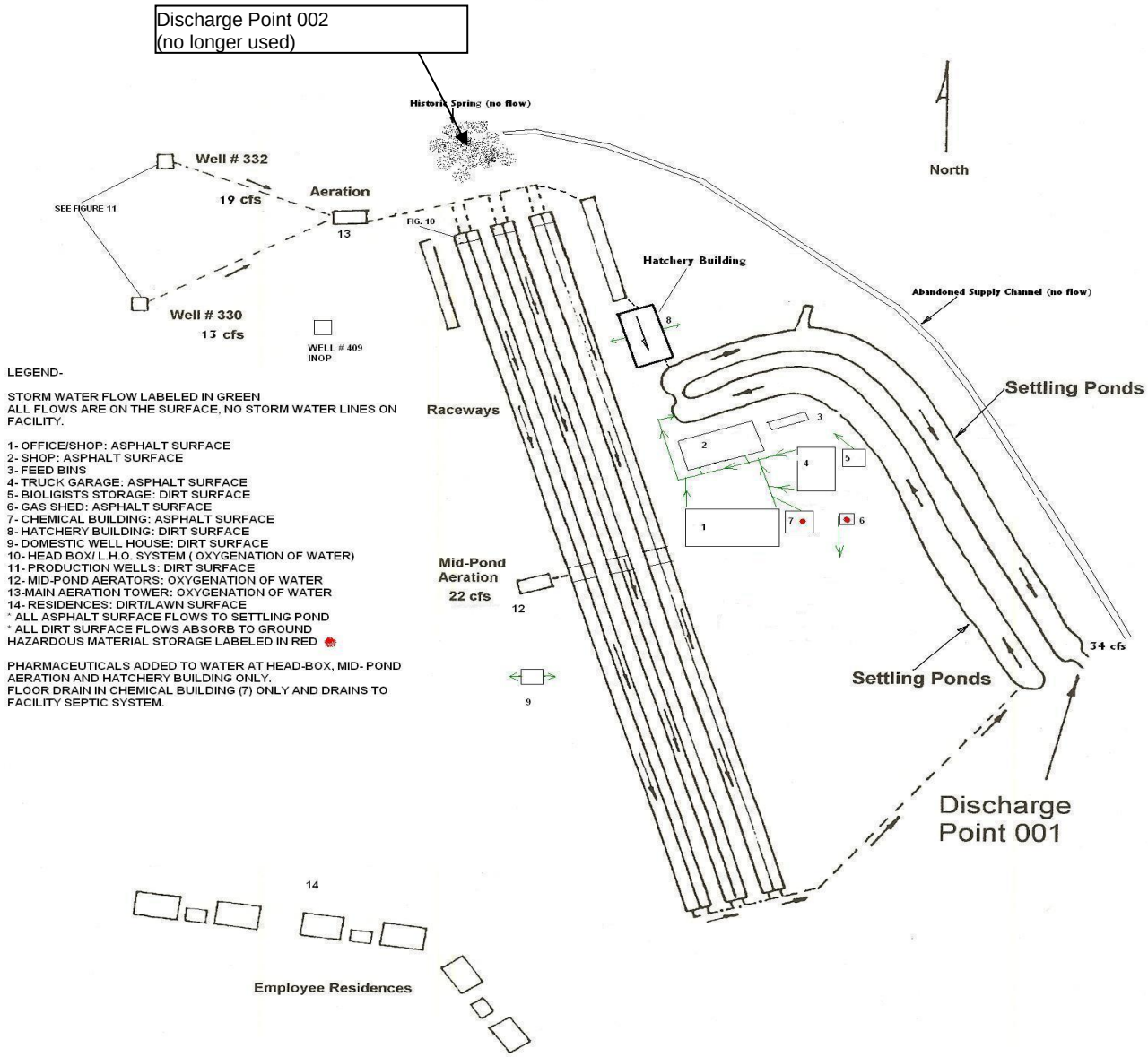
SMCL Secondary Maximum Contaminant Level
SMR Self-Monitoring Report
SWPPP Stormwater Pollution Prevention Plan
SWRCB State Water Resources Control Board or State Water Board
TDS Total Dissolved Solids
TKN Total Kjeldahl Nitrogen
TMDL Total Maximum Daily Load
TSD Technical Support Document
TSS Total Suspended Solid
USEPA United States Environmental Protection Agency
WDR Waste Discharge Requirements
WET Whole Effluent Toxicity
WLA Waste Load Allocations
WQBEL Water Quality-BaTiotal sed Effluent Limitation
WQO Water Quality Objectives
µg/L Micrograms Per Liter
µmhos/cm Micromhos Per Centimeter

ATTACHMENT B – TOPOGRAPHIC MAP



Fish Springs Fish Hatchery
Latitude: 37º 05’ 44” N, Longitude: 118º 15’ 28” W
Section 9, T10S, R34E, MDB&M
USGS Fish Springs & Tinehama Reservoir 7.5 Minute Quadrangles
Fish Springs Road
Big Pine, CA 93513
Inyo County

FACILITY MAP AND FLOW SCHEMATIC



ATTACHMENT C – FACILITY MAP AND SCHEMATIC

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. DUTY TO COMPLY

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

A. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

B. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

C. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

D. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or

maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the <Regional Water Board Name>as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Water Board may approve an anticipated bypass, after considering its adverse effects, if the Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

1. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

1. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

2. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Water Board. The Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under 40 C.F.R. part 136 or, in the case of sludge use or disposal, approved under 40 C.F.R. part 136 unless otherwise specified in 40 C.F.R. part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

Select one of the three following directions for signature as applicable.

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

   c. The written authorization is submitted to the Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).) Modify the above provision if there are also other monitoring requirements with reporting intervals specified elsewhere in the Order (e.g., Special Provisions).
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

    a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

    b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Water Board may waive the above-required written report under this provision on a case by case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

The Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):

    a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4 dinitrophenol and 2 methyl 4,6 dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

d. The level established by the Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(2)):

a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

d. The level established by the Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

CONTENTS

TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to, and the approval of, the Water Board.

B. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. Calculated flows shall be calculated consistent with accepted engineering practices. The Discharger must provide information on how the flow measurement is obtained at each location where flow monitoring is required. The information must include the instrument used, last calibration date and results and the name of the person who conducted the measurement. LADWP must provide the Department of Fish and Wildlife with relevant information regarding supply wells pumps andflow measuring equipment in a timely manner for inclusion in monitoring reports.

C. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the Division of Drinking Water. Laboratories that perform sample analyses shall be identified in all monitoring reports. In the event a certified laboratory is not available to the Discharger, analyses performed by a non-certified laboratory or using field test kits will be accepted provided a Quality Assurance-Quality Control Program (QA/QC) is instituted by the laboratory and approved by the Executive Officer. Documentation of QA/QC protocols and adherence to the protocols must be kept in the laboratory or at the site for field test kits and shall be available for inspection by Water Board staff. The QA/QC Program must conform to USEPA guidelines or to procedures approved by the Water Board. Supplemental field testing for constituents that could be analyzed by a certified laboratory may be done in the field with test kits and meters provided:

1. Samples collected at the minimal monitoring frequencies are performed by a certified lab,
2. A QA/QC program approved by the Executive Officer is followed, and
3. Detection limits, accuracy, and precision of the kits and meters meet EPA and Surface Water Ambient Monitoring Program (SWAMP) standards, and
4. All results for field testing must be reported to Water Board in quarterly and annual self-monitoring reports. Supporting QA/QC data must be determined using an established program and retained onsite and reported if requested.

D. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. The Discharger and/or LADWP must ensure that all flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program. The results of all monitoring required by this Order shall be reported to the Water Board.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Influent	INF-001	Shall be located where a representative sample of influent water from supply groundwater wells can be collected prior to entering the raceways.
001	EFF-001	Final settling pond outfall, discharge to Fish Springs Creek.
	R-001	Mixing pool beneath final settling pond outfall – no longer used
--	R-001 Sediment	Sediment sampling – no longer used
002	EFF-002	Egg Incubation – no longer used
Receiving Water – Fish Springs Creek	R-002	Fish Springs Creek at the new Highway 395 bridge. New Location.

III. INFLUENT MONITORING REQUIREMENTS (INF-001)

The influent shall be sampled on the same days that the effluent is sampled for the constituents listed. The Discharger shall monitor the influent to the Facility at INF-001 as follows:

Table E-2. Influent Monitoring (INF-001) [Supply Wells]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Electrical Conductivity @ 25˚C	µS/cm	Grab	1 / quarter	[1] – Field Test
Flow[2]	MGD	Meter – Sum of both supply wells	1 / quarter	Calculated
Nitrate, Total (*as* N)	mg/L	Grab	1 / quarter	[1]
Nitrite, Total (as N)	mg/L	Grab	1 / quarter	
Nitrogen, Total (as N)	mg/L	Calculated	1 / quarter	[1]
pH	standard units		1 / quarter	[1] – Field Test
Total Dissolved Solids (TDS)	mg/L	Grab	1 / quarter	[1]
Total Kjeldahl Nitrogen (as N)	mg/L	Grab	1 / quarter	[1]
Total Suspended Solids (TSS)	mg/L	Grab	1 / quarter	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. Where no methods are specified for a given pollutant, pollutants shall be analyzed by method proposed by the Discharger and approved by the Executive

Officer. Field tests are authorized for the listed parameters because it is impractical to analyze these parameters in an ELAP certified lab. Standard quality control must be exercised regarding equipment calibration etc.

[2] LADWP shall monitor for flow and report that information to the Discharger in a timely manner for inclusion in monitoring reports.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

The Discharger shall monitor wastewater discharged from the Facility at Monitoring Location EFF-001 as follows:

Table E-3. Effluent Monitoring (EFF-001)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method[1]
Chloramine-T	mg/L	Grab	1 / quarter during use[2]	[1]
Electrical Conductivity @ 25˚C	µmhos/cm	Grab	1 / quarter and during application of: acetic acid, CO2, sodium chloride, and/or sodium bicarbonate	1 – Field Test
Formaldehyde	mg/L	Grab	1 / quarter during use[2]	[1]
Hydrogen Peroxide	mg/L	Grab	1 / quarter during use[2]	[1]
Nitrate, Total (as N)	mg/L	Grab	1 / quarter	[1]
Nitrite, Total (as N)	mg/L	Grab	1 / quarter	[1]
Total Kjeldahl Nitrogen (as N)	mg/L	Grab	1 / quarter	[1]
Nitrogen, Total (as N)	mg/L	Calculated	1/ quarter	[1]
pH	standard units	Grab	1 / quarter and during application of: acetic acid, CO2, and/or sodium bicarbonate	1 – Field Test
Phosphorus, Total (as P)	mg/L	Grab	1 / quarter	[1]
Potassium Permanganate	mg/L	Grab	1 / quarter during use[2]	[1]
PVP Iodine (iodophor)	mg/L	Grab	1 / quarter during use[2]	[1]
Settleable Solids	ml/L	Grab	1 / quarter and during cleaning operations (or other operational modes that increase the discharge of total suspended or settleable solids)	[1]
Total Dissolved Solids (TDS)	mg/L	Grab	1 / quarter	[1]
Total Suspended Solids (TSS)	mg/L	Grab	1 / quarter and during cleaning operations (or other operational modes that increase the discharge of total suspended or settleable solids),	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. Where no methods are specified for a given pollutant, pollutants shall be analyzed by method proposed by the Discharger and approved by the Executive Officer. Field tests are authorized for the listed parameters because it is impractical to analyze these parameters in an ELAP certified lab. Standard quality control must be exercised regarding equipment calibration etc.

[2] When this chemical is added to waters of the Facility, a sample of the effluent shall be collected at a time when the concentration of the parameter in the effluent is expected to be at a maximum. After the initial sample, if subsequent treatments use the same amount of chemical, and the flow rate and final concentration is calculated to be the same, the Discharger may submit a calculated final effluent concentration upon approval by the Executive Officer.

If no use of one of the above listed chemical occurs during a month, then state “no use.”

B. Monitoring Location EFF-002 – No Longer Applicable

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS – NOT APPLICABLE

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location R-001 (Surface Water) [NOT APPLICABLE]

Station Eff-001 and R-001 are the same (coincident), all monitoring at this location is described for station eff-001

B. Monitoring Location R-002 (Surface Water – at New Highway 395 Bridge)

1. The Discharger shall establish and monitor the Fish Springs Creek Receiving Water (R-002), a new station to be located at the new Highway 395 bridge, as follows.

Table E-4. Receiving Water Monitoring (R-002)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Test Method[1]
Ammonia, Un-ionized	mg/L	Calculated	1 / quarter	1
Ammonia, Total	mg/L	Grab	1 / quarter	1
Boron	mg/L	Grab	1 / quarter	1
Chloride	mg/L	Grab	1 / quarter	1
Dissolved Oxygen	mg/L	Grab	1 / quarter	1 – Field Test
Electrical Conductivity @ 25˚C	µmhos/cm	Grab	1 / quarter	1 – Field Test
Fluoride	mg/L	Grab	1 / quarter	1
Nitrate, Total (as N)	mg/L	Grab	1 / quarter	1
Nitrite, Total (as N)	mg/L	Grab	1 / quarter	1
Total Kjeldahl Nitrogen (as N)	mg/L	Grab	1 / quarter	1
Nitrogen, Total (as N)	mg/L	Calculated	1 / quarter	1
Nitrogen, Total (as N)	mg/L	Calculated	1 / quarter	1
Phosphorus, Total (as P)	mg/L	Grab	1 / quarter	1
pH	Standard units	Grab	1 / quarter	1 – Field Test
Sulfate	mg/L	Grab	1 / quarter	1
Temperature	˚C	Grab	1 / quarter	1 – Field Test
Turbidity	NTU	Grab	1 / quarter	1 – Field Test
Total Dissolved Solids (TDS)	mg/L	Grab	1 / quarter	1

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. Where no methods are specified for a given pollutant, pollutants shall be analyzed by method proposed by the Discharger and approved by the Executive

Officer. Field tests are authorized for the listed parameters because it is impractical to analyze these parameters in an ELAP certified lab. Standard quality control must be exercised regarding equipment calibration etc.

1. The Discharger shall determine and report the geographic coordinate location latitude and longitude of Station R-002.

3. In conducting the receiving water sampling, a log shall be kept and a summary of the following reported, of the visual condition of the Fish Springs Creek. Attention shall be given to the presence or absence of:

a. floating or suspended matter;
b. discoloration;
c. visible films, sheens, or coatings;
d. bottom deposits;
e. potential nuisance conditions;
f. aquatic life;
g. algae, fungi, slimes, or other aquatic vegetation; and
h. odor.

C. Monitoring Locations R-001 (Sediment) [NO LONGER NECESSARY]

IX. OTHER MONITORING REQUIREMENTS

A. Quarterly Drug and Chemical Use Report

The information listed below shall be submitted for all aquaculture drugs or chemicals used at the Facility. This information shall be reported at quarterly intervals and submitted with the quarterly self-monitoring reports using the drug and chemical usage report table found in Attachment I of this Order:

1. The name(s) and active ingredient(s) of the drug or chemical.

2. The date(s) of application.

3. The purpose(s) for the application.

4. The method of application (e.g. immersion bath, administered in feed), duration of treatment, whether the treatment was static or flush (for drugs or chemicals applied directly to water), amount in gallons or pounds used, treatment concentration(s), and the flow measured in cubic feet per second (CFS) in the treatment units.

5. The total flow through the Facility measured in CFS to the discharge point after mixing with the treated water.

6. The method of disposal for drugs or chemicals used but not discharged in the effluent.

7. For drugs and chemicals applied directly to water (i.e., immersion bath, flush treatment), the estimated concentration in the effluent at the point of discharge.

Calculation of Concentration

For drugs or chemicals used in an immersion bath, "drip" treatment, or in other direct application to waters at the Facility, use the following formula to calculate concentration (C) at the point of discharge.

C = concentration of chemical or drug at the point of discharge

C = (treatment concentration) x (flow in treatment area) ÷ (flow at point of discharge)

Example: Potassium permanganate ($KMNO_4$) concentration

$$C = 2.0 \text{ mg/L } (KMNO_4) \times \frac{0.45 \text{ MGD (flow through treatment area)}}{5.0 \text{ MGD (flow at point of discharge)}}$$

C = 2.0 mg/L x 0.09

C = 0.18 mg/L potassium permanganate at the point of discharge.

This information shall be submitted quarterly. If the analysis of this chemical use compared with any toxicity testing results or other available information for the therapeutic agent, chemical or anesthetic indicates that the discharge may cause, have the reasonable potential to cause, or contribute to an excursion of a numeric or narrative water quality criterion or objective, the Executive Officer may require site-specific whole effluent toxicity (WET) tests using *Ceriodaphnia dubia*.

B. Priority Pollutant Monitoring

Potential discharge of priority pollutants is based on the probability of the pollutants being present in the groundwater pumped from source wells and from data collected from CAAP facilities. Data compiled from CAAP facilities, local drinking water wells and the State Board's Groundwater Ambient Monitoring Association (GAMA) database were used to determine the potential for metals and other priority pollutants to occur. Accordingly, the Water Board requires sampling and analysis of the influent and effluent for priority pollutants listed in Attachment J at least once per permit cycle. The samples shall be analyzed for priority pollutants **in the year 2018 and reported to the Water Board no later than February 1, 2019 in the Self Monitoring Report, and included in the Report of Waste Discharge.** (Refer to Attachment J for the specific monitoring requirements.)

C. Annual BMP and SWPPP Reporting

The Discharger must **annually** review the BMP Plan for Aquaculture Operations and the Facility Storm Water Pollution Prevention Plan meet the requirements of this permit and the Plans are being implemented as written. If changes are necessary to accurately reflect operations, maintenance and the management and control of pollutants at the Facility, a revised Plan shall be submitted to the Water Board. The Annual Report must include a specific section providing this analysis, and summary of changes, if any.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. The Discharger shall submit a summary annual monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year.

3. The Discharger shall report to the Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."

4. The discharger shall calculate and report the result of compliance with average monthly limitations as necessary. Additional samples may be collected to demonstrate compliance.

5. For constituents having an Effluent Limitation with a net allowed effluent increase over influent (supply wells), the Discharger shall: (1) collect influent (supply well) and effluent samples on the same day, (2) calculate and report the limit for each constituent where an increase over influent is allowed using the following formula, and (3) report compliance with respect to the limit as:

   Effluent Limit = Influent Concentration + Allowed Net Over Influent Concentration, or
   Effluent Limit = Instantaneous Maximum; Not to Exceed Influent Supply Water Concentration

6. For each parameter with an Effluent Limitation listed in the Order, the Discharger shall determine and report compliance with respect to the limit.

7. The Discharger shall determine and report compliance with respect to each Receiving Water Limitation specified in the Order. For parameters with no monitoring required, or where no data was collected, the Discharger shall report "Not Determined."

B. Self Monitoring Reports (SMRs)

1. The Discharger shall electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall submit quarterly SMRs including the results for all monitoring specified in this Monitoring and Reporting Program. The Discharger shall submit SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Quarterly reports shall be due on **May 1, August 1, November 1, and February 1** following each calendar quarter. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period	Reporting Due with SMR on…
1 / discharge event/reporting period	Calendar day of first discharge event/quarter (Midnight through 11:59 PM)	**May 1** **August 1** **November 1** **February 1**
1 / day	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	May 1 August 1 November 1 February 1
1 / month	1st day of calendar month through last day of calendar month	May 1 August 1 November 1 February 1
1 / quarter	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1 / year	January 1 through December 31	February 1
2 / year	April and October	August 1 February 1
1 / permit cycle	In the year 2018	By February 1, 2019

4. **Reporting Protocols.** The Discharger shall report the sample analytical results using the following reporting protocols:

   a. Detection and Reporting Limits: The Discharger shall report the applicable Minimum Level (ML) and the current Method Detection Limit (MDL) for the procedure (as listed in 40 CFR Part 136) with each sample result.

      i. Sample results greater than or equal to the ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

      ii. Sample results less than the ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      iii. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc." or a standard "J" flag nomenclature used). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

      iv. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

b. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest that can be detected using current analytical procedures described in 40 CFR Part 136 . At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

c. Sample collection date and time, sample analysis date and time, the name of individual(s) who collected the sample, the name of individual(s) who analyzed the sample, sample collection method(s) as listed in 40 CFR Part 136, sample analysis method(s) as listed in 40 CFR Part 136, sample preservation method(s) used between sample collection and analysis, and applicable QA/QC (Quality Assurance/Quality Control) data will be included with reported analytical results,

5. As part of permit renewal, the Discharger shall provide all reported data in a Excel tabular format that can be used to evaluate compliance with interim and/or final effluent limitations and conduct a reasonable potential analysis. Electronic submittal of data is required to the CIWQS. If the State Board's Permit Entry Tool does not allow data to be submitted, it must be provided separately.

6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly evaluate compliance with permit limitations and conditions and identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. SMRs must be submitted to the CIWQS database and to the Water Board when requested at the following email address:

   Lahontan@waterboards.ca.gov

   Include the Facility Waste Discharger Identification No. (6B140800002) and Facility Name (Fish Springs Fish Hatchery) in the Subject line.

C. Discharge Monitoring Reports – Not Applicable

D. Other Reports – Not Applicable

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

ATTACHMENT F – FACT SHEET

As described in section I, the California Regional Water Quality Control Board, Lahontan Region incorporates this Fact Sheet as findings of the California Regional Water Quality Control Board supporting issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

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Table F-1. Facility Information

WDID	6B140800002
Discharger	California Department of Fish and Wildlife (owner/operator – primary discharger) City of Los Angeles Department of Water and Power (for the limited purpose of inspecting supply wells pumps and flow measuring equipment)
Name of Facility	Fish Springs Fish Hatchery
Facility Address	215 Fish Springs Road Big Pine, CA 93513 Inyo County
Facility Contact, Title and Phone	Mathew Norris, Hatchery Manager, (760) 938-2242
Authorized Person to Sign and Submit Reports	Mathew Norris, Hatchery Manager, (760) 938-2242
Mailing Address	P.O. Box 910, Fish Springs Road Big Pine, CA 93513
Billing Address	Same as Mailing Address
Type of Facility	Concentrated Aquatic Animal Production/ Fish Hatchery (SIC 0921)
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	C
Pretreatment Program	Not Applicable
Recycling Requirements	Not Applicable
Facility Permitted Flow	26 million gallons per day
Facility Design Flow	Not Applicable
Watershed	Upper Owens Hydrologic Area
Receiving Water	Fish Springs Creek
Receiving Water Type	Inland surface water dominated by hatchery effluent and flow from man-made channels fed by wells operated by the City of Los Angeles, Department of Water and Power

A. The California Department of Fish and Wildlife is the owner and operator of the Fish Springs Fish Hatchery (hereinafter Facility) a cold water concentrated aquatic animal production (CAAP) facility. The City of Los Angeles Department of Water and Power owns the property at Fish Springs Road, Big Pine on which the Facility is located and runs the pumps that supply the water for the Facility. As the owner and operator, the California Department of Fish and Wildlife is primarily responsible for the monitoring program and day-to-day operations and City of Los Angeles Department of Water and Power, as the landowner and supplier of the water, is only considered a Discharger for the limited purpose of monitoring the flow (influent) to the Facility.

B. The Facility discharges wastewater to the Fish Springs Creek, a water of the United States, a tributary of the Owens River within the Upper Owens Hydrologic Area of the Owens Hydrologic Unit (CA Department of Water Resources # 603.20). The Discharger was previously regulated by Order No. R6V-2006-0030 adopted on June 14, 2006 and expired on June 14, 2011.

Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

C. The Discharger filed a report of waste discharge and submitted an application for reissuance of its WDRs and NPDES permit dated November 2, 2010. Additional information was assembled and reviewed since that date from self-monitoring reports and as provided by the Discharger.

II. FACILITY DESCRIPTION

The Discharger owns and operates a cold water concentrated aquatic animal production (CAAP) facility. Based on the ROWD, as modified by the DFW on August 9, 2011, the Facility has the capacity for producing a minimum of 600,000 pounds (lbs) and a maximum of 885,000 lbs of rainbow trout and an additional 40,000 lbs to 60,000 lbs of brown trout. About 90,000 to 133,000 pounds of food are fed to the fish in June, which is the month of maximum feeding. The Facility includes two groundwater wells, two aeration towers, a low head oxygenation (LHO) system, six production raceways, a hatchery building and two flow-through sedimentation treatment ponds.

Two production wells: Well #330 (8.4 MGD) and Well # 332 (12.3 MGD) pump eight to 26 MGD of well water to the main aeration tower. The elevation of the aeration tower, the gradient within the facility, and gravity enable treated water from the aeration tower to flow through seven fish rearing structures: six 1000 ft. long concrete flow-through rearing ponds (raceways) and the egg incubation and hatchery buildings. Water from the midpoint of the raceways is pumped to the second aeration tower and returned to the raceways after aeration. After passing through the raceways, wastewater from the six raceways flows through the two settling basins prior to discharge.

Effluent is then discharged to Fish Springs Creek at Discharge Point 001. Wastewater from seasonal use of the new hatchery building (86,400 gallons per day) is discharged to the settling ponds and then to Discharge Point 001. Discharge Point 002 is no longer used.

Wells operated by the City of Los Angeles Department of Water and Power (LADWP) are the contemporary headwaters to Fish Springs Creek. The elevation of groundwater that formerly supplied the historical headwaters to Fish Springs Creek dropped in response to pumping by LADWP. As a result, the former springs converted to depressional wetlands and are no longer functioning as the headwaters of Fish Springs Creek. LADWP allows (is court-ordered to allow and continue to allow) their pumped water to flow from the wells 350 330 and 332, through the fish hatchery, and to Discharge Point 001. Without operation of the fish hatchery, wells 350 330 and 332 would still serve as the contemporary headwaters of Fish Springs Creek. The other two headwaters of Fish Springs Creek are LADWP wells #219 and Y. Water from LADWP well #219 flows through an un-named ditch (0 to 3 MGD) to the confluence with Fish Springs Creek about 200 feet down stream of Discharge Point 001. Water from LADWP well # Y flows down the Big Pine Canal (5 to 160 MGD) to the confluence with Fish Springs Creek about 800 feet downstream of Discharge Point 001. Water from the combined sources travels approximately one mile from Discharge Point 001 to the confluence with Owens River.

In addition to surface water runoff from the eastern slope of the Sierra Nevada Mountains, the City of Los Angeles Department of Water and Power conveys pumped groundwater in the Owens Valley through surface water features to the Owens River. The water pumped by the City of Los Angeles groundwater production wells is regulated under terms of a stipulated legal agreement between the City of Los Angles and Inyo County. Further agreements exist between the City of Los Angeles and California Department of Fish and Wildlife to satisfy compensatory mitigation measures of the stipulated legal agreement. The City of Los Angeles could continue discharging to Fish Springs Creek whether the hatchery used the water or not. Because surface and groundwater in the Upper Owens Hydrologic Area (Department of Water Resources # 603.2) are interconnected, the intake water (pumped groundwater) and receiving water (Fish Springs Creek) are the same water body. Prior to groundwater pumping in this area, groundwater naturally contributed to Fish Springs Creek surface water flows.

Facility water is treated before and during use to increase dissolved oxygen and after use to remove settleable solids. Dissolved oxygen is supplemented with two types of treatments: trickle-down aeration towers filled with “coke rings” and a LHO system. Water from the wells is aerated in the gravity-fed main aeration tower. Water from the midpoints of the raceway ponds is pumped at a maximum rate of 22 cubic feet per second (CFS) to a second trickle aeration tower. LHO oxygen boxes at both the head and midpoints of the raceways provide additional oxygen to raceway water on an “as needed” basis. Settleable solids are removed from the effluent in two settling basins operated in series. Each settling basin is estimated to be approximately 1,000 feet long, 10 feet wide and 6 feet deep. Basin depth is maintained by adding or removing boards in 2 by 6 inch dam boards in a weir at Discharge Point 001.

On January 11, 2010, the Director of Fish and Wildlife certified “the use of copper sulfate products has been discontinued at all DFW hatcheries.” In addition, the copper plates on the dam boards were removed from the Hatchery on August 16, 2011.

The Discharger currently uses or has previously used during the last permit term the following chemicals and drugs in the raceways: sodium chloride (salt) as a flush treatment in the raceways and/or deep tanks as a fish-cleansing agent to control the spread of fish disease, and potassium permanganate to control gill bacteria on fish.

In addition to the above aquaculture chemicals, the Discharger and the California Department of Fish and Wildlife (DFW) Fish Health Laboratory requested to include in this Order a list of aquaculture drugs and chemicals (see Attachment H) that may be used at all DFW hatcheries in the State. These aquaculture drugs and chemicals, prescribed by the DFW Fish Health Laboratory, are to be used on an “as needed” basis to treat various fish disease and parasitic outbreaks.

A. Description of Wastewater and Biosolids Treatment or Controls

The Facility conducts raceway cleaning once per week per raceway by hand and with a mechanical crowder (a gate-like structure also used to herd fish from one side of a raceway to another). Each cleaning cycle requires approximately 4 hours. Wastewater from the raceways is discharged to two settling basins operated in series. Each settling basin is estimated to be approximately 1,000 feet long, 10 feet wide and 6 feet deep.

B. Discharge Points and Receiving Waters

Wastewater from the raceways and hatchery building discharges at Discharge Point 001 (Latitude 37° 05' 42" North, Longitude 118° 15' 15" West) into Fish Springs Creek, a tributary of the Owens River. The total length of Fish Springs Creek is approximately one mile. The source water for Fish Springs Creek is effluent from the Facility and flow from two channels (an un-named ditch and Big Pine Canal). The source water for these features is pumped groundwater from wells operated by the City of Los Angeles Department of Water and Power (LADWP). Flow in the un-named ditch and Big Pine Canal is from diverted mountain streams and wells operated by LADWP. The flows (which vary seasonally and dependent on the operation status of individual wells) are estimated to range from zero to three MGD (unnamed ditch) and 5 to 160 MGD (Big Pine Canal). The direction of flow is south to north for the un-named ditch and north to south for the Big Pine Canal. The confluences of these two channels with the Creek are located approximately 200 feet and 800 feet, respectively, downstream of Discharge Point 001. Fish Springs Creek is located within the Upper Owens Hydrologic Area (Hydrologic Unit No. 603.20), and the groundwaters of the Owens Valley Ground Water Basin (DWR No. 6-12).

Fish Springs Creek is formed from the confluence of the comingled discharge of these three surface water features; (1) pumped groundwater flowing through Fish Springs Hatchery, (2) Big Pine canal from the north, and (3) an unnamed canal from the south.

The pumped groundwater contains natural constituents (primarily total dissolved solids and nitrate) in concentrations that exceed the numerical receiving water limitations set below the hatchery for the Owens River.

In addition to surface water runoff from the eastern slope of the Sierra Nevada Mountains, the City of Los Angeles Department of Water and Power conveys pumped groundwater in the Owens Valley through surface waters to the Owens River. At Haiwee Reservoir, south of Owens Dry Lake, this water is collected and conveyed through aqueducts to the City of Los Angeles. The water pumped by the City of Los Angeles groundwater production wells would continue discharging to Fish Springs Creek whether the hatchery used it or not. Because surface and groundwater in the Upper Owens Hydrologic Area (Department of Water Resources # 603.2) are interconnected, the influent water (pumped groundwater) and receiving water (Fish Springs Creek) are the same water body.

The water pumped by the City of Los Angeles groundwater production wells is regulated under terms of a stipulated legal agreement between the City of Los Angeles and Inyo County. Further agreements exist between the City of Los Angeles and California Department of Fish and Wildlife to satisfy compensatory mitigation measures of the stipulated legal agreement. The City of Los Angeles could continue discharging to Fish Springs Creek whether the hatchery used the water or not.

The Water Board recognizes that numerical receiving water objectives for the Owens River at Tinemaha Reservoir may not be appropriate for Fish Springs Creek below the hatchery. The Water Board intends to consider future numerical site specific objectives for Fish Springs Creek and will exercise appropriate enforcement discretion before pursuing enforcement action for violations of the numeric receiving water limitations until site specific objectives for Fish Springs Creek are considered.

C. Summary of Existing Requirements and Self Monitoring Report (SMR) Results

1. Discharge Point 001

Effluent limitations contained in the previous Order for discharges from the effluent settling basins to Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Summary of Existing Requirements and SMR Results – Discharge Point 001

Parameter	Units	Effluent Limitation		Monitoring Data (From August 2006 to December 2013)	
		Average Monthly	Instantaneous Maximum	Highest Monthly Average Discharge	Highest Instantaneous Maximum Discharge
Flow	MGD	26		21.9	10.3 (minimum) 21.9 (maximum)
pH	standard units	not less than 6.0 nor greater than 9.0		--	6.43 (minimum) 7.70 (maximum)
Total Suspended Solids (TSS) [1]	mg/L	6.0	15.0	7.45	10.8
Settleable Solids [1]	ml/L	0.1	--	<0.1	<0.1
Total Dissolved Solids (TDS)	mg/L		265		482
Nitrate, Total (as N)	mg/L	--	1.0	--	0.927
Nitrogen, Total (as N)	mg/L	--	1.8	--	1.570
Orthophosphate, Dissolved (as P)	mg/L	0.6	0.8	0.250-[2]	0.250
Potassium Permanganate	mg/L	0.12	0.25	0.46[3]	0.46
Copper (Total Recoverable) [4]	µg/L	7.6	15.3	-3.0-	3.0 [4,]

[1] Grab pair sampling was conducted once quarterly for the constituents (two grab samples collected on the same day, not less than 2 hours, or greater than 4 hours apart from each other). Average of the two grab pairs for the quarterly sample was the monthly average for the month the samples were collected.

[2] Sampling was conducted once quarterly for orthophosphate, therefore the highest monthly average was the same as the instantaneous maximum for the quarter. The minimum quarterly result was 0.09 mg/L and the average for the 18 quarterly samples collected was 0.140 mg/L.

[3] Sampling was conducted during three potassium permanganate treatments; therefore the highest monthly average was the same as the instantaneous maximum (0.46 mg/L) for the month (April 16, 2009). The result for June 27, 2008 was 0.112 mg/L. The result for May 20, 2009 was 0.0138 mg/L.

[4] Discharger sampled for copper on May 20, 2009; however, no use report was submitted for the treatment.

2. Other Required Monitoring at Discharge Point 001

Order No. R6V-2006-0030 did not include effluent limitations at Discharge Point 001 for electrical conductivity. However, monthly monitoring for this parameter was required during salt treatments. The Discharger reported that 41,500 lbs of salt (sodium chloride) was used between December 2006 and June 2010. Representative monitoring data at Discharge Point 001 for electrical conductivity from the term of the previous Order is as follows:

Table F-3. Other Required Monitoring and SMR Results – Discharge Point 001

Parameter	Units	Monitoring Data From August 2006 to December 2013	
		Lowest Instantaneous Minimum	Highest Instantaneous Maximum
Electrical Conductivity	µmhos/cm	217.3	452.0

3. Summary of Receiving Water SMR Results

The previous Order required quarterly receiving water monitoring for pH, dissolved oxygen, settleable solids, total suspended solids, temperature and turbidity in Fish Springs Creek downstream of Discharge Point 001 at Monitoring Location R-001. Annual monitoring was required for chloride, nitrate, nitrogen, orthophosphate, and sulfate. Representative receiving monitoring data from the term of the previous Order are as follows:

Table F-4. Summary of Receiving Water SMR Results – Monitoring Location R-001

Parameter	Units	Monitoring Data (From August 2006 to December 2013)		
		Lowest Instantaneous Minimum	Average for August 2006 to December 2010	Highest Instantaneous Maximum
pH	standard units	6.5	7.11	7.5
Dissolved Oxygen	mg/L	4.67	6.639	8.5
Settleable Solids	ml/L	<0.1	<0.1	<0.1
Total Suspended Solids	mg/L	0.9	2.9	11.5
Temperature	°F	58	60	64
Turbidity	NTU	0.42	0.42	1.78
Nitrate, Total (as N) [1]	mg/L	0.844	0.928	1.06
Nitrogen, Total (as N) [1]	mg/L	0.145	0.926	1.360
Orthophosphate Dissolved (as P) [1]	mg/L	0.101	0.128	0.207
Sulfate[1]	mg/L	16.2	18.2	20.5

[1] Results reported were from a single grab sample collected November 1, 2010.

4. Summary of Sediment SMR Results

The previous Order required monitoring for copper (total recoverable) annually and monitoring for manganese twice during the permit term in sediment at Monitoring Location R-001. Results of sediment monitoring data from the term of the previous Order are as follows:

Table F-5. Summary of Sediment SMR Results – Monitoring Location R-001

Parameter	Sample Date	Units mg/kg
Copper (Total Recoverable)	August 3, 2009	4.7
Copper (Total Recoverable)	November 1, 2010	6.8
Manganese	August 3, 2009	110
Manganese	November 1, 2010	140

Because copper plates are no longer used, the proposed permit no longer includes sediment sampling.

D. Compliance Summary

1. Discharge Point 001

All available effluent monitoring data for the period of the previous permit, adopted on June 15, 2006, through 2013, was used to evaluate compliance with the effluent limitations contained in Order No. R6V-2006-0030. The following violations of numerical effluent limitations are noted.

- *Potassium permanganate* – A value of 0.46 mg/L (April 16, 2009) exceeded the maximum daily limit of 0.25 mg/L and average monthly limit of 0.12 mg/L (because only one sample was collected). At that time, the Discharger applied potassium permanganate to all raceways simultaneously. After that time, applications were to one raceway at a time without further violations.

- *Total suspended solids* – The monthly average value for January 2013 was 7.4 mg/L, exceeding the average monthly limit of 6.0 mg/L. The limit is 6.0 mg/L net over levels in the influent (supply water). However, Order No. R6V-2006-0030, required no influent sampling. Older data collected indicates there is TSS in the influent supply water sampling, although not in concentrations that would result in effluent limitation violations. Therefore, this Order allows intake credits for TSS. This Order contains influent sampling.

- *Total dissolved solids* – A value of 482 mg/L (October 7, 2013) exceeded the instantaneous maximum limit of 265 mg/L. While the Discharger reported no rationale for this event it was likely related to periodic salt application to protect fish health. The average supply water concentration (available data since 2006) is 234 mg/L.

Orthophosphate – There was no exceedance of the effluent limitation for orthophosphate. Based on the data shown in Attachment L, there is no reasonable potential that the effluent

limitation for orthophosphate would be exceeded. This Order removes the effluent limitation for orthophosphate.

2. Receiving Water Monitoring at Monitoring Locations R-001

Order No. R6V-2006-0030 required the Discharger to monitor Fish Springs Creek annually for chloride, nitrate, total nitrogen, orthophosphate, sulfate and total dissolved solids at Monitoring Location R-001. Quarterly monitoring was required for dissolved oxygen, pH, settleable solids, temperature, suspended solids, and turbidity. The following violations of receiving water limitations are noted. There is no evidence of other receiving water limitation violations.

- *Total nitrogen* – In years 2011 (1.36 mg/L) and 2013 (1.27 mg/L), the annual average limit of 0.9 mg/L was exceeded.
- *Total dissolved solids* - In years 2011 (238 mg/L) and 2013 (215 mg/L), the annual average limit of 207 mg/L was exceeded.
- *Nitrate as nitrogen* - In years 2010 (0.903 mg/L), 2011 (0.962), 2012 (1.013 mg/L) and 2013 (0.844 mg/L), the annual average limit of 0.6 mg/L was exceeded.

Because the Effluent Monitoring Station (EFF-001) is coincident with the Receiving Water Monitoring Station (R-001), future monitoring data from this location (EFF-001/R001) will be reported as from EFF-001. A new receiving water monitoring station (R-002) is established at the new Highway 395 Bridge to: (1) collect Fish Springs Creek data appropriate to establish site specific objectives and (2) assess compliance with receiving water limitations.

Orthophosphate – There was no exceedance of the receiving water objective for orthophosphate. Based on the data shown in Attachment L, there is no reasonable potential that the effluent would cause, or contribute to, the receiving water objective for orthophosphate to be exceeded. This Order removes the effluent limitation for orthophosphate.

3. Sediment Monitoring at Monitoring Location R-001

Order No. R6V-2006-0030 required the Discharger to monitor Fish Springs Creek sediment at Monitoring Location R-001 for copper once per year. Only 2 years of sample results were reported for copper in sediment at Monitoring Location R-001. Use of copper is discontinued and no further sediment sampling is required at this location.

4. Discharge Point 002

Order No. R6V-2006-0030 required the Discharger to monitor the start and end date of each period when wastewater was discharged from the Facility to Discharge Point 002 at Monitoring Location EFF-002. In addition, for each discharge period, the Discharger was required to report the total volume discharged and the average flow rate in gallons per day. This monitoring was not submitted as part of the quarterly SMRs. Discharge at this location from egg incubation was discontinued. Therefore, no further sampling is required at this location.

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Water Board adopted a Water Quality Control Plan for the Lahontan Region (hereinafter Basin Plan), which became effective on March 31, 1995, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan at page 2-3 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan does not specifically identify beneficial uses for Fish Springs Creek, but does identify present and potential uses for the Owens River (below Pleasant Valley Reservoir to the Tinemaha Reservoir), to which Fish Springs Creek is tributary. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Thus, beneficial uses applicable to Fish Springs Creek and to the Owens Valley Ground Water Basin are as follows:

Table F-6. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Fish Springs Creek / Owens River (below Pleasant Valley Reservoir to the Tinemaha Reservoir)	Existing: Municipal and domestic supply (MUN), agricultural supply (AGR), groundwater recharge (GWR), freshwater replenishment (FRSH), navigation (NAV), contact (REC-1) and non-contact (REC-2) water recreation, commercial and sport fishing (COMM), cold freshwater habitat (COLD), wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), and spawning, reproduction, and development of fish and wildlife (SPWN).
Unlined Settling Ponds	Owens Valley Ground Water Basin	Existing: Municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), freshwater replenishment (FRSH), and wildlife habitat (WILD).
002		

2. **Thermal Plan.** The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

4. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also

provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

6. **Antidegradation Policy.** 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

7. **Anti-Backsliding Requirements. Sections** 402(o)(2) and 303(d)(4) of the CWA and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for copper and orthophosphate. The effluent limitations for these pollutants are removed and thus are less stringent than those in the previous Order. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

   - Copper – The effluent limitation for copper is removed because the hatchery has discontinued use of copper weir plates and because the monitoring data indicate that neither the maximum daily nor average monthly effluent limitation for copper was exceeded. This Order removes the effluent limitation for copper because there is no reasonable potential that copper would violate receiving water objectives as substantiated by monitoring data.
   - Orthophosphate – The effluent limitation for orthophosphate is removed because the hatchery does not add orthophosphate and because the monitoring data indicate that: (1) neither the instantaneous maximum nor average monthly effluent limitation for orthophosphate was exceeded and (2) the annual average receiving water limit was also not exceeded. This Order removes the effluent limitation for orthophosphate because there is no reasonable potential that orthophosphate would violate receiving water objectives as substantiated by monitoring data.

8. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the Water Code authorize the Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

9. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Wildlife Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

10. Regulation of Aquaculture Drugs and Chemicals. CAAP facilities produce fish and other aquatic animals in greater numbers than natural stream conditions would allow; therefore, system management is important to ensure that fish do not become overly stressed, making them more susceptible to disease outbreaks. The periodic use of various aquaculture drugs and chemicals is needed to ensure the health and productivity of cultured aquatic stocks and to maintain production efficiency.

Drugs and chemicals used in aquaculture are strictly regulated by the U.S. Food and Drug Administration (FDA) through the Federal Food, Drug, and Cosmetic Act (FFDCA; 21 U.S.C 301-392). FFDCA, the basic food and drug law of the United States, includes provisions for regulating the manufacture, distribution, and the use of, among other things, new animal drugs and animal feed. FDA's Center for Veterinary Medicine (CVM) regulates the manufacture, distribution, and use of animal drugs. CVM is responsible for ensuring that drugs used in food-producing animals are safe and effective and that food products derived from treated animals are free from potentially harmful residues. CVM approves the use of new animal drugs based on data provided by a sponsor (usually a drug company). To be approved by CVM, an animal drug must be effective for the claim on the label, and safe when used as directed for (1) treated animals; (2) persons administering the treatment; (3) the environment, including non-target organisms; and (4) consumers. CVM establishes tolerances and animal withdrawal periods as needed for all drugs approved for use in food-producing animals. CVM has the authority to grant investigational new animal drug (INAD) exemptions so that data can be generated to support the approval of a new animal drug.

CAAP facilities may legally obtain and use aquaculture drugs in one of several ways. Some aquaculture drugs and chemicals used at CAAP facilities are approved by the U.S. Food and Drug Administration (FDA) for certain aquaculture uses on certain aquatic species. Others have an exemption from this approval process when used under certain specified conditions. Others are not approved for use in aquaculture, but are considered to be of "low regulatory priority" by FDA (hereafter "LRP drug"). FDA is unlikely to take regulatory action related to the use of a LRP drug if an appropriate grade of the chemical or drug is used, good management practices are followed, and local environmental requirements are met (including NPDES permit requirements). Finally, some drugs and chemicals may be used for purposes, or in a manner not listed on their label (i.e., "extra-label" use), under the direction of licensed veterinarians for the treatment of specific fish diseases diagnosed by fish pathologists. It is assumed that veterinarian-prescribed aquaculture drugs are used only for short periods of duration during acute disease outbreaks. Each of these methods of obtaining and using aquaculture drugs is discussed in further detail below.

It is the responsibility of the Discharger to know which aquaculture drugs and chemicals may be used in CAAP facilities in the Lahontan Region under all applicable federal, State, and local regulations and which aquaculture drugs and chemicals may be discharged to waters of the United States and waters of the State in accordance with this permit. A summary of regulatory authorities related to aquaculture drugs and chemicals is outlined below.

a. FDA Approved New Animal Drugs

Approved new animal drugs have been screened by the FDA to determine whether they cause significant adverse public health or environmental impacts when used in accordance with label instructions. Currently, there are eight new animal drugs

approved by FDA for use in food-producing aquatic species. These eight FDA-approved new animal drugs include the following:

(1) Chorionic gonadrotropin (Chlorulun®), used for spawning;
(2) Oxytetracycline (Terramycin®), an antibiotic;
(3) Sulfadimethoxine-ormetoprim (Romet-30®), an antibiotic;
(4) Tricaine methanesulfonate (MS-222, Finquel® and Tricaine-S), an anesthetic;
(5) Formalin (Formalin-F®, Paracide F® and PARASITE-S®), used as a fungus and parasite treatment;
(6) Sulfamerazine, an antibiotic;
(7) Florfenicol (Aquaflor®), an antibiotic; and
(8) Hydrogen peroxide, used to control fungal and bacterial infections.

Each aquaculture drug in this category is approved by the FDA for use on specific fish species, for specific disease conditions, at specific dosages, and with specific withdrawal times. Product withdrawal times must be observed to ensure that any product used on aquatic animals at a CAAP facility does not exceed legal tolerance levels in the animal tissue. Observance of the proper withdrawal time helps ensure that products reaching consumers are safe and wholesome.

FDA-approved new animal drugs that are added to aquaculture feed must be specifically approved for use in aquaculture feed. Drugs approved by FDA for use in feed must be found safe and effective. Approved new animal drugs may be mixed in feed for uses and at levels that are specified in FDA medicated-feed regulations only. It is unlawful to add drugs to feed unless the drugs are approved for such feed use. For example, producers may not top-dress feed with a water-soluble, over-the-counter antibiotic product. Some medicated feeds, such as Romet-30®, may be manufactured only after the FDA has approved a medicated-feed application (FDA Form 1900) submitted by the feed manufacturer.

b. *FDA Investigational New Animal Drug (INAD)*

Aquaculture drugs in this category can only be used under an investigational new animal drug or “INAD” exemption. INAD exemptions are granted by FDA Center for Veterinary Medicine (CVM) to permit the purchase, shipment and use of an unapproved new animal drug for investigational purposes. INAD exemptions are granted by FDA CVM with the expectation that meaningful data will be generated to support the approval of a new animal drug by FDA in the future. Numerous FDA requirements must be met for the establishment and maintenance of aquaculture INADs.

There are two types of INADs: *standard and compassionate*. Aquaculture INADs, most of which are compassionate, consist of two types: *routine and emergency*. A compassionate INAD exemption is used in cases in which the aquatic animal’s health is of primary concern. In certain situations, producers can use unapproved drugs for clinical investigations (under a compassionate INAD exemption) subject to FDA approval. In these cases, CAAP facilities are used to conduct closely monitored clinical field trials. FDA reviews test protocols, authorizes specific conditions of use, and closely monitors any drug use under an INAD exemption. An application to renew an INAD exemption is required each year. Data recording and reporting are required under the INAD exemption in order to support the approval of a new animal drug or an extension of approval for new uses of the drug.

c. FDA Unapproved New Animal Drugs of Low Regulatory Priority (LRP drugs)

LRP drugs do not require a new animal drug application (NADA) or INAD exemptions from FDA. Further regulatory action is unlikely to be taken by FDA on LRP drugs as long as an appropriate grade of the drug or chemical is used, good management practices are followed, and local environmental requirements are met (such as NPDES permit requirements contained in this Order). LRP drugs commonly used at CAAP facilities include the following:

(1) Acetic acid, used as a dip at a concentration of 1,000-2,000 mg/L for 1-10 minutes as a parasiticide.
(2) Carbon dioxide gas, used for anesthetic purposes.
(3) Povidone iodine (PVP) compounds, used as a fish egg disinfectant at rates of 50 mg/L for 30 minutes during egg hardening and 100 mg/L solution for 10 minutes after water hardening.
(4) Sodium bicarbonate (baking soda), used at 142-642 mg/L for 5 minutes as a means of introducing carbon dioxide into the water to anesthetize fish.
(5) Sodium chloride (salt), used at 0.5-1% solution for an indefinite period as an osmoregulatory aid for the relief of stress and prevention of shock. Used as 3% solution for 10-30 minutes as a parasiticide.
(6) Potassium permanganate is a LRP that regulatory action has been deferred pending further study.

FDA is unlikely to object at present to the use of these LRP drugs if the following conditions are met:

(1) The aquaculture drugs are used for the prescribed indications, including species and life stages where specified.
(2) The aquaculture drugs are used at the prescribed dosages (as listed above).
(3) The aquaculture drugs are used according to good management practices.
(4) The product is of an appropriate grade for use in food animals.
(5) An adverse effect on the environment is unlikely.

FDA's enforcement position on the use of these substances should be considered neither an approval nor an affirmation of their safety and effectiveness. Based on information available in the future, FDA may take a different position on their use. In addition, FDA notes that classification of substances as new animal drugs of LRP does not exempt CAAP facilities from complying with all other federal, state and local environmental requirements, including compliance with this Order.

d. *Extra-label Use of an Approved New Animal Drug*

Extra-label drug use is the actual or intended use of an approved new animal drug in a manner that is not in accordance with the approved label directions. This includes, but is not limited to, use on species or for indications not listed on the label. Only a licensed veterinarian may prescribe extra-label drugs under FDA CVM's extra-label drug use policy. CVM's extra-label use drug policy (CVM Compliance Policy Guide 7125.06) states that licensed veterinarians may consider extra-label drug use in treating food-

producing animals if the health of the animals is immediately threatened and if further suffering or death would result from failure to treat the affected animals. CVM's extra-label drug use policy does not allow the use of drugs to prevent diseases (prophylactic use), improve growth rates, or enhance reproduction or fertility. Spawning hormones cannot be used under the extra-label policy. In addition, the veterinarian assumes the responsibility for drug safety and efficacy and for potential residues in the aquatic animals.

D. Impaired Water Bodies on CWA 303(d) List

Fish Springs Creek is not an impaired water body on the CWA 303(d) list.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

1. The discharge prohibitions established in this Order are from waste discharge prohibitions in the Basin Plan that apply to the entire Lahontan Region (section 4.1) or based on discharge prohibitions specified in the California Water Code.

2. As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of a treatment facility. Federal Regulations, 40 CFR 122.41 (m), defines "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the Federal Regulations, 40 CFR 122.41 (m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.

3. A new prohibition recently adopted into the Basin Plan was added: "The discharge of waste that could affect the quality of waters of the state that is not authorized by the State or Regional Board through waste discharge requirements, waiver of waste discharge requirements, NPDES permit, cease and desist order, certification of water quality compliance pursuant to Clean Water Act section 401, or other appropriate regulatory mechanism is prohibited." The prohibitions regard violation of numerical or narrative water quality objectives were combined.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge(s) authorized by this Order must meet minimum federal technology-based requirements based on effluent limitation guidelines and standards (ELGs) for the Concentrated Aquatic Animal Production Point Source Category in 40 CFR Part 451.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

a. Best practicable treatment control technology currently available (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and nonconventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part "reasonableness test." The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop ELGs representing application of BPT, BAT, BCT, and NSPS. CWA section 402(a)(1) and 40 CFR 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 CFR 125.3.

A CAAP facility is defined in 40 CFR 122.24 as a fish hatchery, fish farm, or other facility that contains, grows, or holds cold water fish species or other cold water aquatic animals including, but not limited to, the *Salmonidae* family of fish (e.g., trout and salmon) in ponds, raceways, or other similar structures. In addition, the facility must discharge at least 30 calendar days per year, produce at least 20,000 pounds (9,090 kilograms) harvest weight of aquatic animals per year, and feed at least 5,000 pounds (2,272 kilograms) of food during the calendar month of maximum feeding. A facility that does not meet the above criteria may also be designated a cold water CAAP facility upon a determination that the facility is a significant contributor of pollution to waters of the United States [40 CFR 122.24(c)]. Cold water, flow-through CAAP facilities are designed to allow the continuous flow of fresh water through tanks and raceways used to produce aquatic animals (typically cold water fish species). Flows from CAAP facilities ultimately are discharged to waters of the United States and of the State. 40 CFR 122.24 specifies that CAAP facilities are point sources subject to the NPDES program.

The operation of CAAP facilities may introduce a variety of pollutants into receiving waters. USEPA identifies three classes of pollutants: (1) conventional pollutants (i.e., total suspended solids (TSS), oil and grease (O&G), biochemical oxygen demand (BOD), fecal coliforms, and pH); (2) toxic pollutants (e.g., metals such as copper, lead, nickel, and zinc and other toxic pollutants); and (3) non-conventional pollutants (e.g., ammonia-N, Formalin, and phosphorus). Some of the most significant pollutants discharged from CAAP facilities are solids from uneaten feed and fish feces that settle to the bottom of the raceways. Both of these types of solids are primarily composed of organic matter including BOD, organic nitrogen, and organic phosphorus.

Fish raised in CAAP facilities may become vulnerable to disease and parasite infestations. Various aquaculture drugs and chemicals are used periodically at CAAP facilities to ensure the health and productivity of the confined fish population, as well as to maintain production efficiency. Aquaculture drugs and chemicals are used to clean raceways and to treat fish for parasites, fungal growths and bacterial infections. Aquaculture drugs and chemicals are sometimes used to anesthetize fish prior to spawning or “tagging” processes. As a result of these operations and practices, drugs and chemicals may be present in discharges to waters of the United States or waters of the State.

On August 23, 2004 USEPA published ELGs for the Concentrated Aquatic Animal Production Point Source Category (40 CFR Part 451). The ELGs became effective on September 22, 2004. The ELGs establish national technology-based effluent discharge requirements for flow-through and recirculation systems and for net pens based on BPT, BCT, BAT and NSPS. In its proposed rule, published on September 12, 2002, USEPA proposed to establish numeric limitations for a single pollutant –TSS – while controlling the discharge of other pollutants through narrative requirements. In the final rule, however, USEPA determined that, for a nationally applicable regulation, it would be more appropriate to promulgate qualitative TSS limitations in the form of solids control best management practices (BMP) requirements.

In the process of developing the ELGs, USEPA identified an extensive list of pollutants of concern in discharges from the aquaculture industry, including several metals, nutrients, solids, BOD, bacteria, drugs, and residuals of federally registered pesticides. USEPA did not include specific numerical limitations in the ELG for any pollutants on this list, believing that best management practices would provide acceptable control of these pollutants. USEPA did conclude during the development of the ELG that control of suspended solids would also effectively control concentrations of other pollutants of concern, such as BOD, metals and nutrients, because other pollutants are either bound to the solids or are incorporated into them. And, although certain bacteria are found at high levels in effluents from settling basins, USEPA concluded that disinfection is not economically achievable. USEPA also allowed permitting authorities to apply technology-based limits for other pollutants and WQBELs for pollutants considered in the ELG in order to comply with applicable water quality standards.

2. Applicable Technology-Based Effluent Limitations

a. **Total Suspended Solids (TSS)** Technology-based requirements in this Order are based on a combination of application of the ELGs for BMP requirements and case-by-case numeric limitations developed using BPJ and carried over from Order No. R6V-2006-0030. The effluent limitations for TSS, 6.0 mg/L as an average monthly effluent limitation (AMEL) and 15 mg/L as an instantaneous maximum, are continued in this Order from Order No. R6V-2006-0030. Section 402(o) of the CWA prohibits backsliding of effluent limitations that are based on BPJ to reflect a subsequently promulgated ELG which is less stringent. Removal of the numeric limitations for TSS would constitute backsliding under CWA Section 402(o). These limitations were established prior to the issuance of the ELG and were established as a means of controlling the discharge of solids from algae, silt, fish feces and uneaten feed. The previous permit specified an effluent TSS concentration that is 6.0 mg/L net over influent concentrations (supply wells). This is because the Discharger has no control over supply water quality. This allowance is continued as further clarified below.

Existing wastewater treatment technology (such as settling basins and vacuum cleaning) is capable of dependably removing solids (primarily fish feces and uneaten feed) from CAAP facility effluent prior to discharge. This Facility utilizes one full-flow settling basin prior to discharge. Existing self-monitoring data show the Facility is able to reliably meet the numeric effluent limitations for TSS using existing wastewater treatment and control technologies, and implementation of BMPs.

This Order does not contain mass effluent limitations for TSS because there are no standards that specifically require a mass-based effluent limitation, and mass of the pollutant discharged is not specifically related to a measure of operation [40 CFR 122.45(f)(iii)]. In addition, mass-based effluent limitations for TSS are not necessary because this Order includes a concentration-based limitation and a maximum daily flow limitation. This is consistent with Order No. R6V-2006-0030, which did not include mass effluent limitations.

Because the Discharger has no control over supply water quality, and because the supply water contains TSS, the intent of the previous Order, and of this Order, is to authorize an intake credit as allowed in 40 CFR 122.45(g). Historical data from 1997 through January

2014 indicate that supply well TSS concentrations ranged from non-detectable to 3.5 mg/L, with an average of 0.5 mg/L. Since August 2006, effluent TSS concentrations ranged from non-detectable to 11.0 mg/L, with an average of 2.0 mg/L. Because TSS supply water and effluent concentrations are generally of the same magnitude, and because the discharge has settling pond controls, an intake credit is warranted.

Also, previous Order No. R6V-2006-0030, Table IV.A.1.a contained footnote "a" relating to TSS that referred to both the Average Monthly and Instantaneous Maximum limitations that stated "Limit is 6.0 mg/L net over levels in the influent." Inclusion of the numerical value in the footnote (6.0 mg/L) is confusing for compliance purposes. To clarify, this Order retains a "Net over influent" intake allowance for the Average Monthly, but not Instantaneous Maximum limitation. A footnote is added to this Order that clarifies the TSS compliance determination that states: "Report compliance with respect to the limit as: Effluent Limit = Influent Concentration + Allowed Net Over Influent Concentration." This correction brings the limitations in alignment with the intent of the previous Order.

b. **Flow.** The previous Order No. R6V-2006-0030 contained a 30-day average flow limitation of 26 MGD for the discharge to Fish Springs Creek. The total flow of fish hatchery wastewater is still required as described in the attached Monitoring and Reporting Program (Attachment E). The previous Order R6V-2006-0030 did not include influent monitoring and required effluent flow monitoring. However, the water volumes delivered to the Facility are not under the Discharger's control and are measured at the supply well head. Flow volumes are collected by the City of Los Angeles Department of Water and power and provided to the hatchery manager. The present Order requires influent flow monitoring and discontinues effluent flow monitoring. There is an unknown amount of water lost in the facility from evaporation and percolation through the unlined settling ponds. Compliance with effluent limitations for total suspended solids and settleable solids ensures that flows exceeding the treatment capacity of the Facility will not be discharged.

3. Final Technology-Based Effluent Limitations

Table F-7. Summary of Technology-based Effluent Limitations - Discharge Point 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
TSS	mg/L	6.0 Net over influent	--	--	15.0
Flow	mgd	26	--	--	--

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

The federal CWA section 101(a)(2) states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983*." Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of: public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 CFR 131.3(e) defines existing beneficial uses as those uses actually attained after November 28, 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. Receiving Water and Beneficial Uses

As described previously in this Fact Sheet, existing beneficial uses for the Owens river, below Pleasant Valley Reservoir to Tinemaha Reservoir (and including Fish Springs Creek by the tributary rule) include municipal and domestic water supply (MUN), agricultural supply (AGR), groundwater recharge (GWR), freshwater replenishment (FRSH), navigation (NAV), contact (REC-1) and non-contact (REC-2) water recreation, commercial and sport fishing (COMM), cold freshwater habitat (COLD), wildlife habitat (WILD), preservation of rare, threatened or endangered species (RARE), and spawning, reproduction, and development of fish and wildlife (SPWN).

b. Water Quality Criteria and Objectives

The Basin Plan contains numeric WQOs for Fish Springs Creek upstream of the Fish Hatchery; however, these were derived before LADWP initiated its aggressive ground water pumping. Currently, because of LADWP's pumping, there is no flow in Fish Springs Creek above the hatchery. The Basin Plan also contains site-specific WQOs for Owens River (at the Tinemaha Reservoir Outlet), downstream of the hatchery. The Water Board must require that the discharge from the Facility to Fish Springs Creek meet the site-specific numeric WQOs for the Owens River. These numeric water quality objectives are as follows:

Table F-8 Applicable Numeric Basin Plan Objectives that are Specific to Fish Springs Creek and Owens River

Surface Water		Objective (mg/L) Annual average value/90th Percentile Value.							
		TDS	**Cl**	**SO4**	**F**	**B**	**NO3-N**	**Total N**	**PO_4**
Owens River (Tinemaha Reservoir Outlet)	Annual average	207.00	17.90	26.80	0.57	0.61	0.60	0.90	0.32
	90th Percentile	343.00	42.00	59.00	0.90	1.50	1.10	1.50	0.56

The WQOs applicable to the Owens River, downstream from the hatchery, set forth in Table 3-17 of the Basin Plan, have been incorporated in to the Order as Receiving Water Limitations in section V.A.3. Water Board staff recognizes that the above site specific objectives for the Owen's River may not be appropriate because Fish Springs (above the hatchery) is dry and supply wells were installed to supply the hatchery. The water quality from the supply wells may not be able to meet the site-specific objectives set for the Owens River. The Water Board staff recognizes the need to establish site specific numerical objectives for Fish Springs Creek, below the hatchery. The Proposed Order establishes a new receiving water monitoring station (R-002) at the new Highway 395 Bridge, and data from this new point will be used to help set those new site-specific objectives for Fish Springs.

The Basin Plan also contains WQOs that apply to all surface waters (including wetlands) within the Lahontan Region are described in Pages 3-3 through 3-7 of the Basin Plan. These have been incorporated into the Order as Receiving Water Limitations V.A.1 and 2.

WQOs that apply to all groundwaters within the Lahontan Region are described in pages 3-12 through 3-13 of the Basin Plan. The WQOs applicable to the Owens Valley Ground Water Basin have been incorporated into the Order as Receiving Water Limitations V.B.1 through V.B.6 because the settling ponds are unlined and thus the hatchery discharges to both surface and groundwater.

c. Assimilative Capacity/Mixing Zone

The Basin Plan does not contain provisions for calculating dilution credits. Therefore, the worst-case dilution is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that both effluent and receiving water limitations in the Order are end-of-pipe limits with no allowance for dilution within the receiving water.

3. Determining the Need for WQBELs

The Water Board conducted the reasonable potential analysis (RPA) in accordance with section 1.3 of the SIP in the development of Order No. R6V-2006-0030. The Water Board analyzed effluent and receiving water data to determine if a pollutant in a discharge has the reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have the reasonable potential to cause or contribute to an excursion above a water quality standard, numeric WQBELs are required. The RPA

considered criteria from the CTR, NTR, and water quality objectives specified in the Basin Plan. To conduct the RPA, the Water Board identified the maximum observed effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

1) Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limit is needed.
2) Trigger 2 – If background water quality (B) > C and pollutant is detected in effluent, a limit is needed.
3) Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, etc. indicates that a WQBEL is required.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger is required to gather the appropriate data for the Water Board to conduct the RPA. Upon review of the data, and if the Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed for the priority pollutants for which effluent data were available. The Discharger collected samples for priority pollutants analyses at the Facility influent ("headbox" of raceways, consisting of influent water from the two groundwater supply wells) and effluent on May 26, 2004. The Discharger also performed an additional effluent sampling for dioxins on September 16, 2004. The RPA for the priority pollutants did not demonstrate reasonable potential to exceed applicable water quality criteria based on these two sampling events.

a. **Constituents with No Reasonable Potential**

WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential; however, numeric receiving water limitations have been established using the Basin Plan water quality objectives. These limitations apply to the receiving water at the discharge point. Monitoring for some of those pollutants is established in this Order as required by the SIP and/or to verify compliance with the numeric receiving water limitations.

The procedures in the SIP for determining reasonable potential and calculating WQBELs specifically apply only to priority pollutant criteria promulgated through the NTR and CTR and to priority pollutant objectives established by Water Boards in their Basin Plans. For other constituents, the Water Board must determine what procedures it will use to evaluate reasonable potential and calculate effluent limitations. Since the discharge is the

receiving water, application of the numerical receiving water limitations to the discharge protects water quality and the beneficial uses of Fish Springs Creek.

For constituents with no promulgated numeric water quality criteria or objectives, the Water Board also must interpret narrative objectives from the Basin Plan to establish the basis for reasonable potential and effluent limitation calculations. In addition to USEPA National Recommended Water Quality Criteria, the Central Valley Regional Water Board has developed *A Compilation of Water Quality Goals* that it uses to help select the appropriate basis for interpreting narrative criteria in NPDES calculations. These goals include USEPA-recommended criteria for protection of aquatic life, drinking water Maximum Contaminant Levels (MCLs), agricultural water quality goals, and other water quality goals designed to protect various beneficial uses. Appropriate selection of criteria or goals to interpret narrative criteria depends on the specific beneficial uses of the receiving water. For example, drinking water MCLs and secondary MCLs (or SMCLs) are used to interpret narrative criteria if the receiving water is a source of municipal drinking water (MUN). The Water Board proposes to use *A Compilation of Water Quality Goals* in selecting numerical water quality goals to interpret narrative water quality objectives from the Basin Plan.

i. Electrical Conductivity and Chloride

Monitoring for electrical conductivity (EC) was specified in the Monitoring and Reporting Program during salt treatments as part of Order No. R6V-2006-0030. Sodium chloride (salt) is used as needed at CAAP facilities as a fish-cleansing agent to control parasites, fish disease, and as an osmoregulatory aid to reduce stress amongst the confined fish population. Because dissolved ions in water increase conductivity, the measures of TDS, chloride ion, and conductivity are related. There are no numeric water quality objectives for conductivity, TDS, or chloride in the NTR, CTR, or Basin Plan for Fish Springs Creek below the Facility. The Basin Plan contains a narrative objective for chemical constituents that states "Waters designated as AGR shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes)." *Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1* (R.S. Ayers and D.W. Westcot, Rome, 1985), recommends that the conductivity level in waters used for agricultural irrigation not exceed 700 µmhos/cm (Agricultural Water Quality Goal) because it will reduce crop yield for sensitive plants. There are no USEPA water quality criteria for the protection of aquatic organisms for EC. Therefore, this Order will not establish WQBELs for EC. However, the Water Board has determined that monitoring for this parameter is necessary and this Order continues the requirement for monitoring of EC as specified in the Monitoring and Reporting Program (Attachment E).

ii. Chloramine-T

Chloramine-T (sodium p-toluenesulfonchloramide) is available for use in accordance with an INAD exemption by FDA as a possible replacement for copper sulfate and formalin. Chloramine-T is not currently used but may be used by the Discharger in the future as a possible replacement for formalin. The Discharger reports Chloramine-T may be used as a flush or bath treatment at a concentration up to 20 mg/L for 1 hour. Chloramine-T breaks down into para-toluenesulfonamide (p-TSA) and, unlike other chlorine-based disinfectants, does not break down into chlorine or form harmful chlorinated compounds. Results of the DFW Pesticide Unit *C. dubia* test where the test animals were exposed to the toxicant for 2 hours followed by three exchanges of control water to remove residual compound and then observed for 96 hours determined the No Observed Effect Concentration (NOEC) and Lowest Observed Effect Concentration (LOEC) to be 86.3 and 187 mg/L, respectively.

Effluent data for Chloramine-T are not available to assess the impact of Chloramine-T use at the Facility. Therefore, the following information and calculations were used to estimate the effluent Chloramine-T concentrations from flush treatments at Discharge Point 001. The calculations assume the flow from the raceways mixes completely with the volume of water in the settling basin and is discharged with no further concentration, breakdown, or dilution of Chloramine-T.

Flow and volume calculations use the total dilution volume of a 1-hour treatment at 1,616,693 gallons, or 6,119,850 liters (1 gallon = 3.7854118 liters). The Discharger has specified to the Water Board that the maximum number of raceways treated per day with Chloramine-T will be two.

Total mass of Chloramine-T applied in milligrams = (# raceways treated) x (treatment time in hours) x (raceway flow in CFS) x (26,930 gallons/hour) x (3.7854118 liters/gallon) x (Chloramine-T concentration in mg/L). The estimated final effluent concentration of Chloramine-T at Discharge Point 001 is 0.74 mg/L if one raceway is treated and 1.48 mg/L if two raceways are treated.

Based on available information regarding Chloramine-T if used at the reported treatment concentrations, Chloramine-T will not be discharged at levels that cause, have the reasonable potential to cause, or will contribute to an excursion of Basin Plan narrative water quality objectives for toxicity. Accordingly, this Order does not include WQBELs for Chloramine-T. However, use and monitoring of Chloramine-T must be reported as specified in the attached Monitoring and Reporting Program (Attachment E). The Water Board will review this information, and other information as it becomes available, and this Order may be reopened to establish effluent limitations based on additional use and toxicity information.

iii. Copper

A potential source of copper discharge (copper is identified as a priority pollutant in the NTR and CTR) at fish hatcheries is from the use of copper sulfate and chelated copper compounds, which were used to control the growth of external parasites and bacteria on fish. In addition, the Discharger once utilized copper plates on the dam boards at Discharge Point 001 in an effort to control the New Zealand mud snail at the discharge point. The effluent sampling for priority pollutants conducted on May 26, 2004 did not coincide with copper sulfate usage at the Facility. On January 11, 2010, the Director of Fish and Wildlife certified "the use of copper sulfate products has been discontinued at all DFW hatcheries." In addition, the copper plates on the dam boards were removed from the Hatchery on August 16, 2011. Therefore, effluent limits and monitoring requirements for copper sulfate have been removed from the present Order and sediment sampling is no longer required.

iv. Orthophosphate

To ensure the receiving water objective for orthophosphate was met, the previous order, and all previous orders, at least through 1985, established an effluent limitation for orthophosphate. An evaluation of the data presented in Attachment L indicates there is no reasonable potential for the effluent to cause, or contribute, to a receiving water effluent limit violation from orthophosphate using the procedure identified in the SIP because of the following.

1) Trigger 1 – The MEC for the period of the previous permit (0.250 mg/L) is not greater than or equal to the applicable objective (C) (0.32 mg/L, Annual Average). Thus, no reasonable potential exists based on this condition.
2) Trigger 2 – The background water quality (B) (Influent Supply, maximum concentration, previous permit period, 0.175 mg/L) is less than the applicable objective (C) (0.32 mg/L, Annual Average). Thus, no reasonable potential exists based on this condition.
3) Trigger 3 – The receiving water (Fish Springs Creek) is not listed as impaired on the CWA 303(d) list and there is no history of adverse compliance with this constituent. Thus, no reasonable potential exists based on this condition.

In summary, no WQBEL is required for orthophosphate.

v. PVP Iodine

PVP Iodine (Argentyne), is a solution composed of 10% PVP Iodine Complex and 90% inert ingredients. PVP Iodine is currently used at the Facility as a egg disinfectant and fungicide. The Discharger reports that six ounces of PVP iodine is applied to a five-gallon bucket containing fish eggs, with the maximum amount used on a single day at 18 ounces total. FDA considers PVP iodine an LRP drug for use in

aquaculture. Results of a single acute toxicity test with *C. dubia* showed a 96-hour No Observed Adverse Effect Level (NOAEL) of 0.86 mg/L.

The Discharger does not discharge the PVP iodine solution to surface waters or groundwaters. The used PVP iodine solution is placed in a metal container and the contents are allowed to evaporate. This Order does not include WQBELs for PVP Iodine. However, use and monitoring of PVP Iodine must be reported as specified in the attached Monitoring and Reporting Program (Attachment E).

vi. Acetic Acid, Carbon Dioxide and Sodium Bicarbonate

The Discharger does not currently use, but may in the future use, acetic acid at the Facility for the control of external parasites as flush and/or bath treatments. Carbon dioxide gas may be used in bath treatments to anesthetize fish prior to spawning. Sodium bicarbonate, or baking soda, may also be used in bath treatments as a means of introducing carbon dioxide into the water to anesthetize fish. While the discharge of acetic acid, carbon dioxide, or sodium bicarbonate may affect the pH of the receiving water, current effluent and receiving water limitations for pH are adequate to ensure that any potential discharges of acetic acid, carbon dioxide, or sodium bicarbonate do not impact water quality (in addition, carbon dioxide gas added to water will quickly equilibrate with atmospheric carbon dioxide with aeration). However, the use of these substances must be reported as specified in the Monitoring and Reporting Program (Attachment E).

vii. Oxytetracycline

Oxytetracycline, also known by the brand name Terramycin®, is an antibiotic approved through FDA's NADA program for use in controlling ulcer disease, furunculosis, bacterial hemorrhagic septicemia, and pseudomonas disease in salmonids. The Facility uses oxytetracycline during disease outbreaks as a feed additive. However, oxytetracycline may also be used as an extra-label use under a veterinarian's prescription in an immersion bath of approximately 6 to 8 hours in duration. Because oxytetracycline may be applied in an immersion bath for up to 8 hours at a time, the Water Board considered the results of acute and chronic aquatic life toxicity testing conducted by the DFW Pesticide Unit when determining whether WQBELs for oxytetracycline used in an immersion bath treatment were necessary. Results of acute toxicity tests using *C. dubia* showed a 96-hour NOAEL of 40.4 mg/L. Results of chronic toxicity tests using *C. dubia* showed a 7-day NOEC for reproduction of 48 mg/L.

The information available regarding use and discharge of oxytetracycline at CAAP facilities indicates that it is discharged at levels well below the lowest NOEC and

NOAEL. The Water Board determined that oxytetracycline, when used in feed or in an immersion bath treatment, is not discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of a narrative water quality objective for toxicity from the Basin Plan. Accordingly, this Order does not include an effluent limitation for oxytetracycline. However, use and estimated effluent concentrations of oxytetracycline must be reported as specified in the attached Monitoring and Reporting Program (Attachment E). The Water Board will review this information, and other information as it becomes available and this Order may be reopened to establish effluent limitations based on additional use and toxicity information.

viii. Penicillin-G

Penicillin G is an antibiotic used for the control of bacterial infections and is administered as a 6 to 8 hour immersion bath treatment. Penicillin G is not approved under FDA's NADA program and its extra-label use in aquaculture requires a veterinarian's prescription. Due to the length of treatment time, the Water Board considered the results of acute and chronic aquatic life toxicity testing conducted by the DFW Pesticide Unit when determining whether WQBELs for Penicillin G were necessary in this Order. Results of acute toxicity tests using *C. dubia* showed a 96-hour NOAEL of 890 mg/L. Results of 7-day chronic toxicity testing using *Pimephales promelas* showed 7-day NOEC for survival of 350 mg/L. Based on the information available Penicillin G is discharged at levels well below the lowest NOEC and NOAEL at CAAP facilities. Therefore, the Water Board determined that Penicillin G, when used in an immersion bath treatment, is not discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of a narrative water quality objective for toxicity from the Basin Plan. Accordingly, this Order does not include effluent limitations for Penicillin G. However, use and estimated effluent concentrations of Penicillin G must be reported as specified in the attached Monitoring and Reporting Program (Attachment E). The Water Board will review this information, and other information as it becomes available and this Order may be reopened to establish effluent limitations based on additional use and toxicity information.

ix. Amoxycillin, Erythromycin, Florfenicol, and Romet-30®

Amoxycillin, erythromycin, florfenicol, and Romet-30® may be used by CAAP facilities. Amoxycillin is injected into fish to control acute disease outbreaks through a veterinarian's prescription for extra-label use. Erythromycin (injected or used in feed formulations) and florfenicol (used in feed formulations) are antibiotics used to control acute disease outbreaks. Erythromycin must be used under an INAD exemption or a veterinarian feed directive. Florfenicol is a NADA approved drug. Romet 30®, also known by the trade name Sulfadimethoxine-oremtroprim, is an antibiotic used in feed formulations and is FDA-approved for use in aquaculture for control of furunculosis in salmonids. Amoxycillin (when injected into fish), erythromycin (when injected into fish or used as a feed additive), florfenicol and Romet-30® (when used as feed additives)

are used in a manner that reduces the likelihood of direct discharge of antibiotics to waters of the United States or waters of the State, particularly when CAAP facilities implement BMPs as required by this Order. Accordingly, this Order does not include WQBELs for these substances; however, this Order does require reporting use of these substances as specified in the attached Monitoring and Reporting Program (Attachment E).

x. MS-222®

CAAP facilities use the anesthetic Tricaine methanesulfonate, commonly known as MS-222 (with trade names of Finquel® or Tricaine-S®). MS-222 has been approved by FDA for use as an anesthetic for *Salmonidae*. Results of toxicity tests using *C. dubia* where the test animals were exposed to MS-222 for 2 hours, followed by three exchanges of control water to remove residual compound and then observed for 96 hours, determined the NOEC and LOEC to be 70 and 200 mg/L, respectively. MS-222 is generally used as a static treatment bath. The concentration is diluted well below 70 mg/L when discharged at CAAP facilities. Based on available information regarding MS-222 when used according to the reported treatment, MS-222 is not discharged at levels that cause, have the reasonable potential to cause, or will contribute to an excursion of Basin Plan narrative water quality objectives for toxicity. Accordingly, this Order does not include WQBELs for MS-222. However, use of MS-222 must be reported as specified in the attached Monitoring and Reporting Program (Attachment E).

xi. Vibrio Vaccine and Enteric Redmouth Bacterin

The Discharger has not used Vibrio Vaccine or Enteric Redmouth Bacterin but use may be required in the future to treat enteric redmouth disease. Enteric redmouth (or yersiniosis) bacertins are formulated from inactivated Yersinia ruckeri bacteria and is used as an immersion to help protect salmonid species from enteric redmouth disease caused by Yersinia ruckeri. These bacertins stimulate the fish's immune system to produce protective antibodies. Vibrio vaccine is used as an immersion and helps protect salmonid species from vibriosis disease caused by Vibrio anguillarum serotype I and Vibrio ordalii. Vibrio vaccine stimulates the fish's immune system to produce protective antibodies, helping the animal defend itself against vibriosis.

Vibrio vaccine and enteric redmouth bacterin are licensed for use by the U.S. Department of Agriculture's (USDA's) Center for Veterinary Biologics. According to USDA, most biologics leave no chemical residues in animals and most disease organisms do not develop resistance to the immune response by a veterinary biologic. Based upon available information regarding the use of these substances at CAAP facilities, the Water Board does not believe that vibrio vaccine or enteric redmouth bacertins, are discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of Basin Plan narrative water quality objectives for toxicity when used according to label and veterinarian instructions. Accordingly, this Order does not include WQBELs for these substances; however, use of these substances must be reported as specified in the attached Monitoring and Reporting Program (Attachment E)..

b. **Constituents with Reasonable Potential.** The Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for pH, settleable matter, total dissolved solids (TDS), nitrate, total nitrogen, formaldehyde, hydrogen peroxide and potassium permanganate, WQBELs or numeric receiving water limitations have been established in the Order, apply to the discharge from the Facility, and are either equally as stringent as the previous permit or more stringent for these constituents. A detailed discussion of the RPA for each constituent is provided below.

i. **pH.** The Basin Plan states: "In fresh waters with designated beneficial uses of COLD or WARM, changes in normal ambient pH levels shall not exceed 0.5 pH units. For all other waters of the Region, the pH shall not be depressed below 6.5 nor raised above 8.5. The Regional Board recognizes that some waters of the Region may have natural pH levels outside of the 6.5 to 8.5 range. Compliance with the pH objective for these waters will be determined on a case-by-case basis." The case-by-case basis in the Basin Plan is stated as sampling event by sampling event basis in the permit. Order R6V-2006-0028, contained effluent limitations for pH, requiring the discharge to have a pH of not less than 6.0 pH units nor greater than 9.0 pH units. Data collected at location R-001 indicate the pH values have ranged from 6.5 to 8.2 standard units; within the range allowed by the Basin Plan. Therefore, the present Order changes the pH effluent limits to 6.5 (minimum) and 8.5 (maximum).

ii. **Settleable Solids.** The Basin Plan includes a water quality objective for surface waters that *"waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of settleable materials shall not be raised by more than 0.1 milliliter per liter."* Order No. R6V-2006-0030 contained an effluent limitation for settleable solids of 0.1 ml/L as an AMEL. The Water Board has retained the numeric effluent limitation for settleable solids for the Facility in order to prevent an instream excursion above the water quality standard.

iii. **Total Dissolved Solids (TDS).** Order No. R6V-2006-0030 contained an effluent limitation for TDS of 265 mg/L as an instantaneous maximum. Sodium chloride (salt) is used at the Facility raceways as a fish-cleansing agent to control the spread of fish disease and to reduce stress among the confined fish population. The relationship of TDS, chloride ion, and conductivity is discussed in section IV.C.3.a.i of this Fact Sheet. Order No. R6V-2006-0030 established an effluent limitation for TDS as an instantaneous maximum limitation of 265 mg/L for TDS. This Order retains the limit and establishes a surface water (receiving water) limitation for TDS from the Basin Plan (annual average of 207 mg/L and a 90^{th} percentile value of 343 mg/L). This limit applies to the effluent and receiving water, at the discharge point. However, because the discharger has no control over influent supply water TDS, this Order retains the TDS effluent limit of the previous order, but states the effluent concentration may not

exceed the influent supply water TDS concentration if the influent concentration exceeds the instantaneous maximum effluent limitation.

iv. **Nitrate (as N) and Total Nitrogen (as N)** Order No. R6V-2006-0030 contained instantaneous maximum effluent limitations of 1.0 mg/L for nitrate (as N) and 1.8 mg/L for total nitrogen (as N). To provide protection for the receiving water beneficial uses and to meet the receiving water limitations (Basin Plan objectives), this Order establishes numeric limitations for nitrate and total nitrogen. These limits are applied as effluent limits to protect receiving water quality objectives set out in the Basin Plan for the Owens River above Tinemaha Reservoir Outlet. The discharger has no control of the influent supply (pumped groundwater). Data indicate the supply water nitrate as nitrogen concentration ranges from 0.6 mg/L to 1.0 mg/L. See the Order Section VII.B for further discussion on why an allowed intake credit for nitrate (as N) and total nitrogen (as N) are justified and satisfies 40 CFR 122.45(g).

v. **Formaldehyde (Formalin)**

Formalin, a solution typically 37 percent by weight formaldehyde, (also known by the trade names Formalin-F®, Paracide-F®, PARASITE-S®) is FDA-approved for use in CAAP facilities for controlling external protozoa and monogenetic trematodes on fish, and for controlling fungi of the family *Saprolegniacae* in food-producing aquatic species. Formalin is used as a treatment for controlling external parasites in raceways where it would be discharged to surface waters. Formalin treatments are usually utilized as a batch or flush treatment which result in discharges from 3 to 8 hours. For control of other fungi, formalin may be used under an INAD exemption. Formalin can also be used as a “drip” treatment to control fungus on fish eggs.

The Discharger did not report formalin use at the Facility during the term of Order No. R6V-2006-0030. The Discharger has previously used formalin at the Facility at a rate of up to 12 gallons per raceway to control external parasites. Effluent formaldehyde data are not available to assess the impact of formalin use at the Facility. Therefore, the following information and calculations were used to determine the estimated effluent formaldehyde concentration from flush treatments at Discharge Point 001. The calculations assume the flow from the raceways mixes completely with the volume of water in the settling basin and is discharged with no further concentration, breakdown, or dilution of formaldehyde.

Flow and volume estimates use the total dilution volume from 1.55 hours of flow at 1,976,209 gallons, or 7,480,764 liters. Estimated final effluent concentration of formaldehyde (in mg/L) = [(Total gallons formalin applied) x (3.7854118 liters/gallon) x (370,000 mg formaldehyde / liter formalin)] / (Total dilution volume in liters). The estimated final effluent concentration of formaldehyde at Monitoring Location EFF-001 is calculated as 2.25 mg/L if one raceway is treated and 13.48 mg/L if all six raceways are treated.

The State of California Department of Health Services (DHS) does not have an MCL for formaldehyde; however the DHS historic Drinking Water Action Level is listed as 0.1 mg/L based on calculation by standard risk assessment methods, with a Modifying Factor equal to 10. The USEPA Integrated Risk Information System (IRIS) lists a reference dose of 1.4 mg/L as a drinking water level. There are no recommended criteria for formaldehyde for the protection of aquatic life.

The DFW Pesticide Unit conducted biotoxicity studies to determine the aquatic toxicity of formalin using *Pimephales promelas* and *C. dubia.* A summary of the data submitted follows:

Species	7-day LC50 (mg/L)	LOEC (mg/L)	NOEC (mg/L)	LOAEL (mg/L)	NOAEL (mg/L)
Ceriodaphnia dubia	2.43	5.8[1] 1.3[2]	1.3[1] <1.3[2]	5.8	1.3
Pimephales promelas	23.3	9.09	2.28	--	--
Selanastrum capricornutum	<5.2	--	--	--	--

[1] Survival
[2] Reproduction
Notes: DFW lab report no. P-2251.1 dated 6/30/2001. Results as formaldehyde. Divide by 0.37 to obtain the equivalent formalin concentration.

Since formalin treatments are usually utilized as a batch or flush treatment which result in discharges from 3 to 8 hours, short-term tests were conducted with *C. dubia*, exposing the organisms for 2-hour and 8-hour periods, removing them from the chemical, and continuing the observation period for 7 days in clean water. The results were as follows:

Species	7-day LC50 (mg/L)	LOAEL (mg/L)	NOAEL (mg/L)
Ceriodaphnia dubia – 2-hour exposure	73.65	46.3	20.7
Ceriodaphnia dubia – 8-hour exposure	13.99	15.3	6.7

Notes: DFW lab report no. P-2294.1 dated 1/30/2002. Results as formaldehyde. Divide by 0.37 to obtain the equivalent Formalin concentration.

Results of both acute and chronic aquatic life toxicity testing conducted by the DFW Pesticide Unit and the Basin Plan narrative toxicity objective were considered when determining whether WQBELs for formalin as formaldehyde were necessary. Results of 7-day chronic toxicity tests indicated *C. dubia* was the most sensitive species, with a 7-day NOEC value of 1.3 mg/L formaldehyde for survival and less than 1.3 mg/L for reproduction (the Water Board used an NOEC of 1.3 mg/L). Acute toxicity tests conducted using *C. dubia* showed a 96-hour NOAEL of 1.3 mg/L formaldehyde. The additional acute toxicity tests with *C. dubia*, conducted using only an 8-hour exposure, resulted in a 96-hour NOAEL concentration of 6.7 mg/L formaldehyde.

The Water Board has determined that if formalin is used at the Facility, formaldehyde may be discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of the Basin Plan narrative water quality objective. Accordingly, this Order includes WQBELs for formaldehyde. Although formaldehyde treatments are short in duration, exposure to formaldehyde in the receiving water as a

result of discharges from the Facility may be long-term because of retention time in the settling basin and potential application procedures (e.g., successive raceway treatments, drip treatments for eggs). Therefore, an AMEL of 0.65 mg/L and a MDEL of 1.3 mg/L are calculated based on the 96-hour NOAEL value and using the procedure in USEPA's *Technical; Support Document for Water Quality-based Toxics Control* (TSD) for calculating WQBELs as described in the Section IV.C.4 of this Fact Sheet. These effluent limitations are carried over from Order No. R6V-2006-0030. Use and monitoring of formaldehyde must be reported as specified in the attached Monitoring and Reporting Program (Attachment E).

vi. **Hydrogen Peroxide**

Hydrogen peroxide (35% H_20_2) may be used at the Facility for the control of external parasites as a raceway flush treatment at a concentration of 100 mg/L or less, from 45 minutes to 1 hour. FDA approved hydrogen peroxide to control fungi on fish at all life stages, including eggs. Hydrogen peroxide may also be used to control bacterial gill disease in salmonids, and, through an INAD, external parasites. Hydrogen peroxide is a strong oxidizer that rapidly breaks down into water and oxygen; however, it exhibits toxicity to aquatic life during the oxidation process.

The Water Board considered the results of acute aquatic life toxicity testing conducted by the DFW Pesticide Unit when determining whether WQBELs for hydrogen peroxide were necessary in this Order. Results of an acute toxicity test using *C. dubia* showed a 96-hour NOAEL of 1.3 mg/L based on continual constant exposure to hydrogen peroxide. When exposed to hydrogen peroxide for 2 hours followed by a triple lab water flush and normal test completion, *C. dubia* showed a 96-hour NOEC of 2 mg/L.

Effluent hydrogen peroxide data are not available to assess the impact of hydrogen peroxide use at the Facility. Therefore, the following information and calculations were used to determine the estimated effluent hydrogen peroxide concentration from flush treatments at Discharge Point 001. The calculations assume the flow from the raceways mixes completely with the volume of water in the settling basin and is discharged with no further concentration, breakdown, or dilution of hydrogen peroxide.

Flow and volume estimates use the total dilution volume from a 1-hour treatment at 1,616,693 gallons, or 6,119,850 liters (1 gallon = 3.7854118 liters).

Total mass of hydrogen peroxide applied in milligrams = (# raceways treated) x (treatment time in hours) x (raceway flow in CFS) x (26,930 gallons/hour) x (3.7854118 liters/gallon) x (hydrogen peroxide concentration in mg/L).

Estimated final effluent concentration of hydrogen peroxide (in mg/L) =

Total mass of hydrogen peroxide applied in milligrams / total dilution volume in liters. The results were as follows:

Table F-10. Estimated Hydrogen Peroxide Concentrations at Discharge Point 001

Number of Raceways Treated with H_2O_2	H_2O_2 (35%) Treatment Conc. (mg/L)	H_2O_2 Treatment Conc. (mg/L)	Treatment Time in Hours	Total Mass of H_2O_2 Applied (mg)	Total Dilution Volume in Liters	Estimated Final Effluent H_2O_2 Conc. (mg/L)
1	100	35	1	15,877,333	6,119,850	2.59
6	100	35	1	63,509,330	6,119,850	10.38

The Water Board has determined that, based on available toxicity testing data and the estimated concentrations, hydrogen peroxide may be discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of the Basin Plan narrative water quality objective. Accordingly, this Order includes WQBELs for hydrogen peroxide. The actual effluent concentrations are likely to be lower as the calculations assume no breakdown of hydrogen peroxide. Because hydrogen peroxide is a strong oxidizer, concentrations are unlikely to persist for long periods. Therefore, a MDEL of 1.3 mg/L is calculated based on the 96-hour NOAEL value and using the procedure in USEPA's TSD for calculating water quality-based effluent limitations as described in the Section IV.C.4 of this Fact Sheet. This effluent limitation is carried over from Order No. R6V-2006-0030. Use and monitoring of hydrogen peroxide must be reported as specified in the attached Monitoring and Reporting Program (Attachment E).

vii. **Potassium Permanganate**

Potassium permanganate (also known by the trade name of Cairox^{TM}) is used at the Facility as a flush treatment to control gill disease. Potassium permanganate has a low estimated lifetime in the environment, being readily converted by oxidizable materials to insoluble manganese dioxide (MnO_2). In non-reducing and non-acidic environments, MnO2 is insoluble and has a very low bioaccumulative potential. In addition, potassium permanganate is rapidly converted to insoluble manganese dioxide under hatchery conditions. Potassium permanganate is a special category drug the FDA calls "regulatory action deferred".

Potassium permanganate is either added to flow through raceways or used in still bath treatments. When potassium permanganate is added to flow through raceways for flush treatments, it is added in a series of three successive treatments that are applied 10 to 15 minutes apart. The rate of application in each treatment is 2 ounces for each cubic foot per second of water (CFS). When potassium permanganate is used for still bath treatments, a maximum concentration of 2 mg/L is used for a maximum duration of one hour.

In order to estimate the final concentration of potassium permanganate in the effluent, the dilution of each addition of potassium permanganate needs to be calculated. In order to estimate the dilution of potassium permanganate that will occur during a treatment, the duration of time it persists in a raceway is needed. Therefore a chemical retention time test was conducted on the raceways to estimate the duration of time that potassium permanganate would persist in a raceway after an application. Sodium chloride, which is easily measured with a field probe, was used as a marker solute for the chemical retention time test. Sodium chloride was detected at the end of a raceway with an estimated flow rate of 4.45 CFS up to 1.5 hours after addition at the head boxes. Given the assumption that potassium permanganate will have the same retention time in raceways as sodium chloride, the dilution of potassium permanganate applied to a raceway was calculated with the following formula:

The hatchery has six raceways, with a total water flow rate through each raceways estimated at 4.45 CFS. A pilot test to determine chemical retention time was conducted at the Facility and found it required approximately 1.5 hours for sodium chloride to run through an entire raceway. Assuming the retention time for potassium permanganate is similar to sodium chloride, the dilution volume of water from one raceway after 1.5 hours = (4.45 CFS) x (26,930 gallons/hour) x (1.5 hours) = 179,758 gallons. (where 1 CFS = 26,930 gallons per hour).

The estimated volume of the two settling ponds based on the estimated dimensions for each pond at 1,000 feet x 10 feet x 6 feet is 897,662 gallons.

The total dilution volume from the six raceways during 1.5 hours of flow, plus the volume of the two settling ponds, is 1,976,209 gallons. Estimated final effluent concentration of potassium permanganate ($KMnO_4$) (in mg/L) = [(# raceways treated) x (3 treatments) x (2 ounces per CFS) x (flow in CFS) x (0.0625 lbs/ounce)] / [(Total dilution in gallons) x (8.34 pounds/gallon)] x 1,000,000.

Table F-11. Estimated Potassium Permanganate Concentrations- Discharge Point 001

Number of Raceways Treated with Potassium Permanganate	Estimated Final Effluent Potassium Permanganate Concentration (mg/L)
1	0.10
6	0.61

Effluent concentrations could not be estimated from the disposal of bath treatment wastewaters as information regarding volumes and location of disposal (which affects dilution factors) was unavailable. However, effluent potassium permanganate concentrations from the disposal of bath treatments wastewater are likely to be even lower than the concentrations estimated for flush treatments, due to the smaller quantities of wastewater and low concentrations used in bath treatments (2 mg/L).

Results of a single acute toxicity test conducted by the DFW Pesticide Unit using *C. dubia* showed a 96-hour NOAEL of 0.038 mg/L for potassium permanganate under continuous exposure. The DFW's 2-hour exposure test showed a 0.1975 mg/L NOEC.

Based on available toxicity testing data and calculated estimates of discharges of potassium permanganate from flush treatments, potassium permanganate may be discharged at levels that cause, have the reasonable potential to cause, or contribute to an excursion of the narrative water quality objective for toxicity from the Basin Plan. Therefore, an AMEL of 0.12 mg/L and a MDEL of 0.25 mg/L are calculated based on the 96-hour NOAEL value and using the procedure in USEPA's TSD for calculating WQBELs as described in the Section IV.C.4 of this Fact Sheet. These effluent limitations are carried over from Order No. R6V-2006-0030. Use and monitoring of potassium permanganate must be reported as specified in the attached Monitoring and Reporting Program (Attachment E).

4. WQBEL Calculations

Formaldehyde

Effluent concentrations of formaldehyde may persist because of potential application procedures (e.g., successive raceway treatments), also due to retention of effluent in the settling basin and the recirculation of settling basin wastewater back to the raceways.

The Water Board calculated the AMEL and MDEL for formaldehyde, using the calculations and methods described previously.

Assuming:
- No in-stream dilution allowance.
- CV = 0.6 for the lognormal distribution of pollutant concentrations in effluent.

Calculation of Aquatic Life AMEL and MDEL:

ECA based on NOAEL (acute toxicity) and NOEC (chronic toxicity) for C. dubia, with no dilution allowance

ECA_{acute} = 1.3 mg/L

$ECA_{chronic}$ = 1.3 mg/L

Long-Term Average concentration based on acute ECA

LTA_{acute} = 1.3 mg/l x 0.321 = 0.4173 mg/L
(where 0.321 = acute ECA multiplier at 99% occurrence probability and 99% confidence)

Long-Term Average concentration based on chronic ECA

$LTA_{chronic}$ = 1.3 mg/l x 0.527 = 0.6851 mg/L
(where 0.527 = chronic ECA multiplier at 99% occurrence probability and 99% confidence)

Most Limiting LTA concentration based on acute LTA

LTA = 0.4173 mg/L

Average Monthly Effluent Limitation

AMEL = LTA x 1.55
(where 1.55 = AMEL multiplier at 95% occurrence probability, 99% confidence, and n = 4)

$AMEL_{aquatic\ life}$ = 0.4173 mg/l x 1.55 = 0.65 mg/L

Maximum Daily Effluent Limitation

MDEL = LTA x 3.11
(where 3.11 = MDEL multiplier at 99% occurrence probability and 99% confidence)

$MDEL_{aquatic\ life}$ = 0.4173 mg/l x 3.11 = 1.3 mg/L

Calculation of Human Health AMEL and MDEL:

This section is not applicable as the formaldehyde limits are based on aquatic life criteria.

Determination of Final WQBELs:

The lower AMEL and MDEL based on aquatic life and human health is selected as the WQBEL.

$AMEL_{aquatic\ life}$	**$MDEL_{aquatic\ life}$**	**$AMEL_{human\ health}$**	**$MDEL_{human\ health}$**
0.65 mg/L	1.3 mg/L	Not Applicable	Not Applicable

The final AMEL of 0.65 mg/L and MDEL of 1.3 mg/L for formaldehyde are based on limitations protective of aquatic life.

Hydrogen Peroxide

As hydrogen peroxide is a strong oxidizer, effluent concentrations are unlikely to persist for long periods. Therefore, only a MDEL was calculated based on the 96-hour NOAEL value for *C. dubia* and using the procedure in USEPA's TSD for calculating WQBELs.

The Water Board calculated the MDEL for hydrogen peroxide, using the calculations and methods described previously for deriving the effluent limitations for potassium permanganate.

Assuming:
- No in-stream dilution allowance.
- CV = 0.6 for the lognormal distribution of pollutant concentrations in effluent.

Effluent Concentration Allowance (ECA) based on NOAEL (acute toxicity) with no dilution allowance

ECA_{acute} = 1.3 mg/L

No chronic toxicity data, Long-Term Average concentration based on acute ECA

LTA = 1.3 mg/l x 0.321 = 0.4173 mg/L
(where 0.321 = acute ECA multiplier at 99% occurrence probability and 99% confidence)

Maximum Daily Effluent Limitation

MDEL = LTA x 3.11
(Where 3.11 = MDEL multiplier at 99% occurrence probability and 99% confidence)

MDEL = 0.08025 mg/l x 3.11 = 1.3 mg/L

This effluent limitation has been established for protection of aquatic life against toxic effects from exposure to hydrogen peroxide in the discharge.

Potassium Permanganate

Effluent concentrations of potassium permanganate may persist because of potential application procedures (e.g., successive raceway treatments) and due to retention of effluent in the settling basin. Therefore, both an average monthly effluent limitation and a maximum daily effluent limitation were calculated based on the 96-hour NOAEL value for *C. dubia* and using the procedure in USEPA's TSD for calculating water quality-based effluent limitations.

The Regional Water Board calculated the AMEL and MDEL for potassium permanganate, using the calculations and methods described previously.

Assuming:
- No in-stream dilution allowance.

- Coefficient of Variation (CV) = 0.6 for the lognormal distribution of pollutant concentrations in effluent.

Effluent Concentration Allowance based on NOAEL (acute toxicity) with no dilution allowance

ECA_{acute} = 0.25 mg/L

No chronic toxicity data, Long Term Average concentration based on acute ECA

LTA = 0.25 mg/l x 0.321 = 0.08025 mg/L
(where 0.321 = acute ECA multiplier at 99% occurrence probability and 99% confidence)

Average Monthly Effluent Limitation

AMEL = LTA x 1.55
(where 1.55 = AMEL multiplier at 95% occurrence probability, 99% confidence, and n = 4)

AMEL = 0.08025 mg/l x 1.55 = 0.12 mg/L

Maximum Daily Effluent Limitation

MDEL = LTA x 3.11
(Where 3.11 = MDEL multiplier at 99% occurrence probability and 99% confidence)

MDEL = 0.08025 mg/l x 3.11 = 0.25 mg/L

These effluent limitations have been established for protection of aquatic life against toxic effects from exposure to potassium permanganate in the discharge.

5. Final Water Quality-Based Effluent Limitations

Table F-12. Summary of Calculated Water Quality-based Effluent Limitations, Discharge Point-001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Formaldehyde	mg/L	0.65	1.3	--	--
Hydrogen Peroxide	mg/L	--	1.3	--	--
Potassium Permanganate	mg/L	0.12	0.25	--	--
Settleable Solids	ml/L	0.1	--	--	--

Other Water Quality-based effluent limits are carried over from the previous Order with the exception of removing the effluent limitation for orthophosphate because there is no reasonable potential.

6. Whole Effluent Toxicity (WET)

The Basin Plan specifies a narrative objective for toxicity, requiring that "All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life." Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Water Board. The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for "experimental water" as defined in Standard Methods for the Examination of Water and Wastewater (American Public Health Association, et al. 1992).

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters.

Numeric water quality criteria or Basin Plan numeric objectives currently are not available for most of the aquaculture drugs and chemicals used by the Discharger or proposed for use at this Facility. Therefore, the Water Board used the narrative water quality objective for toxicity from the Basin Plan as a basis for determining "reasonable potential" for discharges of these drugs and chemicals. USEPA's TSD specifies two toxicity measurement techniques that can be employed in effluent characterization; the first is Whole Effluent Toxicity (WET) testing, and the second is chemical-specific toxicity analyses. WET requirements protect the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and generally measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, growth, or other sub-lethal effects. WET testing is used most appropriately when the toxic constituents in an effluent are not completely known; whereas chemical-specific analysis is more appropriately used when an effluent contains only one, or very few, well-known constituents.

Due to the nature of operations and chemical treatments at this Facility, its effluent generally contains only one or two known chemicals at any given a time. Therefore, the Water Board is using a chemical-specific approach to determine "reasonable potential" for discharges of aquaculture drugs and chemicals. As such it is not necessary to include an acute toxicity effluent limitation or require acute or chronic WET testing.

D. Final Effluent Limitations

1. Mass-based Effluent Limitations

40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of concentration, as mass limitations are not necessary to protect the beneficial uses of the receiving water.

2. Satisfaction of Anti-degradation Policy

As described in Sections IV.B.2 and IV.C.3. of this Fact Sheet, effluent limitations for TDS, TSS, settleable solids, formaldehyde, hydrogen peroxide, nitrogen (total), and potassium permanganate are being carried over from Order No. R6V-2006-0030. The effluent limitations for pH are changed to satisfy the Basin Plan receiving water objectives. The effluent limitation for nitrate-nitrogen is retained but an intake credit allowed. These limits are as stringent as or more stringent than the limits from the previous permit.

The total flow of fish hatchery wastewater is retained (as measured by the influent supply wells) as described in the attached Monitoring and Reporting Program (Attachment E). Because the pumped groundwater volume may not exceed the pump capacity and the facility experiences some water loss due to evaporation and percolation from the unlined settling ponds, the flow limitation will not cause a violation of mass loading if calculated. The effluent limit for copper has been removed because the Discharger has certified that copper sulfate will no longer be used at the hatchery. The Water Board has determined that the Anti-degradation Policy is satisfied.

3. Satisfaction of Anti-Backsliding Requirements

Section 402(o) of the Clean Water Act and 40 CFR 122.44(l) require that, with some exceptions, effluent limitations or conditions in reissued Orders be at least as stringent as those in the existing Order. As described in Sections IV.B.2 and IV.C.3. of this Fact Sheet, the last permit carried over effluent limits that were developed using best professional judgment prior to the promulgation of the ELGs for aquaculture, noting that Section 402(o) of the CWA prohibits backsliding of effluent limitations that are based on BPJ to reflect a subsequently promulgated ELG that are less stringent. This Order carries over effluent limitations for formaldehyde, hydrogen peroxide, potassium permanganate, settleable solids, and TSS from Order No. R6V-2006-0030. The effluent limitations for pH, total dissolved solids, and total nitrogen (as N) are also retained. The maximum instantaneous effluent limitations for nitrate (as N), total nitrogen (as N), and TDS include an intake credit that satisfied 40 CFR 122.45(g) as described in the Order Section VII.B.

This Order does not retain effluent limitations for the following constituents because new information is available which was not available when the previous Order was adopted to satisfy 40 CFR 122.44(l)(2)(i)(B)(1).

- Copper – Effluent monitoring for copper under the previous Order was required only when an application of copper was made to raceways. The CA DFW did not use copper during the previous permit cycled, thus no effluent data are available for copper. However, the

CA DFW has certified that it no longer uses copper and thus there is no reasonable potential for the effluent to contribute copper, and thus there is no need of an effluent limitation for copper.

- Orthosphophate - The effluent limitation for orthophosphate is removed because the hatchery does not add orthophosphate and because the monitoring data indicate that: (1) neither the instantaneous maximum nor average monthly effluent limitation for orthophosphate was exceeded for the previous Order and (2) the annual average receiving water limit was also not exceeded. This Order removes the effluent limitation for orthophosphate because there is no reasonable potential that orthophosphate would violate receiving water objectives as substantiated by monitoring data.

The Water Board has determined that the numeric limitations from the previous order continue to be applicable to the discharge and that the Anti-backsliding Policy is satisfied.

4. Stringency of Requirements for Individual Pollutants

This Order contains technology-based effluent limitations, WQBELs and numeric receiving water limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on TSS and flow. WQBELs and numeric receiving water limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

Table F-13. Summary of Final Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	6.0 Net over influent [1]	--	--	15.0
Priority Pollutants – none					
Non-Conventional Pollutants					
Flow	mgd [2]	26	--	--	--
Formaldehyde	mg/L	0.65	1.3	--	--
Hydrogen Peroxide	mg/L	--	1.3	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Nitrate, Total (as N)	mg/L	--	--	--	1.0 [3]
Nitrogen, Total (as N)	mg/L	--	--	--	1.8 [3]
Potassium Permanganate	mg/L	0.12	0.25	--	--
Settleable Solids	ml/L	0.1	--	--	--
Total Dissolved Solids (TDS)	mg/L	--	--	--	265 [3]

[1] Report compliance with respect to the limit as:
Effluent Limit = Influent Concentration + Allowed Net Over Influent Concentration

[2] mgd = million gallons per day

[3] Effluent limitations for Nitrate (as N), Total nitrogen (as N), and Total Dissolved Solids are equal to the instantaneous maximum value. Where the influent water concentration exceeds this value, then the effluent limitation is equal to the influent quality. Report compliance with respect to the limit as:
Effluent Limit = Instantaneous Maximum; not to exceed influent supply water concentration

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Discharge Point 002

This Order prohibits the discharge of any chemicals through Discharge Point 002. Prohibitions and special provisions incorporated into this Order are sufficient to ensure and protect beneficial uses of the receiving water (groundwater).

G. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Fish Springs Fish Hatchery is provided groundwater pumped by the Los Angeles Department of Water and Power. The Hatchery uses the water for hatchery operations, and discharges it at the headwaters of Fish Springs Creek. Because of groundwater pumping in the area, Fish Springs no longer flows and the Hatchery's effluent is the sole source of water for Fish Springs Creek at the Discharge location to surface water. The discharge includes constituents contained in groundwater and wastes from fish hatchery operations. During storm events, constituents in stormwater may also be present in the discharge. The Discharger is responsible for constituents contributed by groundwater pumping, hatchery operations and hatchery property management.

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Lahontan Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 CFR 131.12) and State Water Board Resolution No. 68-16. Numeric receiving water limits for pH, TDS, nitrate, total nitrogen, orthophosphate, sulfate, fluoride, boron, and chloride have been included in the permit, and will be measured at the discharge point. Receiving water limitations in this Order are included to ensure protection of beneficial uses of the receiving water (see Order section V).

The narrative objective for chemical constituents in the Basin Plan states that "Waters shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses." The receiving waters collectively have the following beneficial uses: agricultural supply (AGR), aquaculture (AQUA), cold freshwater habitat (COLD), commercial and sport fishing (COMM), contact water recreation (REC-1), flood peak attenuation/flood water storage (FLD), freshwater replenishment (FRSH), ground water recharge (GWR), industrial service supply (IND), migration of aquatic organisms (MIGR), municipal and domestic supply (MUN), non-contact water recreation (REC-2), rare, threatened, or endangered species (RARE), warm freshwater habitat (WARM), water quality enhancement (WQE); and wildlife habitat (WILD).

The Water Board recognizes that the receiving water limitations established for the Owens River may not be appropriate for Fish Springs Creek and intends to consider site specific objectives at a future date.

B. Groundwater

The Basin Plan contains numeric and narrative water quality objectives applicable to all groundwaters within the Lahontan Region. The narrative objective for chemical constituents in the Basin Plan states that "Ground waters shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses." The Owens Valley Ground Water Basin has the beneficial use of municipal and domestic supply (MUN), agricultural supply (AGR), industrial supply (IND), freshwater replenishment (FRSH), and wildlife habitat (WILD) . This Order prohibits the discharge of any chemicals through Discharge Point 002. Prohibitions and special provisions incorporated into this Order are sufficient to ensure and protect beneficial uses of the receiving water (groundwater).

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this Facility.

A. Influent Monitoring

Order No. R6V-2006-0030 did not require routine Facility supply water monitoring (influent monitoring). This Order requires influent monitoring. The influent water originates from pumped groundwater supply wells and may contribute to constituent violations in the effluent. The influent monitoring requirements will aid the Water Board in determining the sources of impacts. Since

the Basin Plan objectives (surface water limitations) are set as average annual concentrations, a minimum of 10 samples per year is necessary to accurately assess compliance with the objectives. However, since the source water (influent) is ground water and intake credits are allowed for total suspended solids and nitrate-nitrogen, influent monitoring is required quarterly for: electrical conductivity, flow, nitrate-nitrogen, pH, TDS, total kjeldahl=hl nitrogen, and TSS.

B. Effluent Monitoring

1. Discharge Point 001

To ensure that beneficial uses of waters of the State are protected, the Basin Plan lists narrative and numeric objectives that are applicable to all surface waters, all ground waters, specific receiving surface waters, and specific ground waters. For water bodies which have not been ascribed specific water quality objectives, the Water Board applies the water quality objectives applicable to the downstream receiving water; this is known as "the tributary rule." Numeric objectives that apply to Fish Springs Creek below the hatchery therefore include numeric objectives that are common to all waters in the Lahontan Region and numeric objectives set for the Owens River at and above the Tinemaha Reservoir Outlet. These surface water objectives serve as the basis for establishing surface water limitations. These limitations serve to protect the beneficial uses designated for the receiving waters that will be impacted by the discharge. Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with established effluent limitations to demonstrate compliance with effluent limitations established in this Order. Effluent monitoring is required for chloramine-T, electrical conductivity, formaldehyde, hydrogen peroxide, nitrate-nitrogen, total kjeldahl nitrogen, total nitrogen, pH, potassium permanganate, iodine, settleable solids, TDS, and TSS. Effluent monitoring for fish health constituents without effluent limits (chloramine, hydrogen peroxide and iodine) is required to evaluate effluent quality only during constituent use. Effluent monitoring for electrical conductivity is a field parameter related to TDS concentrations.

Table F-14. Basin Plan Surface Water Objectives

Surface Water		Objective (mg/L) Annual average value/90th Percentile Value.							
		TDS	Cl	SO4	F	B	NO3-N	Total N	PO4
Owens River (Tinemaha Reservoir Outlet)	Annual average	207.00	17.90	26.80	0.57	0.61	0.60	0.90	0.32
	90th Percentile	343.00	42.00	59.00	0.90	1.50	1.10	1.50	0.56

This Order specifies effluent sampling as follows.

- Quarterly for: nitrate-nitrogen, total kjeldahl nitrogen, total nitrogen, total nitrogen, total dissolved solids;

- Quarterly During Use for: chloramine-T, formaldehyde, hydrogen peroxide, potassium permanganate, iodine;
- Quarterly, or when chemicals are applied that may affect: electrical conductivity and pH, and
- Quarterly and During Cleaning for: settleable solids and TSS.

The requirement to collect samples during cleaning operations (or other operational modes that increase the discharge of total suspended or settleable solids), are being carried over to this Order. However, the requirement to collect two grab samples (grab pairs collected not less than 2 hours, nor greater than 4 hours apart) for settleable solids and TSS was not carried over to this Order. The grab pairs were required in the previous Order No. R6V-2006-0030 to assess the range of TSS and settleable solids concentrations during cleaning operations, as well as to determine compliance with monthly average effluent limitations. Based on evaluation of the results there was little variation in concentrations between the grab pair samples for TSS and settleable solids. Therefore, continued grab pair sampling was considered unnecessary for these parameters as the data did not provide any additional information. However, the monitoring frequency for TSS and settleable solids was increased from two per quarter to three per quarter (one per month).

As discussed in detail in Section IV.C.6 of this Fact Sheet, the Water Board has determined that a chemical-specific approach to be the most appropriate measurement technique for effluent toxicity characterization at the Facility. Therefore, effluent monitoring of aquaculture chemicals used by the Facility, determined to have reasonable potential, and for which effluent limits have been established (formaldehyde, hydrogen peroxide, and potassium permanganate) is required to determine compliance with effluent limitations. Monitoring for pH and electrical conductivity is required during the use of aquaculture chemicals that affect these parameters (pH during acetic acid and sodium bicarbonate use, and electrical conductivity during sodium bicarbonate and sodium chloride use).

2. Discharge Point 002

Flow monitoring requirements for Discharge Point 002 are discontinued because the discharge at this location has stopped.

C. Whole Effluent Toxicity Testing Requirements – Not Applicable

D. Receiving Water Monitoring

1. Surface Water

Since the effluent at the point of discharge is the receiving water at R-001, receiving water sampling at R-001 is discontinued. A new receiving water monitoring station (R-002) is established at the Highway 395 Bridge to evaluate compliance with numeric surface water limitations and to provide additional data to establish site specific objectives (see VI.B.1. above). The Receiving water monitoring requirements for station R-002 are as follows.

- Quarterly for: ammonia-unionized, ammonia total, boron, chloride, fluoride, nitrate-nitrogen, nitrogen-total, phosphate-total, sulfate, and TDS.
- Quarterly for field parameters consisting of: dissolved oxygen, electrical conductivity, pH, temperature, and turbidity.

Sampling of Station R-002 to collect data for establishing Site Specific Objectives is intended for one permit cycle. Data obtained during this permit cycle are intended to be sufficient for a future determination of Site Specific Objectives. At the next permit cycle, the Water Board will re-evaluate the sampling program at location R-002 with respect to data obtained and hatchery discharge effects in the receiving water.

2. Sediment

Sediment monitoring is discontinued because use of copper plates in hatchery weirs is discontinued.

3. Groundwater – Not Applicable

Supply water monitoring constitutes groundwater monitoring.

E. Other Monitoring Requirements

1. Drug and Chemical Use

Quarterly reporting of drug and chemical use is required in this Order. The ELGs at 40 CFR Part 451 requires reporting on the use of drugs, disinfectants, and other chemicals in discharges authorized by NPDES permits.

2. Priority Pollutant Metals Monitoring

Potential discharge of priority pollutants is based on the probability of the pollutants being present in the groundwater pumped from source wells and from data collected from CAAP facilities. Data compiled from CAAP facilities, local drinking water wells and the State Board's Groundwater Ambient Monitoring Association (GAMA) database were used to determine the potential for metals and other priority pollutants to occur. Accordingly, the Water Board requires sampling and analysis of the influent and effluent for priority pollutants listed in Attachment J at least once per permit cycle. The samples shall be analyzed for priority pollutants **in the year 2018 and reported to the Water Board no later than February 1, 2019.** (Refer to Attachment J for the specific monitoring requirements.)

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Monitoring and Reporting Requirements

The Discharger is required to comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

Conditions that necessitate a major modification of a permit are described in 40 CFR 122.62, which include the following:

a) *When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision.* Therefore, if more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Water Board will revise and modify this Order in accordance with such more stringent standards.

b) *When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.* The Discharger is required to report on usage of drugs and chemicals for which discharge is authorized by this Order. New information on usage or toxicity of drugs or chemicals used at the Facility may justify reopening and modifying this order.

a) *When facility alterations or changes in operations justify new conditions that are different from the existing permit.* The discharge of a new drug or chemical that is found to have reasonable potential to cause, or contribute to an in-stream excursion above any chemical-specific water quality criteria, narrative water quality objective for chemical constituents from the Basin Plan, or narrative water quality objective for toxicity from the Basin Plan, would be considered a change in facility operations that requires reopening this Order to establish new effluent limitations.

b) *If effluent monitoring data indicate receiving water violations or site specific objectives for Fish Springs Creek are developed*. If data indicate chloride, sulfate, fluoride, phosphorous or boron in the discharge may cause, have the reasonable potential to cause, or contribute to an excursion of the numeric Water Quality Objectives or narrative Water Quality Objectives contained in the Basin Plan for the Owens River (above Tinemaha Reservoir), or the Water Board establishes new site Specific Objectives for Fish Springs Creek, then this Order may be reopened to establish effluent limitations for these parameters.

2. Special Studies and Additional Monitoring Requirements

Prior to using any new chemical or aquaculture drug at the Facility, the Discharger is required to submit to the Water Board supplemental information (e.g., name, purpose, amount to be used) and toxicity testing data for the new chemical or aquaculture drug as specified in Section VI.C.2 of this Order. These reporting and toxicity testing requirements are needed for the Water Board to determine if the discharge of a new drug or chemical by the Facility has reasonable potential to cause, or contribute to an in-stream excursion above any chemical-specific water quality criteria, narrative water quality objective for chemical constituents from the Basin Plan, or narrative water quality objective for toxicity from the Basin Plan.

3. Best Management Practices and Pollution Prevention

a) **Best Management Practices (BMP) Plan - Aquaculture Operations.** BMP plan requirements are established based on requirements in the ELGs for the Concentrated Aquatic Animal Production Point Source Category at 40 CFR 451. CAAP facilities that are subject to the federal ELGs are required to develop and maintain a BMP plan that addresses the following requirements: solids control, material storage, structural maintenance, recordkeeping, and training. The Discharger must make the BMP plan available to the Water Board upon request, and submit certification that the BMP plan has been developed.

b) **Best Management Practices - Storm Water Pollution Prevention Plan (SWPPP).** This Order requires the Discharger to develop and implement a SWPPP, in accordance with Attachment K to the Order that describes site-specific best management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State. Storm water runoff at the Facility has the potential to come in contact with pollutants associated with aquaculture activities such as chemicals, fuel, waste oil, vehicle wash water, and other storage of other materials.

4. Compliance Schedules – Not Applicable

5. Construction, Operation, and Maintenance Specifications

Solid waste disposal provisions in this Order are based on the requirements of CCR Title 27 and prevention of unauthorized discharge of solid wastes into waters of the United States or waters of the State. Other construction, operation, and maintenance specifications are required to prevent other unauthorized discharges to waters of the United States or waters of the State.

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Other Special Provisions - Order Continuation after Expiration Date. This provision is common in California NPDES permits and is authorized under 40 CFR 122.6(d).

VIII. PUBLIC PARTICIPATION

The Water Board is considering the issuance of WDRs that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Fish Springs Fish Hatchery. As a step in the WDR adoption process, the Water Board staff circulated a tentative WDR for thirty day comment period. The Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through publication in the Inyo Register on March 21,2015.

B. Written Comments

Changes to the Tentative WDRs based on comments received were reflected in the Proposed WDRs that were circulated to interested persons and the Discharger on March 18, 2015.

Comments on the Proposed WDRs may be submitted either in person or by Email to the Water Board at lahontan@waterboards.ca.gov no later than ten days before the Board Meeting (**May 27, 2015**).

C. Public Hearing

The Water Board will hold a public hearing on the proposed WDRs during its regular Board meeting on the following date and time and at the following locations:

Date: **June 10, 2015**
Time: **7:00 pm**
Location: **Tallman Pavilion**
Tri County Fairgrounds
Sierra Street and Fair Drive
Bishop, CA 93514

Interested persons are invited to attend. At the public hearing, the Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/lahontan where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address below at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Water Board by calling (760) 241-6583.

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Water Board, reference this Facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Jehiel Cass at (760) 241-6583 or submitted to Lahontan@waterboards.ca.gov.

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ATTACHMENT G – BASIN PLAN WATER QUALITY OBJECTIVE TABLES

ATTACHMENT G – BASIN P

Table G-1: One-Hour Concentration for Ammonia
N WATER QUALITY OBJECTIVE TABLES

Waters Designated as COLD, COLD with SPWN, COLD with MIGR (Salmonids or other sensitive coldwater species present

	Temperature, °C						
pH	0	5	10	15	20	25	30
Un-ionized Ammonia (mg/liter NH_3)							
6.50	0.0091	0.0129	0.0182	0.026	0.036	0.036	0.036
6.75	0.0149	0.021	0.030	0.042	0.059	0.059	0.059
7.00	0.023	0.033	0.046	0.066	0.093	0.093	0.093
7.25	0.034	0.048	0.068	0.095	0.135	0.135	0.135
7.50	0.045	0.064	0.091	0.128	0.181	0.181	0.181
7.75	0.056	0.080	0.113	0.159	0.22	0.22	0.22
8.00	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.25	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.50	0.065	0.092	0.130	0.184	0.26	0.26	0.26
8.75	0.065	0.092	0.130	0.184	0.26	0.26	0.26
9.00	0.065	0.092	0.130	0.184	0.26	0.26	0.26
Total Ammonia (mg/liter NH_3)							
6.50	35	33	31	30	29	20	14.3
6.75	32	30	28	27	27	18.6	13.2
7.00	28	26	25	24	23	16.4	11.6
7.25	23	22	20	19.7	19.2	13.4	9.5
7.50	17.4	16.3	15.5	14.9	14.6	10.2	7.3
7.75	12.2	11.4	10.9	10.5	10.3	7.2	5.2
8.00	8.0	7.5	7.1	6.9	6.8	4.8	3.5
8.25	4.5	4.2	4.1	4.0	3.9	2.8	2.1
8.50	2.6	2.4	2.3	2.3	2.3	1.71	1.28
8.75	1.47	1.40	1.37	1.38	1.42	1.07	0.83
9.00	0.86	0.83	0.83	0.86	0.91	0.72	0.58

1 To convert these values to mg/liter N, multiply by 0.822
2 Source: U. S. Environmental Protection Agency. 1986. Quality criteria for water, 1986. EPA 440/5-86-001.

Table G-2: Four Day Average Concentration for Ammonia

Waters Designated as COLD, COLD with SPWN, COLD with MIGR (Salmonids or other sensitive coldwater species present)

	Temperature, °C						
pH	0	5	10	15	20	25	30
Un-ionized Ammonia (mg/liter NH_3)							
6.50	0.0008	0.0011	0.0016	0.0022	0.0022	0.0022	0.0022
6.75	0.0014	0.0020	0.0028	0.0039	0.0039	0.0039	0.0039
7.00	0.0025	0.0035	0.0049	0.0070	0.0070	0.0070	0.0070
7.25	0.0044	0.0062	0.0088	0.0124	0.0124	0.0124	0.0124
7.50	0.0078	0.0111	0.0156	0.022	0.022	0.022	0.022
7.75	0.0129	0.0182	0.026	0.036	0.036	0.036	0.036
8.00	0.0149	0.021	0.030	0.042	0.042	0.042	0.042
8.25	0.0149	0.021	0.030	0.042	0.042	0.042	0.042
8.50	0.0149	0.021	0.030	0.042	0.042	0.042	0.042
8.75	0.0149	0.021	0.030	0.042	0.042	0.042	0.042
9.00	0.0149	0.021	0.030	0.042	0.042	0.042	0.042
Total Ammonia (mg/liter NH_3)							
6.50	3.0	2.8	2.7	2.5	1.76	1.23	0.87
6.75	3.0	2.8	2.7	2.6	1.76	1.23	0.87
7.00	3.0	2.8	2.7	2.6	1.76	1.23	0.87
7.25	3.0	2.8	2.7	2.6	1.77	1.24	0.88
7.50	3.0	2.8	2.7	2.6	1.78	1.25	0.89
7.75	2.8	2.6	2.5	2.4	1.66	1.17	0.84
8.00	1.82	1.70	1.62	1.57	1.10	0.78	0.56
8.25	1.03	0.97	0.93	0.90	0.64	0.46	0.33
8.50	0.58	0.55	0.53	0.53	0.38	0.28	0.21
8.75	0.34	0.32	0.31	0.31	0.23	0.173	0.135
9.00	0.195	0.189	0.189	0.195	0.148	0.116	0.094

1 To convert these values to mg/liter N, multiply by 0.822.
2 Source: U. S. Environmental Protection Agency. 1992. Revised tables for determining average freshwater ammonia concentrations. USEPA Office of Water Memorandum, July 30, 1992.

Table G-3: Water Quality Criteria for Ambient Dissolved Oxygen Concentration

AMBIENT DISSOLVED OXYGEN CONCENTRATION[1,2]

	Beneficial Use Class			
	COLD & SPWN[3]	COLD	WARM & SPWN[3]	WARM
30 Day Mean	NA[4]	6.5	NA	5.5
7 Day Mean	9.5 (6.5)	NA	6.0	NA
7 Day Mean Minimum	NA	5.0	NA	4.0
1 Day Minimum[5,6]	8.0 (5.0)	4.0	5.0	3.0

1 From: USEPA. 1986. Ambient water quality criteria for dissolved oxygen. Values are in mg/L.

2 These are water column concentrations recommended to achieve the required intergravel dissolved oxygen concentrations shown in parentheses. For species that have early life stages exposed directly to the water column (SPWN), the figures in parentheses apply.

3 Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching (SPWN).

4 NA (Not Applicable).

5 For highly manipulatable discharges, further restrictions apply.

6 All minima should be considered as instantaneous concentrations to be achieved at all times.

The table above was generated for standardized concentrations. Natural conditions, such as elevation, may alter dissolved oxygen concentrations. Where natural conditions alone create dissolved oxygen concentrations less than 110 percent of the applicable criteria means or minima or both, the minimum acceptable concentration is 90 percent of the natural concentration. (page 35: USEPA. 1986. Ambient Water Quality Criteria for Dissolved Oxygen.)

Numeric objectives in the Basin Plan that are Applicable to Fish Springs Creek by Application of the Tributary Rule

Surface Water		**Objective (mg/L) Annual average value/90th Percentile Value.**							
		TDS	**Cl**	**SO4**	**F**	**B**	**NO3-N**	**Total N**	**PO4**
Fish Springs (above Hatchery)	Annual average	174.00					0.70	0.80	0.17
	90th Percentile	219.00					0.80	1.00	0.23

Owens River (Tinemaha Reservoir Outlet)	Annual average	207.00	17.90	26.80	0.57	0.61	0.60	0.90	0.32
	90th Percentile	343.00	42.00	59.00	0.90	1.50	1.10	1.50	0.56

ATTACHMENT H – AQUACULTURE DRUGS AND CHEMICALS APPROVED FOR USE

Drug or Chemical	Purpose of Application	Expected Method(s) of Application or Treatment
Acetic acid.	Control of external parasites.	(1) *Flush:* 1.5 to 2.2 gallons of glacial acetic acid added as a bolus to top of raceway. Gives a treatment of level of approximately 335 to 500 ppm acetic acid. (2) *Bath:* used at a rate of 500 to 2,000 ppm for 1 to 10 minutes.
Amoxicillin trihydrate.	Control and prevention of external and systemic bacterial infections.	*Injected intraperitoneally:* into broodstock twice a week, prior to spawning, at a rate of 40 milligrams amoxicillin per kilogram of fish.
Carbon Dioxide.	Anesthetic.	*Bath:* bubbled in water. Usually used in small volumes of water.
Chloramine-T.	Control of external gill bacteria.	(1) *Flush:* used at a concentration of 20 ppm for one hour. (2) *Bath:* used at a concentration of 20 ppm for one hour.
Erythromycin.	Control and prevention of external and systemic bacterial infections.	(1) *Injected intraperitoneally:* at a rate of 40 milligrams erythromycin per kilogram of fish, at 30 day intervals. (2) *Feed:* used in medicated feed or fish pills at a rate of 100 milligrams or less of erythromycin per kilogram of fish.
Florfenicol (Nuflor®).	Control and prevention of external and systemic bacterial infections.	*Feed:* mixed with vegetable oil and sprayed onto fish pills. Fish pills are fed to fish as feed at a rate of 10 milligrams of florfenicol per kilogram of fish per day, split into morning and afternoon feedings.
Formalin (37% formaldehyde solution).	(1) Control of external parasites. (2) Fungus control on fish eggs.	(1) *Flush:* Low dose - used at a concentration of 25 ppm of formalin for 8 hours. High dose - used at a concentration of 167 to 250 ppm formalin for one hour. (2) *Bath:* used at a concentration of 2,000 ppm formalin, or less, for 15 minutes.
Hydrogen peroxide.	Control of external parasites.	*Flush:* used at a rate of 100 ppm, or less, for 45 minutes to 1 hour.
MS-222 / tricaine methanesulfonate (Finquel®, Tricaine-S®).	Anesthetic.	*Bath:* used at a rate of 50 to 250 mg/L, usually in a small volume of water.
Oxytetracycline HCl (Terramycin®).	Control and prevention of external and systemic bacterial infections.	(1) *Bath:* used in tanks for six to eight hours at a concentration of 100 ppm or less. (2) *Feed:* fed at a rate of 3.75 grams of oxytetracycline per 100 pounds of fish per day.
Penicillin G potassium.	Control and prevention of external and systemic bacterial infections.	*Bath:* used in tanks for six to eight hours at a concentration of 150 IU/ml (500,000,000 IU/311.8 gm. Packet).

Drug or Chemical	Purpose of Application	Expected Method(s) of Application or Treatment
Potassium permanganate (Cairox™).	Control of external parasites and bacteria.	(1) *Flush:* used at a rate of 2 ounces per CFS of raceway flow, poured in all at once, for a total of 3 treatments, spaced 10 to 15 minutes apart (2.32 ppm for a 45 minute treatment, 3.48 ppm for a 30 minute treatment). (2) *Bath:* used at a rate of 2 ppm, or less, for one hour.
PVP Iodine	Disinfect and control diseases on fish eggs.	*Bath:* used at a concentration of 100 mg/L for 10 to 30 minutes.
Sodium bicarbonate.	Anesthetic.	*Bath:* used at a rate of 142 to 642 mg/L, usually in a small volume of water.
Sodium chloride (salt).	Fish cleansing, disease control, and stress reduction.	*Flush:* used at a rate of 150 to 700 pounds of salt per CFS of raceway flow.
Sulfadimethoxine-ormetoprim (Romet-30®).	Control and prevention of external and systemic bacterial infections.	*Feed:* used at a rate of 50 milligrams of drug per kilogram of fish per day.

ATTACHMENT I – DRUG AND CHEMICAL USAGE REPORT TABLE

Chemical Name	Date	Purpose	Amount Applied	Units	Duration of Treatment	Treatment Type (Immersion, feed, injected)	Flow Treated (CFS)	Total Effluent Flow (CFS)	Effluent Conc. (mg/L)	Person Reporting

ATTACHMENT J – MONITORING REQUIREMENTS

I. Background. THE WATER BOARD HAS DETERMINED THAT, BASED ON PRIORITY POLLUTANT DATA COLLECTED FROM CAAP FACILITIES, DISCHARGE OF PRIORITY POLLUTANTS OTHER THAN METALS IS UNLIKELY. ACCORDINGLY, THE WATER BOARD IS REQUIRING, AS PART OF THE MONITORING AND REPORTING PROGRAM THAT THE DISCHARGER SAMPLE THE EFFLUENT AND THE INFLUENT AND ANALYZE THE SAMPLES FOR PRIORITY POLLUTANT METALS. SECTIONS 2.4.1 THROUGH 2.4.4 OF THE SIP PROVIDE MINIMUM STANDARDS FOR ANALYSES AND REPORTING. (COPIES OF THE SIP MAY BE OBTAINED FROM THE STATE WATER RESOURCES CONTROL BOARD, OR DOWNLOADED FROM HTTP://WWW.WATERBOARDS.CA.GOV/ ISWP/INDEX.HTML.) EFFLUENT AND RECEIVING WATER PH AND HARDNESS ARE REQUIRED TO EVALUATE THE TOXICITY OF METALS WHERE THE TOXICITY OF THE CONSTITUENTS VARIES WITH PH AND/OR HARDNESS.

II. Monitoring Requirements. PRIORITY POLLUTANT METAL SAMPLES SHALL BE COLLECTED FOR THE EFFLUENT (EFF-001) AND THE INFLUENT (INF-001) AND ANALYZED FOR THE METALS LISTED IN TABLE J-1, ONE TIME WITHIN A SIX-MONTH PERIOD PRIOR TO SUBMITTING A PERMIT RENEWAL APPLICATION.

Table J-1 – List of Required Priority Pollutant Metals

Constituent	Controlling Water Quality Criterion for Surface Waters		Criterion Quantitation Limit ug/L	Suggested Test Method
	Basis	Criterion Concentration ug/L		
Arsenic	Ambient Water Quality	0.018	0.01	EPA 1632
Barium	Basin Plan Objective	100	100	EPA 6020/200.8
Beryllium	Primary MCL	4	1	EPA 6020/200.8
Cadmium	Public Health Goal	0.07	0.25	EPA 1638/200.8
Chromium (total)	Primary MCL	50	2	EPA 6020/200.8
Chromium (VI)	Public Health Goal	0.2	0.5	EPA 7199/1636
Copper	National Toxics Rule	4.1	0.5	EPA 6020/200.8
Cyanide	National Toxics Rule	5.2	5	EPA 9012A
Iron	Secondary MCL	300	100	EPA 6020/200.8
Lead	Calif. Toxics Rule	0.92	0.5	EPA 1638
Mercury	TMDL Development		0.0002	EPA 1669/1631
Manganese	Secondary MCL/ Basin Plan Objective	50	20	EPA 6020/200.8
Nickel	Calif. Toxics Rule	24	5	EPA 6020/200.8
Selenium	Calif. Toxics Rule	5	5	EPA 6020/200.8
Silver	Calif. Toxics Rule	0.71	1	EPA 6020/200.8
Thallium	National Toxics Rule	1.7	1	EPA 6020/200.8
Zinc	Ambient Water Quality	0.063	10	EV-024/025

ATTACHMENT K – STORM WATER POLLUTION PREVENTION PLAN

I. Objectives

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with Facility activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site- specific best management practices (BMPs) to reduce or prevent pollutants associated with Facility activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table K-1.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of the Facility. SWPPP requirements that are not applicable to the Facility should not be included in the SWPPP.

A SWPPP is a written document that shall contain a compliance activity schedule, a description of Facility activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate, at least annually, and shall be readily available for review by facility employees or Water Board inspectors.

II. Planning and Organization

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities. The SWPPP shall clearly identify the Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

III. Site Map

The SWPPP shall include a site map. The site map size shall be at least 8-½ x 11 inches but no larger than 11 X 17 inches and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TABLE K-1
FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION
Form Pollution Prevention Team Review other plans

ASSESSMENT PHASE
Develop a site map Identify potential pollutant sources Inventory of materials and chemicals List significant spills and leaks Identify non-storm water discharges Assess pollutant risks

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE
Non-structural BMPs Structural BMPs Select activity and site-specific BMPs

IMPLEMENTATION PHASE
Train employees Implement BMPs Conduct recordkeeping and reporting

EVALUATION / MONITORING
Conduct annual site evaluation Review monitoring information Evaluate BMPs Review and revise SWPPP

The following information shall be included on the site map:

A. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies and storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

B. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

C. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

D. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified have occurred.

E. Locations of all chemical storage areas and storage tanks, fueling areas, vehicle and equipment storage/maintenance areas, cleaning and rinsing areas, and other areas of activity which are potential pollutant sources.

IV. List of Significant Materials

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, as well as the typical quantities.

V. Description of Potential Pollutant Sources

A. The SWPPP shall include a narrative description of the Facility activities, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to the Facilities activities shall be considered:

1. Describe the type, characteristics, and quantity of significant materials used in or stored on site and a description of the cleaning, rinsing, disposal, or other activities related to Facilities operation. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

2. Material Handling and Storage Areas. Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

3. Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges. The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spill or leaks do not reoccur.

4. Non-Storm Water Discharges. Investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to a storm drain system. (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, rinse water, wash water, etc.). The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

The SWPPP shall include a summary of all areas potential pollutant sources, and potential pollutants. This information should be summarized similar to Table K-2.

VI. Assessment of Potential Pollutant Sources

A. The SWPPP shall include a narrative assessment of all Facility activities and potential pollutant sources to determine:

1. Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

2. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials stored or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

B. Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source.

VII. Storm Water Best Management Practices

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase. The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE K-2

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY

Example

Area	Activity	Source	Pollutant	Best Management Practices
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery. Spills caused by topping off fuel tanks. Hosing or washing down fuel oil fuel area. Leaking storage tanks. Rainfall running off fuel oil, and rainfall running onto and off fueling area.	fuel oil	Use spill and overflow protection. Minimize run-on of storm water into the fueling area. Cover fueling area. Use dry cleanup methods rather than hosing down area. Implement proper spill prevention control program. Implement adequate preventative maintenance program to preventive tank and line leaks. Inspect fueling areas regularly to detect problems before they occur. Train employees on proper fueling, cleanup, and spill response techniques.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented along with a schedule for implementation. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table K-2.

Facility operators shall consider the following BMPs for implementation at the facility:

A. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional structural BMPs. Below is a list of non-structural BMPs that should be considered:

1. **Good Housekeeping.** Good housekeeping generally consists of practical procedures to maintain a clean and orderly facility.
2. **Preventive Maintenance.** Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.
3. **Spill Response.** This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.
4. **Material Handling and Storage.** This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.
5. **Employee Training.** This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.
6. **Waste Handling/Recycling.** This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.
7. **Recordkeeping and Internal Reporting.** This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.
8. **Inspections.** This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and necessary modifications to the site SWPPP are made.
9. **Quality Assurance.** This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

B. Structural BMPs

Where non-structural BMPs as identified above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

1. **Overhead Coverage.** This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.
2. **Retention Ponds.** This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.
3. **Control Devices.** This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.
4. **Secondary Containment Structures.** This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

5. **Treatment.** This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc., that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

VIII. SWPPP General Requirements

A. The SWPPP shall be retained on site and made available upon request of a representative of the Water Board.

B. The Water Board may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this Section. As requested by the Water Board, the facility operator shall submit a SWPPP revision and implementation schedule.

C. The SWPPP shall be revised, as appropriate, and implemented prior to changes which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an activity which would introduce a new pollutant source at the facility.

D. When any part of the SWPPP is infeasible to implement due to proposed significant structural changes, the facility operator shall submit a report to the Water Board that (i) describes the portion of the SWPPP that is infeasible to implement, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Water Board approval and/or modifications.

E. The SWPPP is considered a report that shall be available to the public by the Water Board under Section 308(b) of the Clean Water Act.

IX. Annual Comprehensive Site Compliance Evaluation

The facility operator shall conduct one annual comprehensive site compliance evaluation in the period January 1-December 31. Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

A. A review of all visual observation records, inspection records, and sampling and analysis results.

B. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

C. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

D. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, and (v) any incidents of non-compliance and the corrective actions taken. The evaluation report shall be submitted as part of the site's annual report and retained for at least five years.

ATTACHMENT L
Table 1
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Effluent Site M-001
08/02/2006 through 12/02/2013

Site M-001		PARAMETERS [1] & UNITS[2]																					
Sample Collection		TSS †	Avg. Monthly TSS †	TSS	TDS †	TDS	N †	N	NO3-N †	NO3-N	PO4 †	Avg. Monthly PO4 †	PO4	pH	E.C.	Avg. Monthly S.S.	S.S.	KMNO4 †	Avg. Monthly KMNO4 †	CH 2 O	Avg. Monthly CH 2 O	M.D. †	CUSO4 †
DATE	TIME	mg/L	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	mg/L	lbs/day		umhos/cm	ml/L	ml/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
7/6/1994		1.6														<0.1							
7/20/1994		6.6														<0.1							
8/3/1994		1.5														<0.1							
8/17/1994		1.0														<0.1							
9/7/1994		0.9														<0.1							
9/21/1994		1.0														<0.1							
12/12/1994		0.4														<0.1							
1/3/1995		9.7														<0.1							
2/6/1995		3.1														<0.1							
3/14/1995		2.0														<0.1							
4/4/1995		1.7														<0.1							
5/30/1995		1.7														<0.1							
6/26/1995		3.3														<0.1							
7/17/1995		1.2														<0.1							
8/2/1995		0.5														<0.1							
9/19/1995		ND														<0.1							
10/10/1995		ND														<0.1							
11/7/1995		ND														<0.1							
12/11/1995		ND														<0.1							
1/25/1996		ND														<0.1							
2/28/1996		ND														<0.1							
3/27/1996		ND														<0.1							
4/30/1996		ND														<0.1							
5/31/1996		ND														<0.1							
6/30/1996		<0.1														<0.1							
7/31/1996		ND														<0.1							
8/31/1996		ND														<0.1							
9/30/1996		ND														<0.1							
10/28/1996		ND														<0.1							
11/12/1996		ND														<0.1							
12/2/1996		ND														<0.1							
1/27/1997		2.2														<0.1							
2/24/1997		ND														<0.1							
3/10/1997		1.2														<0.1							
4/21/1997		<RL														<0.1							
5/12/1997		<RL														<0.1							
6/2/1997		<RL														<0.1							
7/14/1997		1.6														<0.1							
8/4/1997		<RL														<0.1							
9/8/1997		<RL														<0.1							
10/14/1997		1.0														<0.1							
11/17/1997		<RL														<0.1							
12/1/1997		<RL														<0.1							
1/31/1998		2.1														<0.1							
2/28/1998		2.5														<0.1							
3/31/1998		1.4														<0.1							
4/6/1998		1.2														<0.1							
5/18/1998		<RL														<0.1							
6/1/1998		1.2														<0.1							
7/6/1998		2.0														<0.1							
8/3/1998		<RL														<0.1							
9/14/1998		<RL														<0.1							
10/19/1998		<RL														<0.1							
11/16/1998		<RL														<0.1							
12/7/1998		1.2														<0.1							
1/4/1999		2.8														<0.1							
2/22/1999		1.2														<0.1							
3/22/1999		1.5														<0.1							
4/19/1999		0.4														<0.1							
5/3/1999		<RL														<0.1							
6/14/1999		0.7														<0.1							
7/12/1999		ND														<0.1							
8/16/1999		3.4														<0.1							
9/13/1999		<RL														<0.1							
10/18/1999		1.2														<0.1							
11/28/1999		1.0														<0.1							
12/27/1999		3.5														<0.1							
2/16/2000	9:10 AM	1.0			226		<RL		0.6							<0.1							
2/16/2000	7:10 AM	1.0			224		<RL		0.6							<0.1							
5/22/2000	9:30 AM	<RL			226		<RL		0.6							<0.1							
5/22/2000	7:20 AM	1.0			221		<RL		0.6							<0.1							

ATTACHMENT L
Table 1
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Effluent Site M-001
08/02/2006 through 12/02/2013

Site M-001		PARAMETERS [1] & UNITS [2]																			
Sample Collection		TSS †	Avg. Monthly TSS †	TSS	TDS †	TDS	N †	N	NO3-N †	NO3-N	PO4 †	Avg. Monthly PO4 †	PO4	pH	E.C.	Avg. Monthly S.S	S.S.	KMNO4 †	Avg. Monthly KMNO4 †	CH 2 O	Avg. Monthly CH 2 O	M.D. †	CUSO4 †
DATE	TIME	mg/L	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	mg/L	lbs/day		µmhos/cm	ml/L	ml/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
8/8/2000	7:45 AM	<RL			234		<RL		0.6							<0.1							
8/8/2000	9:45 AM	<RL			219		<RL		0.6							<0.1							
10/13/2000	8:30 AM	1.2			190		<RL		0.6							<0.1							
10/13/2000	10:03 AM	<RL			190		<RL		0.6							<0.1							
2/14/2001	2:00 PM																	0.3	0.3				
2/20/2001	7:00 AM	2.7			208		<RL		0.6		<RL	<RL				<0.1							
2/20/2001	9:00 AM	5.6			207		<RL		0.6		<RL	<RL				<0.1							
5/21/2001	6:45 AM	<RL			189		<RL		0.6		<RL	<RL				<0.1							
5/21/2001	8:00 AM	<RL			188		<RL		0.6		<RL	<RL				<0.1							
8/13/2001	7:00 AM	<RL			210		<RL		0.7		<RL	<RL				<0.1							
8/13/2001	9:00 AM	1.5			207		<RL		0.7		<RL	<RL				<0.1							
10/1/2001	7:00 AM	<RL			214		<RL		0.7		<RL	<RL				<0.1							
10/1/2001	9:45 AM	<RL			209		<RL		0.7		<RL	<RL				<0.1							
1/7/2002	7:00 AM	1.3			231		<RL		0.7		<RL	<RL				<0.1							
1/7/2002	10:10 AM	1.8			224		<RL		0.7		<RL	<RL				<0.1							
4/29/2002	7:20 AM	2.2			215		<RL		0.9		<RL	<RL				<0.1							
4/29/2002	10:00 AM	2.9			211		0.6		0.9		<RL	<RL				<0.1							
7/15/2002	9:55 AM	<RL			209		<RL		0.7		0.210	0.210				<0.1							
7/15/2002	7:00 AM	1.2			202		<RL		0.7		0.210	0.210				<0.1							
11/4/2002	10:14 AM	<RL			216		<RL		0.8		<RL	<RL				<0.1							
11/4/2002	8:10 AM	<RL			208		<RL		0.8		<RL	<RL				<0.1							
2/3/2003	7:00 AM	<RL			209		<RL		0.8		<RL	<RL				<0.1							
2/3/2003	10:10 AM	<RL			208		<RL		0.8		<RL	<RL				<0.1							
5/12/2003	7:20 AM	<RL			214		<RL		0.8		0.088	0.088				<0.1							
5/12/2003	10:00 AM	ND			212		<RL		0.8		0.091	0.091				<0.1							
9/22/2003	7:00 AM	<RL			231		<RL		0.8		<RL	<RL				<0.1							
9/22/2003	9:55 AM	<RL			227		0.2		0.8		<RL	<RL				<0.1							
12/8/2003	8:00 AM	3.9			229		<RL		0.8		<RL	<RL				<0.1							
12/8/2003	11:00 AM	3.5			226		0.3		0.8		<RL	<RL				<0.1							
2/23/2004	8:28 AM	1.5			223		<RL		0.8		0.102	0.102				<0.1							
2/23/2004	10:39 AM	1.5			222		<RL		0.8		0.101	0.101				<0.1							
6/28/2004	7:10 AM	<RL			230		0.5		0.7		0.210	0.210				<0.1							
6/28/2004	5:10 AM	<RL			230		0.4		0.7		0.208	0.208				<0.1							
8/30/2004	9:55 AM	<RL			226		<RL		0.7		0.090	0.090				<0.1							
8/30/2004	7:34 AM	<RL			220		<RL		0.7		0.090	0.090				<0.1							
12/6/2004	8:35 AM	<RL			230		0.4		0.8		0.101	0.101				<0.1							
12/6/2004	10:47 AM	<RL			228		0.3		0.7		0.101	0.101				<0.1							
2/22/2005	10:00 AM	<RL			230		0.6		0.8		0.126	0.126				<0.1							
2/22/2005	7:00 AM	<RL			230		0.5		0.8		0.122	0.122				<0.1							
5/16/2005	8:00 AM	<RL			240		0.3		0.8		0.119	0.119				<0.1							
5/16/2005	10:00 AM	1.2			233		0.4		0.8		0.118	0.118				<0.1							
8/29/2005	8:30 AM	<RL			221		<RL		0.8		0.115	0.115				<0.1							
8/29/2005	10:30 AM	<RL			217		<RL		0.8		0.112	0.112				<0.1							
11/14/2005	9:00 AM	1.2			241		<RL		0.0		0.109	0.109				<0.1							
11/14/2005	11:30 AM	1.3			222		<RL		0.9		0.110	0.110				<0.1							
2/27/2006	10:35 AM	3.2			236		0.4		0.9		0.129	0.129				<0.1							
2/27/2006	8:25 AM	2.3			234		0.3		0.9		0.129	0.129				<0.1							
6/11/2006	10:40 AM	1.2			257		1.2		0.9		0.100	0.100				<0.1							
6/11/2006	8:40 AM	3.4			230		0.9		0.9		0.103	0.103				<0.1							
7/9/2006	8:10 AM										0.114	0.114											
7/9/2006	10:20 AM										0.110	0.110											
8/2/2006	8:25 AM	2.6	2.6	438.1	211	36251	0.4	73.0	0.9	149.1	0.171	0.171	29.4	6.9	315.9	<0.1	<0.1						
8/2/2006	10:25 AM	2.5														<0.1							
8/14/2006	10:20 AM	0.4	0.5													<0.1	<0.1						
8/14/2006*	8:15 AM	0.6		157.6	192	1755	0.8	161.0	0.8	160.0	0.134	0.134	154.5	7.5	248.0	<0.1							
9/13/2006	8:00 AM													7.5	251.8								
10/1/2006	7:50 AM	<RL	<RL	<148.61	201	1830	0.7	158.6	0.7	159.5	0.119	0.119	154.4	7.5	250.0	<0.1	<0.1						
10/1/2006	10:50 AM	<RL														<0.1							
11/7/2006	8:15 AM													7.5	254.3								
12/20/2006	9:00 AM													7.4	256.2								
1/22/2007	8:00 AM	2.3	3.2	181.9	207	1882	0.8	162.7	0.8	162.7	0.126	0.126	156.7	7.1	248.2	<0.1	<0.1						
1/22/2007	10:45 AM	4.0														<0.1							
2/2/2007	8:00 AM													7.1	256.1								
3/6/2007	9:00 AM													7.5	256.1								
4/3/2007	8:00 AM													7.4	253.7								
5/1/2007	9:30 AM													7.5	256.0								
6/4/2007	7:30 AM	<RL	<RL	<148.61	204	1850	1.3	159.3	0.0	148.9	0.147	0.147	149.8	7.5	269.3	<0.1	<0.1						
6/4/2007	9:30 AM	<RL														<0.1							
7/9/2007	7:53 AM	1.2	1.2	153.1	200	1816	1.2	158.2	0.0	148.4	0.128	0.128	149.2	7.4	267.7	<0.1	<0.1						
7/9/2007	10:15 AM	<RL														<0.1							
8/3/2007	8:00 AM													7.4	262.4								

ATTACHMENT L
Table 1
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Effluent Site M-001
08/02/2006 through 12/02/2013

PARAMETERS [1] & UNITS [2]																							
Site M-001																							
Sample Collection		TSS †	Avg. Monthly TSS †	TSS	TDS †	TDS	N †	N	NO3-N †	NO3-N	PO4 †	Avg. Monthly PO4 †	PO4	pH	E.C.	Avg. Monthly S.S.	S.S.	KMNO4 †	Avg. Monthly KMNO4 †	CH 2 O	Avg. Monthly CH 2 O	M.D. †	CUSO4 †
DATE	TIME	mg/L	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	mg/L	lbs/day		µmhos/cm	ml/L	ml/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9/2/2007	7:30 AM													7.5	264.3								
10/15/2007	7:20 AM	<RL	<RL	<148.61	203	1837	0.8	150.1	0.7	150.0	0.111	0.111	144.7	7.4	265.2	<0.1	<0.1						
10/15/2007	9:44 AM	<RL														<0.1							
11/5/2007	8:00 AM													7.4	265.0								
12/3/2007	7:00 AM													7.4	265.4								
1/14/2008	8:20 AM	1.6	1.6	160.1	199	1806	0.7	152.8	0.7	152.7	0.102	0.102	147.6	7.4	265.0	<0.1	<0.1						
1/14/2008	10:34 AM	1.6														<0.1							
2/1/2008	8:00 AM													7.3	265.0								
3/3/2008	9:15 AM													7.3	265.2								
4/7/2008	8:00 AM	1.0	0.9	191.0	236	1821	1.1	230.3	0.7	233.8	0.119	0.119	228.7	7.4	265.0	<0.1	<0.1						
4/7/2008	10:10 AM	0.8														<0.1							
5/3/2008	8:03 AM													7.4	263.6								
6/2/2008	8:30 AM													7.4	262.4								
6/27/2008	9:03 AM																	0.112	0.112			0.0	
7/7/2008	8:10 AM	0.9	1.0	146.4	203	1832	1.2	230.3	0.7	144.6	0.160	0.160	140.2	7.3	269.7	<0.1	<0.1						
7/7/2008	10:21 AM	1.1														<0.1							
8/7/2008	8:05 AM													7.3	268.2								
9/8/2008	7:45 AM													7.3	257.4								
10/6/2008	7:00 AM	0.8	0.5	154.3	201	1824	1.1	230.8	0.7	153.8	0.128	0.128	148.7	7.4	259.3	<0.1	<0.1						
10/6/2008	9:05 AM	0.2														<0.1							
11/3/2008	8:00 AM													7.1	254.3								
12/2/2008	7:15 AM													7.1	254.0								
1/5/2009	7:45 AM	2.8	4.0	210.7	202	1862	1.0	186.3	0.8	184.6	0.095	0.095	178.6	6.9	260.9	<0.1	<0.1						
1/5/2009	10:10 AM	5.1														<0.1							
2/5/2009	8:00 AM													7.0	264.9								
3/2/2009	7:20 AM													6.9	268.8								
4/6/2009	8:00 AM	1.1	1.2	189.1	195	1806	0.9	186.5	0.9	186.4	0.132	0.132	180.4	7.0	336.1	<0.1	<0.1						
4/6/2009	10:00 AM	1.3														<0.1							
4/16/2009	10:34 AM																	0.460	0.460			0.2	
5/4/2009	11:30 AM																						0.0
5/5/2009	7:00 AM													6.9	327.4								
5/21/2009	12:35 PM																	0.014	0.014			0.0	
6/1/2009	7:30 AM													6.9	334.7								
7/6/2009	7:45 AM	2.2	2.2	191.9	212	1942	1.4	186.0	0.9	181.2	0.105	0.105	174.8	7.0	342.5	<0.1	<0.1						
7/6/2009	9:50 AM	2.1														<0.1							
8/3/2009	7:25 AM													7.0	271.8								
9/1/2009	7:00 AM													6.9	284.4								
10/5/2009	7:10 AM	3.6	3.3	201.0	202	1859	0.9	181.2	0.9	181.2	0.090	0.090	174.7	7.0	276.4	<0.1	<0.1						
10/5/2009	9:15 AM	2.9														<0.1							
11/2/2009	7:25 AM													6.9	283.8								
12/1/2009	7:30 AM													6.9	286.4								
1/4/2010	7:30 AM	2.2	1.8	301.1										6.9	246.5	<0.1	<0.1						
1/4/2010	9:45 AM	1.3														<0.1							
2/1/2010	8:00 AM	2.3	2.0	355.9	207	37790	<1.40	<255.58	0.9	158.1	0.115	0.115	28.3	7.0	311.5	<0.1	<0.1						
2/1/2010	10:00 AM	1.6														<0.1							
3/1/2010	7:30 AM													6.6	278.0								
4/5/2010	7:20 AM	1.1	1.5	189.4							0.172	0.172	29.6	6.8	282.2	<0.1	<0.1						
4/5/2010	9:20 AM	1.9					1.5	253.0	0.9	159.4						<0.1							
5/3/2010	8:00 AM				199	34255								6.6	276.4								
6/1/2010	7:45 AM													6.4	277.6								
7/6/2010	8:00 AM													6.6	277.7	<0.1							
9/2/2010	8:00 AM													6.8	317.7								
10/8/2010	7:50 AM													6.9	312.1	<0.1							
11/1/2010	9:42 AM	1.3	2.1		213	34427										<0.1							
11/1/2010	7:35 AM	2.8		331.3			<0.814		0.9	146.6	0.109	0.109	17.6	6.9	312.2	<0.1	<0.1						
12/2/2010	8:15 AM													6.9	314.7								
1/3/2011	7:15 AM													6.9	313.6								
2/7/2011	7:15 AM	2.4	2.5	372.3	214	33196	1.2	139.8	0.9	192.4	0.145	0.145	22.5	6.9	312.9	<0.1	<0.1						
2/7/2011	9:30 AM	2.5		387.8												<0.1							
3/7/2011	7:00 AM													6.9	313.5								
3/10/2011	12:45 PM																			0.1	0.1		
4/4/2011	7:30 AM	2.3	2.5	372.1	211	34139	1.3	208.7	0.8	137.2	0.173	0.173	28.0	6.9	317.8	<0.1	<0.1						
4/4/2011	9:30 AM	2.7		436.8												<0.1							
5/2/2011	7:00 AM													7.0	288.4								
6/3/2011	7:00 AM													7.0	288.4								
7/11/2011		1.3	1.5	214.7	211.0	34843	1.3	213.0	0.9	153.1	0.190	0.190	31.4	7.0	287.5	<0.1	<0.1						
7/11/2011		1.6		264.2												<0.1							
8/15/2011														7.1	330.0	<0.1	<0.1						
8/15/2011																<0.1							
9/1/2011														7.0	331.7								
10/4/2011	7:25 AM	1.5	1.6	247.7	203.0	33522	0.6	97.6	0.8	139.4	0.152	0.152	25.1	7.0	332.4								

ATTACHMENT L
Table 1
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Effluent Site M-001
08/02/2006 through 12/02/2013

Site M-001		PARAMETERS [1] & UNITS [2]																					
Sample Collection		TSS †	Avg. Monthly TSS †	TSS	TDS †	TDS	N †	N	NO_3-N †	NO_3-N	PO_4 †	Avg. Monthly PO_4 †	PO_4	pH	E.C.	Avg. Monthly S.S.	S.S.	$KMNO_4$ †	Avg. Monthly $KMNO_4$ †	CH_2O	Avg. Monthly CH_2O	M.D. †	$CUSO_4$ †
DATE	TIME	mg/L	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	mg/L	lbs/day		umhos/cm	ml/L	ml/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
10/4/2011	9:40 AM	1.6		264.2										7.1	336.0	<0.1	<0.1						
11/1/2011																<0.1							
11/1/2011																							

ATTACHMENT L
Table 1
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Effluent Site M-001
08/02/2006 through 12/02/2013

Site M-001

Sample Collection DATE	TIME	TSS † mg/L	Avg. Monthly TSS † mg/L	TSS lbs/day	TDS † mg/L	TDS lbs/day	N † mg/L	N lbs/day	NO3-N † mg/L	NO3-N lbs/day	PO4 † mg/L	Avg. Monthly PO4 † mg/L	PO4 lbs/day	pH	E.C. µmhos/cm	Avg. Monthly S.S. ml/L	S.S. ml/L	KMNO4 † mg/L	Avg. Monthly KMNO4 † mg/L	CH 2 O mg/L	Avg. Monthly CH 2 O mg/L	M.D. † mg/L	CUSO4 † mg/L
12/1/2011														7.1	335.7								
1/9/2012	8:00 AM	3.0	4.5	494.4	201.0	33124	<0.966	<159.19	0.9	141.7	0.112	0.112	18.5	7.1	343.0	<0.1	<0.1						
1/9/2012	9:40 AM	6.0		988.8												<0.1							
1/19/2012																		0.061	0.061			0.0	
2/1/2012														7.1	342.7								
3/6/2012														7.1	341.5								
4/2/2012		2.3	2.0	377.9	208.0	34174	1.1	177.4	0.8	126.3	0.152	0.152	25.0	7.1	337.2	<0.1	<0.1						
4/2/2012		1.6		262.9												<0.1							
5/3/2012														7.1	335.7	<0.1							
6/1/2012														7.1	342.6								
7/6/2012														7.1									
7/9/2012		1.9	2.1	370.2	220.0	35412	1.6	252.7	0.7	119.0	0.200	0.200	32.2	7.1	342.7	<0.1	<0.1						
7/9/2012		2.3		305.8												<0.1							
8/1/2012														6.8	296.5								
9/4/2012														6.8	305.7								
10/1/2012		0.7	0.8	108.6	223.0	34593	1.0	156.7	0.7	112.5	0.250	0.250	38.8	7.1	300.5	<0.1	<0.1						
10/1/2012		0.8		124.1												ND							
11/5/2012														7.1	292.4								
12/3/2012														6.8	395.2								
1/7/2013		10.8	7.5	636.0	219.0	33972	1.1	175.3	0.7	114.2	0.123	0.123	19.1	6.9	287.4	ND	<0.1						
1/7/2013		4.1		1675.3												<0.1							
1/25/2013																		0.076	0.076				
2/4/2013		2.0	2.5	470.4																			
2/4/2013		3.0		313.6																			
2/5/2013														6.8	287.6								
3/5/2013														7.5	352.0								
4/8/2013		1.8	1.8	262.2	219.0	33771	1.2	186.6	0.7	115.2	0.145	0.145	22.4	7.5	352.0	ND	ND						
4/8/2013		1.7		277.6												ND							
5/10/2013														7.4	220.0								
5/15/2013																		0.071	0.071				
6/3/2013														7.3	235.0								
7/3/2013																		0.021	0.021				
7/8/2013		2.9	2.6	373.7	236.0	38341	1.5	243.7	0.7	115.8	0.187	0.187	30.4	7.3	237.4	ND							
7/8/2013		2.3		471.1																			
8/5/2013														7.5		ND							
8/5/2013																ND	ND						
8/7/2013																		0.000	0.000				
8/12/2013											0.123	0.123	19.9										
8/13/2013															217.3								
9/9/2013														7.4	221.4								
10/7/2013		2.0	1.9	245.9	482.0	69705	1.3	182.2	0.8	108.9	0.137	0.137	19.8	7.4	452.0	ND	ND						
10/7/2013		1.7		289.2												ND							
11/4/2013														7.1	387.0								
12/2/2013														7.7	389.0								

¹ Parameters Defined

TSS	Total Suspended Solids	NO3-N	Nitrogen as Nitrate	KMNO4	Potassium Permanganate
TDS	Total Dissolved Solids	PO4	Dissolved Orthophosphate	M.D.	Manganese Dioxide
N	Nitogen, Total	E.C.	Electrical Conductivity	CUSO4	Copper Sulfate
		S.S.	Setteable Solids	CH 2 O	Formaldehyde

² Units Defined

mg/L	milligrams per Litre	lbs/day	pounds per day
µmhos/cm	micro siemens per centimeter	ml/L	millitres per Litre

† Parameter derived via lab analysis

Number	57	29	42	30	30	27	27	30	30	31	31	31	90	89	0.0	0.0	8	8	1	1	4	1
Max	11	7.5	1675	482	69705	1.6	253	0.93	234	0.250	0.250	229	7.7	452	0.0	0.0	0.46	0.46	0.1	0.1	0	0
Min	0	0.5	109	192	1755	0.4	73	0.03	109	0.090	0.090	18	6.4	217	0.0	0.0	0.00	0.00	0.1	0.1	0	0
Avg	2	2.2	337	218	20575	1.1	181	0.75	151	0.140	0.140	88	7.1	291	#DIV/0!	#DIV/0!	0.10	0.10	0.1	0.1	0	0

Effluent Limit	Instantaneous Maximum	Average Monthly	Instantaneous Maximum	Instantaneous Maximum	Instantaneous Maximum	Average Monthly	Instantaneous Maximum	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Average Monthly
Max Limit	15	6.0	265	1.8	1	0.8	0.6	9.0	0.1	0.25	0.12	1.3	0.65
								Instantaneous Minimum 6.0					

Min Limit

Permit Effluent Exceedances

Exceedance with Average Monthly Calculations

Red bar indicates sampling under permit R6V-2006-0030.

ATTACHMENT L
Table 2
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Site "Supply"
12/12/94 through 12/02/13

Site - "Supply"		PARAMETERS [1] & UNITS[2]										
		TDS	TSS	N	NO_3-N	Sett Solids	PO_4	Chloride	Fluoride	Sulfate	Boron	Flow
DATE	TIME	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	MGD
12/12/1994			0.2			<0.1						10.58
1/3/1995			<0.1			<0.1						18.22
2/6/1995			<0.1			<0.1						18.16
3/14/1995			ND			<0.1						18.11
4/4/1995			ND			<0.1						18.09
5/30/1995			1.0			<0.1						18.11
6/26/1995			1.2			<0.1						18.20
7/17/1995			ND			<0.1						18.10
8/2/1995			0.2			<0.1						18.39
9/19/1995			ND			<0.1						18.39
10/10/1995			ND			<0.1						13.88
11/7/1995			ND			<0.1						10.27
12/11/1995			ND			<0.1						12.79
1/25/1996			ND			<0.1						16.72
2/28/1996			ND			<0.1						20.58
3/27/1996			1.4			<0.1						20.54
4/30/1996			ND			<0.1						20.52
5/31/1996			ND			<0.1						20.47
6/30/1996		268	<0.1			<0.1						20.47
7/31/1996			ND			<0.1						20.36
8/31/1996			ND			<0.1						
9/30/1996		262	ND			<0.1						19.07
10/28/1996			ND			<0.1						18.25
11/12/1996			ND			<0.1						17.98
12/2/1996		291	ND			<0.1						18.11
1/27/1997			ND			<0.1						18.22
2/24/1997			ND			<0.1						19.03
3/10/1997		236	ND			<0.1						19.17
4/21/1997			<RL			<0.1						19.26
5/12/1997			<RL			<0.1						19.10
6/2/1997		271	<RL			<0.1						18.63
7/14/1997			1.6			<0.1						19.21
8/4/1997			<RL			<0.1						19.70
9/8/1997		275	<RL			<0.1						19.13
10/14/1997			1.0			<0.1						18.57
11/17/1997			<RL			<0.1						19.72
12/1/1997		267	<RL			<0.1						19.61
1/31/1998			<RL			<0.1						19.37
2/28/1998			<RL			<0.1						19.22
3/31/1998		268	<RL			<0.1						18.73
4/6/1998			<RL			<0.1						18.62
5/18/1998		280	<RL			<0.1						18.62
6/1/1998			<RL			<0.1						18.92
7/6/1998			<RL			<0.1						18.49
8/3/1998			<RL			<0.1						18.51
9/14/1998		246	<RL			<0.1						18.67
10/19/1998			<RL			<0.1						18.56
11/16/1998			<RL			<0.1						18.81
12/7/1998		248	1.2			<0.1						19.11
1/4/1999			1.1			<0.1						19.05
2/22/1999			<RL			<0.1						18.94
3/22/1999		248	<RL			<0.1						18.94
4/19/1999			0.1			<0.1						18.84
5/3/1999		230	<RL			<0.1						18.81
6/14/1999			ND			<0.1						18.82
7/12/1999			ND			<0.1						17.51
8/16/1999			<RL			<0.1						18.58
9/13/1999		210	<RL			<0.1						18.70
10/18/1999			<RL			<0.1						18.70
11/28/1999			<RL			<0.1						12.91

ATTACHMENT L
Table 2
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Site "Supply"
12/12/94 through 12/02/13

Site - "Supply"		PARAMETERS [1] & UNITS[2]										
DATE	TIME	TDS mg/L	TSS mg/L	N mg/L	NO_3-N mg/L	Sett Solids mg/L	PO_4 mg/L	Chloride mg/L	Fluoride mg/L	Sulfate mg/L	Boron mg/L	Flow MGD
12/27/1999		244	<RL			<0.1						10.72
2/16/2000	8:00 AM	225		<RL	0.600	<0.1	<RL					
2/16/2000	10:00 AM	232		<RL	0.600	<0.1	<RL					
5/22/2000	7:15 AM	224		<RL	0.630	<0.1	<RL					
5/22/2000	9:15 AM	230		<RL	0.630	<0.1	<RL					
8/8/2000	7:30 AM	236		<RL	0.650	<0.1	<RL					
8/8/2000	9:30 AM	238		<RL	0.650	<0.1	<RL					
10/13/2000	8:30 AM	198		<RL	0.620	<0.1	<RL					
10/13/2000	10:30 AM	198		<RL	0.620	<0.1	<RL					
2/20/2001	7:15 AM	216		<RL	0.620	<0.1	<RL					18.00
2/20/2001	9:15 AM	211		<RL	0.640	<0.1	<RL					
5/21/2001	6:30 AM	233		<RL	0.630	<0.1	<RL					17.89
5/21/2001	8:45 AM	232		<RL	0.630	<0.1	<RL					
8/13/2001	7:30 AM	219		<RL	0.640	<0.1	<RL					18.10
8/13/2001	9:30 AM	217		<RL	0.660	<0.1	<RL					
10/1/2001	7:15 AM	210		<RL	0.670	<0.1	<RL					18.14
10/1/2001	10:30 AM	213		<RL	0.670	<0.1	<RL					
1/7/2002	8:00 AM	229		<RL	0.720	<0.1	<RL					18.26
1/7/2002	10:30 AM	232		<RL	0.720	<0.1	<RL					
4/29/2002	7:00 AM	220		<RL	0.860	<0.1	<RL					18.03
4/29/2002	9:00 AM	218		<RL	0.930	<0.1	<RL					
6/24/2002	8:00 AM		ND									18.17
6/24/2002	10:00 AM		ND									
7/15/2002	7:30 AM	230		0.62	0.590	<0.1	<RL					18.13
7/15/2002	9:30 AM	211		<RL	0.600	<0.1	<RL					
11/4/2002	8:05 AM	225		<RL	0.778	<0.1	<RL					17.71
11/4/2002	10:10 AM	218		<RL	0.791	<0.1	<RL					
2/3/2003	8:00 AM	216		<RL	0.730	<0.1	<RL					17.7
2/3/2003	10:30 AM	215		<RL	0.750	<0.1	<RL					
5/12/2003	7:00 AM	234		<RL	0.780	<0.1	0.0800					17.5
5/12/2003	9:00 AM	224		<RL	0.756	<0.1	0.0780					
6/2/2003	7:10 AM		3.5			<0.1						17.4
6/2/2003	10:00 AM		<RL			<0.1						
9/22/2003	7:30 AM	240		<RL	0.770	<0.1	<RL					17.5
9/22/2003	9:30 AM	241		<RL	0.740	<0.1	<RL					
12/8/2003	8:15 AM	236		<RL	0.760	<0.1	<RL					17.4
12/8/2003	10:15 AM	237		<RL	0.730	<0.1	<RL					
2/23/2004	8:24 AM	223	0	<RL	0.874	<0.1	0.0790					17.6
2/23/2004	10:35 AM	222	0	<RL	0.888	<0.1	0.0782					
6/7/2004	7:00 AM		<RL			<0.1						
6/7/2004	9:30 AM		<RL			<0.1						
6/28/2004	5:00 AM	250	0	<RL	0.740	<0.1	0.1860					17.5
6/28/2004	7:00 AM	236	0	<RL	0.758	<0.1	0.1830					
8/30/2004	7:55 AM	234	0	<RL	0.740	<0.1	0.1020					17.5
8/30/2004	10:45 AM	236	0	<RL	0.740	<0.1	0.0944					
12/6/2004	8:00 AM	234	0	<RL	0.746	<0.1	0.0933					17.2
12/6/2004	10:00 AM	238	0	<RL	0.743	<0.1	0.0942					
2/22/2005	8:00 AM	240	0	<RL	0.798	0	0.889					17.18
2/22/2005	10:00 AM	242	0	0.29	0.79	0	0.0901					
5/16/2005	8:00 AM	243	0	<RL	0.856	0	0.0911					17.18
5/16/2005	10:45 AM	240	0	<RL	0.864	0	0.0918					
6/6/2005	7:00 AM		<RL			<0.1						
6/6/2005	9:30 AM		<RL			<0.1						
8/29/2005	8:00 AM	238	0	<RL	0.852	0	0.105					
8/29/2005	11:00 AM	226	0	<RL	0.904	0	0.0973					17.57
11/14/2005	8:00 AM	255	0	<RL	0.864	0	0.0977					17.64
11/14/2005	10:00 AM	262	0	<RL	0.862	0	0.0979					
1/5/2006	8:00 AM											17.63
2/27/2006	8:20 AM	251		0.15	0.892		0.104					17.63
2/27/2006	10:30 AM	256		ND	0.892		0.103					

ATTACHMENT L
Table 2
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Site "Supply"
12/12/94 through 12/02/13

Site - "Supply"		PARAMETERS [1] & UNITS[2]										
DATE	TIME	TDS mg/L	TSS mg/L	N mg/L	NO3-N mg/L	Sett Solids mg/L	PO4 mg/L	Chloride mg/L	Fluoride mg/L	Sulfate mg/L	Boron mg/L	Flow MGD
3/5/2006	7:25 AM											17.63
4/8/2006	7:15 AM											17.63
5/26/2006	8:00 AM											17.89
6/11/2006	8:20 AM	189		ND	0.986		0.0864					18.08
6/11/2006	10:20 AM	242		ND	0.802		0.0952					
7/9/2006	8:00 AM						0.0936					18.08
7/9/2006	10:00 AM						0.0944					
8/14/2006*	8:00 AM											18.40
9/1/2006	9:00 AM											18.60
10/7/2006	8:00 AM											18.67
11/7/2006	8:00 AM											18.40
12/20/2006	8:35 AM											18.12
1/22/2007	7:30 AM											18.66
2/2/2007	7:30 AM											17.70
3/6/2007	8:00 AM											17.90
4/3/2007	8:00 AM											18.08
5/1/2007	7:00 AM											17.60
6/4/2007	7:15 AM											17.82
7/9/2007	7:30 AM											17.76
8/3/2007	8:00 AM											17.70
9/2/2007	7:00 AM											17.57
10/15/2007	8:00 AM											17.24
11/5/2007	7:00 AM											17.24
12/3/2007	7:00 AM											17.18
1/14/2008	7:30 AM											17.60
2/1/2008	8:00 AM											17.60
3/3/2008	8:00 AM											17.80
4/7/2008	7:30 AM											17.75
5/3/2008	8:00 AM											17.60
6/2/2008	8:00 AM											17.70
7/7/2008	7:15 AM											16.65
8/7/2008	7:25 AM											17.60
9/8/2008	7:00 AM											17.68
10/6/2008	7:45 AM											17.70
11/3/2008	7:15 AM											17.80
12/2/2008	7:00 AM											20.34
1/5/2009	7:25 AM											21.32
2/5/2009	7:00 AM											20.93
3/2/2009	7:20 AM											21.40
4/6/2009	7:00 AM											21.50
5/5/2009	7:25 AM											21.31
6/1/2009	7:15 AM											20.41
7/6/2009	7:05 AM											20.90
8/3/2009	7:15 AM											20.1
9/1/2009	7:45 AM											20.09
10/5/2009	7:30 AM											20.86
11/2/2009	7:00 AM											20.86
12/1/2009	7:10 AM											20.86
1/4/2010	7:20 AM											20.63
2/1/2010	7:40 AM											21.89
3/1/2010	7:10 AM											20.6
4/5/2010	7:00 AM											20.64
5/3/2010	8:00 AM											20.67
6/1/2010	7:30 AM											20.41
7/6/2010	7:15 AM											20.4
8/2/2010	8:00 AM											20.6
9/2/2010	9:25 AM											19.96
10/8/2010	8:45 AM											20.05
11/1/2010	8:00 AM											20.3
1/3/2011	7:15 AM											19.5

ATTACHMENT L
Table 2
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Site "Supply"
12/12/94 through 12/02/13

Site - "Supply"		PARAMETERS [1] & UNITS[2]										
DATE	TIME	TDS mg/L	TSS mg/L	N mg/L	NO_3-N mg/L	Sett Solids mg/L	PO_4 mg/L	Chloride mg/L	Fluoride mg/L	Sulfate mg/L	Boron mg/L	Flow MGD
2/7/2011	8:00 AM	224	ND	<1.06	0.961	<0.1	0.110	13.4	0.23	19.00	0.15	19.85
3/7/2011	8:00 AM											18.6
4/4/2011	6:30 AM	221	ND	<0.932	0.832	<0.1	0.112	14.6	0.21	20.10	0.20	19.4
5/2/2011	7:20 AM											19.5
6/3/2011	7:40 AM											19.6
7/11/2011												19.8
8/15/2011												19.8
9/1/2011												19.75
10/4/2011												19.75
11/1/2011												19.8
12/1/2011												19.8
1/9/2012												19.96
2/1/2012												19.76
3/6/2012												19.54
4/2/2012												19.7
5/3/2012												19.47
6/1/2012												18.8
7/9/2012												19.3
8/1/2012												19.5
9/4/2012												18.6
10/1/2012		220	ND	<0.847	0.747		0.104					18.6
11/5/2012												18.6
12/3/2012												18.8
1/7/2013		230	0.9	<0.788	0.688		0.144					18.6
2/5/2013												18.8
3/5/2013												18.49
4/8/2013												18.49
5/10/2013												18.2
6/3/2013												17.8
7/8/2013		196	ND	<1.02	0.922		0.175					19.48
8/13/2013												19.4
9/9/2013												17.36
10/7/2013												17.34
11/4/2013		233	ND	0.785	0.685		0.102					15.7
12/2/2013												16.9
1/6/2014		227	1.0	<0.858	0.758	ND	0.0939	16.6		19.3		

[1] Parameters Defined

TDS	Total Dissolved Solids	PO_4	Dissolved Orthophosphate
N	Nitogen, Total	FLOW	Measured Water Flow
NO_3-N	Nitrogen as Nitrate		

[2] Units Defined

mg/L	milligrams per Litre	MGD	million gallons per day

	Number	74	29	4	59	8	31	3	2	3	2	177
	Max	291	3.5	0.8	1.0	0.0	0.89	16.6	0.2	20.1	0.2	21.9
	Min	189	0.0	0.2	0.6	0.0	0.08	13.4	0.2	19.0	0.2	10.3
	Avg	234	0.5	0.5	0.8	0.0	0.13	14.9	0.2	19.5	0.2	18.5
	Limit											26

ATTACHMENT L
Table 3
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Receiving Site R-001
12/12/94 through 10/07/2013

Site R-001		PARAMETERS ' & UNITS'																										
DATE	TIME	TSS mg/L	Total N mg/L	Total N> 90th Percentile Limit mg/L	Annual Avg. Total N mg/L	TDS mg/L	TDS > 90th Percentile Limit mg/L	Annual Avg. TDS mg/L	NO3-N mg/L	NO3-N> 90th Percentile Limit mg/L	Annual Avg. NO3-N mg/L	PO4 mg/L	PO4> 90th Percentile Limit mg/L	Annual Avg. PO4 mg/L	Sulfate mg/L	Sulfate> 90th Percentile Limit mg/L	Annual Avg. Sulfate mg/L	Chloride mg/L	Chloride> 90th Percentile Limit mg/L	Annual Avg. Chloride	P.H.	D.O. mg/L	Temp. F	Turbidity NTU	S.S. ml/L	Cu-Sediment mg/kg	Mn - Sediment mg/kg
12/12/1994			ND			236			0.590			1.190	1.190		21.8			19.8			6.6	6.70	60	0.90			
1/3/1995																					6.8	6.90	60	2.00			
2/6/1995																					6.8	6.40	60	0.40			
3/14/1995			0.84			254			0.600			0.160			19.6			14.0			7.7	4.70	63	0.62			
4/4/1995																					7.7	6.50	65	0.88			
5/30/1995																					7.3	6.10	68	1.16			
6/26/1995			ND			254			0.680			0.100			24.1			13.6			7.8	8.50	60	0.72			
7/17/1995																					8.1	12.20	68	0.72			
8/2/1995																					7.8	11.40	64	2.00			
9/19/1995			0.84			219			0.630			0.140			22.3			9.6			7.8	8.70	65	0.44			
10/10/1995																					8.1	10.00	65	0.59			
11/7/1995																					8.1	10.60	64	0.72			
12/11/1995			ND			194			0.680			0.130			25.0			10.1			8.1	8.70	60	0.36			
1/25/1996																					8.2	9.40	60	0.40			
2/28/1996																					8.1	9.50	61	0.86			
3/27/1996			ND			407	407		0.560			0.100			26.0			16.6			8.1	9.30	61	0.74			
4/30/1996																					7.8	9.40	63	0.74			
5/31/1996																					7.6	9.80	66	0.82			
6/30/1996			ND			260			0.610			0.130			25.8			13.5			8.1	10.20	67	0.78			
7/31/1996																					7.8	9.60	66	0.47			
8/31/1996																					7.8	9.80	65	0.64			
9/30/1996			ND			264			0.630			0.070			27.5			14.7			7.6	9.60	64	0.58			
10/28/1996																					8.1	10.40	60	0.89			
11/12/1996																					7.8	10.80	60	0.49			
12/2/1996			0.61			284			0.620			0.110			26.0			12.6			7.6	9.50	60	0.48			
1/27/1997																					7.8	9.20	65	0.90			
2/24/1997																					7.6	9.40	57	0.74			
3/10/1997			<RL			256			0.630			0.140			26.3			13.1			8.1	10.00	63	0.74			
4/21/1997																					7.8	9.80	63	0.60			
5/12/1997																					7.6	9.60	63	0.58			
6/2/1997			<RL			244			0.600			0.110			23.6			13.2			7.8	10.20	63	0.74			
7/14/1997																					7.6	9.80	63	0.70			
8/4/1997																					7.4	9.90	64	0.64			
9/8/1997			<RL			248			0.700			0.150			24.4			12.7			7.6	9.60	61	1.82			
10/14/1997																					7.6	9.90	63	0.89			
11/17/1997																					7.1	7.30	61	0.59			
12/1/1997			0.67			252			0.690			0.12			21.9			12.0			8.0	8.10	62	0.53			
1/31/1998																					7.8	7.80	62	1.70			
2/28/1998																					7.9	7.40	62	0.75			
3/31/1998			0.51			246			0.690			0.140			22.5			12.9			7.8	8.30	63	0.74			
4/8/1998																					7.8	8.10	62	0.72			
5/18/1998																					7.7	8.10	63	0.75			
6/1/1998			<RL			236			0.640			0.130			20.1			11.4			7.8	8.40	63	0.74			
7/6/1998																					7.1	6.80	65	0.58			
8/3/1998																					8.1	7.70	70	0.50			
9/14/1998			<RL			254			0.710			0.110			21.8			12.4			7.8	7.90	67	0.64			
10/19/1998																					7.4	8.70	63	0.79			
11/16/1998																					7.6	7.90	63	0.88			
12/7/1998			<RL			249			0.700			0.12			21.4			11.4			7.5	8.00	62	0.82			
1/4/1999																					7.5	7.90	61	0.80			
2/22/1999																					7.8	7.70	63	0.80			
3/22/1999			0.38			240			0.650			0.100			20.0			26.0			8.0	8.10	65	0.96			
5/3/1999			<RL			216			0.660			0.120			21.0			13.0			7.8	7.70	63	0.80			
7/12/1999																					7.9	8.00	65	0.79			
8/16/1999																					7.4	7.80	67	0.82			
9/13/1999			<RL			202			0.630			0.120			20.5			12.4			7.8	7.70	65	0.72			
10/18/1999																					7.7	7.70	66	0.78			
11/28/1999																					7.6	7.70	63	0.91			
12/27/1999			0.54			236			0.510			0.180			22.0			13.2			7.7	7.40	63	1.59			
2/16/2000	7:00 AM	1	<RL						0.600																<0.1		
2/16/2000	9:00 AM	1.6	<RL						0.600																<0.1		
5/22/2000	7:00 AM	1.6	<RL						0.570																<0.1		
5/22/2000	9:15 AM	1	<RL						0.570																<0.1		
6/5/2000	8:00 AM					210									20.1			11.6									
6/5/2000	10:00 AM					211									19.3			11.0									
8/8/2000	7:00 AM	<RL	<RL						0.610																<0.1		
8/8/2000	9:00 AM	<RL	<RL						0.590																<0.1		
10/13/2000	7:00 AM	1.6	<RL						0.660																<0.1		
10/13/2000	9:00 AM	2.3	<RL						0.780																<0.1		
12/4/2000	8:00 AM					204									17.6			9.7									
12/4/2000	10:00 AM					198									17.8			9.7									
12/12/2000	8:00 AM	<RL																									
12/12/2000	10:00 AM	<RL																									
2/20/2001	6:55 AM	2.8	<RL						0.680			<RL													<0.1		
2/20/2001	9:30 AM	4.3	<RL						0.690			<RL													<0.1		

ATTACHMENT L
Table 3
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Receiving Site R-001
12/12/94 through 10/07/2013

Site R-001		PARAMETERS ' & UNITS'																								
DATE	TIME	TSS mg/L	Total N mg/L	Total N> 90th Percentile Limit mg/L	Annual Avg. Total N mg/L	TDS mg/L	TDS > 90th Percentile Limit mg/L	Annual Avg. TDS mg/L	NO3-N mg/L	NO3-N> 90th Percentile Limit mg/L	Annual Avg. NO3-N mg/L	PO4 mg/L	PO4> 90th Percentile Limit mg/L	Annual Avg. PO4 mg/L	Sulfate mg/L	Sulfate> 90th Percentile Limit mg/L	Annual Avg. Sulfate mg/L	Chloride mg/L	Chloride> 90th Percentile Limit mg/L	Annual Avg. Chloride	P.H.	D.O. mg/L	Temp. F	Turbidity NTU	S.S ml/L	Co-Sediment mg/kg	Mn - Sediment mg/kg
5/21/2001	7:20 AM	1	<RL						0.610			<RL													<0.1		
5/21/2001	9:02 AM	<RL	<RL						0.610			<RL													<0.1		
6/4/2001	8:00 AM					226									19.5			13.1									
6/4/2001	10:00 AM					223									19.6			13.2									
8/13/2001	7:00 AM	1.4	<RL						0.700			<RL													<0.1		
8/13/2001	9:00 AM	<RL	<RL						0.670			<RL													<0.1		
10/1/2001	8:00 AM	<RL	<RL						0.730			<RL													<0.1		
10/1/2001	10:00 AM	<RL	<RL						0.730			<RL													<0.1		
12/13/2001	8:00 AM					210									19.8			12.3									
12/13/2001	10:00 AM					230									19.6			12.5									
1/7/2002	7:15 AM	1.8	<RL						0.830			<RL									7.1	7.20	61	0.90	<0.1		
1/7/2002	9:30 AM	1.1	<RL						0.830			<RL													<0.1		
4/29/2002	6:00 AM	<RL	<RL						0.810			<RL									7.1	7.00	63	0.90	<0.1		
4/29/2002	8:15 AM	1.7	<RL						0.810			<RL													<0.1		
6/24/2002	8:00 AM					203									18.2			12.8									
6/24/2002	10:15 AM					207									17.8			12.2									
7/15/2002	7:15 AM	1.8	<RL						0.740			<RL									7.1	7.10	63	0.90	<0.1		
7/15/2002	9:50 AM	1.1	<RL						0.730			0.21													<0.1		
11/4/2002	8:20 AM	<RL	<RL						0.930			<RL									7.1	7.40	60	0.90	<0.1		
11/4/2002	10:22 AM	<RL	<RL						0.910			<RL													<0.1		
12/17/2002	8:00 AM					215									18.4			13.4									
12/17/2002	10:00 AM					220									18.5			13.1									
2/3/2003	7:15 AM	<RL	<RL			198			0.890			<RL									7.1	7.00	60	1.00	<0.1		
2/3/2003	9:30 AM	<RL	<RL			206			0.900			<RL													<0.1		
5/12/2003	6:00 AM	<RL	<RL						0.880			0.091															
5/12/2003	8:15 AM	<RL	<RL						0.890			0.094															
6/2/2003	7:30 AM					218									19.4			13.9			7.1	7.10	61	0.90	<0.1		
6/2/2003	9:45 AM					221									17.7			13.5							<0.1		
9/22/2003	7:15 AM	1.5	<RL						0.910			<RL									8	7.00	62	1.50	<0.1		
9/22/2003	9:50 AM	1.5	<RL						0.900			<RL													<0.1		
12/8/2003	7:45 AM	3.8	<RL			219			0.850			<RL													<0.1		
12/8/2003	10:00 AM	3.8	<RL			219			0.850			<RL													<0.1		
2/23/2004	8:31 AM	1.6	<RL						0.927			0.103									7.2	7.10	62	1.05	<0.1		
2/23/2004	10:42 AM	1.5	<RL						0.925			0.156													<0.1		
6/7/2004	8:00 AM					225									16.4			14.2									
6/7/2004	11:00 AM					222									16.0			13.8									
6/28/2004	5:15 AM	1.4	0.55						0.806			0.213									7.1	7.00	6*	1.00	<0.1		
6/28/2004	7:15 AM	1.4	0.42						0.808			0.212													<0.1		
8/30/2004	8:30 AM	1.4	<RL						0.817			0.094									7.1	7.25	63	1.00	<0.1		
8/30/2004	11:00 AM	1.2	<RL						0.797			0.095													<0.1		
12/6/2004	9:00 AM	<RL				232			0.760			0.105			17.9			15.9							<0.1		
12/6/2004	11:30 AM	<RL				232			0.750			0.107			17.8			15.9							<0.1		
12/20/2004	8:42 AM		0.26																		7.3		60	1.00			
12/20/2004	10:55 AM		0.25																								
2/22/2005	8:30 AM	1.6	0.48						0.779			0.124									7.2	7.00	62*	0.75	<0.1		
2/22/2005	10:30 AM	1.7	0.56						0.781			0.128													<0.1		
5/16/2005	8:30 AM	1.8	0.32						0.802			0.119									8	7.10	62*	1.0	<0.1		
5/16/2005	11:00 AM	1.9	0.4						0.801			0.120													<0.1		
6/8/2005	8:00 AM					228									19.8			18.5									
6/8/2005	11:00 AM					228									19.4			16.2									
8/29/2005	8:30 AM	1.5	<RL						0.824			0.113									7.2	7.10	61*	1.0	<0.1		
8/29/2005	12:00 PM	1.3	<RL						0.838			0.115													<0.1		
11/14/2005	9:00 AM	<RL	<RL						0.848			0.110									7.1	7.10	61*	1.0	<0.1		
11/14/2005	11:30 AM	1.0	<RL						0.841			0.111													<0.1		
12/13/2005	7:30 AM					236									18.5			16.1									
12/13/2005	10:00 AM					234									18.2			16.3									
2/27/2006	8:30 AM	2.4	0.34						0.854			0.128															
2/27/2006	10:40 AM	7.6	0.66						0.878			0.136															
6/11/2006	8:30 AM	3.5	1.27						0.876			0.105															
6/11/2006	10:40 AM	2.8	1.26						0.884			0.101															
7/9/2006	8:40 AM											0.113															
7/9/2006	10:50 AM											0.110															
8/14/2006*	8:30 AM	0.7																			7.5	8.40	62*	0.9	<0.1		
10/14/2006	10:00 AM	<RL																			7.5	8.50	60*	0.9	<0.1		
1/22/2007	10:15 AM	3.7																			7.2	7.20	60*	1.0	<0.1		
6/4/2007	7:50 AM	<RL																			7.5	8.30	63*	0.9	<0.1		
7/9/2007	8:05 AM	<RL																			7.4	8.31	63*	0.9	<0.1		
10/15/2007	7:35 AM	<RL																			7.4	8.00	60*	1.0	<0.1		
1/4/2008	8:30 AM	1.8																			7.4	7.64	60*	1.1	<0.1		
4/7/2008	8:06 AM	0.9																			7.4	6.10	64*	1.1	<0.1		
7/7/2008	8:17 AM	1.5																			7.4	5.30	63*	1.1	<0.1		
10/6/2008	7:12 AM	1.1																			7.4	6.20	60*	1.1	<0.1		
1/5/2009	7:50 AM	4.4																			6.97	6.24	59*	1.3	<0.1		
4/6/2009	8:00 AM	1.2																			6.96	6.14	60*	0.5	<0.1		
7/6/2009	7:48 AM	2.4																			7.03	8.35	62*	0.9	<0.1		

ATTACHMENT L
Table 3
Summary of Water Quality Data
Fish Springs Hatchery - Monitoring Receiving Site R-001
12/12/94 through 10/07/2013

Site R-001		PARAMETERS [1] & UNITS [2]																												
DATE	TIME	TSS mg/L	Total N mg/L	Total N> 90th Percentile Limit mg/L	Annual Avg. Total N mg/L	TDS mg/L	TDS > 90th Percentile Limit mg/L	Annual Avg. TDS mg/L	NO3-N mg/L	NO3-N> 90th Percentile Limit mg/L	Annual Avg. NO3-N mg/L	PO4 mg/L	PO4> 90th Percentile Limit mg/L	Annual Avg. PO4 mg/L	Sulfate mg/L	Sulfate> 90th Percentile Limit mg/L	Annual Avg. Sulfate mg/L	Chloride mg/L	Chloride> 90th Percentile Limit mg/L	Annual Avg. Chloride	P.H.	D.O. mg/L	Temp. F	Turbidity NTU	S.S. ml/L	Cu-Sediment mg/kg	Mn - Sediment mg/kg
8/3/2009	11:00 AM																									4.7	110
10/5/2009	7:15 AM	3.3																			6.98	7.76	60°	1.0	<0.1		
1/4/2010	8:00 AM	2.2																			6.85	7.10	57°	0.5	<0.1		
2/1/2010	8:00 AM	2.4																			6.97	5.25	58°	0.6	<0.1		
4/5/2010	7:30 AM	1.9																			6.77	5.72	58°	0.6	<0.1		
7/6/2010	7:40 AM				<0.814			205			0.903			0.106			18.1				6.54	6.84	63°	0.7	<0.1		
8/2/2010	8:35 AM	2.0																									
10/8/2010	7:40 AM																				6.74	6.86	58°	0.7	<0.1		
11/1/2010	7:45 AM	3.0	<0.814			205			0.903			0.106			18.1						6.87					6.8	140
1/3/2011	8:00 AM																				6.93	6.00	56°	0.6	<0.1		
4/4/2011	8:30 AM	2.5																									
6/3/2011	8:00 AM														20.5			14.5			7.06	5.58	59°	0.5	<0.1		
7/11/2011		1.0	1.36		1.36	238		238	0.962		0.962	0.207		0.207			20.5			14.5	7.04	4.80	64	0.4	<0.1		
8/15/2011																					6.91	4.67	60	1.3	<0.1		
10/4/2011	7:35 AM	1.7																								ND	110
11/1/2011																					7.02	5.02	59	1.7	<0.1		
1/9/2012	8:05 AM	5.8	0.145			199			0.966			0.116			18.2			11.9			7.1	6.30	58	1.5	<0.1		
1/9/2012	9:55 AM	6.2																									
1/16/2012																											
2/1/2012																											
3/6/2012																											
4/2/2012		1.5			0.199			201.5			1.013			0.134			17.2			11.2	7.1	6.40	60	1.6	<0.1		
4/2/2012																											
5/3/2012																											
6/1/2012																											
7/9/2012		1.6																			7.07	6.00	61	1.8	<0.1		
7/9/2012																											
10/1/2012		3.0	0.253			204			1.06			0.152			16.2			10.5			7	9.40	59	1.7	<0.1		
1/7/2013		11.5	1.27			215			0.844			0.141			18.1			14			6.84	6.90	58	1.8	<0.1		
4/8/2013		2.0			1.27			215			0.844			0.141			18.1			14	7.8	7.86	57.2	0.4	ND		
7/8/2013		3.2																			7.3	7.20	61	1.0	ND		
10/7/2013		1.6																			7.39	6.22	60.3	ND	ND		

[1] Parameters Defined

TSS	Total Suspended Solids	PO4	Dissolved Orthophosphate	Cu	Copper
TDS	Total Dissolved Solids	FLOW	Measured Water Flow	Mn	Manganese
N	Nitogen, Total	E.C	Electrical Conductivity	D.O.	Dissolved Oxygen
NO3-N	Nitrogen as Nitrate	S.S.	Settleable Solids	Temp	Temperature

[2] Units Defined

mg/L	milligrams per Litre	F	degrees Fahrenheit	mg/Kg	milligrams per Kilogram
ml/L	millilitres per Litre	NTU	standard units		

Number	63	23	0	3	52	1	4	78	0	4	51	1	4	48	0	4	47	0	3	107	105	81	105	0	2	3		
Max	11.5	1.4	0.0	1.4	407.0	407.0	238.0	1.1	0.0	1.0	1.2	1.2	0.21	27.5	0.0	20.5	26.0	0.0	14.5	8.2	12.2	70.0	2.0	0.0	6.8	140.0		
Min	0.7	0.1	0.0	0.2	194.0	407.0	201.5	0.5	0.0	0.8	0.1	1.2	0.1	16.0	0.0	17.2	9.6	0.0	11.2	6.5	4.7	57.0	0.4	0.0	4.7	110.0		
Avg	2.3	0.6	#DIV/0!	0.9	230.5	407.0	214.9	0.8	#DIV/0!	0.9	0.1	1.2	0.1	20.5	#DIV/0!	18.5	13.6	#DIV/0!	13.2	7.5	7.8	62.5	0.9	#DIV/0!	5.8	120.0		
Annual Average Limit				0.9			207			0.6			0.32			27			18									
90th Percentile Limit			1.5			343			1.1			0.56			59			42										
% Exceeding Limit			0.0%			1.92%			0.00%			2%			0.00%			0.00%										

%Exceeding 90th Percentile Limit =COUNT(H12:H198)/COUNT(G12:G198)
Note: 90th Percentile evaluation used all data from 1994-2013.