Central Valley Regional Water Quality Control Board

3 April 2026

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VIA EMAIL
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NOTICE OF APPLICABILITY (NOA); GENERAL WASTE DISCHARGE REQUIREMENTS ORDER R5-2022-0006-03 FOR LIMITED THREAT DISCHARGES TO SURFACE WATER; CALIFORNIA DEPARTMENT OF WATER RESOURCES, THERMALITO AFTERBAY PROJECT, BUTTE COUNTY

Our office received a Notice of Intent (NOI) on 4 December 2025 from the California Department of Water Resources (hereinafter Discharger), for discharge of uncontaminated groundwater to surface water, for enrollment under the General Order for Limited Threat Discharges to Surface Water (Limited Threat General Order) R5-2022-0006-03. Based on the NOI submitted by the Discharger, staff has determined that the project meets the required conditions for approval under the Limited Threat General Order, groundwater source project. This project is hereby assigned Limited Threat General Order R5-2022-0006-043 and National Pollutant Discharge Elimination System (NPDES) Permit No. CAG995002. Please reference your Limited Threat General Order number, **R5-2022-0006-043**, in your correspondence and submitted documents.

The project activities shall be operated in accordance with the requirements contained in the Limited Threat General Order and as specified in this NOA. You are urged to familiarize yourself with the entire contents of the enclosed Limited Threat General Order (https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2022-0006-03_amended.pdf)

CALIFORNIA TOXICS RULE / STATE IMPLEMENTATION POLICY MONITORING

The Limited Threat General Order incorporates the requirements of the California Toxics Rule (CTR) and the State Water Resources Control Board's (State Water Board), *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, 2005, also known as the State Implementation Policy (SIP). Screening levels for CTR constituents and other constituents of concern are found in Attachment I of the Limited Threat General Order. Review of your water quality data in comparison to the screening values, showed no

reasonable potential for the discharge to cause or contribute to an exceedance of water quality objectives into Thermalito Afterbay, which is a water of the United States.

PROJECT DESCRIPTION

The Thermalito Afterbay is part of the larger Oroville-Thermalito Complex (Complex). The Complex is a group of reservoirs, structures, and facilities located near the city of Oroville, which serve as a water conveyance and storage system operated by Department of Water Resources (DWR).

Thermalito Afterbay is an off-stream reservoir that provides storage of water required by the pumpback operation to Lake Oroville, which helps regulate the power system and produces controlled flow in the Feather River downstream; it also serves as a warming basin for agricultural water used in the area. Due to the volume of water stored in the basin and percolation rates, groundwater pumping is required to control the groundwater elevation to reduce flooding and inundation of the nearby land. Pumping groundwater back into the Thermalito Afterbay is vital to the sustained operation of the Complex.

Legacy Wells

Fifteen groundwater relief wells/pumps (wells) were installed between 1968 and 1969 and one additional well was drilled in 1990 to provide additional water supply to the Feather River Fish Hatchery annex, for a total of sixteen existing legacy wells. Since the initial installation of the legacy wells, three have been decommissioned or replaced. Of the existing legacy wells, twelve are operational seepage wells and currently pump percolated groundwater back into Thermalito Afterbay (1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 14, 15; Attachment A). One existing legacy well (5A) provides water supply to the Feather River Fish Hatchery annex and will not be covered by the General Order. The twelve legacy seepage wells operate 24 hours per day pumping approximately between 0 and the design flow rate of 1,900 gallons per minute (gpm) depending on groundwater elevation and specific pump capacity. The legacy seepage wells not equipped with flowmeters have undergone changes to pumps and motors over time, and the screen condition and yield have changed since initial installation; therefore, the design flow rate is a conservative estimate of the maximum pump rate.

In addition to the legacy seepage wells, there are two concrete sumps that collect water that seeps through the south side of Thermalito Afterbay Dam as a pressure relief system. Each concrete sump is equipped with one discharge pipe and two sump pumps that alternate between discharges based on water level

In total there are currently fourteen operational discharge points from legacy seepage wells and two sump pumps. This NOA covers the discharge of water related to the development of six new seepage wells on the west side of Thermalito Afterbay, the continued discharge of groundwater from the six new seepage wells and six legacy

seepage wells that will not be replaced during this project, and two sumps on the south side of Thermalito Afterbay.

Replacement Wells and Well Development

Six new seepage wells will be installed to replace six legacy seepage wells (1, 2, 4, 7, 8, 9; Attachment A) that will be decommissioned and converted into monitoring wells. Well development and testing will occur in four major stages:

1. Mechanical development including surging, swabbing, and air lifting;
2. Test pump installation and initial pumping and surging until turbidity is <10 nephelometric turbidity units (NTU);
3. Intermittent pumping and surging when turbidity is <10 NTU until it reaches <5 NTU; and
4. Aquifer performance testing including a step-drawdown test followed by a constant-rate aquifer test followed by recovery testing.

The purged water from Stage 1 and 2 above will be collected in frac tanks and discharged to land at a DWR facility located on Wilbur Road, where settling basins have been constructed to handle this water. During Stage 3 and 4, development and aquifer performance testing water will be discharged to the Thermalito Afterbay.

During Stage 3, the test pump will be operated at an extraction rate between 750 and 2,000 gpm and will be discharged to the Thermalito Afterbay through a temporary 10-inch discharge pipe. Pumping development will continue until there is no further settlement of the gravel pack, no increase in specific capacity for at least 2 hours, sand content is less than or equal to 5 parts per million (ppm), and turbidity remains below 5 NTUs for a period of at least 2 hours.

Stage 3 pump testing will be conducted at each of the new seepage wells, with an estimated discharge volume of up to approximately 7.2 million gallons (MG) of groundwater to the Thermalito Afterbay from each well. The maximum daily discharge from each new well is anticipated to be approximately 5.8 MG per day (at a maximum pump rate of 4,000 gpm during Stage 4 aquifer testing.

Development and testing will be completed in succession as the new seepage wells are installed and developed. Development and testing will occur over an approximate 4-month duration beginning as early as April 2026. Following completion of development and testing, the six new seepage wells will begin normal operation pumping between 0 and 4,000 gallons per minute depending on groundwater elevation and specific pump capacity.

DISCHARGE PROHIBITIONS

Discharge prohibitions are specified in Section IV Discharge Prohibitions of the Limited Threat General Order. Based on the information provided in the NOI, the following discharge prohibitions are applicable to this discharge:

- Prohibition IV.A
- Prohibition IV.B
- Prohibition IV.C
- Prohibition IV.D. The flow rate from a single well shall not exceed 5.8 MGD.

EFFLUENT LIMITATIONS
Effluent limitations are specified in Section V. Effluent Limitations and Discharge Specifications of the Limited Threat General Order. Based on the information provided in the NOI, effluent limitations are only required for the parameter identified in items 1-3, below:

1. **pH (Section V.A.1.b.i).** The pH of all limited threat discharges within the Sacramento and San Joaquin River Basins (except Goose Lake in Modoc County) shall at all times be within the range of 6.5 and 8.5.

2. **Whole Effluent Toxicity, Chronic (Section V.A.2.a).** There shall be no chronic toxicity in the discharge.

3. **Salinity.** Discharges under the Conservative Permitting Approach to Receiving Waters with the Agricultural Supply (AGR) Beneficial Use. The monthly average effluent electrical conductivity shall not exceed 700 µmhos/cm.

Receiving Water is listed for mercury and Polychlorinated Biphenyls (PCBs) on the Clean Water Act 303(d) List of impaired water bodies. A Total Maximum Daily Load (TMDL) has not yet been established for Receiving Water. Therefore, no additional 303(d) based effluent limitations or monitoring requirements are included in this NOA (R5-2022-0006-043).

RECEIVING WATER LIMITATIONS
The Limited Threat General Order includes receiving surface water limitations in Section VIII.A. Based on the information provided in the NOI, only the following receiving surface water limitations are applicable to this discharge:

- Bacteria (VIII.A.2);
- Biostimulatory substances (VIII.A.3);
- Chemical constituents (VIII.A.4);
- Color (VIII.A.5);
- Dissolved oxygen (VIII.A.6.a.iii);
- Floating material (VIII.A.7);
- Oil and grease (VIII.A.8);
- pH (VIII.A.9.a);
- Pesticides ((VIII.A.10);
- Radioactivity (VIII.A.11);
- Suspended sediments (VIII.A.12);
- Settleable substances (VIII.A.13);

- Suspended material (VIII.A.14);
- Taste and odors (VIII.A.15);
- Temperature (VIII.A.16.a);
- Toxicity (VIII.A.17); and
- Turbidity (VIII.A.18.a).

MONITORING AND REPORTING

Monitoring and reporting requirements are contained in Attachment C of the Limited Threat General Order. The Discharger is required to comply with the following specific monitoring and reporting requirements for the effluent and receiving water in accordance with Attachment C of the Limited Threat General Order.

Monitoring Locations – The Discharger shall monitor the effluent and receiving water at the specified location as follows:

Table 2. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	A location where a representative sample of the effluent can be collected prior to discharging to Thermalito Afterbay.
	RSW-001	Thermalito Afterbay, near the inlet from the Thermalito Forebay; as shown in Attachment A.
	RSW-002	Thermalito Afterbay, near the Afterbay Release Station discharge to the Feather River; as shown in Attachment A.

Effluent Monitoring – When discharging to surface water, the Discharger shall monitor the effluent at EFF-001 in accordance with Table C-3 of the Limited Threat General Order and this NOA. The applicable monitoring requirements during the well development and aquifer performance testing phase are as follows in Table 3 and subsequent Table 3 Notes:

Table 3. Effluent Monitoring Requirements (Well Development and Aquifer Performance Testing)

Parameter	Units	Sample Type	Minimum Sampling Frequency
Discharge Flow Rate	MGD	Calculated	1/Day
Total Flow from all Wells	MG	Calculated	1/Month
Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/Month
pH	standard units	Grab	1/Month

Parameter	Units	Sample Type	Minimum Sampling Frequency
Turbidity	NTU	Grab	1/Month
Temperature	°F	Grab	1/Month
Dissolved Oxygen (DO)	mg/L	Grab	1/Month
Chronic Toxicity	--	Grab	1/Year

Table 3 Notes

1. **Electrical conductivity, pH, turbidity, temperature, and DO.** A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
2. **All parameters, except flow.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
3. **Chronic toxicity.** Chronic toxicity testing shall be conducted within 3 months of initiation of discharge.

The applicable monitoring requirements during the ongoing operations are as follows in Table 4 and subsequent Table 4 Notes:

Table 4. Effluent Monitoring Requirements (Ongoing Operations)

Parameter	Units	Sample Type	Minimum Sampling Frequency
Discharge Flow Rate	MGD	Calculated	1/Day
Total Flow from all Wells	MGD	Calculated	1/Quarter
Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/Quarter
pH	standard units	Grab	1/Quarter
Turbidity	NTU	Grab	1/Quarter
Temperature	°F	Grab	1/Quarter
Dissolved Oxygen (DO)	mg/L	Grab	1/Quarter
Chronic Toxicity	--	Grab	1/Year

Table 4 Notes

1. **Electrical conductivity, pH, turbidity, temperature, and DO.** A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
2. **All parameters, except flow.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

Section II.B.2 of the Limitations and Discharge Requirements section of the Limited Threat General Order requires that dischargers submit new analytical results every 5 years for pollutants specified in Table I-1 of Attachment I. The Project is considered a groundwater discharge. Therefore, the Discharger shall submit monitoring results by **1 February 2031** for the following constituents shown in Table 5 and subsequent Table 5 Notes, below:

Table 5. Effluent Characterization Monitoring

Parameter	Units	Sample Type
Biochemical Oxygen Demand (BOD)	mg/L	Grab
Total Suspended Solids (TSS)	mg/L	Grab
Dissolved Oxygen (DO)	mg/L	Grab
Hardness	mg/l	Grab
pH	standard units	Grab
Temperature	°F	Grab
Electrical Conductivity @ 25 °C	µmhos/cm	Grab
Total Dissolved Solids (TDS)	mg/L	Grab
Turbidity	NTU	Grab
Unionized Ammonia Nitrogen, Total (as N)	mg/L	Grab
Chlorine, Total Residual	mg/L	Grab
CTR Priority Pollutants	See Attachment I, Table I-3 of the Limited Threat General Order	See Attachment I, Table I-3 of the Limited Threat General Order

Table 5 Notes

1. **For all parameters.** The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given month, as required in Table E-3, except for hardness, pH, and temperature, which shall be conducted concurrently with the effluent sampling.
2. **For all parameters.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
3. **For DO, pH, temperature, electrical conductivity, TDS, and turbidity.** A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
4. **For CTR Priority Pollutants.** See Attachment I, Table I-3 of the Limited Threat General Order.

Receiving Water Monitoring - When discharging to surface water, the Discharger shall monitor the receiving water at RSW-001 and RSW-002, in accordance with Table C-5 of

the Limited Threat General Order and this NOA. The applicable monitoring requirements are as follows in Table 6 and subsequent Table 6 Notes:

Table 6. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Monitoring Frequency
Dissolved Oxygen	mg/L	Grab	1/Month
Electrical Conductivity @ 25 ºC	µmhos/cm	Grab	1/Month
pH	standard units	Grab	1/Month
Temperature	°F	Grab	1/Month
Turbidity	NTU	Grab	1/Month

Table 6 Notes

1. **All parameters.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
2. **All parameters.** A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained by the Discharger.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002. Attention shall be given to the presence or absence of:

a. Floating or suspended matter
b. Discoloration
c. Bottom deposits
d. Aquatic life
e. Visible films, sheens, or coatings
f. Fungi, slimes, or objectionable growths
g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the Monitoring Report.

Monitoring Report Submittals - Monitoring in accordance with the Limited Threat General Order shall begin upon initiation of discharge. Monitoring Reports shall be submitted to the Central Valley Water Board on a quarterly basis, beginning with the **Second Quarter 2026**. This report shall be submitted on **1 August 2026**. All Monitoring Reports shall specify the dates during the monitoring period the discharge did or did not occur. If monitoring samples were not obtained within 24 hours of initiation of the discharge, the Discharger must document the reasons in the corresponding Monitoring Report. If discharge has not begun there is no need to monitor. However, a certified Monitoring Report must be submitted stating that there has been no discharge. Table 7, below, summarizes the Monitoring Report due dates required under the Limited Threat

General Order. Quarterly Monitoring Reports must be submitted until your coverage is formally terminated in accordance with the Limited Threat General Order, even if there is no discharge during the reporting quarter.

Table 7. Monitoring Periods and Reporting Schedule

Monitoring Period for All Sampling Frequencies	Quarterly Report Due Date
First Quarter (1 January through 31 March)	1 May
Second Quarter (1 April through 30 June)	1 August
Third Quarter (1 July through 30 September)	1 November
Fourth Quarter (1 October through 31 December)	1 February of the following year

GENERAL INFORMATION AND REQUIREMENTS

The Discharger must notify Central Valley Water Board staff within 24 hours of having knowledge of 1) the start of each new discharge, 2) noncompliance, and 3) when the discharge ceases. The Central Valley Water Board shall be notified immediately if any effluent limit violation is observed during implementation of the project.

Discharge of material other than what is described in the application is prohibited. The required annual fee (as specified in the annual invoice you will receive from the State Water Resources Control Board) shall be submitted until this NOA is officially terminated. You must notify this office in writing when the discharge regulated by the Limited Threat General Order is no longer necessary by submitting the Request for Termination of Coverage (Attachment E). If a timely written request is not received, the Discharger will be required to pay additional annual fees as determined by the State Water Resources Control Board.

ENFORCEMENT

Failure to comply with the Limited Threat General Order may result in enforcement actions, which could include civil liability. Effluent limitation violations are subject to a Mandatory

Minimum Penalty (MMP) of $3,000 per violation. In addition, late Monitoring Reports may be subject to MMPs or discretionary penalties of up to $1,000 per day late. When discharges do not occur during a quarterly monitoring period, the Discharger must still submit a quarterly certified Monitoring Report indicating that no discharge occurred to avoid being subject to enforcement actions.

COMMUNICATION

We have transitioned to a paperless office; therefore, please convert all documents to a searchable Portable Document Format (pdf). All documents, including Monitoring Reports, written notifications, and documents submitted to comply with this NOA and the Limited Threat General Order, should be submitted to the NPDES Compliance and Enforcement Unit, Attention: Michael Collins at

centralvalleyredding@waterboards.ca.gov and Michael.Collins@waterboards.ca.gov
Mr. Collins may also be reached by phone at (530) 224-4785.

Please include the following information in the body of the email:

- Attention: NPDES Compliance Unit
- Discharger: California Department of Water Resources
- Facility: Thermalito Afterbay
- County: Butte County
- CIWQS place ID: 906071
- CV-SALTs ID: 3704

Documents that are 50 megabytes or larger must be transferred to a DVD, or flash drive and mailed to our office, attention “ECM Mailroom-NPDES".

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this NOA, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Links to the law and regulations applicable to filing petitions may be found on the Petitions Home Page (http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

Patrick Pulupa, Executive Officer

Enclosures (2): Attachment A - Project Location Map
Monitoring Report Transmittal Form (Discharger only)

cc: Peter Kozelka, U.S. EPA, Region IX, San Francisco (email only)
Prasad Gullapalli, U.S. EPA Region IX, San Francisco (email only)
Division of Water Quality, State Water Board, Sacramento (email only)

ATTACHMENT A – PROJECT LOCATION MAP