

Lompoc Regional Wastewater Reclamation Plant (LRWRP) Time Schedule Order

Commission meeting

9/9/2024



What is National Pollutant Discharge Elimination System (NPDES)?

NPDES Permit Program controls water pollution by regulating point sources that discharge pollutants into waters of the United States

NPDES Permit governs operations of the Lompoc Regional Wastewater Reclamation Plant (LRWRP) and prescribes the following:

- Allowable discharge location (San Miguelito Creek)
- Minimum level of treatment
- Effluent limits
- Receiving water limits
- Pretreatment program
- Monitoring and reporting requirements

Lompoc WWTP NPDES Permit and TSO

- Current NPDES permit adopted by Central Coast Regional Water Quality Control Board in 2022 (ORDER NO. R3-2022-0004)
- In the renewed 2022 NPDES permit, it includes TIME SCHEDULE ORDER (TSO) NO. R3-2022-0005 for the new effluent limitations Boron, Sulfate, Chromium (VI), and Temperature.
- The TSO accompanies our NPDES permit and allows the City timeframes to comply with the new requirements of the permit.
- The TSO requires a rate study be completed to ensure resources can be available to complete projects and improvements that may be required to comply with the new permit requirements.

Effluent Limits of Concern – Background and Permit Approach

4. Order No. R3-2022-0004 prescribes the following new effluent limitations for boron, sulfate, and chromium (VI).

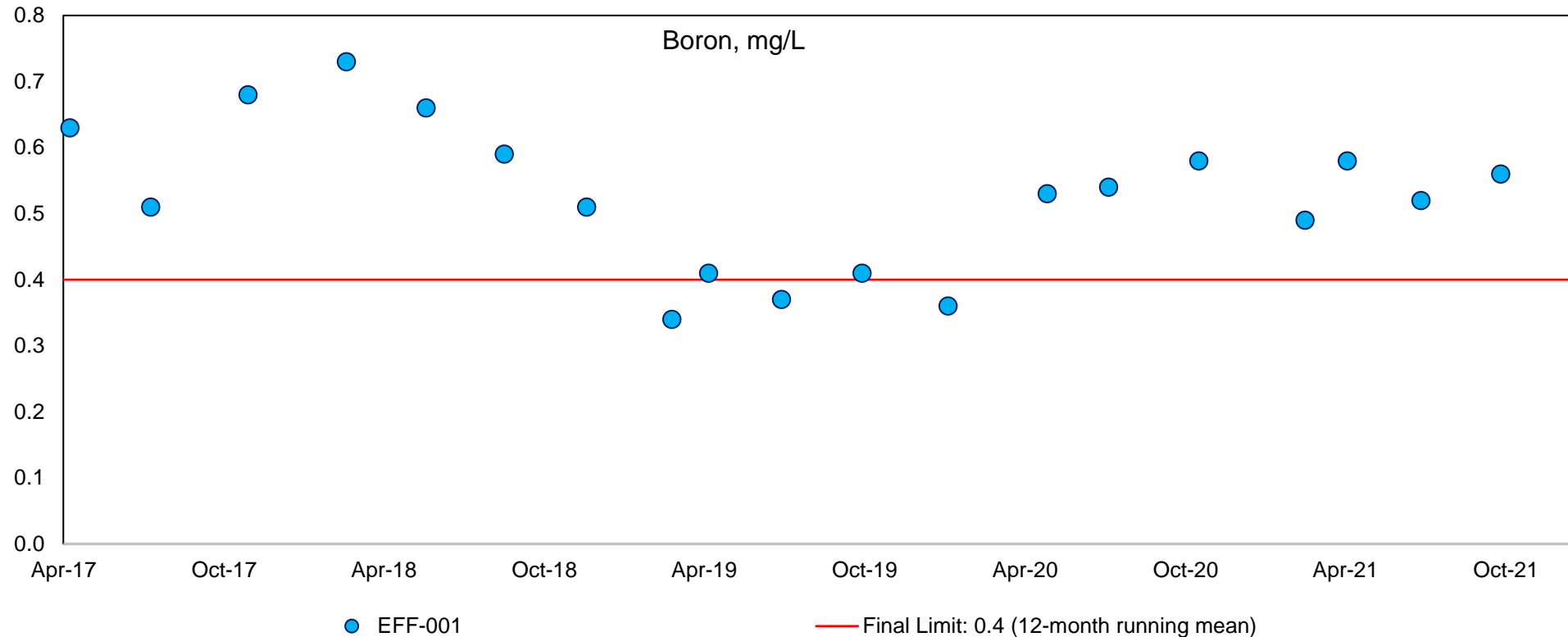
Parameter	Units	Annual Mean ¹	Average Monthly	Maximum Daily
Boron	mg/L	0.4		
Sulfate	mg/L	350		
Chromium (VI), Total Recoverable	ug/L		8.1	16

¹ Compliance with the effluent limitations is determined using 12-month running mean.

Final effluent limitation for temperature will be established in a future permit. The City should consider the temperature needed to protect all beneficial uses when it develops its plans for addressing temperature and plan for a final effluent limitation that may be lower than 21 degrees Celsius (69.8 degrees Fahrenheit).

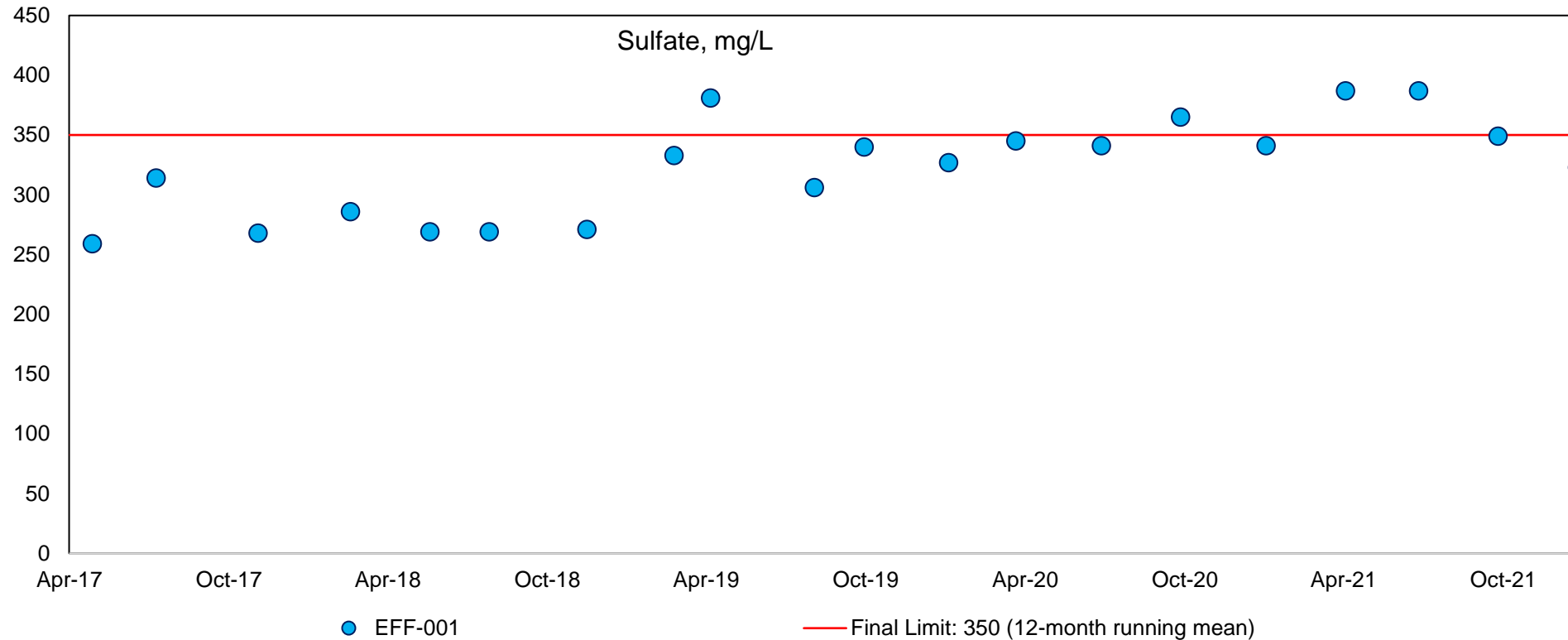
Permit Compliance Concerns (Boron)

Based on historical data, Boron concentrations for effluent (EFF-001) do not currently comply with our NPDES permit (0.4 mg/L).



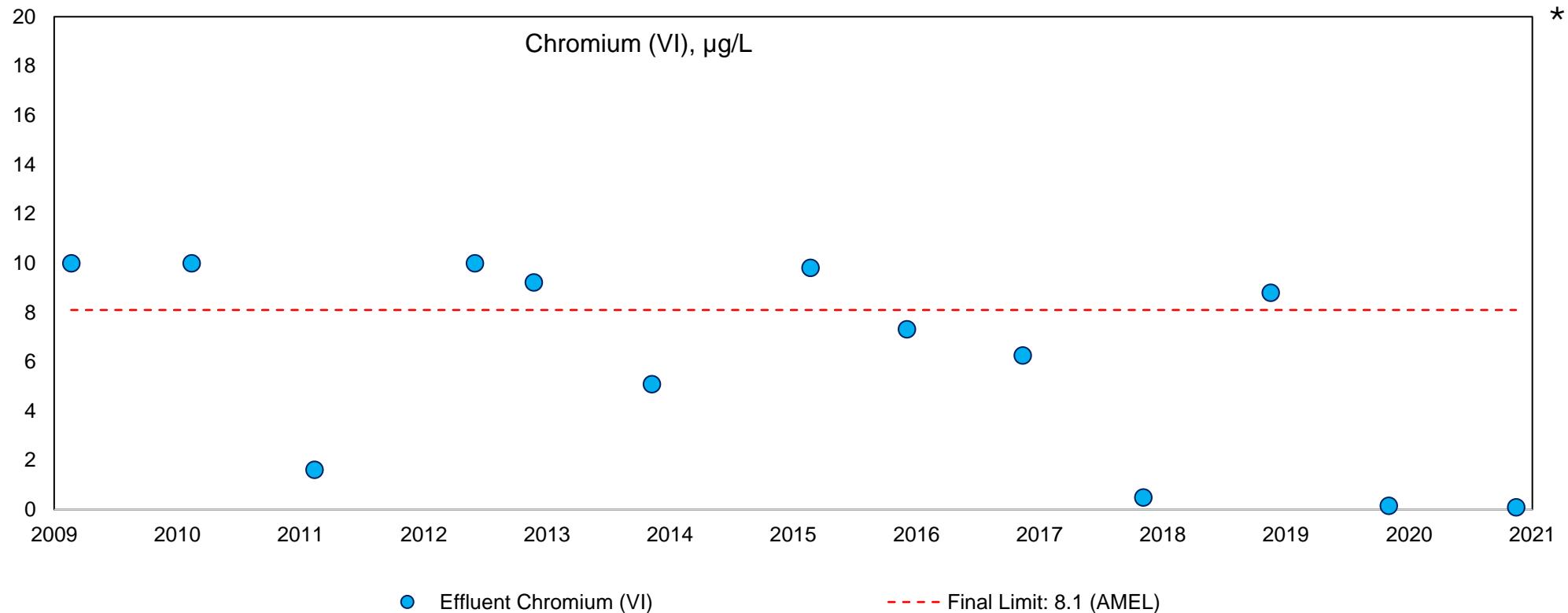
Permit Compliance Concerns (Sulfate)

Based on historical data, Sulfate concentrations for effluent (EFF-001) do not currently comply with our NPDES permit (350 mg/L).



Permit Compliance Concerns (Chromium VI)

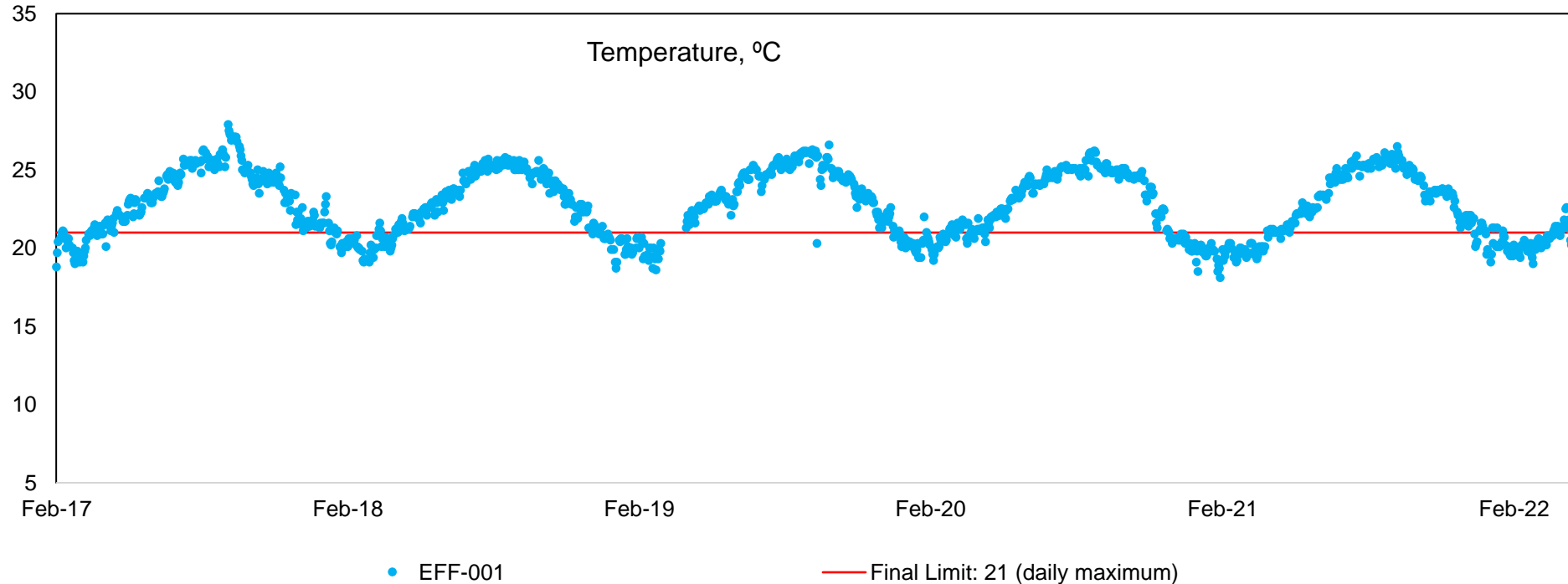
Based on historical data, Chromium VI concentrations for effluent (EFF-001) do not currently comply with our NPDES permit (8.1 ug/L).



* Cr VI data in the graph were calculated by Total Chromium and Chromium III. Now we are using direct measurement method from 2022 have shown no detectable levels of Cr VI.

Permit Compliance Concerns (Temperature)

Based on historical data, Temperature of effluent (EFF-001) do not currently comply with our NPDES permit (21°C (69.8 ° F), maximum daily).



What is Time Schedule Order (TSO)?

- The Regional Water Board adopted a TSO with the following conditions to help the City achieve permit compliance:
 - Performance-based interim limits
 - Source investigations
 - 5 years to develop/implement capital projects (10 years with extension)
 - Exemption from penalties if comply with interim limits, develop/implement solutions, and submit progress reports

Strategy for Compliance with Boron, Sulfate, Chromium VI Effluent Limits

- Conduct Intake Credit Study
 - If the water supply and the receiving water are hydrologically connected, California regulations allow water supply contributions to be subtracted from the wastewater concentrations
 - The water supply for City of Lompoc and VVCSD are hydrologically connected to the San Miguelito Creek/Santa Ynez River
 - Water supply and wastewater monitoring was implemented to evaluate the efficacy of intake credits



Next Steps for Boron, Sulfate, Chromium VI Effluent Limit Compliance

- Boron and Sulfate
 - Sarah Crable (Lompoc NPDES Permit Case Handler) said “it is safe to assume the intake credits will be approved.”
 - The approval process involves amending the NPDES permit with specific requirements for monitoring, calculating, and reporting adjusted wastewater concentrations.
 - NPDES permit amendment can take 6-12 months, so the City will continue collecting data and submitting quarterly progress reports.

Next Steps for Boron, Sulfate, Chromium VI Effluent Limit Compliance

- Chromium VI
 - Historical results were “detected, not quantified” (i.e., estimated) using high detection limits and subtraction method (Total Cr – Cr III = Cr VI)
 - Discussed method with laboratory and established protocols for measuring Cr VI directly using low detection limits
 - Report recent data using direct analysis method and low detection limits. Intake credit is no longer needed for Cr VI because the revised analytical approach has produced non-detect results.
 - For the past 2.5 years, the City has demonstrated wastewater concentrations are in compliance with final effluent limits.

Strategy for Compliance with Temperature Limits

- Evaluate Impacts of Effluent Temperature on Beneficial Uses of the Receiving Water
 - Thermistors were installed upstream and downstream of LRWRP outfall.
 - City plans to use the data to determine if creek temperature is influenced by effluent temperature and detrimental to salmonids.
 - Equipment and signals were lost during winter storms/high flows of 2022/23 and 2023/24.
 - Some of the data have been recovered, but it's unclear what conclusions can be drawn from the limited dataset.
- City of San Luis Obispo Conducted Similar Studies and was Required to Install an Effluent Chiller to reduce temperature prior to discharge.

Next Steps for Temperature Compliance

- Chiller proposed to reduce temperature of water at the discharge point. Similar installations have been done at other California wastewater plants.
 - Capital costs: \$1 million (estimate) for 1 MGD system
 - Operating costs: \$163,000/year (estimate)



Steps for Rate Study

- The TSO required a Wastewater Rate Study be completed by November 30, 2024
- The City's consultant completed the Draft Rate Study in May 2024
- The Draft Rate Study was submitted to Regional Water Board on July 30, 2024
- Funding for effluent cooling system was included in wastewater rate study
- The Rate Study will be brought to the City Council for consideration. Implementation of the study is required to provide for the resources necessary to comply with the TSO and the NPDES permit requirement.

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Questions?

