

Nutrients Watershed Permit: Compliance Schedule Milestones and Progress Reporting



This RFI serves as the initial information gathering required as part of the 3rd Watershed Permit (R2-2024-0013). Agencies are required to update their information annually as part of an annual RFI submission process which we will lead. Given the annual update, agencies are not beholden to the information gathered with each year’s submission as it might change in the future.

If a potential project spans multiple categories, simply select one of the categories and note it. Details on the permit requirements are provided below.

From Order R2-2024-0013 (page 13):

6.3.3 Compliance Schedule Milestones and Progress Reporting

This Order establishes compliance schedules for Dischargers in Table 4 to meet the final water quality-based effluent limitations for total inorganic nitrogen within 10 years consistent with the State Water Board’s Compliance Schedule Policy, as further explained in Fact Sheet section 4.2.1. To demonstrate progress in meeting these limits, each Discharger listed in Table 4 shall submit the information required below with the Annual Nutrients Report required by MRP section 5.2.2 starting with the Group Annual Report due April 1, 2025, and each year thereafter:

6.3.3.1

Summary of progress toward meeting the total inorganic nitrogen final effluent limitations in Table 4, including actions taken to reduce total inorganic nitrogen loads. Table 5, below, includes specific milestones that must also be completed. Early Actors defined by Provision 6.3.6 shall instead provide annual status updates on project implementation.

* Required

Table 5. Compliance Schedule Milestones

Milestone	Compliance Date
<p>Identify Compliance Alternatives. Dischargers shall identify preliminary alternatives for meeting the final effluent limitations in Table 4. This may include traditional treatment infrastructure, optimization, nature-based solutions, recycled water, trading, or a combination thereof. The submittal shall note whether the identified alternatives require pilot projects.</p> <p>If a Discharger has already identified a compliance pathway (selected alternative or combination of alternatives), the Discharger shall instead describe the compliance pathway, begin implementation, and provide a status update.</p>	<p>April 1, 2025</p>

Definitions:

Traditional treatment infrastructure (excluding optimization of existing infrastructure) is defined as infrastructure upgrades needed at the facility to reduce nutrient loads. For example, upgrading a plant from secondary treatment to a Modified Ludzack-Ettinger (MLE) process without compromising permitted capacity would be viewed as traditional treatment infrastructure.

Optimization leverages unused available "capacity" to remove nutrients. For example, modifying the aeration system (e.g., increasing the sludge age during the dry season, creating anoxic zones, utilizing offline tankage, operating in split treatment mode, etc.). In some cases, optimization may be an interim solution if it uses "capacity" that is already allocated for other future uses. Optimization projects must be completed by May 1, 2028. Optimization refers mainly to operational changes rather than large capital projects.

Nature-based Solutions (NbS) beneficially exploit natural processes providing stand-alone solutions or hybrid approaches integrated with technology-based or engineered solutions to foster urban resilience and sustainability (Frantzeskaki et al., 2019). Examples of NbS include horizontal levees, open-cell treatment wetlands, vegetated open water treatment systems, and denitrifying bioreactors (i.e., subsurface treatment).

Recycled water is defined as water that has been treated and cleaned to make it safe for reuse for a variety of purposes. Examples of recycled water alternatives include non-potable (e.g., golf course irrigation, landscape irrigation, commercial reuse, industrial reuse, agricultural reuse, etc.) and potable (e.g., surface water augmentation, groundwater recharge, and direct reuse applications). Note that not all recycled water uses necessarily reduce nutrient discharge loads. For example, if a discharger produces water suitable for potable reuse through the use of reverse osmosis (RO), but does not treat the resulting brine, the nutrients may still be discharged.

As defined in the Permit, "Water quality trading is a market-based approach that offers efficiency in achieving water quality improvements on a watershed basis. With more stringent limits for total inorganic nitrogen, water quality trading would allow one Discharger to control nitrogen at levels greater than required and sell "credits" to another Discharger, which would use the credits to supplement its level of treatment to comply with final effluent limitations. Trading capitalizes on economies of scale and the control cost differentials between and among sources." The most common trading alternatives involve directly exchanging credits between facilities/subembayments or through a centralized credit bank.

Notes:

Projects spanning multiple categories may be listed under the most applicable category. Do not enter information about the same project into multiple categories.

There is no requirement to examine all the preliminary alternatives in 2026, so do not refrain from reporting preliminary alternatives your agency is considering. There is no commitment to follow through with additional analysis.

1

Please provide the name(s) of the person(s) completing this form. If multiple, please separate with a comma.

Example: Jane Doe, John Smith *

2

Please provide the email address(es) of the person(s) completing this form. If multiple, please separate with a comma.

Example: jdoh@spud.org, jsmith@spud.org *

Select the Discharger. *

- American Canyon, City of
- Benicia, City of
- Burlingame, City of
- Castro Valley SD
- Central Contra Costa Sanitary District
- Central Marin Sanitation Agency
- City of Richmond Municipal SD
- Crockett Community Services District
- Delta Diablo
- Dublin San Ramon SD
- EBMUD
- Fairfield Suisun SD
- Hayward, City of
- Livermore, City of
- Livermore-Amador Valley Water Management Agency
- Millbrae, City of
- Mt. View SD
- Novato SD
- Oro Loma SD
- Palo Alto, City of
- Pinole, City of
- Rodeo SD
- SFO Airport
- SFPUC Southeast

- SFPUC Treasure Island
- San Jose/Santa Clara WPCP
- San Leandro, City of
- San Mateo, City of
- SD No. 5 of Marin County (Paradise Cove)
- SD No. 5 of Marin County (Tiburon)
- Sausalito-Marin City SD
- Sewerage Agency of Southern Marin
- Silicon Valley Clean Water
- South San Francisco and San Bruno, Cities of
- Sunnyvale, City of
- Union SD
- Vallejo Flood and Wastewater District
- West County Wastewater District

4

Is your agency an Early Actor, as defined by Provision 6.3.6 of Order R2-2024-0013?

6.3.6 Recognition of Early Actors

Dischargers that have already completed or begun construction or implementation of projects to reduce total inorganic nitrogen discharges to San Francisco Bay by the effective date of this Order may qualify as early actors. These Dischargers shall provide updates with each Annual Nutrients Report required by MRP section 5.2.2. Upon completion of these projects, if a Discharger's total inorganic nitrogen loads are above the individual final effluent limitations in Table 4, the Regional Water Board will consider available regulatory mechanisms to provide more time to comply as explained in Fact Sheet section 6.3.5.

Note: The previous (2019) permit contains the following language regarding Early Actors:

"If the most up-to-date scientific information indicates that nutrient loads must be capped or reduced, the Regional Water Board will recognize early actions (i.e., Dischargers' capital or operational improvements or other means that significantly reduce nutrient loads during this Order term) when considering compliance with nutrient load caps or reductions in asubembayment. This will likely result in findings that no further actions by these Dischargers will be necessary for the design life of the associated capital improvements, provided that other dischargers can implement capital improvements to reduce nutrient loads below the subembayment cap. Any Discharger who significantly reduces nutrient loads during this Order term will be considered for recognition as an early actor. Dischargers who have already committed to taking early action during this Order term are listed below:"

The text above is followed by a table listing Central San, Hayward, Oro Loma, Castro Valley, Palo Alto, SFO, San Mateo, Sunnyvale, and Treasure Island.

*

5

Which of the following best describe the applicable project(s) that have been completed or are in-progress? Select all that apply. *

- Traditional treatment infrastructure (excluding optimization of existing infrastructure).
- Optimization of existing infrastructure.
- Nature-based solution
- Recycled water
- Trading
- Other

6

Describe the applicable project(s) that have been completed or are in-progress in more detail, including a status update on the implementation of each project. Please keep descriptions brief and avoid abbreviations and acronyms.

Examples:

Project #1: This project involves the use of membrane aerated biofilm reactors to enhance nitrogen removal in the existing aeration basins. A pilot has been completed, and we are preparing for full-scale installation, which is anticipated to begin construction in December 2025.

Project #2: Process optimizations and modifications to the existing activated sludge process include adding variable frequency drive blowers, fine-tuning dissolved oxygen probe set points, and upgrading the diffusers. Preliminary design will begin in April 2025.

Project #3: This project involves the addition of additional activated sludge tankage as well as modification of existing tankage to provide nitrogen removal capabilities. The new tankage and modified tankage will provide the ability to operate in either a continuous or step-feed anaerobic-anoxic-oxic configuration. Preliminary design is complete and the 10% design is due in March 2025.
*

7

Will the completed or ongoing projects result in compliance? *

- Yes
- No
- Unsure

8

Would you like to provide the same alternatives analysis information (for projects still under consideration) that non-Early Actors are providing (optional), or just a brief summary? *

- Same information as non-Early Actors
- Brief Summary

9

Which of the following best describe applicable project(s) that are still under consideration? Select all that apply. *

- Traditional treatment infrastructure (excluding optimization of existing infrastructure).
- Optimization of existing infrastructure.
- Nature-based solution
- Recycled water
- Trading
- Other

10

Please provide more details regarding the applicable project(s) that are still under consideration. *

11

Has your agency already selected a compliance pathway? *

Yes

No

12

Which of the following best describe the selected compliance pathway? Select all that apply. *

Traditional treatment infrastructure (excluding optimization of existing infrastructure).

Optimization of existing infrastructure.

Nature-based solution

Recycled water

Trading

Other

13

Describe the selected pathway.

Example: The compliance pathway consists of the addition of activated sludge tankage configured for nutrient removal (Modified Ludzack-Ettinger), process modifications to the existing tankage to provide nutrient removal (Modified Ludzack-Ettinger), process optimizations for the existing aeration system, and the use of a polishing wetland. *

14

Has implementation of the selected pathway begun? *

Yes

No

15

When will implementation of the selected compliance pathway begin?

Example: preliminary design will commence in June 2025. *

16

Provide a status update on implementation of the selected compliance pathway.

Example: Preliminary design was completed in June 2025 and 10% design will be completed by October 2025. Construction is anticipated to begin in July 2027. *

17

Has your agency identified preliminary alternatives for meeting the final effluent limitations? *

Yes

No

18

All Dischargers are required to identify preliminary alternatives by April 1, 2025. What is your agency's plan for complying with this requirement? *

19

Approximately how many alternatives have been identified?

The next part of the form will ask about five different types of alternatives: nature-based solutions, traditional treatment infrastructure, optimization, recycled water, and trading. *

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

20

Do the alternatives include nature-based solutions? *

- Yes
- No

21

Do the alternatives include traditional treatment infrastructure (excluding optimization of existing infrastructure)? *

- Yes
- No

22

Do the alternatives include optimization of existing infrastructure? *

Yes

No

23

Do the alternatives include recycled water? *

Yes

No

24

Do the alternatives include trading? *

Yes

No

25

Do the alternatives include "other" types of solutions? *

Yes

No

How many nature-based solution alternatives are under consideration? *

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

How many traditional treatment infrastructure (excluding optimization of existing infrastructure) alternatives are under consideration? *

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

28

How many optimization alternatives are under consideration? *

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

29

How many recycled water alternatives are under consideration? *

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

30

How many trading alternatives are under consideration? *

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

31

How many "other" alternatives are under consideration? *

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

32

Do you estimate that nature-based solutions will play a major or a minor role in complying with the final discharge limits? *

- Major
- Minor
- Unsure

33

Do you estimate that traditional treatment infrastructure (excluding optimization of existing infrastructure) will play a major or a minor role in complying with the final discharge limits? *

- Major
- Minor
- Unsure

34

Do you estimate that optimization of existing infrastructure will play a major or a minor role in complying with the final discharge limits? *

- Major
- Minor
- Unsure

35

Do you estimate that recycled water will play a major or a minor role in complying with the final discharge limits? *

- Major
- Minor
- Unsure

36

Do you estimate that trading will play a major or a minor role in complying with the final discharge limits? *

- Major
- Minor
- Unsure

37

Do you estimate that "other" solutions will play a major or a minor role in complying with the final discharge limits? *

- Major
- Minor
- Unsure

38

Will the nature-based solution(s) require one or more pilots? *

- Yes
- No

39

Will the traditional treatment infrastructure (excluding optimization of existing infrastructure) require one or more pilots? *

- Yes
- No

40

Will the optimization of existing infrastructure alternative(s) require one or more pilots? *

Yes

No

41

Will the recycled water alternative(s) require one or more pilots? *

Yes

No

42

Will the trading alternative(s) require one or more pilots? *

Yes

No

43

Will the "other" alternative(s) require one or more pilots? *

Yes

No

44

Is your agency interested in purchasing nutrient credits? *

- Yes
- No
- Maybe

45

Please describe the nature-based solution(s) in more detail, including the current phase of implementation if applicable. *

46

Please describe the traditional treatment infrastructure (excluding optimization of existing infrastructure) alternatives in more detail, including the current phase of implementation if applicable. *

47

Please describe the optimization of existing infrastructure alternatives in more detail, including the current phase of implementation if applicable. *

48

Please describe the recycled water alternatives in more detail, including the current phase of implementation if applicable. *

49

Please describe the trading alternatives in more detail, including the current phase of implementation if applicable. *

50

Please describe the "other" alternatives in more detail, including the current phase of implementation if applicable. *

51

Please describe anything else regarding this Discharger's progress that should be noted.

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