



# Water Quality Program

## Permit Submittal Electronic Certification

**Permittee:** MARYSVILLE STP

**Permit Number:** WAG994570

**Site Address:** 20 COLUMBIA AVE  
MARYSVILLE, WA 98270

**Submittal Name:** Nitrogen Optimization Report for MODERATE Loaders

**Version:** 1

**Due Date:** 3/31/2025

### Questionnaire

Number	Permit Section	Question	Answer
1	S5.C.2.b.i	Did your facility stay below the Action Level in S5.b, Table 8 or Table 9 for applicable jurisdictions with bubbled action levels?	Yes
1a	S5.C.2.b.i	Attach a document listing the contribution of each of your individual facilities to the total bubble allocation for the reporting period	Not Applicable
2	S5.C.2.b.i	Did your facility stay below a 10 mg/L annual average TIN concentration?	No
3	S5.C.1.a	Attach a document describing the assessment method applied to evaluate the existing treatment process.	FINAL - Marysville WWTP Nutrie_3_03312025090358
6	S5.C.1.a.ii	Did you maintain and/or update your assessment approach after year 1?	Yes Comment: In 2023 we tried to identify why no nitrification is being observed. We tested for metal, minerals, VOCs and hydrocarbons to determine if inhibiting substances might be present. Without achieving nitrification there is nothing else identified for the City to try.

8	S5.C.1.b	Did all of the potential optimization strategies you identified and evaluated for S5.C.1.b have a reasonable implementation cost and timeframe?	No Comment: Per Section 4 of the technical memo, further process modeling indicated dosing supplemental carbon (Alternate 6) would not significantly improve nitrogen removal and so would not be worth the expense. Further process modeling indicated that operational changes to modify the flow split (Alternative 3) to be more even might have some positive impact, but increasing DO set points (Alternative 1) does not, particularly given the increased energy use. Alternate 5 for adding supplemental alkalinity could have a significant impact on increasing nitrification and nitrogen removal, since process modeling suggests without it nitrification will become pH limited. However, as discussed prior, there appears to be something else currently inhibiting nitrification such that pH remains near neutral throughout the aerated lagoon cell regardless of time of year.
8a	S5.C.1.b	Attach a document describing the feasibility and cost analysis that led to the exclusion of any approach.	FINAL - Marysville WWTP Nutrie_8a_0331202509 2928

12	S5.C.2.b.ii	What TIN removal rate was observed during the reporting period?	0 Comment: Our post optimization for TIN removal from January 2024 - December 2024 was zero. Although TIN mg/L removal was negative our TKN mg/L was positive at 12% removal and 11% lbs/day removal. A significant amount of influent TKN is hydrolyzed to ammonia. The amount of ammonia that is generated from hydrolyzed TKN is more than the amount of nitrified, which results in increased ammonia and increased TIN.
13	S5.C.3.a, S5.C.3.b	Attach a document describing your ongoing investigation to reduce influent TIN loads from septage handling practices, commercial, dense residential and industrial sources.	Influent Nitrogen Reduction_13_13_0331 2025095804
16	S5.D.2.a	Did you implement the Engineering Report as planned, starting after Ecology's approval?	Not Applicable
18	S7, S9.A	Did you submit discharge monitoring reports according to the required schedule?	Yes
19	S9.F	Are you retaining all applicable records?	Yes
20	S9.G	Did you follow noncompliance notification requirements?	Yes Comment: The City did not have a noncompliance.

*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 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.*

Jason Crain

3/31/2025 9:59:36 AM

Signature

Date