

## Ecology comments on Pierce County's July 1, 2021 Clarks Creek Restoration Plan

The Department of Ecology appreciates Pierce County's communication with Ecology staff on the County's updated *Clarks Creek Restoration Plan*. We look forward to meeting with you and Brown & Caldwell (B&C) on March 24, 2022. Our goal for this meeting is for B&C and the County to review the stormwater facility crediting methods for select BMP/facility types (e.g., ponds and the new treatment wetland). Doug Howie, PE, would appreciate a thorough explanation of how the modeling is setup to calculate the facility/BMP pollutant removals (i.e., volume treated and TSS removed).

Ryan Gardiner, PE, left Ecology in late January 2022. Ryan was assigned to review the County's updated *Clarks Creek Restoration Plan* (2021 Plan). With Ryan's departure, Doug Howie, PE, has graciously stepped in to provide engineering review of the County's 2021 Plan. The goal of this upcoming meeting is to achieve a mutual understanding of the BMP/facility crediting methods included in the 2021 Plan. Ecology appreciates that the County is willing to schedule a follow-up meeting, if one is needed.

The scope of Ecology's review of the County's 2021 Plan is limited to the MS4 Permit-required review. This review is described in Appendix 2 of the Phase 1 Permit this way:

*The Permittee shall submit an update of the Plan that includes the WQIPs proposed for the January 1, 2022 – January 31, 2024 reporting period, the sediment reduction and/or volume treated/reduced credit estimated for each WQIP proposed, as well as the crediting methodologies for crediting facility sediment removal and volumes treated or removed. This updated Plan shall be submitted to Ecology by April 1, 2021, for review and approval. Ecology reserves the right to require changes to the updated Plan. If Ecology takes longer than 90 days to provide an approval, the start of implementation of the updated Plan will be automatically extended by the number of days Ecology exceeds 90 days.*

Ecology received the County's Permit-required Plan on June 28, 2021. Pierce County self-reported permit noncompliance for late submittal of this Plan. The following sections/content of the 2021 Plan are outside the scope of our MS4 Permit-required review:

- The 5 Year Reassessment, including Appendices F-H
- The County's load allocations and related projects (e.g., Elodea removal)
- The County's general load allocation
- In-stream channel stabilization projects

Ecology sent Pierce County two letters in 2019 documenting our review and approval of the County's March 2, 2017 *Clarks Creek Restoration Plan*. Ecology included our conditions for approving the County's 2017 Restoration Plan, as documented in Rich Doenges' June 11, 2019 and July 15, 2019 letters. These conditions for approval include:

- "...confirm that the modeled sediment influent concentration is reasonable...Doug [Howie] commented that sediment concentration into the facility is estimated (not

measured) (i.e., sediment load divided by flow rate), and that the modeled influent sediment concentration should be confirmed to be reasonable. That is, if the influent concentration was estimated to be 50 mg/l, this facility cannot reasonably achieve 80 percent TSS removal (i.e., the BTM performance goal). Alternatively, if influent concentration was estimated to be 250 mg/l, Doug would recommend another review of the HSPF model input data since concentrations that high are not typical of a basin with a mix of land use types.”

- “...the qualifier that flow from the water quality orifice must represent the quantity of water treated. In practice that means if an on-line facility/best management practice (BMP) is installed, an evaluation is needed to confirm that the design storm still receives treatment during the October 21, 2003 (high flow) storm event.”
- “Ecology understands the County intends to update the March 2, 2017 version of the Clarks Creek Restoration Plan with changes including replacement of the 104<sup>th</sup> Street E Pond with a treatment wetland, among other updates. Ecology will provide technical review of future iterations of the Restoration Plan in accordance with Phase I and II municipal stormwater permit requirements in Appendix 2 of the 2019-2024 Permits.”

Ecology provides these comments on the County’s 2021 Clarks Creek Plan:

*(The below does not include written questions or comments from Doug Howie.)*

1. The 2021 Plan says, “After conducting a series of draft document reviews and technical negotiations, the County received three separate letters dated March 2, 2017, June 11, 2019 and July 15, 2019 stating the Plan had been accepted by the State” (p. 1).  
Recommended edits: “After conducting a series of draft document reviews and technical negotiations, the County received ~~three separate letters dated March 2, 2017,~~ June 11, 2019 and July 15, 2019 stating the **March 2, 2017** Plan had been accepted by the State, **with the understanding that Ecology would review future iterations of this Plan in accordance with the Phase 1 permit requirements**” (p. 1).
2. The 2021 Plan says, “...The remaining six appendices provide a record of correspondence and project actions to afford a closer examination of how the Plan was reviewed, adjusted and approved by Ecology” (p. 15).  
Response: Ecology approved the County’s March 2, 2017 Plan subject to the conditions included in Rich’s June 11, 2019 and July 15, 2019 letters. Appendices F-H (The 5-year reassessment memo, QAPP, and data acceptability report) are outside the scope of Ecology’s Phase 1 Permit required Plan review.  
Recommended edits: “...The remaining six appendices provide a record of correspondence and project actions to afford a closer examination of **this Plan.**”
3. Appendix B of your 2021 Plan was not updated to include the treatment wetland that replaced the 104<sup>th</sup> Street E pond. Please update Appendix B to reflect this replacement of the 104<sup>th</sup> Street E pond with a treatment wetland. Please describe the method for crediting this treatment wetland in Appendix B. Tables 6 and 7 in Appendix B still refer to the 104 Street E Pond. Ecology sees that the County updated Appendix D, *Water*

*Quality Improvement Projects: Engineering and Design Reports* to include the 104<sup>th</sup> Street E and Woodland Ave E Treatment Wetland.

4. Section 3.1.7 of Appendix B is called *Discount Factor for Maintenance*. Is the County implementing this discount factor for maintenance method?

Section 3.4.1 of the County's Plan says:

If it has been determined through the NPDES program inspection process that a BMP facility is operational, then it receives full credit for its estimated annual average pollutant treatment performance. If it has been determined that a structural stormwater facility is no longer in compliance with its operational standards, then two programmatic responses are initiated: (a) water quality crediting for that year is withheld, and (b) a maintenance referral for reestablishing the BMP's originally engineered functionality will be recorded with the appropriate asset manager (Lahontan 2011) (p. 52).

The *Discount Factor for maintenance* method described in Appendix B differs from the annual facility/BMP crediting method described in Sections 3.4-3.4.4. Is the County implementing the method in Sections 3.4-3.4.4? Section 3.4.1 describes an "all or none" approach to annual crediting of facilities/BMPs based on if the facility/BMP is operational. **Can you elaborate on what "operational" means?** Does it mean the stormwater facility/BMP is providing its designed pollutant removal or close to it? Can you provide "performance threshold" examples for a couple facilities/BMPs? (See Section 3.4.4) If the *Discount Factor for Maintenance* text is no longer applicable, we recommend the County either remove it from Appendix B or acknowledge this fact.

5. Ecology provided initial comments to Pierce County on your draft street sweeping QAPP on November 23, 2020. Ecology never received a revised QAPP from the County for our review. The Phase 1 permit language says the County "can only include sediment reduction credit for its street sweeping program under an Ecology-approved QAPP." Pierce County does not have this Ecology-approved QAPP. Your 2021 Plan includes statements about taking sediment reduction credit for street sweeping; this is not allowed by your Permit unless Ecology approves your QAPP. Does Pierce County still intend to submit this revised QAPP to Ecology? If yes, when will you submit it? Please edit your 2021 Plan to clarify your intent regarding street sweeping credit. Ecology and the City of Puyallup had multiple communications about revisions to the City's street sweeping study QAPP before Ecology approved it.

Please revise the following text (and related text) on TSS credit for street sweeping where applicable:

(Communicate in your revisions if the County will submit a revised QAPP to Ecology.)

- "The County has submitted a Quality Assurance Project Plan (QAPP) to Ecology to guide the development of a road deposited sediment pick-up rate to calculate the sediment load reduction credits earned per mile swept. calculate [sic] the

recovered fine sediment material from the hoppers of the street sweepers and submit those records as a basis for its annual sediment reduction credit” (p. 3).

- 3.3.3.3 *Advanced Street Sweeping and Performance and Credits*  
“...With this understanding, the County is proposing to claim street sweeping credit for TSS (particles <500 µm) it actually recovers from the street sweepers working in the Clarks Creek watershed each year. The County has developed a QAPP that describes an ongoing sampling program to measure the particle size distribution, organic carbon fraction and dry mass weight of the recovered material found in the hopper of the regenerative air vacuum sweeper...” (p. 50).
- “The County has received comments from Ecology on its draft QAPP [*sic*] is currently in the process of making adjustments to the proposed program prior to its resubmittal” (p. 61).
- “After the County’s draft street sweeping QAPP has been accepted by Ecology, the County will tabulate the annual arterial and residential curb-miles swept and the sweeping frequency of each regenerative air street sweeper for each USC they operate in...” (p. 98).

6. Text on p. 49 of your 2021 Plan refers to the County’s 2015 *Site Development Manual* as your equivalent manual. Please edit this text to refer to the County’s 2021 *Stormwater and Site Development Manual*.

7. The 5 year reassessment QAPP:

- a. Page 74 of your 2021 Plan (Section 5 – The 5 Year Reassessment) says, “A second document, the Quality Assurance Project Plan (QAPP) was approved by Ecology in 2020.”
- b. Cristiana Figueroa-Kaminsky confirmed the 5 year reassessment QAPP was not approved by the Environmental Assessment Program (EAP). Cristiana clarified that EAP provided peer review of the 5-year reassessment QAPP. Please edit the above sentence accordingly.
- c. Although the 5-year reassessment QAPP is outside the MS4-permit required review scope, Ecology water quality program is providing this comment because the above statement is incorrect.

**From:** Figueroa-Kaminsky, C. (ECY) <cfig461@ECY.WA.GOV>

**Sent:** Thursday, March 10, 2022 7:41 AM

**To:** Vincent, Angela (ECY) <AVIN461@ECY.WA.GOV>; Gray, Donovan (ECY) <DOGR461@ECY.WA.GOV>

**Cc:** Sullivan, Lawrence (ECY) <Lsul461@ECY.WA.GOV>; Marcoe, Sheila (ECY) <smar461@ECY.WA.GOV>

**Subject:** RE: Ecology approval of Pierce County's 5-year reassessment QAPP? (Clarks Creek)

Hi Angela,

You are correct. Per our previous conversation, EAP/MTU did not “approve” that QAPP. We served as peer reviewers.

-Cristiana

**From:** Figueroa-Kaminsky, C. (ECY) <[cfig461@ECY.WA.GOV](mailto:cfig461@ECY.WA.GOV)>

**Sent:** Thursday, March 10, 2022 7:42 AM

**To:** Vincent, Angela (ECY) <[AVIN461@ECY.WA.GOV](mailto:AVIN461@ECY.WA.GOV)>; Gray, Donovan (ECY) <[DOGR461@ECY.WA.GOV](mailto:DOGR461@ECY.WA.GOV)>

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**Subject:** RE: City's draft 2021 Clarks Creek Retrofit Plan Update

Again, we did not approve it—we reviewed it.

We would not have asked for a signature page to approve because that is not our role.

**From:** Vincent, Angela (ECY) <[AVIN461@ECY.WA.GOV](mailto:AVIN461@ECY.WA.GOV)>

**Sent:** Thursday, March 10, 2022 12:45 AM

**To:** Gray, Donovan (ECY) <[DOGR461@ECY.WA.GOV](mailto:DOGR461@ECY.WA.GOV)>; Figueroa-Kaminsky, C. (ECY) <[cfig461@ECY.WA.GOV](mailto:cfig461@ECY.WA.GOV)>

**Cc:** Sullivan, Lawrence (ECY) <[Lsul461@ECY.WA.GOV](mailto:Lsul461@ECY.WA.GOV)>; Marcoe, Sheila (ECY) <[smar461@ECY.WA.GOV](mailto:smar461@ECY.WA.GOV)>

**Subject:** FW: City's draft 2021 Clarks Creek Retrofit Plan Update

**Importance:** High

Hi Donovan and Cristiana,

I need to know if EAP approved the 5 year reassessment QAPP.

In their 2021 Clarks Creek Plan, Pierce County said EAP approved this QAPP.

B&C provided this response:

If Ecology approved it, who was that? Greg Pelletier, Nuri Mathieu, Cristiana Figueroa-Kaminsky, and Teizeen Mohamedali reviewed the QAPP. Ecology commenters did not request adding Ecology names to the approval list. Contact Tim Hagan for more information on the review and approval process.

See below.

Puyallup's 2021 Clarks Creek Plan also mentioned Ecology (EAP) approval of this 5 year reassessment QAPP.

Best,

Angela Vincent

Municipal Stormwater Permit Planner

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### Typos in the 2021 Plan

1. Incorrect appendices referenced on page 2. The *Modeling Approach and Data Requirements Memorandum* is Appendix F, not Appendix E. The referenced QAPP is Appendix G (not F), and the *Data Acceptability Report* is Appendix H (not G).
2. Page 3: “The County has submitted a Quality Assurance Project Plan (QAPP) to Ecology to guide the development of a road deposited sediment pick-up rate to calculate the sediment load reduction credits earned per mile swept. calculate [sic] the recovered fine sediment material from the hoppers of the street sweepers and submit those records as a basis for its annual sediment reduction credit.”
3. Page 8: “By the end of 2021, the County and Ecology will complete the 5-Year Reassessment in accordance with the DRA.” It is 2022. Do you intend to update this?
4. Page 25: “This issue represents an important incongruity between the designing of a structural stormwater control consistent with the BTM guidelines, (which sizes the facility to treat the standard design storm), and the TMDLs [sic] selection of the critical storm event.”
5. Page 26: “These two standards represent Ecology’s most protective criteria and they’re [sic] are mutually endorsed by the EPA...”
6. Page 28: “The following map s [sic] show the four...”
7. Pages 36 and 37: Incorrect placement of the RCW 90.48.080 reference.
8. Page 40: “...to support more effective and efficient outcomes overt [sic] time.”
9. Page 61: “The County has received comments from Ecology on its draft QAPP [sic] is currently in the process of making adjustments to the proposed program prior to its resubmittal.” (missing the word *and*)
10. Page 86: “A circuit [sic] an interconnected network of...” (missing the verb *is*)
11. Page 89: “Following completion of the data improvements and feature definitions (Figure X.X – X.X -\*Finished Maps\*) [sic], additional quality control steps and feature-by-feature delineations were performed...”
12. Page 112: “Additional questions will be responded too [sic] based on the final management decisions”
13. Appendix B, page 49: “The estimated average annual sediment load reduction (as wash-off load reduction) for the County’s proposed street-sweeping program is shown in **Error! Reference source not found..** [sic]”