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### Introduction

Ecology placed a legal notice in the Seattle Times on April 5, 2023, to inform the public that a draft permit and fact sheet were available for review and comment. Ecology also filed a notice in the Washington State Register on March 21, 2023, to announce the public comment period for the permit and intent to hold two public hearings on the permit (WSR 23-07-129). Ecology held virtual public hearings on May 9, 2023, from 6:00-8:00 p.m. and on May 16, 2023, from 2:00-4:00 p.m. and provided opportunities for oral testimony at both hearings. The comment period ran from April 5, 2023, through July 7, 2023.

Ecology received oral testimony during the May 9, 2023, hearing from Kamuron Gurol, Director of King County’s Wastewater Treatment Division. No participants provided oral testimony during the May 16, 2023, hearing. In addition, Ecology received 147 written comments on the draft documents from twelve organizations during the public comment period. Organizations providing written comments included:

- King County's Wastewater Treatment Division (WTD) – 39 comments
- Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) and King County Regional Water Quality Committee (the Regional Water Quality Committee's comment letter contained a single comment that supported MWPAAC's comments) – 1 common comment.
- Seattle Public Utilities (SPU) – 2 comments
- Northwest Environmental Advocates (NWEA) – 12 comments
- Puget Sound Partnership (PSP) – 4 comments
- Puget Soundkeeper Alliance (PSA) – 22 comments
- The Suquamish Indian Tribe (Suquamish) – 16 comments
- The Squaxin Island Tribe (Squaxin) – 2 comments
- Washington Conservation Action and Duwamish River Community Coalition (WCA/DRCC) – 47 comments
- Public Health Seattle & King County (PHSKC) – 1 comment
- Kitsap Public Health District (KPHD) – 1 comment

Ecology thanks all commenters for their contributions to this process. Ecology assembled summaries and excerpts from the public comments into this document and organized them by topic or permit condition. Ecology also provided a written response to comments on proposed permit conditions, and indicated where revisions were made to the draft permit. When multiple parties commented on the same subject matter, Ecology grouped the summarized and/or excerpted comments into a single comment as a "Summary of the Range of Comments." This allowed Ecology to respond to the range of comments collectively. Copies of the original comment documents (letters, emails, etc.) are included at the end of this document.

### **Summary of permit changes**

Condition S1.A Table 3 – Inserted a daily and monthly PCB limit for West Point effluent to be monitored via EPA Method 608.3.

Condition S1.B Table 5 – Revised effluent Total Residual Chlorine (TRC) and zinc limits at Elliott West to include interim and final limits.

Condition S1.B Table 6 – Inserted final effluent copper limit at Henderson/MLK and revision of existing limit to 'interim limit'.

Condition S1.B Table 7 and 8 – Revised to include annual discharge frequency and volume.

Condition S1.B Table 10 – Footnote b revised to specify that total suspended solids (TSS) removal for combined sewer overflow (CSO) treatment plants is calculated on a mass basis. Footnotes regarding interim limits revised to clarify applicability.

Condition S1.C – Revised to remove authorization for mixing zone at Elliott West CSO Treatment Plant.

Condition S2.A and C – Clarified that requirements for sediment monitoring are in S9.

Condition S2.A Table 17, 23, and 28 – Inserted monitoring frequency and methods for West Point effluent PCB limit.

Condition S2.A Table 21 – Revised to include Per- and polyfluoroalkyl substances (PFAS) monitoring of effluent and biosolids.

Condition S2.B Table 26 – Modified to allow multiple samples to be collected during a month and specify that initial PCB characterization samples to follow EPA Method 1668c.

Condition S2.B Table 28 – Footnote k revised to specify that total suspended solids (TSS) removal for combined sewer overflow (CSO) treatment plants is calculated on a mass basis. Footnotes n revised to clarify what is intended by 'continuous'.

Condition S2.D – Clarified that this condition only applies to liquid streams (influent/effluent).

Condition S2.E.3.c – Revised to include allowance for manufacturer-developed calibration instructions.

Condition S3.A.4 – Revised to clarify submittal methods for various PCB monitoring methods.

Condition S3.A.8 – Modified to improve clarity of grammatical structure.

Condition S3.E – Modified to clarify applicability to sediment and pollutant monitoring of untreated CSOs and updated deadlines to reflect effective date.

Condition S3.F.a – Updated contact information for Public Health of Seattle-King County.

Condition S6.B.11 – Corrected typo in units of standard concentration.

Condition S6.D – Revised to include required reevaluation of pretreatment program local limits.

Condition S6.E.1 – Modified to specify organic chemical manufacturers and wholesalers as well as extend deadline for completion of survey.

Condition S6.E.2 and 3 – Revised to apply to only significant industrial users (SIUs) and extend deadlines.

Condition S9.A and B – Revised to allow alternative sampling periods, limit the stations required to be included, and extend deadline to account for permit effective date.

Condition S9.C and D – Extended to include Alki and Carkeek outfalls, allowed for the submission of recently collected data and revised deadlines.

Condition S11.A – Revised to include exceedances of the Sediment Management Standards (SMS) in CSO authorization exclusion.

Condition S11.B.7 – Expanded to include a list of specific pollutants (and effectiveness monitoring methods for PCBs) which must be considered within the permittee’s pollution prevention program (PPP), a requirement for annual review, and explicit dates for implementation of PPP revisions.

Condition S11.C.c – Clarified that post construction monitoring must verify continued compliance for mixing zone authorization.

Condition S11.E – Removed requirement to submit construction quality assurance plans.

Condition S12 – Revised to allow submission of data collected prior to permit effective date.

Condition S15.B – Clarified that the engineering report for proposed Elliott West facility must represent “all known, available, and reasonable treatment”.

Condition S16 – New condition requiring Copper Reduction Assessment for Henderson/MLK CSO Treatment Plant.

## **1. Comments related to regulating nutrients**

**Comment #1.1 – Ecology must regulate nutrients from the West Point WWTP in this permit. (Suquamish #2, Squaxin #1, WCA/DRCC #1, NWEA #8, PSA #1)**

Summary of comments:

- Ecology should set TIN discharge limits for West Point at or below 3 mg/L.
- Ecology should determine AKART for nutrients from the West Point WWTP and include nutrient effluent limits in the permit. Ecology should implement the stayed provisions of the Puget Sound Nutrient General Permit (PSNGP) in the West Point WWTP permit.
- Ecology should expressly confirm that nutrient discharges from West Point WWTP are causing or contributing to violations of the state’s dissolved oxygen criteria; explain how technology-based limits in combination with the PSNGP will ensure that dissolved oxygen criteria are met.
- Ecology should incorporate and strengthen monitoring, planning, and engineering provisions from the PSNGP into the West Point WWTP permit; establish technology-based nitrogen limits for West Point and eliminate the facility from the general permit coverage to ensure meaningful progress.
- This permit cannot defer to the PSNGP; it must include nutrient effluent limitations.

*Ecology Response: Ecology agrees that this discharge contributes to existing dissolved oxygen (DO) impairments in the Washington Waters of the Salish Sea. As stated on Page 82 of the Fact Sheet, Ecology has chosen to address this discharge’s contribution to the impairment by regulating the discharge of nutrients (as total inorganic nitrogen) to Puget Sound via the Puget Sound Nutrient General Permit. Ecology is actively engaged in modeling to determine final water quality-based effluent limits for plants covered by the general permit. Once developed, Ecology will implement these limits in*

*the general permit. Up until that time, the West Point WWTP is bound by the requirement of the PSNGP to prevent increases to their nutrient load over the permit term. In the event that West Point is no longer subject to the PSNGP or if the requirements of the PSNGP change substantially, Ecology will modify the West Point permit as appropriate to ensure water quality is protected.*

*The application of an arbitrary 3 mg/L total inorganic nitrogen effluent limit does not meet the definition of AKART as it does not qualify as a “reasonable” method of treatment given the current treatment technologies used at the West Point WWTP. Ecology is also working on a water quality solution to the DO impairments within the Salish Sea. Modeling results may show that the West Point WWTP must achieve a higher nutrient reduction efficiency than the defined AKART threshold. The next general permit cycle will contain either the AKART-based limit, or the numeric water quality-based effluent limit, whichever is more stringent.*

#### **Comment #1.2 – Support for Ecology’s approach to nutrient regulation (PSP #4)**

Summary of comments:

- The 2022-26 Action Agenda for Puget Sound includes strategies and actions to reduce nutrient discharges from wastewater sources.
- Recognition that this permit will work in conjunction with the PSNGP to address nutrient loading.

*Ecology Response: Thank you for your comment. Ecology appreciates the Puget Sound Partnership’s support in this area.*

## **2. Comments on Discharge Limits (S1)**

#### **Comment #2.1 – Permit must include limits on PCBs. (Suquamish #9, PSA #3)**

Summary of comments:

- The Suquamish Tribe believes Ecology should establish effluent limits for PCBs and other known toxics; supports comments from Washington Conservation Action and Puget Soundkeeper Alliance.
- Puget Soundkeeper Alliance states that the permit must include effluent limits for PCBs; claims that the discharges regulated by the permit have reasonable potential to cause or contribute to violations of water quality standards (including sediment standards) for PCBs.

*Ecology Response: The overall data from previous sediment monitoring near the West Point WWTP outfall do not support a determination that discharges from West Point cause or contribute to sediment standards exceedances. Although sediment monitoring in April 2011 identified PCB concentrations at two stations in excess of numeric chemical criteria in the marine sediment quality standards (WAC 173-204-320), follow up testing in July 2011 at the same sites revealed PCB concentrations below the*

*criteria. In addition, sampling in 1998, 2000, 2006, and 2017 also determined PCB concentrations were below the numeric chemical criteria in the marine sediment quality standards. The overall sediment data from 1998 to 2017 suggests that the April 2011 results may have been an outlier. Special condition S9 of the permit requires KC-WTD to conduct additional sediment chemistry monitoring at the West Point WWTP outfall to collect additional data on the quality of sediments near the outfall.*

*The West Point WWTP monitored the concentrations of PCBs in treated effluent on eight occasions between February 28, 2017, and August 2, 2021. All monitoring reported non-detect results using EPA method 608.3 with method detection limits (MDL) of at least 0.05 µg/L (the August 2021 results achieved a MDL of 0.024 µg/L). Ecology reevaluated the statistical reasonable potential calculation for total PCBs assuming effluent concentrations equal to one-half of the detection limit. The calculation also assumed ambient concentrations shown in Table 16 of the fact sheet (for Elliott Bay) and applied dilution factors shown in Table 47 of the fact sheet. This analysis demonstrates that discharges from the West Point WWTP do not have a reasonable potential to exceed the numeric aquatic life criteria but may exceed the human health criteria for PCBs in Puget Sound (see figure 1 below). As discussed further in Ecology's response to comment #3.3, Ecology considers a mixing zone for the West Point WWTP appropriate since Washington's current human health-based water quality standards rely on EPA methods that use bioaccumulation factors in the calculations of numeric criteria. Based on the reasonable potential determination for human health, Ecology changed the permit to include both numeric and narrative limits on PCBs for discharges from the West Point WWTP. Since PCB analytical methods approved for compliance monitoring cannot detect concentrations at or near the numeric criteria for human health, Ecology set the numeric limit at 0.065 µg/L, which is the method detection limit included in Appendix A of the permit as achievable for EPA Method 608.3.*

**Figure 1 – West Point PCB Reasonable Potential Calculation**

**Reasonable Potential Calculation - Page 3**

Facility		King Co. West Point											
Water Body Type		Marine											

Dilution Factors:		Acute	Chronic
Aquatic Life		29.0	229.0
Human Health Carcinogenic			316.0
Human Health Non-Carcinogenic			229.0

Pollutant, CAS No. & NPDES Application Ref. No.		Polychlorinated Biphenyls (PCBs) 53469219, 11037691, 1104282, 11141165, 12672296, 11096825, 12674112 18P-24P											
Effluent Data	# of Samples (n)	8											
	Coeff of Variation (Cv)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Effluent Concentration, ug/L (Max. or 95th Percentile)	0.025											
	Calculated 50th percentile Effluent Conc. (when n>10)												
Receiving Water Data	90th Percentile Conc., ug/L	9.87E-05											
	Geo Mean, ug/L	7.65E-05											
Water Quality Criteria	Aquatic Life Criteria, Acute ug/L	10											
	Chronic ug/L	0.03											
	WQ Criteria for Protection of Human Health, ug/L	0.000007	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Metal Criteria, Acute	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Translator, decimal	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Carcinogen?	Y	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Aquatic Life Reasonable Potential													
Effluent percentile value		0.950											
s $s^2=\ln(CV^2+1)$		0.555											
Pn $Pn=(1-\text{confidence level})^{1/n}$		0.688	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Multiplier		1.90											
Max concentration (ug/L) at edge of...	Acute	0.002											
	Chronic	0.000											
Reasonable Potential? Limit Required?		NO	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Human Health Reasonable Potential													
s $s^2=\ln(CV^2+1)$		0.554513											
Pn $Pn=(1-\text{confidence level})^{1/n}$		0.688	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Multiplier		0.762405											
Dilution Factor		316	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Max Conc. at edge of Chronic Zone, ug/L		0.000137											
Reasonable Potential? Limit Required?		YES	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

With respect to discharges from the CSO treatment plants and from untreated CSOs, Ecology acknowledges that some discharges may contribute to existing exceedances of water quality standards. However, it is currently infeasible to calculate numeric limits due to the intermittent nature of these discharges. In addition, Washington's surface water quality standards state that for CSO treatment plants, "the primary means to be used for requiring compliance with the human health criteria shall be through the application of narrative limitations" (see WAC 173-201A-510(6)).

The West Point permit includes the following narrative limits to address PCBs: Special condition S2 requires PCB monitoring of discharges from the West Point WWTP and all CSO treatment plants using the most sensitive method approved under 40 CFR Part 136 for permit compliance and application monitoring. Ecology revised special condition S2 to require KC-WTD to use EPA method 1668c for the

*initial PCB characterization monitoring of effluent from the Georgetown CSO treatment plant. Additional priority pollutant monitoring at all CSO treatment plants necessary for collecting data KC-WTD will report in its next permit application will continue to use EPA Method 608.3. In addition, Special condition S9 requires sediment monitoring near the West Point outfall and near certain CSO outfalls to assess whether the sediments contain concentrations of pollutants, including PCBs, in excess of the state's sediment management standards. Finally, special condition S11.B.7 requires KC-WTD to implement a pollution prevention program designed to identify and control the sources of pollutants that enter its combined sewer system through wastewater and stormwater runoff. This program will require the application of source control BMPs to reduce the levels of pollutants in the combined sewage entering the West Point WWTP as well as the pollutants that may discharge from treated and untreated CSO outfalls. Ecology revised this condition to clarify the intent for KC-WTD to include PCBs in the suite of pollutants this program must address and to specify the use of EPA method 1668c for any monitoring it may do to assess the effectiveness of BMPs it implements under this program.*

**Comment #2.2 – Permit must include limits on copper at the Georgetown Wet Weather Treatment Station. (PSA #18)**

Summary of comment:

- The permit must impose appropriately derived effluent copper limits on the Georgetown CSO Treatment Plant's discharge.
- The discharge has a reasonable potential to cause or contribute to exceedances of water quality standards for copper.

*Ecology Response: As documented on page 93 of the fact sheet, Ecology relied on modeling completed by King County during the preliminary planning for the Georgetown WWTP as the basis for not including copper limits in discharges from that facility. The Ecology-approved engineering report for the facility demonstrated that the predicted treatment efficiency of the facility is sufficient to ensure that the discharge will comply with water quality standards for copper at the edges of the authorized acute and chronic mixing zones. The modeling established predicted concentrations for several pollutants known to be present in the combined sewage that the facility will treat. Pollutants included ammonia, arsenic, cadmium, total chromium, copper, cyanide, lead, mercury, nickel, pentachlorophenol, selenium, zinc, and total PCBs. Ecology used the predicted concentrations to reevaluate the reasonable potential for discharges to exceed numeric aquatic life criteria based on current ambient data shown in Table 18 of the fact sheet. This analysis verified that the discharge will not have a reasonable potential to exceed applicable numeric aquatic life criteria.*

*The fact sheet also documents that the permit includes a requirement for King County to conduct frequent monitoring at the beginning of the permit term to characterize the effluent. Once sufficient operating data on priority pollutants, including copper, are available, Ecology will reevaluate the*



**Figure 2 – Georgetown CSO Treatment Plant Reasonable Potential Calculation**

[illegible]

**Figure 3 – Georgetown CSO Treatment Plant Reasonable Potential Calculation**

Reasonable Potential Calculation - Page 2									
Facility		Georgetown CSO Treatment							
Water Body Type		Marine							
Pollutant, CAS No. & NPDES Application Ref. No.		ZINC- 7440666 13M hardness dependent Polychlorinated Biphenyls (PCB's) 53469219, 11097691, 1104282, 11141165, 12672296,							
Effluent Data	# of Samples (n)	416	12						
	Coeff of Variation (Cv)	0.6	0.6						
	Effluent Concentration, ug/L (Max. or 95th Percentile)	97.3	0.06						
	Calculated 50th percentile Effluent Conc. (when n>10)	97.3	0.06						
	90th Percentile Conc., ug/L	4.93	0.0028						
Receiving Water Data		Geo Mean, ug/L	1.28	0.0012					
Water Quality Criteria	Aquatic Life Criteria, Acute ug/L	90	10						
	Aquatic Life Criteria, Chronic ug/L	81	0.03						
	Metal Criteria Acute	0.946	-						
	Translator, decimal Chronic	0.946	-						
	Carcinogen?	N	Y						
Aquatic Life Reasonable Potential									
Effluent percentile value		0.950	0.950						
s <sup>2</sup> =ln(CV <sup>2</sup> +1)		0.555	0.555						
Pn Pn=(1-confidence level) <sup>1/n</sup>		0.993	0.779						
Multiplier		1.00	1.63						
Max concentration (ug/L) at edge of...	Acute	13.642	0.012						
	Chronic	6.106	0.007						
Reasonable Potential? Limit Required?		NO	NO						

**Comment #2.3 – Copper limits at Henderson/MLK CSO treatment plant. (Suquamish #11, PSA #17, WCA/DRCC #6)**

Summary of comments:

- The Suquamish Tribe does not agree with basing the copper limit on freshwater numeric criteria and believes marine numeric criteria are more appropriate.
- PSA concurs with the Suquamish comments and further objects to using mixing zones to calculate a limit.
- WCA/DRCC support inclusion of the copper limit but believes that the limit is too high and that Ecology should not use a mixing zone for calculating the limit.

*Ecology Response: Ecology reevaluated its application of the state's water quality standards in the brackish environment near this outfall and agrees that numeric criteria for marine waters are more appropriate than the freshwater criteria originally used. The permit was changed to include a final copper limit of 12.3 mg/L at the Henderson/MLK CSO Treatment Plant based on marine numeric criteria for copper. However, as shown in Table 25 of the fact sheet, previous effluent monitoring demonstrates*

*that the facility is not capable of complying with this limit. Therefore, the permit will retain the performance-based limit of 22.3 µg/L as an interim limit. Ecology also added a new condition to the permit that requires KC-WTD to complete a copper source control and treatment study for the Henderson/MLK facility. This study must evaluate improvements needed to comply with the final water quality-based copper limit.*

*Historical data demonstrates that discharges from the Henderson/MLK facility comply with the technology-based standards for CSO treatment plants and KC-WTD implements the federal “Nine Minimum Controls” required by special condition S11.B of the permit. Therefore, this facility applies AKART for CSO treatment facilities and qualifies for a mixing zone. However, as discussed above, the facility cannot currently comply with the water-quality based limit even with the mixing zone. Adherence to the interim performance-based limit and completion of the copper study identified above is necessary for long-term water quality protection.*

**Comment #2.4 – Disagree with Elliott West interim limit and compliance schedule for copper. (PSA #14)**

Summary of comments:

- While the permit includes a nominal “final effluent limit” on copper discharged from the Elliott West facility, the permit never imposes that limit or requires King County to meet it. The interim copper limit applies for the full permit term.
- This does not comport with WAC 173-201A-510(4), which requires that compliance schedules “shall be developed to ensure final compliance with all water quality-based effluent limits in the shortest practicable time” and “shall generally not exceed the term of any permit”.

*Ecology Response: As discussed on page 91 of the fact sheet, Ecology decided to apply an interim performance-based limit because the Elliott West facility cannot immediately comply with the water quality-based final limits. The fact sheet also documents that, based on the County’s 2018 copper assessment evaluation, significant facility enhancements are needed to improve copper treatment through increased solids removal. Special condition S15 of the permit outlines a reasonable compliance schedule for planning and designing the necessary facility improvements that King County must construct by December 31, 2031. Ecology staff used their professional judgement to establish a timeline for completing improvements in the shortest time possible. WAC 173-201A-510(4) states that compliance schedules shall typically not extend beyond the term of the permit “unless the department determines that a longer time period is needed to come into compliance with the applicable water quality standards.” Planning, design, and construction of the necessary facility improvements cannot reasonably be completed with the 5-year permit term. Ecology modified the footnotes for Table 5 of the permit (Elliott West CSO Treatment Plant Limits) to clarify the compliance date for the final limit. In addition, as discussed in the response to comment #3.2, Ecology removed the mixing zone authorization for the Elliott West facility. Without the mixing zone allowance the final copper limit becomes 4.8 µg/L,*

*which equals the numeric water quality criteria for acute aquatic life protection. Ecology will reconsider authorizing a mixing zone after KC-WTD completes facility improvements.*

**Comment #2.5 – Allow dynamic, flow-adjusted copper limit at Elliott West. (WTD #10)**

Summary of comment:

- The issue of the increased rate of apparent non-compliance for the intermittent WWTP discharges due to data averaging, or reduction in dilution based on revised steady state critical flows modeling, also could potentially be addressed by considering flow-adjusted (dynamic) effluent limits as described in Chapter 6, section 3.3.17 of the Permit Writers Manual.
- The County acknowledges the manual notes that dynamic limits are assumed to be less stringent than static limits but claims that real applications have demonstrated otherwise. In the case of the Elliott West facility discharge with its marine receiving water conditions, dynamic effluent limits may be an appropriate option to better reflect the actual effects of the discharge.
- The County requests that the permit consider provisions for the interim measures of a compliance schedule to include the allowance for the County to develop and submit a plan within four years of permit issuance for evaluation of the preferred effluent limit derivation methods most suitable for the Elliott West capital project facility design.

*Ecology Response: Ecology declines to allow flow adjusted copper limits for the Elliott West facility. The discussion in Chapter 6 of Ecology's Permit Writer's Manual cited in this comment generally identifies alternatives for assigning water quality-based limits for discharges into rivers, which may have significantly different seasonal mixing opportunities based on the wide range of variability in river flow from season to season. While marine waters will experience different seasonal mixing patterns due to differences in water column temperature and salinity profiles, the seasonal differences are not as large as those seen in river environments.*

*KC-WTD's comment also did not provide any analysis or cite peer reviewed articles to justify claims that dynamic limits are more appropriate. Given the limited potential for significant changes resulting from a dynamic limit, the lack of documentation to support the County's claims, and the high administrative burden inherent with this strategy, Ecology will retain the existing basis for copper limits. KC-WTD may voluntarily evaluate this strategy and provide any information they find to be relevant to Ecology's limit setting process during the next permit cycle. However, Ecology will retain sole discretion to choose whether to include dynamic limits for future permits.*

**Comment #2.6 – Elliott West CSO treatment plant chlorine limits. (WTD #1)**

Summary of comments:

- Recognizes that current dilution modeling protocols have resulted in significantly lower calculated dilution and, therefore, a lower allowable maximum daily limit.
- Concern with the new limit because the facility currently exhibits hydraulic and equipment performance conditions that make it difficult to reduce TRC to remain in compliance. There are no technologies, facility improvements, or operational changes that can be immediately made to improve the disinfection and dechlorination process.
- The current automated chlorine analyzer at the facility has a lower quantitation limit of approximately 50 µg/L. Therefore, monitoring to lower levels are currently not possible.
- The increased use of sodium bisulfate necessary to meet lower chlorine limits is expected to increase the frequency of the facility exceeding the lower pH limit of 6.0.
- The County requests an interim performance-based limit for total residual chlorine and a compliance schedule to allow for necessary improvements.

*Ecology Response: Ecology recognizes that the chlorine limit included in the draft permit represents a significant reduction from the previous permit and that KC-WTD needs appropriate time to adapt the facility to the new limit. We revised the permit to include the previous limit of 109 µg/L as an interim limit and included a requirement for KC-WTD to demonstrate how it will comply with the final limit as part of the planning developed for special condition S15 (Elliott West compliance schedule). Also, as discussed in the response to comment #3.2, Ecology removed the mixing zone authorization for the Elliott West facility. Without the mixing zone allowance the final total residual chlorine limit becomes 13 µg/L, which equals the numeric water quality criteria for acute aquatic life protection. Ecology will reconsider authorizing a mixing zone after KC-WTD completes facility improvements.*

**Comment #2.7 – Total residual chlorine limits at CSO treatment plants and West Point WWTP. (Suquamish #10, WCA/DRCC #6)**

Summary of comments:

- The comments express support for lowering the total residual chlorine limits at the CSO treatment plants.
- The Suquamish Tribe requests that Ecology also lower the limit for the West Point WWTP since the facility can routinely achieve discharge levels lower than the proposed limits.

*Ecology Response: Ecology appreciates the support for the revised total residual chlorine limits in the permit. The limit for the West Point WWTP outfall was not changed since the limit remains protective of water quality. As discussed on page 58 of the fact sheet, Ecology retained the water quality-based limit from the previous permit. Ecology verified that this limit remains appropriate as part of the permit development. A lower limit is not necessary to protect water quality.*

**Comment #2.8 – Concerns about calculation method to assess compliance with TSS limits at CSO treatment plants. (WTD #11)**

Summary of comments:

- The draft permit bases TSS removal efficiency on TSS concentration, which deviates from the mass-based methods used in previous permits. The County is concerned that this is a “less accurate and representative method” of assessing performance. Use of mass-based removal efficiency is consistent with 40 CFR 122.45(f).
- Concern with the changes; claim the conditions are “entirely new” and there is a lack of available data and information to determine with certainty the ability of the existing facilities to comply with the changed calculation method.
- Although the County recognizes that Ecology presented an analysis of existing data in Appendix E of the fact sheet, they believe the changes conflict with relevant federal (40 CFR Part 122) and state (Chapter 173-245 WAC) regulation since the previous permits relied on guidance in Ecology’s *Criteria for Sewage Works Design (Orange Book)*.
- Change from a mass-based calculation to concentration base needs more examination. The County notes that the storage function of the existing facilities is an important part of TSS removal since that stored flow is sent to the West Point WWTP for further treatment. They claim that limiting the assessment to only the TSS captured while the CSO treatment plant discharges significantly underestimates solids removal.
- The county claims that the definition of “primary treatment” in WAC 173-245-020(16) allows for the accounting of solids removed through storage and treatment at West Point since the definition includes the words “any process”.
- Restricting the calculation to only use data collected during days when inflow and discharge occur at a CSO treatment plant narrows assessment to the period of a typical storm hydrograph when hydraulic loading rates are elevated, and conditions less suitable for effective solids settleability and removal. Concentrations of TSS can be lower during later stages of a CSO event, which results in potentially lower removal efficiency.
- The permit should include a compliance schedule to allow WTD time to assess the changes and evaluate whether facility improvements are needed to comply with the TSS limits.

*Ecology Response: Ecology provided a detailed analysis of the applicable technology-based limits for CSO treatment plants on pages 59-61 of the fact sheet. The fact sheet highlights that state regulations (Chapter 173-245 WAC) clearly define “at-site treatment” for CSO discharges as “treatment and discharge of combined sewage at the CSO site” and that the treatment must, at a minimum, apply primary treatment defined as “any process that removes at least fifty percent of the total suspended solids from the waste stream, and discharges less than 0.3 ml/l/hr. of settleable solids”. Ecology recognizes that Chapter C3 of the “Orange Book” contains incorrect information related to permitting for at-site CSO treatment. This information will be corrected in a future revision of the guidance*

*document. Ecology cannot rely on guidance that conflicts with adopted regulations when establishing permit requirements. The West Point permit must retain a TSS limit calculation method that is consistent with the plain language of the regulation.*

*Ecology reconsidered whether to express this limit in terms of the percent removal of concentration or mass. For non-continuous discharges, such as from CSO treatment plants, 40 CFR 122.45(e) allows the permitting authority to establish limits that are most appropriate for the particular nature of the discharge. In this case, Ecology agrees that calculating the average annual removal of solids based on mass rather than concentration is appropriate. Therefore, Ecology revised the calculation method in the permit to use mass. Ecology also modified the definition in Table 28 (footnotes for CSO treatment plant monitoring) to clarify that calculations are event-based. Ecology will continue to work with KC-WTD to refine the site-specific calculations used by staff to ensure reporting complies with the intent of the permit conditions.*

#### **Comment #2.9 – Whole Effluent Toxicity (WET) limits. (PSA #5, NWEA #10)**

Summary of comments:

- The permit is missing required limits for whole effluent toxicity.
- Ecology's finding of no reasonable potential for whole effluent toxicity is inconsistent with WAC 173-205-040, -050, and -120; the statute requires a minimum of three consecutive test years demonstrating compliance with a WET limit before removing the limit.
- A footnote on page 149 of the fact sheet suggests that test results in 2017 failed one or more acute WET tests.
- The comment states that Ecology improperly relegates additional WET testing to procedures outside of the permit, meaning that West Point may fail a WET test without violating the permit.
- Compliance with WET testing results is not identified as a permit condition.

*Ecology Response: As documented in the fact sheet section II.C (page 40) and section III.J (page 95), the effluent from the West Point WWTP demonstrated no reasonable potential for acute or chronic toxicity. Previous permits for the West Point WWTP since 1996 have not contained WET limits for either acute or chronic toxicity. Appendix E of the fact sheet contains a complete summary of the results from routine monitoring required by the previous permit and permit application to check for changes in effluent toxicity. These results continue to show no reasonable potential for acute or chronic toxicity and no need for WET limits. Ecology removed a standardized footnote from the WET testing summary table in Appendix E of the fact sheet since it was not relevant to the data shown in the table.*

**Comment #2.10 – Permit lacks narrative limits to protect water quality. (NWEA #9)**

Summary of comments:

- The following summarizes the comments in Section IV of the letter from Northwest Environmental Advocates titled “The permit lacks an intelligible and necessary prohibition on causing or contributing to violations of water quality standards”. This section begins on page 19 and extends through most of page 32 of the comment letter.
- The permit must include a clear narrative prohibition on the discharge of pollutants that will cause or contribute to water quality standards violations.
- Suggests including the statement: “notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted that will violate water quality standards as adopted in WAC chapter 173-201A except in the defined mixing zone”.
- Ecology must include a 'backstop' narrative limit for violation of any water quality standards.
- Ecology has made no evaluation of compliance with water quality standards for pollutants such as the PFAS family of chemicals. Ecology does little to explain the issue of PFAS in the influent of West Point but says nothing at all about PFAS in the effluent. The permit does not even require effluent monitoring.
- Many studies have demonstrated that sewage treatment plants discharge “chemicals of emerging concern” (CECs) – a wide variety of toxic constituents that, like PFAS, have been ignored by EPA’s regulatory programs for decades.
- Among the likely CECs not evaluated by Ecology but present in the discharge are polybrominated diphenyl ethers (PBDE).
- The WET testing required by the permit is not designed to measure the effluent’s impacts on Chinook salmon or endangered killer whales and does not save this permit from the narrative prohibition requirement.

*Ecology Response: Most of the comments in Section IV of the NWEA comment letter were general in nature and not specific to this permit. With respect to this permit, limits Ecology places in a permit, whether numeric or narrative, must be reasonable, and defensible. The recommendations made in this comment would result in vague and unenforceable requirements. Therefore, Ecology did not include the suggestions.*

*The final permit includes multiple narrative requirements to control pollutants for which numeric limits are infeasible. This includes narrative requirements related to controlling PFAS in discharges from industrial facilities connected to the West Point WWTP and implementation of a pollution prevention program to reduce pollutants that enter the County’s combined sewer system through wastewater and stormwater runoff. Ecology believes that this permit includes appropriate requirements.*



### **3. Comments on Mixing Zones (S1.C)**

#### **Comment #3.1 – Reconsider mixing zone for Henderson/MLK CSO Treatment Plant. (WCA/DRCC #12)**

Summary of comment:

- The proposed mixing zone does not protect water quality because it does not account for the cumulative impacts of nearby discharges.
- Ecology should recalculate effluent standards that account for other pollutant sources nearby.
- Ecology must require more stringent standards for CSO outfalls and also require greater progress toward meeting the federal performance standards for these outfalls.

*Ecology Response: Ecology conducted a reasonable potential analysis for the Henderson/MLK facility using data from effluent monitoring conducted during the previous permit term along with ambient data collected near the Norfolk outfall. Section III.G.4 (pages 92-93) describes the effluent and ambient data used in this assessment and figure 11/table 17 (page 37) show the locations of ambient studies. The ambient data used in this analysis takes influences from other nearby discharges into account. This analysis demonstrated no reasonable potential for the effluent to cause exceedances of the marine water quality standards for all detected pollutants except for copper and chlorine. The data also shows that the concentration of detected pollutants in the effluent, except copper and chlorine, are significantly lower than the acute and chronic marine criteria. Ecology believes that the authorized mixing zone is protective.*

#### **Comment #3.2 – Elliott West and Henderson/MLK CSO Treatment Plants do not qualify for mixing zones. (PSA #22)**

Summary of comments:

- The permit does not require the Elliott West facility to meet AKART, therefore it is not eligible for a mixing zone.
- Since the Henderson/MLK facility has a similar design to Elliott West and discharges more than once per year, it also does not meet AKART.
- The water quality-based limits for zinc (Elliott West) and copper (Elliott West and Henderson/MLK) discharged from these facilities must be set at their respective water quality criteria.

*Ecology Response: As discussed in Ecology's response to comment #2.3, historical data demonstrates that discharges from the Henderson/MLK facility comply with the technology-based standards for CSO treatment plants and KC-WTD implements the federal "Nine Minimum Controls" required by special condition S11.B of the permit. Therefore, this facility applies AKART for CSO treatment facilities and qualifies for a mixing zone. As a CSO treatment facility, the Henderson/MLK facility is not held to the*

*performance standard of no more than an average of one discharge per year, which applies only to controlled untreated CSO discharges.*

*In approving the original 1998 engineering report for the Elliott West facility, Ecology concluded that proposed facility design would meet the technology-based standards for CSO treatment. However, the constructed facility has not consistently complied with technology-based limits. Although KC-WTD has attempted to correct the facility's performance, efforts to date have not succeeded. Therefore, Ecology included the compliance schedule in special condition S15 to require KC-WTD to plan and design improvements that they must construct by December 31, 2031. The planning documents required by this condition must show how discharges from a new or modified facility will comply with the technology-based limits for CSO treatment plants or water quality-based limits, whichever are more stringent. Ecology revised the permit to recharacterize the zinc limit for the Elliott West facility as an interim limit and set a performance-based limit of 162.5 µg/L, which represents the 95th percentile of effluent zinc data reported by KC-WTD between March 2014 and November 2021. Ecology also removed the mixing zone authorization for this facility and added a final zinc limit of 90 µg/L, equals the numeric acute water quality criteria for aquatic life. Ecology will reconsider the mixing zone authorization after KC-WTD completes facility improvements. The compliance schedule establishes a reasonable timeline for corrections in the shortest practicable time and the interim limits provide performance-based standards to ensure that the discharge quality does not worsen.*

### **Comment #3.3 – The permit improperly allows mixing zones. (Suquamish #13, NWEA #2)**

Summary of comments:

- The use of dilution is inappropriate and unlawful in permits that address the discharge of wastes that caused or contributed to water quality violations.
- A discharger must fully apply AKART prior to being authorized a mixing zone.
- The Suquamish Tribe believes membrane bioreactors offer the only viable and feasible approach to improve effluent quality and ensure compliance with permit limits without the use of mixing zones. The permit must be revised to require treatment upgrades that will meet effluent limits at the point of discharge.
- Some mixing zones may be illegal because they do not require AKART.
- Mixing zones authorized by the permit are not consistent with federal law because they result in discharges that contribute to violations of water quality standards.
- The mixing zone authorization does not consider the persistence and bioaccumulation of toxic contaminants.
- Mixing zones are not appropriate for bioaccumulative toxic pollutants.
- Ecology incorrectly uses mixing zones for human pathogens; it must account for existing controls on point and non-point sources of pollution. This comment highlights that dilution may be used where appropriate.

*Ecology Response: The fact sheet describes Ecology's authority for authorizing mixing zones in section III.C.5 and identifies how each outfall qualifies for a mixing zone. The mixing zones in this permit are properly established according to the constraints in Washington's surface water quality standards. Ecology considers the effects of bioaccumulative toxic pollutants as part of a reasonable potential analysis for potential human health impacts. Washington's current human health-based water quality standards rely on current EPA methods that use bioaccumulation factors in calculations of numeric criteria. Since the numeric criteria account for bioaccumulation, continued use of mixing zones is appropriate.*

*Ecology does not agree with the suggestion that MBR technology is "viable and feasible" for treatment at a facility like West Point. It is not a "reasonable" technology in terms of cost or capabilities of treating highly variable flows and, therefore, cannot be considered "AKART". While this technology may be appropriate and reasonable for wastewater plants treating relatively stable flows, it is not appropriate for wastewater plants that experience highly variable flow rates.*

#### **Comment #3.4 – Allow extended mixing zone for Elliott West CSO treatment plant. (WTD #9)**

Summary of comments:

- Based on the challenges of the Elliott West facility operations to meet the current effluent limits, the County request that Ecology grant an exception to the acute mixing zone size as allowed by WAC 173-201A-400(12), (13), and (14). The County request an acute mixing zone size of 70 feet from the point of discharge.
- The velocity of the plume in the acute zone are sufficient to prevent aquatic pelagic organisms from remaining in the plume for more than a few minutes.
- An extended mixing zone would facilitate the County's cost-efficient planning and design of facility improvements.

*Ecology Response: Ecology declines to grant an exemption to the maximum acute mixing zone size authorized in the permit. The comments submitted by KC-WTD do not include supporting evidence to justify claims that an expanded mixing zone is reasonable or provides any overriding benefit. Ecology recognizes the challenges the current facility has in complying with numeric water quality-based limits. This is why the permit includes interim limits for some pollutants and a compliance schedule to complete design of a new facility that can meet applicable water quality standards.*

#### **4. Comments on Monitoring Requirements (S2)**

##### **Comment #4.1 – Concurrence with monitoring. (WCA/DRCC #34, WCA/DRCC #35)**

Summary of comments:

- Concur with the addition of enterococci monitoring in West Point WWTP effluent.

- Permit should require daily enterococci monitoring to coincide with fecal coliform monitoring since both indicate the presence of human pathogens.
- Concur with the addition of Total Ammonia, Nitrate plus Nitrite Nitrogen, and Total Kjeldahl Nitrogen to CSO monitoring requirements.

*Ecology Response: Thank you for your comment and support of the new monitoring requirements. While we agree that both fecal coliform and enterococci bacteria indicate the presence of human pathogens in the effluent, requiring daily enterococci monitoring is not necessary. Ecology included monitoring for enterococci bacteria to establish a site-specific correlation between enterococci and fecal coliform bacteria. Ecology will use this correlation in the future to validate that compliance with technology-based fecal coliform limits ensure compliance with numeric criteria for primary contact recreation in marine waters. Twice-weekly monitoring throughout the permit term will provide a sufficient data set to establish this correlation.*

#### **Comment #4.2 – Delay and limit duration of enterococci. (WTD #12)**

Summary of comments:

- The laboratory at the West Point WWTP is not accredited for enterococci tests. Because of this, the County requests a 12-month delay in starting this monitoring.
- The proposed twice per week monitoring frequency for Enterococci will generate a large sample data set within a very short period of time (3-6 months).
- The County requests this monitoring requirement be a time-limited study to evaluate whether the technology-based effluent limit based on fecal coliform bacteria will remain the appropriate basis of the effluent limit.

*Ecology Response: As documented on page 99 of the fact sheet, King County routinely uses two accredited laboratories for monitoring – the laboratory at the West Point WWTP and the King County Environmental Lab. Ecology's Lab Accreditation Database shows that the King County Environmental Lab is accredited for testing Enterococci, E. coli, total coliform, and fecal coliform bacteria in non-potable water. This demonstrates that KC-WTD has appropriate lab availability and no delay in beginning monitoring is warranted.*

*For the purposes of this comparative study, Ecology does not consider a short-term study is appropriate. A comparison of data collected throughout the permit term is necessary to ensure that the data captures seasonal variabilities and long-term trends. Therefore, the twice-weekly monitoring frequency is retained.*

#### **Comment #4.3 – Allow geometric average of bacteria collected on the same day. (WTD #19, WCA/DRCC #39)**

Summary of comments:

- King County requests that Ecology modify conditions S3.A(9) and S3.A(10) to specify the use of a geometric mean of all bacteria samples collected during a day, rather than an arithmetic average. A geometric mean will provide a more representative daily concentration by avoiding the positive skewing that occurs with the exponentially varying characteristics of bacteria data.
- WCA/DRCC states that Special Condition S2.3.A.9 [S2.A.9] needs to be reflected because Enterococcus does not use a geometric mean for water quality compliance. From the state water quality standards for marine waters Table 210(3)(b) "Enterococci organism levels within an averaging period must not exceed a geometric mean value of 30 CFU or MPN per 100 mL, with not more than ten percent of all samples (or any single sample when less than ten sample values exist) obtained within the averaging period exceeding 110 CFU or MPN per 100 mL."

*Ecology Response: Ecology assumes the intent of the comment was to advocate against allowing the use of an arithmetic average since the condition specifies the use of an arithmetic average of multiple samples collected over a single day as the representative bacteria concentration for that day. Ecology does not agree that geometric averaging is appropriate for bacteria samples collected on the same day since it will result in a low biased value. Use of arithmetic average is appropriate for establishing a value that is representative of the average wastewater quality discharged over a single day. Samples from separate days are representative of independent/separate water qualities. A geometric mean is appropriate for comparing the independent bacterial samples from separate days.*

#### **Comment #4.4 – Averaging period for Total Residual Chlorine (TRC) Monitoring. (WTD #14)**

Summary of comments:

- Modify Footnote e in Table 23 and Footnote m in Table 28 that requires that TRC monitoring report values based on an averaging period of ten minutes.
- The fact sheet does not justify the basis for this averaging period.
- The acute exposure time for aquatic life is one hour.
- Any averaging period should consider a statistically appropriate measure of average concentration consistent with the effluent limit.

*Ecology Response: Ecology removed the two footnotes since they conflict with the definition of "daily discharge" listed in Footnote d in Table 4 and Table 10. The permit defines "daily discharge" as the average measurement of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. Since the monitoring is necessary to assess compliance with the total residual chlorine limits, the footnotes in the monitoring tables were not necessary.*

#### **Comment #4.5 – Calibration of continuous chlorine analyzers. (WTD #18)**

Summary of comments:

- The County is concerned with the requirements of special condition S2.E.3.c, which require calibration of continuous chlorine monitoring equipment using a sample analyzed in a laboratory within 15 minutes of sampling. Implementing this requirement at the CSO treatment plants may not be feasible due to the intermittent nature of their operation and their relatively remote location compared to the West Point WWTP.
- The condition seems to suggest that calibration would use a grab sample during discharge events that can occur at unpredictable times.
- The current calibration practices have been reviewed by the equipment manufacturer and found to be consistent with industry best practices. The current practice uses standards prepared by the West Point laboratory. An instrument technician then uses the standards at each facility to calibrate the instruments on the same day each week.

*Ecology Response: The requirement in special condition S2.E.3.c is a standard requirement in all permits. Ecology recognizes, however, that calibration should follow the recommendations from the equipment manufacturer. The permit condition was changed to allow alternative calibration methods approved by the equipment manufacturer.*

**Comment #4.6 – Clarify alternative monitoring method when continuous is not available. (WTD #16)**

Summary of comment:

- Footnotes m and n in Table 28 do not include instructions for monitoring frequency when continuous is not available, as was included in the previous permit.
- Suggest the footnote include: “Continuous” means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The Permittee must sample every hour when continuous monitoring is not possible.”

*Ecology Response: Thank you for the comment. Ecology incorporated the clarifying language into the footnotes.*

**Comment #4.7 – Concur with calibration requirements in S2.E.3. (WCA/DRCC #37)**

Summary of comment:

- The commentor agrees with inclusion of new calibration requirements applicable to all continuous monitoring devices used by the permittee.

*Ecology Response: Ecology appreciates the comment and concurrence.*

**Comment #4.8 – Analytical methods for solids monitoring. (WTD #17)**

Summary of comments:

- The last sentence of special condition S2.D limits analytical methods used for monitoring to those listed in 40 CFR 136. Part 136 does not list methods appropriate for sediment or biosolids monitoring, which are included in the monitoring table.
- Suggests revising to specify that the condition applies only to influent/effluent monitoring. Alternatively, the condition should specify the use of EPA's SW-846 methods for the monitoring of sediment or biosolids.

*Ecology Response: Thank you for your comment. The intent of the original language was for it to apply to only liquid stream (influent/effluent) monitoring. Ecology modified the condition to add this clarification.*

#### **Comment #4.9 – Monitoring at CSO treatment plants with metals limits. (PSA #19)**

Summary of comments:

- Monitoring at all CSO treatment plants with metals limits should specify at least daily monitoring during discharge events to ensure compliance with standards.

*Ecology Response: As documented in section II.A of the fact sheet, the Elliott West CSO treatment plant historically discharges between one and seventeen times per year and the Henderson/MLK facility between zero and three times per year. The data also shows that the Henderson/MLK facility discharges no more than twice in any given wet month and the Elliott West facility typically discharges 1-3 times per month. Based on the historical frequency of discharges from these facilities, the twice monthly sampling will generally result in KC-WTD sampling all discharges from the Henderson/MLK facility and nearly all of the Elliott West discharges. Therefore, Ecology believes that twice monthly sampling for metals is appropriate and reasonable.*

#### **Comment #4.10 – Initial characterization for Georgetown CSO treatment plant. (WTD #15)**

Summary of comments:

- The County supports sampling four times during the first year of operation.
- Proposes adding the following sentence: "If more than one discharge event occurs during the same month, and the County has the capacity to collect and analyze samples, this will count toward the 4 event requirement."
- Request change to the minimum monitoring frequency listed in Table 26 to: "4 samples during the 1st year wet season; 1/year thereafter".

*Ecology Response: Ecology's intent is to ensure that characterization monitoring spans multiple months so that the results show the variability in effluent quality over the wet season. Ecology supports KC-WTD collecting and analyzing samples from multiple events during a month. However, this does not*

*alter the need for monitoring to span at least four months of operation. Ecology modified Table 26 of the permit to clarify Ecology's intent for the initial characterization monitoring.*

**Comment #4.11 – Monitoring and reporting not consistent with legal requirements. (NWEA #3)**

Summary of comments:

- The permit does not require receiving water monitoring.
- The permit fails to require sufficient monitoring to carry out reevaluation of local limits.

*Ecology Response: King County routinely conducts marine and freshwater monitoring as a member of the [Puget Sound Ecosystem Monitoring Program](#). All monitoring follows appropriate quality assurance plans and results are uploaded to Ecology's Environmental Information Management (EIM) database. Since this monitoring supplies sufficient quality data of the receiving waters associated with this permit, Ecology considers requiring receiving water monitoring as a permit condition unnecessary.*

*The permit includes appropriate monitoring for local limit reevaluation in special condition S2. Table 19 identifies influent, effluent, and biosolids monitoring necessary to assess the efficiency of the County's pretreatment program and special condition S6.B includes expanded directions for this monitoring. Ecology modified special condition S6.D after the public comment period to more clearly require the County to reevaluate local limits consistent with the requirements outlined in 40 CFR 122.44(j)(2)(ii).*

**Comment #4.12 – Table 29 does not specify sediment monitoring. (WCA/DRCC #36)**

Summary of comments:

- Table 4 (monitoring of untreated CSO discharges) in special condition S2 of the previous permit specified monitoring of sediments and settleable solids. Table 29 of the draft permit does not include these requirements.
- These requirements need to be added back in to provide a more complete quantification of pollutant loads from untreated CSOs.

*Ecology Response: Thank you for your comment. Ecology added a sentence to the first paragraphs of special conditions S2.A and S2.C that identifies the requirement for sediment monitoring according to special condition S9. The previous permit did not require monitoring of settleable solids in untreated CSO discharges. This monitoring was required only for discharges from the CSO treatment plants. Therefore, Ecology did not add settleable solids monitoring to Table 29.*

**5. Comments on Reporting and Recording Requirements (S3)**

**Comment #5.1 – Monthly DMRs for CSOs not timely. (WCA/DRCC #8)**

Summary of comment:



- Special condition S2.C (Monitoring of untreated CSOs) requires reporting using electronic DMRs as required in special condition S3.A. This does not provide timely information to the public.
- Ecology must require King County to post this information in a more accessible format on its website along with other events such as sewage spills.

*Ecology Response: Ecology established reporting requirements in special condition S3.A consistent with the federal NPDES e-reporting rule. This rule requires submission of all CSO discharge data electronically through DMRs. The permit requires submission of this discharge data monthly by the 15<sup>th</sup> day of the month following the monitoring period. All data is accessible through Ecology's PARIS permitting database shortly after KC-WTD submits the DMRs.*

*Special condition S11.B.8 requires the County to "implement and maintain a public notification process to adequately inform the public when and where CSOs occur." Consistent with this permit requirement, KC-WTD maintains a web-based [CSO Status Map](#) that provides the real-time status of the County's and the City of Seattle's CSO outfalls. In addition, KC-WTD has posted signs at CSO outfall locations to alert the public about the presence of a CSO outfall. Each sign contains information in multiple languages on CSOs along with a phone number and website address the public can use to get more information about the real-time status of the outfall. We encourage affected parties to communicate directly with the County regarding improvements to their CSO Status Map, such as the addition of a proactive alert.*

**Comment #5.2 – Reporting zero for bacteria. (WCA/DRCC #38)**

Summary of comment:

- Special condition S3.A.8 has a typographical error – it should read “Do not report”.

*Ecology Response: Thank you for your comment. This wording was modified to clarify the requirement.*

**Comment #5.3 – Use of one-half of the detection limit specified in S3.A(13)(b). (WTD #20)**

Summary of comments:

- The use of one-half of the detection limit in averaging of sample results should have a disclaimer that it is not appropriate for parameters where the regulatory objective is lower than the instrument detection limit (e.g., PCBs).

*Ecology Response: Ecology does not agree that a disclaimer is necessary. This condition only requires the use of one-half the detection limit if two provisions are met: a) the Permittee must calculate an average value from multiple samples taken at the same monitoring point during a given reporting period, and b) at least one sample collected during that monitoring period contained detectable concentrations of the pollutant. In this situation use of one-half the detection limit is appropriate. Ecology did not make any changes to this permit condition.*

#### **Comment #5.4 – Change due dates for certain DMRs. (WTD #7)**

Summary of comments:

- The due date of January 15<sup>th</sup> of each year is only 15 days after the end of the monitoring period. This due date will make it challenging to compile results and other information to complete the report. KC-WTD request changing the due date to March 15<sup>th</sup>.
- The County requests changing the due date for semi-annual DMR submittals (shown in Table 2) to March 15<sup>th</sup> and September 15<sup>th</sup>.

*Ecology Response: Ecology considers the annual DMR due dates of January 15<sup>th</sup> each year appropriate and consistent with due dates included in other permits. This DMR reports data from monitoring that occurs once per year. The monitoring schedule provides KC-WTD considerable opportunity to collect and analyze the annual sample in sufficient time to submit the DMR by January 15<sup>th</sup>. Ecology did not change the due date for the annual DMR submittal. The permit requires submission of the first annual DMR on January 15, 2025 for monitoring conducted between June 1 through December 31, 2024.*

*Table 2 of the draft permit erroneously included semi-annual DMRs in the summary of submittals list. Special Condition S3.A.4.d requires submission of the initial monitoring of pollutants from the Georgetown facility on a monthly basis, not semiannually. Ecology did not change this condition.*

#### **Comment #5.5 – Restore language related to reporting more frequent monitoring. (WCA/DRCC #40)**

Summary of comments:

- The draft permit removed a requirement that was in special condition S3.E of the previous permit that specified reporting any additional monitoring of sediments or untreated CSOs if collected more frequently than the intervals specified in the permit. This requirement should be restored in the final permit.
- This excess monitoring data must be submitted through DMRs rather than uploaded to EIM.

*Ecology Response: Ecology revised special condition S3.E to clarify that it also applies to sediment monitoring and pollutant monitoring of untreated CSOs. Since the permit already requires KC-WTD to monitor the volume, duration, and frequency of all untreated CSO events, it is not possible for them to increase the monitoring frequency for these parameters. Special conditions S2.C and S3.A require reporting of these parameters on monthly DMRs. Ecology believes it is appropriate to report any pollutant monitoring completed by KC-WTD for the untreated CSOs through an attachment to the DMR specific to the monitored outfall and in the CSO annual report. EIM is also an appropriate repository for some types of data collected under the permit. Uploading data to EIM associated with sediment monitoring is appropriate and consistent with the sediment monitoring requirements outlined in special condition S9.*

**Comment #5.6 – 5-day reporting in S3.F.2.c. (WTD #21)**

Summary of comment:

- Please exclude non-business days to provide sufficient time to gather relevant incident information for the report.
- Suggested additional text: “the submittal due date shall be the close of business of the next business day if the 5<sup>th</sup> day falls on a Saturday, Sunday, or federal holiday”.

*Ecology Response: Ecology did not change this condition. This condition reflects federal requirements for non-compliance reporting in 40 CFR 122.41(l)(6), which simply uses the term "day" without any distinction to business days. In the absence of any direct definition within Part 122, Ecology interprets "day" in accordance with Federal Rules of Civil Procedure, Title II, Rule 6 (a)(1). Ecology included a definition of "Days (compliance period interval)" in Appendix C (Glossary) of the fact sheet for this clarification. Ecology also recognizes that some non-compliance incidents may require additional time to fully investigate. In these cases, the 5-day report must include an estimate for the schedule for additional follow up reporting.*

**Comment #5.7 – Public transparency and accountability – related to reporting. (WCA/DRCC #19)**

Summary of comments:

- Ecology’s PARIS database used to track submittals required by the permits is simply unusable by the general public. Therefore, Ecology must require that King County establish a dedicated web page where all information transmitted to Ecology for compliance with its permit terms can be accessed by members of the public.
- During the 2022 Municipal Wastewater Permit Fees Advisory Committee proceedings, in which WCA participated, Ecology stated that the flow monitoring data are not trustworthy, which calls into question the ability to reflect more complex parameters.
- Objects to the statement in condition S3.A that directs KC-WTD to attach written monthly process summary reports, if developed, to each month’s DMR. Given that Ecology does not trust the records stored in PARIS and that members of the public would need to first know the permit number of this facility, navigate through PARIS, and then look for individual PDFs that are not text searchable, this option does not protect the public’s right to know. Ecology must require a more accessible way for the public to find this information through web-based searches and not buried in insufficient databases.
- Recommend adding a provision to special condition S3.A stating that the permittee is responsible for accurate and complete reporting in databases and any errors are subject to fines.
- Objects to special condition S3.B allowing submission of hard copy reports because these reports are not available to the public.

*Ecology Response: Ecology recognizes that our PARIS data system needs to be more user-friendly for public access to permit reports and data. Our current priority for this system is meeting the federal e-reporting requirements. We believe the additional administrative burden to the permittee of creating a separate system is too high. Ecology will continue to make improvements to PARIS and our other external tools to improve the user experience. The “Contact admin/Feedback” link located at the bottom of the [PARIS website](#) allows users to request enhancements or report problems they encounter.*

*The comment related to the 2022 Municipal Wastewater Permit Fees Advisory Committee proceedings needs context. Flow data reported through PARIS may not be appropriate for establishing annual permit fee invoices. The business need for the PARIS database is to capture data that permittees submit to demonstrate compliance with their permit conditions. Data in the PARIS database satisfies this business need. The PARIS database was not designed to satisfy the business need of establishing permit fees.*

*Ecology must provide all permittees with the opportunity to submit physical documents required by the permit. Therefore, the permit retains language related to submitting hard copies. When feasible, we upload electronic copies of hard-copy submittals to PARIS. All hard copy documents submitted to Ecology are available to the public through public records requests. Requests can be made using Ecology’s [online request form](#) or by submitting a [records request form](#) via email to [publicrecordsofficer@ecy.wa.gov](mailto:publicrecordsofficer@ecy.wa.gov).*

*Ecology declines to add the requested provision to special condition S3.A to state that “the permittee is responsible for accurate and compete reporting in databases and any errors are subject to fines” since the permit already contains appropriate language related to accurately reporting representative data. Special condition S3 states that “Falsification of information submitted to Ecology is a violation of the terms and conditions of this permit”. In addition, special condition S2.D requires all “samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters”.*

#### **Comment #5.8 – Reporting permit violations – S3.F. (WCA/DRCC #20, Suquamish #16, KPHD)**

Summary of comments:

- Special condition S3.F needs far more transparency around permit violations.
- Generally agree or concur with the following:
  - The distinct phases of notification; and,
  - Inclusion of CSOs in twenty-four-hour reporting; and,
  - Requiring uploading of the 5-day follow up report to the Water Quality Permitting Portal along with the required elements of the report.
- Ecology needs to define “immediately”, as used in special condition S3.F.
- All reports need to be gathered in one location and searchable by the public.

- Ecology must ensure that ERTS reports associated with spills or overflows are available to and searchable by the public.
- Disagree with the ability to waive a written report based on an oral report since oral reports are not available to the public and are insufficient to document sewage spills.
- All reporting required under the final permit, including but not limited to all non-compliance and all immediate reporting to Ecology, the Department of Health Shellfish Program, and local health jurisdictions, must also be made to the Suquamish Tribe.
- Kitsap Public Health District requests to be included in section S3.F Reporting Permit Violations for reports of plant bypasses and discharges to marine surface waters.

*Ecology Response: Thank you for your support for the notification requirements expressed in this comment. Ecology based special condition S3.F on the federal non-compliance notification requirements in 40 CFR 122.41(l)(6). To improve clarity, the Fact Sheet was modified to include the following definition in Appendix C:*

***Immediate reporting*** - Report permit violations immediately without delay of any interval of time from the moment the permittee becomes aware of the violation. Priority should first be given to stopping an active noncompliance.

*All written non-compliance reports are available electronically through PARIS. Language in special condition S3.F allowing Ecology to waive written reports is consistent with reporting requirements in federal regulations (see 40 CFR 122.41(l)(6)(iii)). Therefore, Ecology did not remove this wording. Consistent with this condition, Ecology evaluates waiver requests on a case-by-case basis and generally does not grant waivers in most situations.*

*With respect to expanding the list of entities KC-WTD must notify, Ecology is concerned with increasing the permit-required reporting burden. Therefore, the notification requirements were not changed. Ecology supports the Suquamish Tribe and the Kitsap Public Health District working collaboratively with KC-WTD to explore voluntary options for receiving non-compliance notifications.*

#### **Comment #5.9 – Contact information for Public Health Seattle-King County. (PHSK, WCA/DRCC #21)**

Summary of comments:

- PHSK commented that they have a new phone number. They request to receive notifications via email during business hours and by phone after hours. The preferred email address and phone numbers are: [WaterRecreationProgramSewageRelease@kingcounty.gov](mailto:WaterRecreationProgramSewageRelease@kingcounty.gov) and 206-263-7885.
- The phone number listed for Public Health Seattle – King County, 206-296-4932, has been disconnected when tried on June 27, 2023.

*Ecology Response: Thank you for your comments. Ecology has incorporated the email address and phone number provided by Public Health Seattle-King County into the permit.*

**Comment #5.10 – Quarterly violation report in S3Fe. (WCA/DRCC #22)**

Summary of comment:

- Concur with the content of the quarterly violation summary report required by special condition S3.F.e.
- Unclear how the spreadsheet format of this report would be available to and searchable by the public.
- This information needs to be easily compiled by Ecology and Ecology should consider what the permittees will need to do to facilitate this step towards transparency.

*Ecology Response: Ecology appreciates the support for the quarterly violation summary. KC-WTD must upload all files required by this submittal to Ecology's PARIS database. The public may download copies of the files from the [PARIS website](#). See Ecology's response to comment #5.7 for additional responses related to the PARIS website and transparency.*

**6. Comments on Bypass Procedures (S5.F) and other bypass-related topics**

**Comment #6.1 – Bypass procedures – S5.F. (WCA/DRCC #23)**

Summary of comments:

- Special condition "S5.C" describes procedures for reporting bypasses but there is no information on where the records would be kept or how Ecology would know whether King County is in compliance. The commentor states that the public needs to access this information.
- The comment claims that when flows exceed 300 MGD as a result of precipitation, effluent quality will likely be impaired and would not meet standards.
- Ecology should strike "if possible" for the requirement in special condition "S5.C.2.a" to provide 10 days' notice to Ecology prior to initiating a bypass for non-essential maintenance.

*Ecology Response: Special condition "S5.C" relates to procedures for reporting anticipated short term reductions in the level of treatment at the permitted facilities. Ecology assumes this comment was intended to refer to special condition S5.F, Bypass Procedures. As specified in special condition S3.F.b, KC-WTD must report unauthorized bypasses within twenty-four hours to Ecology's Northwest Region Office phone number. According to special condition S3.F.c, KC-WTD must also submit a written follow-up report through the Water Quality Permitting Portal – Permit Submittals application within five days. All written reports are available through Ecology's PARIS database. Language in special condition S5.F.2 related to notifying Ecology about non-essential maintenance "if possible, at least 10 days before the*

*planned date of bypass”, is standard language taken from federal regulations (40 CFR 122.41(m)(3)(i)). Therefore, Ecology will not strike this wording.*

*For wet weather bypasses authorized by special condition S10 of the permit, KC-WTD must monitor specific plant operating conditions, including the plant flow rate at the time of the bypass, as required in Table 18 of special condition S2.A. All data collected through this monitoring is reported on the monthly DMRs for the month in which the authorized bypass occurs. Special condition S10 authorizes limited bypasses of the secondary treatment system at West Point during wet weather as allowed by state and federal regulations related to controlling CSOs.*

**Comment #6.2 – Power supply compliance schedule. (Suquamish #3, PSA #2, WCA/DRCC #42)**

Summary of comments:

- Numerous problems with power supply and intermediate pump station failures at West Point have caused discharges of untreated sewage through its emergency bypass and inadequately treated non-wet weather secondary treatment diversions. The fact sheet and permit do not mention the significant power supply and IPS pump failures that have led to serious violations of the Clean Water Act.
- The emergency bypass and non-wet weather secondary treatment diversion problems must be addressed through a compliance schedule in the final permit for infrastructure improvements. Ecology should specifically incorporate the infrastructure requirements and deadlines from the Tribe’s settlement with the County (uninterruptible power supply, voltage sag mitigation, and peak flow redundancy) along with any additional requirements that Ecology believes are necessary.
- The permit must require prompt upgrades to bypass controls at West Point. Soundkeeper joins in comments from the Suquamish Tribe on the need for enforceable conditions to address power supply and pump failures.
- To the extent Ecology allows a compliance schedule for the necessary infrastructure upgrades, it must comport with state and federal law and undergo public review and comment. See, e.g., id.; WAC 173-201A-510; WAC 173-220-140; 40 C.F.R. §§ 122.2, 122.44(d).
- Special Condition S5.D on Electrical Power Failure should be expanded to clearly include the provisions of the agreement reached with the Suquamish Tribe regarding maintaining adequate electrical service to the West Point plant.

*Ecology Response: Ecology issued an Administrative Order (AO #19477) in 2021 in response to a history of power issues and emergency bypasses at the West Point WWTP. This order included several required actions intended to prevent such events. In addition, Ecology is aware of the terms and conditions related to improving power reliability contained in the settlement agreement between the Suquamish Tribe and King County. KC-WTD continues to take appropriate steps to comply with Ecology’s order and the settlement agreement. As the administrative order and the settlement agreement are enforceable*

*legal documents, the compliance schedules they include carry equal legal weight as a compliance schedule in a NPDES permit. Ecology does not generally duplicate compliance schedules from other enforceable documents into a permit since this can create confusion and opportunities for conflicting requirements.*

**Comment #6.3 – Emergency bypasses. (WCA/DRCC #3, Suquamish #3)**

Summary of comments:

- The comment cites the second paragraph of the West Point WWTP Treatment Process description on page 16 of the fact sheet. This paragraph identifies the design capacity of the secondary treatment components at the plant and describes how the Flow Diversion Structure diverts excess primary effluent around the secondary treatment process and to the disinfection process when flows exceed 300 MGD.
- Also cited was the third paragraph of the process description in the fact sheet (starting on page 16 and continuing to page 17) describing how a flow control gate in the Influent Control Structure can open to allow full plant bypassing during emergency situations to protect the treatment plant and its operators. The paragraph also discusses a project King County is undertaking to supplement the gate with a passive weir.
- The third paragraph includes a statement that Ecology will treat any emergency bypass as an unpermitted discharge that is subject to possible enforcement.
- WCA/DRCC recognizes the need for bypassing for worker safety, but states that this is not a long-term solution to protect the health of Puget Sound since it “provides the plumbing for under- and un-treated sewage to enter Puget Sound”. They state that Ecology needs to require King County to develop a long-term fix that eliminates the need to bypass secondary treatment. Ecology must require King County to plan a permanent solution that avoids the need for emergency bypasses except in truly exceptional conditions.
- The permit must state unequivocally that Ecology will take enforcement action for discharges through the emergency bypass outfall.
- The Suquamish Tribe takes exception to text on page 18 of the fact sheet (under West Point WWTP Outfalls description) stating that “Ecology may take enforcement action for discharges through [the emergency outfall]”. The Tribe states that “such equivocation with respect to Ecology’s enforcement intent is woefully insufficient to address the significant, ongoing problems with emergency bypasses at West Point”.

*Ecology Response: Thank you for your comments. It is important to distinguish between different types of bypass events that may occur at the West Point WWTP. To clarify, the West Point WWTP may experience two distinctly different types of bypass events. These include emergency plant bypasses and secondary treatment bypasses.*



- *Emergency plant bypasses result in a complete diversion of all or part of the untreated wastewater that flows to the West Point WWTP. This diversion occurs at the plant's influent structure and diverts untreated flow around all treatment components and discharges that flow to Puget Sound through the Emergency Bypass Outfall. The permit prohibits these bypasses.*
- *Secondary treatment bypasses divert flow that has received primary treatment around the secondary treatment units at the plant and routes the flow to the disinfection system. This bypass only results when the partially treated wastewater level in the plant's intermediate pump stations reaches its capacity, which typically occurs when the wastewater flow exceeds 300 MGD during wet weather. Special condition S10 authorizes these wet weather bypass as a crucial part of King County's overall CSO control strategy. This is consistent with state and federal CSO regulations that allow control strategies to include providing at least primary treatment and disinfection of excess wet weather flows that enter the permittee's secondary treatment plant during a storm event.*
- *Secondary bypasses may also occur if the intermediate pumps fail to operate as designed. The permit prohibits secondary bypasses caused by pumping problems.*

*Ecology evaluates each instance of unpermitted bypass and has taken enforcement action in the past. We will investigate any future incidents on a case-by-case basis and consider all facts about an incident before deciding on an appropriate enforcement response. Ecology must ensure due process for all enforcement actions. In accordance with federal regulations (40 CFR 122.41(m)(4)(i)), Ecology must also preserve its option to take no enforcement action in cases where:*

- (A) A bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;*
- (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and*
- (C) The permittee submitted notices as required by the permit.*

## **7. Comments on the Identification and Control of PFAS in Discharges (S6.E and S2.A Table 21)**

### **Comment #7.1 – General concern with and requests to change PFAS requirements. (WTD #3, WTD #23)**

Summary of comments:

- Support work to evaluate PFAS and other contaminants entering the King County system that may adversely affect public health and the environment but concerned that including such ambitious and broad-based requirements prior to a state and/or federal regulatory framework

risks adding unnecessary cost and inefficiency. The necessary information for utilities to adequately address PFAS concerns is lacking in the areas of risk analysis methodologies, laboratory protocols and capacity, available and cost-effective PFAS treatment or destruction technology, guidance for source control, and additional resources for regulated clean water utilities.

- An initial assessment of potential PFAS sources in King County's service area indicates domestic sources are likely larger than industrial sources. Public education and other source control efforts may be the most effective strategies in the future.
- KC-WTD requests revision of the proposed requirements that compliment voluntary efforts and don't cost ratepayers more than necessary.
- KC-WTD requests four years to complete PFAS source study/control requirements.
- The permit should specifically note that the pollution prevention/source reduction evaluation pertains only to SIUs.
- Extend the timeline in special condition S6.E.1 for completing updated industrial user (IU) survey to April 30, 2027, to allow for a more comprehensive and meaningful result. Identifies a need for extra time to procure consultant services, update the IU inventory to meet the permit requirements, identify businesses who should receive the survey, develop/conduct the survey (questionnaire), and review/manage the responses. The County does not believe this can realistically be accomplished by the proposed deadline of April 30, 2025.
- The permit should allow an extended timeline for completing pollution prevention/source reduction evaluations required by special condition S6.E.2 since there is limited information and guidance currently available to assist permittees with this effort.
- Extend the timeline in special condition S6.E.3 requiring inclusion of other Best Management Practices (BMPs) for PFAS control in pretreatment permits. The County notes that ongoing work by EPA to develop/improve regulatory approaches for PFAS may result in more targeted and specific permitting strategies.

*Ecology Response: Ecology believes that sufficient scientific understanding and guidance exists to include narrative requirements in NPDES permits to control this pollutant. The requirements in this permit are designed to minimize the introduction of the pollutant from certain industrial sources. The requirements in this permit achieve the appropriate balance between protecting human health and the environment while ensuring that the conditions do not place an undue burden on the permittee.*

*Ecology agrees that PFAS likely enters KC-WTDs collection system from other sources in addition to industrial facilities subject to pretreatment standards. We support and encourage the County to engage in public education and outreach efforts as an added layer of protection. However, these voluntary efforts do not negate the importance of using the existing pretreatment program to regulate the introduction of PFAS from industrial sources.*

*After considering the above comments, Ecology modified special condition S6.E as follows:*

- *Wording was added to clarify the condition only applies to Significant Industrial Users.*
- *The due date for the revised industrial user survey was changed to April 30, 2027.*
- *Deadlines listed in S6.E.2 and S6.E.3 were extended to April 30, 2028.*

**Comment #7.2 – Support PFAS conditions. (PSP #2)**

Summary of comments:

- The Partnership strongly supports the permit requirement to monitor influent for PFAS and the accompanying program to identify and work with priority sources to reduce or eliminate the use of PFAS before they enter the wastewater system.

*Ecology Response: Thank you for the comment. We appreciate the support for PFAS requirements within the permit.*

**Comment #7.3 – Support for PFAS conditions with concerns. (Suquamish #7, PSA #21, WCA/DRCC #16)**

Summary of comments:

- Support for the draft permit's requirement for PFAS monitoring and requirement for King County to take steps to identify and control PFAS discharges through updated industrial user surveys and evaluation of pollution prevention practices.
- Ecology should not require just influent monitoring. The permit should be revised to include effluent and residual solids/biosolids monitoring for the entire permit term. The monitoring frequency should be more than quarterly to be able to characterize the presence and concentration in the waste streams.
- WCA/DRCC specifically urges Ecology to require weekly influent and effluent monitoring for the first two years. The permit could allow reduction to monthly monitoring if King County demonstrates statistically that monthly monitoring sufficiently characterizes variability.
- Special condition S6.E(1) does not include an appropriate list of facilities for King County to include in its updated industrial user survey. It does not include laundries, electronic products, hazardous waste, or chemical wholesalers.
- The commentors agreed with the inclusion of a PFAS requirements within the permit but requested additional industries be added to list of potential industrial sources.

*Ecology Response: Thank you for your support for PFAS requirements in the West Point WWTP permit. Ecology based the list of industries included in S6.E(1) on the industrial categories known or suspected to discharge PFAS as identified by the [December 5, 2022 EPA memo](#). Ecology has revised the permit condition to clarify that it applies to organic chemical manufacturers and wholesalers, consistent with EPA guidance. Ecology also revised the monitoring schedule in special condition S2.A (Table 21) to include monitoring of effluent and biosolids but did not increase the frequency as requested. Given the*

*cost and limited laboratory resources for this monitoring, Ecology considers weekly or monthly monitoring unreasonable.*

**Comment #7.4 – Pretreatment requirements related to PFAS are insufficient. (NWEA #7)**

Summary of comments:

- PFAS may be discharged by more than “industrial users”. The use of the phrase “industrial users” is vague.
- Unclear why the permittee needs two years to complete a list of industrial users. The permit should require completion of the list in not more than one year. Should require periodic revisions rather than a one-time provision.
- No basis for two-year timeframe to begin including a requirement in pretreatment permits.
- The proposed permit implies PFAS controls should be limited to “encouraging” pollution prevention, product substitution, and good housekeeping practices. This is inadequate. Permit should require a report on the results of the evaluation of BMPs that is submitted to Ecology and made public.
- Include, at a minimum, the recommendations from EPA’s December 2022 related to including PFAS conditions in NPDES permits. The permit must include effluent and biosolids monitoring for PFAS. Ecology should go beyond EPA’s minimum suggestions for POTWs and incorporate all provisions required for direct discharge industries.

*Ecology Response: As discussed in Ecology’s response to comments #7.1 and #7.3, special condition S6.E includes requirements that Ecology considers reasonable for controlling PFAS at this time. Ecology set timelines in the permit based on its assessment of the efforts required by KC-WTD to complete work necessary to comply with the permit condition. Also discussed in the response to comment #7.3, Ecology has included effluent and biosolids monitoring for PFAS compounds in the final permit.*

**Comment #7.5 – Request no influent PFAS monitoring in permit. (WTD #13)**

Summary of comments:

- The permit should not include a defined permit condition for influent PFAS monitoring because it could lead to unnecessary permit violations if monitoring is missed or not conducted to the stringent proposed protocols.
- KC-WTD is committed to voluntarily undertake a yearly sampling effort at West Point, South Plant, and Brightwater and its service area for influent, effluent, biosolids, and landfill leachate. The effort would include development of a conceptual PFAS sewershed model, a survey of available treatment technologies and a direct utility effort to support source control policy.
- The fact sheet does not explain how Ecology will use influent only data in the future as water quality criteria for marine waters has not been developed and differentiation of upstream sources cannot be derived with influent data only.

*Ecology Response: Ecology considers monitoring an integral part of the narrative requirements this permit uses to control the discharge of PFAS from the West Point WWTP. The influent monitoring provides a basis to quantify the effectiveness of source control efforts required by special condition S6.E. Therefore, Ecology retained the influent monitoring requirements. In addition, given comments described in Comment #7.5 and KC-WTD's expressed willingness to expand monitoring to include effluent and biosolids, Ecology changed the monitoring schedule in special condition S2.A (Table 21) to include quarterly PFAS monitoring of effluent and biosolids.*

## **8. Comments related to sediment quality and sediment monitoring (S9 and Fact Sheet)**

### **Comment #8.1 – Support sediment sampling, disagree with use of EIM for data. (WCA/DRCC #47)**

Summary of comments:

- Concur with sections S9.A and S9.C on the sediment sampling and analysis plan requirements around the West Point and CSO plant outfalls.
- Storing sediment monitoring data in EIM decouples it from DMRs. Ecology should require King County to summarize sediment data within their DMRs in addition to adding to EIM.
- Ecology should explicitly include instructions that the sediment data report must be submitted as a searchable PDF and available to the public electronically. The sediment reports should also include trend analyses including data from previous permit terms, which was required for the CSO sediment data the previous permit term.

*Ecology Response: Thank you for your support of the permit conditions. The permit continues to require KC-WTD to submit all sediment monitoring data to [the EIM database](#). Ecology considers the EIM database as the appropriate repository for all ambient water body data from environmental monitoring studies, including sediment characterization data. The EIM database allows the public to search for and download monitoring data that may have been collected by multiple entities for specific locations. This provides broad access to the data for multiple purposes. Data in the EIM database is also used in Washington State's Water Quality Assessment. Discharge monitoring reports submitted to the PARIS database are primarily used to report discharge data for comparison to a numeric effluent limit or trigger. The permit also requires submission of a written report that summarizes the results of the monitoring and include a trend analysis of past and new data. This report will be available as a document in the PARIS database.*

### **Comment #8.2 – Sediment bioassay requirements. (WTD #27)**

Summary of comments:

- King County has demonstrated that past bioassay failures resulted from physical characteristics of the sediment samples, not from chemical toxicity. Because of this they request that the permit not require bioassays.

- If Ecology decides to include bioassays, the County advocates for collecting parallel samples to facilitate bioassays when needed, but not conduct the bioassay unless the chemistry results show a sediment management standard (SMS) exceedance.
- If bioassay testing is required in S9.A, the County requests that only the screen tube manipulation protocol be used for the larval echinoderm testing requirement due to a history of results from tests using standard methodology resulting in failed bioassays caused by the physical influences of turbidity in the overlying test water.

*Ecology Response: Washington's Sediment Management Standards, Chapter 173-204 WAC, rely on bioassays to confirm the designation of sediment quality based on the results of initial chemical screening. If the sediments around a wastewater discharge have one or more chemicals that exceed the chemical criteria in the standards, these sediments would be designated as failing the sediment quality standards (SQS) and the discharge would be considered for authorization of a Sediment Impact Zone, unless the results of the biological tests (i.e., bioassay) indicate the absence of adverse effects. As documented on pages 45-48 of the fact sheet, past monitoring has identified occasional chemical exceedances at some stations around outfall 001, including monitoring done in 2017. Although the 2017 monitoring identified chemistry exceedances at four of eight stations, KC-WTD did not follow up with bioassay monitoring until a year later in 2018. This delay did not allow for an appropriate comparison of data to either confirm or override the results of the chemistry tests. Ecology believes repeat testing during this permit term is warranted. Sediment monitoring is also a component of the narrative limits in the permit related to controlling discharges of PCBs from the West Point WWTP.*

*The County must document its proposed sampling and analysis protocols in the sampling and analysis plan required by special condition S9.A. The County's request to only the screen tube manipulation protocol for the larval echinoderm testing must be documented in this plan and submitted for approval. With respect to delaying bioassay testing, the [Sediment Cleanup User's Manual](#) referenced in this permit condition allows permittees to collect a single sample to use for both chemical and bioassay testing and delaying the bioassay tests until the results of the chemical analysis are complete. However, the manual also stresses that this strategy is only practical if chemistry results can be obtained and evaluated within the maximum holding time for biological tests, which is eight weeks. Any proposed monitoring protocol must demonstrate how all chemistry and bioassay tests will be conducted on the same sediment sample and completed within proper holding times.*

### **Comment #8.3 – Sampling window for sediment monitoring. (WTD #28)**

Summary of comments:

- Remove the requirement to collect sediment samples between August 15 and September 30. There is no basis for this window in state regulations and Ecology's *Sediment User's Cleanup Manual* does not require this specific sampling period.

- Constraining sampling to this specific window would present unnecessary costs and logistical challenges for laboratory and sampling staff.

*Ecology Response: Section 4.3.2 of the Sediment Cleanup User's Manual states that sampling to analyzed for biological effects should be done when environmental conditions are the most extreme because this is when benthic populations are most at risk. The manual further identifies that this generally occurs between August 15 and September 30 (+/- 14 days). Since the permit-required monitoring may include bioassay testing, specifying the sample collection window between August 15 and September 30 is appropriate. Since monitoring must follow an approved analysis plan, the County may propose an alternate sampling period if it can demonstrate to Ecology's satisfaction that the proposed window is appropriate to provide samples that represent the period with benthic organisms are most at risk. Ecology modified the permit to allow for an alternate sampling period.*

#### **Comment #8.4 – Sediment monitoring at outfall 001. (WTD #26, WTD #29)**

Summary of comments:

- The County believes that sediment monitoring since 1998 has demonstrated only occasional transient exceedances of the SMS chemical criteria near the West Point WWTP outfall. The County resampled every station with SMS exceedances since 1998 during the last permit term and that sampling demonstrated no toxicity existed from chemistry.
- Requests that West Point sediment sampling requirements be removed from the permit due to the results for the previous monitoring.
- If monitoring is not removed, Ecology should modify the permit to clarify whether monitoring is required only for those stations where previous sediment quality exceedances have occurred in the past or if monitoring must include all stations monitored in the past. The County recommends that the permit specify monitoring the same stations as in 2011 and 2017 since they include all of the stations sampled since 1998 that had chemistry exceedances or bioassay failures.
- The County requests that the due date for the West Point sediment data report be changed to October of 2027 instead of February 15, 2027, to allow adequate time for completion of the laboratory analysis and preparation of the report. Laboratory turnaround time is typically 60-90 days, which would leave little time for writing and internally reviewing the formal report.

*Ecology Response: As documented on pages 45-48 of the fact sheet, past monitoring has identified occasional chemical exceedances at some stations around outfall 001, including monitoring done in 2017. Given the occasional chemistry exceedances, the high volume of wastewater discharged by the West Point WWTP and the variety of industrial discharges connected to the facility, Ecology considers additional sediment analysis reasonable. Sediment monitoring is also a component of the narrative limits in the permit related to controlling discharges of PCBs from the West Point WWTP. Ecology's original intent was to require KC-WTD to monitor those stations that had previous chemistry or*

*bioassay failures. Therefore, Ecology modified special condition S9.A to limit the stations as requested. Ecology also modified the sediment data report due date in special condition S9.B to adjust for the actual issuance date of the permit and to allow additional time for completion of the report.*

**Comment #8.5 – Require sediment monitoring at Alki and Carkeek CSO outfalls. (Suquamish #14)**

Summary of comments:

- Sediments near these outfalls have not been monitored since 2000/2001. The Tribe believes this 20-year-old data may not reflect current conditions and request that the permit include sediment monitoring near these outfalls to confirm conditions.

*Ecology Response: Thank you for the comment. Ecology reevaluated the history of sediment monitoring and King County's 2018 Sediment Management Plan (SMP). Given the fact that sediment monitoring near these outfalls have not been conducted in more than 20 years and King County did not include these outfalls in sediment deposition modeling conducted for the 2018 SMP update, Ecology concluded additional monitoring is reasonable to assess current conditions. The permit was changed to include this sediment monitoring.*

**Comment #8.6 – Sediment monitoring, CSO outfalls 013, 045, and 057. (WTD #30)**

Summary of comments:

- The County completed sediment sampling in August 2022 near the Martin Luther King Jr. Avenue Regulator (outfall 013) and Henderson Pump Station (outfall 045) per the County's Sediment Management Plan. The County also completed sediment sampling at the Barton CSO (outfall 057) in 2023.
- The County requests that special conditions S9.C and S9.D related to sediment monitoring near these CSO outfalls be removed since the work was already done. Alternatively, the County requests that Ecology modify the conditions to identify that the existing work that the County has completed satisfies the permit requirements.

*Ecology Response: Ecology may accept the results of previously completed sampling at outfalls 013, 045, and 057 if the sampling and analysis comply with a sampling and analysis plan that is acceptable to Ecology's Sediment Management Unit and approved by Ecology. Special conditions S9.C and S9.D were modified to require submission of the Sampling and Analysis Plan (SAP) and data report for these outfalls in 2026. The conditions will continue to require monitoring of these outfalls later in the permit term if the Sediment Management Unit does not agree with the SAP.*

**Comment #8.7 – Language about not authorizing exceedance of SMS missing. (Suquamish #15)**

Summary of comments:



- Special condition S11.A of the previous permit included the following: “This permit does not authorize discharges from CSO outfalls that threaten characteristic uses of the receiving water as identified in the water quality standards, Chapter 173-201A WAC, or that result in an exceedance of the Sediment Management Standards, Chapter 173-204 WAC.” The Tribe requests reinsertion of the language.

*Ecology Response: Thank you for your comment. Ecology revised special condition S11.A to include the language from the previous permit.*

**Comment #8.8 – Effluent limits related to contaminated sediments. (NWEA #5)**

Summary of comments:

- The fact sheet does not explain how Ecology derived effluent limits related to sediment contamination near the Georgetown and Henderson/MLK CSO treatment plants.

*Ecology Response: Numeric effluent limits for the CSO treatment plants focus primarily on reducing the solids that may otherwise deposit in sediments near the outfalls. Controlling solids discharged through the CSO treatment plant will reduce the pollutants that adhere to those solids. The permit also relies on the pollution prevention program in special condition S11.B.7 as part of the narrative limits to control pollutants in the combined sewage treated by the CSO treatment plants. Since these outfalls are not the only potential pathways for pollutants discharged to the Duwamish River, any need for future narrative or numeric (if feasible) limits to protect sediment quality must be established through a coordinated effort with ongoing sediment cleanup actions.*

**Comment #8.9 – Fact sheet edit related to CSO sediment monitoring. (WTD #41)**

Summary of comment:

- The information presented on Page 50, Section II.F.7, of the fact sheet would benefit from the inclusion of the information concerning potential for other sources to affect the areas sampled. Table ES-1 of the SMP update notes this potential. The current presentation could imply all chemicals come from the CSOs.

*Ecology Response: Ecology edited section II.F.7 of the fact sheet to include the following sentence in the first paragraph: “The report only provides information about the quality of sediments near CSO outfalls and does not attempt to identify the potential source or sources of the contamination.”*

**9. Comments related to Combined Sewer Overflows (S11) and CSO Solids Characterization Study (S12) requirements**

**Comment #9.1 – Permit must include a compliance schedule for CSOs. (Suquamish #4, PSA #6, WCA/DRCC #4, WCA/DRCC #5, WCA/DRCC #9)**

Summary of comments:

- The Suquamish Tribe is concerned with King County's lack of progress on addressing CSOs that harm the Tribe's members through diminished use of beaches, decreased fishing and shellfishing opportunities in the Tribe's usual and accustomed areas, and the accumulation of metals and other toxics in fish that are then ingested by tribal members.
- The County must adhere to the schedule established in the 2013 consent decree, as modified in 2016. Ecology should establish compliance schedules in this permit consistent with the consent decree.
- Ecology appears to rely on external documents, such as the 2013 consent decree, to regulate some aspects of the CSOs. The compliance schedules from the consent decree must be incorporated into the permit as enforceable conditions.
- The fact sheet must include a clear statement that the CSO program does not meet state and federal regulations and that the program is currently subject to a consent decree. WCA/DRCC does not support any changes to the timelines in the consent decree and urges Ecology to require that King County meet its CSO obligations.
- Overall, WCA/DRCC agrees with increased attention to CSOs in this permit since King County will remain the only jurisdiction not complying with the "national standard" of no more than one discharge per year per location after Everett finishes its CSO abatement work.
- WCA/DRCC supports the requirement for a CSO reduction plan amendment, as described in special condition S11.F, and states that any changes must comply with King County's 2013 CSO consent decree or any modifications. The comment states an understanding that King County has reopened negotiations on this consent decree and urges Ecology to keep the public's interest and needs in the forefront, even though the public is not part of the confidential negotiations process.

*Ecology Response: The 1994 Federal CSO Control Policy (now codified as section 402(q) of the Clean Water Act, 33 U.S.C. § 1342) identifies judicial orders that incorporate compliance schedules from approved long-term control plans as the appropriate mechanism for ensuring compliance with federal and state CSO requirements. Consistent with this policy, EPA, Ecology, and King County negotiated the 2013 Consent Decree (Civil Action No. 2:13-cv-677), which contains a compliance schedule for implementing its approved long-term control plan. This federal court order is an enforceable document that requires judicial approval and public input. Duplicating terms and conditions from this court order in the permit is unnecessary and inappropriate as it could result in conflicts between the two legal instruments that ultimately delays compliance.*

**Comment #9.2 – CSO outfall name correction. (WTD #31)**

Summary of comment:

- Correct Table 32 of the permit and Table 9 of the fact sheet to show the outfall name for outfall 056 as "Murray PS Emergency Overflow" instead of "Murray St. PS Emergency Overflow"

*Ecology Response: Thank you for your comment, Ecology corrected both tables.*

#### **Comment #9.3 – Mixing zones for CSO discharges. (Suquamish #13, PSA #9)**

Summary of comments:

- The Suquamish Tribe questions Ecology's authority to use mixing zones for CSO discharges, especially for toxic chemicals.
- The permit impermissibly authorizes discharges from and mixing zones for "controlled" CSOs that do not meet AKART. The comment states that AKART for CSOs includes measures to reduce and eliminate CSOs altogether AND primary treatment for discharges that occur.
- Even if permit did require AKART, the mixing zone for the 38 "controlled" CSOs would still not comport with WAC 173-201A-400(4). The comment also cites WAC 173-201A-400(8) and (10).

*Ecology Response: Section III.C.5.11 of the fact sheet (page 70) describes Ecology's authority to grant mixing zones for discharges from controlled CSO outfalls. Ecology authorizes mixing zones for controlled CSO outfalls consistent with allowances in the state's water quality standards.*

*The comment "PSA#9" mischaracterizes the nature of AKART for untreated CSOs by claiming a requirement for "eliminating CSOs altogether **AND** primary treatment for discharges that do occur." (emphasis added by commentor). Chapter 90.48.480 RCW applies the standard of "greatest reasonable reduction" for untreated CSO discharges and WAC 173-245-020 defines "greatest reasonable reduction" as controlling each CSO "in such a way that an average of one untreated discharge may occur per year". State and federal regulations do not require complete elimination of untreated CSOs and only require primary treatment when the control strategy includes at-site treatment. Section V.H of the fact sheet (page 105) describes AKART for untreated CSOs as meeting the compliance with the "greatest reasonable reduction" performance standard, implementation of the federal nine minimum controls, and implementation of post-construction monitoring. Special condition S11 requires KC-WTD to comply with these requirements for all outfalls classified as "controlled".*

#### **Comment #9.4 – Narrative restriction related to CSO mixing. (PSA #10)**

Summary of comments:

- Special condition S11.A of the permit states "In accordance with chapters 173-201A-400(4) and 173-245-015 WAC, this permit does not authorize a mixing zone or discharge from a CSO outfall when doing so causes adverse impacts that threaten characteristic uses of the receiving water, result in an exceedance of the Sediment Management Standards, cause a loss of sensitive or

important habitat, or adversely affects public health,” but the permit does not include an objective or readily enforceable permit condition to implement this statement.

*Ecology Response: Ecology authorizes mixing zones for only those untreated CSO outfalls that demonstrate compliance with the state’s performance standard of discharging no more than once per year, on average. King County’s Post-Construction Monitoring Plan (PCMP) approved by Ecology in 2012 provided appropriate documentation that the outfalls listed as “controlled” in table 32 of the permit qualify for the mixing zone. Ecology modified special condition S11.C.c of the permit to add the requirement that post construction monitoring must verify that controlled discharges continue to meet conditions to qualify for a mixing zone.*

#### **Comment #9.5 – Limit mixing zone exemption to only 1/year. (PSA #12)**

Summary of comments:

- The Permit should clarify that the exception from the mixing zone size and overlap limits only applies to the single discharge event allowed once per year. WAC 173-201A-400(11) is a conditional once-per year exception, not an open-ended exemption for all discharges from CSOs that may have met control criteria at some point in the past. The Permit language should closely track the regulatory language.

*Ecology Response: The CSO mixing zone authorization in the state’s water quality standards (WAC 173-201A-400(11)) specifically reads: “Combined sewer overflows complying with the requirements of chapter 173-245 WAC, may be allowed an average once per year exemption to the numeric size criteria in subsections (7) and (8) of this section and the overlap criteria in subsection (9) of this section” (emphasis added). Contrary to the claim in the comment, the regulation does not include a precise limit of one and only one discharge per year that may qualify for a mixing zone size and overlap exemption. The permit’s mixing zone authorization is consistent with the allowance in the water quality standards.*

#### **Comment #9.6 – Uncontrolled CSOs. (PSA #8)**

Summary of comments:

- The Permit should expressly prohibit discharges (wet weather or otherwise) from “uncontrolled” CSOs, and explicitly require that all CSOs comply with water quality standards.
- Ecology cannot authorize any discharges that do not meet AKART, and the uncontrolled CSOs do not currently meet AKART or the nine minimum control measures.
- Ecology cannot authorize any discharges from the uncontrolled CSOs unless and until they qualify as “controlled.”

*Ecology Response: Consistent with federal regulations related to CSO controls, NPDES permits may include narrative limits that conditionally allow discharges from uncontrolled CSO outfalls. The permits*

*must limit the discharges to events caused by precipitation and require the permittees to implement the technology-based “nine minimum controls” described in EPA’s 1994 CSO Control Policy (now codified as section 402(q) of the Clean Water Act, 33 U.S.C. § 1342). The permittee must also continue to implement their approved long-term control plan according to compliance schedules contained in an enforceable document (civil judicial action, administrative order, or other mechanism). The permit for the West Point WWTP and associated CSO outfalls requires implementation of the federal nine minimum controls and limits discharges to wet weather events. The County must also continue to adhere to the 2013 CSO Consent Decree (Civil Action No. 2:13-cv-677), which contains a compliance schedule for implementing its approved long-term control plan.*

**Comment #9.7 – Nine Minimum Controls #7. (WTD #4/WTD #32, SPU #2)**

Summary of comments:

- Special condition S11.B.7 (Nine Minimum Controls #7 – Pollution Prevention) outlines new requirements for the County to develop and implement pollution prevention measures above and beyond those already implemented under the current permit. The provision would have the County lead and implement new stormwater best management practice, and stormwater and wastewater conveyance system inspection and cleaning activities, on private and public properties where the County has no jurisdiction and cannot readily obtain such authority under state law. Many of the activities would occur in facilities and locations owned by or under the City of Seattle’s jurisdiction.
- The County requests modification of this condition to provide the opportunity for the County, SPU, and other jurisdictions to coordinate and prepare a plan and program of activities for the proposed additional pollution prevention actions.
- The County also requests that the permit include a compliance schedule of no less than three years to complete and submit a plan to Ecology that identifies data gaps, appropriately considers each jurisdictional entity’s planning and implementation role as well as authority in the service area. The plan would tailor the program based on scientific, environmental, and feasibility factors.
- The City of Seattle is committed to keeping sources of pollution out of waterways through Seattle Public Utilities’ (SPU) source control program and supports the expanded requirements for pollution prevention activities in special condition S11.B.7 because King County plays an important role in source control.
- Some source control activities can be implemented while a holistic program is being developed. Activities could include desktop investigations, developing a source control inventory list, classifying pollution generating activities, and assessing buildings for PCBs.
- The draft permit appears to require immediate implementation of a pollution prevention program. SPU recommends allowing time for developing the program.

*Ecology Response: Ecology disagrees with KC-WTD's interpretation that the permit condition requires that "the county lead and implement a new stormwater best management practice, and stormwater and wastewater conveyance system inspection and cleaning activities, on private and public properties where the County has no jurisdiction". On the contrary, the permit condition requires the County to "involve coordination with other jurisdictions as applicable". Ecology revised this condition from the 2015 permit with the intent to expand collaborative source control efforts as a means of minimizing pollutants that enter the County's combined sewer system. Ecology agrees with SPU's comment that "King County plays an important role in source control".*

*Ecology agrees that the updating the existing pollution prevention program to meet the requirements of this revised condition will take time. However, KC-WTD did not provide any basis to justify a three-year delay in implementing changes. In addition, we agree with SPU's observation that some activities can be implemented while a holistic program is being developed. Therefore, Ecology agrees to modify the permit to allow one year for KC-WTD to begin implementing changes along with a schedule for future improvements.*

**Comment #9.8 – Evaluation of NMC #7 BMP effectiveness. (Suquamish #12)**

Summary of comments:

- The permit must require that BMPs will be reviewed, their effectiveness evaluated each year, and this review be documented in an annual report. An annual evaluation ensures accountability.

*Ecology Response: Ecology agrees that effectiveness evaluations are important. The permit condition was modified to require KC-WTD to establish criteria it will use to assess effectiveness and to document periodic assessments in the CSO annual reports.*

**Comment #9.9 – Require continued assessment of copper and PCB source tracing. (WCA/DRCC #15)**

Summary of comments:

- The 2018 Copper Assessment Report did not determine a clear explanation for elevated copper levels in the Elliott West CSO Treatment Plant effluent. The proposed permit does not require the county to continue this work.
- Ecology should require further source identification for elevated copper levels in the Elliott West CSO Treatment Plant and piping network.
- Given the very high levels of PCBs this source tracing should also include PCBs.

*Ecology Response: As discussed in fact sheet sections II.E (pages 44-45) and V.I (page 108), the 2018 copper assessment identified that treatment improvements are needed at the Elliott West CSO treatment plant to reduce copper in discharges from that facility. The report did not identify*

*opportunities for reduction through source control. The findings of this report served as part of the basis for Ecology including the compliance schedule outlined in special condition S15 of the permit to require planning and design for treatment improvements.*

*Ecology also expanded the source control/pollution prevention requirements in the nine minimum controls for all CSO outfalls (see special condition S11.B.7). This condition does not limit the types of pollutants KC-WTD must control through BMPs. It is appropriate for this source control effort to include PCBs along with other pollutants found in wastewater and stormwater runoff that enters the combined system.*

**Comment #9.10 – Clarify definition of “Control”. (PSA #11)**

Summary of comments:

- Soundkeeper believes that Ecology intends to allow up to one discharge per year, on a 20-year rolling average, from only those CSOs that qualify as “controlled” and are meeting the “greatest reasonable reduction” criteria.
- The permit should expressly and flatly prohibit any CSO discharges in excess of one per year on a 20-year rolling average. The permit should also specify criteria that ensures the one discharge per year allowance does not authorize long periods of discharges that span multiple storms or discrete precipitation events.
- The permit should prohibit any discharges from all other CSOs.
- The permit should clarify that CSOs that trigger any corrective action under special condition S11.C.d are no longer considered “controlled” and are reclassified as “uncontrolled” (meaning that discharges from them are prohibited and do not qualify for a mixing zone) until corrective actions are completed.
- The draft Permit suggests that outfalls are not reclassified as “uncontrolled” until they have violated the one-discharge-per-year criteria for several years, which brings the draft Permit into conflict with WAC 173-245 and WAC 173-201A. The definition of “greatest reasonable reduction” is black and white: a CSO either qualifies or it does not.
- The phrase “previously controlled CSO outfall” should be clarified or eliminated from the Permit to avoid creating a grey area.

*Ecology Response: WAC 173-245-020 defines the state’s performance standard for “greatest reasonable reduction” of untreated CSOs as “an average of one untreated discharge” per year (emphasis added). Special condition S11.C.b of the permit specifies that compliance with this standard is measured based on a 20-year averaging period. This performance standard recognizes that an outfall may experience multiple discharges in some years and no discharges in other years. Limiting discharges to only once per year is not defensible because it is inconsistent with the legally defined performance standard. Special condition S2.C defines a discharge event for untreated CSO outfalls (see Footnote b in*

*Table 30 of the permit). Based on this definition, a CSO event has ended when at least 24 hours has elapsed since the last flow measurement. Any flow occurring after 24 hours is considered a new event.*

*Special condition S11.C of the permit implements narrative limits based on the general requirements in WAC 173-245-015 that require CSO sites to “achieve and maintain” compliance with the performance standard. These limits include demonstrating compliance with the performance standard through post-construction monitoring and taking prescribed corrective actions listed in special condition S11.C.d to develop and implement adaptive management strategies necessary to restore compliance with the performance standard. Ecology does not reclassify an outfall status to “uncontrolled” until Tier III since outfalls qualifying for this level have demonstrated that minor changes will not restore compliance and larger-scale facility improvements are likely necessary.*

**Comment #9.11 – CSO corrective action requirements. (WTD #33)**

Summary of comments:

- The County supports the flexible, adaptive management principles outlined in the Corrective Actions outlined in special condition S11.C.d.
- Determining the root causes of CSO facilities that are not achieving control, and developing corrective actions to improve the hydraulic performance typically requires multiple lines of investigation to provide sufficient information and certainty of the improvements needed to reduce overflow frequency. Monitoring and modeling the effectiveness of improvements often take one or two years to complete since facilities operate intermittently.
- The proposed Tier I and Tier II requirements could unnecessarily escalate the non-compliance and need to develop additional remedial actions in advance of lesser levels of intervention.
- The Tier I/II requirements do not accommodate the situation of an outfall drifting out of control one year but returning to control the following year.
- The County requests to increase the one-year requirements for Tier I/II actions to two years and provide for control status drifts in and out of control.
- Ecology should allow Tier I/II corrective action plans to be included in the periodic LTCP updates to allow the County to align and prioritize all corrective action projects in a coordinated and cost-effective fashion. The County also prefers to use the LTCP update process for establishing requirements for Tier III corrective actions instead of using enforcement methods of placing compliance schedules in future permits or administrative orders.

*Ecology Response: Ecology appreciates the feedback on this new permit requirement. We consider this adaptive management approach a reasonable means of restoring compliance with the CSO performance standard in a timely manner. As this is a new approach for permits that authorize untreated CSOs, Ecology will evaluate its effectiveness during the permit term and may consider modifications as we gain experience with its use. However, we do not believe changes are warranted at this time.*



*Ecology disagrees with the comment that the “Tier I/II requirements do not accommodate the situation of an outfall drifting out of control one year but returning to control the following year”. Special condition S11.C.d states that the corrective action requirements do not begin until an outfall demonstrates that it does not comply with the performance standard of one discharge per year, on average, for two consecutive years. This will eliminate outfalls that “drift out of control one year but return to control the following year” from the need for corrective actions. In addition, Tier II actions are only required for outfalls that do not comply with the performance standard for three consecutive years or discharge at a calculated average frequency in excess of 2.0 times per year.*

*Ecology also does not agree with linking any necessary Tier III corrective actions with the LTCP update process. The reduction plan amendment (LTCP update) required by special condition S11.F has a limited scope assessing projects for outfalls that have not previously achieved the “controlled” status. Ecology established the timelines in the Tier III actions to ensure KC-WTD submits a timely plan for restoring compliance with the performance standard in the shortest time possible.*

**Comment #9.12 – Assess change in control status annually. (WCA/DRCC #48)**

Summary of comments:

- Appreciation that Table 32 identifies the status of each CSO outfall as either “controlled” or “uncontrolled”.
- Concur with the corrective actions described in special condition S.11.C.d.
- Since only controlled CSO outfalls qualify for mixing zones, Ecology should revisit the status annually during the permit term to check for any previously controlled outfalls that no longer meet requirements. A footnote should be added to Table 32 stating that the status is re-evaluated annually.
- Ecology should clarify how King County should submit the corrective action reports and where those reports will be stored so the public can access the information.

*Ecology Response: Ecology appreciates the support of the corrective actions described in special condition S11.C.d. As stated in special condition S.11.C.b, Ecology assesses compliance with the performance standard annually and KC-WTD must initiate corrective actions if any outfall meets the qualifying conditions for each tier. An outfall is not eligible for reclassification to “uncontrolled” until it reaches Tier III. As stated in the Tier III actions, Ecology will establish a compliance schedule in an administrative order, a permit modification, or renewed permit to establish an enforceable timeline to restore compliance.*

*The permit requires KC-WTD to submit corrective action reports, if needed, as a written report submittal following the instructions in special condition S3.B (permit submittals and schedules). Any necessary reports will be electronically submitted through the Water Quality Permitting Portal – Permit Submittals application and publicly accessible through Ecology’s PARIS database.*

**Comment #9.13 – CSO annual reports. (WCA/DRCC #29)**

Summary of comments:

- Special condition S11.D lacks clarity on where the summary of events required as part of the CSO Annual Reports will be submitted. The permit should have specificity to ensure the public can easily locate and access the report.

*Ecology Response: Special condition S3.B of the permit requires KC-WTD to submit all written reports, including the CSO annual report, electronically through the Water Quality Permitting Portal – Permit Submittals application.*

**Comment #9.14 – CSO discharges contribute to pollution to the Duwamish. (WCA/DRCC #13)**

Summary of comments:

- The Duwamish Waterway remains a hot spot for multiple toxic chemicals due to the discharges it receives. The fact sheet documents that existing concentrations of copper and zinc in the Lower Duwamish are much higher than in Elliott Bay and Puget Sound. In addition, PCBs are higher in the Duwamish Waterway than they are in Elliott Bay.
- CSOs need to be addressed as they remain ongoing sources for metals and other toxic chemicals. This permit is a mechanism to make progress in reducing these pollutants and Ecology should establish stringent requirements that accelerate the pace of reducing pollution.
- CSO treatment plant effluent data presented in the fact sheet show that the concentrations of metals and a variety of toxic chemicals are high across the board. The slow pace of progress on controlling King County's CSOs means that more and more chemicals are impacting the beneficial uses of the receiving waters and downstream water bodies, and the people that depend on these waters and resources.
- Ecology needs to include a separate condition for King County to report on the magnitude and timeline for reducing CSO impacts on PCBs.

*Ecology Response: Special condition S11.B.7 requires KC-WTD to implement a pollution prevention program to improve the control of pollutants that enter the combined sewer system. This part of the federal nine minimum controls is a narrative technology-based standard in place to minimize the discharge of pollutants through untreated CSOs. An effective pollution prevention program is also a component of a narrative effluent limit for treated CSO discharges. At this time, King County discharges both untreated and treated CSOs to the Duwamish waterway, and the pollution prevention program is key to improving water quality. With respect to CSO control projects, KC-WTD must complete projects according to the compliance schedules established in the 2013 CSO consent decree.*

**Comment #9.15 – Alki CSO Treatment Plant discharge frequency. (WCA/DRCC #7)**

Summary of comments:

- The draft permit does not include the maximum number of discharge events per year from the previous permit for the Alki CSO treatment plant (29 events and 108 million gallons per year).
- The permit should adopt the national standard of no more than one CSO event per year per location and specifically identify the current consent decree signed with EPA, Ecology, King County, and Seattle regarding CSO compliance.

*Ecology Response: Ecology restored the limits on number of annual events and annual volume listed in pervious permits for the Alik and Carkeek CSO treatment plants. Table 7 was updated to include long-term averages of 10 events per year and 46 million gallons per year for the Carkeek facility. Table 8 was updated to include long-term averages of 29 events per year and 108 million gallons per year for the Alki facility.*

*The second part of this comment appears to recommend that Ecology to apply the state’s performance standard (erroneous called a “national standard”) of one untreated CSO discharge per year to the treated CSOs. Applying this standard is not appropriate as it conflicts with the allowances in state regulations for at-site treatment of CSO discharges.*

**Comment #9.16 – Limits for untreated CSOs. (NWEA #6)**

Summary of comments:

- The Fact Sheet does not explain how Ecology determined effluent limits for “untreated CSO outfalls” listed in Table 26 of the Fact Sheet.
- Pages 50-53 of the fact sheet shows that some outfalls are located in areas where monitoring has demonstrated that sediment quality standards have been exceeded.

*Ecology Response: Section V.H of the fact sheet (page 105) describes that the narrative limits for untreated CSOs consist of the following: achieving and maintaining compliance with the state’s CSO performance standard of no more than one untreated discharge per year, on average; implementation of the federal nine minimum controls; and implementation of a post-construction monitoring plan. The post construction monitoring must provide sufficient validation that discharges comply with applicable water quality standards, including sediment quality standards.*

**Comment #9.17 – Approve “QAPP” for CSO construction. (WCA/DRCC #49)**

Summary of comments:

- Special Condition S11.E outlines engineering reports and plan requirements, including the need to submit a Quality Assurance Project Plan to Ecology. We suggest that Ecology add “for approval” to clarify the role that Ecology will have on the QAPP.

*Ecology Response: This comment appears to misinterpret the requirement in special condition S11.E. The permit condition does not require the submission of a “Quality Assurance Project Plan” (QAPP) related to the construction of CSO facilities. QAPPs are used for monitoring projects. This permit condition highlights the general need for wastewater facility owners to submit a Construction Quality Assurance Plan prior to the start of construction activities, consistent with Ecology’s regulations related to the submission of plans and reports for the construction of wastewater facilities (Chapter 173-240 WAC). This document is a detailed construction management plan that shows how adequate and competent construction inspections will be carried out during the project to ensure that facilities are built according to the approved design documents. As allowed by RCW 90.48.110(2), Ecology delegated the review and approval authority of certain engineering documents, such as the Construction Quality Assurance Plan, to King County in 2003. As a result of this delegation, King County is not required to submit this document to Ecology. Therefore, the permit was revised to remove this sentence from special condition S11.E.*

**Comment #9.18 – Support for CSO solids characterization. (WCA/DRCC #10)**

Summary of comments:

- Concur with requiring a CSO Solids Characterization Study in Special Condition S12, and again urge Ecology to ensure that the resulting reports are easily locatable by the public, searchable using standard web searches, and communicated in effective formats with the public.

*Ecology Response: Ecology appreciates the support for this requirement. In light of valid concerns raised by KC-WTD about this study, Ecology revised this permit requirement (see comment #9.19). The condition now requires KC-WTD to submit the results of a recent study that generally duplicates the solids characterization efforts included in the draft permit. Submittals will be available through the PARIS database.*

**Comment #9.19 – CSO Solids Characterization Study. (WTD #34)**

Summary of comments:

- King County has been collecting solids and wastewater samples from the five CSO outfalls listed in Table 32 to support CSO control project planning efforts. Sampling includes in-pipe sediment traps with analysis of grain size, total organic carbon, metals, PCBs, and semi-volatile organic

compounds such as PAHs and phthalates. Sampling followed a sampling and analysis plan developed in 2018 and amended in 2020. Analyses were scheduled for completion in 2023.

- As currently written, the permit condition contains requirements that are not practical. For example, the solids samples would not be analyzed for TSS, settleable solids, pH, and salinity because those parameters apply to aqueous samples. There is insufficient water content in sediment trap samples for separate analysis. In addition, sediment traps must be deployed for nine to twelve months and at specific locations in the pipes to collect sufficient solids samples. It is not possible to place the sample traps at a level that only captures combined flows during a discharge and each trap can only collect one sample per year.
- Due to the complex nature of combined sewer solids, there is often analytical inferences that require sample dilutions for organic chemical analysis, and therefore, detection limits can be higher than targeted goal.
- The EIM database does not have a sample code that would adequately characterize that the samples represent solids from a CSO discharge. Ecology should clarify why submittal to EIM is appropriate.
- King County request removing or modifying this permit condition. The County can submit the sampling and analysis plan along with the data report to Ecology.
- If the condition remains, the permit should be modified to clarify the parameters the County must monitor and identify the priority for the testing due to the potential for limited sample volumes. The condition should be limited to two samples per location during the permit term.

*Ecology Response: Thank you for your comment. Ecology appreciates the County's feedback and understands the concerns. Given the recent completion of a similar study, Ecology decided to revise this permit condition to allow submission of the results for the previous study. The final condition also requires KC-WTD to submit a plan for a follow-up study if Ecology concludes that the previous work does not adequately characterize the quality of solids discharged from the specific CSO outfalls identified in the permit.*

## **10. Comments related to the Elliott West CSO Treatment Plant Improvements (S15)**

### **Comment #10.1 – Elliott West improvements (Suquamish #5, PSA #16, WCA/DRCC #5, WCA/DRCC #11)**

Summary of comments:

- The Suquamish Tribe supports inclusion of the compliance schedule. They strongly prefer a construction completion date during the permit term but recognize the scheduling difficulties. The Tribe urges Ecology to retain the compliance schedule in the draft permit and hold firm on the construction completion date.
- The Suquamish Tribe urges Ecology to add a requirement to the permit that specifies that bringing the facility into compliance must include the use of ultraviolet light disinfection.

- Ecology should consider ultraviolet light disinfection for the Elliott West facility to eliminate residual chlorine and establish a final effluent limit of zero.
- WCA/DRCC appreciate that the fact sheet notes that past performance of the Elliott West CSO treatment plant led to the decision to include a compliance schedule that requires KC-WTD to complete planning and design for a replacement facility. They concur with special condition S15 and believe annual progress reporting will be important to keeping the project on schedule. They also state that Ecology needs to add specific penalties if progress falls behind.

*Ecology Response: Thank you for your comments and support for the compliance schedule. Ecology acknowledges that ultraviolet light has the benefit of providing efficient disinfection of wastewater with no toxic chlorine residual. While we strongly support and encourage King County to consider using this technology at the renovated Elliott West facility, Ecology does not have authority to prescribe the use of specific treatment technologies. Ecology must assess whether the proposed methods of treatment King County plans to use at the facility will meet appropriate technology-based and water quality-based standards. King County may legally continue to use chlorine for disinfection if they demonstrate that the effluent will meet appropriate bacteria and residual chlorine standards.*

*Ecology staff used their best professional judgement to establish a compliance schedule that will result in completing facility renovations in the shortest practical time. While we do not intend to modify this schedule after issuing the permit, we recognize that factors beyond the County's control can result in schedule impacts. In addition, missing any milestone in a compliance schedule is a permit violation that is subject to enforcement. As with any permit violation, Ecology will evaluate the circumstances involved in any potential future violation before determining an appropriate enforcement response. Permits do not identify specific penalties for permit violations.*

#### **Comment #10.2 – AKART for Elliott West CSO treatment plant. (PSA #13)**

Summary of comments:

- The permit fails to require AKART for the Elliott West facility. It does not contemplate that King County or Ecology will determine what constitute AKART, including for copper.
- The permit does ensure that King County will meet effluent limits that reflect AKART.
- The compliance schedule merely requires King County to describe modifications to bring Elliott West into compliance with unspecified permitted limits.
- King County needs to immediately implement AKART for discharges from Elliott West, including controls for dissolved toxic metals.

*Ecology Response: The compliance schedule in special condition S15 mandates the timeline by which KC-WTD must complete planning and design for improvements to the Elliott West CSO treatment plant. These improvements must ensure that discharges from the facility comply with AKART for at-site CSO treatment and applicable water quality standards, including the final numeric limits for copper listed in*

*special condition S1.B (Table 5). Task 1 of the compliance schedule specifies that KC-WTD must develop a construction schedule that shows how they will complete the facility by December 31, 2031. Mandating “immediate” compliance, as suggested by this comment, is impractical and unreasonable. The compliance schedule establishes a reasonable timeline for the corrective actions.*

**Comment #10.3 – Elliott West compliance schedule inadequate. (NWEA #4, PSA #15)**

Summary of comments:

- The compliance schedule for the Elliott West CSO treatment plant improvements are not consistent with federal compliance schedule regulations – it does not ensure compliance be as soon as possible.
- Table 36 does not demonstrate that the compliance schedule will meet the federal Clean Water Act because it ends with the completion of bidding for the improvements, not with compliance with effluent limits.
- Since King County has already submitted a draft alternatives analysis report to outline planning efforts to replace the facility, allowing another five-plus years to refine and bid the design is not the “shortest practicable time”.
- What is the basis for allowing a year between each successive design phase?
- What is the intent behind requiring the engineering report to identify a construction schedule necessary to complete the project by December 31, 2031?

*Ecology Response: Ecology based the compliance schedule on information provided by King County. Ecology considers the schedule outlined in Table 36 to be expeditious while remaining realistic to current large municipal construction timelines. This project will require large capital investments. It is unreasonable to expect projects of this magnitude to be completed in five years or less. The compliance schedule includes those phases of the project that can realistically be completed within the permit term. Refer also to Comment #10.4.*

**Comment #10.4 – Elliott West compliance schedule unreasonable. (WTD #5, WTD #35)**

Summary of comments:

- The County appreciates its responsibility to develop and implement improvements to increase treatment performance at the Elliott West facility. The County has completed an alternatives analysis and is underway with the design process to resolve performance deficiencies.
- While KC-WTD appreciates Ecology’s consideration of the County’s proposed capital delivery and schedule milestones, the draft NPDES permit includes two project milestones and a project completion goal that are unreasonable in light of technical and economic conditions and uncertainties existing at this time.
- Continued development of the project will require flexibility to accommodate uncertainties that lie ahead. More stringent effluent limits for TRC and copper will also require the

reconsideration of appropriate treatment process strategies and design criteria, including potential outfall and diffuser system modifications.

- Implementation of KC-WTD's other capital programs facility improvements, such as for nutrient control for compliance with the Puget Sound Nutrient General Permit, and the future financial and industry constraints of multiple and compounded capital project delivery obligations occurring in the same general timeframe may affect development of this project. Overall uncertainties in the economic, supply chain, and construction industry that currently exist and are anticipated to continue for the foreseeable future. Many factors lie outside of the direct control of the County and will impact the cost of new facilities and the timelines for delivery.
- The County requests changes to the milestones in Table 36 to ensure that the County can implement the project in alignment with its other program and project obligations. The County believes the proposed final milestone for to complete bidding is not feasible. The timeline may not allow sufficient time to secure necessary permits, agency clearances, and agreements after completing the design work.
- The County request the schedule not include completion of bidding or the ultimate compliance date of December 31, 2031, and extend the completion date for design work by six months.

*Ecology Response: While we understand the concerns raised in this comment, any compliance schedule Ecology places in a permit must ensure that corrective actions are taken in a timely manner to restore compliance with the technology-based and water quality-based standards in the shortest time possible. The compliance schedule must consider only those factors related to the specific project or tasks required to restore compliance and cannot consider external factors. Ecology based the compliance schedule in Table 36 on information in KC-WTD's Preliminary 2022 Alternatives Analysis. Since Ecology has not received additional technical documentation to justify modifying that schedule, we must retain the originally proposed timeline.*

*King County may consider development of a form of an [integrated plan](#) to prioritize its wastewater treatment work needed to comply with its Clean Water Act obligations. The results of this planning effort, if approved by Ecology, may form the basis for modifying the Elliott West compliance schedule in the future.*

## **11. Comments related to chemicals of emerging concern**

### **Comment #11.1 – 6PPD/6PPD-q and other CECs. (PSA #20, WCA/DRCC #17, Suquamish #8, PSP #3)**

Summary of comments:

- For the following summaries, Ecology uses the single reference to 6PPD as a reference to both 6PPD and 6PPD-q.
- Since stormwater constitutes a majority of CSOs, the permit should require monitoring of 6PPD and include source control requirements similar to those established for PFAS.



- The permit should specifically require 6PPD monitoring at the CSO treatment plants and untreated CSOs. Ecology should require a QAPP for monitoring in the first year of the permit followed by three years of monitoring and one year to summarize the data in a technical report.
- Monitoring should be expanded to include other CECs, such as those found in pharmaceuticals and personal care products that can affect aquatic species.
- Ecology must include monitoring and treatment for 6PPD to meet AKART and water quality standards. Ecology should revise the permit to include effluent limits for 6PPD that protect water quality. Ecology should revise the permit to require AKART-level controls for 6PPD in discharges that include stormwater.
- The Puget Sound Partnership encourages King County and Ecology to explore additional characterization monitoring for CECs. This characterization could be valuable to further understand and identify where advanced treatment techniques can address emerging toxics, such as pharmaceuticals and 6PPD in stormwater at the CSOs.

*Ecology Response: Ecology appreciates the comments related to 6PPD and other chemicals of emerging concern. We currently consider these to be pollutants for which numeric effluent limits are infeasible. In accordance with 40 CFR 122.44(k), this permit relies on best management practices (BMPs) to control or abate the discharges of these pollutants. Ecology is also taking steps to regulate toxic pollutants through source control and/or product substitutions. Please see Ecology's website for further information on work underway to [address the following priority toxic chemicals](#): 6PPD, PFAS, PCBs, phthalates, flame retardants, lead, mercury, and PAHs.*

*For 6PPD, BMPs that focus on controlling tire wear particles from entering stormwater may provide the most effective means for reducing the pollutant's presence in combined sewage. Refer to Ecology's [Publication No. 23-10-001](#) for additional information about stormwater BMPs for 6PPD reduction. Ecology expects KC-WTD to implement BMPs for reducing 6PPD as part of the pollution prevention program required by special condition S11.B.7. The permit was revised to include this clarification.*

*At present, 6PPD-q is not part of the priority pollutant list included in routine permit application scans and there is no approved 40 CFR Part 136 method for water quality permit application and compliance use. Ecology is aware that EPA recently published a draft analytical method for measuring 6PPD-q using liquid chromatography with tandem mass spectroscopy (EPA Method 1634). This method was developed for use in testing samples from stormwater and surface water sources. While EPA states that using this method in other applications and matrices may be possible, the draft method does not at this time discuss the appropriateness for using the method to test combined sewage samples.*

**Comment #11.2 – Address toxics using source control. (WCA/DRCC #18)**

Summary of comments:

- King County can do more with respect to reducing metals and toxics by applying source control to its own municipal holding, many of which are located in other jurisdictions. King County should be required to address its own facilities under its local source control program. Ecology should do all it can to incentivize strong source control programs throughout King County's network and upstream jurisdictions.
- Ecology should consult the 2011 document "Control of Toxic Chemicals in Puget Sound: Assessment of Selected Toxic Chemicals in the Puget Sound Basin, 2007-2011" to identify toxic chemicals that should be monitored in sewage effluent at West Point and in controlled and untreated CSO discharges.

*Ecology Response: This permit for the West Point WWTP regulates pollutants that may discharge through the West Point facility or the associated combined sewer facilities. Special condition S11.B.7 requires KC-WTD to develop and implement a pollution prevention program to minimize pollutants entering the County's combined sewer system. King County must apply this program to their own facilities if appropriate to implement the permit condition. Note too that King County is subject to Municipal Stormwater NPDES Permit requirements under permit number WAR044501, which contains stormwater pollution control requirements applicable to properties owned or operated by the County.*

*Special condition S2 requires routine priority pollutant monitoring of effluent from the West Point WWTP and from the associated CSO treatment plants. This monitoring includes all priority pollutants required by 40 CFR 122.21(j), which includes many of the pollutants identified in the document cited in this comment.*

## **12. Comments on other topics**

### **Comment #12.1 – General approach to changing permit requirements. (WTD #2)**

Summary of comments:

- KC-WTD believes it is imperative that new and broad changes to permit approaches, effluent limits, and monitoring requirements should include permittee review and deliberation in their development.
- Ecology should consider all available permitting approaches, such as compliance time schedules, interim measures, data collection and special studies, adaptive project planning and implementation provisions, and further evaluation in developing effective and appropriate final requirements.
- WTD needs to develop a plan of action to conduct appropriate data collection and engineering evaluations of existing WWTS facility performance under the new requirements and determine the need for any updates to each facility plan (i.e., engineering report) and operations manual.
- A compliance schedule needs to consider development of the actions and information sufficiency for WTD to plan, schedule, and implement any necessary facility improvements into their operations and capital delivery programs.

*Ecology Response: These comments are general in nature and not specific to this permit. Ecology does not offer a response to these general critiques of Ecology's permitting program.*

**Comment #12.2 – Disagreement with Ecology's permitting approach. (NWEA #14)**

Summary of comments:

- This summary encompasses the contents of Section I: "NPDES permits are prohibited from causing or contributing to violations of water quality standards" found on the first 12 pages of the comment letter submitted by the Northwest Environmental Advocates. The following bullets identify the major topic headers in this section.
- Sub-topic A: Discharges are prohibited from causing or contributing to violations of water quality standards; reasonable potential findings are required.
- Sub-topic B: Applicability of water quality standards.

*Ecology Response: The comments contained in Section I of the NWEA comment letter (through page 12) are general in nature and not specific to this permit. Ecology does not offer a response to these general critiques of Ecology's permitting program.*

**Comment #12.3 – Permit fails to comply with the Clean Water Act. (NWEA #1)**

Summary of comments:

- All current point source discharges of both nitrogen and toxics to Puget Sound, including from this permittee, are causing or contributing to violations of water quality standards in Puget Sound.
- Water quality standards are ignored or misrepresented for the following reasons:
  - Receiving water quality for the discharges is incorrectly described and ignored in determining the need for effluent limitations;
  - Ecology failed to establish effluent limits that will ensure the protection of designated uses;
  - Ecology failed to establish effluent limits that will ensure compliance with the numeric water quality criteria;
  - Ecology failed to establish effluent limits that will ensure compliance with the narrative water quality criteria;
  - Ecology failed to establish permit limits that will ensure compliance with the state antidegradation policy; and,
  - Ecology has failed to demonstrate the proposed permit and the proposed discharge comply with the requirements of AKART.
- The permit fails to ensure compliance with applicable Clean Water Act requirements.
- Ecology may not assume that background concentrations for chlorine, cyanide, pentachlorophenol, and selenium are zero.

- Ecology cannot issue a permit without completing a reasonable potential analysis, as it states it plans to do for the Georgetown CSO Treatment Plant.
- Ecology fails to explain what area around these discharges qualify as “background concentrations” for the purpose of evaluating reasonable potential that the discharges will cause or contribute to violations of water quality standards.

*Ecology Response: Most of the comments contained in Section II of the NWEA comment letter (through pages 13-17) were general in nature and not specific to this permit. Ecology does not offer a response to these general critiques of Ecology’s permitting program. With respect to the Georgetown CSO treatment plant, Ecology documented the basis for its permitting decision related to aquatic life toxicity on page 93 of the fact sheet and provided additional documentation in its response to comment #2.2. As this is a new facility, discharge data from facility operations are not currently available. However, the Ecology-approved engineering report for the facility analyzed the potential impacts of pollutants likely to be found in the discharge based on the anticipated treatment efficiency and dilution provided by the new outfall. The information in this approved document supports the initial decision to not include water quality-based limits in this permit. The permit also requires effluent characterization to validate the design assumptions.*

**Comment #12.4 – Pace of projects needed for compliance. (MWPAAC/KCRWQC, SPU #1)**

Summary of comments:

- Agree with the need for expenditures to make necessary facility improvements to meet permit compliance but concerned that low- to moderate-income households will struggle to keep up with steeply rising sewer bills.
- Accelerated spending on regional infrastructure will “crowd out” individual agencies’ ability to invest in the backlog of aging local sewer assets.
- Concern that the compressed timeline of facility improvements required for permit compliance will exacerbate the pattern of costly projects stacking up in a constrained period. This will put pressure on KC-WTD to delay critical asset management and capacity expansion projects; increasing the risk of infrastructure failures and capacity related overflows.
- Ecology should consider an adjusted timeline of required compliance for planning and construction of facility improvements needed to meet the revised TSS requirements, as well as focusing on the most significant sources of PFAS. This approach would be a prudent balance of the benefits and costs of compliance in this challenging time.

*Ecology Response: Thank you for your comment. Ecology appreciates the concerns expressed in these comments. However, as specified in WAC 173-220-140, compliance schedules in permits must establish timelines that ensure the permittee achieves compliance in the shortest reasonable time. King County is responsible for setting sewer rates and has the ability to provide relief to low- to moderate-income*

*households. King County also regularly is awarded grants and/or loans through state and federal sources to help pay for capital projects.*

**Comment #12.5 – Ecology must restrict future treatment technology or discharge methods for the West Point WWTP (Suquamish #1, Squaxin #2, WCA/DRCC #2)**

Summary of comments:

- The draft permit does not force actions necessary to address King County’s West Point WWTP and combined sewer overflow system’s long history of impairing water quality in Puget Sound.
- Ecology is obligated to issue permits with conditions that force dischargers to reduce pollutant loads through implementation of the best available technology.
- Any new expansion, discharge increase, or permit application must be thoroughly reviewed to identify alternatives to degrading water quality.
- Membrane technology is repeatedly overlooked as a viable and feasible alternative.
- West Point lacks some of the key features of the newest wastewater treatment facilities in Puget Sound, such as membrane bioreactors (MBR), “up-watershed” land application of reclaimed water, and reuse of reclaimed water.
- Ecology would be permitting further degradation of Puget Sound if it allows West Point to expand with current nutrient limits.
- Ecology needs to be clear that status quo facility expansions are not acceptable. Special Condition S4.B.b should state that the engineering design report must address all parameters in the individual permit and PSNGP. Special Condition S16 implies that Ecology can approve an increase in capacity, but should state explicitly that King County should not expect Ecology to approve increases in flows or loadings from West Point.

*Ecology Response: Ecology appreciates the concerns about future treatment at the West Point WWTP. Any future proposals KC-WTD submits to Ecology for new or expanded treatment facilities must demonstrate that the proposed treatment meets AKART and that the discharge will comply with applicable water quality standards. Chapter 90.48.110 RCW requires that all plans and proposed methods of operating and maintaining sewage treatment system be submitted to Ecology for review and approval. The statute also includes the standard that Ecology will not approve a proposal unless it is “satisfied that said plans and specifications and the methods of operation and maintenance submitted are adequate to protect the quality of the state's waters”. Ecology will continue to exercise its authority under the state’s Water Pollution Control Act as it pertains to future treatment.*

*Ecology cannot mandate that permittees use specific treatment technologies. Wastewater utilities may use any treatment technology or combination of technologies that they can demonstrate provides treatment that constitutes “all known, available, and reasonable methods of treatment” and the discharge will comply with applicable water quality standards. While Ecology recognizes the capabilities of membrane bioreactor technology and support its use where justified, we do not consider the*

*technology “reasonable” for all facilities, especially facilities treating wastewater from combined sewer systems. Alternative treatment methods are widely available to achieve similar effluent quality while maintaining resiliency to manage large fluctuations in wastewater influent flow rates. Other emerging technologies may also prove beneficial.*

**Comment #12.6 – Require meaningful Inflow and Infiltration (I/I) reduction. (Suquamish #6, PSA #7, WCA/DRCC #33)**

Summary of comments:

- Ecology has not addressed I/I in a meaningful way in the draft permit. The permit does not force actions that would reduce flows into the County’s West Point plant and CSO system that could reduce the severity and/or frequency of CSOs, SSOs, CSO treatment facility discharges, secondary treatment bypasses, and emergency bypasses.
- The permit needs a compliance schedule for completing a robust I/I removal program within the term of the permit. The commentor asserts that there are no inflow and infiltration requirements within the permit including assessment or metering which could be used as control for CSOs.
- WAC 173-245-040(2)(b) identifies I/I as the very first control alternative that “shall” be considered to achieve CSO control. There is little indication that King County has considered any meaningful I/I reduction measures and the permit fails to require King County to evaluate and implement I/I reductions and CSO control measures.
- Ecology should require the County to evaluate and provide a report regarding a plan to update its current service agreements with its contributing sewer agencies since the agreements do not currently restrict flows discharged to the County’s system. The report must discuss how the County will provide incentives for the contributing agencies to reduce flows through I/I control.
- Ecology should require a detailed I/I assessment in the permit, including metering of jurisdictions and incentives for I/I abatement plus video of pipe condition to support asset management.

*Ecology Response: Ecology appreciates the comments related to reducing inflow and infiltration (I/I). Special Condition S5.B requires KC-WTD to institute an adequate operations and maintenance program for the entire sewage system. Ecology considers managing I/I to be an integral part of any sewer system maintenance program. Additionally, Condition S5.E requires the County to prevent connection of inflow to their sanitary sewer system, such as from roof drains and foundation drains. Ecology also expects KC-WTD to evaluate the feasibility for managing flows through I/I reduction when planning for new treatment plants and CSO control facilities.*

*Since the majority of sewer lines that connect to KC-WTD’s treatment systems are owned and operated by the local agencies that contract with the KC-WTD for treatment, the most meaningful improvements occur when the local agencies address I/I. To assist with this effort, King County and the Metropolitan*

Water Pollution Abatement Advisory Committee developed an [Infiltration and Inflow Control Program](#) that provides local agencies with resources for finding and repairing their collection systems. These resources include a best management practices toolkit to assist the local agencies to develop and implement I/I abatement programs.

#### **Comment #12.7 – Addressing the effects of pathogens. (PSP #1)**

Summary of comments:

- The Action Agenda for Puget Sound includes strategies and actions for addressing pathogen pollution. These include controlling CSOs and accidental discharges of untreated sewage.
- The Puget Sound Partnership appreciates the renewed CSO conditions, including both technology-based and water quality-based requirements, in special condition S11 along with authorization of the new Georgetown CSO plant on the Duwamish River and scheduled improvements at the Elliott West CSO plant.
- The Partnership also recognizes the importance of the 2013 consent decree addressing CSOs and Ecology's 2021 Administrative Order addressing power-related disruptions at the West Point plant in comprehensively ensuring adequate treatment for pathogens.

*Ecology Response: Thank you for your comment. Ecology appreciates the Partnership's support.*

#### **Comment #12.8 – Operator in charge. (WCA/DRCC #41)**

Summary of comment:

- WCA/DRCC concurs with special condition S5.A requiring that the "... Permittee must notify Ecology when the operator in charge at the facility changes."

*Ecology Response: Thank you for your comment and support.*

#### **Comment #12.9 – Typographical error in S6.B. (WTD #22)**

Summary of comments:

- The pretreatment monitoring requirements in special condition S6.B.11 references a standard concentration of 30 ug/L – this reference should instead be 30 mg/L.

*Ecology Response: Thank you for your comment. Ecology edited this condition to remove the reference.*

#### **Comment #12.10 – Pretreatment General Requirements. (WCA/DRCC #43/44)**

Summary of comments:

- Special condition S6.A cites King County's 1996 ordinance amending its pretreatment program along with legal authorities, policies, procedures, and financial provisions described in the 1981

Industrial Pretreatment Program document approved by Ecology. King County and Ecology must revisit these documents to ensure modern approaches are used.

- Publishing a list of non-domestic users who were in significant noncompliance at least annually in the largest daily newspaper in the service area, as required by special condition S6.A.1.f, is no longer sufficient. Ecology should require King County to publish this information on the front page of the Wastewater Treatment Division's web page and leave it visible for five years.
- Concur with the requirement in special condition S6.A.1.j for King County to legally binding agreements with contributing jurisdictions.

*Ecology Response: King County regularly reviews and updates their pretreatment ordinances when necessary. Ecology last approved revisions to their pretreatment regulations in 2020. Please see the website for [King County's Industrial Waste Program](#) for more information about their current local regulations.*

*After the public comment period, Ecology identified that the draft permit's requirements related to review and redevelopment of local limits did not agree with federal standards. The final permit includes a revised special condition S6.D that more clearly describes expectations for periodic reviews and revisions to local limits.*

**Comment #12.11 – Pretreatment annual report. (WCA/DRCC #45/46)**

Summary of comments:

- Special condition S6.A.4 does not specify a due date for the pretreatment annual report.
- Special condition S6.A.4.c should also require reports of any issues in jurisdictions covered by MOUs developed according to S6.A.1.j.

*Ecology Response: Ecology did not change this permit condition. The end of the second paragraph in special condition S6.A.4 already identified the due date for all annual reports as "April 30<sup>th</sup> of each year". Table 2 (Summary of Permit Report Submittals) also lists this due date.*

*Ecology also did not add the requested requirement to include "reports of any issues in jurisdictions covered by MOUs" because the comment does not include any specific or enforceable definition with respect to the "issues" the commentor believes the County should report.*

**Comment #12.12 – Require annual report of CSOs and unpermitted discharges. (WCA/DRCC #30)**

Summary of comments:

- Ecology needs to add a provision that requires King County to compile an annual report with all CSOs and unpermitted discharges from the West Point facility and the CSO facilities, including the water bodies potentially impacted by those discharges.



*Ecology Response: The permit requires KC-WTD to submit annual CSO reports (special condition S11.D.b) and quarterly summaries of CSO treatment plant violations, sanitary sewer overflows, and dry weather overflows (special condition S3.F.e). All reports are available through Ecology's PARIS database.*

**Comment #12.13 – Permit must address environmental justice. (WCA/DRCC #31)**

Summary of comments:

- Given the passage of the HEAL Act and the goals outlined in Ecology's 2023 – 2025 Strategic Plan, this permit cycle must make environmental justice a direct and actionable component of the requirements under this permit.
- The permit should require King County to conduct an environmental justice assessment of the impacts Black, Indigenous, and other People of Color currently experience from both the West Point discharge and the combination of treated and untreated CSOs covered in this permit.
- Section II.B of the fact sheet does not include a complete description of the receiving waters because it does not describe who uses those waters or how they use the water. It does not describe treaty-protected resources.
- Ecology has new obligations under the HEAL Act and needs to center environmental justice throughout its operations, including in permits that are designed to achieve swimmable, fishable, and diggable waters for everyone in the State of Washington.

*Ecology Response: Thank you for your comment. Ecology agrees that environmental justice is a priority for the Agency. At this time, the significant agency actions subject to environmental justice assessments include rulemaking, new grant/loan programs, agency requested legislation and capital projects over \$12 million. Individual permits do not qualify for environmental justice assessments. If King County requests funding in excess of \$12 million from Ecology to fund a capital project, an environmental justice assessment of how black, indigenous and other people of color experience impacts from the facility's discharge will also be required.*

*Further, the PSNGP requires King County conduct an environmental justice review to identify communities of color, low-income populations, Tribes, and indigenous populations within the sewershed and conduct an affordability assessment to identify impacted populations with environmental justice considerations. Information collected by King County during this review will help the county determine what populations within the sewershed experience impacts resulting from the West Point WWTP discharge.*

**Comment #12.14 – Permit must address affordability. (WCA/DRCC #32)**

Summary of comments:

- King County cites costs as a reason for further delaying infrastructure projects. Other local jurisdictions, most notably the Lacey Olympia Tumwater and Thurston County sewage treatment system, have managed to both produce high-quality sewage effluent and address CSOs while also keeping rates affordable. Rate fights permeate the King County geography and lead to uncertainty in financing future infrastructure upgrades.
- Ecology should require King County to conduct a funding and finance evaluation for the total of its clean water obligations, including deep engagement and review by its local government customers.

*Ecology Response: Thank you for your comment. Ecology agrees that King County should focus on long term affordability. The PSNGP has a requirement to review current rate structures and identify alternatives for setting wastewater rates that consider long-term affordability and offset adverse effects to low-income households. This information, while gathered outside of this individual permit, will help King County develop programs that mitigate impacts to low-income households.*

**Comment #12.15 – Permit violates Tier I antidegradation. (PSA #4)**

Summary of comments:

- For waters that do not meet assigned criteria, or protect existing or designated uses, such as Puget Sound and the specific receiving waters impacted by the Permit (e.g., the Lower Duwamish River and Elliott Bay), Ecology must “take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards.”
- Ecology’s failure to regulate nutrients and control PCBs from West Point and the numerous CSOs violates these Tier I anti-degradation requirements.

*Ecology Response: Ecology documents compliance with Tier I antidegradation on page 62 of the fact sheet. Also see responses to comment #1.1 related to nutrients and comment #2.1 related to PCBs.*

**Comment #12.16 – Reopener clause. (NWEA #11)**

Summary of comments:

- The permit is flawed due to the lack of a reopener clause.

*Ecology Response: General condition G3 provides Ecology with clear authority to modify, revoke and reissue, or terminate the permit.*

**Comment #12.17 – History in fact sheet incomplete. (WCA/DRCC #50)**

Summary of comments:

- The fact sheet history on pages 11-12 does not discuss the July 2019 power failure at West Point that led to the discharge of inadequately treated sewage to Puget Sound. This event caused beach closures, shellfish closures, exposed people to sewage, and impacted a Tribal event.
- Ecology needs to add the stipulated penalties for CSO violations issued by Ecology in December 2022 as part of the historical context that should be part of the Administrative Record.

*Ecology Response: Thank you for your comment. A summary of the July 2019 power supply problem and associated enforcement action was inadvertently omitted from section II.G of the fact sheet. Appendix E lists violations of numeric effluent limits only.*

**Comment #12.18 – Fact sheet summary of receiving water data. (WCA/DRCC #51)**

Summary of comments:

- Receiving water quality data presented in the fact sheet are averaged over the entire water column. This is not appropriate for parameters such as dissolved oxygen, especially where the water quality standards specifically preclude averaging that would hide an impairment.
- Ecology should update the dissolved oxygen values in Tables 11, 13, and 15 to present the minimum values and not the water column average.
- The 90<sup>th</sup> percentile values are not appropriate for this parameter and should be interpreted as the 10<sup>th</sup> percentile to remain consistent with the intent of the other water quality parameters like metals. For dissolved oxygen, lower values are worse and these tables hide the problematic water quality.

*Ecology Response: Thank you for your comment. Ecology did not change the fact sheet since it provides a general overview of available ambient water quality data.*

**Comment #12.19 – Fact sheet typographical error. (WCA/DRCC #52)**

Summary of comments:

- Fact Sheet page 11, first paragraph contains a typographical error: "... two small community wastewater treatment plants....".

*Ecology Response: Ecology corrected the error.*

**Comment #12.20 – Table 2. (WTD #6)**

Summary of comments:

- Dates listed in Table 2 (Summary of permit report submittals) need to be adjusted.

*Ecology Response: Ecology originally placed dates in this table with the expectation of adjusting them as the permit's issuance date became clearer. The contents of this table have been updated based on the actual effective date.*

**Comment #12.21 – Appendix A. (WTD #36-38)**

Summary of comments:

- Please change "The method used produces measurable results in the sample and EPA has listed it as an EPA- approved method in 40 CFR Part 136." to "The method used is an EPA- approved method in 40 CFR Part 136 and either produces measurable results in the sample or has detection limits at or below the method listed in Appendix A."
- Please remove "influent" from the first sentence to acknowledge that Appendix A detection limits are not always achievable in influent samples.
- Add alternative methods for fluoride, total Kjeldahl nitrogen, dissolved hexavalent chromium, cyanide, and total phenols.
- Methylene chloride is the only volatile organic compound that specifies lower detection and quantitation limits than the current permit. The County requests adjustment of the detection and quantitation limits to 5 and 10, respectively.

*Ecology Response: Thank you for your comment. Ecology did not change Appendix A as requested since the original wording is appropriate.*

**Comment #12.22 – Fact sheet correction – Table 3 (industrial users list). (WTD #39)**

Summary of comments:

- Please add the name "Auto-Chlor System" to Table 3 as an SIU (it is also a categorical industrial user) with the following facility information: City - Seattle, Industrial Process - Detergent Manufacturing, Permitted Flow (gpd) - 2,500.

*Ecology Response: Thank you for the update. Ecology added this business to the industrial user list.*

**Comment #12.23 – Fact sheet edits related to sediment quality. (WTD #40, WTD #41)**

Summary of comments:

- Page 50, Section II.F.6, second to last sentence of paragraph: "The current Superfund investigations conducted for the remedial design of the upper reach of the Lower Duwamish Waterway (LDW) indicates the following contaminants of concern in the area near and downstream of the Norfolk outfall: total PCBs and benzoic acid. Arsenic, PAHs and dioxins/furans are not at levels of concern in this area." This text appears to be highlighting general contaminants of concern for the LDW as a whole not specific to the Norfolk area. Please

correct the list of contaminants of concern. The citation to support this is the *Pre-Design Investigation Data Evaluation Report for the Lower Duwamish Waterway-Upper Reach* (July 2022). The report can be found on <https://ldwg.org/project-library/> under Upper Reach Design folder.

- Fact Sheet, Page 50, Section 11.F.7: The information presented would benefit from the inclusion of the information concerning potential for other sources to affect the areas sampled. That information is presented in Table ES-1 of the SMP update referenced. As currently presented, it appears all chemicals come from the CSOs.

*Ecology Response: Thank you for your comment that provides additional context for the summary information in the fact sheet. Ecology generally does not change the fact sheet after public comment except to correct simple errors.*

### **13. Oral testimony**

Kamuron Gurol, Director of King County's Wastewater Treatment Division read a statement for the record during the May 9, 2023, public hearing. The following summarizes the statement. A full transcript of the statement is included with the written comments.

- King County works hard to improve the environment as the key to a healthy and thriving Puget Sound region. Their stated mission is to protect public health and the environment by collecting and cleaning wastewater while recovering valuable resources for healthy Puget Sound.
- They continue to make major long-term investments to the region's wastewater system to serve the region's needs for decades to come. They are upgrading existing infrastructure and building new infrastructure to prepare for climate change. The County plans to invest a projected \$7 billion over the next 10 years to improve water quality, reduce the likelihood and severity of overflow events and meet state and federal regulatory requirements.
- It is their responsibility to also be good financial stewards of ratepayer dollars and invest in ways that are cost effective, maximize tangible environmental benefits and address rising sewer rates. The affordability of sewer rates remains a major challenge, especially for the many under resourced communities that they serve within their service area. They think they need to work together with their state and federal regulatory partners to both protect water quality and address these high costs.
- There are several aspects of the public review draft West Point NPDES permit that they think will perpetuate and, in some cases, exacerbate the current pattern of high-cost projects stacking in the same time period.
- One example is the new total suspended solids requirement that they're worried could cost in the hundreds of millions of dollars while addressing less than 1% of all the solids managed at West Point.

- Another example is requirements for the Elliott West facility that exacerbate the stacking problem by adding hundreds of millions of dollars in cost on top of other large capital program costs.
- King County will submit a full comment letter to address these points and several other points. They urge Ecology to work with them to prioritize investments that achieve the best water quality outcomes and that reflect a real understanding of the significant financial effects on ratepayer households.

*Ecology Response: Since KC-WTD submitted a full comment letter that generally duplicates and expands on these comments, Ecology is not specifically responding to this testimony. We believe that responses to the written comments adequately address these comments.*

### **Submitted Comments**

The following pages include annotated copies of each comment letter received by Ecology during the public comment period. The annotations identify the text associated with the comments summarized in the previous pages.

## **G.1. King County Wastewater Treatment Director Testimony**



**Transcription of oral testimony from Kamuron Gurol from the May 9, 2023, public hearing on the draft West Point WWTP permit.**

Good evening and thank you for the opportunity to comment. My name is Kamuron Gurol. I serve as the Director of the King County Wastewater Treatment division in the Department of Natural Resources and Parks. We do appreciate Ecology's work on the draft permit. My comments tonight include four main points.

First, King County works hard every day to improve our environment as the key to a healthy and thriving Puget Sound region. Alongside other efforts, our region's wastewater treatment system plays a critical role in protecting water quality. In fact, our stated mission is to protect public health and the environment by collecting and cleaning wastewater while recovering valuable resources for healthy Puget Sound. We provide this essential service 24/7/365 as was said to nearly 2 million people in King County and portions of Snohomish and Pierce County.

Second, we continue to make major long-term investments to our region's wastewater system to serve our region's needs for decades to come. We're upgrading existing infrastructure by replacing and repairing pumps, pipes and other equipment, some of which may have date back more than 60 years. We're also building new infrastructure to prepare for climate change, address sea level rise, and reduce sources of pollution in our waterways. All these investments, a projected \$7 billion over the next 10 years, will improve water quality, reduce the likelihood and severity of overflow events and we believe meet state and federal regulatory requirements. Primary drivers of those investments are maintaining and repairing those aging assets, meeting contractual demands for capacity to accommodate growth, and the largest driver. By far is meeting regulatory requirements like this NPDES permit. Unfortunately, the projects for all these drivers are not staggered out overtime. Instead, they are stacked in time, meaning that our annual capital program expected expenditures, already the biggest in King County, are projected to not just double, but actually quadruple in the coming 10 years.

[Note: A discussion between the hearings officer and speaker related to the amount of time for the comment was omitted from this transcript].

So third, it is our responsibility to also be good financial stewards of ratepayer dollars and invest in ways that are cost effective, maximize tangible environmental benefits and address rising sewer rates. I want to remind folks that ratepayers are the ones who are paying the cost for these projects. The affordability of sewer rates remains a major challenge, especially for the many under resourced communities that we serve within our service area. We very much appreciate state and federal partners providing low interest loans that help us to reduce power and costs. But the truth is that the burden for those costs, whether it's today paying by cash or overtime, paying with Lended loan resources, continues to fall directly upon ratepayers, including those with the least ability to pay. We think we need to work together with our state and federal regulatory partners to both protect water quality and address these high costs.

Fourth and final point is that there are several aspects of the public review draft West Point NPDES permit that we think will perpetuate and, in some cases, exacerbate the current pattern of high cost projects stacking in the same time period. And they also appear to have either low or uncertain benefit. Two example concerns include the new total suspended solids requirement that we're worried could cost in the hundreds of millions of dollars while addressing less than 1% of all the solids managed at West Point. And the second example is requirements for the Elliott West facility, as Mr. McKone noted, that exacerbate the stacking problem I described earlier by adding hundreds of millions of dollars in cost, and we're also undertaking large capital program for many of the other reasons, the other drivers, including other regulatory drivers. And that the requirements for Elliott West look to be adding perhaps as much as \$50 million of additional cost on top of that cost estimate, while we're concerned again having modest environmental or water quality benefits.

We will submit a full comment letter that addresses these points and several others, and as I've said, King County remains committed to protecting the environment, including making significant investments, \$7 billion as I mentioned, to protect water quality. We're projecting rising sewer rates above what is already unaffordable to as much as 20% of ratepayer households using the US EPA affordability standards. These are real families that will have to make real choices, rent, and heat and food and healthcare and other costs. And we're concerned that these new requirements will mean that needed capital projects to that otherwise would get done, might get delayed or even canceled. And that the burden on ratepayers will become impossibly high. We urge Ecology to work with us to prioritize investments that achieve the best water quality outcomes and that reflect a real understanding of the significant financial effects on ratepayer households. I want to reiterate my thanks to the Ecology staff for the hard work that you do every day to protect the environment and to work with us here at King County WTD. We very much appreciate the opportunity to offer comment on this draft permit and we would continue to welcome opportunities to work with you on the West Point permit to ensure that it does a great job for the environment and is affordable for our ratepayers.

Thank you, that concludes my comments.

## **G.2. King County Wastewater Treatment Division Comments**



## King County

Department of Natural Resources and Parks

### Wastewater Treatment Division

King Street Center, KSC-NR-5501  
201 South Jackson Street  
Seattle, WA 98104-3855

July 7, 2023

#### SUBMITTED VIA ONLINE COMMENT FORM

Sean Wilson, P.E.  
Senior Facility Management Engineer  
Washington State Department of Ecology  
Northwest Regional Office  
P.O. Box 330316  
Shoreline, WA 98133-9716

RE: Comments on the Draft National Pollutant Discharge Elimination System Permit for the West Point Wastewater Treatment Plant and Combined Sewer Overflow System (WA0029181)

Dear Mr. Wilson:

Thank you for the opportunity to offer comments on the Department of Ecology's (Ecology) public review draft National Pollutant Discharge Elimination System (NPDES) permit for the West Point Wastewater Treatment Plant and Combined Sewer Overflow (CSO) System (WA0029181). This letter requests Ecology's reconsideration of several proposed permit requirements. We believe these changes will achieve the best outcomes for water quality.

The King County Wastewater Treatment Division is proud of our role in protecting public health and the environment while creating valuable resources from wastewater. Our facilities that convey, treat and discharge cleaned wastewater within the West Point service area are the largest in Washington State, and among the largest and most complex of similar systems in the country. We look forward to continuing to work with Ecology, our local city and district partners, our customers, and many others in our region to continue improving water quality in Puget Sound.

Managing the County's wastewater utility consistent with the NPDES permit is a mission-critical objective to our work across our operations, planning, and capital delivery programs and functions. We offer these comments in the spirit that collaborative development of the NPDES permit will lead to optimized and reliable water quality outcomes and best serve the public interest. Attachment one summarizes our comments on several proposed permit requirements, including concerns about:

- More restrictive performance conditions for CSO wet weather treatment that have uncertain or hard to verify water quality benefits.

Sean Wilson, King County - Comments on Draft NPDES Permit for West Point Treatment Plant  
July 7, 2023  
Page 2

- Further accelerating the capital project already underway at the Elliott West CSO facility and exacerbating an already challenging capital program driven largely by regulatory requirements.
- Proposed highly ambitious schedules and conditions for our industrial waste program regarding source control for the emerging per- and polyfluoroalkyl substances (PFAS) chemicals.
- A new pollution prevention program for the CSO system that places duties on King County that we lack authority to implement.

Attachment two provides detailed comments on these issues and other specific permit conditions in tabular format. Thank you for your review and serious consideration of these comments and concerns. We ask that Ecology modify the final NPDES permit accordingly.

If you have any questions, please contact me at 206-549-1190 or by email at [kgurol@kingcounty.gov](mailto:kgurol@kingcounty.gov)

Sincerely,

DocuSigned by:  


6F7ECDE169354C2...  
Kamuron Gurol, Division Director  
Wastewater Treatment Division

Attachments:

- (1) Summary of Comments – Draft West Point Wastewater Treatment Plant NPDES Permit
- (2) Tabulated Detailed Comments – Draft West Point Wastewater Treatment Plant NPDES Permit

cc: Rachel McCrea, Water Quality Section Manager, Department of Ecology, Northwest Regional Office (NWRO)  
Shawn McKone, Municipal Unit Supervisor, Department of Ecology, NWRO  
Bruce Kessler, Deputy Division Director, Wastewater Treatment Division (WTD), Department of Natural Resources and Parks (DNRP)  
Rebecca Singer, Operations Manager, WTD, DNRP  
Tom Bauer, West Point Wastewater Treatment Plant Manager, WTD, DNRP  
Chapin Brackett, Asst. Manager – Process & Environmental Compliance, WTD, DNRP  
Jeff Lafer, NPDES Permit Administrator, WTD, DNRP  
Verna Bromley, Senior Deputy Prosecuting Attorney, King County Prosecuting Attorney's Office, Civil Division

King County Department of Natural Resources and Parks  
Wastewater Treatment Division

Attachment #1

Summary Comments (July 7, 2023) –  
Draft West Point Wastewater Treatment Plant NPDES Permit (WA0029181)

1. **S1.B – New and more restrictive effluent limits for West Point and the CSO wet weather treatment stations.** WTD has identified potential concerns with several new permit requirements for the County’s wet weather treatment stations (WWTS) including the new monitoring protocols for total residual chlorine (TRC), a new more stringent TRC effluent limit for the Elliott West WWTS, and new procedures for assessing total suspended solid (TSS) removal efficiency. Some of the new requirements represent potentially significant changes compared to the operational objectives that the County’s existing WWTS facilities were previously designed, approved, and constructed to meet. Therefore, they likely will require considerable resources to effectively evaluate, manage, and implement alternative operations or facility modifications.

The new TRC monitoring procedures appear to affect compliance performance at our treatment facilities that use chlorine-based disinfection, and the new TRC effluent limit for the Elliott West WWTS is significantly lower than the current limit. The Elliott West facility historically encounters challenging operational conditions and non-compliance with the existing TRC effluent limit. Thus, the new standard could cause the facility to more frequently exceed the new lower effluent limit. The changes also could exacerbate non-compliance with a lower pH effluent limit that can occur with the use of sodium bisulfite for dechlorination.

In our detailed comments, WTD requests Ecology’s consideration of modified TRC monitoring protocols and an allowance to modify the acute mixing zone for the Elliott West outfall based on the changed conditions. A modified mixing zone is technically appropriate, and the resulting changes to effluent limits would be consistent with the discharge and receiving water environment. The accommodation will partially reduce WTD’s concerns with the adverse effects of the new requirements on our programs. Moreover, we are currently underway with a project for the Elliott West facility (described below under permit condition S15.A) to improve the disinfection process operations and potentially improve the existing marine outfall. Thus, we request an appropriate compliance time schedule to address development and implementation of compliance measures for any new TRC effluent limits and exacerbation of pH compliance conditions. These allowances will directly support the overall compliance schedule justifications for the Elliott West project schedule concerns outlined below regarding permit condition S15.A.

The revised TSS removal efficiency monitoring protocols and requirements represent several broad changes compared to existing WWTS operational objectives during CSO-related flow events that partially rely on detaining, storing, and returning solids to the West Point treatment plant. WTD has insufficient data with which to fully assess the effects of these proposed permit requirements on future compliance, as they are different than the existing operating conditions and original facility design criteria. Additionally, both the Elliott West and Alki WWTS facilities experience conditions where achieving routine compliance with the TSS removal effluent limit is challenging. Therefore, these two facilities will have an increased likelihood of exceedances under the new requirements. Thus, the County is requesting a compliance time schedule to evaluate the performance of the WWTS facilities, and if needed to plan facility improvements necessary to achieve compliance. Addressing any needs for improvements at Alki could involve substantial new planning and capital improvements depending on the magnitude of any deficiencies identified. We also note that the combined annual average quantity of TSS managed by all five existing County WWTS facilities is a tiny fraction (<1%) of the total amount conveyed to West Point. The new TSS removal requirements could involve operational and capital improvement costs that far outweigh the likely benefits.

WTD #11

Overall, with respect to the new TRC and TSS removal efficiency requirements, WTD believes it is imperative that new and broad changes to permit approaches, effluent limits, and monitoring requirements should include review and deliberation in their development. The County requests that Ecology consider all available permitting approaches such as compliance time schedules, interim measures, data collection and special studies, adaptive project planning and implementation provisions, and further evaluation in developing effective and appropriate final requirements.

WTD #2

2. **S6.E – Identification and Control of Per- and Polyfluoroalkyl (PFAS) Discharges.**

The draft permit includes a new requirement, and extremely ambitious schedule (about two years), for WTD's industrial waste pretreatment program to develop and implement a plan to identify "all possible" industrial sources of PFAS in the service area and begin implementing control mechanisms for industrial customers. While we strongly support work to evaluate PFAS and other contaminants entering our system that may adversely affect public health and the environment, we are concerned that including such ambitious and broad-based requirements prior to a state and/or federal regulatory framework risks adding unnecessary cost and inefficiency. At present, the necessary information for utilities to adequately address PFAS concerns is lacking in the areas of risk analysis methodologies, laboratory protocols and capacity, available and cost-effective PFAS treatment or destruction technology, guidance for source control, and additional resources for regulated clean water utilities.

WTD #3

Even with these uncertainties, King County is currently identifying sources of PFAS across our system, developing a conceptual model of the sewer-shed, and surveying available wastewater treatment technologies. WTD is also committed to voluntarily sampling influent, effluent, biosolids, and landfill leachate at our three regional treatment plants and in our service area, respectively, thereby already undertaking the proposed

WTD #3

requirement to conduct influent only sampling, as a permit condition, at West Point WWTP. An initial assessment of potential PFAS sources in King County's service area indicates domestic sources are likely larger than industrial sources, and thus public education and other source control methods may be the most effective strategies in the future. Consequently, WTD would appreciate revisions to the proposed requirements that complement these voluntary efforts, and don't cost ratepayers more than necessary. Finally, with over 70,000 potential commercial businesses in the service area, WTD recommends that a reasonable timeframe of four years be provided to complete the S6.E requirements.

WTD #4

3. **S11.B(7) – Nine Minimum Controls for the CSO System.** The proposed modifications to the S11.B(7) condition build upon, and provide expanded requirements for, "pollution prevention" activities that currently exist and are being implemented under the current NPDES permit. However, as proposed, the provision broadly outlines new requirements for the County to develop and implement additional "pollution prevention program" measures. The provision would have the County lead and implement new stormwater best management practice, and stormwater and wastewater conveyance system inspection and cleaning activities, on private and public properties where the County has no jurisdiction and cannot readily obtain such authority under state law. Many of the activities outlined for this provision would occur in facilities and locations owned by or under the City of Seattle's jurisdiction. Consequently, WTD requests that the requirement be revised to include an initial task to develop the plan that appropriately identifies, shares and focuses the pollution prevention activities between jurisdictional agencies in the service area consistent with each of their responsibilities and authorities, and include an appropriate time schedule of no less than three years to develop the plan.

WTD #5

4. **S15.A – Elliott West CSO Treatment Plant Improvements (Compliance Schedule).** WTD appreciates its responsibility to develop and implement improvements to increase treatment performance of the Elliott West WWTS facility. The Elliott West facility was designed in the late 1990's and became operational in 2005. The combined conveyance, storage tunnel, and physical/chemical treatment processes for the Elliott West project have functioned to substantially reduce the discharge of untreated wastewater into Elliott Bay and bring a large CSO basin to near compliance with the CSO policy overflow performance standard. Currently, the County has completed an alternatives analysis, and is underway with the design process to resolve performance deficiencies of the facility.

In developing the proposed permit requirements, WTD appreciates Ecology's consideration of the County's proposed capital delivery and schedule milestones that we provided for the Elliott West project. However, the draft NPDES permit includes two project milestones, and a project completion goal by the end of 2031, that are unreasonable in light of technical and economic conditions and uncertainties existing at this time. WTD believes the continued development of the project requires additional flexibility to accommodate the many uncertainties that lie ahead, not least of which is the efficient delivery capacity for the other remaining CSO control projects yet to be developed and implemented along with our other ongoing capacity improvement and



**WTD #5**

asset management obligations. Additionally, other factors could affect the Elliott West project schedule including other regulatory projects such as nutrient controls for the Puget Sound Nutrient General Permit, and the ongoing concerns with labor and supply chain constraints in the local, national and global markets. Therefore, WTD requests Ecology's consideration to adjust the final bidding milestone schedule proposed within this permit cycle and allow the County to instead define the final project completion schedule as a component of the next permit renewal process.

King County Department of Natural Resources and Parks  
Wastewater Treatment Division

Attachment #2

Tabulated Detailed Comments (July 7, 2023) –  
Draft West Point Wastewater Treatment Plant NPDES Permit (WA0029181)

**COMMENTS ON DRAFT NPDES PERMIT**

**WTD #6**

**Permit, Page 7, Table 2 (Summary of Permit Report Submittals):** Note that several conditions/deliverables listed in Table 2 are stated with due dates occurring in 2023 prior to adoption of the permit. These dates need to be adjusted in the final NPDES permit to include a sufficient/reasonable duration for completion after the permit effective date.

**WTD #7**

**Permit, Page 7, Table 2 (Summary of Permit Report Submittals), A4 (Annual DMR) and Page 25, S3.A.4(c):** The proposed recurring due date of January 15th for submittal of the annual DMR is a change from the current permit date of July 31st, and is very close (only 15 days) to the end of the year and is challenging to achieve given the time to compile laboratory analytical reports and other relevant information and prepare the report. The County requests a March 15th deadline for Annual Reports to provide sufficient time to prepare the report, and to be consistent and efficient in preparing other reports that utilize the compiled laboratory information such as the pretreatment report.

**Permit, Page 7, Table 2 (Summary of Permit Report Submittals), A4 (Semiannual DMR) and Page 25, S3.A.4(d):** The County requests the January 15th due date be changed to March 15th and September 15th to provide sufficient time to prepare the semi-annual reports.

**WTD #6a**

**Permit, Page 7, Table 2 (Summary of Permit Report Submittals), S6.E(1) (Updated Industrial User Inventory – PFAS):** Table 2 identifies a date of April 30, 2024 for completion of the industrial user survey and is inconsistent with the S6.E(1) condition stated on p.43. However, please see the County's detailed comment to condition S6.E(1) below and request to extend this due date to April 30, 2027. Also, Table 2 should include conditions S6.E(2) and S6.E(3) - and please note our request to extend the due date for both tasks to July 31, 2027.

**WTD #6**

**Permit, Page 7, Table 2 (Summary of Permit Report Submittals), S9.B:** Table 2 identifies a date of Dec. 31, 2026 which is inconsistent with the permit condition of Feb. 15, 2027 (p. 45); also please see the detailed comment below for S9.B requesting an extension of this date to October 2027.

**Permit, Page 7, Table 2 (Summary of Permit Report Submittals), S11.F:** Table 2 identifies a date of Dec. 31, 2026 which is inconsistent with the permit condition text of Dec. 31, 2027 (p. 55) which is the latter date that the County prefers.

**Permit, Page 7, Table 2 (Summary of Permit Report Submittals), S12:** Please adjust the submittal due date for the CSO outfall sampling and quality assurance plan to no sooner than 3 months after issuance of the permit.

**Permit, Page 8, Table 2 (Summary of Permit Report Submittals), S15.A:** Table 2 identifies submittal due dates for the Elliott West compliance schedule that are inconsistent with the permit

condition. Additionally, please see the County's detailed comment to condition S15.A below and request to modify milestones and due dates in Table 36.

**Permit, Page 10, S1.B., Table 5 (Effluent Limits: Elliott West CSO Treatment Plant):** Under the proposed draft NPDES permit, the dilution ratio for Elliott West discharges to Elliott Bay (based on a current peak steady-state facility discharge capacity of 244 mgd) is substantially reduced from 8.4:1 to 2.6:1 due to Ecology's modified dilution modeling requirements. Consequently, the proposed revised total residual chlorine (TRC) maximum daily effluent limit (MDEL) of 33.8 ug/L is considerably lower than the current 109 ug/L limit. The reduced TRC effluent limit is a concern because the Elliott West facility currently exhibits hydraulic and equipment performance conditions that make it difficult to reduce TRC to remain in compliance with the existing effluent limit. As operations of the current Elliott West facility are expected to more frequently violate the proposed effluent limit, the County requests that an interim performance-based TRC effluent limit be issued for Elliott West.

There are no technologies, facility improvements, or operational changes that can be immediately implemented to improve the disinfection and dichlorination processes to achieve routine compliance with the proposed TRC effluent limit. Additionally, the currently installed automated chlorine analyzer has a lower limit of quantitation of approximately 50 ug/L. Therefore, monitoring of Elliott West WWTS's operations will not be available to immediately quantify on a reliable basis whether the final effluent TRC concentrations are in compliance with the effluent limit. The County's estimated timeframe for reconfiguration of analyzer equipment, and implementation of supporting equipment such as a dedicated chlorine-free water system for the analyzer to be capable of monitoring for a lower range of TRC concentrations under the draft permit is September 2025. An uncertainty that would contribute to the implementation schedule is whether a secondary/backup analyzer would be required to quantify elevated ranges of TRC concentrations that exceed the new lower effluent limit and modified performance of the existing analyzer.

Current operations can result in exceedances of the lower pH (6.0) effluent limit due to the low alkalinity content in CSO flows and the use of sodium bisulfite (SBS) for dechlorination and reduction of TRC levels in the final effluent. Operations will need to increase the use of SBS to achieve the proposed lower TRC limit and this is expected to increase the frequency of exceeding the lower pH effluent limit at Elliott West.

Therefore, to accommodate the additional potential for non-compliance with the permit that is beyond the County's ability to immediately resolve, the County requests that an interim performance-based TRC effluent limit be issued for Elliott West (Table 5 of the permit) until the Elliott West facility improvements project is completed and operational. Accordingly, the County also requests that the permit include a provision for interim performance limit and time schedule that recognizes the additional and unavoidable exceedances of the pH effluent limit that will occur as a result of modified chemical SBS dosing operations needed to achieve compliance with the new TRC effluent limit. Please also note that this compliance schedule request is a related

WTD #1

and necessary supporting element of the County's comments and requests for additional consideration of the proposed compliance schedule for the Elliott West capital improvement project that is outlined under Special Condition S15.A.

Based on the demonstrated challenges of the Elliott West facility operations to meet the current effluent limits, and reasonable expectation that the current facility would more frequently exceed the future final TRC effluent limit (as well as potential future facility improvements), the County also requests that Ecology grant an exception to the acute mixing zone size as allowed and conditioned by state regulations (WAC 173-201A-400[12], [13], and [14]). Under the current critical conditions identified for the discharge, the mixing analysis calculated a dilution of 2.6:1 (at the acute mixing zone boundary 26 ft from the discharge). At this distance from the outfall, the discharge plume is above the seafloor with a horizontal velocity of 1.13 m/s or 3.7 ft/s and a diameter of 18.8 ft. Additionally, the discharge plume speed exceeds 0.8 m/s or 2.6 ft/s until it reaches the surface 70 ft from the discharge. These plume velocities are sufficient to prevent aquatic pelagic organisms from remaining within the discharge for durations longer than a few minutes. Given the inability for aquatic organisms to be exposed to the diluted effluent at the calculated concentrations for the one-hour period associated with acute water quality standards, there will be no adverse impact to an increased acute mixing zone size. Therefore, the County requests Ecology revise the acute mixing zone size to a distance of 70 ft from the discharge point and utilize the corresponding 7.8:1 dilution in the reasonable potential analysis and derivation of effluent limits based on acute water quality standards.

**WTD #9**

The request to modify the mixing zone is a reasonable and practical approach that would facilitate the County's cost-efficient planning and design of the facility improvements and is consistent with the regulatory considerations of WAC 173-201A-400(12), (13), and (14) for mixing zone authorizations. While the County acknowledges treatment performance deficiencies have developed over the years, the County believes AKART appropriate to the discharge is being fully applied, as recognized by Ecology for the design of the existing Elliott West facility and prior regulatory requirements. The County's current planning and design also includes state-of-the-science treatment technologies to address the challenging hydraulic and water quality conditions that are recognized with flows reaching the Elliott West facility. Prior to the publication of the draft NPDES permit, the alternatives analysis for the Elliott West project identified optional strategies for improvement of a chlorine-based disinfection process including high-rate clarification technologies, and modified approaches to treatment flow and process control via Mercer Tunnel equalization and pumping operations. The County also investigated optional outfall diffuser improvements; however, modeling analyses to date indicate that improving dispersion and mixing of the outfall discharges would be significantly more challenging than anticipated and thus considered a lower priority option for consideration in the project. However, the proposed new NPDES permit requirements would necessitate the consideration of additional enhanced treatment strategies for the project such as changing from chlorine- to ultraviolet light-based disinfection and re-evaluation of outfall diffuser modifications. These additional considerations could increase the capital project budget by up to about 25 percent (i.e., an

WTD #9

additional ~\$100 million) or more if upgrades to the facility pumping systems would be required, or if upgrades to the outfall diffuser are necessary. The County believes that these substantive additional facility upgrades to meet the new permit requirements would certainly be of marginal reasonable value in an AKART evaluation of the alternatives, compared to a relatively small expansion of a mixing zone. Therefore, the County's analyses to-date indicate that all siting, technological, and managerial options which would result in full or significantly closer compliance that are economically achievable are being utilized through the County's ongoing planning and design process. Furthermore, the proposed mixing zone increase would only incrementally change the influence of the Elliott West facility discharge to Elliott Bay and is expected to result in greater protection to existing and characteristic uses through improved compliance with the pH effluent limit (if chlorine were to remain the preferred disinfection method). Therefore, the proposed mixing zone exception would be consistent with subsection (4) of WAC 173-201A-400 regarding the effects of the discharge and protections necessary for the ecosystem, habitat, characteristic uses, and public health.

WTD #10

The issue of the increased rate of apparent non-compliance for the intermittent WWTS discharges due to data averaging, or reduction in dilution based on revised steady state critical flows modeling, also could potentially be addressed by considering flow-adjusted (dynamic) effluent limits as described in Chapter 6, section 3.3.17 of the Permit Writers Manual. The manual notes that dynamic limits are often complex to determine and assess for compliance, in which case permit writers are directed to consider compliance schedules for the static water quality-based limits. The manual also notes that dynamic limits are assumed to be less stringent than static limits, but real applications have demonstrated otherwise. In the case of the Elliott West facility discharge with its marine receiving water conditions, dynamic effluent limits may be an appropriate option to better reflect the actual effects of the discharge and be more easily assessed than for discharges into rivers with seasonal flows. Consequently, the County requests that the permit also consider provisions for the interim measures of a compliance schedule to include the allowance for the County to develop and submit a plan within four years of permit issuance for evaluation of the preferred effluent limit derivation methods most suitable for the Elliott West capital project facility design.

WTD #11

**Permit: Page 10, Table 10-Footnotes for tables 5-9 (S1.B, Effluent limits for CSO Treatment Plants); and Page 22, Table 28-Footnotes for Tables 24-27 (S2.B, Monitoring Schedule—CSO Treatment Plants: Elliott West, Henderson/MLK, Carkeek, Alki, and Georgetown); and Page 60-61, Fact Sheet:** The draft NPDES permit proposes to modify conditions of the current permit for both the effluent limit and monitoring protocols that pertain to assessing compliance of total suspended solids (TSS) removal efficiency at the County's five WWTS facility discharges during CSO treatment events. The draft permit can be characterized as including three new sets of substantive conditions that re-define the TSS removal compliance assessment procedures, as follows:

1. First, the draft permit proposes the TSS removal efficiency to be based on TSS concentration and thus deviates from the current permit that uses mass-based methods for this assessment.

Table 10 (footnote “b”) contains a new condition that TSS removal efficiency will be assessed based on the data collected only on days of CSO events when both inflow to, and discharge from, the WWTS occurs. Table 28 (footnotes “d” and “j”) prescribe that flow-proportional composite sampling shall occur over the duration of the inflow and discharge event on a daily basis. The Fact Sheet (p. 60, 3rd paragraph) describes that continuation of a mass-based monitoring and assessment method for TSS removal was considered but rejected since state and federal regulations generally refer to concentration when defining percent reduction of pollutants.

2. Second, Table 10 (footnote “b”) defines a restriction that the effluent limit is to be assessed based only on the annual average concentration of TSS removed during “discharge events” (emphasis added), and that monitoring must demonstrate that each WWTS removes at least 50% of the average TSS prior to discharge (emphasis added). Additionally, Table 28 (footnote “k”) requires TSS removal efficiency to be assessed with monitoring data collected only on days when a WWTS receives inflow and discharges treated effluent to the facility’s marine outfall. These conditions mean that TSS captured at a WWTS and conveyed to West Point during a day with only inflow (i.e., filling period of the WWTS), or on days after the storm recedes and the treated discharge period has stopped (i.e., draining period), would not be included in the TSS removal efficiency calculation. The Fact Sheet (p. 60, 2nd paragraph) further describes that TSS captured and removed at a WWTS during a CSO event that does not result in a treated discharge (i.e., referred to as a “storage-only” event) also will not be included in the assessment.

3. Third, the draft NPDES permit (Fact Sheet, p. 60, 2nd paragraph) eliminates a condition of the current permit that required the TSS removal efficiency calculation for each CSO event of a WWTS to also include the removal occurring at West Point of the TSS captured at each WWTS site and conveyed to West Point. The County agrees with Ecology’s rationale for this change because it eliminates the compliance of TSS removal determined for the CSO flows at a WWTS site being partially dependent on removal that occurs at the entirely separate (“offsite”) West Point facility. The current permit is inconsistent with the effluent limit of at least 50% removal (and Washington’s underlying regulations) because the compliance dependency on West Point performance means that each WWTS must exceed 50% on average by the extra amount of TSS discharged from West Point. The change also is consistent with the Clean Water Act and associated regulations governing reissuance of altered permit conditions because, as noted by Ecology in the Fact Sheet, it corrects an error in the interpretation of state standards.

The County has questions and concerns with the two substantive issues listed above (#1 and #2) in that some of the conditions are entirely new, and there also is a general lack of available data and information, and limited time within this brief NPDES permit renewal process, to determine with certainty the ability of the County’s existing WWTS facilities to achieve and maintain compliance in the future. The County recognizes that Ecology’s analysis of existing data presented in Appendix E (p. 156-157) may represent a coarse estimation of compliance under the proposed permit requirements. However, the County believes that the proposed conditions alternatively could be interpreted to meaningfully vary from relevant federal (40 CFR Part 122)

and state (Chapter 173-245 WAC) regulations, given that existing guidance for the “permitting policy” for CSO treatment articulated in the Criteria for Sewage Works Design (“Orange Book”, C3-3.3.1) specifically aligns with the current NPDES permit framework of conditions.

With respect to second concern above, the County believes the general deviation of the proposed requirements from the current mass-based regulatory framework needs careful consideration, given the potential consequences for the County’s programs and impact on the interpretation of conditions that would be required to support the proposed changes. The existing WWTS facilities include a variety of flow detention and attenuation features (tankage, tunnels), pumping systems, and treatment process control strategies to hydraulically capture and detain (or “store”) flows and solids during each unique storm and CSO flow event. The WWTS “storage” functions are important for the capacity to return captured TSS to West Point and achieve other CSO treatment objectives and hydraulic control of the untreated CSO outfall(s) associated with the CSO site(s) to meet the state’s CSO performance standard of one overflow per year, on average. By limiting the assessment of TSS removal to only days when the WWTS has both inflow and discharges to the outfall, only a limited amount of solids capture occurring during a CSO event is included when, in fact, there may be substantial additional solids capture and return to West Point during the facility’s filling and draining periods as well as storage-only events. Consequently, storage processes are as critical for facilitating TSS compliance based on mass as other treatment processes (e.g., screening, disinfection) are important to other treatment objectives.

The Fact Sheet describes that the proposed permit changes regarding TSS removal through storage and at West Point are based on the Chapter 173-245 WAC regulations for “at-site” treatment that don’t provide “...a basis to allow a credit for solids removed through treatment at another location...”. However, the County is concerned that the proposed specific restrictions on storage in the effluent limit and monitoring protocols would be inconsistent with WAC 173-245-020(16) that defines primary treatment as “...any process [emphasis added] that removes at least 50% of the total suspended solids from the waste stream...” of a CSO site. While the County agrees that West Point is an offsite location for the purposes of the regulations, the storage features and functions in question are integrated in facilitating TSS removal from flows associated with each CSO site. Moreover, as noted above, the Orange Book (C3-3.3) specifically outlines that TSS removal efficiency is accomplished and assessed by methods consistent with the existing permit including the use of “combinations of storage and treatment” (C3-3.3), and compliance based on an annual mass balance approach (C3-3.3.1). Thus, regarding the County’s requests below for further deliberation on optional TSS removal efficiency protocols, the allowance of storage processes should be considered in any modifications to a mass-based TSS removal assessment approach because of the central role storage has in solids capture and removal at some of the County’s existing WWTS treatment facilities.

With respect to the first concern above, the County believes that the proposed change to evaluate TSS removal efficiency based on the annual average TSS concentration basis may likely be a less accurate and representative method of evaluating WWTS facility performance than

mass-based monitoring. WTD also is uncertain that existing WWTS operational data are suitable or sufficient to assess the effects of the proposed permit requirements on future compliance, as there are design and operational features of each facility that may vary considerably from the proposed requirements. For example, there are multiple inflow points to the Elliott West facility that lack an independent monitoring location; thus, upon permit issuance it will not be possible to immediately and directly monitor influent concentrations. Additionally, both the Elliott West and Alki WWTS facilities periodically encounter conditions where achieving compliance with the annual TSS removal effluent limit is challenging. The Fact Sheet (Appendix E) also demonstrates that compliance at Elliott West, Alki, and Henderson/MLK facilities are expected to have considerably lower achieving TSS removal performance based on concentration compared to a mass-based approach. Therefore, WTD is concerned that upon issuance of the NPDES permit, the WWTS facilities will immediately be at risk of an increased likelihood and frequency of permit exceedances. Additionally, because data is unavailable to fully assess the existing facility performance characteristics, there is considerable uncertainty whether existing equipment and WWTS operational strategies can be immediately implemented upon permit issuance to achieve routine compliance with the new requirements.

There are other characteristics of a concentration-based approach to monitoring TSS removal that support the conclusion that concentration may be less suitable than a mass-based approach. The factors listed below indicate typical CSO event and WWTS facility process control characteristics that lead the proposed approach to concentration-based monitoring to potentially be inaccurate and unrepresentative of actual solids removal performance. Conversely, WTD is unaware of any issues that would substantively affect the accuracy or representativeness of monitoring the mass balance of inflow and effluent TSS over the duration of a CSO event. Consequently, the information would indicate that mass-based TSS monitoring is adequately representative for the purposes of evaluating TSS removal efficiency consistent with 40 CFR Part 122.45(f).

- The proposed monitoring restriction to CSO event days with both inflow and discharge will necessarily represent a narrow period of the typical storm hydrograph when facility flow and hydraulic loading rates are elevated, and conditions less suitable for effective solids settleability and removal. Additionally, because of solids removal from the detention and storage functions described above, influent TSS concentrations can be lower during the later stages of a CSO event that result in generally lower potential removal efficiency. Therefore, the monitoring restrictions will result in data unlikely to be as representative of average TSS removal efficiency as a method that uses data from the entire CSO event.
- Evaluating “average” TSS removal based on concentrations is effective when influent and effluent rates/volumes are approximately equal. However, due to the WWTS detention/storage functions, the influent and effluent characteristics can vary over the course of a CSO event. Therefore, an unequal volumetric-TSS concentration relationship between influent and effluent will adversely affect the calculation of average TSS removal performance over an entire event or an annual average basis.
- The proposed TSS removal calculation based on the annual arithmetic average influent and effluent TSS concentrations will be positively skewed to larger treatment event concentrations,



and thus may provide a measure of central tendency of effluent concentrations that are unrepresentative of the respective influent conditions, and TSS reduction efficiency.

Based on the concerns above, increased risks of effluent limit violations upon permit issuance, and inability to immediately collect data and modify WWTS facility performance to achieve compliance with the new requirements, the County requests a compliance schedule and interim requirements based on the existing performance and requirements until such time that further deliberation and finalization of TSS removal requirements are developed. While planning and design of the Elliott West facility improvements was already ongoing in part to address solids removal performance under the existing permit requirements, addressing any needs for improvements at the Alki WWTS in particular (or our other WWTS) could involve substantial new planning and capital improvements depending on the magnitude of any deficiencies identified. We believe it's noteworthy that the combined annual average quantity of TSS managed by all five existing County WWTS facilities is a minor fraction (<1%) of the total system-wide amount conveyed to West Point. Accordingly, WTD is concerned that the new TSS removal requirements could have operational and capital cost implications that far outweigh the scale of the regulatory or facility performance objectives involved. Therefore, the proposed actions and supporting rationale for a compliance schedule include:

- The uncertainties of the broad changes to the proposed requirements warrants additional review and discussion to develop the permitting approach that best achieves consistency, reasonable, and cost-efficient outcomes relative to the underlying regulatory objectives.
- WTD needs to develop a plan of action to conduct appropriate data collection and engineering evaluations of existing WWTS facility performance under the new requirements and determine the need for any updates to each facility plan (i.e., engineering report) and operations manuals.
- A compliance schedule needs to consider development of the actions and information sufficiency for WTD to plan, schedule, and implement any necessary WWTS facility improvements into our operations and capital delivery programs.
- The broad changes to the requirements, and existing lack of available information to assess the implications to the County's programs, supports the need for the renewed permit to achieve the actions above within the forthcoming NPDES permit cycle. Development of planning, design, and implementation of any needed facility improvements would require substantial additional resources, effort, and regulatory coordination with relevant regulatory authorities and are activities suitable only for identification at the time of application for renewal of the subsequent NPDES permit cycle.

**Permit, Page 12, Table 10 (Footnotes for tables 5-9), footnote "b":** Table 10, footnote "b" states "Monitoring data must demonstrate that each individual CSO treatment facility removes at least 50% of the average TSS *prior to discharge*. (emphasis added). The County believes the 'prior to discharge' phrase should be deleted because it doesn't occur in the relevant WAC 173-245-020(16), yet could be interpreted explicitly to require achieving at least 50% TSS removal at all times - as opposed to meeting the limit on an average basis over time.

WTD #2

WTD #11

WTD #12

**Permit, Page 15, S2.A (Monitoring schedule – West Point WWTP), Table 17 (Final wastewater effluent), and Page 19, Table 25 (Treated CSO effluent):** The County treatment labs are not currently accredited for performing the Enterococci tests. Therefore, the County requests a period of time before this new monitoring requirement is effective. The labs will need time to ramp up with the new method before applying for accreditation, which would take up to 12 months to complete (which is the standard practice and timeframe). Additionally, the proposed 2/wk monitoring frequency for Enterococci will generate a large sample data set within a very short period of time (3-6 months). Because a relatively short monitoring period would be sufficient to generate a suitable paired data set for comparison with fecal coliform data, the County requests this monitoring requirement be a time-limited study to evaluate whether the technology-based effluent limit based on fecal coliform bacteria will remain the appropriate basis of the effluent limit.

WTD #13

**Permit, Page 17, S2.A (Monitoring schedule – West Point WWTP), Table 21 (Influent PFAS monitoring):** WTD does not believe that influent PFAS monitoring, as a defined permit condition, should be required at West Point WWTP because it could lead to unnecessary permit violations, if monitoring is missed or not conducted to the stringent proposed protocols. WTD is proactively and voluntarily committed to taking a number of actions that supersede the monitoring requirement in Table 21. For example, WTD is committed to a yearlong sampling effort at West Point, South Plant, and Brightwater and its service area for influent, effluent, biosolids and landfill leachate, development of a conceptual PFAS sewershed model, a survey of available treatment technologies, and a direct utility effort to support source control policy. The expected impacts of complying with the proposed monitoring requirements of Table 21 would unnecessarily add compliance risk and our planned sampling at our three regional treatment plants is more comprehensive in nature. It is also unclear or not explained in the fact sheet how Ecology will use influent only data in the future, as water quality criteria for marine waters has not been developed and differentiation of upstream sources cannot be derived with influent data only. Accordingly, WTD respectfully requests that Table 21 be removed from the final West Point NPDES permit.

WTD #14

**Permit, Page 18, S2.B (Monitoring Schedule), Table 23 (Footnotes for Tables 16-22), footnote “e”; and Page 22, Table 28 (Footnotes for Tables 24-27), footnote “m”:** The footnotes “e” (Table 23) and “m” (Table 28) for the monitoring of TRC in final West Point and CSO WWTS effluent specify that the daily maximum concentration is “...the highest concentration discharge during each day the CSO treatment plant discharges using instantaneous data averaged over a maximum interval of 10 minutes.” The Fact Sheet does not provide any supporting rationale for this changed condition, and WTD disagrees with the application of a 10-min averaging period as being appropriate for the assessment of compliance with an applicable TRC effluent limit because the acute water quality criterion for chlorine is based on protection of organisms in the receiving water body with chlorine exposure over a one-hour period. Consequently, the requirement to assess compliance with effluent limits based on a sample frequency of 10-minute collection intervals is exceedingly short relative to the basis of the effluent limit, the underlying water quality standard, and the practical considerations of the County’s existing WWTS facility-related discharge characteristics in particular.

The primary concern is that the significant reduction in the sample averaging period for TRC, and thus increased frequency of sample data for assessment of compliance, would be expected to result in the immediate increased probability of non-compliance with effluent limitations, whether they are based on a 10-min average or even longer averaging such as a 1-hr interval in alignment with the basis of the water quality standard. The following tables summarizing effluent TRC concentration data from recent CSO events at the four chlorine-using WWTS demonstrate that the maximum daily effluent TRC concentrations based on 10-minute averages would be substantially higher than both the current daily average data as well as a longer 1-hr interval averaging period. The Elliott West data summary also indicates that the rate of non-compliance of 10-min sample average data would certainly increase substantially under either the current or new MDEL compared to data based on a 24-hr average period (as well as for data based on an alternatively longer 1-hr averaging period).

<b>Summary of TRC Effluent Limit Compliance for Elliot West WWTS Discharge Events with variable sample frequency</b>			
<b>Date</b>	<b>TRC final effluent concentration (ug/L)</b>		
	<b>Max 10-min avg</b>	<b>Max 1-hr avg</b>	<b>24-hr avg (current reporting)</b>
2021-09-26	1,000	350	53
2021-10-28	3,200	540	57
2022-10-30	72	13	6
2022-11-6	2,300	410	230
2022-11-22	1,500	500	110
2022-11-29	71	140	19
2022-12-24	4,800	2,800	642
2022-12-25	2,100	1,000	280
2022-12-26	1,100	226	62
2022-12-27	2,300	400	87
Compliance with existing permit limit 109 ug/L but not draft permit limit of 33.8 ug/L.			
Compliance with both existing permit limit and draft permit limit of 33.8 ug/L.			
Non-compliance (either limit)			

Summary of TRC Effluent Limit Compliance for Carkeek WWTS Discharge Events with variable sample frequency			
Date	TRC final effluent concentration (ug/L)		
	Max 10-min avg	Max 1-hr avg	24-hr avg (current reporting)
1/3/2022	5,000	5,000	4,600
1/4/2022	5,000	5,000	3,400
1/6/2022	2,500	1,700	454
1/7/2022	3,400	3,000	552
1/8/2022	9	7	6
2/28/2023	1,000	381	32
12/24/2022	4,990	4,990	2,300
12/25/2022	873	761	264
12/26/2022	1,680	1,580	267
12/27/2022	1,057	945	234
Compliance with both existing permit limit and draft permit limit of 490 ug/L.			
Non-compliance (either limit)			

Summary of TRC Effluent Limit Compliance for Alki WWTS Discharge Events with variable sample frequency			
Date	TRC final effluent concentration (ug/L)		
	Max 10-min avg	Max 1-hr avg	24-hr avg (current reporting)
1/2/2022	1,000	180	23
1/3/2022	3	3	2
1/6/2022	50	30	5
1/7/2022	3	3	3
1/11/2023	3	10	5
2/27/2022	1,530	650	87
2/28/2022	1,360	260	19
12/24/2022	30	10	3
12/26/2022	3	3	3
12/27/2022	2	2	2
Compliance with existing permit limit 234 ug/L but not draft permit limit of 221 ug/L.			

Compliance with both existing permit limit and draft permit limit of 221 ug/L.			
Non-compliance (either limit)			
<b>Summary of TRC Effluent Limit Compliance for Henderson/MLK WWTS Discharge Events with variable sample frequency</b>			
Date	TRC final effluent concentration (ug/L)		
	Max 10-min avg	Max 1-hr avg	24-hr avg (current reporting)
1/2/2021	73	10.5	1.6
1/12/2021	75	14*	1.4
1/2/2022	>100	>98	>41
1/3/2022	0	0	0
1/6/2022	36	31	23
1/7/2022	43	33	24
2/28/2022	298	71	6
Compliance with existing permit limit 39 ug/L but not draft permit limit of 32.5 ug/L.			
Compliance with both existing permit limit and draft permit limit of 32.5 ug/L.			
Non-compliance (either limit)			
<p>There are additional practical WWTS facility, as well as West Point, disinfection system operating considerations that could increase the probability of non-compliance with TRC effluent limits with the shorter 10-minute averaging period. Given that the WWTS facilities only operate intermittently for individually unique storm event conditions (as opposed to the relatively stabilized flow of a continuously operated treatment plant like West Point), the initial WWTS flow and water quality characteristics at the start of a CSO treatment event can be highly variable. Consequently, the WWTS disinfection and process control equipment is typically set to conservatively dose flows at initial startup to compensate for variable and uncertain conditions to ensure effective disinfection. As a result of the process control challenges at startup, final effluent quality can be less predictable and representative of the overall treatment event flows for many minutes during the startup period. Additionally, the time period of sample collection and pumping equipment to convey process samples to the automated chlorine analyzers, and time for chemical dosing and process control equipment (or manual operations) to react to changing TRC concentrations, can approach or significantly exceed 10 minutes. Therefore, under a 10-min averaging requirement, effluent TRC levels would be expected to change at a rate greater than the typical capacity for operations to monitor and make responsive process control</p>			

adjustments, and thus would add to the challenges of maintaining permit compliance with the TRC effluent limits.

Based on a cursory review of West Point Wastewater Treatment Plant final effluent TRC data during plant start-up following scheduled plant outages, the proposed 10-minute TRC average concentrations also would likely result in additional exceedances of the effluent limit compared to assessment based on a daily average concentration. The West Point wastewater treatment plant operates 24 hours 7 days a week requiring scheduled plant outages for maintenance activities, equipment upgrades and capital project activities. These plant outages are planned weeks in advance and cannot be avoided. The startup after plant outages places the plant and the equipment at risk and operations and maintenance staff prepare in advance to assure a safe and effective startup while protecting the public and environmental health and staying within the NPDES effluent permit conditions. However, the disinfection chemical feed systems during varied hydraulic and loading conditions typical of plant startups cannot respond and stabilize within the ten-minute interval. In addition, the County has similar concerns about the disinfection system being able to control effluent TRC levels during high flow conditions from storm events.

Overall, the County is concerned that the shorter TRC averaging period for West Point and WWTS facility effluent discharge monitoring that would increase the probability and rate of non-compliance with effluent limits, yet in fact only reflect apparent noncompliance conditions inconsistent with the underlying regulatory basis of the TRC effluent limits developed for the protection of organisms from exposure of up to one hour. The additional non-compliance will be subject to potential enforcement as permit violations, issuance of stipulated penalties, and citizen lawsuits. Moreover, the County has not conducted any evaluation at this time to determine the remedial measures that would be needed for WWTS or West Point process control and monitoring equipment to achieve compliance. Consequently, the County requests that Ecology develop the reasonable averaging period(s) for the treatment facilities that considers a statistically appropriate measure of average concentration consistent with the effluent limit derivation procedures, and the practical constraints of intermittent and remotely-located WWTS facility process control operations. In particular, the averaging period should be no shorter than one hour for consistency with the basis of the acute chlorine water quality standard. Additionally, because the WWTS and West Point facilities will be immediately at risk of non-compliance with any effluent limits upon issuance of the final NPDES permit, the County requests that a compliance schedule of no less than three years be provided to develop a plan for the corrective actions that will be necessary to achieve compliance with a reduced averaging period. The ultimate time schedule for construction of facility improvements cannot be determined at this time; thus, the compliance schedule also should identify that the final construction plan (and associated milestones) would be provided in a submittal as a component of the application for renewal of the NPDES permit.

**Permit, Page 20, Section S2.B, Table 26 (Final effluent characterization – Georgetown CSO Treatment Plant):**

The County supports sampling four times during the first year of operation. However, in order to not miss opportunities to collect samples during discharge events, we ask for an additional sentence to be added that states, "If more than one discharge event occurs during the same month, and the County has

the capacity to collect and analyze samples, this will count toward the 4 event requirement. We also request the table be changed to "4 samples during the 1<sup>st</sup> year wet season; 1/year thereafter".

WTD #16

**Permit, Page 22, S2.B (Monitoring Schedule), Table 28 (Footnotes for Tables 24-27), footnote "m" and "n":** The proposed monitoring schedule has removed the requirement to sample every hour when continuous monitoring is not possible. The County requests including the clarification: "Continuous" means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The Permittee must sample every hour when continuous monitoring is not possible.

WTD #17

**Permit, Page 24, S2.D (Sampling and analytical procedures):** The last sentence of the first paragraph, in limiting the condition to CFR Part 136 methods, could limit the use of SW-846 methods that need to be used for the sediment or biosolids. This sentence could be modified to only apply to influent/effluent samples, or it should allow other methods for the biosolids/sediment sample matrices.

WTD #18

**Permit, Page 24, S2.E(3)(c) (Flow measurement and continuous monitoring devices):** S2.E(3)(c) requires "*Must calibrate continuous chlorine measurement instruments using a grab sample analyzed in the laboratory within 15 minutes of sampling.*" The County is concerned with the capacity and feasibility of personnel to implement this calibration procedure at the WWTS facilities under the practical constraints of these facility operating conditions including the intermittent and highly variable storm and CSO event timing, remote location and travel time for treatment event response, shift status of qualified analytical personnel and degradation time of prepared standard solutions, and availability of other suitable industry- and instrument manufacturer-recommended procedures for ensuring accurate and reliable calibration of monitoring instrumentation that are consistent with objectives for the work. The element of the provision requiring calibration to be by "grab sample" within 15 min. would seem to suggest that the sample being analyzed is from a sample taken during an actual event. Given the unpredictability of these events, we would suggest that these calibrations be done on a routine basis, under controlled and consistent conditions, using standard solutions prepared by lab staff. We would suggest continuing the current practice for 8 of the 9 chlorine analyzers at the West CSO facilities. The current practice was reviewed with the Wallace and Tiernan representative and they considered the County's calibration protocols to be consistent with best practices. Each week on Thursday, the West Point lab prepares three chlorine standard solutions for each treatment facility by 7:00 -7:30 am, and then instrument technicians calibrate the analyzers at each facility. The lab has conducted studies of the standard solutions and found that there is little degradation in TRC levels relative to the concentrations being monitored, except for the final effluent at Elliott West. It should also be noted that any calibration based on a slightly degraded solution would mean that the analyzer would read slightly higher than the actual sample concentration so it would be more conservative and protective of water quality. Due to the proposed lower effluent TRC limit at Elliott West, a slight degradation in the standard would have a larger relative impact on measured concentrations. Consequently, for analyzing TRC during Elliott West treatment events in the future, the County will re-range the analyzer at the Denny regulator station to evaluate compliance with the new lower TRC effluent limit (i.e., to 0 - 0.1



	mg/L), and will prepare a lower range of standard solution onsite at Denny for immediate calibration by the instrument tech during the Thursday calibration process.
WTD #19	<b>Permit, Page 26, S3.A(9) and S3.A(10) (Discharge monitoring reports):</b> The County believes the condition should be modified to specify the use of a geometric mean of all bacteria samples collected during a day, rather than an arithmetic average. A geometric mean will provide a more representative daily concentration by avoiding the positive skewing that occurs with the exponentially varying characteristics of bacteria data.
WTD #20	<b>Permit, Page 27, S3.A(13)(b) (Discharge monitoring reports):</b> The use of "1/2 detection limit" in averaging of sample results should have an disclaimer that it's not appropriate for parameters where the regulatory objective is lower than the instrument detection limit (e.g., PCBs).
WTD #21	<b>Permit, Page 27, S3.F(2)(c) (5-day reporting):</b> The County would appreciate the report submittal due date exclude non-business days to provide sufficient time to gather relevant incident information for the report. Suggested additional text to include is: <i>"....the submittal due date shall be the close of business of the next business day if the 5th day falls on a Saturday, Sunday, or federal holiday."</i>
WTD #22	<b>Permit, Page 42, S6.B (Monitoring requirements), #11:</b> The reference to "30 ug/L" should be in units of "mg/L" in the extract.
	<b>Permit, Page 42, S6.E.1, Identification and control of PFAS discharges:</b> The King County Industrial Waste (KCIW) program regulates over 650 industrial users (IU) and commercial entities through some form of control document, and within the WTD service area there are over 70,000 businesses. The expected impact of complying with the requirement to update or revise its IU inventory for known or suspected IUs discharging PFAS will require a significant shift in KCIW program priorities, and require additional staff and resources. Specifically, KCIW will need to procure consultant services, identify businesses who should receive the survey, develop the survey (questionnaire), transmit the survey, record and manage responses in a database, provide follow-up for non-responsive industrial users, conduct education and outreach to the IU community, and update the IU inventory to meet the permit requirements. We don't believe this can realistically be accomplished by the proposed deadline of April 30, 2025. King County requests that Ecology revise this permit condition to limit the revision of the IU inventory to Significant IUs only and that the deadline in the final permit be extended to April 30, 2027. This will avoid focus on zero or de minimus entities, allow staff to focus on the most important likely sources for the inventory and related prevention efforts, and result in better water quality benefits. The requested time extension will also result in a more comprehensive and meaningful IU inventory.
WTD #23	<b>Permit, Page 42, S6.E.2, Identification and control of PFAS discharges:</b> As noted above, King County requests that this special condition be limited to SIUs only. The federal pretreatment regulations only require delegated pretreatment programs such as KCIW, to issue permits to SIUs. KCIW issues many forms of control documents including waste discharge permits (for SIUs), major and minor discharge authorizations, letters of authorizations, verbal/email authorizations and 'no control documents required' letters. We ask that the permit explicitly note that the pollution prevention/source reduction evaluation pertains to SIUs only. The development of a PFAS pollution prevention/source reduction evaluation will be affected by the currently limited



information and guidance available from Ecology to accomplish this requirement. King County requests that the deadline in the final permit be revised to July 1, 2027.

WTD #23

**Permit, Page 42, S6.E.3, Identification and control of PFAS discharges:** The federal pretreatment regulations only require control documents or permits for SIUs. BMPs and pollution prevention strategies will need to be developed and outreach efforts will be needed before they can be put into SIU permits. King County requests that the deadline in the final permit be July 1, 2027. WTD is making these requests under S6.E.1, 2, and 3 in light of the fact that EPA intends to conduct a nation-wide POTW influent PFAS study, according to the agency's published Effluent Guidelines Program Plan 15 (January 2023), in collaboration with a proposed 150 voluntary POTWs and targeted industry sampling. WTD believes that EPA's efforts will help inform more specific regulatory approaches in PFAS very soon and a revised permit deadline would allow for an incorporation of informed, specific pollution prevention strategies.

WTD #26

**Permit, Page 45, S9 (Sediment monitoring) and Fact Sheet, Page 96 (Section III.I. Sediment quality):** The County has demonstrated during several past permit cycles that there are only occasional transient exceedances of the Sediment Management Standards (SMS) chemical criteria in the vicinity of the West Point outfall and that those exceedances are the result of physical not chemical conditions, as demonstrated through bioassays (see past reports). The County has also conducted sediment toxicity identification evaluation (TIE) analyses to demonstrate that no chemical in the effluent was tied to the toxicity. During the last permit cycle, the County resampled every station with SMS exceedances since 1998 and demonstrated that no toxicity existed from chemistry. Therefore, we do not understand why it is necessary to repeat this effort. Due to the long period of demonstration and understanding of site conditions at the outfall (25 years), the County requests that the West Point sediment sampling requirement be removed from the permit—as has been done for Brightwater.

If Ecology is not willing to remove the requirement, the County requests clarifications to the sampling in light of the above. Regarding sediment monitoring at the West Point outfall, the fact sheet notes, “this monitoring must, at a minimum, include chemistry and bioassay testing at stations that have previously shown exceedances of chemistry standards or failed bioassay tests.” However, it is unclear in the draft permit (Section S9 - Paragraph 1) if only locations monitored during the last permit cycle with previous exceedances/failures are required to be monitored or if this requirement applies to any station ever monitored since 1998 (> 20 sites). Additionally, King County has demonstrated numerous times that any bioassay failures resulted from physical, not chemical, components created the toxicity. Therefore, the County requests that the fact sheet and S9.A be clarified and recommends that the permit focus on stations with a recent prior sediment quality exceedance and that bioassays not be required.

WTD #27

**Permit, Page 45, S9.A (Sediment sampling and analysis plan – West Point WWTP), bullet #2:** - If bioassays are required, the County advocates for collecting parallel samples to facilitate bioassays when needed, but bioassay analyses await pending the chemistry results and only proceed if chemistry exceedances occur.

**Permit, Page 45, S9.A (Sediment sampling and analysis plan – West Point WWTP), bullet #4:** If bioassay testing is required in S9.A, the County requests that only the screen tube manipulation

protocol be used for the larval echinoderm testing requirement. Parallel tests have been conducted during the last two monitoring events using the standard method and screen tube manipulation. These results indicated that physical influence from turbidity in the overlying test water is leading to the failed bioassay tests using the standard methodology, and that sediment chemistry is not the reason for bioassay failures.

WTD #26

**Permit, Page 45, S9.A (Sediment sampling and analysis plan – West Point WWTP), bullet #5:**

The County recommends the same stations as in 2011 and 2017 specifically. These sites include all of the stations sampled since 1998 that had chemistry exceedances or bioassay failures.

WTD #28

**Permit, Page 45, S9.B (Sediment data report – West Point WWTP), 1st paragraph:** The County requests that Ecology delete the requirement to collect sediments between August 15 and September 30 for both West Point's main outfall. There are no state regulatory basis to require sampling to occur during this period of the year. Ecology's Sediment Cleanup User's Manual does not require this specific sampling period and it would present unnecessary costs and logistical challenges for laboratory and sampling staff.

WTD #29

**Permit, Page 45, S9.B (Sediment data report – West Point WWTP), 1st paragraph:** The County requests that the due date for the West Point report be changed to October of 2027 to allow adequate time for completion of the laboratory analysis and preparation of the report. If sampling is to occur in Late August or early September of 2026, the lab may or may not be able to even have the analysis complete by December of 2026. Turnaround time is typically 60-90 days, which would leave little time for writing formal report and internal review of that report for submittal by February 2027.

WTD #30

**Permit, Page 46, S9.C (Sediment sampling and analysis plan – CSO Outfalls):** The County completed sediment sampling in August 2022 per the County's Sediment Management Plan that covered both the Martin Luther King Jr. Avenue Regulator (013) and Henderson Pump Station (045) outfall location. In addition, the County is currently scheduled to complete sediment sampling at Barton CSO (057) outfall in 2023. The County developed an updated programmatic sampling and analysis plan in July 2022 for these sampling events. The County will be drafting and submitting to Ecology a sediment data report for each monitoring event within approximately one year of sample collection. Therefore, the County requests that the Section S9.C and S9.D permit requirement be removed because this work has either already occurred or will occur in 2023. If Ecology elects to retain this provision, please modify the permit language to identify the existing work that the County has completed to satisfy this requirement.

WTD #28

**Permit, Page 47, S9.C:** Per the comment above for S9.B, the County further requests that Ecology provide rationale for requiring sediments to be sampled between August 15 and September 30 for the CSO outfalls. There are no state regulatory basis to require sampling to occur during this period. Ecology's Sediment Cleanup User's Manual does not require this specific sampling period.

WTD #31

**Permit, Page 49, Table 32, S11.A (Authorized combined sewer overflow (CSO) discharge locations), and Fact Sheet, Page 29, Table 9 (Combined Sewer Overflow Outfalls):** Please change the location of "Murray St. PS Emergency Overflow" to "Murray PS Emergency Overflow". There is no Murray St. in Seattle, and this corrects the name.

**Permit, Page 51, S11.B(7) (Nine Minimum Controls):** The proposed modifications to the S11.B(7) condition build upon, and provide expanded requirements for, pollution prevention activities that

exist and are being implemented under the current NPDES permit. The County's current contaminant source control activities implemented in the West Point service area are limited to: (1) the delegated industrial waste pretreatment program (which, in the CSO basins, includes only prescribed stormwater associated with industrial activities, as described and limited to per King County Code); (2) contaminant tracing and cleaning of the County-owned conveyance system; and (3), various other programs reported on in our annual CSO report (e.g., Water Works grant program, public outreach and support services such as pet waste disposal, and pharmaceutical take back efforts). The County relies on the programs and services of other jurisdictional entities in the service area that provide certain other contaminant control activities (e.g., municipal stormwater management under NPDES permits, sewer maintenance, municipal garbage/solid waste management, street sweeping).

The proposed S11.B(7) condition increases the County's responsibility for pollution prevention activities in stating terms such as, "...the Permittee must implement..." the program, and the program must include "...all areas served by King County's CSO facilities..." The proposed changes to the provision are of significant concern because the County lacks ownership and jurisdictional authority for most of the locales, facilities, and activities that would need to be addressed for compliance with the proposed conditions as written. In particular, the condition broadly outlines new requirements to develop and implement a "pollution prevention program" consisting of new stormwater best management practice implementation, and stormwater and wastewater conveyance system inspection and cleaning activities, on private and public properties where the County has no jurisdiction or authority for this under state law. The County does not have jurisdiction over stormwater or land use (building or occupancy permits) in the Seattle city limits (or any other incorporated cities within the West Point sewer service area). Other than availability of basic information regarding the general zoning and land use types in the service area, the County does not have ready access, or the ability to acquire, sufficient information that would be needed to effectively implement the program outlined in this condition. Lastly, the broad requirements provide no latitude for considering the scope of implementation or attenuating circumstances (e.g., technical feasibility or practicality of actions based on site-specific factors or environmental risk). Therefore, due to these constraints, the revised condition could readily lead to unintended and uncontrollable violations of the permit, enforcement consequences, or exposure to third-party lawsuits. Upon permit issuance, we are concerned that the County could be found to be immediately out of compliance with the conditions, and the County is unable to quickly develop planning and development of the required activities to achieve compliance.

The County requests that this provision provide the opportunity for the County, SPU, and other jurisdictions to coordinate and prepare a plan and program of activities for the proposed additional pollution prevention actions. The County also requests that the permit include a compliance time schedule of no less than three years to complete and submit the plan to Ecology. The plan would identify data gaps, appropriately consider each jurisdictional entity's planning and implementation role and authority in the service area, and tailor the program based on scientific, environmental, and feasibility factors.

**Permit, Page 52-54, S11.C(d) (Corrective actions for previously controlled CSO outfalls):** The County supports condition S11.D (“corrective action”) and its structure of flexible and adaptive management principles outlined in condition S11.D for addressing CSO basins that need remedial measures to return the CSO control projects to a “controlled” status with the state performance standard of one overflow per year on average. We have found that determining the root causes of CSO facilities that are not achieving control, and developing corrective actions to improve the hydraulic performance typically requires multiple lines of investigation to provide sufficient information and certainty of the improvements needed to reduce overflow frequency. It also often requires more than one or two years to monitor and model the effectiveness of the improvements since CSO control facilities operate intermittently.

WTD #33

The proposed Tier I and Tier II requirements, however, could unnecessarily escalate the non-compliance and need to develop additional remedial actions in advance of a lesser level of interventions. Tier II actions are triggered if Tier I compliance isn’t achieved within one additional year, and Tier III can be triggered if certain Tier I/II actions cannot be implemented within one year. As described above, one year has generally been insufficient to effectively evaluate control status after implementation. The Tier I/II requirements also don’t accommodate the situation of an outfall drifting out of control one year, but returning to control in a following year. The County’s preferred approach would increase these “one year” requirement restrictions to two years, and provide for control status that drifts in and out of control. Additionally, a general preferred approach for consideration by Ecology would be to allow Tier I/II corrective action plans to be included in the periodic LTCP Updates which would allow the County to align and prioritize all corrective action projects in a coordinated and cost-effective fashion.

The draft permit Tier III states that a corrective action report will be used to place a compliance schedule in a future NPDES permit or separate administrative order. We recommend that the LTCP Update process should be included as an option instead of these enforcement methods as a means for the County the ability to assess, align, and prioritize potentially large capital delivery obligations with other ongoing CSO control project activities based on the project-specific circumstances. The LTCP requires approval by Ecology and thus would be an effective method for both parties to have the assurances necessary for completion.

WTD #34

**Permit, Page 56, S12 (CSO Solids Characterization Study):** King County has been collecting both solids and wastewater samples for the five CSOs listed in Table 32 in support of the County’s CSO control projects. The sampling includes in-pipe sediment traps with analysis of grain size, total organic carbon, metals, PCBs, and semi-volatile organic compounds such as PAHs and phthalates. In-pipe sediment traps collect samples over an approximately one-year period to increase the probability of obtaining sufficient sample mass for all target parameters. The wastewater sampling is targeting combined sewer and stormwater flows with analysis of conventional parameters, including TSS and settleable solids, metals, and organic compounds. The wastewater samples are collected during CSO discharge events or CSO-like pipe conditions. Sampling and analysis plans for both solids and wastewater collection were developed in 2018, with an addendum in 2020. Because these data have already been collected, the County requests that Ecology remove this requirement from the permit. The County can provide Ecology the sampling

and analysis plans and the data memoranda once all sample analyses are completed in 2023. If the requirement remains in the permit, the County requests the following clarifications and modifications to this section:

- For solids samples (such as those collected with sediment traps or in-line grab samples), please adjust the parameters to those applicable to solids samples. For example, the solids samples would not be analyzed for TSS, settleable solids, pH, and salinity because those parameters apply to aqueous samples. In addition, there is insufficient water content in sediment trap samples for separate analysis.
- To target sufficient mass for analysis, sediment traps must be deployed for approximately 9 to 12 months; the level in the pipe, where deployed, will capture combined flows, which may or may not be discharged through an outfall. It is not possible to place the sample containers at the level to only capture combined flows that would be discharged through the CSO outfall. Please adjust requirement for collecting solids only during time the outfall is actively discharging as this is infeasible.
- To collect at least 10 sediment trap samples per CSO, it would take 10 years (one sample per year). Two samples per CSO would be possible to collect and report during the permit cycle period. Please clarify the sampling to 2 samples per location for a total of 10 samples. It is important to note that parameters need to be allowed to be prioritized because sufficient sample mass is not always available for all target analyses.
- Due to the complex nature of combined sewer solids, there is often analytical inferences that require sample dilutions for organic chemical analysis, and therefore, detection limits can be higher than targeted goal. Thus, the laboratory cannot guarantee that detection limit goals will be achieved in this matrix.
- For Environmental Information Management (EIM) database submittal, there is not a code that adequately characterizes what the samples represent. Please clarify why these data would be appropriate for EIM submittal.

**Permit, Page 60-61, S15.A (Elliott West CSO Treatment Plant Improvements – Compliance schedule for improvements), and Table 36:**

The Elliott West WWTS facility was designed in the late 1990's and became operational in 2005. The combined conveyance, tunnel, and physical/chemical treatment elements of the Elliott West project has functioned to substantially reduce the discharge of untreated wastewater into Elliott Bay and the South Lake Union area, and bring a large CSO basin to near compliance with the CSO policy overflow performance standard. However, the County also acknowledges the responsibility to develop and implement facility improvements to address treatment performance deficiencies that have developed over the years, and to achieve compliance with new and emerging regulations. The County recently completed an alternatives analysis (December 2021) for the Elliott West WWTS and is underway with a multi-year planning and design process for the express purpose of developing and constructing new facility improvements for the facility. The County appreciates Ecology's consideration of a proposed schedule of planning and design milestones for the Elliott West project that was discussed in a conference call on February 7, 2023. The County's proposed schedule is based on consideration of new information, several changes in design considerations, and evolving economic conditions since the alternatives analysis was completed. The proposed

new draft NPDES permit requirements also will influence the ongoing planning and design of the project.

Based on the ongoing coordination with Ecology for delivery of the capital improvements project, the draft NPDES permit includes a new untenable compliance schedule for achieving project deliverable milestones. WTD believes the continued development of the project will require flexibility to accommodate the many uncertainties that lie ahead, not least of which is the efficient delivery capacity for the other remaining CSO control projects yet to be developed and implemented under a modified federal Consent Decree for the CSO program. The proposed new more stringent effluent limits for TRC and copper are important requirements that will require the project design process to reconsider the appropriate treatment process strategies and design criteria, disinfection technology including potentially changing the disinfection system design entirely from the use of hypochlorite to ultraviolet (UV) light, and potential for modification of the outfall and diffuser system. Additionally, factors that affect the Elliott West project development include effective implementation of WTD's other capital programs, additional facility improvements for nutrient control for compliance with the Puget Sound Nutrient General Permit, and the future financial and industry constraints of multiple and compounded (i.e., "stacking") capital project delivery obligations occurring in the same general timeframe. Other related factors that could directly influence the uncertainty of the Elliott West project schedule include: (a) the project planning necessary to achieve control with the state CSO overflow performance standard for the Denny Way local CSO outfall ; (b) integration of currently planned near-term projects with potential for system operational changes such as the West Point passive weir and Interbay Pump Station capacity improvements; (c) planning for the upstream Mouth of Duwamish CSO control project; and, finally, (d) ongoing uncertainty with the supply chain, labor, and economic effects as recovery continues from the COVID-19 pandemic.

The overall uncertainties in the economic, supply chain, and construction industry that currently exist and are anticipated to continue for the foreseeable future are of significant concern to the County's ability to confidently plan, schedule, and successfully execute on the capital delivery obligations. King County continues to grow internal and external resources to increase annual volume of capital delivery of its portfolio from a current level of \$200M to over \$600M. In doing so, the County is assessing the construction market conditions and is actively taking steps to adapt to these market conditions; however, it is important to note that many factors lie outside of the direct control of the County and will impact the cost of new facilities and the timelines for delivery. In particular, schedule delays are probable based on the identified market risks. In ongoing planning for the Mouth of Duwamish project, WTD recently had its consultant (Parametrix, Technical Memorandum, May 22, 2023) evaluate and provide guidance for anticipating and forecasting macro, regional, and program specific factors which influence material, labor, and other construction costs related to the CSO program and similar types of capital projects. The Technical Memorandum from Parametrix that presents the complete analysis is available upon request. Key takeaways drawn from the assessment are summarized as follows:

- Coinciding with WTD's capital delivery increase, there is heightened competition from numerous large-scale infrastructure projects in the region accounting for billions of dollars of construction works over the next decade. This includes capital programs such as Sound Transit 3 and various Washington State Department of Transportation projects. This is unfolding against a backdrop of an already strained labor market, with notable constraints in both engineering consultant support and construction contractors, and ongoing difficulties in ensuring the availability of specialized construction equipment due to the volume of construction work in the region.
- Construction costs are anticipated to continue to escalate beyond current costs at an average annualized rate of approximately 4-6% for the next five years. Further, in 2023 cumulative escalation from 2019 is projected to be 31%.
- The driving market factors influencing CSO projects, namely concurrent large projects, labor availability, and schedule compression, are interconnected and would positively correlate with the goal of delivering the CSO program in addition to increasing capital delivery over the next 5-7 years. As more projects are undertaken, the available capacity in the market decreases, which also leads to intensified competition for skilled labor resources. Additionally, tighter schedules could strain County resources, necessitate alternative project delivery methods, and potentially elevate costs due to expedited engineering and design timelines. This could impact estimated WTD project costs based on the current saturated construction market and labor shortages, escalating costs potentially up to 25% (or more) in worst case scenarios.
- Key uncertainties and risks identified in the analysis include volatility in local construction markets as the region absorbs heightened construction activity, as well as supply chain shocks, regulatory changes, technological advancements, political/geopolitical events, and macroeconomic stability (ex: recession).
- Cumulatively, the critical factors of labor shortages, stacking of concurrent projects, contractor availability, and supply chain imbalances are probable to impact project schedules, thereby resulting in a need for risk-adjusted schedules that fully capture the delay effects that could challenge the meeting of regulatory and compliance driven timelines.

Based on the information above, the County requests Ecology's consideration of the additional proposed ~~strikeout~~ and underlined additions to the milestones articulated in Table 36 to ensure that the County can implement the project in alignment with its other program and project obligations. In particular, the County believes the Ecology-proposed final milestone to complete bidding is not a feasible objective since a large majority of the work to secure the construction and environmental regulatory permits, agency clearances, and agreements occurs in the intervening period following completion of the final engineering plans and specifications. The anticipated regulatory and environmental consultations and approvals for any modifications to the outfall diffuser alone could require up to several years to negotiate and complete. Therefore, along with all the aforementioned factors affecting the County's programs, and uncertainties for the Elliott West project of this magnitude and complexity, the County believes that the dates set forth in the Draft permit for submission of plans and specifications and completion of bidding are unreasonable. Thus, the County's proposed schedule modifications best reflect the realistic and



expedient timeframe to appropriately assess the engineering, financial, and schedule impacts of the changed conditions described above. Moreover, as the Elliott West project is a remedial action for an already-completed CSO control project, the proposal is consistent with the state's CSO policy to consider the overall sequencing, prioritization, total cost of compliance, engineering feasibility, and reasonableness in the anticipated consequences to ratepayer affordability in aligning the work with the other remaining initial CSO control project obligations for uncontrolled outfalls.

**Table 36 — Compliance Schedule**

	Tasks	Date Due
1.	Submit a draft engineering report to Ecology for review. The engineering report must describe the modifications required to bring the Elliott West CSO Treatment Plant effluent into compliance with its permitted limits and identify the anticipated construction schedule necessary to complete the project <del>by December 31, 2031.</del>	June 30, 2024
2.	Submit a final engineering report to Ecology for review and approval.	June 30, 2025
3.	Submit for Ecology review the 60% draft plans and specifications that provide the detailed design requirements for facility improvements, as described in the approved engineering report.	June 30, 2026
4.	Submit 90% draft plans and specifications for Ecology review.	July 1, 2027
5.	Submit final plans and specifications for the facility improvement project to Ecology for review and approval.	<del>December 31, 2027</del> <u>June 30, 2028</u>
6.	<del>Complete bidding for construction of the approved improvement project.</del>	<del>May 30, 2028</del>

**Permit, Page 69, Appendix A:** Please change "• The method used produces measurable results in the sample and EPA has listed it as an EPA- approved method in 40 CFR Part 136." to "• The method used is an EPA- approved method in 40 CFR Part 136 and either produces measurable results in the sample or has detection limits at or below the method listed in Appendix A."

**Permit, Page 69, Appendix A. first sentence:** Please remove the word "influent" so that it reads as prior KC NPDES permits which acknowledge that Appendix A detection limits are not always achievable for influents and other non-effluent wastewater matrices. This can be done by either eliminating the word influent as in prior permits, or by adding this sentence which was part of NPDES Waste Discharge Permit No. WA002918: "If the Permittee is unable to obtain the required DL and QL due to matrix effects (such as for treatment plant influent or CSO effluent), the Permittee must strive to achieve to lowest possible DL and QL and report the DL and QL in the required report." Non-effluent matrices may have significant matrix interferences depending

WTD #36

WTD #37



upon the parameter tested and it is not uncommon to have to report data from diluted samples for some parameters.

**Permit, Page 70, Appendix A, Table 2:** Please add method SM4110 B to Fluoride.

**Permit, Page 70, Appendix A, Table 2:** Please add method EPA 351.2 to Nitrogen, Total Kjeldahl (as N).

WTD #38

**Permit, Page 71, Appendix A, Table 3:** Please add method EPA 218.6 to Chromium hex, dissolved.

**Permit, Page 72, Appendix A, Table 4:** Please add method SM4500-CN-C,E to Cyanide, Total.

**Permit, Page 72, Appendix A, Table 4:** Please add method EPA SW846 9065 to Phenols, Total.

**Permit, Page 72, Appendix A, Table 5:** Methylene chloride is the only VOA compound that specifies lower detection and quantitation limits than the current permit. The County requests adjustment of the DL and QL to 5 and 10, respectively.

## COMMENTS ON FACT SHEET

WTD #39

**Fact Sheet, Page 14, Table 3:** Please add the name "Auto-Chlor System" to Table 3 as an SIU (it is also a CIU). City - Seattle, Industrial Process - Detergent Manufacturing, Permitted Flow (gpd) - 2,500

WTD #40

**Fact Sheet, Page 50, Section 11.F.6, second to last sentence of paragraph:** The current Superfund investigations conducted for the remedial design of the upper reach of the Lower Duwamish Waterway (LDW) indicates the following contaminants of concern in the area near and downstream of the Norfolk outfall: total PCBs and benzoic acid. Arsenic, PAHs and dioxins/furans are not at levels of concern in this area. This text appears to be highlighting general contaminants of concern for the LDW as a whole not specific to the Norfolk area. Please correct the list of contaminants of concern. The citation to support this is the Pre-Design Investigation Data Evaluation Report for the Lower Duwamish Waterway-Upper Reach (July 2022). The report can be found on <https://ldwg.org/project-library/> under Upper Reach Design folder.

WTD #41

**Fact Sheet, Page 50, Section 11.F.7:** The information presented would benefit from the inclusion of the information concerning potential for other sources to affect the areas sampled. That information is presented in table ES-1 of the SMP update referenced. As currently presented, it appears all chemicals come from the CSOs.

WTD #34

**Fact Sheet, Page 96, Section III.I, last paragraph:** The fact sheet does not recognize that King County has already been performing source control in-line sediment monitoring in combined sewer basins within the Duwamish Basin. The permit inclusion of this is not necessary as King County has already collected the data referenced in Section S.12 of the Draft Permit to support the CSO Control Project for the five CSOs listed. We request Ecology remove this from permit and fact sheet as the work has already been completed.

WTD #23-25

**Fact Sheet, Page 103, Section V.D.2. 1st bullet:** The expected impacts of complying with the proposed requirement to monitor PFAS in the West Point WWTP influent would add extraneous burden on staff performing sampling and analytical services and unduly put WTD at risk for non-compliance as a permit condition, if unfulfilled. WTD is already planning to undertake a voluntary effort to monitor for PFAS in the influent, effluent, and biosolids at West Point, South Plant, and Brightwater, and landfill leachate in the South Plant service area, but does not believe there is benefit in making this a hard permit condition. Further, USEPA's Effluent Limit Guideline Plan 15

indicates that there is a national study underway to better understand PFAS at POTWs and WTD recommends that Ecology delete this permit requirement and rely on the ELGP 15 study information instead of requiring WTD to monitor for it as a NPDES permit condition. The fact sheet should also be transparent and explain that EPA has not yet proposed CWA aquatic life criteria for PFOA and PFOS to protect aquatic life in the US for marine waters. In a June 2023 webinar, EPA staff made a point of linking POTW discharges to human health risk by noting that POTW discharges are upstream of drinking water intakes in rivers. For the West Point permit, WTD's outfall discharges to marine waters and the drinking water source comes from Seattle Public Utilities' protected watershed in the mountains. Therefore, there is not a linkage between WTD's marine outfall discharge in Puget Sound and drinking water risk to ratepayers in the West Point service area. It would be helpful if Ecology made this distinction in the fact sheet to avoid unnecessary concern from the public.

**Fact Sheet, Page 103, Section V.D.2. 2nd bullet:** King County Industrial Waste Program (KCIW) should not be required to identify and locate "all possible" industrial users with discharges that are expected or suspected to contain PFAS, as this is an unrealistic if not, impossible task to accomplish. KCIW regulates over 650 industrial and commercial entities through some form of control document and within the WTD service area, there are over 70,000 businesses. The expected impact of complying with the requirement to identify and locate "all possible" industrial users that are suspected to contain PFAS would unnecessarily put the program at risk for non-compliance and necessitate a shift in KCIW program priorities and staff resources to accomplish. Consultant services and additional expense to conduct the survey and update the inventory would be required. We don't believe this can realistically be accomplished by the proposed deadline of April 30, 2025, King County requests that Ecology clarify in the fact sheet and permit that KCIW is to identify and locate all Significant Industrial Users (SIUs) that may be expected or suspected to contain PFAS by April 30, 2027. The identification and location process is lengthy and will entail procurement of a consultant, SIU education, outreach, and data management as initial tasks.

**Fact Sheet, Page 103, Section V.D.2. 3rd bullet:** The development, research, and identification of BMPs for SIUs to reduce or eliminate PFAS in their discharges will take time longer than the April 30, 2025, deadline in the permit. KCIW will have to conduct outreach efforts with the industrial community to explain this requirement and therefore requests that the permit deadline be revised to July 1, 2027.

WTD #23-25

WTD #23-25

### **G.3. King County Regional Water Quality Committee Comments**



**King County**

**Claudia Balducci**

**Councilmember, District 6**

**Metropolitan King County Council**

July 7, 2023

SUBMITTED VIA ONLINE COMMENT FORM and EMAIL COPY TO DIRECTOR WATSON

Laura Watson, Director  
Tricia Miller, Permit Administrator  
WA State Department of Ecology—NWRO  
Shoreline, WA 98133-9716

RE: Response to DRAFT NPDES PERMIT WA0029181- King County West Point Treatment Plan  
and Combined Sewer Overflow System

Director Watson and Ms. Miller:

I have the privilege of serving as Chair of the King County Regional Water Quality Committee (RWQC) which develops, recommends, and reviews regional policies related to water pollution and water quality. The RWQC membership includes representatives from the County Council, the Sound Cities Association, sewer and water districts, and the City of Seattle.

The RWQC works closely with the Wastewater Treatment Division and the Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC). At the RWQC's monthly meeting on July 6th, the Metropolitan Water Pollution Abatement Advisory Committee shared their attached comment letter on the NPDES Permit.

The RWQC committee members strongly support the MWPAAC comment letter and encourage the Department of Ecology to consider the concerns and requests outlined in the MWPAAC comment letter.

Sincerely,

Claudia Balducci

CC: Councilmember Regan Dunn, King County Council  
Councilmember Dave Upthegrove, King County Council  
Councilmember Tim Harris, Carnation  
Councilmember Conrad Lee, Bellevue  
Councilmember Laura Mork, Shoreline  
Councilmember Alex Pedersen, Seattle  
Councilmember Kshama Sawant, Seattle  
Mayor Penny Sweet, Kirkland  
Commissioner Chuck Clarke, Woodinville Water District  
Commissioner Warren, Sammamish Plateau Water District

June 28, 2023

Washington State Department of Ecology  
Attn: Tricia Miller, Permit Administrator  
Northwest Regional Office  
Shoreline, WA

Re: Response to Draft NPDES Permit WA0029181  
King County West Point Treatment Plant and Combined Sewer Overflow System

Ms. Miller,

The Metropolitan Water Pollution Abatement and Advisory Committee (MWPAAC) represents the 15 cities, 18 special purpose districts, and 1 tribe that partner with King County's Wastewater Treatment Division (WTD) to protect water quality and public health in the Puget Sound area. MWPAAC agencies represent over 1.9 million people in King, Pierce, and Snohomish Counties. Our role is to advise the King County Executive and Council on matters related to the wastewater collection and treatment system. MWPAAC members are responsible for the individual agency sewer collection systems that convey wastewater to the King County system for treatment. Thus, WTD's performance protecting water quality and WTD's financial condition are of great interest to our agencies. Our wastewater services, financial health, and rate affordability are inextricably linked to WTD.

In recent years, MWPAAC has worked more closely than ever with WTD to plan and finance increasingly costly improvements to the wastewater system with an eye toward improving performance while still maintaining customer affordability. Over the next decade, WTD is projecting to spend \$7 billion on capital projects to comply with existing regulations, replace a backlog of aging assets, and expand system capacity for our growing region. WTD forecasts that residential sewer rates will double in 10 years, even without including the added costs of new regulations and permit requirements.

While we agree with the need for these expenditures, we are concerned that the low- to moderate-income households we serve will struggle to keep up with steeply rising sewer bills. Another pressing concern is that WTD's accelerated spending on regional infrastructure will "crowd out" individual agencies' ability to invest in the backlog of aging *local* sewer assets.

MWPAAC representatives have reviewed the Draft NPDES Permit for WTD's West Point Treatment Plant, as well as the blog post, public hearing presentation slides, and fact sheet. We appreciate the detailed materials and understand Ecology's role in setting requirements.

Our members are concerned that the compressed timeline of the facility improvements required for Permit compliance will exacerbate the pattern of costly projects stacking up in a constrained period. Project delivery, which is already difficult in this tight labor market, becomes more difficult as the list of near-term requirements grows. Added compression of major regulatory capital projects puts pressure on WTD to delay critical asset management and capacity-expansion projects. Such delays increase the risk of infrastructure failures and capacity related overflows.

To mitigate this risk, MWPAAC is requesting that the Department of Ecology consider an adjusted timeline of required compliance for planning and construction of facility improvements needed to meet the revised TSS requirements, as well as focusing on the most significant

sources of PFAS. We believe that this approach would be a prudent balance of the benefits and costs of compliance in this challenging time. WTD has indicated that the implementation schedule for the improvements at Elliot West is challenging. We encourage WTD and Ecology work together to establish an achievable schedule for bringing this facility into compliance.

Most importantly, it is imperative that we acknowledge the myriad competing needs and demands for staff and financial resources and work to identify the most cost effective, timely, and least impactful way of achieving the collective water quality improvement goals that we all share. We appreciate the opportunity to comment on this important draft permit and we look forward to future opportunities to increase collaboration between our member agencies, WTD and the Department of Ecology.

Sincerely,

John McClellan  
Chair, MWPAAC  
General Manager, Alderwood Water & Wastewater District

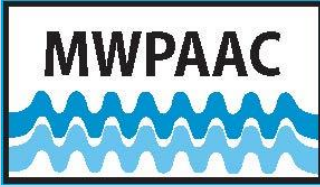
#### **G.4. Kitsap Public Health District Comments**



## Kitsap Public Health District

The Kitsap Public Health District (Kitsap Health) appreciates the chance to comment on this permit. We respectfully request that Kitsap Health be included in section S3.F. Reporting Permit Violations. Under 2.a. of this section, bullet #3, we suggest adding, after "Plant bypasses discharging to marine surface waters," "In the event of this occurring please call the Kitsap Public Health District at 360-728-2235 to inform them of the release."

**G.5. Metropolitan Water Pollution Abatement Advisory Committee  
Comments**



## Metropolitan Water Pollution Abatement Advisory Committee

King Street Center, 201 S Jackson St, MS: KSC-NR-5504, Seattle, WA 98104  
206-477-4435

### MEMBERS:

*Alderwood Water and Wastewater District*  
*City of Algona*  
*City of Auburn*  
*City of Bellevue*  
*City of Black Diamond*  
*City of Bothell*  
*City of Brier*  
*City of Carnation*  
*Cedar River Water and Sewer District*  
*Coal Creek Utility District*  
*Cross Valley Water District*  
*Highlands Sewer District*  
*City of Issaquah*  
*City of Kent*  
*City of Kirkland*  
*City of Lake Forest Park*  
*Lakehaven Water and Sewer District*  
*City of Mercer Island*  
*Muckleshoot Indian Tribe*  
*Northeast Sammamish Sewer and Water District*  
*Northshore Utility District*  
*Olympic View Water and Sewer District*  
*City of Pacific*  
*City of Redmond*  
*City of Renton*  
*Sammamish Plateau Water and Sewer District*  
*City of Seattle*  
*City of Shoreline*  
*Skyway Water and Sewer District*  
*Soos Creek Water and Sewer District*  
*City of Tukwila*  
*Valley View Sewer District*  
*Vashon Sewer District*  
*Woodinville Water District*

June 28, 2023

### SUBMITTED VIA ONLINE COMMENT FORM

Tricia Miller, Permit Administrator  
WA State Dept of Ecology – NWRO  
Shoreline, WA 98133-9716

RE: Response to Draft NPDES Permit WA0029181 - King County West Point Treatment Plant and Combined Sewer Overflow System

Ms. Miller:

The Metropolitan Water Pollution Abatement Advisory Committee (MWWPAAC) represents the 15 cities, 18 special purpose districts, and 1 tribe that partner with King County's Wastewater Treatment Division (WTD) to protect water quality and public health in the Puget Sound area. MWWPAAC agencies represent over 1.9 million people in King, Pierce, and Snohomish Counties. Our role is to advise the King County Executive and Council on matters related to the wastewater collection and treatment system. MWWPAAC members are responsible for the individual agency sewer collection systems that convey wastewater to the King County system for treatment. Thus, WTD's performance protecting water quality and WTD's financial condition are of great interest to our agencies. Our wastewater services, financial health, and rate affordability are inextricably linked to WTD.

In recent years, MWWPAAC has worked more closely than ever with WTD to plan and finance increasingly costly improvements to the wastewater system with an eye toward improving performance while still maintaining customer affordability. Over the next decade, WTD is projecting to spend \$7 billion on capital projects to comply with existing regulations, replace a backlog of aging assets, and expand system capacity for our growing region. WTD forecasts that residential sewer rates will double in 10 years, even without including the added costs of new regulations and permit requirements.

While we agree with the need for these expenditures, we are concerned that the low- to moderate-income households we serve will struggle to keep up with steeply rising sewer bills. Another pressing concern is that WTD's accelerated spending on regional infrastructure will "crowd out" individual agencies' ability to invest in the backlog of aging *local* sewer assets.

MWWPAAC representatives have reviewed the Draft NPDES Permit for WTD's West Point Treatment Plant, as well as the blog post, public hearing

June 28, 2023

Page 2

presentation slides, and fact sheet. We appreciate the detailed materials and understand Ecology's role in setting requirements.

Our members are concerned that the compressed timeline of the facility improvements required for permit compliance will exacerbate the pattern of costly projects stacking up in a constrained period. Project delivery, which is already difficult in this tight labor market, becomes more difficult as the list of near-term requirements grows. Added compression of major regulatory capital projects puts pressure on WTD to delay critical asset management and capacity-expansion projects. Such delays increase the risk of infrastructure failures and capacity related overflows.

To mitigate this risk, MWPAAC is requesting that the Department of Ecology consider an adjusted timeline of required compliance for planning and construction of facility improvements needed to meet the revised TSS requirements, as well as focusing on the most significant sources of PFAS. We believe that this approach would be a prudent balance of the benefits and costs of compliance in this challenging time. WTD has indicated that the implementation schedule for the improvements at Elliot West is challenging. We encourage WTD and Ecology to work together to establish an achievable schedule for bringing this facility into compliance.

Most importantly, it is imperative that we acknowledge the myriad competing needs and demands for staff and financial resources and work to identify the most cost effective, timely, and least impactful way of achieving the collective water quality improvement goals that we all share. We appreciate the opportunity to comment on this important draft permit and we look forward to future opportunities to increase collaboration between our member agencies, WTD and the Department of Ecology.

Sincerely,



John McClellan  
MWPAAC Chair

e-cc: MWPAAC Members

Kamuron Gurol, Division Director, Wastewater Treatment Division, Department of Natural Resources and Parks

## **G.6. Northwest Environmental Associates Comments**

# NORTHWEST ENVIRONMENTAL ADVOCATES



July 6, 2023

Tricia Miller, Permit Administrator  
WA State Dept of Ecology - NWRO  
PO Box 330316

Shoreline, WA 98133-9716 Via online: <https://wq.ecology.commentinput.com/?id=Ka9ES>

Re: **Proposed Permit for West Point Wastewater Treatment Plant and  
Combined Sewer Overflows**

Dear Ms. Miller:

The following comments are submitted by Northwest Environmental Advocates on the  
aforementioned permit.

## **I. NPDES PERMITS ARE PROHIBITED FROM CAUSING OR CONTRIBUTING TO VIOLATIONS OF WATER QUALITY STANDARDS**

### **NWEA #12 A. Discharges are Prohibited from Causing or Contributing to Violations of - Start Water Quality Standards; Reasonable Potential Findings Required**

If the technology-based limits required by the statute and regulations are not sufficient to ensure that a discharge will not cause or contribute to violations of water quality standards, permits must include water quality-based effluent limits (WQBEL). 33 U.S.C. §§ 1311(b)(1)(C), 1342(a)(2) (“[T]here shall be achieved . . . any more stringent limitation, including those necessary to meet water quality standards . . . established pursuant to any State law or regulations [.]”); *see also, id.* §§ 1311(e), 1312(a), 1313(d)(1)(A), (d)(2), (e)(3)(A); 40 C.F.R. §§ 122.4(a), (d). (The federal regulations are made applicable to states by 40 C.F.R. § 123.25(a).) The agency issuing an NPDES permit “is under a specific obligation to require that level of effluent control which is needed to implement existing water quality standards without regard to the limits of practicability.” S. Rep. No. 92-414, at 43 (1971). Because WQBELs are set irrespective of costs and technology availability, they further the technology-forcing policy of the CWA. *See NRDC v. U.S. E.P.A.*, 859 F.2d 156, 208 (D.C. Cir. 1987) (“A technology-based standard discards its fundamental premise when it ignores the limits inherent in the technology. By contrast, a water quality-based permit limit begins with the premise that a certain level of water quality will be maintained, come what may, and places upon the permittee the responsibility for realizing that goal.”); *see also Riverkeeper, Inc. v. U.S. E.P.A.*, 475 F.3d 83,

108 (2d Cir. 2007) (Sotomayor, J.) (referencing the Act’s “technology-forcing imperative”), *rev’d sub nom by Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208 (2009).

WQBELs must be set at a level that achieves water quality standards developed by the states for waters within their boundaries. *See* 33 U.S.C. §§ 1313(a)(3), (c)(2)(a); 40 C.F.R. Part 131; *PUD No. 1 of Jefferson Cnty. v. Wash. Dept. of Ecology*, 511 U.S. 700, 704–707 (1994); WAC 173-220-130(1)(b)(i) and (iii), (2), (3)(b); *Port of Seattle v. Pollution Control*, 90 Pd.3d 659, 677 (Wash. 2004) (“NPDES permits may be issued only where the discharge in question will comply with state water quality standards.”); *Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1163 (9th Cir. 1999). Such water quality standards consist of designated uses for waters and water quality criteria (both numeric and narrative) necessary to protect those uses. 33 U.S.C. § 1313(c)(2)(a); 40 C.F.R. §§ 131.10–11. Under the CWA’s “antidegradation policy,” state standards must also protect existing uses of waters and prevent their further degradation. 40 C.F.R. § 131.12; *see also* WAC 173-201A-010(1)(a) (“All surface waters are protected by numeric and narrative criteria, designated uses, and an antidegradation policy.”).

EPA’s permitting regulations mirror the statutory requirement for WQBELs. 40 C.F.R. § 122.44(d). NPDES effluent limitations must control all pollutants that are or may be discharged at a level “which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.” 40 C.F.R. § 122.44(d)(1)(i). Accordingly, WQBELs in NPDES permits must be “derived from” and comply with all applicable water quality standards. 40 C.F.R. § 122.44(d)(1)(vii). WQBELs are typically expressed numerically, but when “numeric effluent limitations are infeasible,” a permit may instead require “[b]est management practices (BMPs) to control or abate the discharge of pollutants.” 40 C.F.R. § 122.44(k)(3). However, “[n]o permit may be issued: . . . [w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.” 40 C.F.R. § 122.4(d).

When EPA or states establish WQBELs, they must translate applicable water quality standards into permit limitations. *See Trustees for Alaska v. U.S. E.P.A.*, 749 F.2d 549, 556–57 (9th Cir. 1984) (holding that a permit must do more than merely incorporate state water quality standards—it must translate state water quality standards into the end-of-pipe effluent limitations necessary to achieve those standards). As the D.C. Circuit put it, “the rubber hits the road when the state-created standards are used as the basis for specific effluent limitations in NPDES permits.” *American Paper Inst., Inc. v. U.S. E.P.A.*, 996 F.2d 346, 350 (D.C. Cir. 1993). NPDES “permits authorizing the discharge of pollutants may issue only where such permits *ensure* that every discharge of pollutants will comply with all applicable effluent limitations and standards[.]” *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 498 (2d Cir. 2005) (emphasis in original).

Although numeric criteria may be easier to translate into a permit limitation, permit writers must also translate state narrative standards. *See id.* EPA regulations clearly specify that narrative criteria must be evaluated and must be met, and that limits must be established to ensure they are met. *See* 40 C.F.R. §§ 122.44(d)(1) (limits must be included to “[a]chieve water quality standards established under section 303 of the CWA, *including State narrative criteria* for water

quality”); 122.44(d)(1)(i) (limitations must include all parameters “including State narrative criteria for water quality”); 122.44(d)(1)(ii) (reasonable potential must be evaluated for “in-stream excursion above a narrative or numeric criteria”); 122.44(d)(1)(v) (WET tests required where reasonable potential exists to cause or contribute to a narrative criterion excursion unless chemical-specific pollutants are “sufficient to attain and maintain applicable numeric and narrative State water quality standards”); 122.44(d)(1)(vi) (options for establishing limitations where reasonable potential exists for a discharge to cause or contribute to an excursion above a narrative criterion) (emphases added). As the court in *American Paper* found, when it upheld EPA’s permitting regulations pertaining to narrative criteria, faced with the conundrum of narrative criteria “some permit writers threw up their hands and, *contrary to the Act*, simply ignored water quality standards including narrative criteria altogether when deciding upon permit limitations. *Id.* at 350 (emphasis added); *see also id.* at 353 (“[EPA’s] initiative seems a preeminent example of gap-filling in the interest of a continuous and cohesive regulatory regime[.]”); *City of Taunton, Massachusetts v. U.S. Environmental Protection Agency*, 895 F. 3d 120, 133 (1st Cir. 2018) (“When issuing NPDES permits for states that employ narrative criteria, the EPA must translate those criteria into a ‘calculated numeric water quality criterion.’”).

EPA has explained that a WQBEL is “[a]n effluent limitation determined by selecting the most stringent of the effluent limits calculated using all applicable water quality criteria (e.g., aquatic life, human health, wildlife, translation of narrative criteria) for a specific point source to a specific receiving water.” EPA, *NPDES Permit Writers’ Manual*, Appendix A at A-17 (Sept. 2010) (hereinafter “EPA Manual”).<sup>1</sup> The first step in establishing a WQBEL is determining if one is required. 40 C.F.R. § 122.44(d)(1) (“Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”). Because one requirement in issuing a WQBEL is both to determine if the discharge, collectively with other sources of the same pollutant, are causing or contributing to violations of water quality standards, and to limit that discharge accordingly, the federal regulations require the permit writer to assess the role of other sources in causing the violation. *Id.* at § (d)(1)(ii) (“When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.”). If, having conducted this evaluation, the permit writer determines that a discharge “causes, has the reasonable potential to cause, or contributes to an instream excursion above the allowable above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.” *Id.* at § (d)(1)(iii). Where a state finds a reasonable potential to cause or contribute to a violation of narrative criteria for which the state has no numeric criteria, the federal regulations establish methods for establishing effluent limits. *Id.* at § (d)(1)(vi)(A)-(C).

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<sup>1</sup> Available at [http://www.epa.gov/npdes/pubs/pwm\\_app-a.pdf](http://www.epa.gov/npdes/pubs/pwm_app-a.pdf).



The matter of determining whether a discharge is causing or contributing to a violation of standards is not resolved by the permit writer's merely looking at the point of discharge and whether it is on the state's 303(d) list for a parameter or pollutant discharged or affected by a parameter or pollutant in the discharge. The process begins with a determination of reasonable potential:

NPDES permits "must control all pollutants or pollutant parameters" that the EPA "determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." 40 C.F.R. § 122.44(d)(1)(i). The EPA has interpreted "reasonable potential" to mean "some degree of certainty greater than a mere possibility." *In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.B 577, 599 n. 29 (EAB 2010).

*City of Taunton*, 895 F. 3d at 133.

First, there is a question of the nature of the parameter or pollutant discharged and how it is anticipated to affect water quality. Nitrogen discharges are among those pollutants that have a far-field effect, creating impacts on dissolved oxygen and algal growth—which can be both deleterious by itself and contribute to lowered dissolved oxygen—far away from the point of discharge. *See, e.g.*, EPA Manual at 176 ("Nutrients are another class of pollutants which would be examined for impacts at some point away from the discharge. The special concern is for those water bodies quiescent enough to produce strong algae blooms. The algae blooms create nuisance conditions, dissolved oxygen depletion, and toxicity problems (i.e., red tides or blue-green algae); *id.* at 198 ("[pollutants] such as BOD may not reach full effect on dissolved oxygen until several days travel time down-river.")).

For pollutants such as nutrients, the Environmental Appeals Board (EAB) has held that:

The plain language of the regulatory requirement (that a permit issuer determine whether a source has the "reasonable potential to cause or contribute" to an exceedance of a water quality standard) does not require a conclusive demonstration of "cause and effect." *See In re Upper Blackstone Water Pollution Abatement Dist.*, NPDES Appeal Nos. 08-11 through 08-18 & 09-06, slip op. at 31-34 & n.29 (EAB May 28, 2010), 14 E.A.D. \_\_\_\_.

*In re Town of Newmarket*, NPDES Appeal No. 12-05, slip op. at 54 n. 23 (EAB Dec. 2, 2013) (emphasis added); *see also City of Taunton*, 895 F. 3d at 136 ("the EPA did not need to show causation . . . to support its conclusion that the Taunton Estuary was nutrient impaired. Rather, the EPA needed only to conclude that the further discharge of nitrogen had the 'reasonable potential' to cause, or contribute to an excursion above any State water quality standard.""). In other words, the fact of a source's contributing to loading of a pollutant that has been identified to be causing a water quality impairment is sufficient to support a reasonable potential determination.

Second, there is a question as to whether a waterbody must actually be impaired in order for a discharge to present a reasonable potential to cause or contribute to violations of water quality standards. Again, the EAB provides assistance on the plain meaning of the permitting regulations and the policy rationale behind them:

NPDES regulations do not support the City's contention that a permit authority must include effluent limits only for the pollutants discharged into receiving waters that are identified as impaired on the state's 303(d) list.

\* \* \*

NPDES permitting under CWA section 301 applies to individual discharges and represents a more preventative component of the regulatory scheme [than 303(d)] in that, under section 301, no discharge is allowed except in accordance with a permit. Moreover, the CWA's implementing regulations require the Region to include effluent limits in discharge permits based on the reasonable potential of a discharge facility to cause or contribute to exceedances of water quality standards, even if the receiving water body is not yet on a state's 303(d) list. *See* 40 C.F.R. § 122.44(d)(1)(i). Although a 303(d) listing could presumably establish that water quality standards are being exceeded, necessitating an appropriate permit limit, the Region is not constrained from acting where a water body has not yet been placed on the 303(d) list. *Id.*; *see also In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 599 (EAB 2010) (explaining that the NPDES regulations require a "precautionary" approach to determining whether the permit must contain a water quality-based effluent limit for a particular pollutant), *aff'd*, 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013).

*In re: City of Taunton Department of Public Works*, NPDES Appeal No. 15-08, slip op. at 38-39 (EAB May 3, 2016), *aff'd*, 895 F.3d 120 (1st Cir. 2018); *see also City of Taunton*, 895 F.3d at 137 ("we hold that the EPA did not act arbitrarily or capriciously in determining that the Taunton Estuary and Mount Hope Bay were already nutrient impaired, such that further nitrogen discharges would have at least a 'reasonable potential' to give rise to violations of state water quality standards.").

Third, there is the question of whether a permit writer can simply not include an effluent limit because to do so is challenging. Clearly the statute and regulations demonstrate that the answer is "no." Federal courts agree. The Second Circuit cited with approval its decision in *Waterkeeper All., Inc. v. EPA*, 399 F.3d 486, 498 (2d Cir. 2005) for the proposition that "NPDES permits 'may issue only where such permits ensure that every discharge of pollutants will comply with all applicable effluent limitations and standards.'" *N.R.D.C. v. U.S. EPA* 808 F.3d 556, 578 (2d Cir. 2015) (emphasis in original). Moreover:

Even if determining the proper standard is difficult, EPA cannot simply give up and refuse to issue more specific guidelines. *See Am. Paper Inst., Inc. v. EPA*, 996 F.2d 346, 350 (D.C. Cir. 1993) (articulating that, even if creating permit limits is difficult, permit writers cannot just "thr[o]w up their hands and, contrary

to the Act, simply ignore[] water quality standards including narrative criteria altogether when deciding upon permit limitations”). Scientific uncertainty does not allow EPA to avoid responsibility for regulating discharges. *See Massachusetts v. EPA*, 549 U.S. 497, 534 (2007) (“EPA [cannot] avoid its statutory obligation by noting the uncertainty surrounding various features of climate change and concluding that it would therefore be better not to regulate at this time.”).

*Id.* The First Circuit and EAB have agreed that uncertainty does not excuse the permit writer from its obligation to set permit limits. *Upper Blackstone Water Pollution Abatement Dist. v. U.S. EPA*, 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013); *In re City of Taunton* at 61-62; *City of Taunton*, 895 F. 3d at 140 (citing *Massachusetts v. EPA*, 549 U.S. 497, 534, 127 S.Ct. 1438, 167 L.Ed. 2d 248 (2007) (explaining that the EPA cannot avoid its statutory obligation to regulate greenhouse gases by “noting the uncertainty surrounding various features of climate change” when “sufficient information exists to make an endangerment finding”).

Fourth, there is a question as to whether in the absence of a TMDL a permit must comply with the statute and regulations that require compliance with water quality standards. There is no question that it must; the lack of a TMDL is no defense for a failure to find reasonable potential and to establish a WQBEL. As the First Circuit has explained,

TMDLs take time and resources to develop and have proven to be difficult to get just right; thus, under EPA regulations, permitting authorities must adopt interim measures to bring water bodies into compliance with water quality standards. *Id.* § 1313(e)(3); 40 C.F.R. § 122.44(d); *see also, e.g.*, 43 Fed. Reg. 60,662, 60,665 (Dec. 28, 1978) (“EPA recognizes that State development of TMDL’s and wasteload allocations for all water quality limited segments will be a lengthy process. Water quality standards will continue to be enforced during this process. Development of TMDL’s . . . is not a necessary prerequisite to adoption or enforcement of water quality standards . . .”).

*Upper Blackstone Dist.*, 690 F.3d at 14, n. 8. The First Circuit also explained that waiting for the completion of exhaustive studies is equally unacceptable:

[N]either the CWA nor EPA regulations permit the EPA to delay issuance of a new permit indefinitely until better science can be developed, even where there is some uncertainty in the existing data. . . . The Act’s goal of “eliminat[ing]” the discharge of pollutants by 1985 underscores the importance of making progress on the available data. 33 U.S.C. § 1251(a)(1).

*Id.* Likewise, the EAB recently held the same:

Where TMDLs have not been established, water quality-based effluent limitations in NPDES permits must nonetheless comply with applicable water quality standards. In discussing the relationship between NPDES permitting and

TMDLs, EPA has explained that the applicable NPDES rules require the permitting authority to establish necessary effluent limits, even if 303(d) listing determinations and subsequent TMDLs lag behind. 54 Fed. Reg. 23,868, 23,878, 23,879 (June 2, 1989); *see also In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 604-05 (EAB 2010) (expressly rejecting the idea that the permitting authority cannot proceed to determine permit effluent limits where a TMDL has yet to be established), *aff'd*, 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013).

*In re City of Taunton* at 11; *see also id.* at 40-41 (citing, *inter alia*, 54 Fed. Reg. 23,868, 23,879 (June 2, 1989) (clarifying in the preamble to 40 C.F.R. § 122.44 that subsection (d)(1)(vii) “do[es] not allow the permitting authority to delay developing and issuing a permit if a wasteload allocation has not already been developed and approved”); *see also* Ecology, *Water Quality Program Permit Writer’s Manual* (Revised July 2018) (hereinafter “Ecology Manual”) at 195 (“In the absence of a basin TMDL and the resultant WLA, the permit writer must develop an individual WLA.”).<sup>2</sup>

In its Permit Writer’s Manual, Ecology misstates the law by creating an exemption that is not justified or supported by the statute, federal or state regulations, or case law:

If the pollutant is a far-field pollutant, is present in the discharge and is the subject of a TMDL in progress, the permit writer may defer any water quality-based limits on the pollutant until the TMDL is completed and a WLA is assigned. When the WLA is assigned the permit writer may modify the permit or incorporate the WLA at the next reissuance, depending on timing.

*Id.* at 198.<sup>3</sup> Similarly, the guidance states that if a TMDL has not been started yet, the permit writer may ask the question: “Can the effluent be treated or can the effluent or pollutant(s) be removed seasonally at a cost which is economically achievable or reasonable”? *Id.* at 199 fig. 23. This question and the options that flow from its answers are not supported in federal law.

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<sup>2</sup> This statement is immediately contradicted on the next page in the Ecology Manual, which incorrectly asserts that a “basic principle” of permitting is that:

A point source discharging to a water body with multiple sources (point and nonpoint) of impairment, which is a minor source of the impairment, and may gain relief from a TMDL is not required to have a final limitation as the numeric water quality criteria before a TMDL is completed.

*Id.* at 196. In fact, there is no such exemption for minor sources in the statute or the regulations nor is there any provision for a permit writer to determine whether a TMDL may provide “relief” to a discharger. Ecology cites no law to support its principle.

<sup>3</sup> *See also, id.* at 179 (“Suspected water quality problems due to nutrients are best handled by a TMDL process conducted by the EA Program.”) While this may very well be true, if Ecology does not develop TMDLs its permit writers must still meet federal and state regulatory requirements when issuing NPDES permits.

There is no provision in the statute or regulations for deferring needed WQBELs based on TMDLs' being in progress. In fact, delaying an effluent limit due to the time needed to develop a TMDL is parallel to allowing a compliance schedule to meet an effluent limit due to the time needed to develop a TMDL—an approach EPA has determined is prohibited.<sup>4</sup>

Fifth, in the absence of a TMDL, is the permit writer obligated to assess the individual discharger's responsibility to cease contributing to violations of water quality standards? Not only do the federal regulations explain that the answer is clearly “yes,” as discussed above, but so has the First Circuit:<sup>5</sup>

The Act's TMDL and interim planning process both contemplate pollution control where multiple point sources cause or contribute to water quality standard violations. 33 U.S.C. § 1313(d), (e). Under earlier legislation, including the 1965 Federal Water Pollution Control Act, when a water body failed to meet its state-designated water quality standards, pollution limits could not be strengthened against any one polluter unless it could be shown that the polluter's discharge had caused the violation of quality standards. *See EPA v. California ex rel. State Water Res. Control Bd.*, 426 U.S. 200, 202-03 (1976). This standard was ill-suited to the multifarious nature of modern water pollution and prevented the imposition of effective controls. *Id.* In 1972, Congress declared that the system was “inadequate in every vital aspect,” and had left the country's waterways “severely polluted” and “unfit for most purposes.” S. Rep. No. 92-414, at 3674 (1971). The CWA rejected the earlier approach and, among other things, introduced individual pollution discharge limits for all point sources. 33 U.S.C. 1311(b). To maintain state water quality standards, the Act establishes the TMDL and continuing planning processes, which target pollution from multiple sources. *Id.* § 1313(d), (e). . . . We thus reject the notion that in order to strengthen the District's discharge limits, the EPA must show that the new limits, in and of themselves, will cure any water quality problems.

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<sup>4</sup> See Memorandum from James A. Hanlon, Director, Office of Wastewater Management, EPA, to Alexis Strauss, Director, Water Division, EPA Region 9 Re: *Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits* (May 10, 2007) at 3 (“A compliance schedule based solely on time needed to develop a Total Maximum Daily Load is not appropriate, consistent with EPA's letter of October 23, 2006 to Celeste Cantu, Executive Director of the California State Water Resources Control Board, in which EPA disapproved a provision of the Policy for Implementation of Toxic Standards for Inland Waters, Enclosed Bays, and Estuaries for California.”).

<sup>5</sup> Ecology has not even committed to using its modeling results for Puget Sound to develop a TMDL that would lead to wasteload allocations for dischargers such as this. *See, e.g., Ecology, South Puget Sound Dissolved Oxygen Study Water Quality Model Calibration and Scenarios* (March 2014) at 22 (“Ecology may not conduct a TMDL if alternative management approaches are used to address violations.”). The agency cannot simultaneously refuse to develop a TMDL and claim that it is waiting to complete a TMDL before it develops wasteload allocations for specific dischargers' NPDES permits.

*Upper Blackstone Dist.*, 690 F.3d at 32-33. The law clearly establishes that an NPDES permit may not be issued for discharges that may cause or contribute to violations of water quality standards. While “cause” may be considered to refer to the sole source of a violation, “contribute” sweeps all sources of a pollutant into the regulatory requirements, including the permittee. Federal regulations provide only very limited exceptions. For example, 40 C.F.R. § 122.44(d)(1)(ii) requires that in determining reasonable potential a permit authority “use procedures which account for existing controls on point and nonpoint sources of pollution.”

Last, there is a question related to whether the waterbody is impaired but is not currently listed on the state’s EPA-approved 303(d) list.<sup>6</sup> The key here is impairment, not the technicality of 303(d) listing. *See In re City of Taunton* at 38 (“NPDES regulations do not support the City’s contention that a permit authority must include effluent limits only for the pollutants discharged into receiving waters that are identified as impaired on the state’s 303(d) list.”). Moreover, the finding of reasonable potential has repeatedly been deemed to be a low bar in order to ensure that NPDES permits protect water quality. EPA regulations require that NPDES limits “*must* control all pollutants” that “*may be* discharged at levels” that will cause or contribute to violations. 40 C.F.R. § 122.44(d)(1)(i) (emphasis added). The emphasis is regulation of discharges that *may* be a problem. As the EAB observed of EPA’s action of issuing a permit with nutrient limits,

the Region observed that “[e]ven if the evidence is unclear that a pollutant is currently causing an impairment, a limit may be required if the pollutant has the reasonable potential to cause, or contribute to an exceedance of a water quality standard (i.e., the permit limit may be preventative).” Response to Comments at 36. The Region also noted that “the pollutant need not be the sole cause of an impairment before an NPDES limit may be imposed; an effluent limit may still be required, if the pollutant ‘contributes’ to a violation.” *Id.* (citing *In re Town of Newmarket*, NPDES Appeal No. 12-05, slip op. at 54 n. 23 (EAB Dec. 2, 2013), 16 E.A.D. \_\_\_\_). Ultimately, the Region concluded that the City’s discharges cause, have a reasonable potential to cause, or contribute to nitrogen-related water quality violations in the Taunton Estuary and Mount Hope Bay. . . . As such,

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<sup>6</sup> Ecology’s Permit Writer’s Manual incorrectly states the law in asserting two “basic principles.” The first assertion is that “[a] water body listed on the 303(d) list is not a presumption of impairment unless the listed section is the point of discharge.” *Id.* at 194. While this statement is less than clear, it appears to suggest that a discharge to a non-listed segment that flows into a downstream listed segment is not a discharge that contributes to a violation of water quality standards. This is incorrect. Washington’s water quality standards require that “[u]pstream actions must be conducted in manners that meet downstream water body criteria.” WAC 173-201A-260(3)(b); *see also* 40 C.F.R. § 131.10(b) (“the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.”).

CWA regulations required the Region to impose a nitrogen limit in the Permit.  
*See* 40 C.F.R. § 122.44(d)(1)(vi)[.]

*In re City of Tauton* at 37.

## **B. Applicable Water Quality Standards**

Water quality standards are defined as the designated beneficial uses of a water body, in combination with the numeric and narrative criteria to protect those uses and an antidegradation policy. 40 C.F.R. § 131.6. The CWA requires numeric criteria adopted in water quality standards to protect the “most sensitive use.” 40 C.F.R. § 131.11(a)(1).

However, since that is not always possible, the task of evaluating whether standards have been met also requires an assessment of the impacts to designated beneficial uses. In *PUD No. 1 of Jefferson County v. Washington Department of Ecology*, 114 S. Ct. 1900, 1912 (1994), the U.S. Supreme Court underscored the importance of protecting beneficial uses as a “complementary requirement” that “enables the States to ensure that each activity—even if not foreseen by the criteria—will be consistent with the specific uses and attributes of a particular body of water.” The Supreme Court explained that numeric criteria “cannot reasonably be expected to anticipate all of the water quality issues arising from every activity which can affect the State’s hundreds of individual water bodies.” *Id.*<sup>7</sup> In short, a permitting agency cannot ignore the narrative criteria and use only numeric criteria where either numeric criteria do not exist or where the numeric criteria fall short of providing full support for designated uses.

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<sup>7</sup> EPA regulations implementing section 303(d) of the CWA reflect the independent importance of each component of a state’s water quality standards:

For the purposes of listing waters under § 130.7(b), the term “water quality standard applicable to such waters” and “applicable water quality standards” refer to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements.

40 C.F.R. § 130.7(b)(3). When EPA adopted these regulations, it clearly stated the expectations it had of states:

In today’s final action the term “applicable standard” for the purposes of listing waters under section 303(d) is defined in § 130.7(b)(3) as those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses and antidegradation requirements. In the case of a pollutant for which a numeric criterion has not been developed, a State should interpret its narrative criteria by applying a proposed state numeric criterion, an explicit State policy or regulation (such as applying a translator procedure developed pursuant to section 303(c)(2)(B) to derive numeric criteria for priority

Washington's water quality standards for marine and fresh waters including Puget Sound are intended to be "consistent with public health and public enjoyment of the waters and the propagation and protection of fish, shellfish, and wildlife, pursuant to the provisions of chapter 90.48 RCW." WAC 173-201A-010(1). As in federal law, Washington's regulations make the legal definition of a water quality standard very clear: "All surface waters are protected by numeric and narrative criteria, designated uses, and an antidegradation policy." WAC 173-201A-010(1)(a). In addition, the state rules clarify that:

Compliance with the surface water quality standards of the state of Washington requires compliance with chapter 173-201A WAC, Water quality standards for surface waters of the state of Washington, chapter 173-204 WAC, Sediment management standards, and applicable federal rules.

WAC 173-201A-010(4). The designated uses for marine waters are set out at WAC 173-201A-612, Table 612. Currently applicable dissolved oxygen criteria applicable to Puget Sound waters are set out at WAC 173-201A-210(1)(d). The designated uses for freshwaters are set out in WAC 173-201A-602 Table 602. The dissolved oxygen criteria for freshwater are set out in WAC 173-201A-200(1)(d). In addition, the following standards apply to both marine and fresh waters:

Upstream actions must be conducted in manners that meet downstream water body criteria. Except where and to the extent described otherwise in this chapter, the criteria associated with the most upstream uses designated for a water body are to be applied to headwaters to protect nonfish aquatic species and the designated downstream uses.

WAC 173-201A-260(3)(b). Likewise, the following narrative criteria also apply to both marine and fresh waters:

Toxic, radioactive, or deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health[.]

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toxic pollutants), EPA national water quality criteria guidance developed under section 304(a) of the Act and supplemented with other relevant information, or by otherwise calculating on a case-by-case basis the ambient concentration of the pollutant that corresponds to attainment of the narrative criterion. Today's definition is consistent with EPA's Water Quality Standards regulation at 40 CFR part 131. EPA may disapprove a list that is based on a State interpretation of a narrative criterion that EPA finds unacceptable.



Aesthetic values must not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste[.]

WAC 173-201A-260(2)(a), (b) (hereinafter “narrative criteria”); *see also* WAC 173-201A-210(1)(b).

Finally, Washington’s water quality standards contain an antidegradation policy, the purpose of which is to “[r]estore and maintain the highest possible quality of the surface waters of Washington” and “apply to human activities that are likely to have an impact on the water quality of a surface water.” WAC 173-201A-300(2)(a), (c). To ensure this outcome, Tier I of the antidegradation policy “is used to ensure existing and designated uses are maintained and protected and applies to all waters and all sources of pollution.” *Id.* (2)(e)(i). Tier I requires:

- (1) Existing and designated uses must be maintained and protected. No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses, except as provided for in this chapter.
- (2) For waters that do not meet assigned criteria, or protect existing or designated uses, the department will take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards.

WAC 173-201A-310. Federal regulations explain the meaning of “existing uses” that may not be designated uses: Tier I requires the maintenance and protection of “[e]xisting instream water uses and the level of water quality to protect the existing uses[.]” 40 C.F.R. § 131.12(a)(1). Existing uses are “those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.” 40 C.F.R. § 131.13(e).

Washington’s antidegradation policy also includes the purpose of “ensur[ing] that all human activities that are likely to contribute to a lowering of water quality, at a minimum, apply all known, available, and reasonable methods of prevention, control, and treatment (AKART)[.]” WAC 173-201A-300; *see also* Laws of 1945, Ch. 216, § 1; RCW 90.48.520; RCW 90.52.040; RCW 90.54.020(3)(b); Washington Attorney General Opinion, AGO 1983 No. 23; Northwest Environmental Advocates, Petition for Rulemaking to Adopt a Presumptive Definition of “All Known, Available, and Reasonable Treatment” as Tertiary Treatment for Municipal Sewage Dischargers to Puget Sound and its Tributaries (Nov. 14, 2018) (hereinafter “AKART Petition”). AKART is defined as “the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge.” WAC 173-201A-020. No discharger may be granted a mixing zone if it is not fully compliant with AKART. WAC 173-201A-400(2).

NWEA #12  
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NWEA #1

**II. THIS PERMIT FAILS TO COMPLY WITH THE CLEAN WATER ACT AND EPA'S IMPLEMENTING REGULATIONS**

The proposed permit fails to comply with the legal requirements associated with issuing NPDES permits set out in Section I above. All current point source discharges of both nitrogen and toxics to Puget Sound, including from this permittee, are causing or contributing to violations of water quality standards in Puget Sound. The exact location of the point of any given discharge and its impairment status on the EPA-approved 303(d) list is irrelevant to this conclusion for several reasons. First, Ecology has carved the Puget Sound up into thousands of segments or grid cells and it does not and cannot expend the resources to obtain data for that number of small areas of Puget Sound. It cannot carve a waterbody into minute pieces for modeling or 303(d) listing purposes and then point to the absence of data for all the pieces as a rationale to avoid regulation. Second, the effects of both nutrients and toxics do not occur only at the point of discharge but, rather, in combination with other sources and other parameters wherever the circulation of water takes it. These far-field effects are not linked to effects at the precise point of discharge and therefore the analysis for the permit cannot be done on that basis alone. Ecology's statement that toxics are "near-field pollutants; their adverse effects diminish rapidly with mixing in the receiving water," Fact Sheet at 74, is factually incorrect.

In addition:

- Water quality standards are ignored or misrepresented in ways that include but are not limited to the following:
  - Receiving water quality for the discharges is incorrectly described and ignored in determining the need for effluent limitations. *See* 40 C.F.R. §§ 122.4(a), (d), 122.44(d)(1), 131.4(h); OAR 340-041-0046(2), OAR 340-041-0002(70).
  - Ecology ignores and misrepresents the legal definition of water quality standards in evaluating whether and how to calculate effluent limits. 33 U.S.C. § 1313(a)(3), (c)(2)(a); 40 C.F.R. §§ 131.3(b), (e), (i), 131.6(a), (c), (d), 131.12(a)(1); 40 C.F.R. §§ 122.4, 122.44(d)(1); *see also PUD No. 1 of Jefferson Cnty. v. Wash. Dept. of Ecology*, 114 S.Ct. 1900 (1994).
  - Ecology failed to establish effluent limits based on and that will ensure the protection of designated uses. 40 C.F.R. §§ 122.4, 122.44(d)(1). Boilerplate conclusions are inadequate.
  - Ecology failed to establish effluent limits based on, and that will ensure compliance with, the numeric water quality criteria. 40 C.F.R. §§ 122.4, 122.44(d)(1).
  - Ecology failed to establish effluent limits based on, and that will ensure compliance with, the narrative water quality criteria. 40 C.F.R. §§ 122.4, 122.44(d)(1). Boilerplate conclusions are inadequate. Note, for example, that EPA recently informed Ecology that nine of its numeric criteria for the protection of aquatic life are outdated and not sufficiently protective. Letter from Radhika Fox, EPA AA, to Laura Watson, Director Ecology (May 25, 2023) (pertaining to criteria for acrolein, aluminum, arsenic, cadmium, copper, cyanide, mercury, nickel, and selenium, some of which are at issue in this permit).

- Ecology failed to establish permit limits that will ensure compliance with the state antidegradation policy. Boilerplate conclusions are inadequate.
- Ecology has failed to demonstrate the proposed permit and the proposed discharge comply with the requirements of AKART. “‘AKART’ is an acronym for ‘all known, available, and reasonable methods of prevention, control, and treatment.’ AKART shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge.” WAC 173-201A-020. The AKART standard is required for all dischargers. RCW 90.54.020(3)(b), 90.54.040; WAC 173-220-130(1)(a). AKART applies to discharges from domestic wastewater facilities. *Id.*; WAC 173-221-010. Boilerplate conclusions are inadequate.
- Some authorized mixing zones in the permit are or may be illegal including, but not limited to, for the following reasons:
  - AKART is required in order to obtain a mixing zones in Washington State. *See* WAC 173-201A-400(2); *see also BNSF Railway Co. v. Washington Ecology*, PCHB No. 11-150, Order on Summary Judgment (Dec. 4, 2012) at 20 (“Ecology’s regulation governing mixing zones does require a showing that the applicant has fully implemented AKART before a mixing zone may be granted.”).
  - Mixing zones authorized by the permit are not consistent with federal law because they result in the discharges contributing to violations of water quality standards. *See* 33 U.S.C. § 1313(a)(3), (c)(2)(a); 40 C.F.R. §§ 122.4, 122.44(d)(1).
  - Ecology has failed to comply with Washington case law on mixing zones. Citing WAC 173-201A-400(7), (8), “[t]he granting of a mixing zone, which allows the discharge of pollutants at a greater concentration than the calculated effluent limit, is an exception to the water quality standards and is to be granted sparingly.” *Puget Soundkeeper Alliance v. Washington Ecology*, PCHB No. 13-137c, Findings of Fact, Conclusions of Law, and Order (July 23, 2015) at 43. Moreover, it held that “[g]iven their persistence and ability to bioaccumulate and biomagnify, a mixing zone for PCBs should rarely, if ever, be granted. *Id.* at 46. The PCHB cited to EPA’s concerns and the effect of dischargers of toxic pollutants on contamination of sediments. *Id.* Because toxic pollutants are not only near-field pollutants, Ecology’s failure to consider persistence and bioaccumulation of toxic contaminants in granting mixing zones is a violation of law.
  - Ecology incorrectly issues mixing zones for human pathogens. *See* Fact Sheet at 84. This is not saved by a citation to WAC 173-201A-400(11) that allows mixing zones for untreated CSO discharges. *See* Fact Sheet at 69. Unlike the rationale for aquatic life, in which fish can and often will avoid pollutants at hazardous levels, humans are not able to discern and then avoid discharges with unsafe levels of human pathogens. *See, e.g.,* 40 C.F.R. § 122.44(d)(1)(ii) (“When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the

variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and *where appropriate*, the dilution of the effluent in the receiving water.”) (emphasis added). Mixing zones that cannot be detected or avoided are not “appropriate.”

- WET testing of effluent does not fully evaluate cumulative toxicity of effluent, contrary to Ecology’s assertion. *See* Fact Sheet at 68.
- The permit fails to ensure that it will provide for compliance with applicable requirements of the Clean Water Act including, but not limited to, the following reasons:
  - For the West Point facility, Ecology may not assume that background concentrations for chlorine, cyanide, pentachlorophenol, and selenium are zero. *See* Fact Sheet at 90. The same is true for toxic pollutants where Ecology asserts that it does not have valid background data for the CSO treatment plants. *Id.* at 90–95. The same is true for toxic pollutants in covered discharges assessed for their impact to human health and compliance with human health numeric criteria. *Id.* at 95.
  - Mixing zones are not appropriate for bioaccumulative toxic pollutants.
  - Ecology cannot issue a permit without having conducted a reasonable potential analysis, as it states it plans to do for the Georgetown CSO Treatment Plant. *See id.* at 94.
  - Ecology fails to explain what area around these discharges qualify as “background concentrations” for the purpose of evaluating reasonable potential that the discharges will cause or contribute to violations of water quality standards.
- Monitoring and reporting are not consistent with legal requirements such as those set out at 40 C.F.R. §§ 122.43, 122.44(i), 122.48, including but not limited to the following:
  - Monitoring is not required for receiving water quality (including ambient, sediment, tissue) despite lack of data identified by Ecology.
  - The permit fails to require sufficient monitoring to carry out the assertions made in the Fact Sheet that “[a]s sufficient data becomes available, King County must, in consultation with Ecology, reevaluate its local limits in order to prevent pass-through or interference.” Fact Sheet at 103; *see also id.* at 100 (As a pretreatment publicly owned treatment works (POTW), KC-WTD is required to sample influent, final effluent, and biosolids for toxic pollutants in order to characterize the industrial input. Sampling is also done to determine if pollutants interfere with the treatment process or pass-through the plant to the sludge or the receiving water. King County will use the monitoring data to develop local limits which commercial and industrial users must meet.”).
- The Fact Sheet and Permit fail to explain the derivation of appropriate water quality-based effluent limits that are incorporated into the proposed permit and their consistency with 40 C.F.R. §§ 122.4, 122.43, 122.44, 122.47, 124.9, 124.56 including but not limited to the following:

**NWEA #4**

- The Fact Sheet does not demonstrate that the compliance schedule for the Elliot West CSO treatment plant improvements are consistent with federal compliance schedule regulations including that compliance be as soon as possible. 40 C.F.R. § 122.47(a)(1). Moreover, the compliance schedule in Permit ¶ S15.A, Table 36, does not demonstrate that it will meet the CWA because it ends with the completion of bidding for the improved project, not with compliance with effluent limits. *See* Memorandum from James A. Hanlon, EPA Office of Wastewater Management to Alexis Strauss, Director EPA Region 9 Water Division, Re: Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits (May 10, 2007).

**NWEA #5**

- The Fact Sheet does not explain how Ecology addressed effluent limitations related to contaminated sediments near the Georgetown and Henderson/MLK CSO Treatment Plants. *See* Fact Sheet at 49, 50. Remediation, either past or future, is not the legal standard pertaining to the discharge of pollutants pursuant to the CWA.

**NWEA #6**

- The Fact Sheet does not explain how Ecology has determined effluent limits for the “untreated CSO outfalls” listed in Table 26 of the Fact Sheet including many where monitoring has demonstrated that sediment quality standards have been exceeded. Fact Sheet at 50–53.

**NWEA #7**

- The permit fails to comply with pretreatment requirements. As the Fact Sheet describes, the proposed permit requires monitoring for PFAS in influent to West Point, that the permittee “[i]dentify and locate all possible industrial users with discharges that are expected or suspected to contain PFAS,” and that the permittee identify BMPs it “can require of industrial users.” Fact Sheet at 103; *see also* Permit ¶ S6.E. This is not sufficient.

- First, not only “industrial users” may be discharging PFAS to the influent.
- Second, the use of the phrase “industrial users” is vague. Permit Condition S6.E.1 contains a list and then the statement that “[o]ther industries may include centralized waste treatment facilities, industrial laundries, or remediation sites.” *Id.*
- Third, it is unclear why it will take the permittee nearly two years to complete a list. At a minimum, the permit should require completion of the list in a much faster timeframe—not more than one year—with periodic additions if they are needed, rather than making identification of PFAS sources a one-time provision.
- Fourth, there is no basis for the two-year timeframe for the permittee to “begin including a requirement in pretreatment permits” to complete an evaluation. The delay in putting the requirement into the pretreatment permits will then result in a delay in completing the evaluations. It does not take long to write such requirements, certainly not the proposed two years. In addition, the word “begin” means that there is no timeframe whatsoever for all of the identified PFAS sources to have such requirements included in their pretreatment permits.
- The proposed permit implies that PFAS controls need only be limited to “encouraging pollution prevention, product substitution, and good housekeeping practices.” Permit ¶ S6.E.3 (emphasis added). This is wholly inadequate to

ensure that PFAS is not discharged to the permittee's sewage collection system to the maximum extent possible. What kind of regulatory permit contains a condition limited to "encouraging" polluters to do the right thing? In addition, it is unclear what the meaning of Permit Condition ¶ S6.E.3 really is. The verb "evaluate" likely means "By July 1, 2025 *have evaluated*." The permit should require the results of this evaluation to be submitted to Ecology and made public.

- Ecology should include at a minimum those recommendations made by EPA. *See* Memorandum from Radhika Fox, EPA AA, to EPA Regional Water Division Directors, Re: *Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment and Monitoring Programs* (Dec. 5, 2022). There is no need for NWEA to go through this entire guidance document and point out all the places where Ecology is ignoring it. Note, for example, that Ecology has chosen to propose a permit without monitoring for PFAS in the effluent and biosolids of the permittee's waste. Moreover, Ecology should go beyond the minimum suggested by EPA for publicly owned treatment works and incorporate all of the provisions set out in the recommendations for direct industrial dischargers to apply to indirect pretreaters. *Id.* at 2–4.

**NWEA #8**

**III. THIS PERMIT CANNOT DEFER TO THE PUGET SOUND NUTRIENT GENERAL PERMIT BECAUSE THE GENERAL PERMIT DOES NOT CONFORM TO THE CLEAN WATER ACT**

Despite its conclusion that nitrogen from this facility has a "reasonable potential to contribute to existing low dissolved oxygen levels, below state water quality criteria, in the Salish Sea (which includes Puget Sound)," Fact Sheet at 83, Ecology asserts that it does not need to include nitrogen in its analysis and permit conditions for West Point because that pollutant is addressed with "requirements for the control and monitoring of nutrients," in the Puget Sound Nutrient General Permit ("PSNGP"), *id.* In this brief discussion, Ecology makes no mention of the *status* of the PSNGP on which it relies. In fact, significant portions of the permit are currently stayed because the numerous appeals of the general permit to the Washington Pollution Control Hearings Board ("PCHB") have been stayed indefinitely: "The PCHB has stated that it will not issue a decision or summary judgement until there is a resolution of a Thurston County Superior Court case that is currently before the Court of Appeals (Case # 56859-4-II). This means the PCHB hearing will likely be postponed until later in 2023 or 2024."<sup>8</sup> Among effluent limits that Ecology has stayed is the narrative requirement to comply with water quality standards, PSNGP Permit Special Condition S3.<sup>9</sup> This prohibits a covered discharge from causing or contributing to violations of water quality standards. *See* PSNGP Permit Special Condition S3.A. And it

presumes that a Permittee complies with water quality standards unless

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<sup>8</sup> Ecology, Appeals of the General Permit *available at* <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Nutrient-Permit>.

<sup>9</sup> PCHB, *Amended Stipulation for Partial Stay of Puget Sound Nutrient General Permit*, PCHB 21-082c (Jan. 14, 2022) (hereinafter "Stay").



discharge monitoring data or other site-specific information demonstrates that a discharge causes or contributes to a violation of water quality standards, when the Permittee complies with the following conditions. The Permittee must fully comply with all permit conditions, including planning, optimization, corrective actions (as necessary), sampling, monitoring, reporting, waste management, and recordkeeping conditions.

PSNGP Permit Special Condition S3.B. In other words, the general permit to which Ecology has tied its analysis of the WQBEL required for West Point currently does not meet the requirements of the Clean Water Act if, indeed, PSNGP permit conditions S3 A and B accomplish that task, which they do not.

Likewise, the stay removes the following language from PSNGP General Condition G1: “Failure to follow the corrective action requirement after discharge of TIN at a level that exceeds the action level identified and authorized by the general permit constitutes a violation of the terms and conditions of this permit.” Stay ¶ 5. And it suspends Special Conditions S4.D.2 and S5.D.2 both of which constitute a requirement to:

submit for review a proposed approach to reduce the annual effluent load by at least 10% below the action level listed in Table 5 for individual plants or Table 6 for multiple plants under a bubbled action level. This must be an abbreviated engineering report or technical memo, unless Ecology has previously approved a design document with the proposed solution. The proposed approach must utilize solutions that can be implemented as soon as possible.

PSNGP Permit Special Condition S4.D.2; Stay ¶ 3. Finally, the optimization provisions of the Puget Sound Nutrient General Permit are partially suspended. *Id.* ¶ 2 (“The [Special Conditions S4.C.3, S5.C.3, and S6.B.2.b optimization] conditions do not require permittees to consider optimization strategies that reduce the volume of septage or influent to the subject facilities, impose building moratoria, or require significant operational changes that would reduce treatment capacity at the facilities.”). It is unclear why Ecology thinks it can rely on an NPDES permit that is no longer fully in effect as the basis for issuing this permit without conditions that assure compliance with the Clean Water Act.

The status of the PSNGP is not the only reason why Ecology cannot ignore nitrogen discharges from West Point. In addition, the PSNGP does not ensure compliance with the Clean Water Act and implementing regulations even if none of its provisions were stayed. *See, e.g., Puget Soundkeeper Alliance v. Department of Ecology*, Notice of Appeal (Puget Sound Nutrient National Discharge Elimination System General Permit) (Dec. 22, 2021), at 4–10.

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NWEA #9

**IV. THE PERMIT LACKS AN INTELLIGIBLE AND NECESSARY NARRATIVE PROHIBITION ON CAUSING OR CONTRIBUTING TO VIOLATIONS OF WATER QUALITY STANDARDS**

The proposed permit does not comply with the CWA and its implementing regulations because in many respects it fails to ensure that the authorized discharges will not cause or contribute to violations of water quality standards. Absent the specific, detailed limits necessary to ensure such compliance, the permit must a minimum include a clear narrative prohibition on the discharge of pollutants that will cause or contribute to water quality standards violations. A prohibition such as “notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted that will violate water quality standards as adopted in WAC chapter 173-201A except in the defined mixing zone,” would meet this requirement. This type of provision is necessary to both put the permittee on notice that it must take the steps necessary to ensure compliance with water quality standard—even if that means going above and beyond the specific measures outlined in the permit—and allow for enforcement of the permit where the permittee fails to act. As EPA stated in a 1994 amicus brief before the Ninth Circuit Court of Appeals,

EPA and states commonly include permit conditions prohibiting discharges that cause violations of state water quality standards using language similar to that employed here, particularly when regulating stormwater discharges or combined sewer and stormwater overflows (“CSOs”). Because citizen enforcement provides a crucial supplement to state and federal enforcement, the panel decision threatens to undermine severely an important source for enforcement of a proper, commonly used permit condition.<sup>10</sup>

The Ninth Circuit ruled in favor of plaintiffs, who were seeking to enforce such a narrative prohibition provision, and EPA.<sup>11</sup> More recently, in its defense of a CSO permit for San Francisco issued by EPA, EPA vigorously defended the use of such narrative effluent limitations in NPDES permits stating:

EPA may include a narrative prohibition so long as it determines it is “necessary” to meet water quality standards under CWA section 301(b)(1)(C). 33 U.S.C. § 1311(b)(1)(C). . . . [C]ourts have recognized—consistent with this broad grant of statutory authority—EPA’s ability to include in permits broad narrative prohibitions on violating water quality standards. And EPA reasonably does not

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<sup>10</sup> *Northwest Environmental Advocates v. City of Portland*, No. 92-35044, Brief of the Environmental Protection Agency Supporting the Petition for Rehearing/Suggestion for Rehearing En Banc (Feb. 10, 1994) at 2 (emphasis added).

<sup>11</sup> *Nw. Env't. Advocates v. City of Portland*, 56 F.3d 979 (9th Cir. 1995).



interpret its implementing regulations at 40 C.F.R. § 122.44(d)(1)(i)-(vi) as precluding the utilization of narrative prohibitions.<sup>12</sup>

EPA described its inclusion of a narrative prohibition on the discharges' causing or contributing to violations of water quality standards as “a backstop ‘to ensure compliance with applicable water quality standards in accordance with the CWA and [its implementing regulations].’” *Id.* at 55. This backstop was in addition to, not to the exclusion, of numeric effluent limitations. *Id.* at 24, 50.

Not only may Ecology include such a backstop, Ecology is required to include such a narrative limitation in a permit such as West Point. EPA regulations mandate all NPDES permits contain “any requirements . . . necessary to . . . [a]chieve water quality standards.” 40 C.F.R. § 122.44(d)(1). The regulations further require that permits control “all pollutants . . . which [the permit authority] determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.” *Id.* § 122.44(d)(1)(i). Additionally, the regulation establishes a process for setting pollutant-specific effluent limits when a permit authority determines that a specific pollutant has the reasonable potential to cause or contribute to a violation of WQS. *Id.* § 122.44(d)(1)(ii)-(vii). These provisions work in tandem. As the Environmental Appeals Board (“EAB”) noted below, the latter provisions provide a framework for generating numeric, pollutant-specific limitations, but the opening language in section 122.44(d)(1)—requiring any conditions “necessary . . . to [a]chieve water quality standards”—preserves the permit authority’s power—and responsibility—to impose other requirements as necessary to ensure compliance with water quality standards, including narrative prohibitions where appropriate. As the EAB put it,

Provisions generally prohibiting discharges from violating [WQS] are frequently included in NPDES permits in addition to more specific “end-of-pipe” effluent limits. . . . In effect, they serve as “backstops” in the event that more specific limits or provisions prove inadequate . . . . Such provisions also provide a mechanism for addressing water quality violations that a permittee causes due to unanticipated circumstances or changes to effluent quality.<sup>13</sup>

Nothing in section 122.44(d)(1) indicates that the requirement to develop numeric limits in specified situations displaces the general authority granted in the very first sentence of that provision. And it is logical that the broader authority in the first sentence ensures that permit authorities have a “catch-all” authority to satisfy CWA section 301(b)(1)(C)’s mandate in

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<sup>12</sup> *City and County of San Francisco v. EPA*, Case No. 21-70282, Brief for U.S. Environmental Protection Agency (Nov. 24, 2021) at 52.

<sup>13</sup> *In re: City and County of San Francisco* 18 E.A.D. 322, 341 (EAB 2020).

situations where there is a risk that the numeric WQBELs will not alleviate all water quality concerns. There is such a risk here with the West Point NPDES permit.

While it may seem odd that the regulation features what is essentially a “backstop” authority before it addresses the need to establish numeric requirements, that dynamic is explained by the historical development of the relevant provisions. Until 1989, EPA’s regulations did not include specified procedures for deriving pollutant-specific effluent limits. Instead, the regulations simply required permit authorities to include “any requirements . . . necessary to . . . [a]chieve water quality standards[.]” 40 C.F.R. § 122.44(d)(1) (1988). In 1989, as explained more fully below, EPA revised its regulations to include specified procedures for establishing numeric limits. *See* 54 Fed. Reg. 23,868 (June 2, 1989). Instead of reorganizing subsection (d)(1), however, EPA simply tacked the requirement to establish numeric limits onto its existing framework. Pointedly, neither the text of the revised regulation nor the lengthy preamble accompanying these changes contains any hint that these newly-created procedures were intended to displace the permit authorities’ broad authority to include “any” requirements necessary to ensure compliance with water quality standards.

Properly understood, section 122.44(d)(1) imposes overlapping obligations on permit authorities. First, it requires them to always impose whatever conditions are necessary to ensure compliance with water quality standards. And second, it supplements this authority by identifying specific contexts where those same permit authorities must follow predetermined procedures to develop numeric WQBELs. Taken together, these provisions give permit authorities a range of tools to implement CWA section 301(b)(1)(C).

In *City of Portland*, the Ninth Circuit held that citizens—and the state and EPA—may enforce narrative prohibitions requiring compliance with water quality standards. While the Court’s holding was limited to the enforceability of these conditions, its logic is equally applicable to the initial establishment of those same conditions, as in the issuance of the West Point permit. In pertinent part, the Court began its discussion by noting that the relevant Senate Report underlying the 1972 Amendments to the CWA made clear that “Congress recognized that water quality standards ‘often cannot be translated into effluent limitations.’” 56 F.3d at 989 (citing Federal Water Pollution Control Act Amendments of 1972, S.Rep. No. 92-414, 92<sup>nd</sup> Cong., 2nd Sess., reprinted in 1972 U.S.C.C.A.N. 3668, 3675 (1972)). The Court concluded that the effect of precluding enforcement of the narrative prohibitions would be to “immunize the entire body of qualitative regulations from an important enforcement tool,” and that the CWA should be read to avoid that result. *Id.*

Similarly, if it does not include a clear narrative prohibition in this permit, Ecology will immunize West Point from compliance with CWA section 301(b)(1)(C). Reading 40 C.F.R. § 122.44(d)(1) to both authorize and require narrative prohibitions where, as the *City of Portland* Court put it, “certain water quality standards cannot be expressed quantitatively,” 56 F.3d at 989, is the only way to harmonize that requirement with the CWA’s “permit shield” provision in

section 402(k). Under this latter provision, compliance with an NPDES permit is, for most purposes, deemed compliance with the statute. It is an incorrect reading of the statutory and regulatory requirements to conclude that section 122.44(d)(1) does not require the use of narrative prohibitions because to do so is to suggest that Sandy Point should be able to take advantage of this safe haven even where it would be difficult or impossible for EPA to impose numeric limits ensuring compliance with the relevant standards, including narrative criteria. Put another way, West Point would be able to avail itself of the permit shield without a concomitant obligation to protect public water quality. In the words of the Ninth Circuit in *City of Portland*, the relevant standards would thus be “immunize[d]” from the possibility of enforcement. 56 F.3d at 989. This reading cannot be squared with CWA section 301(b)(1)(C).

Why, precisely, is this all true for West Point? The reason is simple: Ecology is well aware that all sewage treatment plants, including West Point, discharge pollutants for which it has made no evaluation of compliance with water quality standards. One is nitrogen. Another example is the PFAS family of chemicals, for which Ecology now proposes to require influent monitoring in this permit but no effluent monitoring or WQBEL.<sup>14</sup> Ecology does little to explain the issue of PFAS in the influent of West Point, *see* Fact Sheet at 103, but it says nothing at all about PFAS in the effluent. Nor does it even include a requirement that West Point’s effluent be monitored for PFAS despite the certainty of its presence there. *See id.* (Fact Sheet’s confirming only influent monitoring). Ecology cannot concurrently conclude that there is a sufficient rationale for PFAS monitoring—“[p]er- and polyfluoroalkyl substances (PFAS) are a class of persistent chemicals known as widespread pollutants that have been found in food, water, people, and the environment,” *id.*, knowing full well that PFAS is ubiquitous in sewage—and conclude that there is no basis for a prohibition on PFAS discharges that may cause those adverse effects after being discharged to Puget Sound. The CWA does not create an exclusion from CWA section 301(b)(1)(C) for those pollutants for which Ecology has not obtained sufficient information on which to base a numeric effluent limit. Ecology’s proposed monitoring for PFAS chemicals—which does not even include in the facility’s effluent—is insufficient to make this permit comply with the CWA.

Unlike recent draft permits proposed for issuance by EPA, the West Point permit merely refers to “PFAS,” without elaboration. In contrast, EPA’s proposed permits for the Lummi Tribal Sewer and Water District’s Gooseberry Point and Sandy Point sewage treatment plants, it included 40 named PFAS chemicals for both influent and effluent monitoring, and sludge.<sup>15</sup>

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<sup>14</sup> *See* Draft Permit S2.A, Table 21 (Influent PFAS monitoring).

<sup>15</sup> *See, e.g.,* EPA, Permit No. WA0025666, *Authorization to Discharge Under the National Pollutant Discharge Elimination System Gooseberry Point Wastewater Treatment Plant Lummi Tribal Sewer and Water District (LTSWD)* (undated draft) at ¶¶ I.B.1 (Table 1. Effluent Limitations and Monitoring Requirements), I.B.9 (Table 2, PFAS Chemicals to be Analyzed), listing 40 individual PFAS chemicals).

But PFAS chemicals are just the tip of the iceberg of toxic pollutants that are likely discharged by the facility for which Ecology proposes no numeric or narrative effluent limitation. Many studies have demonstrated that sewage treatment plants discharge a wide variety of toxic constituents that, like PFAS, have been ignored by EPA's regulatory programs for decades. EPA terms these "contaminants of emerging concern" ("CECs") and describes them on its website as follows:

Contaminants of emerging concern (CECs), including pharmaceuticals and personal care products (PPCPs), are increasingly being detected at low levels in surface water, and there is concern that these compounds may have an impact on aquatic life.

\* \* \*

There are many CECs and PPCPs that act as so-called endocrine disruptors (EDCs). EDCs are compounds that alter the normal functions of hormones resulting in a variety of health effects. EDCs can alter hormone levels leading to reproductive effects in aquatic organisms, and evaluating these effects may require testing methodologies not typically available along with endpoints not previously evaluated using current guidelines.

The emerging contaminants may also demonstrate low acute toxicity but cause significant reproductive effects at very low levels of exposure. In addition, the effects of exposure to aquatic organisms during the early stages of life may not be observed until adulthood. Therefore, traditional toxicity test endpoints may not be sufficiently comprehensive for criteria derivation for these chemicals and the chemicals may also have specific modes of action that may affect only certain types of aquatic animals (e.g., vertebrates such as fish).<sup>16</sup>

While some of these pollutants come from indirect dischargers of industrial-type effluent to sewage treatment plant collection systems and are regulated pursuant to pretreatment regulations, many CECs are not from such industrial sources but, rather, are contained in sewage not affected by indirect dischargers or stormwater.

For example, King County itself recently described the many CECs not associated with pretreatment sources:

Many thousands of chemicals are not regulated by the EPA and are known as "chemicals of emerging concern" or CECs. CECs can refer to many different kinds of chemicals, including medicines, personal care products, household

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<sup>16</sup> EPA, Contaminants of Emerging Concern including Pharmaceuticals and Personal Care Products, *available at* <https://www.epa.gov/wqc/contaminants-emerging-concern-including-pharmaceuticals-and-personal-care-products>.

cleaning products, lawn care products, and agricultural products, among others. Naturally occurring human hormones and many pharmaceuticals are, to a large degree, not broken down in the human body and are excreted in urine or feces into the regional sewer system. Some CECs, such as per- and polyfluoroalkyl substances (PFAS), are known as “forever chemicals” because they last in the environment for a long time without breaking down and can accumulate in some animal tissues. PFAS are used in fire-fighting foams, cooking utensils, carpets, clothing, food packaging, and other household products and are found in urine, feces, dishwater, and laundry water.

Another group of chemicals, polybrominated diphenyl ethers, or PBDEs, are used as flame retardants in several applications, including textiles, plastics, wire insulation, and automobiles. Some PBDEs are also very long-lived and can accumulate in some animal tissues. Pharmaceuticals and personal care products are not regulated as priority pollutant organic chemicals and are primarily found in domestic wastewater sources and medical wastes, as opposed to industrial discharges.<sup>17</sup>

This extensive report is just the latest such analysis that provides Ecology with an understanding of the types of toxic pollutants likely present in the West Point discharge that it has not evaluated for reasonable potential to cause or contribute to violations of water quality standards including narrative criteria, and the types of pollutants for which it has, therefore, not established numeric criteria. The fact that Ecology has not conducted such an evaluation and has not made a determination of reasonable potential does not eliminate the fact that these chemicals are in the West Point discharges.

Among the likely CECs not evaluated by Ecology but present in the discharge are polybrominated diphenyl ethers (“PBDE”). As EPA points out on its website,

EPA is concerned that certain PBDE congeners are persistent, bioaccumulative, and toxic to both humans and the environment. The critical endpoint of concern for human health is neurobehavioral effects. Various PBDEs have also been studied for ecotoxicity in mammals, birds, fish, and invertebrates. In some cases, current levels of exposure for wildlife may be at or near adverse effect levels.<sup>18</sup>

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<sup>17</sup> King County, *Toxics in King County Wastewater Effluent, Evaluating the Presence of Toxic Elements in the Effluent of Treatment Plants* (Dec. 2022) at 11–12.

<sup>18</sup> EPA, Assessing and Managing Chemicals under TSCA, Polybrominated Diphenyl Ethers (PBDEs), Why is EPA concerned about these chemicals?, *available at* <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/polybrominated-diphenyl-ethers-pbdes>.

EPA has pointed out that among designated beneficial uses of Puget Sound, the endangered Southern Resident killer whales are known as among the most contaminated marine mammals in the world, including from PBDEs.<sup>19</sup> This pollutant has likewise been identified as a major threat to the Southern Resident killer whales by the National Marine Fisheries Service (“NMFS”). As described by NMFS in 2012, PBDEs:

have been used as additive flame-retardants in many products including electronics, textiles, and plastics. Additive flame-retardants can readily disassociate from the products they are added to and discharge into the environment. Due to the increase in fire regulations in many countries, the use of PBDEs has increased in the last few decades. PBDEs have been identified as a growing concern and have a ubiquitous distribution with increasing levels found in various matrices including surface water, sewage sludge, sediment, air, and biota (Hale et al. 2003, Hites 2004). PBDEs are structurally comparable to PCBs and share some similar toxicological properties (Hooper and McDonald 2000).

\* \* \*

Although specific regional data is limited for PBDE levels, the environmental levels of a few PBDE congeners appear to have surpassed PCBs in some areas in North America (Hale et al. 2003, Ross et al. 2009). Recent studies have documented relatively high concentrations of PBDEs in Southern Resident killer whales (Krahn et al. 2007a, 2009, Mongillo 2009). Although PBDE levels in the whales are lower than PCBs or DDTs (Krahn et al. 2007a, 2009), concern is growing because PBDE exposure and accumulation will likely continue in the future increasing the risk to the health of the killer whales. Several other marine species have recently experienced an almost exponential increase in PBDE concentrations (e.g., Ikononou et al. 2002, Lebeuf et al. 2004).<sup>20</sup>

NMFS reported that current levels of PBDE in the endangered Southern Resident killer whales have been found in the range of 199–2,745 ng/g wet weight as compared to “threat levels” determined for grey seals at concentrations of 170–460 ng/g lipid wet in blubber.<sup>21</sup>

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<sup>19</sup> EPA, Salish Sea, Southern Resident Killer Whales, Why Is It Happening?, Current Threats to Killer Whale Recovery, *Pollution and Contaminants*, available at: <https://www.epa.gov/salish-sea/southern-resident-killer-whales#about> (last accessed Nov. 30, 2022) (“Individuals have been found to carry some of the highest PCB concentrations reported in animals, with levels in blubber exceeding those known to affect the health of other marine mammals. Other contaminant levels, such as the levels of DDT and PBDEs, are also found in high levels, especially in juvenile killer whales.”).

<sup>20</sup> NMFS, *Jeopardy and Destruction or Adverse Modification of Critical Habitat Endangered Species Act Biological Opinion for Environmental Protection Agency’s Proposed Approval of Certain Oregon Administrative Rules Related to Revised Water Quality Criteria for Toxic Pollutants* (Aug. 14, 2012) at 81–82.

<sup>21</sup> *Id.* at 540, Table 2.8.1.

NMFS has also focused on the effect of PBDEs on threatened and endangered salmonids, which themselves are key prey of the Southern Resident killer whales. NMFS scientists have shown that Chinook salmon exposed to PBDEs caused “reduced survival during challenge with the pathogenic marine bacteria *Listonella anguillarum*” and altered macrophage function causing them to conclude that “important physiological functions of health and survival may be altered in fish from Puget Sound and the Columbia River exposed to BDE-47 and BDE-99.”<sup>22</sup> NMFS has evaluated PBDE assimilation efficiency in juvenile Chinook, allowing for the ability to model contaminant bioaccumulation in exposed organisms and food webs.<sup>23</sup> And NMFS scientists studied salmon fed five environmentally relevant concentrations of PBDE congeners finding that the most predominant found in salmon— BDE-47 (2,20,4,4’-tetrabromodiphenyl ether) and BDE-99 (2,20,4,40,5-pentabromodiphenyl ether)—affected thyroid hormones in the fish and concluding that PBDE-caused “changes in thyroid hormone levels occur that may have serious impacts on juvenile fish health and survival.”<sup>24</sup>

NMFS has calculated for two scenarios (an adult male and male calf) that both will “continue to increase their PBDE body burdens in the next 20 years” and PBDE levels “will surpass the PCB health-effects thresholds within the individual’s life span,” for the adult male in 10 years and for the calf between 15 and 18 years, the shorter timeframe if the discharge evaluated in this analysis did not occur (noted as “without action” in the following graph):<sup>25</sup>

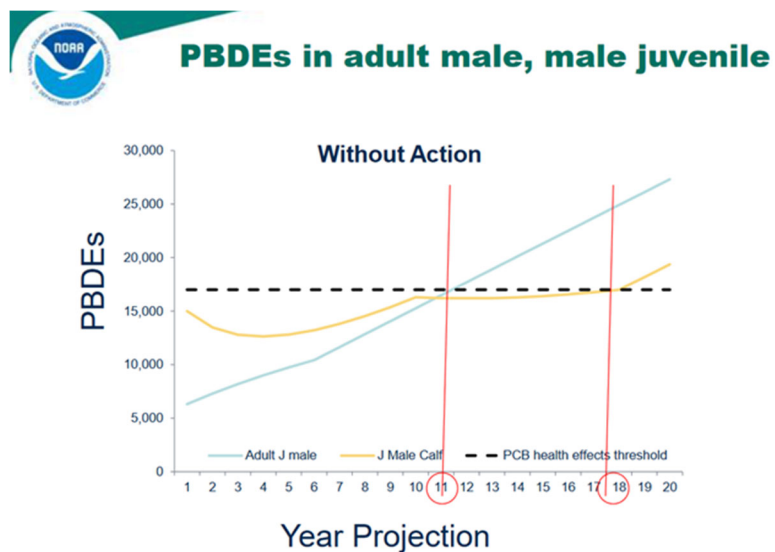
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<sup>22</sup> Mary R. Arkoosh, *et al.*, *Dietary Exposure to Individual Polybrominated Diphenyl Ether Congeners BDE-47 and BDE-99 Alters Innate Immunity and Disease Susceptibility in Juvenile Chinook Salmon*, 49 *Environmental Science and Technology* 6974–6981, 6979 (2015), available at <https://pubs.acs.org/doi/10.1021/acs.est.5b01076>.

<sup>23</sup> Joseph P. Dietrich, *et al.*, *Assimilation Efficiency of PBDE Congeners in Chinook Salmon*, 40 *Environmental Science Technology* 3878–3886, 3884 (2015), available at <https://pubs.acs.org/doi/10.1021/es5057038>.

<sup>24</sup> Mary R. Arkoosh, *et al.*, *Alteration of thyroid hormone concentrations in juvenile Chinook salmon (*Oncorhynchus tshawytscha*) exposed to polybrominated diphenyl ethers, BDE-47 and BDE-99*, 171 *Chemosphere* (2017) at 7, available at <https://www.sciencedirect.com/science/article/abs/pii/S0045653516317477?via%3Dihub>.

<sup>25</sup> NMFS, *NMFS’ Preliminary Analysis of Effects on Southern Resident Killer Whales* (Dec. 13, 2012) (date is incorrectly printed as 2022) at 13; based on Theresa Mongillo, NMFS, *PBDE accumulation in Southern Resident Killer Whales: Incremental Increase Mode* (2012, undated).



The Washington Department of Fish and Wildlife concluded the following in 2009:

[S]tudies support the hypothesis that benthic (bottom dwelling) species reflect contaminant conditions in sediments. However, assessments of pelagic (open water) species, such as Pacific herring (*Clupea pallasii*), suggest that the pelagic food web is more directly linked to POPs that occur in Puget Sound's waters and pelagic biota (rather than sediments). Pacific herring hold unusually high tissue burdens of bioaccumulative POPs (e.g., polychlorinated biphenyls (PCBs), an observation that is not typically predicted from sediment-as-source models. In addition, other research indicates that PCBs and polybrominated diphenyl ethers (PBDEs) have biomagnified in Puget Sound's harbor seals (*Phoca vitulina*) and killer whales (*Orcinus orca*) to levels that have impaired their health (Hickie, 2007; Ross, et al., 2000; Ross, et al., 2004).<sup>26</sup>

An earlier evaluation prepared by the Washington Department of Ecology and King County also pointed to the bioaccumulation of PBDEs in Puget Sound:

PBDEs were detected in outmigrant Chinook salmon tissue and their stomach contents from four sites in Puget Sound (Sloan et al., 2010). Levels in wild outmigrant juveniles were higher than in hatchery fish, ranging from 67 to 13,000 ug/kg lipid, generally comparable to those measured in the Lower Columbia River and Estuary. Sloan et al. (2010) conclude that PBDEs may be contributing to reduced health and fitness in outmigrant juvenile Chinook salmon. PBDEs were detected in adult Chinook salmon returning to the Duwamish River and were not

<sup>26</sup> WDFW, *Quality Assurance Project Plan Persistent Organic Pollutants in Three Guilds of Pelagic Marine Species from the Puget Sound* (Dec. 14, 2009) at 6.



detected in adult Chinook returning to the Johnstone Strait, Lower Fraser River, or Deschutes River (Cullon et al., 2009).

Lema et al. (2008) demonstrated that dietary exposures to certain PBDEs by adult fathead minnows can alter thyroid status and thyroid hormone-regulated gene transcription. Arkoosh et al. (2010) found that juvenile Chinook salmon exposed to moderate doses of PBDEs in their diet may be at increased risk of disease relative to those exposed to higher or lower doses of PBDEs in their diet. PBDE levels were found to be about four to five times higher in a mixture of fishes designed to represent the diet of Puget Sound harbor seals than in a similar mixture of fish designed to represent the diet of harbor seals from the Strait of Georgia (Cullon et al., 2005).

Very few studies have been conducted examining effects of PBDEs on birds. The studies reviewed indicate that PBDEs impact the reproduction and endocrine system similarly to PCBs. Exposure to BDE-71 for 75 days adversely impacted courtship and mating behavior of American kestrels (*Falco sparverius*) (Ferne et al., 2008). These birds also displayed significant delays in clutch initiation and smaller eggs (Ferne et al., 2009). Eggshell thinning and reduced hatching success also resulted. A study of species sensitivity to PBDEs (PBDE-71) observed that pentabrominated diphenyl ether (Penta BDE) exposure to eggs at 0.01 to 20 mg/kg caused decreased pipping and hatching success in American kestrels but not chickens (*Gallus gallus*) or Mallard ducks (*Anas platyrhynchos*) (McKernan et al., 2009). Species sensitivity was concluded to be Mallard ducks <chickens <American kestrels.

Total PBDE concentrations in osprey eggs and nestling plasma are significantly lower in the Lower Duwamish River (eggs: 321 ug/kg ww; plasma: 6 ug/kg ww) compared to those from the upper Willamette River (eggs: 897 pb ww; plasma: 22 ppb ww) (Johnson et al., 2009). Total PBDE concentrations in the osprey eggs did not change significantly between 2003 and 2007. Reproductive failure was observed in four of nine nests in the Lower Duwamish area. A small dataset from this study suggests that some nestlings may have experienced immunosuppression. However, the results were inconclusive due to the small sample size.

Compared to birds, a larger but still limited number of publications exist on the effects of PBDEs in mammals. Rodent exposure studies have demonstrated thyroid hormone disruption (Hallgren et al., 2001; Zhou et al., 2002) and developmental neurotoxic and behavioral effects (Ericksson et al., 2001; Viberg et al., 2003a; Viberg et al., 2003b). A study of grey seal pups and juveniles observed a relationship between circulating thyroid hormones, transport proteins, and PBDE uptake (Hall et al., 2003).

Similar to PCBs, there is evidence of bioaccumulation of PBDEs in marine mammals at high concentrations in blubber. However, absolute concentrations of total PBDEs appear to be lower than total PCBs. Cullon et al. (2005) measured PBDE concentrations five times higher in harbor seal prey from Puget Sound than the Strait of Georgia, but the mean PBDE concentration was five times lower than that measured for PCBs. Krahn et al. (2009) and Rayne et al. (2004) found the same pattern of killer whale blubber concentrations as found for PCBs in males, mothers, and calves. Krahn et al. (2009) measured total PBDE concentrations ranged from 680 to 15,000 ug/kg lipid. Mean PBDE concentrations in northern male killer whale blubber have been found to be significantly lower (203 ug/kg lipid) than those of southern resident (942 ug/kg lipid) and transient males (1,015 ug/kg lipid).

Although a quantitative effects assessment was not conducted for PBDE exposure to marine mammals, published research demonstrates that PBDEs are bioaccumulating to high concentrations in Puget Sound killer whales. This coupled with the growing evidence that PBDE exposure can cause thyroid and developmental effects in mammals strongly suggest that PBDEs are an important contaminant to monitor.<sup>27</sup>

The 2022 King County study cited above looked at CECs and other toxics in the effluent and receiving water of King County's sewage treatment plants that discharge to Puget Sound.<sup>28</sup> Up to 121 unique contaminants were detected in the effluent samples.<sup>29</sup> The study included 10-day laboratory exposures of juvenile Chinook salmon at different dilutions,<sup>30</sup> estuarine sampling,

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<sup>27</sup> Washington Department of Ecology/King County, *Assessment of Selected Toxic Chemicals in the Puget Sound Basin, 2007-2011* (Nov. 2011) at 106–107.

<sup>28</sup> James Meador et al., *Academic Team Project Integration Report King County Orca Proviso, Wastewater Effluent Discharge Assessment – Impact to Marine Organisms* (Oct. 2022), Appendix M to King County, *Toxics in King County Wastewater Effluent, Evaluating the Presence of Toxic Elements in the Effluent of Treatment Plants* (Dec. 2022). The number of analytes organized by contaminant class and water sample type are set out in Table 2, *id.* at 13.

<sup>29</sup> *Id.* at 118; *see also id.* (“There were 14 compounds consistently found at greater concentrations under low flow conditions, suggesting municipal sewage is their primary conveyance to wastewater effluent. These included hormones (17 $\beta$ -estradiol, androstenedione, estrone, and progesterone) and several medications (atorvastatin, carbamazepine, diazepam, and hydrocodone).”).

<sup>30</sup> Note that the authors pointed to the constraints of a 10-day exposure: “Importantly, it is likely that the vitellogenin response in our study underestimated the response of chronic exposure to estrogenic hormones in Puget Sound. In fish exposed for 21 days to 20 ng/L of 17 $\alpha$ -ethinylestradiol vitellogenin continued to increase over the exposure, peaking beyond the end of the exposure with a half-life of two to four weeks among the species tested (Craft et al. 2004). Therefore, although vitellogenin was not significantly elevated at the lower WWE concentrations in our 10-day exposure, we would expect that chronic exposure would approximate the response of juvenile Chinook exposed to higher WWE concentrations in our study.” *Id.* at 118.

bioaccumulation modeling, and chemical characterization of effluent. Among its findings were the following:

In the laboratory study, juvenile Chinook exposed to [wastewater effluent] WWE showed evidence of endocrine disruption and alterations in the stress response, brain function, and metabolism. Brain function and total plasma protein were affected at low exposure concentrations, whereas other endpoints exhibited a dose response relationship with measurable differences from control evident only at the higher concentrations. However, some of the endpoints (e.g., endocrine disruption) are expected to show more pronounced effects with longer exposure durations than in the laboratory study. Higher exposure concentrations in the laboratory study may therefore be indicative of effects resulting from chronic exposures, which occur in Puget Sound.

\* \* \*

Metabolomics analysis showed that WWE altered numerous endogenous biochemical pathways important for energy generation and utilization, lipid metabolism and biosynthesis, amino acid metabolism, growth, and oxidative stress. Pathway analysis implicated pharmaceuticals that act as antibiotics, antidepressants, antihistamines, analgesics and statins even at the lowest WWE concentrations tested (0.1% and 0.4%), although other chemicals present in WWE may have contributed.

Additional pharmaceuticals were predicted to cause harm based on a fish plasma model of bioaccumulation from tissue and water chemistry in exposed juvenile Chinook. As with metabolomics, impacts were in many cases predicted at environmentally relevant concentrations of WWE. Impacts to juvenile Chinook observed and predicted for this study are hypothesized to contribute to reduced availability as prey for [endangered Southern Resident killer whales] SRKWs. Additionally, exposure to several classes of contaminants based on bioaccumulation modeling for Chinook likely contribute to health impairments in SRKW.<sup>31</sup>

The report illustrates its findings on total and summed 11 congeners of PBDEs as compared to other studies on PBDEs in effluent and receiving water in the Puget Sound region:<sup>32</sup>

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<sup>31</sup> *Id.* at vi. Note that the bioaccumulation modeling done in this study “is limited to uptake from water via gill ventilation; however dietary uptake is also a major contributor to body burdens, especially for hydrophobic compounds.” *Id.* at 133.

<sup>32</sup> *Id.* at 34.

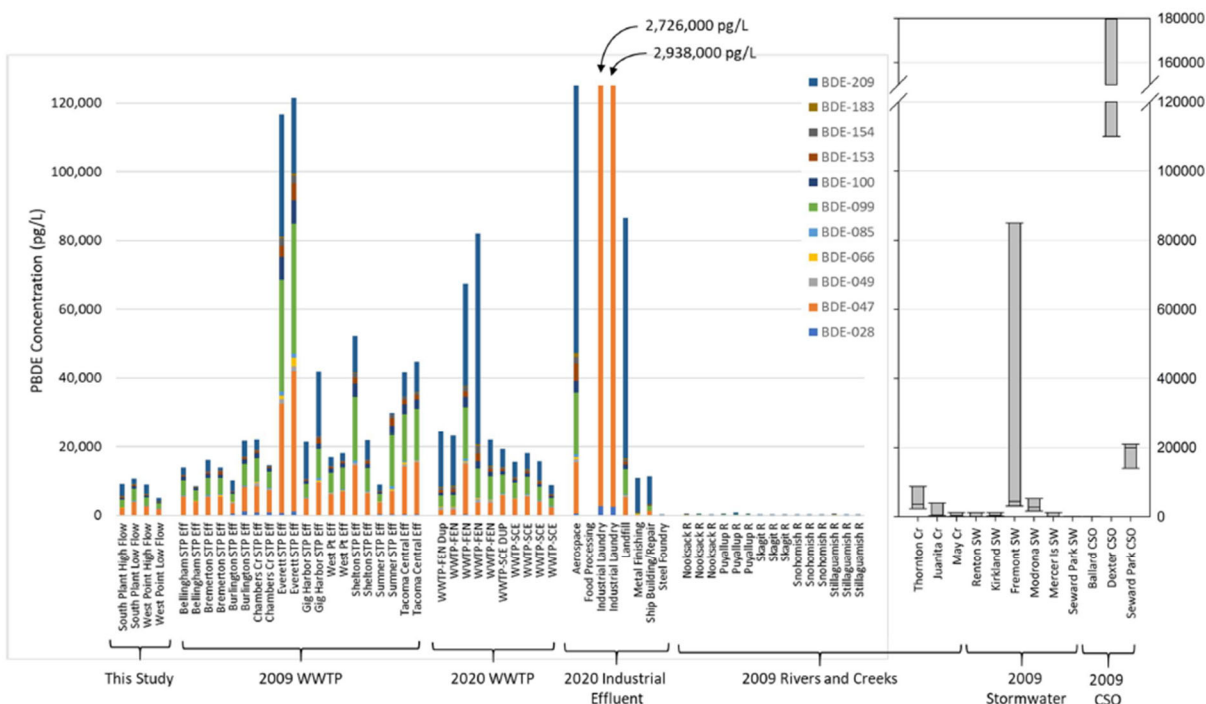


Figure 5.  $\Sigma_{11}$ PBDE concentration (left) and reported total PBDE concentrations (grey bars, right) for effluent water from different facilities, and surface waters in the Puget Sound. The 2009 WWTP data are from Washington State Department of Ecology (2010). 2009 rivers, creeks, and CSO data are from King County (2013b) and Washington State Department of Ecology (2011). 2020 WWTP and 2020 Industrial Effluent are from Washington State Department of Ecology.

The report concluded that “several individual PBDEs and flame retardants may occur in fish tissue at concentrations able to cause adverse effects in juvenile Chinook.”<sup>33</sup>

Moreover, of specific concern to NMFS are the additive properties of multiple toxic pollutants on endangered killer whales, including PBDEs:

Health effects from exposure to PCBs, PBDEs, and DDTs should not be considered in isolation. Killer whales are exposed to a mixture of pollutants, some of which may interact synergistically and enhance toxicity, influencing the health of the Southern Residents. Although it is difficult to predict health effects from mixture interactions, it is important to predict the toxicity of such mixtures; disregarding the interactive effects may underestimate risk to an individual or to the population. Furthermore, we also stress the importance of establishing the impact on the health of killer whales of the transformed by-products, or metabolites, of the pollutants. The practice of examining only high doses of POPs may also underestimate the risk to the killer whales. Endocrine disruptors can produce non-linear dose-response effects and interact at lower doses than would occur with the isolated chemicals. Therefore, even low concentrations of

<sup>33</sup> *Id.* at 133 (internal citations omitted).

persistent pollutants, when combined, have the potential to cause adverse effects in Southern Residents.<sup>34</sup>

NMFS focused on these persistent pollutants “because they are found at relatively high levels in the whales” and they

have the ability to cause endocrine disruption, reproductive disruption or failure, immunotoxicity, neurotoxicity, neurobehavioral disruption, and cancer. The average concentration of blubber summed PCBs ( $\Sigma$ PCBs) in male Southern Resident killer whales sampled between 2004 and 2013 was  $45,000 \pm 31,000$  ng/g lw (lipid weight), which exceeds a health effects threshold in harbor seals (*Phoca vitulina*). Average blubber  $\Sigma$ PBDEs in sampled Southern Residents were  $4,800 \pm 3,500$  ng/g lw, with most individuals exceeding the levels associated with altered thyroid hormone levels in post-weaned and juvenile gray seals (*Halichoerus grypus*). Although there has been no report in the literature on a marine mammal health effect threshold for DDTs,  $\Sigma$ DDTs levels in the blubber of Southern Residents were high, and ranged from 1,200 to 210,000 ng/g lw.<sup>35</sup>

NMFS explained that in addition to the killer whales’ high body burden, other stressors increase the likelihood of a toxic response, including “nutritional stress from reduced Chinook salmon populations [that] may act synergistically with high POP levels in Southern Residents and result in deleterious health effects”<sup>36</sup> and the timing of the exposure. When killer whale calves are exposed, toxics may compromise their immune system and increase disease susceptibility, “a large source of morbidity and mortality in marine mammals” as well as result in “alterations to the individual’s metabolism, impeded growth and development, delayed or premature physical or sexual maturity, reduced future fecundity, or reduced perinatal survival.”<sup>37</sup> Finally, exposure during neurodevelopment can reduce learning, affecting a “killer whale’s capacity to successfully forage and interact with other pod members.”<sup>38</sup>

Ecology’s proposed West Point permit includes no narrative prohibition on discharges of that may cause or contribute to violations of water quality standards, including narrative criteria and designated uses, and its acute and chronic whole effluent toxicity (“WET”) testing of effluent, Permit ¶ S2.A Table 22, is not designed to measure the responses identified by the King County’s testing of effluent on Chinook salmon nor to protect the endangered killer whales from those toxic contaminants. In other words, the WET testing does not save this permit. Peculiarly, compliance with WET testing results is not even identified as a permit condition. See Permit ¶ S1.A.

<sup>34</sup> NMFS, *Exposure to a Mixture of Toxic Chemicals: Implications for the Health of Endangered Southern Resident Killer Whales* (Nov. 2016) at vii.

<sup>35</sup> *Id.* at vii.

<sup>36</sup> *Id.*

<sup>37</sup> *Id.* at viii.

<sup>38</sup> *Id.*

NWEA #11

V.

**THE PERMIT IS FLAWED DUE TO LACK OF A REOPENER CLAUSE**

The proposed permit does not include a reopener clause such as one that would allow Ecology to impose more stringent conditions in the permit after the discharger obtains information required by its monitoring provisions, such as those that should be included in the permit pertaining to PFAS pollutants. As the EPA Environmental Appeals Board has stated, even if the narrative prohibition on discharges' causing or contributing to violations of water quality standards were clarified and improved in this permit, it would not have the same result as including a reopener clause to specifically respond to the results of that monitoring:

Reopening and modifying a permit based on adverse impacts on water quality or beneficial uses that occur during a permit's term (the reopener provision) is different and serves a different purpose than a permit term that itself prohibits violating water quality standards in the first instance.<sup>40</sup>

In this permit, Ecology concedes in several ways identified above that its effluent limitations may not be sufficient to meet water quality standards but provides no method by which it will meet the requirements of the CWA and federal regulations. A statement that Ecology "may modify this permit to include additional requirements relating to the establishment and enforcement of local limits for pollutants of concern," Fact Sheet at 103, is not a sufficient permit condition to address its inadequacies.

## Conclusion

It is well past the time when Ecology should shelve its habit of barely revisiting its old analysis of whether a discharge is likely to cause or contribute to violations of water quality standards when it proposes to issue a new permit. Given that the agency does not control nonpoint sources of pollution—including toxic pollution that is building up in the food web of Puget Sound—the least it could do is to control point sources under the NPDES program.

Sincerely,



Nina Bell  
Executive Director

## **G.7. Public Health Seattle and King County Comments**

## Public Health Seattle & King County

On page 28, under S3.F. Reporting permit violations, a phone number is provided for Public Health Seattle & King County. We have a new phone number that should be provided instead on this NPDES permit.

If possible, we would like the permit to provide our sewage response email address (WaterRecreationProgramSewageRelease@kingcounty.gov) during business hours, and provide our new phone number (206-263-7885) for after hours. This is our Environmental Health Emergency Notification Reporting Line phone number.

If email address is not acceptable, please provide just the phone number for all hours.

Thank you.



## **G.8. Puget Sound Partnership Comments**

# Puget Sound Partnership

See attached letter.

July 7, 2023

Laura Watson, Director, Washington State Department of Ecology  
Vince McGowan, Water Quality Program Manager  
Tom Buroker, Northwest Region Director  
Tricia Miller, Permit Administrator  
RE: West Point Wastewater Treatment Plant NPDES Wastewater Discharge Permit

Dear Director Watson, Mr. McGowan, Mr. Buroker, and Ms. Miller:

The Puget Sound Partnership appreciates the opportunity to comment on the draft NPDES permit for the West Point Wastewater Treatment Plant and associated combined sewer overflow treatment plants. As the state agency leading our region's collective effort to protect and restore Puget Sound, we support every effort to address water quality challenges affecting the Puget Sound ecosystem.

The Partnership is committed to aligning the work of our partners around a shared vision and strategy to achieve the ecosystem recovery goals set for us by the Washington State legislature. To achieve these goals, we coordinate our diverse partners to develop the [Action Agenda for Puget Sound](#)—a comprehensive plan for addressing the many challenges facing Puget Sound and their human and natural causes. In this letter we focus on the relationship between the Action Agenda and the draft permit for the West Point Treatment Plant, which is the largest wastewater treatment plant in Puget Sound. A broader lens compels us to recognize that a strong permit controlling operations at the Plant is necessary but not sufficient to resolve water quality challenges in Puget Sound.

Before diving into specific issues for Puget Sound related to the West Point permit, we highlight general recommendations from the Action Agenda for consideration where appropriate and feasible in Puget Sound wastewater treatment systems. The Puget Sound Partnership is committed to supporting our partners in advancing these ideas in Puget Sound.

- We support advanced wastewater treatment practices to improve effluent and receiving water quality. Technologies such as membrane bioreactors can operate efficiently in small spaces and improve treatment for a wider range of pollutants, including nutrients and toxics.
- We support a shift toward treated and reclaimed water put to beneficial use rather than discharging directly to Puget Sound. A shift to reclaimed water can reduce pollution entering Puget Sound and alleviate pressure on strained freshwater resources by providing gray water for landscaping, industrial, or other appropriate uses. This is especially important considering the observed and expected effects of a changing climate on water resources in the Puget Sound region.
- We support upstream implementation of stormwater best practices, water conservation strategies, and other actions to reduce the volume of water entering the wastewater system. Reducing the volume of water entering the wastewater system will reduce the volume of wastewater effluent and reduce the likelihood of overflows and accidental spills during wet weather events.

- We support utilities, regulators, and state policymakers finding ways to improve wastewater treatment while alleviating financial hardships on low-income households. Recent studies have shown that operational and capital improvements at wastewater facilities can result in increased utility rates and that more ratepayers in the Puget Sound region are likely to experience “financial burden” as defined by Washington state.<sup>1</sup>

We focus the remainder of our comments on three Puget Sound recovery goals and water quality priorities relevant to the wastewater permit, which are introduced in the below table.

Puget Sound goal	Vital Sign (indicator of Puget Sound health)	Relevant wastewater pollutant
Healthy humans and quality of life	Condition of shellfish beds and swimming beaches	Pathogens
Clean water	Toxics in aquatic life	Toxics
Clean water	Dissolved oxygen in marine water	Nutrients

### 1. Addressing the effect of pathogens on shellfish and swimming beaches to ensure healthy humans

Pathogenic bacteria<sup>2</sup> entering Puget Sound can make the water unsafe for human contact and swimming and make shellfish in Puget Sound unsafe to harvest and eat. Swimming and shellfish harvest are two culturally and economically important uses of Puget Sound and are indicators of Puget Sound health.

The Action Agenda for Puget Sound includes strategies and actions related to technical assistance, monitoring, and implementing priority upgrades that improve wastewater treatment plants’ compliance with discharge limits for pathogenic bacteria.<sup>3</sup> Removal of pathogenic bacteria from sewage is a core function of wastewater treatment and modern wastewater treatment practices are effective at removing pathogenic bacteria from wastewater when properly functioning. The Partnership supports the maintained bacteria effluent limits and monitoring regime for the wastewater treatment plant in the proposed permit.

Pathogen pollution can still be a concern, however, when accidents occur or when significant rain events result in combined sewer overflows (CSO). Several high-profile accidental releases of sewage have resulted in beach closures, no contact orders, and impacts to tribal cultural events and treaty-protected rights to shellfish harvest.<sup>4</sup> For this reason, the Action Agenda also includes strategies and action for addressing CSOs and accidental discharges of untreated sewage. The Partnership appreciates the

<sup>1</sup> See pages 23-31 of the study for recommendations. Susan Burke et al., PUGET SOUND WASTEWATER SERVICE AFFORDABILITY ANALYSIS: IMPLICATIONS FOR IMPLEMENTATION STRATEGIES. CRITICAL ANALYSIS SUMMARY REPORT PREPARED BY ECO RESOURCE GROUP AND PUGET SOUND INSTITUTE FOR THE STORMWATER STRATEGIC INITIATIVE AND PUGET SOUND PARTNERSHIP (2023) available at <https://www.pugetsoundinstitute.org/2023/06/wastewater-fee-study-reveals-hardship-for-low-income-households/>. Financial burden for sewer ratepayers is defined in section [173-98-300](#) of the Washington Administrative Code.

<sup>2</sup> In this letter we use the term “pathogenic bacteria” to refer to bacteria found in wastewater that can cause illness or disease if ingested by humans. This generally includes fecal coliform bacteria.

<sup>3</sup> As it relates to pathogenic bacteria, the Action Agenda is supported by a Shellfish Implementation Strategy—a strategic plan focused on actions to protect healthy shellfish beds and reopen beds closed to harvest. SHELLFISH BEDS IMPLEMENTATION STRATEGY (2015) available at <https://pugetsoundestuary.wa.gov/shellfish-beds/>.

<sup>4</sup> See e.g., John Ryan, *King County blames power outages for big sewage spills. Tribe blames the county.*, KUOW, Jan. 15, 2021; David Gutman, *King County moves toward \$5 million settlement with Suquamish Tribe over sewage overflows*, SEATTLE TIMES, Sept. 15, 2022.

**PSP #1**

renewed CSO conditions (including both technology-based and water quality-based requirements) in special condition S11 of the permit, including the authorization of the new Georgetown CSO plant on the Duwamish River and the schedule for improvements at the Elliott West CSO plant. The Partnership also recognizes the importance of the 2013 consent decree addressing CSOs and 2021 Administrative Order addressing power-related disruptions at the West Point plant in comprehensively ensuring adequate treatment for pathogens. The Partnership looks forward to working with our partners to ensure these various agreements successfully address the effect of pathogenic bacteria on shellfish and swimming beaches in Puget Sound.

**2. Addressing the effect of toxic chemicals on aquatic life and humans**
**PSP #2**

Wastewater treatment practices are not designed specifically to remove toxics or other chemicals of emerging concern. Yet these toxic chemicals are found everywhere in modern day life, including in our wastewater. The Action Agenda for Puget Sound stresses the importance of identifying and addressing the source of toxic chemical pollution.<sup>5</sup> The Partnership strongly supports the permit requirement to monitor influent for PFAS and the accompanying program to identify and work with priority sources to reduce or eliminate the use of PFAS before they enter the wastewater system. The source control component should receive support from Ecology's Toxic Reduction program, which has a target in the Action Agenda to accelerate their work with Washington businesses to reduce toxic chemicals and achieve cost savings.

**PSP #3**

The Partnership encourages King County and Ecology to explore additional characterization monitoring for chemicals of emerging concern and/or targeted studies where feasible and appropriate. Accomplishing this work at the largest wastewater system in Puget Sound could be valuable to further characterize influent and effluent for chemicals whose pollution pathways and severity are not yet fully understood and to help identify where advanced treatment techniques can address emerging toxics. This could include new monitoring of endocrine disrupting chemicals (such as antibiotics, pharmaceuticals, and hormones)<sup>6</sup> in wastewater and toxic chemicals (such as 6PPD-Q from tires) in stormwater at the CSOs. This could also include comparative studies involving plants with different treatment technology (such as the advanced treatment at Brightwater versus standard treatment at West Point) to study and quantify the ability of advanced treatment to filter out toxic chemicals. By undertaking or funding these studies, Ecology and King County could reveal additional source control opportunities, identify broadly applicable best treatment practices, and make a great contribution to clean water in the entire Puget Sound basin. The Partnership stands ready to assist and support these efforts, including support to address statewide lab capacity where that is a limiting factor on additional research and monitoring efforts.

**3. Addressing the effect of nutrients on dissolved oxygen and marine water quality**

Excessive nutrient loading in Puget Sound depletes levels of dissolved oxygen in Puget Sound, which can harm salmon and other species of marine life. Nutrient pollution can also contribute to acidification (preventing shellfish and other marine invertebrates from forming shells) and increases in macroalgae abundance (impairing the health of eelgrass beds). Nutrients in Puget Sound come from a variety of

<sup>5</sup> As it relates to toxics in aquatic life, the Action Agenda is supported by a Toxics in Fish Implementation Strategy—a strategic plan focused on actions to reduce toxic chemicals in fish and the waters of Puget Sound. TOXICS IN FISH IMPLEMENTATION STRATEGY (May 21, 2021) available at <https://pugetsoundestuary.wa.gov/toxics-in-fish/>.

<sup>6</sup> Suzanne Ball et al., *Exposure of juvenile Chinook salmon to effluent from a large urban wastewater treatment plant. Part 1. physiological responses*, AQUACULTURE AND FISHERIES (2023) available at <https://doi.org/10.1016/j.aaf.2023.06.006>.

sources, including natural background levels and human activities such as agriculture and wastewater treatment. Seasonal conditions influence the relative significance of nutrient levels on Puget Sound: cool temperatures and limited sunlight in the winter provide a natural check on algal productivity and other harmful consequences of nutrient pollution.

Despite this complexity, the Partnership has long recognized the threats posed by excessive nutrient loading from human sources. In 2011, the Leadership Council adopted a resolution calling for a 2020 ecosystem recovery target for dissolved oxygen in marine waters. That target became one of our key indicators of marine water quality in Puget Sound. In explaining that indicator, we emphasized that human sources of nutrients have a significant impact on dissolved oxygen in multiple embayments in the South and Central Puget Sound, and that a combination of nutrient reductions from marine point sources and watershed sources will be needed to meet the indicator target. The Partnership reiterated that point in the 2022-26 Action Agenda, which includes strategies and actions to reduce nutrient discharge from wastewater sources and provide technical and financial support for implementation.<sup>7</sup> To address nutrient loading reduction in Puget Sound, the Partnership understands that this permit will work in conjunction with the Puget Sound Nutrient General Permit, for which we have previously expressed our support.

PSP #4

In closing, the Partnership expresses our gratitude for the work of the Department of Ecology, King County, and other partners in advancing efforts to protect and restore Puget Sound. We support the proposed permit updates and herein provide our recommendations and support for additional efforts to improve water quality in Puget Sound. We also reiterate a recognition that a strong permit for the West Point Plant is necessary but not sufficient to resolve water quality challenges in Puget Sound. We look forward to working with our partners to address the many other challenges facing Puget Sound.

Sincerely,



Laura L. Blackmore  
Executive Director

Cc

Dennis McLerran, Puget Sound Leadership Council Chair  
Ruth Musgrave, Senior Policy Advisor for Natural Resources to Governor Jay Inslee  
Carrie Sessions, Senior Policy Advisor for Environment and Water to Governor Jay Inslee  
Adam Eitmann, Director of Government Relations, Washington Department of Ecology  
Don Gourlie, Legislative Policy Director, Puget Sound Partnership

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<sup>7</sup> As it relates to nutrient pollution, the Action Agenda is supported by the Marine Water Quality Implementation Strategy—a strategic plan for reducing nutrient pollution to improve marine water quality in Puget Sound. MARINE WATER QUALITY IMPLEMENTATION STRATEGY available at <https://pugetsoundestuary.wa.gov/marine-water-quality/>. Both the Marine Water Quality Strategy and the Action Agenda also include strategies and actions for scientific modeling and for reducing nutrients from watershed sources that further contribute to overall nutrient loading in Puget Sound.

**G.9. Soundkeeper, Communities for a Healthy Bay, and Duwamish  
River Community Coalition Comments**

Smith & Lowney PLLC for Soundkeeper, CHB,  
and DRCC

See attached letter.



**SMITH & LOWNEY**  
— PLLC —  
**ATTORNEYS AT LAW**

July 7, 2023

**Via Online Submission Form**

Tricia Miller, Permit Administrator  
WA State Dept of Ecology - NWRO  
PO Box 330316  
Shoreline, WA 98133-9716

**Re. West Point Wastewater Treatment Plant and Combined Sewer Overflows Draft  
NPDES Permit WA0029181**

Dear Ms. Miller,

We submit these comments on the draft individual NPDES permit for the West Point Wastewater Treatment Plant (“West Point”) and Combined Sewer Overflows (CSOs) on behalf of Puget Soundkeeper Alliance (Soundkeeper). For many years Soundkeeper has been actively engaged in education and advocacy efforts to improve water quality in central Puget Sound. Soundkeeper conducts river cleanups by kayak and boat, and regular boat patrols of the waterways impacted by the pollution regulated by NPDES Permit WA0029181 (the “Permit”). Soundkeeper has reviewed voluminous records regarding King County’s wastewater operations, toured the Georgetown CSO treatment plant, engaged with numerous other wastewater treatment plants and experts in the field, and engaged in broader efforts to reduce nutrient pollution from Puget Sound wastewater treatment plants. Soundkeeper is also a party to the ongoing challenge to the Nutrient General NPDES Permit and has been actively engaged in assessing the details of that permit with the assistance of experts. Accordingly, Soundkeeper has a well-informed perspective from which it offers these comments.

Communities for a Healthy Bay and Duwamish River Community Coalition join in support of these comments.

**PSA #1**

**I. The Permit Must Include Nutrient Effluent Limitations**

As Ecology expressly admits “This individual permit does not contain limits or other conditions related to the regulation of nutrients.” Fact Sheet at 83. The omission of properly derived effluent limits for nutrients violates bedrock state and federal pollution control laws. Ecology should amend the draft Permit to include either technology-based or water quality-based numeric effluent limits for nutrients—whichever is more stringent—and circulate that draft for



public comment. The nutrient limits must be numeric. *See NRDC v. EPA*, 804 F.3d 149, n.16 (2d Cir. 2015) (as amended Dec. 18, 2015) (limits may be non-numeric only if the calculation of numeric limits is “infeasible.”)

**A. Permits must include technology- or water quality-based effluent limits, whichever are more stringent.**

“When issuing a waste discharge . . . permit, Ecology must ensure that the permit conditions ‘apply and insure compliance’ with ‘[t]echnology-based treatment requirements’ that reflect ‘all known, available, and reasonable methods of prevention, treatment, and control,’ or ‘AKART.’” *Wash. State Dairy Fed’n v. Dep’t of Ecology*, 18 Wn. App. 2d 259, 275, 490 P.3d 290, 301 (2021) (quoting Ch. 90.52 RCW; Ch. 90.54 RCW; WAC 173-226-070(1)).<sup>1</sup> In addition to ensuring permittees implement AKART, “NPDES permits must also ensure compliance with applicable water quality standards **regardless of practicability**.” *Wash. State Dairy Fed’n v. Dep’t of Ecology*, 18 Wn. App. 2d at 289 (emphasis added) (citing *Defs. of Wildlife v. Browner*, 191 F.3d 1159, 1163, *amended on denial of reh’g*, 197 F.3d 1035 (9th Cir. 1999)).

**B. Nutrient effluent limits are required to meet AKART.**

“AKART involves use of ‘the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge.’” *Id.* (quoting WAC 173-201A-020). Issuance of an NPDES permit to a treatment plant is the critical time for ensuring AKART requirements are met. *See Nw. Env’tl. Advocates v. Dep’t of Ecology*, No. 54810-1-II, 2021 Wash. App. LEXIS 1558, at \*7 (Ct. App. June 22, 2021) (citing RCW 90.52.040, 90.54.020.) Similarly, the Permit must include effluent limits that ensure AKART is met from day-one; conditions that merely require study and potential future controls do not satisfy the law. *See Wash. State Dairy Fed’n v. Dep’t of Ecology*, 18 Wn. App. 2d at 279–81 (holding that permit condition that allowed existing facilities to operate for up to three and a half years after the permits have been issued without AKART are inconsistent with state law).

EPA, Ecology, and the Pollution Control Hearings Board have all recognized nutrient control technology is a component of AKART for sewage treatment plants like West Point. Approximately fifteen years ago, EPA recognized that, while secondary treatment processes like those used at West Point “do not remove the phosphorus and nitrogen to any substantial extent,” “tertiary treatment” is available to remove nitrogen and phosphorus from sewage. *Nw. Env’tl. Advocates v. Dep’t of Ecology*, No. 54810-1-II, 2021 Wash. App. LEXIS 1558, at \*3-4 (Ct. App. June 22, 2021).<sup>2</sup> An Ecology-commissioned report by Tetra Tech opined that tertiary treatment upgrades to municipal wastewater treatment plants “are available and economically reasonable and have been applied in Washington and elsewhere in the United States,” and recommended site-

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<sup>1</sup> *Puget Soundkeeper v. State*, 102 Wn. App. 783, 785, 788, 9 P.3d 892, 893 (2000) (Consistent with Washington’s statutory mandate to maintain the highest possible standards to ensure the purity of all waters in the state, “RCW 90.48.520 requires that wastewater discharge permits issued under the federal Clean Water Act (CWA) and Washington’s water pollution control act (WPCA) include conditions requiring the permit holder to use all known, available, and reasonable methods [“AKART”] to control toxicants in that wastewater.”).

<sup>2</sup> In 2010, Ecology and the EPA reported that tertiary treatment could also reduce the amount of pharmaceuticals and other toxins that pass out of wastewater treatment plants and into Puget Sound. *Id.*

specific engineering and economic analyses be completed for sewage treatment plants. *Id.* at \*24. Tetra Tech found tertiary treatment can limit nitrogen to less than 3 mg/L of effluent and phosphorus to less than 0.1 mg/L. *Id.* at \*4. Likewise, ten years ago, the Washington Pollution Control Hearings Board determined that tertiary treatment was AKART for a wastewater treatment plant in Spokane *Id.* at \*23.

In past litigation over a petition for rulemaking, Ecology identified the measures it was taking to apply AKART to its individual treatment plant permitting process:

1. Set nutrient loading limits at current levels from all permitted dischargers in Puget Sound and its key tributaries to prevent increases in loading that would continue to contribute to Puget Sound's impaired status.
2. Require permittees to initiate planning efforts to evaluate different effluent nutrient reduction targets.
3. For treatment plants that already use a nutrient removal process, require reissued discharge permits to reflect the treatment efficiency of the existing plant by implementing numeric effluent limits used as design parameters in facility specific engineering reports.

*Nw. Env'tl. Advocates v. Dep't of Ecology*, No. 54810-1-II, 2021 Wash. App. LEXIS 1558, at \*9–10 (Ct. App. June 22, 2021). While the court upheld Ecology's denial of the petition for a *statewide rulemaking* mandating tertiary treatment for all wastewater treatment plants, the court noted "Ecology is required to comply with AKART when issuing discharge permits, which may result in Ecology mandating tertiary treatment." *Id.* at \*37-38.

Most recently, Ecology issued the Puget Sound Nutrient General Permit (PSNGP) which would require treatment plants including West Point to perform an AKART study if they do not "maintain an annual average of < 10 mg/L TIN [total inorganic nitrogen] and a seasonal average of < 3 mg/L." PSNGP at 16. While requiring only a "study" for something that is in fact known, is unacceptable and not in keeping with statutory requirements (*see* Soundkeeper's appeal of the PSNGP), this and Ecology's other requirements in the PSNGP and its Fact Sheet at a minimum show the agency is aware that technology limiting nitrogen discharges to 3 mg/L and phosphorus in the range of 0.05 to 0.3 mg/L is known, reasonable, and in use (for decades) by wastewater dischargers elsewhere. *See, e.g.*, PSNGP S.4.E.5.e; *see also* Biological Nutrient Removal Processes and Costs, EPA Fact Sheet, June 2007. Even Ecology's measured language in the PSNGP Fact Sheet makes plain that secondary treatment is not AKART and tertiary treatment achieving at least 3 mg/L nitrogen and .1 mg/L phosphorus is AKART, especially for permittees like King County which has many of the planet's wealthiest rate and tax payers. PSNGP Fact Sheet at 18 ("[A]dvancements in treatment technology that are capable of removing some pollutants at a higher level than traditional secondary treatment. . . [and the] prevalence of 303(d) listings related to depleted dissolved oxygen levels from increased levels of nitrogen and phosphorus requires Ecology to reconsider the basis of AKART for domestic WWTPs.")

Despite clear legal requirements and established, well-known science and engineering, the Permit does not include effluent limits that "apply and insure compliance" with AKART for nutrients. *Wash. State Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d 259, 275. The Permit and fact sheet do not even reflect any AKART analysis for nutrient control. The Permit even fails to include the minimal and wholly inadequate conditions (performance based numeric effluent limits

and investigation of nutrient reduction targets) that Ecology previously represented (incorrectly) as AKART for Puget Sound sewage treatment plants before it refined its approach in the PSNGP. *See Nw. Envtl. Advocates v. Dep't of Ecology*, 2021 Wash. App. LEXIS 1558, at \*9–10.<sup>3</sup> The Permit omits “limits or other conditions related to the regulation of nutrients” altogether. Fact Sheet at 83. This proposed Permit does not meet the most basic and minimal requirements of state and federal law.

Ecology must conduct an AKART analysis for nutrient pollution control from West Point and Ecology must include effluent limitations based on that analysis in the Permit. Ecology must also document its AKART analysis in a revised fact sheet.

### **C. Nutrient effluent limits are required to protect water quality.**

Where technology based effluent limitations “prove insufficient to attain or maintain certain water quality standards, the [CWA] requires NPDES permits to include additional water quality based effluent limitations.” *Wash. State Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d at 289. Ecology “must conduct a ‘reasonable potential’ analysis to evaluate whether a facility’s discharge will cause, has the reasonable potential to cause, or will contribute to a violation of water quality standards. . . . If, based on this analysis, the permit writer determines that there is a reasonable potential that a discharge will contain the pollutant in excess of water quality standards, the NPDES permit must include an effluent limitation for that pollutant. *Id.* at 289 (citing 40 C.F.R. § 122.44(d)(1)).

More specifically, [Ecology] may not issue NPDES permits [w]hen the conditions of the permit do not provide for compliance with the applicable requirements of CWA, or regulations promulgated under CWA... [or w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States. 40 C.F.R. § 122.4(a), (d). Washington law makes clear that these requirements apply to each discharge: WAC 173-220-150(1)(c) provides that “each issued [NPDES] permit shall require that ... [a]ny discharge of any pollutant ... at a level in excess of that identified and authorized by the permit shall constitute a violation of the terms and conditions of the permit.

*Puget Soundkeeper All. v. Pollution Control Hr'gs Bd.*, 189 Wn. App. 127, 138, 356 P.3d 753, 757-58 (2015).

As Ecology plainly recognizes both here and in its statements and research related to the PSNGP and nutrients in the Sound generally, West Point’s discharges cause and/or contribute to violations of dissolved oxygen and narrative water quality standards in Puget Sound. The Fact Sheet for this Permit and Ecology’s statements about the PSNGP repeatedly acknowledge this fact:

- “[The Salish Sea Model’s (Ahmed et al, 2019)] simulations predict that nutrients discharged from wastewater treatment plants have a reasonable potential to contribute to existing low dissolved oxygen levels, below state water quality criteria, in the Salish Sea

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<sup>3</sup> To be clear, Soundkeeper does not agree that the existing performance of West Point meets AKART, or that vague self-study requirements meet AKART. *See Wash. State Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d at 279–81; *Soundkeeper v. Ecology*, PCHB NOS. 05-150, 05-151, 06-034, & 06-040, 2007 WA ENV LEXIS 3, \*67-\*70 (Findings of Fact, Conclusions of Law, and Order, January 26, 2007).

(which includes Puget Sound).” Fact Sheet at 83; *see also id.* at 84 (recognizing that effluent limits beyond those in the Permit are needed to “ensure that dissolved oxygen criteria are met in the receiving water”).

- “Ecology’s application of the Salish Sea Model (SSM) has shown that nutrients, particularly inorganic nitrogen, discharged from domestic wastewater treatment plants contribute to low dissolved oxygen concentrations in Puget Sound that do not meet state water quality criteria.” PSNGP Fact Sheet at 32; *see also id.* at 78 (West Point’s cumulative nutrient loading is 18,290 lbs/day, the highest of any Puget Sound wastewater treatment plant, and 25.6% of their total cumulative nutrient load).
- “Ecology documented reasonable potential with the determination that domestic wastewater discharges may cause or contribute to a violation of surface water quality standards for dissolved oxygen.” PSNGP Fact Sheet at 34.
- “Ecology believes the Permittees [including West Point] contribute to low dissolved oxygen concentrations in Puget Sound that do not meet state water quality criteria. Interbasin water exchange leads to the transfer of nutrient loads in and around Washington waters of the Salish Sea, and a discharge in one location contributes to impairment in another.” Ecology Interrogatory Response in PSNGP Appeal.

As recognized by Ecology and as demonstrated by all applicable science, West Point’s nutrient discharges cause and/or contribute to violations of water quality standards. Accordingly, Ecology must include properly derived numeric effluent limits for nutrients in the Permit. *E.g.*, 40 C.F.R. § 122.44(d)(1)(iii); WAC 173-201A-510(1).

#### **D. This individual Permit must include nutrient effluent limits.**

Ecology’s approach of relying on the PSNGP to regulate nutrient pollution from West Point is inappropriate for several reasons.

First, regardless of the PSNGP, **this** Permit must include nutrient effluent limits as a matter of federal and state law. The “Clean Water Act unquestionably provides that all applicable effluent limitations must be included in each NPDES permit.” *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 502 (2nd Cir. 2005) (citing 33 U.S.C. §§ 1311(a), 1311(b), 1342(a)). As the Second Circuit explained, “[r]egardless of the issuer, **every NPDES permit** is statutorily required to set forth, at the very least, ‘effluent limitations,’” *id.* at 491, and “permits authorizing the discharge of pollutants may issue only where such permits ensure that every discharge of pollutants will comply with **all applicable effluent limitations** and standards,” *id.* at 498 (emphasis added); *see also Am. Paper Inst., Inc. v. EPA*, 996 F.2d 346, 349 (D.C. Cir. 1993) (noting that the Clean Water Act “mandates that every permit contain [inter alia] effluent limitations that reflect the pollution reduction achievable by using technologically practicable controls”). Similarly, state law provides, “**each** NPDES permit shall require . . . that each discharge comply with applicable water quality regulations.” *Puget Soundkeeper All. v. Dep’t of Ecology*, No. 48267-3-II, 2017 Wash. App. LEXIS 448, at \*10 (Ct. App. Feb. 22, 2017) (citing WAC 173-220-150(1)(c)) (emphasis altered). Pollution controls found in other documents, which cannot be effectuated through enforcement of the instant permit, do not comport with the rule that **no** permit may issue unless it requires and ensures compliance with AKART and water quality standards.

Does Ecology believe or intend that the PSNGP’s substantive controls can be enforced via the Permit? If so, please more specifically identify which Permit conditions implement which nutrient control measures and reissue the draft Permit for further public comment. Importantly,

Ecology's apparent failure to include all necessary requirements in the instant Permit violates public participation requirements. *Waterkeeper All., Inc. v. United States EPA*, 399 F.3d. at 503–04; *Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d at 306-07.

Second, Ecology cannot rely on the PSNGP because its substantive provisions are stayed and their ultimate fate is uncertain. *See* Stipulation for Partial Stay of Puget Sound Nutrient General Permit, PCHM No. 21-082c (Jan. 14, 2022) (staying, *inter alia*, PSNGP Conditions S3 (compliance with standards) and Conditions S4.D.2 and S5.D.2 (corrective action requirements) in their entirety pending the Board's resolution of the appeal which is itself stayed). Ecology cannot rely on provisions that have no binding effect or known implementation date to meet statutory requirements for pollution control. *See Wash. State Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d at 279–81.

Third, as explained in Soundkeeper's timely and ongoing appeal of the PSNGP, that general permit does not contain sufficient nutrient controls required under the law. The PSNGP violates the law in the same way this proposed Permit does: it includes no effluent limits for nutrients (technology-based, water quality-based, numeric, or narrative) that Ecology acknowledges are necessary to control nutrient pollution to the Sound in a manner protective of water quality. Soundkeeper adopts and hereby incorporates its comments and all attachments thereto on the PSNGP, appended for ease of reference.

In summary, this Permit does not meet the most basic minimum requirements for nutrient control under either state or federal law. Ecology must include technology- and water quality-based effluent limits for nutrients that meet the requirements for AKART and ensure that West Point discharges do not cause or contribute to violations of water quality standards in Puget Sound. That likely requires AKART-based limits of at least 3 mg/L nitrogen and .1 mg/L phosphorus, although water quality-based limits may have to be more stringent. Once Ecology makes these necessary changes, Ecology must issue a revised proposed permit for public review and comment. The public must have an opportunity to provide comprehensive comments on Ecology's regulation of West Point, including site-specific application of nutrient effluent limits. *Wash. State Dairy Fed'n v. Dep't of Ecology*, 18 Wn. App. 2d at 306-07 (finding such public participation is required).

## **PSA #2 II. The Permit Must Require Prompt Upgrades to Bypass Controls at West Point**

Soundkeeper joins and incorporates the Suquamish Indian Tribe's comments on the need for Permit conditions requiring upgrades to eliminate emergency bypass discharges from West Point. The Permit must include enforceable conditions to address power supply and pump failures, among other things. To the extent Ecology allows a compliance schedule for the necessary infrastructure upgrades, it must comport with state and federal law and undergo public review and comment. *See, e.g., id.*; WAC 173-201A-510; WAC 173-220-140; 40 C.F.R. §§ 122.2, 122.44(d).

## **PSA #3 III. The Permit Must Include Effluent Limits for PCBs.**

Discharges regulated by the Permit have reasonable potential to cause or contribute to violations of water quality standards (including sediment quality standards) for PCBs. *See, e.g.,* Fact Sheet at 46 (two West Point sediment test stations exceeded PCBs SQS); 49 (PCBs identified as contaminants of concern due to exceeding SQS at one or more Elliott West CSO treatment plant test stations). The receiving waters (including sediments and fish tissue) in the vicinity of many of the regulated outfalls are known to exceed standards for PCBs. *See, e.g.,* Fact Sheet at 49–53, 73.

These factors indicate a reasonable potential even where there is insufficient effluent data to perform a statistical reasonable potential calculation.

The Permit Fact Sheet also indicates that Ecology employed a dilution factor when evaluating PCBs. Fact Sheet at 63, 83. Is that correct? Please provide documentation and explanation of how, if at all, Ecology performed a reasonable potential analysis for PCBs, including whether and what dilution factors were used for which outfalls. No dilution factor or mixing zone may be used for PCBs because PCBs do not dilute and there is no assimilative capacity in the receiving water for more PCBs. *Soundkeeper v. Ecology*, PCHB No. 13-137c, 46 (Findings of Fact, Conclusions of Law, and Order, July 23, 2015) (citing, e.g., 63 Fed.Reg. at 36791 (EPA’s guidance cautioning against mixing zones for bioaccumulative pollutants like PCBs and stating that a “separate determination that there is available assimilative capacity in the receiving water” should precede a state’s determination that a mixing zone is appropriate)); WAC 173-201A-400(4).

Because there is reasonable potential for PCBs to cause or contribute to violations of water quality standards, the Permit must include effluent limits for PCBs. Omitting such limits violates bedrock mandates of state and federal law. 40 C.F.R. § 122.44(d)(1)(iii), (d)(1)(vii)(A); *Sierra Club v. Ecology*, PCHB No. 11-184, Findings of Fact, Conclusions of Law, and Order (July 19, 2013) at 20–21. The effluent limits should be no greater the water quality criteria because no mixing zone is allowed. *See Puget Soundkeeper All. v. Dep’t of Ecology*, No. 48267-3-II, 2017 Wash. App. LEXIS 448, at \*5-6, n.5 (Ct. App. Feb. 22, 2017). Ecology should require meaningful PCB monitoring using EPA Method 1668. *See id.* at 11–12. Unless and until Ecology requires monitoring capable of detecting a violation of a properly derived water quality based numeric effluent limit, Ecology must use other regulatory tools, such as narrative treatment technology requirements and/or limits on proxy pollutants based on a statistically valid correlation of the proxy to PCBs in the effluent, to ensure the Permit does not authorize discharges that cause or contribute to violations of water quality standards.<sup>4</sup>

**PSA #4 IV. The Permit Violates Tier I Anti-Degradation Requirements**

As Ecology recognizes, for waters that do not meet assigned criteria, or protect existing or designated uses, such as Puget Sound and the specific receiving waters impacted by the Permit (e.g., the Lower Duwamish River and Elliott Bay) Ecology is to “take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards.” Fact Sheet at 62; WAC 173-201A-300-330. Ecology’s failure to regulate nutrients and control PCBs from West Point and the numerous CSOs violates these Tier I anti-degradation requirements.

**PSA #5 V. The Permit Must Prohibit Failed Whole Effluent Toxicity Tests**

The Permit is missing the required whole effluent toxicity (WET) effluent limits. *See generally*, Permit at Conditions S13 and S14 (requiring WET testing but imposing no effluent limit). Ecology’s decision to omit WET limits based on its finding that West Point has “no

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<sup>4</sup> The Permit must also meet the federal “best available technology economically achievable” (“BAT”) for PCBs. 40 C.F.R. § 125.3 (listing criteria); *see also Kennecott v. U.S. EPA*, 780 F.2d 445, 448 (4th Cir. 1985) (BAT represents “the optimally operating plant, the pilot plant which acts as a beacon to show what is possible”).



reasonable potential for effluent discharges to cause receiving water acute or chronic toxicity” based on prior WET tests is inconsistent with WAC 173-205-040, -050, and -120. For example, WAC 173-205-120 requires a minimum of three consecutive test years demonstrating compliance before a WET limit may be eligible for removal, but the Fact Sheet indicates only one year of WET test results in 2017 and suggests the sample(s) failed one or more acute WET tests. Fact Sheet at 149.

Ecology also improperly relegates additional WET testing to procedures outside of the Permit, meaning West Point may fail a WET test without violating the Permit. Fact Sheet at 97. This is illegal. A “single failed WET test violates the narrative water quality standard,” and, because “NPDES permits may not authorize discharges that violate a water quality standard,” the Permit must prohibit a single failed WET test. *Puget Soundkeeper All. v. Pollution Control Hr’gs Bd.*, 189 Wn. App. 127, 142–43, 356 P.3d 753 (2015).

PSA #6

## **VI. The Permit Fails to Adequately Regulate CSOs**

The Permit’s effluent limits for CSOs are inadequate in part because they authorize CSOs from outfalls that Ecology recognizes are not in compliance with state and federal regulations. See, e.g., Fact Sheet at 12 (EPA documented violations in 2007); 31 (“The proposed permit will not include requirements related to [necessary but incomplete CSO control] projects.”); 54 (noting poor performance at Elliott West); 106 (“King County has not completed all CSO control projects and does not fully comply with the performance standard for all outfalls.”). Once again, Ecology appears to rely on external documents, such as the 2013 consent decree to regulate some aspects of the CSOs. See Fact Sheet at 31, 106 (“Since the 2013 CSO consent decree identifies the compliance schedule King County must follow, the proposed permit does not include a compliance schedule.”)

The requirements of the 2013 consent decree (as amended in 2016), along with the control plan milestones are a necessary (but not alone sufficient) component of AKART and water quality-based effluent limits for the CSOs that need to be incorporated into the Permit as enforceable conditions. The compliance schedules must also be incorporated into an NDPES permit; applicable compliance schedule regulations make no exception for CSO compliance schedules. See WAC 173-220-140. Nor does the 2013 consent decree create an exception from Washington’s generally applicable CSO control requirements. WAC 173-245-015 (explaining that “the provisions of this chapter shall still apply” even if Ecology previously agreed to a compliance schedule or CSO reduction plan).

As with the nutrient controls, incorporating all required conditions into the Permit is also necessary to fulfill public participation requirements for NPDES permitting. *Waterkeeper All., Inc. v. United States EPA*, 399 F.3d. at 503–04.

The remainder of Soundkeeper’s comments on CSOs pertain to the terms and specific language contained in the Permit, regardless of the consent decree.

### **A. Infiltration and Inflow**

Soundkeeper joins and incorporates the Suquamish Indian Tribe’s comments on the Permit’s regulation of infiltration and inflow (I&I).

PSA #7

WAC 173-245-040(2)(b) identifies measures to reduce I&I as the very first control alternative that “shall” be considered to achieve the greatest reasonable reduction at each CSO site. There is little indication that King County has considered any meaningful I&I reduction measures



via the consent decree or otherwise. The Permit also fails to require King County to evaluate and implement I&I reductions as a CSO reduction measure.<sup>5</sup> The Permit should require King County to promptly develop and implement a robust I&I reduction plan.

PSA #8

### **B. Uncontrolled CSOs**

The Permit's uncontrolled CSO conditions may need to be clarified to effectuate Ecology's intent. Soundkeeper interprets the Permit to authorize wet weather discharges from the 20 uncontrolled CSOs, but only if those discharges comply with the nine minimum controls, and only if the discharges comply with water quality standards, recognizing that no mixing zones are provided for these discharges. Is this Ecology's interpretation? Because Ecology cannot authorize any discharges that do not meet AKART, and the uncontrolled CSOs do not currently meet AKART or the nine minimum control measures, Ecology cannot authorize **any** discharges from the uncontrolled CSOs unless and until they qualify as "controlled." To accomplish Ecology's presumed intent more clearly and comply with state and federal law, the Permit should (1) expressly prohibit discharges (wet weather or otherwise) from "uncontrolled" CSOs, and (2) explicitly require that all CSOs comply with water quality standards.

### **C. "Controlled" CSOs**

The Permit impermissibly authorizes discharges from and mixing zones for "controlled" CSOs that do not meet AKART. RCW 90.52.040 (Ecology shall require AKART for every discharge); RCW 90.48.520 (permits shall require AKART); WAC 173-201A-400(2) ("A discharger shall be required to fully apply AKART prior to being authorized a mixing zone."). AKART for CSOs includes measures to reduce and eliminate CSOs altogether **and** primary treatment for discharges that do occur. *See* WAC 173-245-040(2). Primary treatment means technology that "removes at least fifty percent of the total suspended solids from the waste stream, and discharges less than 0.3 ml/l/hr. of settleable solids." WAC 173-245-020(16). The 38 "controlled" CSOs are not meeting these standards and nothing in the Permit requires them to.

PSA #9

Even if the Permit did require AKART, the mixing zone authorization for the 38 "controlled" CSOs still would not comport with WAC 173-201A-400(4), which provides:

No mixing zone shall be granted unless the supporting information clearly indicates the mixing zone would not have a reasonable potential to cause a loss of sensitive or important habitat, substantially interfere with the existing or characteristic uses of the water body, result in damage to the ecosystem, or adversely affect public health as determined by the department.

*See also* WAC 173-201A-400(8), (10).

And while the Permit states that it "does not authorize a mixing zone or discharge from a CSO outfall when doing so causes adverse impacts that threaten characteristic uses of the receiving water, cause a loss of sensitive or important habitat, or adversely affects public health," but there is no explanation of how this could be, much less an objective or readily enforceable Permit

PSA #10

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<sup>5</sup> Soundkeeper recognizes that if West Point's capacity is exceeded, the Permit calls for some consideration of I&I in a plan that has no deadline for submittal much less implementation. Draft Permit at 31. Soundkeeper does not consider this to address the obvious ongoing lack of capacity to prevent CSOs, but Condition S4.B could be significantly expanded and strengthened to address the present CSO problem.

PSA #10

condition to make it so. For example, if a CSO discharge adversely affects public health within the otherwise authorized mixing zone (which is unlimited in size) does that violate the Permit? Does the adverse public health impact automatically defeat the mixing zone? What is the practical implication of this Permit language?

PSA #11

There also appears to be some ambiguity in the Permit's classification of "controlled" CSOs and the corresponding limits that should be clarified. Soundkeeper believes that Ecology intends to allow up to one discharge per year,<sup>6</sup> on a 20-year rolling average, from only those CSOs that qualify as "controlled" and are meeting the "greatest reasonable reduction" criteria. Is this Ecology's interpretation? Several clarifications are warranted to accomplish Ecology's presumed intent and ensure compliance with applicable law:

- (1) For CSOs that are meeting the "greatest reasonable reduction" and other minimum criteria—and only those CSOs—the Permit should expressly and flatly prohibit **any** CSO discharges in excess of one per year on a 20-year rolling average. The Permit should also specify criteria that ensures the one discharge per year allowance does not authorize long periods of discharge that span multiple storms or discrete precipitation events. For all other CSOs, the Permit should expressly prohibit **any** discharges.
- (2) The Permit should be modified so that CSOs that trigger **any** corrective actions under Condition S11.C.d are no longer considered "controlled," and are reclassified as "uncontrolled" (meaning discharges from them are prohibited and not eligible for a mixing zone) until they complete the corrective actions and regain "controlled" status. The draft Permit suggests that outfalls are not reclassified as "uncontrolled" until they have violated the one-discharge-per-year criteria for several years, which brings the draft Permit into conflict with WAC 173-245 and WAC 173-201A. The definition of "greatest reasonable reduction" is black and white: a CSO either qualifies or it does not. The phrase "previously controlled CSO outfall" should be clarified or eliminated from the Permit to avoid creating a grey area.
- (3) To ensure compliance with WAC 173-201A-400(11), the Permit should clarify that the exception from the mixing zone size and overlap limits only applies to the single discharge event allowed once per year. WAC 173-201A-400(11) is a **conditional** once-per year exception, not an open-ended exemption for all discharges from CSOs that may have met control criteria at some point in the past. The Permit language should closely track the regulatory language.

PSA #12

## VII. The Elliott West Treatment Plant Effluent Limits Are Deficient

Based on its rudimentary technology, its failure to comply with the 50% removal standard in all but one year (2019), and the very elevated discharges of toxic pollutants such as copper, it is clear that the Elliott West Treatment Plant (Elliott West) is not implementing AKART. *See, e.g.*, Fact Sheet at 54, 61.

PSA #13

The Permit impermissibly fails to require AKART for Elliott West. While the Permit contains a "compliance schedule" for this discharge, the Permit does not contemplate that King County or Ecology will determine what constitutes AKART, including for copper, much less to implement AKART or meet effluent limits that reflect AKART. The "compliance schedule" merely requires King County to describe modifications to bring Elliott West into compliance with

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<sup>6</sup> Of course, the one discharge per year must be due to a storm event.

unspecified permitted limits and bid out the project. King County needs to immediately implement AKART for these discharges, including controls for dissolved toxic metals.

PSA #14

To make matters worse, while the Permit includes a nominal “final effluent limit” for Elliott West, the Permit never imposes that limit or requires King County to meet it. Instead, the “interim” copper limit—84 µg/L, based on the 95-percentile of Elliott West’s highly toxic discharges—applies for full permit term. This open-ended scheme does not comport with WAC 173-201A-510(4), which requires that compliance schedules “shall be developed to ensure final compliance with all water quality-based effluent limits in the shortest practicable time” and “shall generally not exceed the term of any permit.” Nothing in the Permit ensures Elliott West will ever comply with water quality-based effluent limits or even implement AKART.

PSA #22

Because the Permit does not require AKART, Elliott West is not eligible for a mixing zone. The zinc limit of 246 µg/L and the nominal “final” copper limit of 15 µg/L, which were derived using a dilution factor, are therefore illegally high. The water quality-based effluent limits for Elliott West should instead be set not higher than the water quality criteria: 4.8 µg/L (acute) and 3.1 µg/L (chronic) for copper and is 90 µg/L (acute) and 81 µg/L (chronic) for zinc. *See Soundkeeper v. Ecology*, No. 48267-3-II at 20 n. 15 (Ct. App. Feb. 22, 2017).<sup>7</sup>

PSA #15

In addition, given that King County already “submitted a draft alternatives analysis report to outline planning efforts to replace the Elliott West facility with an advanced wet weather treatment system,” Fact Sheet at 54, another five-plus years just to refine and bid a design is not the “shortest practicable time.” WAC 173-201A-510(4). What is the basis for Ecology allowing a year to elapse between each successive design phase? Is it just that WAC 173-220-140(2) states “in no event shall more than one year elapse between interim dates”? What is the intent behind requiring the draft engineering report to “identify the anticipated construction schedule necessary to complete the project by December 31, 2031”? Does Ecology believe that the Permit establishes an enforceable implementation date of December 31, 2031, or that that is a deadline that is part of the compliance schedule in this Permit?

PSA #16

Soundkeeper also joins and incorporates the Suquamish Indian Tribe’s comments regarding total residual chlorine (TRC) in the Elliott West discharge. Ecology should consider ultraviolet disinfection to eliminate TRC and establish a final effluent limit of zero.

### VIII. Henderson/MLK and Georgetown Treatment Plant Copper Effluent Limits

PSA #22

The Henderson/MLK CSO Treatment Plant is not implementing AKART in general or for copper specifically. *See* Fact Sheet at 26–27 (noting that the Henderson/MLK plant is “[s]imilar in concept to the Elliott West CSO Treatment Plant” and discharges more than once a year on average); *id.* at 54 (not consistently meeting solids removal standard or limit). Passive settling, disinfection, and removal of floating solids are ineffective at removing copper, especially dissolved copper, and do not result in effluent concentrations below the acute or chronic water

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<sup>7</sup> Even if a mixing zone were allowable, the zinc limit still appears to be too high. Ecology must employ the more stringent of technology based effluent limitations and water quality-based effluent limitations. WAC 173-220-130. A performance-based limit might be more stringent than a water quality based limit for zinc once a dilution factor is applied, and if so, performance based must be used. Please explain how the Permit complies with Ecology’s mandate to require AKART and impose the more stringent of technology and water quality-based effluent limitations. RCW 90.52.040; WAC 173-220-130.

quality criteria. *See* Fact Sheet at 44. Meanwhile, the ambient copper concentration in the receiving water is elevated. Fact Sheet at 38. In other words, the discharge has a reasonable potential to cause or contribute to violations of water quality standards and is not meeting AKART. *See* Fact Sheet at 94 (finding reasonable potential even despite several erroneous unprotective assumptions). The outfall is therefore ineligible for a mixing zone and neither the reasonable potential analysis nor the effluent limit should be based on a dilution factor.<sup>8</sup> Unless and until Henderson/MLK implements AKART, Ecology must require it to comply with copper effluent limits equal to the applicable water quality criteria. The performance-based limit in the draft Permit is unacceptably high and not based on AKART. Soundkeeper also joins and incorporates the Suquamish Indian Tribe's comments calling for Ecology to reevaluate the applicable copper criteria to ensure the limits meet numeric and narrative water quality standards.

PSA #22

PSA #17

The Permit must also impose appropriately derived effluent limits for copper on the Georgetown Treatment plant's discharge. There is no basis for Ecology's "presumption of no reasonable potential." Fact Sheet at 94. Copper is known to be in the plant influent and there is no discussion of the treatment technology's ability to remove copper, especially the dissolved fraction. And again, copper is elevated in the receiving water. Fact Sheet at 38. This discharge has a reasonable potential to cause or contribute to violations of water quality standards for copper; the Permit must impose properly derived water quality-based effluent limits.

PSA #18

Finally, for all CSO treatment plants with metals limits, the sampling frequency for those metals should be at least daily during discharge events to ensure compliance with standards.

PSA #19

#### **IX. 6PPD and 6PPD-Quinone**

PSA #20

The Permit authorizes discharges containing 6PPD/Q<sup>9</sup> that present a reasonable potential of violating water quality standards, including the prohibition against discharging toxics in toxic amounts. Ecology must include monitoring and treatment for 6PPD/Q to meet AKART and water quality standards.

6PPD makes up 1-3% by weight of all tires in use on the planet.<sup>10</sup> 6PPD-quinone, the derivative product, is acutely toxic to several salmonids, including coho, Chinook, and

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<sup>8</sup> We also note that this outfall configuration is not conducive to mixing and question whether the modeling appropriately accounted for critical conditions.

<sup>9</sup> The toxic contaminant found in tires, 6PPD, transforms in the presence of ozone into 6PPD-quinone, one of the most acutely toxic substances known to science for aquatic life – and one that was only discovered in 2020. For purposes of these comments and for simplicity, Soundkeeper will refer to 6PPD and 6PPD-quinone and their role in the environment as 6PPD/Q.

<sup>10</sup> These comments rely on and incorporate by reference materials about 6PPD/Q available to the public, developed in coordination with, and/or relied upon by Ecology. Materials are available at: [https://dtsc.ca.gov/wp-content/uploads/sites/31/2022/05/6PPD-in-Tires-Priority-Product-Profile\\_FINAL-VERSION\\_accessible.pdf](https://dtsc.ca.gov/wp-content/uploads/sites/31/2022/05/6PPD-in-Tires-Priority-Product-Profile_FINAL-VERSION_accessible.pdf); <https://apps.ecology.wa.gov/publications/summarypages/2203020.html>; <https://www.washington.edu/news/2020/12/03/tire-related-chemical-largely-responsible-for-adult-coho-salmon-deaths-in-urban-streams/>; [https://fortress.wa.gov/ecy/ezshare/wq/Permits/Flare/2019SWMMWW/Content/Resources/Docs/ForDownload/2022\\_SWTreatmentOfTireContaminants-BMPEffectiveness.pdf](https://fortress.wa.gov/ecy/ezshare/wq/Permits/Flare/2019SWMMWW/Content/Resources/Docs/ForDownload/2022_SWTreatmentOfTireContaminants-BMPEffectiveness.pdf); <https://apps.ecology.wa.gov/publications/documents/2203020.pdf>;

steelhead/rainbow trout. 6PPD/Q can enter salmon habitat suspended in street liquids, after leaching from tire wear particles (TWP), or after leaching from tire products ranging from crumb rubber in turf fields to tires used as fenders or in landscaping. Species which are present in and depend on receiving waters covered by this Permit suffer chronic and acute effects from this toxin. Given its ubiquity, 6PPD/Q will be present in discharges to receiving waters through CSOs, inflow, bypass events, and end of pipe discharges. However, the Permit makes no mention of 6PPD/Q, even though TWP will be present in wastewater and in stormwater released through the combined sewer system.

#### A. Narrative Criteria

Washington's narrative water quality criterion for toxic substances provides that "toxic substances shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses, [or] cause acute or chronic toxicity to the most sensitive biota dependent upon those waters." WAC 173.201(A)(1). Furthermore, each NPDES permit "shall include...(d) any requirements in addition to or more stringent than promulgated effluent limitations guidelines...necessary to: (1) achieve water quality standards established under section 303 of the CWA, including *State narrative criteria* for water quality." 40 CFR § 122.44(d) (*italics added*). Narrative criteria are the basis for limiting specific pollutants where the State has no numeric criteria for those pollutants, and to limit toxicity where the toxicity cannot be traced to a specific pollutant. EPA's NPDES Permit Writer's Manual, available at [https://www3.epa.gov/npdes/pubs/chapt\\_06.pdf](https://www3.epa.gov/npdes/pubs/chapt_06.pdf); *see also* Department of Ecology Water Quality Program Permit Writer's Manual, available at <https://apps.ecology.wa.gov/publications/documents/92109.pdf>.

Ecology acknowledges that 6PPD/Q is a contaminant that is highly toxic to aquatic life. Studies show that 6PPD/Q causes both acute and chronic toxicity to fish species at levels even lower than that commonly found in urban stormwater runoff,<sup>11</sup> such as that which may exist in circumstances like inflow, treated *or* untreated CSO discharges, and bypass events, covered by this permit. Furthermore, those fish are known to live in and depend on receiving waters under this permit, including the Duwamish and nearshore Puget Sound. Ecology should revise the permit to include effluent limits for 6PPD/Q that protect water quality from the release of this toxicant in toxic amounts.

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<https://ecology.wa.gov/Waste-Toxics/Reducing-toxic-chemicals/Addressing-priority-toxic-chemicals/6PPD>;

[https://www.ezview.wa.gov/site/alias\\_1962/37732/research\\_and\\_proposed\\_alternatives\\_to\\_6ppd.aspx](https://www.ezview.wa.gov/site/alias_1962/37732/research_and_proposed_alternatives_to_6ppd.aspx);

[https://www.ezview.wa.gov/site/alias\\_1962/37858/addressing\\_6ppd.aspx](https://www.ezview.wa.gov/site/alias_1962/37858/addressing_6ppd.aspx);

<https://ecology.wa.gov/Blog/Posts/June-2023/We-re-looking-for-safer-alternatives-to-6PPD-Here>.

<sup>11</sup> Lo, B.P., Marlatt, V.L., Liao, X., Reger, S., Gallilee, C., Ross, A.R.S. and Brown, T.M. (2023), Acute Toxicity of 6PPD-Quinone to Early Life Stage Juvenile Chinook (*Oncorhynchus tshawytscha*) and Coho (*Oncorhynchus kisutch*) Salmon. Environ Toxicol Chem, 42: 815-822. <https://doi.org/10.1002/etc.5568>



## B. AKART

The presence of 6PPD/Q in permitted discharges triggers requirements for monitoring and treatment. The permit must “include terms and conditions to reduce the discharge of pollutants to protect water quality, *and* to satisfy the water quality requirements of the Clean Water Act.” 40 C.F.R. § 122.34(a) (emphasis added). The Permit must also require AKART which “shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge.” RCW 90.48.010; *see also* WAC 173-201A-020 (noting that BMPs “are considered a subset of the AKART requirement.”)

Ecology should revise the Permit to ensure it requires AKART-level controls for 6PPD/Q in discharges that include stormwater, including from West Point, the 5 CSO treatment facilities, and the 38 “controlled” CSO outfalls.

In addition, a revised fact sheet should describe how the Permit addresses 6PPD/Q in the authorized discharges, including how it ensures against violations of state narrative water quality criteria and how is AKART implemented and enforced.

## X. Incorporation of Additional Comments

PSA #21 Soundkeeper joins and incorporates the Suquamish Indian Tribe’s comments regarding per-and polyfluoroalkyl substances (PFAS); other chemicals of emerging concern, including pharmaceuticals known to be present in the discharges; TRC; annual CSO control effectiveness reporting and evaluation; sediment monitoring; and compliance with sediment standards.

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Thank you for your close attention to these comments. We look forward to reviewing a revised draft Permit that better protects Puget Sound. If Ecology would like to discuss any of these comments, please do not hesitate to contact Soundkeeper or myself.

Yours very truly,

SMITH & LOWNEY, PLLC

By: /s/Claire Tonry  
Claire E. Tonry



August 16, 2021

VIA EMAIL and ONLINE SUBMISSION

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**RE: Comments of Puget Soundkeeper Alliance, Draft Puget Sound Nutrient NPDES General Permit**

Dear Ms. Ott:

## INTRODUCTION

These comments on the Department of Ecology's ("Ecology") Draft Puget Sound Nutrient National Pollutant Discharge Elimination System General Permit (the "Permit") are submitted by Earthjustice on behalf of Puget Soundkeeper Alliance ("PSA"). PSA is a Washington non-profit environmental organization whose mission is to protect and enhance the waters of Puget Sound for the health and restoration of our aquatic ecosystems and the communities that depend on them. PSA engages its mission through monitoring and patrolling Puget Sound and its tributaries; through education, outreach, and advocacy with the community and regulators; and through pursuit of legal action, where necessary, to protect Puget Sound. PSA generally agrees that nutrient pollution from wastewater treaters can be addressed through a general permit, but objects to the Permit because it is not in compliance with state and federal requirements, does not create a pathway to actually meeting water quality standards, and because the Permit will do nothing to reduce nutrient pollution discharges to Puget Sound during the term of the Permit and potentially well afterwards.

## BACKGROUND

### I. NUTRIENT POLLUTANTS AND PUGET SOUND

#### A. Nutrient Pollutants

Many, if not most, of the nation's marine ecosystems are polluted by excess nutrients; both nitrogen and phosphorus. EPA, *Nutrient Criteria Technical Guidance Manual: Estuarine and Coastal Waters* [EPA Nutrient Guidance] at xvii and 1-1 (Oct. 2001). Furthermore, at least two-thirds of U.S. estuaries and marine coastal waters have been assessed as seriously degraded by chronic nutrient pollution (National Research Council 2000, Bricker et al. 2008). Water systems are considered impaired when the water fails to meet the standards required to protect specified designated uses. *Id.* Nutrient pollution can cause an increase in harmful algal growth, which in turn can result in reduced or depleted levels of oxygen, an imbalance of the ecosystem,

public health concerns, loss of critical habitat for beneficial aquatic life, greatly reduced biodiversity, and a general decline in fish and aquatic life. EPA Nutrient Guidance at 1-1 and 1-5, Burkholder and Glibert 2013 and references therein. Harmful algal “blooms” (outbreaks) have been linked to major fish kills, significantly affecting local recreational and commercial fisheries. Burkholder 1998, EPA Nutrient Guidance at 4. Blooms of certain cyanobacterial species produce toxins that can cause disease and death of beneficial aquatic life and humans. Chorus and Bartram 1999, EPA Nutrient Guidance at 1-1. Depletion of dissolved oxygen can cause stress and death in bottom-dwelling organisms such as sessile, ecologically, and commercially important marine shellfish. *Id.*; *see also*, Ecology, *South Puget Sound Dissolved Oxygen Study Interim Data Report* (Dec. 2008) at 13; Ecology, *Puget Sound and Straits Dissolved Oxygen Assessment* (2014) at 11.

Chronic nutrient pollution and a related array of impacts are present in Puget Sound. *Id.*<sup>1</sup> As acknowledged by Ecology on its own website and in the Permit Fact Sheet, “[d]ischarges of excess nutrients, particularly nitrogen, to Puget Sound from domestic wastewater treatment plants (WWTPs) are significantly contributing to low oxygen levels in Puget Sound.” Permit Fact Sheet; *see also*, Khangoankar, T. et al., *Analysis of Hypoxia and Sensitivity to Nutrient Pollution in Salish Sea*, *Jour. of Geophysical Research* (2018).<sup>2</sup> According to Ecology, approximately 20 percent of Puget Sound is currently not meeting water quality standards for dissolved oxygen and Ecology’s Salish Sea Model shows parts of Puget Sound failing to meet the standards for 120+ days, one third of the year or more. Information from the Environmental Protection Agency (“EPA”) confirms that dissolved oxygen standards are not being met in Puget Sound and that those conditions are trending worse, not better. <https://www.epa.gov/salish-sea/marine-water-quality>.

About 70% of the anthropogenic nitrogen inputs to Puget Sound are contributed by wastewater treatment point sources, and nutrient pollution has been identified as a major source of water quality degradation to the Sound. Bounding Scenarios Report, Publication No. 19-03-001, Jan. 2019. The Puget Sound region (human population more than 4.5 million) is predicted to sustain a 40% increase (1.8 million more) by 2050 (Ott 2020). Ecology’s Draft Permit will control the discharges from 58 publicly owned domestic wastewater treatment plants into the Sound. The total discharge (“action level”) of these wastewater plants is estimated to contribute more than 28,463,000 pounds per year of highly bioavailable total inorganic nitrogen (TIN)—just one of many pollutants in the effluents—to the already-nutrient-degraded Sound. PSNGP

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<sup>1</sup> *See also* University of Washington, Puget Sound Institute, <https://www.eopugetsound.org/magazine/is/nutrients> and <https://www.pugetsoundinstitute.org/2017/10/puget-sounds-growing-nutrient-problem/>.

<sup>2</sup> More recent indications of Puget Sound being out of balance from excess nutrients (nitrogen and phosphorus), which has been exacerbated by warming trends and other impacts of climate change, can be seen in the “Blob’s” extreme adverse impacts on aquatic ecosystems in the northeastern Pacific Ocean (NOAA 2019), explosions of jellyfish populations, and ocean acidification interfering with shellfish being able to form shells. <https://crosscut.com/environment/2020/12/outdated-sewage-treatment-suffocating-fish-puget-sound>.



Fact Sheet 2021. Clearly, to improve water quality and ecosystem protection, this Permit needs to accomplish significant reduction of effluent pollutants to the Sound from these dischargers.

Ecology has proposed this draft Permit purportedly to address the problem of excess nutrients in Puget Sound from wastewater treatment facilities. Domestic wastewater contains a high proportion of biologically available nitrogen and phosphorus, to such an extent that sewage sources are considered much more potent and high-impact than other nutrient pollution sources (Jarvie et al. 2006, Millier and Hooda 2011, Venkiteswaren et al. 2019). As stated in Ecology's Permit Fact Sheet, "WWTPs are the dominant land-based dissolved inorganic nitrogen (DIN) source during the low flow (summer) months" and "cumulatively contribute to DO impairments in other locations due to the water exchange that occurs between basins." PSNGP Fact Sheet 2021 at 30.

Unfortunately, the Permit as proposed will do little to nothing to control or reduce excess nutrient pollution in Puget Sound and the significant water quality impacts from that pollution. Rather, current pollutant levels will continue apace, and increase as the sources expand, for at least the next five-year permit term and potentially well into the future. As a result, the proposed Permit fails to meet the most basic requirements of state and federal law.

## II. REQUIREMENTS UNDER THE CLEAN WATER ACT AND STATE LAW.

### A. Federal.

Federal regulations prohibit the issuance of a NPDES permit when the conditions in the permit do not provide for compliance with all applicable requirements of the Clean Water Act and/or regulations promulgated under the Act, or when the imposition of conditions cannot ensure compliance with water quality standards. 40 C.F.R. §§ 122.4(a) and (d). Federal regulations require that each NPDES permit shall include technology-based effluent limits (TBELs) and such other more stringent effluent limits (e.g., water quality-based effluent limits or WQBELs) necessary to achieve water quality standards, including any state narrative criteria. *Id.* at § 122.44(a) and (d). Effluent limits must control all pollutants or pollutant parameters which will cause or contribute to (or have the *potential* to cause or contribute to) an excursion above any water quality standard, including narrative criteria. *Id.* § 122.44(d)(1)(i).

When developing effluent limitations as required by these provisions, the state must ensure that the level of water quality achieved through such limits meets water quality standards and is consistent with any applicable wasteload allocation. *Id.* § 122.44(d)(1)(vii). Permit effluent limits for publicly owned treatment works shall be stated as average weekly and average monthly discharge limitations. *Id.* § 122.45(d). Best management practices may be substituted for numeric effluent limits *only* where a numeric limit is infeasible. *Id.* § 122.44(k)(3).

Finally, federal regulations also require that permitting entities ensure that the discharge authorized by the permit will not further degrade waters. 40 C.F.R. § 131.12.

B. State.

In addition to federal requirements for NPDES permitting, the State is required, by statute and its own regulations, to ensure the highest level of protection for all Washington waters, and to that end, that the State require all known, available, and reasonable technology (“AKART”) be applied to prevent and minimize the discharge of pollutants to the state’s waters. RCW 90.48.010; 90.48.520; 90.54.020; WAC 173-226-070; *see also Wash. State Dairy Fed’n v. State of Wash.*, \_\_ P. 3d \_\_, 2021 WL 2660024 (Wn. Ct. App. 2021) at \*6–8. AKART is required regardless of the quality of the receiving water. RCW 90.48.520; 90.54.020(b).

As with the Clean Water Act, no permit may be issued that causes or contributes to the violation of any water quality standard. RCW 90.48.520; WAC 173-201A-510(1). For general permits, Ecology must include such WQBELs as are necessary to meet water quality standards and to ensure that the discharges authorized by the permit do not cause or contribute to a violation of any water quality standard. WAC 173-226-070(2) and (3). WQBELs must be incorporated into the actual terms of the general permit (i.e., not included as assumptions or referenced as background considerations in non-permit materials on the administrative record) if they are necessary for a majority of dischargers covered by the permit. WAC 173-226-070(2)(a); *see also Wash. State Dairy Fed’n*, at \*17. For wastewater dischargers, those limits must be expressed as average weekly and monthly quantitative concentrations and mass limitations. WAC 173-226-070(6)(b).

As with federal regulations, state regulations require that there shall be no degradation of water quality. WAC 173-201A-300, -310.

While the rules at both federal and state levels provide that a permitting agency may use compliance plans to allow a polluter time to come into compliance with new permit requirements, 40 C.F.R. § 131.15, WAC 173-226-180 and 173-201A-510(4)(a), compliance plans do not excuse or negate the requirements described above: that limits be explicitly stated in the permit and that the permitting agency determine those limits will ensure compliance with water quality standards.<sup>3</sup>

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The Permit does not include effluent limits for nutrients, numeric or otherwise. Instead, the Permit suggests best management practices (“BMPs”) only for the purpose of polluters staying within action levels, set at their currently highest (99%) level of nutrient pollutant discharges. Because current levels represent a situation where there has never been an effluent limit, they cannot now suddenly be considered an effluent limit.

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<sup>3</sup> Further, to the extent that they are allowed at all, compliance plans should not extend beyond the 5 years of the permit.

Ecology claims that it is infeasible to develop numeric effluent limits until modeling is complete. Draft PSNGP Fact Sheet 2021, p.34. Ecology claims infeasibility in part because each polluter and its situation, as well as the receiving water location, is unique. At the same time, Ecology claims that a general permit for nutrient pollution discharges from wastewater treatment plants is appropriate and warranted. General permits are allowed under state regulations only for categories of dischargers that meet *all* of the following requirements:

(i) Involve the same or substantially similar types of operations; (ii) Discharge the same or substantially similar types of wastes; (iii) Require the same or substantially similar effluent limitations or operating conditions, and require similar monitoring; and (iv) In the opinion of the director are more appropriately controlled under a general permit than under individual permits.

WAC 173-226-050; *see also* 40 C.F.R. § 122.28. It is unclear to PSA how nutrient pollution from wastewater dischargers to Puget Sound is unique and case-by-case to the extent that Ecology cannot possibly develop and impose numeric effluent limitations that are AKART, and yet also meet the above requirements for a category of polluters that can be regulated by a general permit. Ecology cannot have it both ways.

Remarkably, Ecology assigns to the polluters themselves the task of setting effluent limits and determining what constitutes AKART for the treatment and limitation of nutrient discharges from wastewater treatment plants. Moreover, the Permit gives the polluters the full five years of the Permit to study and plan.

The Permit requires no reductions in nutrient pollution from any discharger covered by the Permit. Rather, Ecology requires polluters to attempt to optimize their current performance—yet Ecology states this is to occur “reasonably” without investing in “costly upgrades or...infrastructure improvements.” PSNGP Fact Sheet 2021, p.42; Permit S.4.B. and D., 12 and 17–18. Ecology sets an “action level” equal to the top end (99th percentile) of recent levels of nutrient pollution from each pollutant discharger. Permit S.4.B., 13–14. If that action level (that is, the high end of current pollutant levels) is exceeded in two consecutive years or three times total over the entire five years of the Permit, the polluter that exceeded the action level must undertake a year’s worth of planning to propose action to Ecology for bringing its nutrient pollution discharges down by at least 10% within five years (which, depending on the magnitude of the exceedances may still be in excess of the 99th percentile). Permit S.4.D., 17–18. Generally, the permit sets a pollutant load cap at nearly the highest level of historic pollutant discharges and creates a system in which compliance is measured across *years* of the permit term and exceedances don’t lead to noncompliance—let alone penalties. This is not a cap, it’s a suggestion.

Ecology also requires the polluters to study and report on their utility fee structure and specifically to assess whether certain communities within a polluter’s service area are disproportionately affected by the fee structure and what alternative fee structures may be. Permit S.4.E.5.d.

These provisions fail to meet minimal requirements for permitting under federal and state law. They will do nothing to reduce the already excessive nutrient pollution load to Puget Sound that is having devastating effects. For these reasons, PSA objects to the proposed Permit.

## OBJECTIONS TO THE DRAFT PERMIT

### I. THE PERMIT FAILS TO INCLUDE NUMERIC EFFLUENT LIMITS IN VIOLATION OF STATE AND FEDERAL PERMITTING REQUIREMENTS

The Permit makes no findings regarding AKART and imposes no numeric effluent limits, AKART or otherwise, on nutrient discharges by wastewater treatment plants into Puget Sound. As currently drafted, the Permit is indefensible both legally and factually.<sup>4</sup>

#### A. The Permit Fails To Address A Significant Part Of The Problem In Failing To Include Phosphorus.

Despite Ecology's repeated acknowledgment that both nitrogen and phosphorus pollution degrade surface waters including the Sound, Draft PSNGP Fact Sheet 2021, the Permit fails to consider any wastewater treatment plant effluent limits for phosphorus. Ecology's stated basis was that a grey-literature report (Newton and Van Voorhis 2002) "documented that nitrogen is a limiting nutrient for Puget Sound." The cited report contains no such documentation. It describes monitoring of several areas in the Sound, including measurements for phosphate, but not total phosphorus. Algae luxury-consume phosphate (Wetzel 2001); that is, they take up much more than they need when it is available and store it in their cells. For that reason, measurement of total phosphorus is needed to assess the phosphorus potentially available to the algae. Moreover, the report includes nothing about attempts to assess the primary nutrient limiting algal growth in the Sound. It does mention experiments that were mistakenly described as having simulated anthropogenic nutrient loading of "excess" nutrients—but the levels of ammonium and phosphate added (~420 µg/L and ~100 µg/L, respectively) were an order of

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<sup>4</sup> PSA concentrates its comments on portions of the Permit applicable to the larger dischargers (called the "Dominant WWTPs"). However, PSA questions that all smaller dischargers should be exempt from any of the Permit requirements and reserves the right to object. There is no information in the Permit or Fact Sheet concerning where and how much the smaller WWTPs discharge their pollutants. For example, is it to an area that is already failing to meet dissolved oxygen standards? There is no information on sensitivity of receiving waters or growth rates for the smaller WWTPs (defined by Ecology as collectively contributing ~1% of the domestic point source anthropogenic load) which may dictate requiring them to have an effluent limit, when it is easier to address the problem prior to more growth. Examples of facilities that require more information and disclosure—and that may be of concern for lack of limits—are Bainbridge, Mukilteo, Sequim, and Port Townsend (growing communities that are more affluent than surrounding areas). In addition, Penn Cove and Coupeville are of concern as possibly discharging to sensitive shellfish waters.

magnitude lower than effluent concentrations from most wastewater treatment plants discharging to the Sound.

The General Permit reflects Ecology's failure to apply present scientific understanding about the two basic ways that nutrient pollution affects aquatic ecosystems—through *supplies (concentrations)* of both nitrogen and phosphorus, and through the *balance or proportion* of N and P supplies, commonly considered as the N:P ratio (Sternner and Elser 2002, Burkholder and Glibert 2013, and references therein). Large supplies of highly bioavailable N and P from the many domestic wastewater treaters covered in the Permit, in highly skewed proportions relative to historic background, are being discharged into the Sound. Control of one of these two major nutrients without control of the other, as Ecology has directed for Puget Sound in this Permit, drives aquatic ecosystems dramatically out of balance and selects for harmful algae at the base of the food web. These algae are poor in food quality for beneficial aquatic animals. The “domino effect” of poor food quality adversely affects the entire food web, from herbivores to top predators (Glibert et al. 2011 and references therein). To protect and improve aquatic ecosystems degraded by nutrient pollution, the highly bioavailable forms of nitrogen and phosphorus in domestic sewage must be co-managed; that is, they must be significantly decreased in concentration, and in the right proportion to re-establish the Sound's N:P balance (Glibert et al. 2011 and references therein, EPA 2015).

Yet, remarkably, there is *no mention* of phosphorus in the Permit. This oversight must be corrected and phosphorus must be regulated by the Permit.

B. Total Nitrogen Must Be Controlled.

Even with the Permit's central focus on effluent TIN, it still falls far short of protecting the receiving waters of the Sound even from continued degradation by nitrogen. While TIN is well known to stimulate algal growth (Glibert et al. 2011, 2016, and references therein), *organic* nitrogen constituents in the total Kjeldahl N (TKN) component of the effluents include stimulatory substances as well. For example, urea is the major organic component of human urine. Various harmful algae, including well-known bloom formers in Puget Sound such as *Heterosigma akashiwo*, can thrive on urea as a nitrogen source (Glibert et al. 2006 and references therein). Urea has also been related to increased toxicity of harmful taxa such as *Pseudo-nitzschia australis*, important in West Coast blooms (Howard et al. 2007). Ecology's eventual target of 3 mg TIN/L therefore will not be sufficiently protective of the Sound ecosystem. The agency's target should be *total* nitrogen; and as previously noted, sewage treatment processes that have been available for decades reliably decrease effluent total nitrogen to 3 mg/L and lower (U.S. EPA 2007). Total N, not TIN, should be the 3 mg/L target.

C. The Permit Fails To Meet Requirements For TBELs/AKART.

As set forth above, both federal and state law require imposition of effluent limits. Under state law, Ecology must determine all known, available, and reasonable treatment technology and require that all pollutants be prevented and treated with it, regardless of the status of the

receiving water. It is Ecology's affirmative duty to assess and make a formal determination, when issuing a permit, as to what constitutes AKART and to then include that requirement in the permit. *Port of Seattle v. Ecology*, 2004 WL 2372063 (PCHB Oct. 18, 2004); *see also*, 1983 Atty Gen. Op. No. 23 at 9.

Ecology admits that it has failed to do so here. Ecology's statements show the agency is aware that technology limiting nitrogen discharges to 3 mg/L and phosphorus in the range of 0.05 to 0.3 mg/L is known, reasonable, and in use (for decades) by wastewater dischargers elsewhere. *See, e.g.*, Permit S.4.E.5.e; *see also* Biological Nutrient Removal Processes and Costs, EPA Fact Sheet, June 2007.<sup>5</sup> Treatment to 3 mg/L nitrogen and 0.05 to 0.3 mg/L phosphorus has been described as readily available and current technology. Using current technology, it is possible to remove effluent TIN to less than 1 mg/L after coagulation and filtration. Even allowing for residual recalcitrant dissolved organic nitrogen—dissolved organic nitrogen that is not removed during the wastewater treatment process—of 0.5 to 1.5 mg/L in municipal wastewater, an effluent limit for total nitrogen of less than 3 mg/L can be achieved.<sup>6</sup> This is not 'new' technology. EPA's assessment of biological nutrient removal dates to 2007—well over a decade ago. Other facilities, in states such as Florida, Virginia, and Michigan, have been meeting 3 mg/L nitrogen and 0.3 mg/L phosphorus limits, or lower, since the mid-2000s. Biological nutrient removal to 3 mg/L nitrogen and at least 0.3 mg/L phosphorus is AKART and must be required for all dischargers as an effluent limit in this Permit.

As explained above, Ecology mistakenly asserts that it is "infeasible" to include effluent limits in the Permit. Ecology is incorrect. Effluent limits of 3 mg/L nitrogen and 0.3 mg/L phosphorus are known, achievable, and reasonable, and have been for decades. Information abounds about the treatment technologies that can achieve these limits. The cost-effective technologies that can be used to set 3 mg/L nitrogen and 0.3 mg/L phosphorus as effluent limits are "off the shelf" and Ecology's claim of infeasibility is absolutely contrary to the facts.

Ecology also tries to claim infeasibility by pointing to "site-specific" differences that require careful study/modeling and proposals from the polluters themselves. This assertion is also baseless. The literature demonstrates that technology can commonly achieve 3 mg/L nitrogen and 0.3 mg/L phosphorus and, in some situations, even better. If concerned about "site-specific" situations, Ecology should set 3 mg/L nitrogen and 0.3 mg/L phosphorus as the baseline and require assessment over the course of the Permit for more stringent limits if necessary. Finally, Ecology's own use of a General Permit suggests that there are few differences among WWTPs in this regard. "Site-specific" conditions should not result in anything less stringent than 3 mg/L total nitrogen and 0.3 mg/L total phosphorus.

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<sup>5</sup> EPA's fact sheet on biological nitrogen removal notes that some facilities may be able to achieve nitrogen concentrations below 3 mg/L due to site-specific conditions.

<sup>6</sup> Barnard, James L., Biological Nutrient Removal: Where we have been, Where we are going?, Water Environment Federation, WEFTEC 2006.

The Permit's failure to include effluent limits of 3 mg/L nitrogen and 0.3 mg/L phosphorus for all dischargers (or at least the dominant dischargers) is a violation of 40 C.F.R. §§ 122.44(a) and 122.45(d) and RCW 90.48.010; 90.48.520; 90.54.020 and WAC 173-226-070.

## II. THE PERMIT DOES NOT REQUIRE ADEQUATE ASSESSMENT OF COMPLIANCE.

WQBELs are supposed to be based on compliance with the state's Surface Water Quality Standards (Chapter 173-201A WAC). Sufficient data must be available to enable assessment of compliance. Yet, even for TIN, Ecology's main target among effluent constituents, the Permit requires only monthly sampling for evaluation on an annual and seasonal basis. The Permit describes a numeric action level for TIN only (in total pounds per year), and an AKART analysis to (eventually) meet Ecology's proposed 3 mg TIN/L target "(or the equivalent load)".

The exceedingly vague description of this "planning" is a major concern, considering that most of the dischargers covered in this Permit presently have *much* higher TIN concentrations in their effluents (mean, 20 mg/L; maximum 45.7 mg/L). Only 8 of the 58 dischargers presently have TIN levels below 5 mg/L; moreover, most of them are only at about one-third to half of their permitted capacity. Without requiring major alterations of most of these WWTPs, it seems highly unlikely that they will attain, even "eventually," a 3 mg N/L target.

Another important question that is not addressed by the draft Permit is how compliance in achieving the "eventual" target will be assessed. To protect the Sound from continued chronic degradation by the effluents, monitoring frequency should be weekly for the important nutrient parameters TKN, ammonia, nitrate+nitrite, and total phosphorus (note: TN = TKN + nitrate+nitrite). The target should be set as a weekly maximum, applicable year-round. Violations should be infrequent rather than routinely allowed, which could easily occur if the target was set as a seasonal average.

## III. THE PERMIT FAILS TO ENSURE THAT DISCHARGES AUTHORIZED UNDER THE PERMIT DO NOT CAUSE OR CONTRIBUTE TO VIOLATIONS OF WATER QUALITY STANDARDS.

Independent of the failure to include limits that are AKART, the Permit also violates the requirements to ensure that it does not cause or contribute—or even have the *potential* to cause or contribute—to a violation of narrative and numeric water quality standards. Ecology admits that large areas of Puget Sound already violate numeric standards for dissolved oxygen. Roberts et al. 2014. It is likely that the areas of impairment—violations of dissolved oxygen standards—are much more extensive than reflected on the latest section 303(d) list of impaired waters or than monitored to date. See PSNGP Fact Sheet. Further, narrative standards are plainly violated considering the incidence of algal blooms, acidification, and related adverse impacts to aquatic

life, exacerbated by warming temperatures.<sup>7</sup> Chronic nutrient pollution to Puget Sound is impairing the designated uses of the Sound, resulting in harmful algal blooms, fish kills, contamination of seafood with algal toxins, and imbalances in the overall ecosystem. Those are violations of narrative standards that are supposed to protect the chemical, physical, and biological integrity of the Sound.

Ecology has already identified wastewater treatment plant polluters as the dominant cause of dissolved oxygen violations (and likely the cause of narrative standard violations) in the Sound. *See*, Ecology's application of the Salish Sea Model (SSM) as described in the Draft PSNGP Fact Sheet 2021. Further, at a minimum, even if a polluter is not the "cause," further addition of nutrients to this already impaired and failing ecosystem will contribute to ongoing violations of water quality standards. Such violations should be addressed with numeric WQBELs applied to all dischargers (large and small) in the Permit. 40 C.F.R. § 122.44(d) and RCW 90.48.520, WAC 173-201A-510(1), and WAC 173-226-070(2) and (3).<sup>8</sup> Finally, it is not necessary for Ecology to pinpoint either cause or contribution to a particular degree of certainty. The law requires Ecology to impose WQBELs where there is even the *potential* that a polluter may cause or contribute to an excursion of water quality standards. *Id.*<sup>9</sup> At the minimum, Ecology must restore the natural N:P ratio in the Sound, as explained above, by setting effluent limits on wastewater polluters at levels that will no longer contribute to water quality impairments. That step is critically needed to restore the Sound's ecosystem and create needed resiliency for the expected additional impacts of climate change.

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<sup>7</sup> Ecology has been negligent in developing numeric criteria for nutrients in Puget Sound. *Twenty-one years* ago, the National Research Council (2000) and EPA (2000a) identified a critical need for states to develop numeric nutrient criteria for U.S. waters. Even then, the problem of nutrient pollution was well-known and adversely affecting all of the nation's waters. EPA provided extensive guidance and research to aid states in carrying out their obligations under 33 U.S.C. § 1313(c).

<sup>8</sup> The Permit's lack of a WQBEL also demonstrates a failure to comply with anti-degradation obligations under federal and state law. 40 C.F.R. § 131.12; WAC 173-201A-300, -310. If wastewater polluters are causing or contributing to a violation of water quality standards, then they are also degrading the water quality of Puget Sound. Even areas of the Sound that may be meeting water quality standards (or where violations have not yet been detected) must be protected under the anti-degradation requirements. Ecology identifies much of the Sound as excellent or extraordinary water quality, a level of quality that must be protected. There is no demonstration in the Permit or accompanying materials that Ecology engaged in an adequate anti-degradation analysis or included limits necessary to ensure that any area of the Sound does not degrade due to wastewater nutrient pollution.

<sup>9</sup> Plainly this language is meant to address the kind of argument Ecology is making to avoid WQBELs in this Permit. Delays in controlling pollutants can always occur where polluters or reluctant regulators search for the perfect information. That kind of delay in controlling pollutants is directly contrary to the very intent and purpose, as well as specific directives, in the Clean Water Act and all applicable regulations here which is to be proactive, to protect (not just restore after the fact), and to be action-forcing in that protection.



Ecology has failed to do the required analysis for WQBELs and has shunted off that obligation (thereby adding a new, unnecessary time lag between permit and water quality standard attainment) to the polluters themselves. Ecology has impermissibly done so despite knowing standards are currently violated, the polluters that are the subject of the Permit are the cause (or contributors) to that violation, and that the nutrient pollution dischargers will continue to make it worse. Ecology knows that technology is available to impose effluent limits to at least curb some of that problem. Ecology is disregarding express legal requirements to ensure that no permit is issued that will cause or contribute to a violation of water quality standards by asking the polluters causing the problem themselves to 'look into it and five years from now propose a plan.' The statutory and regulatory obligation is Ecology's, and the final permit must conform to this requirement and Ecology's obligation met.

It seems clear that Ecology does not plan to address this problem at the five-year mark either, because each of those plans will need to be vetted and some period of time for the process of implementation be allotted. The Permit fails to set clear timelines for the ultimate approval and implementation of any pollutant management plans. Each plan submitted to Ecology by the end of this Permit term will need to be reviewed and approved by the agency—a potentially onerous task that should not be rubber stamped and will thus likely take some time to work through. The Permit is setting in place a process which will lead to years of planning without implementation, delays without deadlines, and exceedances without compliance that could lead to a decade or more of non-capped and unabated nutrient discharges into the Sound. Under this Permit, nutrient pollution will continue to wreak havoc in Puget Sound for another decade or more before Ecology takes meaningful action to require polluters to reduce their pollutant loads. By then the problem will have worsened considerably, considering that chronic nutrient pollution is well known to push waterbodies into a 'feedback loop' of harmful algal blooms, die-offs, oxygen depletion during decomposition of blooms, and release of nutrients to fuel additional harmful algal blooms (Burkholder and Glibert 2013, and references therein).

The Permit must include numeric WQBELs for all dischargers of nutrients to Puget Sound. Failure to do so violates 40 C.F.R. § 122.44(d) and RCW 90.48.520, WAC 173-201A-510(1), and WAC 173-226-070(2) and (3).

#### IV. THE PERMIT IMPERMISSIBLY ALLOWS "SELF-REGULATION."

As set forth above, in this Permit Ecology shifts its statutory and regulatory obligations to the polluters themselves. Ecology fails to set numeric effluent limits, instead directing the polluters to study and suggest limits over the five-year permit duration (both AKART and WQBELs). Ecology instructs polluters to obey the law and not "cause or contribute to violations of water quality standards," while knowing that polluters are already doing so and will continue to do so under the proposed terms of the Permit. As a result, the Permit fails to regulate and wrongly allows impermissible self-regulation. *See, Env't'l Def. Ctr. Inc. v. EPA*, 344 F.3d 832, 855–56 (9th Cir. 2003); *Puget Soundkeeper Alliance v. Ecology*, PCHB Nos. 07-021 et al., 2008 WL 5510413 at \*30, ¶ 29.

Similarly, the action level and planning sections of the Permit do nothing to ensure that water quality standards will be met or that nutrient problems in Puget Sound will not worsen. Rather, the action level is set at the highest end (99%) of what wastewater treatment polluters have been discharging for the last several years. If the action level is exceeded for two consecutive years, the polluter has a year to *propose* a remedy to Ecology to “reduce the most recent calculated annual effluent nitrogen load by at least 10%” within five more years. PSNGP Fact Sheet at 41; Permit S.D.1.c. That is, the plan is to reduce from the exceedance level by 10% and give the polluter five years to do it. If the action level is exceeded three times in the five years of the permit, then again, the polluter must propose a remedy to Ecology for 10% reduction in effluent nitrogen. PSNGP Fact Sheet. There would be more than five years of Permit exceedances before that problem was even known. For example, in situations where an action level is exceeded for years 1, 3, and 5 of the permit term (i.e., not exceeded two years consecutively, but three out of five years of the permit term), a remedial action plan would not need to be developed until year 6, and could take until year 11 to be met. This system builds in years—or decades—of potential exceedances of nutrient limits and seems to intentionally limit monitoring, transparency, and oversight. Under the terms of this draft Permit, there could be years of illegal discharges before even Ecology is made aware of a problem—let alone the public. Thus, it is likely, given the built-in time lags, that exceedances of this generous level of pollution will result in *increased* nutrient pollutant loading to the Sound during and after the term of this Permit.

Indeed, there is no rational basis for concluding that wastewater treaters will do anything more than annual reporting or monitoring. Monthly, weekly, daily, and continuous monitoring is the norm across most pollutant types, and the development of real-time averages keyed to annual limits allows facilities—and regulators—to spot problems early and begin to correct them as they arise. The Permit will have zero positive impact on nutrient pollutants discharged to Puget Sound for the next five years and beyond (likely the next 10 years). Instead, the Permit will likely allow pollution in the Sound to worsen during that time. That adverse effect cannot easily be reversed. Ecology should set clear numeric limits in this Permit and ensure that they are implemented as soon as possible within the Permit term.

V. THE PERMIT SHOULD REQUIRE A MORE COMPREHENSIVE ASSESSMENT AND PLAN TO ADDRESS DISPARATE IMPACTS.

While PSA commends Ecology for attempting to incorporate environmental justice concerns into the Permit, Permit S.4.E.5.d., Ecology overlooks important considerations that should be included for a more comprehensive assessment and plan to address disparate impacts.

The Permit requires only that the permittee identify communities within the pollutant discharger’s “service area” that are communities of color, Tribes, indigenous communities, and low-income populations. *Id.* The Permit instructs pollutant dischargers to perform an affordability assessment to identify how much “overburdened” communities can afford to pay

for wastewater utility. The Permit then directs pollutant dischargers to propose alternative rate structures to prevent adverse effects or rate increases on populations with economic hardship. *Id.*

The Permit should also require that the pollutant dischargers identify communities disproportionately affected by the failure to regulate and control nutrient pollution to the Sound. That analysis should not be confined to “service areas,” as communities other than a polluter’s rate-payers may be more adversely affected than rate-payers. Tribes in particular have been, are, and will be disproportionately adversely affected from the effects of low dissolved oxygen, increased acidification, increased temperature, and toxic algal blooms. Ecology is perpetuating its fundamental failure to address this problem, thus continuing to exacerbate harm to those communities and serving to externalize the costs of pollution.

The Permit should also require dischargers to identify communities within the service area with incomes above national median income. Such communities can better bear utility costs and those communities are likely putting a higher burden on water infrastructure. Information concerning those communities should be a necessary and integral part of the assessment, to design proposals for alternative rate structures that are more equitable.

The Permit should require the dischargers to identify how many funding burdens are placed on water utility fees and whether they are being transparent about those fees and hidden taxes. This analysis should include an assessment of how state funding and regressive taxation (or lack of income taxes) affect the ability of dischargers to equitably pay for urgently needed pollution controls. *See e.g.* <https://mannyteodoro.com/?p=2738> for a thorough assessment of the inequities in current water rate structures and how to address them.

Finally, the assessment must include an analysis of rates for Puget Sound wastewater treatment as compared to comparable cities such as Portland, San Francisco, and Berkeley or communities around and near Chesapeake Bay.

## VI. ECOLOGY’S STATEMENT REGARDING POTENTIAL TRADING FOR NUTRIENT POLLUTANTS IS PREMATURE AND UNSUPPORTED.

In the Fact Sheet accompanying the Permit, Ecology states that it intends to allow trading on a watershed scale. This statement is premature, unsupported by the facts of the situation, and must not come to fruition in this Permit’s terms.

First, to “trade” Ecology must understand exactly what is necessary to bring the load in Puget Sound down (it is already violating water quality standards and discharges cannot contribute to that violation) and must set effluent limits such that there is a measure against which any potential trade would occur. It is essentially not possible to “trade” narrative limits—nor to set a trading program without clear caps, a thorough understanding of other sources affecting the “capped reservoir,” and locked-in enforceable provisions for addressing noncompliance. Trading in the almost wholly unregulated situation represented by the Permit is simply moving what Ecology knows to be a current excess of nutrient pollution around in the

Sound, effectively moving deck chairs on the Titanic. This is unacceptable and must be rejected as an option at the outset.

Second, trading as proposed by Ecology is directly contrary to statements and claims elsewhere in the Permit and Fact Sheet that all nutrient discharges and control thereof must be very site-specific and unique and nutrients respond/express very differently in different parts of the Sound. That is why, Ecology claims, Ecology can't set effluent limits/AKART or WQBELs. Given that set of facts, Ecology cannot very well allow trading either. To do so under Ecology's stated lack of knowledge regarding specifics within the Sound will only lead to irreversible mistakes in overloading already polluted areas that are already exceeding water quality standards. This is an unacceptable risk.

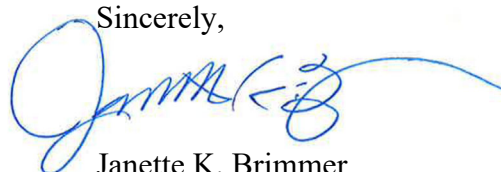
PSA wholly objects to nutrient trading in Puget Sound with this Permit.

## CONCLUSION

The Permit will result in no nutrient reductions, and may ultimately result in increases to nutrient pollution that is already harming Puget Sound. The failure of the Permit to set TBELs/AKART limits and WQBELs violates the law. Ecology must act now to reverse damage that has already occurred and to ensure resiliency in the face of climate change. Finally, Ecology must go further to address the inequities of environmental impacts from excess nutrients. PSA urges Ecology to revisit the Permit for all the reasons set forth above. The Permit must:

1. Set effluent limits that are AKART, pursuant to state law that must be fully implemented by the end of the Permit term;
2. Set water quality-based effluent limits that ensure that discharges authorized by this Permit will not cause or contribute to violations of water quality standards that must be fully implemented by the end of the Permit term;
3. During the period of time that the dischargers are implementing the AKART and WQBELs, cap monthly nutrient inputs to the Sound from covered wastewater treatment plants at a level significantly lower than the 99% trigger in the draft Permit and provide for noncompliance triggers should there be any exceedance on any month;
4. Require real-time monitoring and regular "rolling" monthly compliance targets to allow for early intervention and mitigation of exceedances;
5. Ensure that any remedial requirements for exceedances are not only developed, but implemented in as short a period as possible so as to limit the deleterious effects of illegal nutrient discharges;
6. Address environmental justice as described above; and
7. Contain all other such requirements necessary for meeting water quality standards.

Thank you for the opportunity to submit comments on this critically important issue. Please do not hesitate to contact the undersigned with any questions.

Sincerely,  
  
Janette K. Brimmer  
Marisa C. Ordonia

cc: Puget Soundkeeper Alliance

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## **G.10. Suquamish Indian Tribe Comments**



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# THE SUQUAMISH INDIAN TRIBE

PO Box 498 Suquamish, WA 98392-0498

TRANSMITTED BY ONLINE COMMENT FORM

July 7, 2023

Tricia Miller  
Permit Administrator  
WA State Dept of Ecology - NWRO  
PO Box 330316  
Shoreline, WA 98133-9716

RE: West Point Wastewater Treatment Plant National Pollutant Discharge Elimination System (NPDES) Wastewater Discharge Draft Permit, Permit WA0029181

Dear Ms. Miller,

The Suquamish people have lived, fished, hunted, and gathered in and around Puget Sound since time immemorial. The Suquamish Indian Tribe takes its name from the traditional Lushootseed phrase for “people of the clear salt water” and is signatory to the 1855 Treaty of Point Elliott, in which the Tribe forever reserved the right to take fish in its usual and accustomed fishing areas (U&A). The Suquamish U&A includes portions of Puget Sound and connected waterbodies into which King County’s West Point Wastewater Treatment Plant and Combined Sewer Overflow System discharges. Untreated or improperly treated wastewater, including from West Point and other sources regulated in the draft permit, are discharged into these waters resulting in impacts to the Suquamish Indian Tribe and its members. These discharges result in harmful algae blooms, posting of health advisories, and closure of beaches where Suquamish tribal members harvest shellfish and engage in traditional cultural activities. In addition, these discharges have prompted and will continue to prompt recalls of commercially sold shellfish. All these impacts interfere with tribal member commercial and subsistence harvest activities that are reserved under the treaty. Discharges that result in health advisories and beach closures, negatively impact Suquamish tribal members ability to safely practice traditional life ways such as canoe racing, potlach ceremonies, and canoe journey, to name a few.

The Suquamish Indian Tribe has reviewed the West Point Wastewater Treatment Plant draft NPDES permit and requests Ecology include certain changes so that the permit protects water quality and complies with federal and state law. In general, the Tribe is concerned that Ecology is, for the most part, maintaining the status quo rather than forcing meaningful action from the State’s largest wastewater treatment plant to improve water quality in Puget Sound.

In association with these comments, please also closely review the Technical Memorandum prepared on behalf of the Suquamish Indian Tribe by CEA Engineers, P.C. (“CEAPC”), which is attached to these comments and incorporated by reference. We also support the comments provided by Washington Conservation Action (WCA) and Puget



Soundkeeper Alliance (Puget Soundkeeper), some of which we specifically highlight in the sections below.

**Suquamish  
#1**

**I. The Draft Permit Does Not Force Actions Necessary to Address King County's WPTP and Combined Sewer Overflow System's Long History of Impairing Water Quality in Puget Sound.**

The waters of Puget Sound and the entire Puget Sound are the Tribe's most treasured resource. We are obliged to protect these waters, not only for ourselves but for all who rely on them for healthy seafood, recreation, and cultural practices for the next seven generations (Suquamish Tribal Chairman Leonard Forsman). We acknowledge King County's investments to improve its wastewater treatment systems, but the Suquamish Indian Tribe and its members are frustrated by ongoing sewage releases and NPDES exceedances in Puget Sound that include nutrient loads, which continue to harm marine water quality and the Tribe's ability to exercise treaty reserved rights and engage in cultural activities. We are running out of time and need swifter action. It is time to increase commitments in improving and protecting our shared waters.

King County is responsible for numerous NPDES permit violations, discharging untreated and improperly treated wastewater into Puget Sound between 2015 and 2021. These discharges occurred at the West Point Treatment Plant, the CSO treatment facilities, and combined sewer outfalls (CSOs), affecting, among others, the shores of Centennial Park on Elliott Bay in downtown Seattle, Alki Beach in West Seattle, Discovery Park Beach in Magnolia, and the beaches at the Port Madison Reservation. Ecology must do more to force action to address these unpermitted discharges than its draft permit provides for.

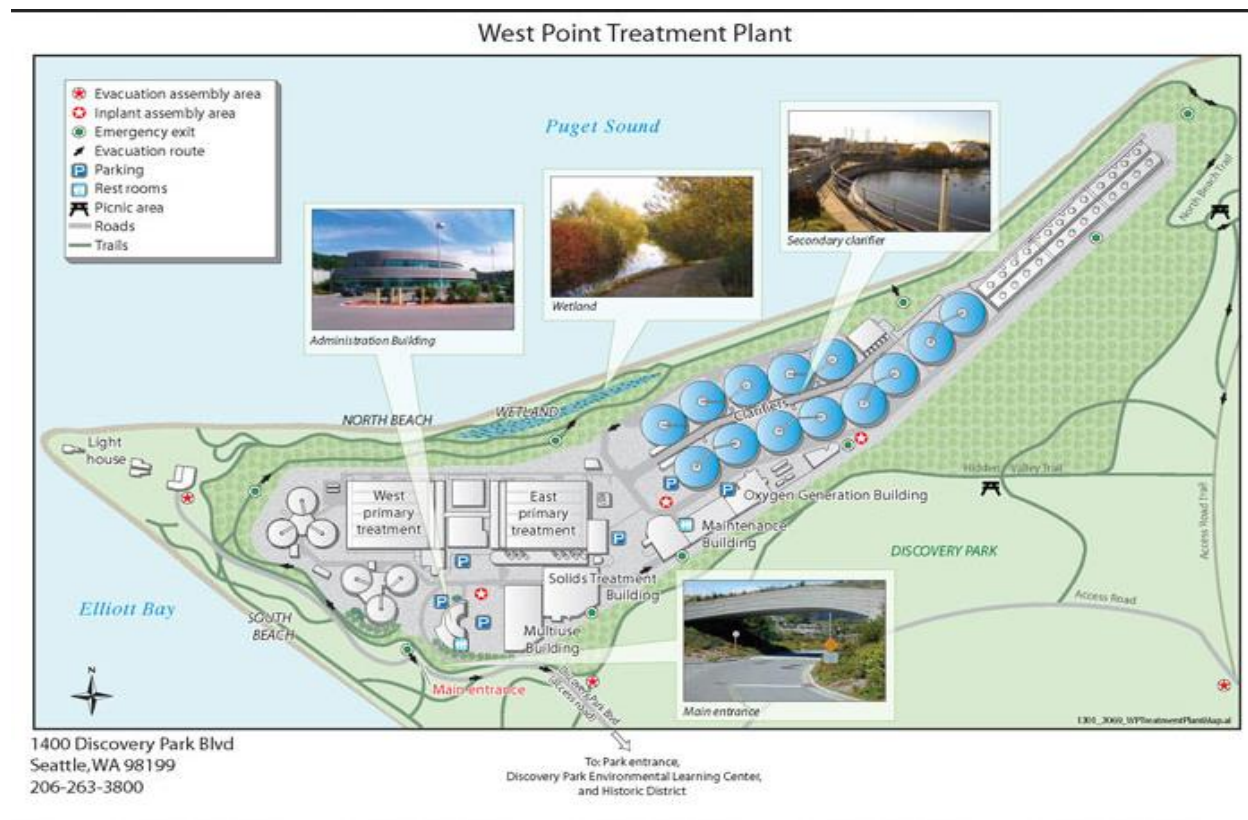
As noted in Ecology's fact sheet, even with the use of mixing zones, King County has not consistently complied with effluent limits and permit conditions throughout the duration of the existing permit, issued December 2014. In addition to violating effluent limits, King County has had unauthorized bypasses and CSO overflows. As a result, the Suquamish Indian Tribe notified King County that it was responsible for at least 19 significant illegal discharges from the WPTP into the Tribe's treaty-protected fishing areas and that the Tribe intended to file suit for ongoing violations of the Clean Water Act (33 U.S.C. §1251 *et seq.*) and King County's NPDES permit. The subsequent settlement agreement between King County and the Tribe, executed on October 20, 2022, requires King County to upgrade infrastructure to eliminate or further reduce untreated discharges from WPTP into Puget Sound. However, the Tribe should not be forced to engage in such resource-intensive actions to protect the Sound's water quality and the free and safe exercise of tribal fishing rights. That is Ecology's obligation, and one major avenue for doing so is through issuing permits with conditions that force dischargers to reduce pollutant loads, including through implementation of the best available technology.

Any new expansion, discharge increase, or permit application must be thoroughly reviewed to identify alternatives to degrading water quality. Local jurisdictions repeatedly state that they have made heroic efforts in determining how to best invest limited funds to produce the biggest benefits. We have heard in meetings and read in comments submitted that "we can't do everything, so we need to determine what the highest priority investments are." The investments jurisdictions make are not just in the physical infrastructure that make up the treatment facility, but investments in a healthy and recovered Puget Sound with abundant salmon and orca whales,

and with clean and abundant shellfish beds that support tribal treaty rights without interruption or closures from sewage spills (including CSO events) or from harmful algal blooms.

Membrane technology is repeatedly overlooked as a viable and feasible alternative. By applying membrane technology, one can convert a traditional activated sludge system into a membrane bioreactor (MBR). Those differ from conventional systems in two ways:

1. In MBR applications the activated sludge tanks can be operated with a far higher concentration of bacteria. This leads to a higher treatment capacity at the same tank volume.
2. In MBR applications the treated clear water is not separated by means of gravity settling but by means of membrane filtration. Therefore, there is no secondary clarifier necessary and the output quality is vastly improved. The Tribe has been told that limited area available makes most upgrades impossible yet secondary clarifiers take up almost half of the facility footprint (see West Point Treatment Plant map below).



Suquamish  
#2

## II. Ecology Should Determine AKART for Nutrients from the West Point Treatment Plant and Include Nutrient Effluent Limits in the Permit.

Washington's Water Pollution Control Act establishes a public policy of maintaining "the highest possible standards to insure the purity of all waters of the state" and to exercise state authority "as fully and effectively as possible, to retain and secure high quality for all waters of

the state.” RCW 90.48.010. The Act makes it unlawful to discharge any matter that shall cause or tend to cause pollution, and defines pollution broadly to include any discharge that will, or is likely to, render a water of the state harmful to fish or other aquatic life. RCW 90.48.080, .020; *see also* WAC 173-226-020.

“No waste discharge permit can be issued that causes or contributes to a violation of water quality criteria, except as provided for in this chapter.” WAC 173-201A-510(1). When issuing a permit, Ecology must ensure that “all known, available, and reasonable methods of treatment”—or AKART—are implemented by treatment plants. RCW 90.52.040, 90.54.020. WAC 173-220-130(1) requires, in pertinent part, that “[a]ny permit issued by [Ecology] shall apply and insure compliance with all of the following, whenever applicable: (a) All known, available, and reasonable methods of treatment required under RCW 90.52.040, 90.54.020 (3)(b), and 90.48.520.” “Permits must be modified by the department when it is determined that the discharge causes or contributes to a violation of water quality standards.” WAC 173-201A-510(1)(b); 40 C.F.R. § 122.44(d)(1)(iii) (permit must contain an effluent limit for parameter when permitting authority determines that discharge causes, has the reasonable potential to cause, or contributes to an excursion above the water quality standards). Ecology is also required by its antidegradation policy to take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards for waters that do not meet assigned criteria or protect existing or designated uses. WAC 173-201A-310(2); Fact Sheet at 62.

Nutrient pollution causes an increase in harmful algal growth, which in turn can result in reduced or depleted levels of dissolved oxygen, an imbalanced ecosystem, significant public health risks, loss of critical habitat for beneficial aquatic life, greatly reduced biodiversity, and a general decline in fish and aquatic life. These impairments pose a direct threat to aquatic life and the abundance of treaty-reserved resources. In the case of harmful algal blooms, it also threatens the Tribe’s access and ability to harvest treaty reserved resources. Shellfish closures due to paralytic shellfish toxins in the central basin of Puget Sound were almost unheard of until the 1970s but had become commonplace by the 1990s and continue to the present.

**Suquamish #2a** Ecology should expressly confirm that nutrient discharges from the West Point Wastewater Treatment Plant are causing and contributing to violations of the state’s dissolved oxygen water quality criteria. The fact sheet recognizes that Ecology’s Salish Sea Model predicts “that nutrients discharged from wastewater treatment plants have a reasonable potential to contribute to existing low dissolved oxygen levels, below state water quality criteria, in the Salish Sea (which includes Puget Sound).” Fact Sheet at 83. But it says no more. However, this conclusion should not be up for dispute. Elsewhere, Ecology has recognized:

1. “Recent studies led Ecology to determine that anthropogenic (human) sources of nutrients lead to instances of low DO concentrations throughout Puget Sound (Khangaonkar et al., 2018, Pelletier et al., 2017, Ahmed et al., 2014, Roberts et al., 2014, Khangaonkar et al., 2012 b, Albertson et al., 2002) exacerbating those effects in areas that may have naturally occurring lower DO and creating additional conditions (areas or duration) where water quality standards are not met.” Puget Sound Nutrient General Permit (PSNGP) Fact Sheet at 26.

2. “With at least 10 years dedicated to the technical work and development of water quality models, Ecology has reached the point where the science clearly demonstrates that cumulative point and nonpoint sources deplete DO resulting in nonattainment of standards within Washington waters of the Salish Sea.” PSNGP Fact Sheet at 31.
3. “Ecology documented reasonable potential with the determination that domestic wastewater discharges may cause or contribute to a violation of surface water quality standards for dissolved oxygen.” PSNGP Fact Sheet at 34.

And the U.S. Environmental Protection Agency (EPA) has explained: “Discharges of excess nutrients, specifically nitrogen, to Puget Sound from domestic WWTPs are contributing to existing low DO levels in Puget Sound. Through use of the Salish Sea Model, Ecology concluded that all domestic WWTPs that discharge to Puget Sound have reasonable potential to contribute to existing impairments.” U.S. EPA, *Fact Sheet Addendum for Proposal of Additional Conditions Related to PFAS and Nutrient Optimization/Reduction*, at 4 (April 11, 2023), <https://www.epa.gov/system/files/documents/2023-04/R10-NPDES-Lummi-Sandy-Point-WA0025658-Fact-Sheet-Addendum-2023.pdf>.

West Point Treatment Plant’s 2019 total inorganic nitrogen loading into the Puget Sound was 18,290 lbs/day, the highest of any wastewater treatment plant, and 25.6% of total cumulative nutrient load. PSNGP Fact Sheet at 78. There should be no dispute based on the modeling and data that West Point and its nutrient discharge are causing and contributing to violations of the state’s dissolved oxygen water quality criteria.

Ecology has also recognized that “the existing DO impairments within the Washington Waters of the Salish Sea *require* nitrogen reduction from domestic POTWs (and other sources) in order to meet surface water quality standards,” PSNGP Response to Comments at 26 (emphasis added), and “population growth will make the duration and extent of [the Sound’s] existing impairments worsen,” *id.* at 14. Ecology should confirm that nutrient reduction is required from West Point.

**Suquamish #2b** The fact sheet states that “Technology-based limits, in combination with the Puget Sound Nutrient General Permit discussed above, will ensure that dissolved oxygen criteria are met in the receiving water.” Fact Sheet at 84. The Tribe requests that Ecology explain how it reached this conclusion and what time frame it is based on. There does not appear to be support for it and to the contrary, all the evidence suggests Ecology is aware the dissolved oxygen impairment will only get worse without nutrient discharge reductions and nothing in this permit or the PSNGP if and even once fully implemented will lead to nutrient reductions in the near future.

Yet the draft permit includes no effluent limits for nutrients (technology-based, water quality-based, numeric, or narrative) that Ecology acknowledges are necessary to control nutrient pollution to the Puget Sound in a manner protective of water quality. Instead, the fact sheet merely states:

On December 1, 2021, Ecology issued the Puget Sound Nutrient General Permit (PSNGP) to regulate the discharge of Total Inorganic Nitrogen from 58 domestic wastewater treatment plants that discharge to marine and estuarine waters in



Washington's waters of the Salish Sea (<https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Nutrient-Permit>). King County's West Point Treatment Plant is covered by the PSNGP, which includes requirements for the control and monitoring of nutrients. This individual permit does not contain limits or other conditions related to the regulation of nutrients.

Fact Sheet at 83. This is insufficient for numerous reasons.

This justification ignores the context of the PSNGP and the permittee's efforts to have its limited requirements stayed and vacated. First, the PSNGP makes no findings regarding "all known, available and reasonable methods of prevention, control and treatment" (AKART) for the removal of nutrient pollutants from discharges by wastewater treatment plants into Puget Sound. It requires the permittees to undertake evaluations and analyses, but doesn't require dominant or moderate loaders to implement optimization; it only requires dominant or moderate discharging plant to implement a proposed approach to reduce its discharge by at least 10% below the action level exceedance if it exceeds the action level two years in a row, or for three years in the five-year permit term. This does not achieve Ecology's obligation to make an AKART determination and by not addressing nutrients in West Point's individual permit, Ecology is not addressing the Plant's discharges that cause or contribute to an exceedance of the relevant dissolved oxygen criteria.

Second, King County has sought and partially succeeded in staying most of the limited substantive requirements contained in the PSNGP, in particular the entire "Compliance with Standards" section and the sections on "Action Level Exceedance Corrective Actions" are stayed and not in effect pending an appeal of the PSNGP. *See* Stipulation for Partial Stay of Puget Sound Nutrient General Permit, PCHB No. 21-082c (Jan. 14, 2022). The appeal before the Pollution Control Hearings Board itself only got to briefing on preliminary issues, did not complete discovery, and based on a request joined by the permittee here, the appeal is currently stayed pending resolution of *City of Tacoma v. Dep't of Ecology*, No. 56859-4-II, before Division Two of the Court of Appeals. The substantive requirements contained in the PSNGP are thus likely multiple years away from becoming effective.

Third, the permittee itself is arguing that the PSNGP is unlawful and the limited nutrient control requirements it contains must be accomplished through individual permits. *See* Permittee Appellants' Joint Motion for Partial Summary Judgment on Threshold Issues, PCHB No. 21-082c, at 1-2, 14-21 (March 18, 2022) ("Ecology is only authorized, however, to require permit coverage for a discharge through either an individual permit or a general permit. Ecology does not have the authority to issue a mandatory general permit regulating the same discharge already authorized by an individual permit. Ecology could reissue individual permits with new requirements addressing each WWTP's specific contribution to discharges of total inorganic nitrogen ("TIN") and associated dissolved oxygen impairments."); Permittee Appellants' Reply in Support of Joint Motion for Partial Summary Judgment on Threshold Issues, PCHB No. 21-082c, at 3-10 (April 29, 2022). While the Tribe agrees with Ecology's response in the appeal that the permittee is incorrect, King County should not be able to have it both ways. This context shows that the West Point Wastewater Treatment Plant is currently "covered" by the PSNGP in only a narrow technical sense divorced from the reality of the situation and that the permittee itself should be viewed as requesting nutrient limits be incorporated into its individual permit

rather than the general permit. *See, e.g.*, WAC 173-226-080(2) (“The director may require any discharger to apply for and obtain an individual permit, or to apply for and obtain coverage under another more specific general permit.”); WAC 173-226-240(3) (“Any discharger authorized by a general permit may request to be excluded from coverage under the general permit by applying for and being issued an individual permit.”). Importantly, what is Ecology’s plan should the permittee succeed in this, or any of its other arguments and gets the PSNGP thrown out? The Puget Sound cannot wait another five, eight, or more years before addressing West Point’s nutrient discharges, and Ecology has the opportunity now to begin restoring it with the individual permit of the single largest nutrient discharger.

The failure to address nutrients in the permittee’s individual permit is all the more troubling given the options Ecology is aware of. Ecology is aware of technology limiting nitrogen discharges to 3 mg/L. The Tribe requests that Ecology make a site-specific finding on AKART for the removal of nutrient pollutants from West Point’s discharges and set water-quality based effluent limits. Please also carefully review the attached CEAPC Technical Memorandum’s “Lack of Nitrogen Permit Effluent Limits” section.

Suquamish  
#2c

Alternatively, implementing the stayed provisions of the PSNGP is a bare minimum option. Ecology could require King County to conduct an engineering analysis to determine what constitutes all known, available, and reasonable methods of prevention, control and treatment (AKART) for nitrogen removal at the facility. The analysis must highlight an alternative representing the greatest total inorganic nitrogen reduction that is reasonably feasible on an annual basis. King County then must implement the option selected as AKART, within the permit term. Ecology could set an action level for total inorganic nitrogen; however, the Tribe requests the yearly action level be reduced from the level in the PSNGP as that level was set too high to be meaningful. Limits should be based on monthly average flows not the sum of monthly flows over one year. Flows during dry summer months can significantly skew annual averages by averaging out high flow events effectively allowing discharges resulting in water quality violations during the rainy winter and spring months.

The yearly “action levels” that Ecology calculated for the West Point Wastewater Treatment Plant and the other discharges used an egregiously lax statistical basis. The 99th percentile of the existing discharge loads would allow King County to continue to increase nitrogen pollution loads over many years. We urge Ecology to first review King County’s 2022 nitrogen loads reporting under the Puget Sound Nutrient General Permit, which have not been made available to the public, and calculate the ratio of the actual monthly loads to the action levels.<sup>1</sup>

Any action level exceedance should also require both short term and long-term corrective actions. Waiting potentially 5 years for an exceedance to be addressed and implementation of an action is unacceptable.

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<sup>1</sup> The Tribe recognizes the PSNGP allowed the permittee to “bubble” West Point with two other plants but sees no reason that would prevent Ecology from addressing West Point’s nutrient discharges through its individual permit.

### III. Ecology Has Not Imposed Adequate Compliance Schedules in the Draft Permit for Infrastructure Improvements at West Point WWTP, the County's CSO System, or Elliott West CSO Treatment Plant.

“When appropriate,” NPDES permits may include “a schedule of compliance leading to compliance with CWA and regulations . . . as soon as possible, but not later than the applicable statutory deadline under the CWA.” 40 C.F.R. § 122.47(a)(1). Compliance schedules “shall be developed to ensure final compliance with all water quality-based effluent limits in the shortest practicable time” and “shall generally not exceed the term of any permit.” WAC 173-201A-510(4); *see* WAC 173-220-140(1)(b) (“Schedules of compliance, shall set forth the shortest, reasonable period of time, to achieve the specified requirements”); WAC 173-220-140(2) (“in no event shall more than one year elapse between interim dates”).

“Any compliance schedule contained in an NPDES permit must include an enforceable final effluent limitation and a date for its achievement that is within the timeframe allowed by the applicable State or federal law provision authorizing compliance schedules as required by CWA sections 301(b)(1)(C); 502(17); the Administrator’s decision in *Star-Kist Caribe, Inc.* 3 E.A.D. 172, 175, 177-178 (1990); and EPA regulations at 40 C.F.R. §§ 122.2, 122.44(d) and 122.44(d)(1)(vii)(A).” Memo from James Hanlon, Director of EPA’s Office of Wastewater Management to Alexis Strauss, Dir. of the Water Division, Region 9, at 2 (May 11, 2007), [https://www3.epa.gov/npdes/pubs/memo\\_complianceschedules\\_may07.pdf](https://www3.epa.gov/npdes/pubs/memo_complianceschedules_may07.pdf). “In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record and described in the fact sheet (40 C.F.R. § 124.8), that a compliance schedule is ‘appropriate’ and that compliance with the final WQBEL is required ‘as soon as possible.’ *See* 40 C.F.R. §§ 122.47(a), 122.47(a)(1).” *Id.*

Ecology does not include compliance schedules that should be incorporated in the draft permit. Instead of establishing a compliance schedule for the infrastructure projects the County, Ecology, and the Suquamish Indian Tribe have identified to address various problems in the County’s West Point WWTP and CSO system (e.g., the 2022 settlement agreement and 2013 consent decree, as modified) in the draft permit, Ecology merely references documents external to the permit in its fact sheet or does not mention them at all.

For example, King County has had numerous, serious problems with power supply and intermediate pump station (IPS) failures at West Point, which have caused extremely significant discharges of untreated sewage through its emergency bypass and inadequately treated non-wet weather secondary treatment diversions. While the Fact Sheet (page 11) briefly notes the power disruption that caused the catastrophic failure of West Point in 2017, it fails to even mention the 1.28 million gallon secondary treatment diversion on May 19, 2018, the 1 million gallon secondary treatment diversion on March 17, 2019, the 2.1 million gallon *full plant* diversion on July 19, 2019 (which fouled Suquamish’s beaches during the Canoe Journey and led to the Tribe sending a notice of intent to sue), the 2.5 million gallon secondary treatment diversion less than two months later on September 7, 2019, the 11 million gallon *full plant* diversion on January 13, 2021, or the 3.5 million gallon secondary treatment diversion on February 2, 2021. And this list does not even include the frequent secondary treatment bypasses and emergency bypasses in the tens of thousands and hundreds of thousands of gallons during the current permit’s term. *See, e.g.,* Suquamish Tribe’s Third Supplemental Notice of Intent to Sue Under the Clean Water Act

Suquamish  
#3 - Start

to King County (July 19, 2021). The Fact Sheet and draft permit certainly do not mention the significant power supply and IPS pump failures that have led to these serious violations of the Clean Water Act.

More importantly, neither the fact sheet nor the permit *addresses* the IPS pump failures (or human error) that have led to many of these serious bypasses in any way. Regarding power supply, the draft permit merely repeats conditions S5.D (Electrical Power Failure) and G.8 (Reduced Production for Compliance) from the current permit, which have done absolutely nothing to prevent the emergency bypasses and power-related secondary treatment bypasses. With respect to the emergency bypasses (i.e., no treatment whatsoever), the most Ecology does is state the following:

As discussed above, the West Point WWTP has the potential to discharge untreated wastewater to Puget Sound through an emergency bypass outfall when necessary to protect the treatment plant and its operators. The emergency outfall consists of a 12-ft by 12-ft square pipe located approximately 600 feet offshore of West Point's north beach. The outfall discharges at a depth of approximately 40 feet. While Ecology recognizes the importance of this outfall to protect the facility and its operators, the proposed permit does not consider the outfall as a permitted discharge location. Ecology *may* take enforcement actions for discharges through this outfall. Figure 2 also shows the location of this outfall.

Fact Sheet at 17-18 (emphasis added). “*May* take enforcement actions for discharges through this outfall”? Such equivocation with respect to Ecology’s enforcement intent is woefully insufficient to address the significant, ongoing problems with emergency bypasses at West Point. In any event, the emergency bypass and non-wet weather secondary treatment diversion problems must be better and more directly addressed *in the final permit’s conditions, including through compliance schedules for infrastructure improvements*. As noted below, Ecology should specifically incorporate the infrastructure requirements and deadlines from the Tribe’s settlement with the County in the permit, along with any additional requirements that Ecology believes are necessary in order to avoid unpermitted secondary treatment diversions and emergency bypasses.

Another issue of great concern to the Tribe is King County’s lack of progress on addressing combined sewer overflows (CSOs). CSOs harm Suquamish tribal members through diminished use of beaches, decreased fishing and shellfishing opportunities in the Tribe’s U&A, and the accumulation of metals and other toxics in fish that are then ingested by tribal members. EPA finalized the federal policy for reducing pollution from combined sewer overflows in 1994, and in 2007, EPA concluded that King County’s ongoing CSOs violated state and federal regulations. This led to a 2013 Consent Decree between King County, Ecology, EPA, and the U.S. Department of Justice that required actions necessary to bring King County’s CSO program into compliance with the Clean Water Act. King County has repeatedly complained about the deadlines in the 2013 Consent Decree (as modified in 2016), and on October 28, 2019, requested that the terms be renegotiated. In that letter, King County cited as one basis for modification the “Clean Water Plan,” a wide-ranging planning process that the County has now abandoned citing the PSNGP and its negotiations with Ecology and EPA on the 2013 Consent Decree. *See* <https://kingcounty.gov/depts/dnrp/wtd/system-planning/clean-water-plan.aspx>. The public, including the Suquamish Indian Tribe, has been excluded from negotiations regarding



modification of the consent decree. We have found this distressing and believe that the County must, at an absolute minimum, adhere to the schedule established in the 2013 consent decree, as modified in 2016, in order to meet its very long-standing obligations under the Clean Water Act.

In short, both Ecology and the Suquamish Indian Tribe have invested considerable time and resources into addressing the issues discussed in this section with King County, resulting in external documents that can and should inform and be incorporated into permit conditions in the new permit, including compliance schedules. Though such permit conditions need not be limited to the terms of such external documents (and certainly could not exceed any deadlines or contradict other conditions imposed in them), at a minimum, Ecology should establish compliance schedules in this permit consistent with provisions of the Tribe's settlement agreement with King County (Section IV), which contains deadlines that have not yet passed regarding the Uninterruptible Power Supply, Voltage Sag Mitigation, and Peak Flow Redundancy to address the emergency bypass and non-wet weather secondary treatment bypasses at West Point, and the 2013 consent decree (as modified in 2016), which establishes deadlines to address King County's persistent and significant CSO problems. Please also see Puget Soundkeeper's comments regarding controlled and uncontrolled CSOs.

The draft permit does—finally—impose a compliance schedule for improvements at the Elliott West CSO Treatment Plant, which routinely violates the current NDPES permit's effluent limits. Elliott West has been a significant and persistent source of the County's numerous Clean Water Act violations. The Tribe's 3<sup>rd</sup> Supplemental Notice of Intent to Sue, dated July 19, 2021, tracked nearly 100 violations at Elliott West CSO (Outfall 27b) between 2015 and 2021 alone. More violations followed. The draft permit imposes a compliance schedule for improvements at S15.A.<sup>2</sup> While the Tribe would very strongly prefer that the construction completion deadline for improvements at Elliott West occur within the permit term, it recognizes that there are scheduling difficulties with that timeframe and that the new total residual chlorine limit for Elliott West CSO treatment plant may have necessitated King County's reassessment of its prior alternatives analysis for the facility. The County recently updated the Tribe on its Elliott West alternatives analysis and schedule for Elliott West CSO Treatment Plant improvements. The Tribe appreciated the update but was also troubled by aspects of it. While the Tribe can live with the compliance schedule at S15.A of the draft permit, it cannot accept the County's current anticipated schedule, which would extend construction completion to a year longer than contemplated in the draft permit (i.e., December 31, 2032 instead of December 31, 2031). The County also contemplates submitting its final plans and specifications to Ecology by June 30, 2028 (rather than December 31, 2027) and completing bidding for construction for the approved improvement project by December 31, 2028 (rather than May 30, 2028). The Tribe urges Ecology to retain the compliance schedule included in the draft permit, and at the very least, bidding must be completed by the end of the permit term. Ecology must also hold firm on the construction completion date, including making the date binding through all means available.

Further, in light of the lower limits for total residual chlorine included in the draft permit (which the Tribe appreciates), the County is re-evaluating disinfection alternatives for Elliott West, including ultra-violet disinfection, to meet the new permit condition. As the CEAPC

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<sup>2</sup> Note that the 80% draft plans and specifications deadline should be June 30, 2027 rather than July 1, 2027 to comply with WAC 173-220-140(2).

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Technical Memorandum (page 8) indicates: “Implementation of ultraviolet disinfection entirely eliminates TRC from discharges from Elliott West, thus providing a clear environmental and ecological benefit, and will benefit the County by eliminating the potential for penalties resulting from NPDES Permit violations related to discharges of TRC from Elliott West.” Consequently, the Tribe urges Ecology to add to Permit Condition S15.B (Requirements for engineering documents) or to Task 1 in S15.A (Table 36) that the modifications required to bring the Elliott West CSO Treatment Plant effluent into compliance with its permitted limits must include ultraviolet disinfection.

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Finally, as described in the next section, the Tribe also urges Ecology to include a compliance schedule for completing a robust inflow and infiltration (I&I) removal program within the term of the permit.

#### **IV. The Draft Permit Fails to Address Inflow and Infiltration (I&I) in a Meaningful Manner.**

The Tribe is deeply concerned that Ecology has not addressed I&I in any meaningful way in the draft permit. The failure to do so means that Ecology is not forcing actions that would reduce flows into the County’s West Point plant and CSO system that could reduce the severity and/or frequency of: CSOs, sanitary sewer overflows (SSO), CSO treatment facility discharges, secondary treatment bypasses, and emergency bypasses at the West Point WWTP influent control structure, all of which result in the discharge of elevated pollutants loads to the environment, which can adversely affect public health and the exercise of treaty fishing rights. Each of these types of discharge are therefore of significant concern to the Tribe, and Ecology should be doing everything within its power to force the County to reduce their frequency and severity, including meaningfully addressing inflow and infiltration. Please carefully review the CEAPC Technical Memorandum comments in the section entitled “Draft Permit Lack Requirements for Inflow and Infiltration Reductions.” As CEAPC notes,

The Draft Permit requires that as part of the County’s operation and maintenance program that the County strictly enforce its sewer ordinances to not allow connection of inflow sources, such as roof drains or foundation drains, to the sanitary sewer system, but contains no means of monitoring this requirement. The only other requirement the Draft Permit includes for reducing RDII [i.e., rainfall-derived inflow and infiltration] is *consideration* of methods for I&I removal if a plan for maintaining adequate capacity at the West Point WWTP is triggered through either the actual flow or waste load to West Point WWTP reaches 85% of its design criteria for three consecutive months or the projects flows or loading would reach design capacity within five years. Either triggering event occurring is unlikely, meaning that the Draft Permit will most likely not force action to reduce I&I but rather only maintain the status quo. Even if one of the two triggering events occurred, the County would not have to take any measures to actually identify and eliminate RDII sources, but would only have to *consider* them in a plan.

Technical Memorandum at 4. The existing and proposed requirements are plainly insufficient to address the problem. The Tribe very strongly encourages Ecology to adopt the following

recommendation described in the CEAPC Technical Memorandum (pages 4-5):

Consistent with Industry Standards and with common NPDES permitting requirements, Ecology should include requirements in the Draft Permit for the County to implement an I&I removal program in the County-owned and operated portions of its SSS that convey flows to the West Point WWTP and the ICS SSS that convey flows to the County's collection system for treatment at the West Point Treatment Plan in order to reduce the occurrence of untreated wastewater discharges through CSOs, SSOs, and Emergency Bypass and partially-treated wastewater through CSO treatment facility discharges and Bypass. Areas of the SSS identified with excessive RDII should be prioritized for pipe and manhole inspections and illicit inflow source identification investigations (e.g., smoke testing) and I&I source removal through prioritized manhole and pipe rehabilitation and illicit inflow source elimination. The Draft Permit should include a compliance schedule for completion of the I&I removal program within the term of the Permit, a required level of I&I removal resulting from the I&I removal program, and clear demonstration through flow monitoring results that the County achieved the required level of I&I removal.

Also consistent with Industry Standards, King County and the ICS should address privately sourced I&I to have the most effective I&I removal program possible. Recent I&I removal efforts by the City of St. Petersburg, Florida identified that private I&I source removal through service lateral pipe rehabilitation combined with public I&I source removal through main pipe and manhole rehabilitation resulted in a 64% reduction in total RDII, while public source removal alone resulted in only a 30% reduction in RDII.<sup>27</sup> In support of environmental justice and to ensure the most effective I&I removal efforts possible, St. Petersburg instituted a program to assist private property owners with the costs of inspecting and rehabilitating private service laterals. The County and ICS should consider funding and implementing a similar comprehensive I&I reduction program addressing private and public I&I source removal to reduce excess flows in the County collection system and to West Point WWTP.

Beyond these specific requests, Ecology should require the County to evaluate and provide a report to Ecology regarding a plan to update its current service agreements with the independent collection systems that contribute to flows in the County collection system, which do not currently contain restrictions on the quantity of flows discharged to the County collection system, and to explain how the County will provide incentives for ICS to reduce flow by identifying and eliminating I&I sources.

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The Tribe also concurs with the comments of Washington Conservation Action and Puget Soundkeeper on this topic,<sup>3</sup> including WCA's suggestion of including metering requirements for contributing jurisdictions based on the experience of jurisdictions on the east coast.

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<sup>3</sup> The Tribe also directs Ecology's attention to Puget Soundkeeper's comments regarding I&I being listed at WAC 173-245-040(2)(b) as the first control alternative that "shall" be considered to achieve the greatest reasonable reduction at each CSO site. As Puget Soundkeeper notes, there is little indication that King County has considered any meaningful I&I reduction measures via the consent decree or otherwise.

## V. Comments on Specific Pollutants

The Tribe briefly comments on some of the specific pollutants included (or not included) in the draft permit. In addition, the Tribe directs Ecology's attention to the comments in the CEAPC Technical Memorandum, as well as the comments of Washington Conservation Action and Puget Soundkeeper, regarding specific pollutants. While we appreciate that Ecology has added and, in some cases, strengthened certain effluent limits, we do have concerns about how some pollutants have been addressed or not been included in the permit at all.

### A. Per-and polyfluoroalkyl substances (PFAS)

As the fact sheet explains, "Ecology published a revised PFAS Chemical Action Plan that include[s] a recommendation to 'Understand and manage PFAS in waste', which included recommendations related to wastewater treatment. Fact Sheet at 103. In that Chemical Action Plan, Ecology recognized the danger from PFAS and the need for action to address PFAS contamination. Ecology has recognized that "PFAS have been detected in Washington [] surface waters, groundwater, wastewater treatment plant (WWTP) effluent, freshwater and marine sediments, freshwater and marine fish tissue, and osprey eggs. Any toxic or other hazardous effects of these chemicals will be with us for many decades." *Per- and Polyfluoroalkyl Substances Chemical Action Plan, Hazardous Waste and Toxics Reduction Program*, Wash. State Dept. of Ecology, Publication 21-04-048, at 12 (Sept. 2022), <https://apps.ecology.wa.gov/publications/documents/2104048.pdf>. Bioaccumulation of PFAS has been confirmed in marine and terrestrial species, zooplankton and other invertebrates, and fish. *Id.* at 13. PFAS exposure in humans can occur through consuming contaminated water or food. PFAS have shown harmful effects to wildlife and to people. *Id.* One recommendation from Ecology's PFAS Chemical Action Plan was that: "Ecology should evaluate PFAS in WWTP influent and effluent to better understand PFAS discharges in Washington state." *Id.* at 27.

The Tribe supports the draft permit's requirement for monitoring of PFAS in influent to the West Point WWTP in 2025 and 2026 and the steps required to identify and control PFAS discharges such as updating industrial users inventory, requiring those industrial users to complete a PFAS prevention/source reduction evaluation, and evaluate other best management practices and pollution prevention strategies. Draft Permit at 17, 43. However, those requirements are not sufficient:

1. Consistent with U.S. EPA and Ecology's own recommendations, Ecology should not just require influent monitoring, but also effluent and biosolids monitoring. Memo from Radhika Fox, Assistant Administrator U.S. EPA to EPA Regional Water Division Directors, Regions 1-10, *Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs*, at 4 (Dec. 5, 2022), [https://www.epa.gov/system/files/documents/2022-12/NPDES\\_PFAS\\_State%20Memo\\_December\\_2022.pdf](https://www.epa.gov/system/files/documents/2022-12/NPDES_PFAS_State%20Memo_December_2022.pdf); see also Authorization to Discharge Under the National Pollutant Discharge Elimination System, U.S. Department of the Navy Naval Magazine Indian Island Wastewater Treatment Plant, Permit No. WA0021997 (June 21, 2023) <https://www.epa.gov/system/files/documents/2023-06/R10-NPDES-Naval-Magazine-Indian-Island-WA0021997-Final-Permit-2023.pdf> (requiring quarterly influent, effluent, and sludge PFAS monitoring). While influent monitoring will

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be valuable in helping to identify potential sources of PFAS coming into the facilities, effluent and residuals monitoring are necessary to address potential impacts to receiving waters and inform future permitting decisions, including the potential development of water quality-based effluent limits on a facility-specific basis.

2. Also consistent with U.S. EPA recommendations, the influent, effluent, and biosolids monitoring should require monitoring once the NPDES Permit is in effect (i.e., not wait until 2025) and last for its entire term (i.e., not stop in 2026). The permit should continue to require regular monitoring during its term to validate PFAS reductions are working. *Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs*, at 4-5.

The Tribe requests the permit should be revised to include PFAS monitoring of influent, effluent, and wastewater residuals monitoring for the entirety of the permit term and on a frequent enough period (i.e., more than quarterly) to be able to characterize the presence and concentration in the facilities' waste streams. Finally, in section S6.E(1), we believe that the industrial categories listed are underinclusive of potential sources of PFAS, such as laundries, electronic products, hazardous waste, chemical wholesalers, and that Ecology should enumerate such potential sources in the list included at that section.

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#### **B. Other Chemicals of Emerging Concern (CECs) and Other Known Toxics**

In addition to PFAS, other chemicals of emerging concern should be monitored under the permit and similar requirements to those established for PFAS should be incorporated. For instance, 6PPD-Q is a contaminant of concern due to its known effects on salmonids. Since stormwater constitutes the majority of CSOs, it is important to know whether the CSOs are discharging 6PPD-Q and to monitor for such discharges. Other important CECs include a variety of endocrine disruptors, such as those found in some pharmaceuticals and personal care products, which can affect aquatic species important to the Tribe. The Tribe recommends expanding monitoring to include these other CECs.

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The Tribe also believes that Ecology should establish effluent limits for PCBs and other known toxics found in wastewater effluent streams. The Tribe directs Ecology's attention to the comments of Washington Conservation Action and Puget Soundkeeper on these topics.

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#### **C. Total Residual Chlorine (TRC)**

The Tribe appreciates that Ecology has significantly reduced the TRC limit at Elliott West CSO Treatment Plant and at least marginally reduced the TRC limits at some of the other CSO treatment plants. The TRC limit at West Point remains high, and we request that Ecology justify the Average Monthly limit of 139 micrograms/liter and Maximum Daily Limit of 364 micrograms/liter. West Point has already demonstrated that its average discharge is well below either of these limits (Fact Sheet at Table 19). Unlike the CSO treatment plants, West Point discharges daily, and the Tribe would like to understand Ecology's reasoning for allowing this load of TRC into Puget Sound.

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**D. Copper Effluent Limit for Henderson/MLK CSO treatment plant**

Ecology determined that copper has a reasonable potential to cause a violation of the water quality standards at the Henderson/MLK CSO treatment plant. However, due to the fact that the facility is located near the upstream boundary that Ecology recognizes as the line between brackish and freshwater conditions, Ecology has proposed to increase the effluent limit derived using EPA's 1991 *Technical Support Document for Water Quality-based Toxics Control* (EPA/505/2-90-001) [hereinafter "EPA, 1991"] for copper, which was 12.3 µg/l, to 22.3 µg/l (i.e., 95<sup>th</sup> percentile value of monitored data) based on a number of questionable factors (Fact Sheet at 94) to protect aquatic life based on *freshwater* criteria.

The Tribe does not agree with this approach and directs Ecology's attention to the attached CEAPC Technical Memorandum's section discussing the Henderson/MLK Copper Effluent Limit Determination. As there is no hard or physical boundary between brackish and freshwater conditions, it is likely that marine organisms, or organisms adapted to brackish conditions, are present at the site. It is well known that copper is toxic to many aquatic organisms, including shellfish and salmonids. The Tribe believes allowing more copper to be discharged than the 12.3 µg/l effluent limit derived using methods from 1991, EPA (Fact Sheet at 94 and Appendix D) would be less protective than is required under the Clean Water Act and to protect important tribal resources.

**VI. CSO Pollution Prevention Program Best Management Practices Should be Reviewed and Evaluated for Effectiveness and Consistency in Annual Reporting.**

The draft permit requires implementation of a pollution prevention program focused on reducing the impact of CSOs on receiving waters (S11.B.7). As an element of the pollution prevention program, best management practices (BMPs) must be implemented to control the sources of pollutants in stormwater runoff that enters the Permittee's combined sewer system. The draft permit includes BMPs, however, the permit must go further and require that BMPs will be reviewed and evaluated for effectiveness and consistency in annual reporting. Requiring an annual evaluation of BMPs ensures accountability.

**VII. The Draft Permit Impermissibly Employs Mixing Zones.**

In permits that address the discharge of wastes that have caused or contributed to water quality violations in the past, the use of dilution is inappropriate and unlawful. Yet Ecology continues to rely on the old concept that "the solution to pollution is dilution," despite the fact that pollutants do not flush to the Pacific Ocean but continue to circulate throughout the Salish Sea. EPA created the concept of the mixing zone but it also has asserted that they can only be used when "where appropriate." 40 C.F.R. § 122.44(d)(1)(ii).

The Pollution Control Hearings Board has held that "[t]he granting of a mixing zone, which allows the discharge of pollutants at a greater concentration than the calculated effluent limit, is an exception to the water quality standards and is to be granted sparingly." *Puget Soundkeeper Alliance v. Washington Ecology*, PCHB No. 13-137c, Findings of Fact, Conclusions of Law, and Order (July 23, 2015) at 43 (emphasis added).

In general, mixing zones permit the discharge of effluent that is more polluted than allowed by water quality standards for the protection of aquatic organisms and designated uses, including the harvest and consumption of fish and shellfish. Mixing zones are typically used when effluent will not meet standards at the point of discharge without dilution by the receiving water. While dilution may reduce some effects, it does not eliminate impacts or risks.

Wastewater-impacted environments often show increased concentrations of total organic carbon, total nitrogen, phosphorus, and toxic chemicals in sediments. The effects of organic enrichment and contamination on the seabed usually follow a gradient of type and intensity with distance from the source. However, regardless of their scale intensity, duration or frequency, these effects may be influenced by other factors (physical, climatic or anthropogenic) to produce cumulative environmental impacts that are not considered in the permitting process establishing mixing zones. For example, studies by Ecology have long ago concluded that nitrogen in municipal sewage discharges is causing and contributing to low levels of dissolved oxygen. Decreased levels of dissolved oxygen results in nuisance algal blooms that further depress dissolved oxygen levels and have other deleterious effects, such as the replacement of Puget Sound's forage fish with jellyfish, and other food web and water quality changes.

Under WAC 173-201A-400, a discharger shall be required to fully apply All Known and Reasonable Technologies (AKART) prior to being authorized a mixing zone. The Tribe believes that other technologies, specifically membrane bioreactor (MBR) technology, offers viable and feasible approaches to improve effluent quality, ensuring compliance with permit limits without the use of mixing zones. For CSO discharges, we question whether Ecology has the authority to assign dilution factors and mixing zones at all, and especially not for toxic chemicals. The Tribe incorporates the comments provided by Puget Soundkeeper and Washington Conservation Action by reference.

The permit needs to be revised to authorize only temporary mixing zones and require a defined process, including benchmarks, to upgrade treatment that will meet effluent limits at the point of discharge (e.g., MBR technology).

**Suquamish #14 VIII. The Tribe Requests that the Permit Require Sediment Monitoring at the Alki and Carkeek CSO Treatment Facilities.**

The draft permit requires sediment monitoring in the vicinity of the Barton CSO outfall (057), Martin Luther King Jr. Avenue Regulator outfall (013), and the Henderson Pump Station outfall (045) based on the 2012 Post Construction Monitoring Plan (PCMP) for King County CSO Controls and the 2018 King County Sediment Management Plan (SMP) Update.

The fact sheet states that the most recent sediment data from these two sites were collected in 2001 and 2000, respectively. At that time, all detected chemicals were less than their respective SQS criteria or LAET values. Given the fact that there were no historical SMS exceedances, and because source conditions have not changed, no additional sediment monitoring is required in this permit. The Tribe believes that 20-year-old sediment data may not reflect current conditions and sediment monitoring should be required to confirm sediments in the vicinity of the discharge points meet SMS criteria.

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**IX. Combined Sewer Overflows Cannot Cause an Exceedance of the Sediment Management Standards.**

The draft permit fact sheet explains that, among other regulations, the sediment management standards apply to domestic wastewater NPDES permits, Fact Sheet at 7, and this permit “has a role in assuring [CSO outfall] discharges comply with the Sediment Management Standards,” Fact Sheet at 50. Section 11.A. of the current NPDES permit states, regarding combined sewer overflow discharge locations: “This permit does not authorize discharges from CSO outfalls that threaten characteristic uses of the receiving water as identified in the water quality standards, Chapter 173-201A WAC, *or that result in an exceedance of the Sediment Management Standards, Chapter 173-204 WAC.*” (emphasis added). Section 11.A. of the draft permit uses different language: “In accordance with chapters 173-201A-400(4) and 173-245-015 WAC, this permit does not authorize a mixing zone or discharge from a CSO outfall when doing so causes adverse impacts that threaten characteristic uses of the receiving water, cause a loss of sensitive or important habitat, or adversely affects public health.”

Why does the draft permit remove the language that is in the current permit stating that the permit does not authorize CSO outfalls that result in an exceedance of the Sediment Management Standards? The removal of that language will only serve to create confusion, when it should be clear that the permit does not and cannot authorize a discharge that would result in an exceedance of the Sediment Management Standards. Clean Water Act Section 402(o) prohibits backsliding, or reissuing a permit with effluent limitations that are less stringent than comparable effluent limitations in the previous permit, subject to certain exceptions. 33 U.S.C. § 1342(o); *see also* 40 C.F.R. § 122.44(l)(1). This change appears to violate the Clean Water Act’s backsliding prohibition, or at least the spirit of that prohibition. The Tribe requests that the final permit maintain the language that the permit does not authorize CSO outfalls that result in an exceedance of the Sediment Management Standards or clearly explain the agency’s intent with respect to the Sediment Management Standards.

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**X. The Final Permit Should Require Notices Be Provided to the Suquamish Indian Tribe.**

As Ecology is aware and as described in these comments, Puget Sound, including those portions into which King County’s West Point WWTP and CSO system discharge, are of existential importance to the Tribe and its members. As a sovereign that is directly affected by King County’s discharges, the Tribe requests that all reporting required under the final permit, including but not limited to all non-compliance reporting and all immediate reporting to Ecology, the Department of Health Shellfish Program, and local health jurisdictions, be provided to the Tribe at the same time. King County must already report certain instances of non-compliance to the Tribe under the 2022 settlement agreement, and similar reporting requirements to affected Tribes are becoming more common place in the region. *See, e.g.*, NPDES Permit Issued by EPA to the U.S. Navy for the Naval Magazine WWTP (to become effective on October 1, 2023), <https://www.epa.gov/system/files/documents/2023-06/R10-NPDES-Naval-Magazine-Indian-Island-WA0021997-Final-Permit-2023.pdf> (Special Condition III.G.4 at page 25).

The Tribe also directs Ecology’s attention to Washington Conservation Action’s important comments regarding public transparency and accountability section.



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Thank you for the opportunity to comment on the draft individual King County Wastewater Treatment Division West Point Wastewater Treatment Plant and Combined Sewer Overflow System NPDES permit. We are available at your convenience to discuss these comments and to answer any questions you may have about them. You may contact Denice Taylor at [dtaylor@suquamish.nsn.us](mailto:dtaylor@suquamish.nsn.us) in regard to these comments. We look forward to seeing our comments addressed in the final permit.

Sincerely,

*/s/ Alison O'Sullivan*

Alison O'Sullivan  
Ecosystem Recovery Program Manager  
Natural Resources Department  
Suquamish Indian Tribe

# **ATTACHMENT**

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## **Technical Memorandum**

**Date:** July 6, 2023

**To:** Suquamish Indian Tribe, Office of Tribal Attorney; Kendra Martinez, Esq.; Jane Steadman, Esq.

**From:** Kevin Draganchuk, P.E., BCEE

**Re:** Draft NPDES Permit WA0029181 – King County Wastewater Treatment Division West Point Wastewater Treatment Plant and Combined Sewer Overflow System

**CEA Engineers, P.C. Job No.:** J23-04

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On behalf of the Suquamish Indian Tribe (“Tribe”), this Technical Memorandum conveys an evaluation by CEA Engineers, P.C. (“CEAPC”) of the Draft National Pollutant Discharge Elimination System (“NPDES”) Permit No. WA0029181 (“Draft Permit”) for the King County (“County”) Department of Natural Resources and Parks Wastewater Treatment Division West Point Wastewater Treatment Plant (“West Point WWTP”) and Combined Sewer Overflow (“CSO”) System developed by the State of Washington Department of Ecology (“Ecology”) issued for public comment on April 5, 2023. CEAPC evaluated the Draft Permit for adequacy to be protective of public health and well-being and environmental and ecological resources and in accordance with the general standard of care to adhere to best engineering practices and industry standards in the wastewater treatment and combined/sanitary sewer system industries (“Industry Standards”).

### **Documents Relied Upon**

CEAPC relied upon the following documents in completing its evaluation and this Technical Memorandum:

- State of Washington Department of Ecology, Draft National Pollutant Discharge Elimination System Permit No. WA0029181, King County Wastewater Treatment Division West Point Wastewater Treatment Plant and Combined Sewer Overflow System.
- State of Washington Department of Ecology, Fact Sheet for NPDES Permit WA0029181, West Point Wastewater Treatment Plant and Combined Sewer Overflow System, April 5, 2023. (“Fact Sheet”)
- State of Washington Department of Ecology, West Point Draft Permit Information Session.
- State of Washington Department of Ecology, National Pollutant Discharge Elimination System Permit No. WA0029181, King County Wastewater Treatment Division - West



Point Wastewater Treatment Plant & Combined Sewer Overflow System, Effective  
February 1, 2015. (“Current Permit”)

**Collection System Overview**

The County’s wastewater collection system infrastructure conveys wastewater to the West Point WWTP and consists partially of a combined sewer system (“CSS”) to collect and convey both sanitary sewage and stormwater runoff and a separate sanitary sewer system (“SSS”) to collect and convey sanitary sewage, including from numerous tributary jurisdictions with service agreements with the County. The SSS discharges to the CSS for ultimate conveyance to West Point WWTP for treatment.<sup>1</sup>

The West Point WWTP treatment train consists of primary treatment, secondary treatment through the activated sludge process, and chlorine disinfection. Fully treated effluent discharges through Outfall 001 to Puget Sound.<sup>2,3</sup>

During wet weather conditions when instantaneous flows exceed 300 million gallons per day (“MGD”), the design capacity of the secondary treatment process at West Point WWTP, the excess flows bypass secondary treatment and receive only primary treatment and disinfection prior to discharge to Outfall 001 (“Bypass”). Bypass is authorized by the Current Permit under these wet weather conditions, and the Draft Permit proposes to continuing Bypass authorization.<sup>4</sup>

The CSS includes five CSO treatment facilities that treat combined sewage flows in excess of the CSS capacity through primary settling to reduce solids loading and disinfection to reduce bacteria loading in discharges from the CSO treatment facilities. The five CSO treatment facilities include:<sup>5</sup>

- Elliott West
- Henderson/MLK
- Carkeek
- Alki
- Georgetown

Disinfection at Georgetown is performed using ultraviolet radiation.<sup>6</sup> The other four CSO treatment facilities utilize chlorine disinfection and subsequently dechlorinate CSO discharges

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<sup>1</sup> King County, Clean Water Plan, Existing Conditions Report, April 2020, pages 41 and 43.

<sup>2</sup> State of Washington Department of Ecology, Draft National Pollutant Discharge Elimination System Permit No. WA0029181, King County Wastewater Treatment Division West Point Wastewater Treatment Plant and Combined Sewer Overflow System, page 2. (Hereafter, “Draft Permit”).

<sup>3</sup> State of Washington Department of Ecology, Fact Sheet for NPDES Permit WA0029181, West Point Wastewater Treatment Plant and Combined Sewer Overflow System, April 5, 2023, pages 12 - 13. (Hereafter, “Fact Sheet”).

<sup>4</sup> Draft Permit, pages 31 and 47.

<sup>5</sup> Draft Permit, page 2.

<sup>6</sup> Draft Permit, page 2.



through addition of sodium bisulfite.<sup>7</sup> The chlorine disinfection/dechlorination process introduces an additional pollutant to CSO discharges, total residual chlorine (“TRC”) that requires monitoring and effluent limitations at Elliott West, Henderson/MLK, Carkeek, and Alki.<sup>8</sup>

The CSS includes 38 permitted CSO outfalls for discharges of combined sewage when flows exceeded regulated capacity of the CSS at the CSO outfall locations.<sup>9</sup>

### **Draft Permit Lacks Requirements for Inflow and Infiltration Reductions**

Based on historical flow records, approximately 25% of flows to the West Point WWTP consist of inflow and infiltration (“I&I”) and 75% of peak flows in the SSS result from rainfall-derived inflow and infiltration (“RDII”).<sup>10,11</sup>

Wastewater flow in an SSS consists of base sanitary flow, groundwater infiltration, dry weather inflow, and RDII. Infiltration results from groundwater seepage into the SSS through structural defects, such as faulty joints between pipes or service connections, defects in manhole walls, or defects in pipes.<sup>12</sup> Inflow results from stormwater runoff that enters an SSS through directly connected roof leaders, foundation drains, sump pumps, cellar drains, yard drains; cleanouts; defective manhole covers; and improper connections between the sanitary and storm sewers. Inflow can also occur in dry weather from sump pumps or foundation drains that receive groundwater under dry conditions or from structurally defective SSS infrastructure that traverses surface waters.<sup>13,14,15,16</sup>

Stormwater inflow to a CSS differs from inflow to an SSS, since a CSS is intended and designed to collect and convey stormwater flows. An SSS is not designed to collect and convey stormwater flows, which are intended for collection and conveyance by a separate storm sewer system in areas with an SSS.

34 independently owned and operated collection systems discharge to the County collection system. The combined length of the 34 independent collection systems (“ICS”) is over 5,900 miles of pipelines.<sup>17</sup> The County’s current service agreements with ICS do not contain

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<sup>7</sup> Fact Sheet, pages 19, 21, 23, 26.

<sup>8</sup> Draft Permit, pages 10 and 11.

<sup>9</sup> Draft Permit, page 2 and Special Condition S.11, pages 47-48.

<sup>10</sup> Fact Sheet, page 14.

<sup>11</sup> King County, Clean Water Plan, Existing Conditions Report, April 2020, page 60.

<sup>12</sup> Service connections are the locations where lateral pipes enter mains.

<sup>13</sup> Water Environment Federation, Wastewater Collection Systems Management Seventh Edition, Manual of Practice No. 7, 2021, page 6.

<sup>14</sup> Water Environment Federation, Prevention and Control of Sewer System Overflows, WEF Manual of Practice No. FD-17, Third Edition, 2011, pages 28 and 176.

<sup>15</sup> 2016 WCS O&M Manual, pages 4-1 and 4-2.

<sup>16</sup> United States Environmental Protection Agency, Guide for Estimating Infiltration and Inflow, June 2014.

<sup>17</sup> King County, Clean Water Plan, Existing Conditions Report, April 2020, pages 40 - 41.



restrictions on the flow quantity discharged to the County collection system and do not provide incentives for ICS to reduce flows by identifying and eliminating I&I sources.<sup>18</sup>

#### CEAPC Comment

The Draft Permit fails to address excess flows resulting from I&I in a meaningful way. The Draft Permit requires as part of the County's operation and maintenance program that the County strictly enforce its sewer ordinances to not allow connection of inflow sources to the SSS, such as roof drains or foundation drains, but contains no means of monitoring this requirement.<sup>19</sup> The only other requirement the Draft Permit includes for reducing RDII is *consideration* of I&I removal methods within a plan for maintaining adequate capacity at the West Point WWTP. Development of such a plan is only triggered through either the actual flow or waste loads to West Point WWTP reaching 85% of the design criteria for three consecutive months or flow or loading projections reaching design capacity within five years.<sup>20</sup> Either triggering event occurring is unlikely, meaning that the Draft Permit will most likely not force action to reduce excess flows resulting from I&I, but rather maintain the status quo. Even if one of the two triggering events occurred, the County would not have to take any measures to actually identify and eliminate RDII sources, but would only have to *consider* them in a plan.

The lack of requirements in the Draft Permit to address excess flows resulting from RDII is problematic because RDII contributes to CSOs, sanitary sewer overflows ("SSOs"), CSO treatment facility discharges, Bypass, and emergency bypasses at the West Point WWTP influent control structure ("Emergency Bypass"), all of which result in the discharge of elevated pollutants loads to the environment, including pathogens, nutrients, and oxygen-demanding substances, that can adversely impact public health and well-being and environmental and ecological resources. SSOs and dry weather CSOs are prohibited by the Draft Permit, and, in addition to authorized Bypass, require immediate reporting to Ecology, the Department of Health Shellfish Program, and local health jurisdiction due to their potential adverse impacts to public health and well-being.<sup>21</sup>

Consistent with Industry Standards and with common NPDES permitting requirements, Ecology should include requirements in the Draft Permit for the County to implement an I&I removal program in the County-owned and operated portions of its SSS that convey flows to the West Point WWTP and the ICS SSS that convey flows to the County's collection system for treatment at the West Point Treatment Plan in order to reduce the occurrence of untreated wastewater discharges through CSOs, SSOs, and Emergency Bypass and partially-treated wastewater

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<sup>18</sup> Fact Sheet, page 15.  
<sup>19</sup> Draft Permit page 34,  
<sup>20</sup> Draft Permit, pages 31 – 32.  
<sup>21</sup> Draft Permit, page 28.

through CSO treatment facility discharges and Bypass.<sup>22,23,24,25,26</sup> Areas of the SSS identified with excessive RDII should be prioritized for pipe and manhole inspections and illicit inflow source identification investigations (e.g., smoke testing) and I&I source removal through prioritized manhole and pipe rehabilitation and illicit inflow source elimination. The Draft Permit should include a compliance schedule for completion of the I&I removal program within the term of the Permit, a required level of I&I removal resulting from the I&I removal program, and clear demonstration through flow monitoring results that the County achieved the required level of I&I removal.

Also consistent with Industry Standards, King County and the ICS should address privately sourced I&I to have the most effective I&I removal program possible. Recent I&I removal efforts by the City of St. Petersburg, Florida identified that private I&I source removal through service lateral pipe rehabilitation combined with public I&I source removal through main pipe and manhole rehabilitation resulted in a 64% reduction in total RDII, while public source removal alone resulted in only a 30% reduction in RDII.<sup>27</sup> In support of environmental justice and to ensure the most effective I&I removal efforts possible, St. Petersburg instituted a program to assist private property owners with the costs of inspecting and rehabilitating private service laterals.<sup>28</sup> The County and ICS should consider funding and implementing a similar comprehensive I&I reduction program addressing private and public I&I source removal to reduce excess flows in the County collection system and to West Point WWTP.

### **Lack of Nitrogen Permit Effluent Limits**

West Point WWTP is a dominant total inorganic nitrogen (“TIN”) loader to Puget Sound, defined by the Puget Sound Nutrient General Permit (“Nutrient General Permit”) as a discharger of more than 2,000 pounds TIN/day (“lb/d”).<sup>29</sup> The Nutrient General Permit does not contain

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- <sup>22</sup> United States Environmental Protection Agency, Guide for Estimating Infiltration and Inflow, June 2014.
- <sup>23</sup> American Society of Civil Engineers, United States Environmental Protection Agency, and Black and Veatch Corporation, Sanitary Sewer Overflow Solutions Guidance Manual, EPA Cooperative Agreement # CP-828955-01-0, April 2004, pages ES-1 and 1.
- <sup>24</sup> United States Environmental Protection Agency, “National Pollutant Discharge Elimination System (NDPES), Sanitary Sewer Overflows Frequent Questions,” June 21, 2022.  
<https://www.epa.gov/npdes/sanitary-sewer-overflow-ss-o-frequent-questions>, last accessed June 29, 2023.
- <sup>25</sup> New York State Department of Environmental Conservation, State Pollutant Discharge Elimination System (SPDES) Discharge Permit, SPDES Number: NY-0026697, Permittee: Westchester County Department of Environmental Facilities, New Rochelle Sanitary Sewer District WWTP.
- <sup>26</sup> New York State Department of Environmental Conservation, State Pollutant Discharge Elimination System (SPDES) Discharge Permit, SPDES Number: NY-0026701, Permittee: Westchester County Department of Environmental Facilities, Mamaroneck Sanitary Sewer District WWTP.
- <sup>27</sup> City of St. Petersburg Private Laterals I/I Pilot Study Report, January 2023.
- <sup>28</sup> City of St. Petersburg, Lateral Line Rehabilitation, 2023,  
[https://www.stpete.org/residents/current\\_projects/lateral\\_lines\\_rehabilitation\\_project.php](https://www.stpete.org/residents/current_projects/lateral_lines_rehabilitation_project.php). Accessed July 6, 2023.
- <sup>29</sup> State of Washington Department of Ecology, Puget Sounds Nutrient General Permit, Effective Date: January 1, 2022, pages 7 and 53 and Table 3. (Hereafter, “Nutrient General Permit”).



effluent limits, but rather requires that TIN loaders achieve an Action Level that indicates treatment effectiveness.<sup>30</sup> The Action Level for West Point WWTP's only permitted outfall, Outfall 001, is 6,670,000 pounds TIN/year, which equates to a permitted daily average TIN discharge of over 18,000 lb TIN/day that is more than nine times greater than the Nutrient General Permit threshold for defining a dominant loader.<sup>31</sup> Though not technically an effluent limit, the Action Level allows the County to discharge on average over nine tons of nitrogen daily to Puget Sound.

Dominant loaders are required to complete a Nutrient Reduction Evaluation ("NRE") for review by Ecology by December 31, 2025, that provides a pathway to achieving an annual average concentration of 10 mg TIN/l and a seasonal average concentration between April and October of 3 mg TIN/l (collectively, "Nutrient General Permit TIN Concentrations"). Dominant loaders that demonstrate to Ecology in their annual reports that they are already achieving the Nutrient General Permit TIN Concentrations and their Action Levels do not need to prepare an NRE.<sup>32</sup> The Nutrient General Permit TIN Concentrations are not effluent limits, but rather are guidance values that require additional action if not achieved.

#### CEAPC Comment

Further examination of West Point WWTP effluent TIN discharges demonstrate that Ecology should consider more stringent requirements in the Draft Permit than those contained in the Nutrient General Permit to be protective of Puget Sound and the Salish Sea. TIN is the sum of nitrite-nitrogen, nitrate-nitrogen, and ammonia-nitrogen. Between January 2015 and December 2021, effluent from West Point WWTP Outfall 001 contained an average of 25.5 mg TIN/l, far in excess of the Nutrient General Permit TIN Concentrations.<sup>33</sup> The monthly average flow from Outfall 001 was 92.3 MGD, which equates to a daily average load of 19,600 lb/d that exceeds West Point WWTP's Action Level.

It is essential for Ecology to consider that the Nutrient General Permit pertains solely to Outfall 001. The Draft Permit authorizes TIN-containing discharges not only from Outfall 001, but also the five CSO treatment facilities and 38 CSOs that are not covered under the Nutrient General Permit. As a result, even if West Point WWTP begins to meet its Action Level and achieves the Nutrient General Permit TIN Concentrations, it is highly likely that the true TIN loads from the discharges authorized by the Draft Permit exceed the requirements of the Nutrient General Permit. Furthermore, if the performance identified in the Fact Sheet for West Point WWTP persists and it does not meet its Action Level and does not achieve the Nutrient General Permit TIN Concentrations, the Draft Permit is authorizing TIN loads that likely far exceed the requirements of the Nutrient General Permit and will continue to do so for years into the future through subsequent permit cycles due to the required NRE submission date and lengthy

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<sup>30</sup> Nutrient General Permit, page 42.

<sup>31</sup> Nutrient General Permit, page 12 and Table 5.

<sup>32</sup> Nutrient General Permit, pages 16 – 17.

<sup>33</sup> Draft Permit, page 39, Table 19.





timeframe to implement capital projects to improve TIN removal from influent wastewater to West Point WWTP.

Based on CEAPC's experience in wastewater engineering and NPDES permitting for wastewater treatment plants that discharge to sensitive marine waters adversely impacted by nitrogen in New York, Connecticut, and Florida, including Long Island Sound adjacent New York and Connecticut and Tampa Bay, Sarasota Bay, the Manatee River, and the Eastern Gulf of Mexico adjacent to Florida, it is common practice for permitting authorities to include stringent NPDES permit effluent limits for maximum and average total nitrogen ("TN") concentrations and loads (typically on an annual average basis). Annual average total nitrogen concentrations are often permitted up to advanced wastewater treatment ("AWT") standards of 3 mg TN/l.<sup>34,35,36,37</sup> TN consists of TIN and organic nitrogen, the latter of which is present at low concentrations in domestic wastewater (often ~ 1 mg/l) but difficult to remove and thus results in a higher level of TIN removal to achieve permit effluent limits.

Considering West Point's recent effluent TIN concentrations and loads and its identification as the second-largest dominant loader based on Action Levels in the Nutrient General Permit, Ecology should implement an expediated compliance schedule for development and implementation of an NRE beyond what is required in the Nutrient General Permit and interim effluent limits for TIN concentration and loads from Outfall 001. Inclusion of these requirements in the Draft Permit will begin moving West Point WWTP towards achieving the Nutrient General Permit TIN Concentrations, compliance with Nutrient General Permit, and improved water quality in Puget Sound and Salish Sea.

### **Elliott West**

The proposed TRC effluent limit for Elliott West in the Draft Permit reduces the existing effluent limit of 109 µg/l to 33.8 µ/l, a nearly 70% reduction.<sup>38</sup> The average TRC from 95 samples collected between January 2015 and December 2021 at Elliot West was 297.69 µg/l, far in excess of both the existing and proposed TRC effluent limit.<sup>39</sup> During the same time period, Elliott West exceeded the TRC effluent limit 49 times, the most recent of which were once in December 2020 and twice in January 2021.<sup>40</sup>

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<sup>34</sup> Florida Department of Environmental Protection, State of Florida Domestic Wastewater Facility Permit, City of Largo, Permit Number: FL0026603, Revision Date: June 24, 2021.

<sup>35</sup> Florida Department of Environmental Protection, State of Florida Domestic Wastewater Facility Permit, City of Bradenton, Permit Number: FL0021369, Effective Date: September 9, 2020.

<sup>36</sup> New York State Department of Environmental Conservation, State Pollutant Discharge Elimination System (SPDES) Discharge Permit, SPDES Number: NY-0026701, Permittee: Westchester County Department of Environmental Facilities, Mamaroneck Sanitary Sewer District WWTP.

<sup>37</sup> New York State Department of Environmental Conservation, State Pollutant Discharge Elimination System (SPDES) Discharge Permit, SPDES Number: NY-0026697, Permittee: Westchester County Department of Environmental Facilities, New Rochelle Sanitary Sewer District WWTP.

<sup>38</sup> Fact Sheet, page 98, Table 49 – Elliott West CSO treatment plant (Outfall 027b) Limit Comparison.

<sup>39</sup> Fact Sheet, page 43, Table 23 – Elliott West CSO Treatment Plant Effluent Characterization.

<sup>40</sup> Fact Sheet, pages 152 - 155, Elliott West CSO Treatment Plant Violations.



### CEAPC Comment

The Draft Permit requires the County to plan and design improvements to Elliot West to ensure compliance with the conditions of the Draft Permit and provides Ecology the ability to review, comment on, and approve the County's submissions, including the engineering report, plans and specification.<sup>41</sup> Considering the history of TRC exceedances of the effluent limit at Elliott West, Ecology should strongly consider requiring that the County implement ultraviolet disinfection at Elliott West. Implementation of ultraviolet disinfection will entirely eliminate TRC from Elliott West discharges, thus providing a clear environmental and ecological benefit, and will benefit the County by eliminating the potential for penalties resulting from NPDES Permit violations resulting from discharges of TRC from Elliott West in excess of the effluent limit.

### **Henderson/MLK Copper Effluent Limit Determination**

The outfall from Henderson/MLK discharges into the Duwamish River ("Duwamish") at approximately river kilometer 10.5 along its northern bank at a depth of approximately 12 feet below the water surface. This portion of the Duwamish is less tidally influenced and more influenced by the Green River, leading Ecology to consider it freshwater in nature rather than estuarine.<sup>42</sup>

Ecology calculated an aquatic life daily maximum copper effluent limit ("copper effluent limit") of 12.3 µg/l based on marine criteria, though it does not consider the Duwamish to be estuarine in nature at the Henderson/MLK outfall location. The reasonable potential analysis used by Ecology to determine if water quality based effluent limits are needed in the Draft Permit is based on relatively consistent discharge conditions; however, Henderson/MLK historically discharges between one and three times per year for approximately 14 hours during each discharge.<sup>43</sup> Based on the frequency and duration of discharges from Henderson/MLK and consideration Duwamish as a freshwater at the discharge location, Ecology determined that a "performance-based" copper effluent limit of 22.3 µg/l consistent with the 95<sup>th</sup> percentile of copper monitoring results between 2014 and 2019 was "appropriate" and adequate to protect aquatic life based on a freshwater criteria.<sup>44</sup>

### CEAPC Comment

Ecology discusses in the Fact Sheet that evaluating the discharge from Henderson/MLK using freshwater conditions and criteria "suggests" that existing copper concentrations "may not result in toxicity in freshwater aquatic life"; however, no evaluation or calculations based on freshwater conditions or criteria are included in the Fact Sheet and Ecology's basis for its discussion is unclear.<sup>45</sup> Hardness-dependent freshwater aquatic life criteria can be calculated in accordance

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<sup>41</sup> Draft Permit, pages 60 and 61.

<sup>42</sup> Fact Sheet, pages 80 – 82.

<sup>43</sup> Fact Sheet, pages 27, 94 and 138 and Table 8 – Henderson/MLK CSO Treatment Plant Performance.

<sup>44</sup> Fact Sheet, pages 44 and 94 and Table 24 – Henderson/MLK CSO Treatment Plant Effluent Characterization.

<sup>45</sup> Fact Sheet, page 94.



with the Washington State water quality standards.<sup>46</sup> The performance-based copper effluent limit is based on only nine samples collected between January 2015 and December 2021.<sup>47</sup>

Considering the limited number of effluent copper samples collected, the overall limited number and duration of discharges from Henderson/MLK, and the freshwater nature of the Duwamish at the Henderson/MLK outfall location, Ecology needs to clearly demonstrate that the performance-based daily maximum copper effluent limit of 22.3 µg/l will be protective of aquatic life and achieve acute freshwater water quality criteria. If it is not, Ecology needs to revise the daily maximum copper effluent limit for Henderson/MLK to ensure it is protective of aquatic life.

Furthermore, setting the copper effluent limit at the 95<sup>th</sup> percentile of the nine samples which has proven readily achievable by discharges from Henderson/MLK means that achieving the copper effluent limit will maintain the status quo and is unlikely to result in water quality improvements and improved protection of aquatic life in the Duwamish. Furthermore, if discharges from Henderson/MLK tend closer to simply meeting the readily achievable copper effluent limit (meaning consistent discharge concentrations near but not exceeding 22.3 µg/l), a degradation in water quality and protection of aquatic life would result, since average overall acute loads would increase (assuming similar flows).

### **Improvements in the Draft Permit from the Current Permit**

The Draft Permit includes several provisions that are improvements over the Current Permit for protecting public health and well-being and environmental and ecological resources, including:

- new or reduced effluent limits for the County’s CSO treatment facilities, including:<sup>48,49</sup>
  - lower TRC effluent limits at Elliot West, Alki, and Henderson/MLK
  - new copper effluent limit at Henderson/MLK
  - new zinc effluent limit at Elliott West
  - new interim copper effluent limit at Elliott West that will remain in place through the term of the new NPDES permit<sup>50</sup>
  - Upon completion of the upgrades to Elliott West, which likely will take a number of NPDES permit cycles, the final copper limit included in the Draft Permit will take effect.<sup>51</sup>
- efforts to reduce discharges of Per-/Polyfluorinated substances (“PFAS”)<sup>52,53</sup>

<sup>46</sup> Washington Administrative Code, Title 173, Ecology, Department of, Chapter 173, Water Quality Standards for Surface Waters of the State of Washington, Section 240 Toxic Substances, <https://app.leg.wa.gov/WAC/default.aspx?cite=173-201A-240>. Accessed June 29, 2023.

<sup>47</sup> Fact Sheet, page 44, Table 24 – Henderson/MLK CSO Treatment Plant Effluent Characterization.

<sup>48</sup> Draft Permit, pages 10 – 12.

<sup>49</sup> Fact Sheet, pages 2 and 97 - 99.

<sup>50</sup> Draft Permit, page 12.

<sup>51</sup> Draft Permit, page 12.

<sup>52</sup> Fact Sheet, page 103.

<sup>53</sup> Draft Permit, page 43.



- influent monitoring for PFAS at West Point WWTP during 2025 and 2026<sup>54</sup>
  - CEAPC Comment: The Draft Permit should require that influent monitoring for PFAS begin once the NPDES Permit is effective and not delay commencing monitoring until 2025. Developing an influent monitoring program for PFAS is not a lengthy process and could be initiated prior to the effective date as long as the County is aware it will be required.
- identification of potential industrial users (“IU”) discharging PFAS to the County collection system and submission by the County of an updated IU inventory identifying potential IU discharges of PFAS by April 30, 2025.
- inclusion of a pretreatment permit requirement that IUs identified as known or suspected PFAS sources complete a PFAS pollution prevention and source reduction evaluation
- evaluation by the County of PFAS pollution prevention strategies and best management practices for inclusion in future pretreatment permits

## **G.11. Squaxin Indian Tribe Comments**

# Squaxin Island Tribe

Please find attached comment letter from the Squaxin Island Tribe.



## SQUAXIN ISLAND TRIBE

July 7, 2023

Tricia Miller, Permit Administrator and Sean Wilson, Permit Manager  
Department of Ecology – NWRO  
PO Box 330316  
Shoreline, WA 98133-9716

Dear Ms. Miller and Mr. Wilson:

The following are comments on National Pollutant Discharge Elimination System Permit No. WA0029181 for King County's West Point Wastewater Treatment Plant. The impacts of West Point reach all the way into South Puget Sound and the Usual and Accustomed Area of the Squaxin Island Tribe.

The Squaxin Island Tribe is descended from maritime people who have lived and prospered along the shores of the southernmost inlets of the Salish Sea for millennia. Their leaders signed the Medicine Creek Treaty with the U.S. Government in 1854, reserving the right to hunt, gather and fish at all usual and accustomed places. Tribal members continue to this day to exercise their Treaty rights for subsistence, ceremonial and commercial purposes. This includes every inlet of South Puget Sound: Case Inlet, Hammersley Inlet/Oakland Bay, Totten/Little Skookum Inlet, Eld Inlet, Budd Inlet, Henderson Inlet, and Carr Inlet (Figure 1). The federal government maintains a trust responsibility for protection of Tribal interests preserved in the Medicine Creek Treaty. In the case the Puget Sound Nutrient General Permit and individual NPDES permits, due to the delegation of authority for implementation of the Clean Water Act, this Treaty obligation must be fulfilled by the State of Washington.

### Squaxin #1

***Elevated nutrients in the South Salish Sea have a disproportionate impact on the Squaxin Island Tribe. West Point is the largest discharger of anthropogenic total inorganic nitrogen (TIN) into Puget Sound. Ecology should set TIN discharge limits for West Point at below 3 mg/L.***

Output from Ecology's Salish Sea Model (Figure 1) indicates that, under current conditions, elevated anthropogenic nutrients result in dissolved oxygen concentration lower than state water quality standards set under the federal Clean Water Act. Ecology is thus obligated to implement measures to reduce nutrient discharges. The areas of impairment overlay large parts of the Usual and Accustomed fishing area of the Squaxin Island Tribe, where Tribal fishers set their nets. Low dissolved oxygen causes habitat fragmentation and reduction in habitat for some species. In other words, the red areas of impairment in Figure 1 represent fragmentation and loss of habitat for the Treaty fisheries of the Squaxin Island Tribe. Harmful effects of elevated TIN and low marine dissolved oxygen include acidification, which can prevent shellfish and other marine organisms from forming shells; shifts in the number and types of bottom-dwelling invertebrates; increases in abundance of macroalgae, which can impair the health of eelgrass beds; seasonal reductions in fish habitat, intensification of fish kill events, and potential disruption of the

entire food web. Low dissolved oxygen has and greatly diminished one remaining kelp beds of the South Salish Sea at the southern tip of Squaxin Island.

We have heard of a questioning of the Salish Sea Model as a tool for determining the impact of anthropogenic nutrients on the Salish Sea. Over the past twenty years, the Salish Sea Model has been reviewed, criticized, and improved over multiple iterations. Those successive iterations have produced results that repeatedly say the same thing with more certainty: Anthropogenic nutrients are the dominant source of nutrients in Puget Sound, especially in summer, and those nutrients cause a decrease in dissolved oxygen in the heads of inlets. This is a reality right now, and so it should be reflected in the form of strict standards in the West Point NPDES permit.

As other entities Sound-wide ramp up their nutrient removal from wastewater (JBLM (brand new plant), LOTT, the City of Shelton, Mason County, and the Squaxin Island Tribe, just to name a few closer to us), why is King County lagging behind? If they list cost as the primary barrier, it is the same for all entities. Ecology, please continue to direct state and federal funds towards King County and all entities to ramp up nutrient removal from wastewater.

Finally, West Point and King County lack some of the key features of the newest wastewater treatment facilities in Puget Sound: 1) membrane bioreactors (MBR) 2) “up-watershed” land application of reclaimed water and 3) reuse of reclaimed water . As King County considers expansion of West Point, it should only be to incorporate MBR. If not MBR at West Point, then the County should establish satellite MBR facilities “up-watershed” away from shorelines. If Ecology allows West Point to expand with current nutrient discharge limits, Ecology would be permitting the further degradation of Puget Sound, at the expense of the Squaxin Island Tribe, all Tribes, and all residents of Puget Sound.

**Squaxin  
#2**

Sincerely,



Erica Marbet  
Water Resources Biologist  
Squaxin Island Tribe

See Figure 1 on next page.



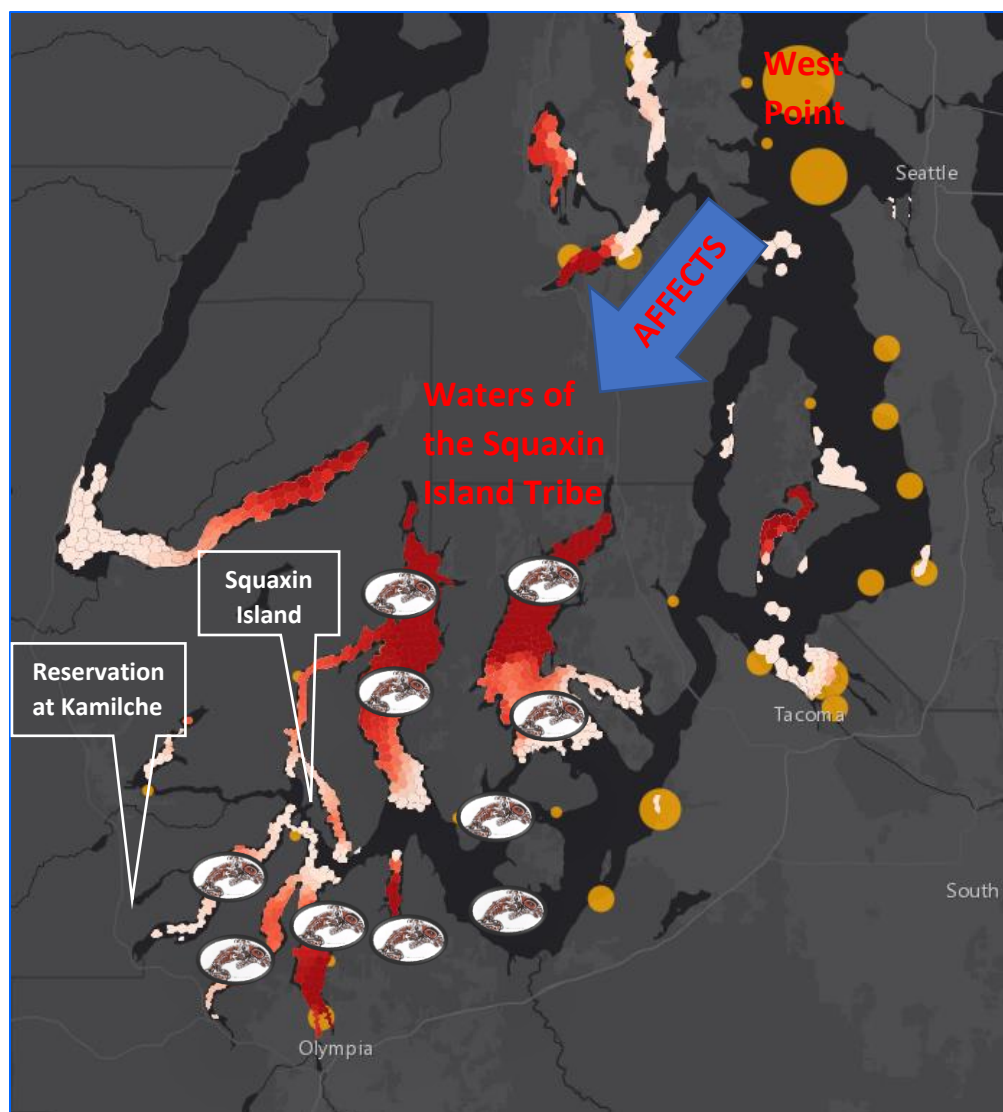


Figure 1. Output from Ecology's Salish Sea Model:

<https://www.arcgis.com/apps/webappviewer/index.html?id=2a5d5e519a9d40df8a88f6910786c51f>



= Where impairments overlap with ancestral fishing and shellfishing areas of the Squaxin Island Tribe.

**G.12. Washington Conservation Action and Duwamish River Community  
Coalition Comments**

# Washington Conservation Action and Duwamish River Community Coalition

Please see attached comment letter, submitted by Jamie Hearn, Duwamish River Community Coalition, and Mindy Roberts, Washington Conservation Action. We also include two attachments in separate files.



July 7, 2023

Tricia Miller, Permit Administrator and Sean Wilson, Permit Manager  
Department of Ecology – NWRO  
PO Box 330316  
Shoreline, WA 98133-9716

Dear Ms. Miller and Mr. Wilson:

Thank you for the opportunity to provide input on the National Pollutant Discharge Elimination System (NPDES) Permit No. WA0029181 for King County's West Point Wastewater Treatment Plant. Washington Conservation Action Education Fund (WCA) is a 501(c)(3) organization founded in 1967 as Washington Environmental Council. Our mission is to develop, advocate for, and defend policies that ensure environmental progress and justice by centering and amplifying the voices of the most impacted communities. We are committed to clean water protections for all Washington State waters. Duwamish River Community Coalition (DRCC) is a 501(c)(3) organization that has long been a community steward for environmental justice in the Duwamish Valley, which is one of the most polluted areas in the entire Pacific Northwest following 100 years of industrial dumping and release of toxic waste. DRCC has worked tirelessly alongside community groups and neighbors for 20 years to clean up the water, land and air while fighting to eliminate ongoing industrial pollution that makes our communities among the least healthy in the County.

WCA has a deep history of pushing for measurable progress to prevent and manage sewage pollution. We have been involved with the Puget Sound Nutrient Forum and Nutrient General Permit Advisory Committee and remain committed to achieving clean water throughout the State. DRCC has actively pursued clean water strategies and has advocated for sewer infrastructure investments for years. DRCC is committed to protecting people most impacted by the cumulative impacts of living in a community with multiple sources of toxic exposure.

Each NPDES permit cycle must make progress toward eliminating pollution that impacts people, water, and aquatic life. For this permit cycle we would like to see exceptional progress towards the goal of clean water for all and have identified several priority areas key to achieving this goal: ensuring that King County reduces nitrogen pollution at West



Point, prohibit any status quo facility expansion, strengthen Combined Sewer Overflow (CSO) provisions, accelerate progress toward reducing metals and toxics, increase public transparency and accountability, address environmental justice and affordability, and decrease inflow and infiltration.

Unfortunately, West Point Wastewater Treatment plant operators, including King County and its predecessor Metro, have a long history of requesting exceptions to the normal practices and pace of reducing sewage pollution that other wastewater treatment plants have adopted. As the Fact Sheet notes, when the Clean Water Act was amended in 1972 to require that all sewage treatment plants meet secondary treatment requirements by 1977, West Point's predecessor agency Metro applied for a waiver of those requirements, even while other wastewater treatment plants in the Puget Sound region, across the state, and across the country complied with that deadline. Ecology had to issue an Administrative Order, Docket No. DE 84 577, in September 1984 to direct Metro to proceed with planning for secondary treatment at the West Point plant no later than February 1991. When that deadline would not be met, Ecology amended the order to extend the compliance date until December 1995. King County assumed control of Metro's assets and obligations in 1994, and secondary treatment was brought online in 1995 – 18 years after the date set in the federal Clean Water Act, and one of the last major municipalities in the country to do so. That was unacceptable at the time and should not have required nearly two decades to comply with clean water requirements, especially in a municipality that prides itself on its environmental protection practices.

The February 2017 catastrophic failure of the West Point wastewater treatment plant required 89 days to return to normal operations. During that time, municipal sewage discharged to Puget Sound did not receive adequate treatment. While operators used a creative suite of practices to maximize other transmission system options to minimize pollution, there is no denying that inadequate sewage discharges caused harm, including harm to geographies outside of King County's boundaries. Surprisingly, King County's monitoring programs conducted in the wake of the failure found no detectable changes in Puget Sound water quality. This conclusion is beyond belief. At the time, King County also attempted to deflect blame for the power failure to Seattle City Light, even though King County alone is legally responsible for providing adequate power to its facilities. Ecology issued its largest pollution penalty in state history as a result.

West Point also suffered a power failure in July 2019 that led to the discharge of inadequately treated sewage to Puget Sound. As a result, a number of beaches were closed even across Puget Sound in Kitsap County. Multiple shellfish harvesting areas were closed



as well. People participating in the annual tribal Canoe Journey passed through the “closed” areas as the Suquamish Tribe hosted one of the nightly camping stops. The Suquamish Tribe noted this impact in its Notice of Intent to Sue King County over its failure to address recurring pollution violations and power issues.

From 2019 to 2022, King County hosted a forum of stakeholders to advise it on its clean water investments, and WCA served on the advisory group. Multiple times during that period, we and others noted that King County was incorrect and misleading in its assumption that complying with Clean Water Act requirements for sewage treatment and CSO abatement were optional. We invested untold hours trying to get King County’s Wastewater Treatment Division on a better path toward achieving clean water. Yet time and time again, the materials distributed in that process were wholly biased against addressing sewage treatment requirements and CSO requirements.

In fact, King County’s own independent Auditor’s Office found unsubstantiated escalated cost estimates for sewage upgrades and CSO controls and issued a report September 30, 2021, on the need for increased transparency around the costs, risks, and guiding principles of the Clean Water Plan process (<https://kingcounty.gov/depts/auditor/auditor-reports/cpo/clean-water-plan.aspx> and attached as a separate file to this comment letter). The King County Auditor’s Office found that the Wastewater Treatment Division incurred substantial risk by downplaying regulatory requirements around sewage treatment and CSO abatement. Importantly, the Auditor’s Office found a lack of transparency on cost estimates provided to the advisory group and that the information was biased away from actions related to sewage treatment and CSO controls.

After Ecology issued the Puget Sound Nutrient General Permit in 2022, King County appealed that permit on a variety of process and content terms to the Pollution Control Hearings Board. In addition, King County joined litigation currently in the Appeals Court alongside Tacoma to thwart the Puget Sound Nutrient General Permit, which Ecology designed to give the dischargers flexibility. King County essentially argues that Ecology has no basis for regulating nitrogen discharges to Puget Sound, fights the well-established science around the impacts of sewage discharges, and then obfuscates an astounding array of regulatory processes in a quest to avoid its obligations under the Clean Water Act. This is occurring even as King County states in multiple public venues that it will follow all clean water regulations.

In 2020, the Governor’s Office convened a meeting of scientists as King County began disputing the science around sewage discharges. WCA, then called Washington



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Environmental Council, has provided expert scientific information that summarizes the robust 20+ years of modeling and analyses conducted by Ecology. As stated in the attachment, *"Parts of Puget Sound experience low levels of dissolved oxygen, which is vital for aquatic life.... Human activities increase nitrogen and carbon contributions through both wastewater treatment plant discharges and watershed activities, with wastewater loads the dominant source in the summer months.... Added nutrients from human-derived activities cause or contribute to violations of the Washington State water quality standard for dissolved oxygen in Puget Sound due to complex circulation and biogeochemical processes.... Future growth and development will increase nutrients from human activities in the Puget Sound watershed, which will worsen dissolved oxygen impacts from local human activities unless nutrients and carbon are managed differently.... The Salish Sea Model, built on years of application, is the most appropriate tool to explore the relative impacts of different natural and human stressors that influence dissolved oxygen. At each phase of model development, Ecology concluded that human nutrient sources likely were violating the dissolved oxygen criteria in portions of Puget Sound. The magnitude and location of the violations have remained remarkably consistent over 19 years, even as the modeling tools continued to be refined in response to uncertainties identified by the modeling team.... At each phase of model development, Ecology was held to the highest standards of peer review, stakeholder input, and public review to ensure the integrity of the work and to hold up in a court of law...."*

In a 2022 briefing to the legislature, King County claimed it would be better for Puget Sound to fund programs such as reducing septic system impacts to Penn Cove in Island County and reducing agricultural pollution in Snohomish County. We note that pursuing actions in Island County or Snohomish County in lieu of cleaning up its own pollution would be contrary to environmental justice principles; King County cannot sacrifice the health and environment of people impacted by its CSOs and West Point discharge to clean up pollution in other communities, particularly those with lower populations of BIPOC people. In addition, the 2021 King County Auditor's Office report flagged that alternative compliance approaches are not currently legal and that changes to Washington Administrative Code would be needed to allow King County to pursue alternative water quality investments in lieu of CSO investments. This out-of-kind mitigation attempt is also wholly out of scale to the problems caused by sewage from King County's system.

We also note that many of the arguments that King County is currently using to avoid tertiary treatment are nearly identical to the arguments previously used to avoid expanding from primary treatment to secondary treatment in the 1990s – costs are too high, technology is untested, Puget Sound does not need the protection, upgraded sewage



treatment will not result in any measurable improvement to Puget Sound water quality, and no one is actually harmed.

Appendix E to the Fact Sheet lists an extraordinary number of violations of the current permit for the period between 2015 and 2021, not limited to the 2017 West Point catastrophic failure. For West Point, 16 months exceeded 85% of the design capacity for carbonaceous biochemical oxygen demand (CBOD) or total suspended solids (TSS) and one month (February 2017) exceeded the actual design capacity for TSS during the plant failure. Every CSO plant violated permit limits for fecal coliform, pH, and/or total residual chlorine. The Elliott West CSO Plant alone violated permit limits more than 100 times. The latter led to Ecology and EPA issuing stipulated penalties of \$184,000 in December 2022 for violating the County's CSO Consent Decree.

Given that West Point is the largest source of sewage discharge anywhere in the state, and given the long and deep history of the West Point and CSO facility violations of its NPDES permit, Ecology needs to develop stringent permit conditions and hold King County accountable for any violations of those permit terms. The final permit must require far more progress toward achieving long-term reductions in sewage pollution to Puget Sound than reflected in the draft permit.

We offer the following comments on the draft permit and look forward to seeing these issues resolved in the final permit.

## **WCA/DRCC #1 Reduce Nitrogen Pollution**

King County is pursuing litigation fighting the Puget Sound Nutrient General Permit, currently in the Court of Appeals, and is appealing the permit through the Pollution Control Hearings Board, currently stayed pending the appeal. If King County succeeds in undermining the permit on procedural arguments, then the West Point facility will have no obligations to monitor for nitrogen, no pathway toward planning for nutrient-removal technology, and no progress toward reducing nitrogen in the short term. That is too big of a risk for the largest sewage discharge in the entire State of Washington, and the largest U.S. sewage discharger to the Salish Sea.

While the Puget Sound Nutrient General Permit had been intended to give dischargers more flexibility in complying with nitrogen reductions, it is clear from King County's actions that they will continue to fight this inevitable conclusion as long as they possibly can,





consistent with trying to avoid adding secondary treatment in the 1970s, 1980s, and 1990s. In addition to litigation, King County is obfuscating the science through a sham process, consistent with finding no measurable harm to Puget Sound following the February 2017 catastrophic plant failure. Ecology intended to roll nitrogen requirements into future iterations of the individual permits, but that needs to happen now and in this permit.

Pierce County knew that nutrient regulations were coming when it upgraded the Chambers Creek plant in the early 2000s and has been decreasing nitrogen discharges even before the Puget Sound Nutrient General Permit was issued. Joint Base Lewis McChord rebuilt its wastewater treatment plant and is achieving very low nitrogen concentrations even though EPA had not yet required the reductions. The Lacey Olympia Tumwater Thurston County (LOTT) plant has been implementing nutrient removal since the mid-1990s. As you know, multiple mid-size plants have gone to nutrient removal technology. Ecology must require King County to begin this transition for West Point in this NPDES permit and must not reward poor decisionmaking by King County Wastewater Treatment Division.

**Ecology should incorporate monitoring, planning, and engineering provisions building from those in the Puget Sound Nutrient General Permit into the West Point permit, strengthen those provisions for the largest sewage source to Puget Sound, establish a technology-based nitrogen limit for West Point, and eliminate West Point from general permit coverage now.**

In WCA's appeal of the Puget Sound Nutrient General Permit with the Suquamish Tribe to the Pollution Control Hearings Board, the appropriate venue for addressing pollution disputes and not the Courts, we argue that the "action levels" that Ecology calculated for the West Point plant and the other discharges used an egregiously lax statistical basis. The 99<sup>th</sup> percentile of the existing discharge loads would allow King County to continue to increase nitrogen pollution loads over many years. We urge Ecology to review King County's 2022 nitrogen loads reported under the Puget Sound Nutrient General Permit, which have not been made available to the public, and calculate the ratio of the actual 2022 loads to the action levels. We anticipate that King County's West Point 2022 nitrogen discharge loads were significantly below the action levels in the Puget Sound Nutrient General Permit. This is why we do not recommend adopting the action levels as permit limits. The King County Auditor's Office report provided a timeline of discharge loads from West Point, including what would happen at a technology-based limit of 8 mg/L of nitrogen. We encourage Ecology to establish a technology-based limit of 2 mg/L based on what the LOTT plant and JBLM plant are currently achieving.



We also anticipate that King County will pursue a facility expansion request to Ecology as it nears its design capacity at West Point during the next permit term, a concern described in the next section. Therefore, particularly if King County succeeds in overturning the Puget Sound Nutrient General Permit, Ecology must establish stringent nutrient limits in this individual permit for West Point. Ecology must require King County to make progress on planning for nutrient-removal technology at West Point, where King County is currently reserving physical space for future tank expansions to treat more sewage as population increases.

**Given that the shift from primary to secondary treatment at the West Point Wastewater Treatment Plant required 18 years after the federal deadline and an Administrative Order, Ecology needs to incorporate meaningful progress toward nitrogen reduction in the individual West Point permit.**

## **Prohibit Status Quo Facility Expansion at West Point and Address Emergency Bypass**

**WCA/DRCC  
#2 - Start**

As presented in Appendix E of the Fact Sheet, CBOD and TSS loads have already exceeded the 85<sup>th</sup> percentile for 15 separate months between 2015 and 2021. We expect that King County will begin work toward status quo expansions during this permit term, which would be allowable by this permit as written. **Ecology needs to be clear that status quo facility expansions are not acceptable.**

Special Condition S4.B(a) describes the conditions triggering the requirement to submit a plan for maintaining adequate capacity when actual flows and loads reach 85 percent or when projected flows and loads within 5 years exceed any of the triggers in Table 31.

However, the provision as written leaves open the option that King County will be approved for an expansion of plant capacity. Because King County's West Point discharge already contributes to violations of the water quality standards for nitrogen, Ecology cannot approve any expansion without a concomitant technology change that reduces the concentration of nitrogen in the effluent. Therefore, Ecology must add clarity that any plant expansion process must include all parameters covered by both the individual and general permits that apply to the facility, if West Point remains subject to the Puget Sound Nutrient General Permit. Ecology should include a clear statement under Special Condition S4.B.b that the engineering design report must address all parameters included in the individual permit as well as the Puget Sound Nutrient General Permit.



Special Condition S4.E includes a requirement for a Wasteload Assessment. Because all nitrogen monitoring and analyses are proposed to be in the separate Puget Sound Nutrient General Permit, Ecology must include a clear statement that this Wasteload Assessment must include nitrogen if any or all provisions of the Puget Sound Nutrient General Permit are overturned.

Special Condition S4.A Table 31 now includes a distinct discharge flow limit of 300 mgd for secondary treatment flow capacity (maximum daily flow) in addition to the maximum month design flow of 215 mgd. We agree with having a flow limit that includes a maximum daily value. The fact sheet should include more information around how often this value had been met or exceeded in previous years to justify the establishment of the 300 mgd value.

**WCA/DRCC  
#2a**

Fact Sheet Table 4 presents the projected average annual flows through the 2060s as 127 mgd, substantially below 215 mgd. However, 215 mgd is the maximum monthly design flow, not the average annual flow. Table 4 should include more of an apples-to-apples comparison and the maximum monthly flows relative to the design of the plant since that is the statistical basis for the flow trigger for expanding capacity.

Special Condition S16 requires King County to “... submit a new application or addendum at least one hundred eighty (180) days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.” However, this implies that Ecology could approve an increase in capacity. This permit must state definitively that King County should not expect Ecology to approve any applications for increases in flows or loads from the West Point Treatment Plant.

**WCA/DRCC  
#2 - End**

Fact Sheet page 16 describes that “During wet weather, flow through the West Point WWTP can exceed the design capacity of the secondary treatment processes. When instantaneous internal flow rates reach 300 MGD...” and that “KC-WTD is in the process of redesigning this bypass to rely on passive weirs to allow emergency bypasses rather than the hydraulically-operated gates. Ecology’s review of the passive weir project concluded that the redesign improves overall protection of the plant during emergency conditions without increasing the potential for inadvertent bypasses. Although Ecology recognizes the need for this safety feature to protect against catastrophic conditions that may risk operator safety or severe property damage, the proposed permit considers any discharge through the emergency outfall as an unpermitted bypass” (underlining added). Ecology describes the emergency bypass outfall as discharging

**WCA/DRCC  
#3 -Start**



in 40 feet of water in the Fact Sheet and includes the following text: *"While Ecology recognizes the importance of this outfall to protect the facility and its operators, the proposed permit does not consider the outfall as a permitted discharge location. Ecology may take enforcement actions for discharges through this outfall. Figure 2 also shows the location of this outfall."* (Underlining added)

We recognize that this solution was added in the wake of the 2017 catastrophic failure and agree that worker safety is critical. However, this does not appear to be a long-term solution that protects the health of Puget Sound as it still essentially provides the plumbing for under- and un-treated sewage to enter Puget Sound. Rather than simply build this into the permit, Ecology needs to require King County to develop a long-term fix that eliminates the need to bypass secondary treatment. After all, the state spent 18 years forcing West Point to build secondary treatment. Ecology should not settle for allowing King County to avoid secondary treatment, even if it is considered an unpermitted bypass. Fining a discharger for something they are already planning to allow for does not achieve clean water. Ecology must require King County to plan for a permanent solution that avoids the need for emergency bypasses except in truly exceptional conditions. Emergency bypasses should not become annual or more frequent events.

**Specifically, the permit must state unequivocally that Ecology will take enforcement action for discharges through the emergency bypass outfall, not may take action. Ecology also needs to require a long-term fix that eliminates the need to bypass secondary treatment.**

WCA/DRCC  
#3 - End

## Strengthen Combined Sewer Overflow provisions

The Fact Sheet history on page 12 notes that EPA finalized the federal policy for reducing pollution from combined sewer overflows in 1994. While King County made some progress, in 2007 EPA concluded that King County's ongoing CSOs violated state and federal regulations. A 2012 Crosscut article (<https://crosscut.com/2012/06/surface-water-pollution-consent-decrees>) provides a good summary of the issues at the time. This led to a 2013 Consent Decree between King County, Ecology, EPA, and the US Department of Justice that required actions necessary to bring King County's CSO program into compliance with the Clean Water Act. King County has repeatedly noted that it is not achieving the deadlines in that Consent Decree, and King County has requested that the terms be renegotiated. To



date, no public review draft has been released and all negotiations have occurred behind closed doors.

We urge Ecology to continue to require the largest municipality in the State of Washington to achieve its clean water obligations, including addressing its CSOs. King County personnel have repeatedly diminished the importance of reducing CSOs with an antiquated perspective that no one is harmed by CSOs. However, people are impacted by CSOs, including through exposure to toxic chemicals from CSOs, diminished use of beaches along Lake Washington, decreased fishing and shellfishing opportunities in the Duwamish Waterway, not to mention the accumulation of metals and other toxics in fish. Controlling CSOs is fundamentally an environmental justice issue, and those who are most impacted by and live in close proximity to CSOs are disproportionately low-income, BIPOC, and immigrant communities. See below for a related comment on requiring an environmental justice analysis as a condition in this permit.

Fact Sheet Table 26 also lists the numerous violations of the Sediment Management Standards surrounding most of the CSO outfalls, including those that discharge in and near Superfund sites and state Model Toxics Control Act sites. As those sites are cleaned up, source control will be even more important to protect those investments. Controlling CSOs is an integral part of achieving the EPA's long-term cleanup goal for PCBs in East Waterway sediments of two parts per billion. This type of health-protective standard will be impossible to achieve without controlling CSOs. Uncontrolled CSOs represent one category of many ongoing toxic sources, which is another reason to maintain strong CSO provisions in this permit as other sources are addressed through other regulatory mechanisms.

The Fact Sheet describes the Status of the CSO Program beginning on page 29 with a list of what has been done since 1988. However, this section should **begin with the clear statement that the CSO Program does not meet state and federal regulations and that the CSO Program is currently subject to a Consent Decree.** Further, the Fact Sheet should clearly state that King County requested that the Consent Decree be renegotiated and the outcomes have not been released to the public for comment.

WCA/DRCC  
#4

Further, page 31 of the Fact Sheet describes that the permit will not include requirements related to a number of projects, and that Ecology is using the timelines established in the Consent Decree. We do not support any changes to the timelines and urge Ecology to require that King County meet its obligations relative to CSOs.

WCA/DRCC  
#5

Overall we agree with increased attention to CSOs in this permit. After Everett finishes its CSO abatement work in a few years, King County will remain the only jurisdiction not



complying with the national standard of no more than one discharge per year per location in the Puget Sound region. That means that on both a regional and a national level, King County will be one of the last municipalities to fulfill its CSO obligations. Communities like Port Angeles and Bremerton have invested in solutions and have been complying with modern requirements for years. King County needs to do the same. We appreciate that the fact sheet notes that *“Due to the history of poor performance of the Elliott West CSO treatment plant, the proposed permit includes a compliance schedule that requires KC-WTD to complete planning and design for a replacement facility.”* Historical context is important to document for future reference.

**WCA/DRCC  
#5**

We concur with adding zinc (246 ug/L) and copper (84.1 ug/L interim and 15.0 ug/L) permit limits to the Elliott West CSO Treatment Plant and Henderson/MLK CSO Treatment Plant outfalls in Special Condition S1.B Tables 5 and 6, as well as decreasing the concentrations for total residual chlorine. However, the limits are still high in comparison with the marine water quality standards (<https://app.leg.wa.gov/WAC/default.aspx?cite=173-201A-240>) for these parameters – for zinc 90.0 ug/L acute and 81.0 ug/L chronic; for copper 4.8 ug/L acute and 3.1 ug/L chronic. The draft permit limits are roughly three times the allowable zinc concentrations and 17 to 27 times allowable copper concentrations. We are unclear why the ratios are different if using the same mixing zone calculations. We also disagree on the use of dilution factors and mixing zones for even controlled CSO discharges, especially for toxic chemicals.

**WCA/DRCC  
#6**

The previous permit also included the maximum number of discharge events per year for the Alki CSO Treatment Plant (29 events per year and 108 million gallons per year long-term average), which we do not see in this permit. We recommend adopting the national standard of no more than one CSO event per year per location and specifically identifying the current Consent Decree signed with EPA, Ecology, King County, and Seattle regarding the CSO compliance requirements.

**WCA/DRCC  
#7**

Special Condition S2.C describes the monitoring schedule for untreated CSO events and requires monitoring results be reported using electronic DMRs in Special Condition S3.A. However, this does not provide timely information to the public. As described under Public Transparency and Accountability below, Ecology must require King County to post this information in a more accessible format on its website alongside other events such as sewage spills. See below for specifics.

**WCA/DRCC  
#8**

We concur with Special Condition S.11.F that an amendment is needed for the CSO reduction plan, and that any changes must comply with King County's 2013 federal CSO

**WCA/DRCC  
#9**





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**WCA/DRCC  
#9**

Consent Decree, Civil Action No. 2:13-cv-677 or any modifications. We understand that King County has reopened negotiations on this Consent Decree and we are awaiting a public comment draft. We urge Ecology to keep the public's interest and needs in the forefront as that proceeds, even though the public is not part of the confidential negotiations process.

**WCA/DRCC  
#10**

We concur with requiring a CSO Solids Characterization Study in Special Condition S12, and again urge Ecology to ensure that the resulting reports are easily locatable by the public, searchable using standard web searches, and communicated in effective formats with the public.

**WCA/DRCC  
#11**

We concur with incorporating the Elliott West CSO Treatment Plant Improvements in the permit Special Condition S15. Annual progress reporting will be important to ensure the work stays on schedule. Given that King County has a long history of missing deadlines for CSO improvements, and will be one of the two last municipalities to meet the national performance standards in the state, Ecology needs to add specific penalties if progress falls behind. Simply documenting schedule slippage will not achieve clean water, and the permit needs specific steps toward enforcement.

**WCA/DRCC  
#12**

Ecology should reconsider the use of mixing zones to establish discharge standards for the CSOs. Fact Sheet Section II.F.6 for the Henderson/MLK CSO Treatment Plant, Ecology mentions that *"... the Norfolk outfall also discharges stormwater from multiple jurisdictions in addition to untreated CSOs from the Norfolk Street Regulator Station and treated CSOs from the Henderson/MLK CSO Treatment Plant. In addition, multiple other public and private outfalls discharge stormwater into the Duwamish River near the Norfolk outfall."* As a result, while Ecology is proposing mixing zones for individual outfall locations, this does not protect water quality because the cumulative impact of multiple pollution sources would cause violations of the water quality standards at the edge of the mixing zones. We do not believe this is legal to both note other sources that impact waters and also to grant a mixing zone. Therefore, Ecology must require more stringent requirements for CSO outfalls and also greater progress toward meeting the federal performance standards for these outfalls.

One option is for Ecology to recalculate mixing zone-based effluent standards that account for the additional pollution sources nearby. Another option is to require King County to address any of the mixing zones for controlled CSOs that overlap in the Duwamish Waterway or that overlap with other discharges that contribute pollution within the mixing zones. Either way, approving mixing zones that neglect other sources is inconsistent with meeting water quality standards as well as state and federal law.



## **Accelerate Progress toward Reducing Metals and Toxics**

Tables 11, 13, 15, and 17 of the Fact Sheet summarize the existing water quality concentrations for a variety of parameters of interest. We note that the copper and zinc concentrations in the Lower Duwamish are much higher than those in Elliott Bay, which are much higher than those in Puget Sound. In addition, PCBs are many orders of magnitude higher in the Duwamish Waterway than they are in Elliott Bay, which are still elevated. In fact, recent research has found such high levels of PCBs in the Duwamish that they are impairing the survival of juvenile chinook salmon. PCBs in fish tissue in the Duwamish are also much higher than values considered safe for human consumption. Some communities, including indigenous populations, AAPI communities, and immigrant communities consume more fish than average for the overall population of the region.

Clearly, the Duwamish Waterway remains a hot spot for multiple toxic chemicals, due to the discharges they receive. This is another reason why CSOs absolutely need to be addressed as they remain ongoing sources of metals and other toxic compounds. We realize that other sources are present in the Duwamish Waterway, but this permit is the mechanism to make progress on reducing toxics and other pollution from CSOs and we urge Ecology to establish stringent requirements that accelerate the pace of reducing pollution.

Fact Sheet Tables 21, 22, 23, and 24 summarize the CSO treatment plant effluent data. We note that metals concentrations and a variety of toxic chemicals are high across the board. These chemicals do not break down and some can bioaccumulate in fish. Therefore, the slow pace of progress on controlling King County's CSOs means that more and more chemicals are impacting the beneficial uses of the receiving waters and downstream water bodies, and the people that depend on these waters and resources. Most toxic chemical concentrations are much higher than state water quality standards designed to protect the public's use and enjoyment of public resources. We mention this here because regulatory permit processes can lose sight of why reducing pollution is important.

The implications of these tables are that pollutants known to cause cancer continue to discharge into waterways used by real people, and King County is behind not just other jurisdictions in the Puget Sound region but nationally in controlling these pollution sources. Arguments that the work is too expensive and that CSOs do not really impact people have been around for decades. However, there remain real costs to people unable to access food, cultural, and recreational opportunities, not to mention treaty-reserved resources that can never be quantified.





Because the PCB concentrations are so high and have a direct impact on juvenile chinook survival, Ecology needs include a separate condition for King County to report on the magnitude and timeline for reducing CSO impacts on PCBs. To do so, Ecology's Water Quality Program should work with its Toxics Cleanup Program, Tribes, DRCC, and other organizations that represent impacted communities to develop this condition to add to the work already underway on PCBs.

**WCA/DRCC  
#12**

More importantly, Ecology's use of mixing zones to determine compliance with water quality standards is problematic. Given the very high number of CSO pipes in the region, the mixing zone of individual pipes could be impacted by other known pollutants. Therefore, Ecology should require King County to verify that mixing zones do not overlap before granting them. Moreover, Ecology should revisit its policy of allowing mixing zones at all for metals and other toxic chemicals, especially in CSO discharges.

**WCA/DRCC  
#15**

The Fact Sheet includes a summary of the 2018 Copper Assessment Report, which did not determine a clear explanation for the elevated copper levels in the Elliott West CSO Treatment Plant effluent. Many factors were ruled out, but the report had no strong conclusions as to the source of the elevated copper. Nothing in the current permit requires King County to continue this work. We urge Ecology to require further source identification for elevated copper levels in the Elliott West CSO Treatment Plant and piping network. Given the very high levels of PCBs, we suggest that this source tracing also include PCBs as well.

**WCA/DRCC  
#16**

We concur with adding PFAS monitoring in Section 2, Table 21. However, given that the West Point treatment plant is the largest single source of sewage in the entire state, the quarterly frequency for the influent is insufficient to fully characterize the level of PFAS coming into the plant. We urge Ecology to require weekly influent and effluent monitoring for the first two years of the permit, with a provision to decrease to monthly monitoring if King County can demonstrate statistically that monthly monitoring would sufficiently characterize the variability in concentrations received at the plant. In addition, Ecology needs to require biosolids monitoring as well given the widespread dispersal of biosolids.

We concur with adding a new Special Condition S6.E Identification and Control of PFAS Discharges to the permit requirements. The industrial categories described in Special Condition S6.E.1 miss some previously documented potential sources of PFAS, including laundries, electronic products, hazardous waste, chemical wholesalers, and more. We note that these facilities tend to be concentrated in communities with large populations of BIPOC and low-income people, and addressing other impacts to surrounding communities



**WCA/DRCC  
#16**

should be considered in addition to local source control work within the sewage and stormwater transmission systems. We encourage Ecology to expand this list to all well documented sources. We agree with the sequential reporting proposed, with April 30, 2025 for the IU inventory and July 1, 2025 for pretreatment requirements for IUs and BMPs plus pollution prevention to reduce PFAS in West Point influent.

**WCA/DRCC  
#17**

In addition, Ecology should require 6PPD-related monitoring of the CSO treatment plant effluent and in untreated CSO discharges. As Ecology knows, 6PPD was found to cause direct mortality to coho salmon adults returning to spawn. More recent research has identified potential impacts to other species and other life stages as well. Given that CSO discharges are 90% stormwater, and King County's CSO basins all contain intensively developed land covers that are highly associated with tire and other road runoff, CSOs should be characterized. Ecology should require a QAPP for monitoring in the first year of the permit followed by 3 years of monitoring and one year to summarize the data in a technical report.

**WCA/DRCC  
#18**

While local jurisdictions are making some progress toward local source control, which many have identified as the least expensive way to reduce metals and toxics, King County can do more through its own municipal holdings. Many of these land holdings are in other jurisdictions, like the City of Seattle. Rather than leaving those facilities to Seattle's responsibility, King County should be required to address its own facilities under its local source control program. Moreover, King County should be required to work throughout the transmission system to reduce sources of toxics and metals, and not all of its municipal customers are investing adequately in source control. Ecology should do all it can to incentive strong source control programs throughout King County's network and upstream jurisdictions.

Finally, Ecology and its partners completed the Control of Toxic Chemicals in Puget Sound (<https://ecology.wa.gov/Water-Shorelines/Puget-Sound/Issues-problems/Toxic-chemicals>) nearly a decade ago yet this remains the best available science on which sources contribute which contaminants through which pathway. We urge Ecology to consult its final report (<https://apps.ecology.wa.gov/publications/SummaryPages/1103055.html>) and focus sheet (<https://apps.ecology.wa.gov/publications/SummaryPages/1103060.html>) to identify toxic chemicals that should be monitored in sewage effluent at West Point and in controlled and untreated CSO discharges.



## **Increase Public Transparency and Accountability**

**WCA/DRCC  
#19 - Start**

While we appreciate the Fact Sheet retrospective synopsis of discharge monitoring and receiving water conditions, the public needs to access this information in real time. We note that King County maintains a web page reporting on active CSOs at any one time. However, there is no way to access other important information related to the West Point and CSO discharges. Unfortunately, Ecology's PARIS database used to track submittals required by the permits is simply unusable by the general public. Therefore, Ecology must require that King County establish a dedicated web page where all information transmitted to Ecology for compliance with its permit terms can be accessed by members of the public. To serve people without internet access, we also recommend that King County summarize annual NPDES permit requirements in fact sheets that they make available through their community networks and community hubs such as libraries and community centers. We provided similar comments during Ecology's recent MTCA rulemaking period recently and urge Ecology to modernize public communications throughout the organization. The public does not know what it has no idea exists. Ecology needs to require increased transparency and accountability for the largest jurisdiction in the state, above and beyond what the Permit Manual may require of all jurisdictions.

The PARIS database is woefully out of date and insufficient to make the information in Discharge Monitoring Reports available to the public. During the 2022 Municipal Wastewater Permit Fees Advisory Committee proceedings, in which WCA participated, Ecology stated that even the flow monitoring data are not trustworthy, which calls into question the ability to reflect more complex parameters. We recommend that Ecology overhaul PARIS because it is insufficient to ensure compliance with the Clean Water Act. We realize that this is outside of the scope of the West Point permit. The West Point plant is the largest in the state, and it has had catastrophic failures and numerous permit violations and penalties over the years. This is why Ecology must require more transparency and accountability to the public in this permit while modernizing communication approaches overall. The public has a right to know about pollution releases.

Special Condition S3.A, Discharge Monitoring Reports, allows King County "... to submit written reports that summarizes the performance of the West Point WWTP and the CSO treatment plants during the monitoring period. If the Permittee chooses to submit supplemental written reports, it must consolidate all reports for the monitoring period into a single PDF document attached to the DMR." However, given that Ecology does not trust the records stored in PARIS and that members of the public would need to first know the permit



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number of this facility, navigate through PARIS, and then look for individual PDFs that are not text searchable, this option does not protect the public's right to know. Ecology must require a more accessible way for the public to find this information through web-based searches and not buried in insufficient databases.

Further, the permittee is responsible for the quality of the data in PARIS. Ecology needs to begin stipulating that each permittee is solely responsible for the accurate and complete reporting in databases such as PARIS and any errors in reporting are subject to fines. We recommend that Ecology add a new provision to Special Condition S3.A such as *"The permittee is solely responsible for ensuring that electronically-submitted data are accurate and reflect the actual conditions of the plant. Any errors are the responsibility of the permittee and subject to fines for inaccurate reporting."*

**WCA/DRCC  
#19 - End**

Special Condition S3.B allows the permittee to submit hard copy reports. Because these would not be available to the public, this option must be removed from the final permit. Further, all PDFs submitted to Ecology must use text recognition so that the information is searchable.

**WCA/DRCC  
#20 - Start**

Special Condition S3.F needs far more transparency added to the permit provisions around reporting permit violations. We generally agree with the distinct phases of notification, beginning with "immediately" in Special Condition S3.F.c. However, Ecology needs to define "immediately" – is that within 2 hours of discovery? The phone number listed for Public

**WCA/DRCC  
#21**

Health Seattle – King County 206-296-4932 has been disconnected when tried on June 27, 2023. The draft permit includes no information as to how the information is collected and maintained in the files related to the permit itself. While multiple options are available, including Ecology's Northwest Regional Office and Public Health Seattle – King County, all reports need to be gathered in one location and clearly searchable by the public.

Special Condition S3.F.b, Twenty-four Hour Reporting, now appears to include CSOs, an improvement from the previous permit. We concur, and we also urge Ecology to identify a clear repository for these reports that is searchable by the public.

We commend Ecology on requiring sewage spill reporting within 5 days under Special Condition S3.F.c to the central Water Quality Permitting Portal. We concur with the required elements of the report. However, Ecology must ensure that the ERTS reports are available to and searchable by the public. Relatedly, we disagree with S3.F.d, which allows Ecology to waive the requirement for a written report based on an oral report. Oral reports are not available to the public and are insufficient to document sewage spills. Ecology should strike



**WCA/DRCC #20 - End** this section entirely, and should also ensure that the oral reports mentioned in (a) and (b) are documented and searchable in a public-facing portal.

Special Condition S3.F.e describes the quarterly violation reports and provides a spreadsheet option. While we concur with the content, we are unclear how a spreadsheet would be available to and searchable by the public. This is an important element of transparency, as multiple jurisdictions may impact the same waterbody, such as the Duwamish Waterway. Therefore, this information needs to be easily compiled by Ecology, and Ecology should consider what the permittees will need to do to facilitate this step toward transparency.

**WCA/DRCC #22**

Special Condition S5.C describes provisions related to Bypass Procedures, but there is no information on where the records would be kept or how Ecology would know whether King County is in compliance or not. When flows exceed 300 mgd as a result of precipitation, effluent quality would likely be impaired and would not meet standards. The public needs to be able to access this information. In addition, Special Condition S5.C.2.a allows bypasses for non-essential maintenance yet requires King County to notify Ecology within at least 10 days notice "if possible." Ecology should strike "if possible" from this section.

**WCA/DRCC #23**

Special Condition S.11.D describes CSO Annual Report requirements, including summaries of events. However, the section lacks clarity on where these must be submitted, and we suggest adding specificity to ensure the public can easily locate and access the report.

**WCA/DRCC #29**

Ecology needs to add a provision that King County compile an annual report with all CSOs and unpermitted discharges from the West Point facility and the CSO facilities, including the water bodies potentially impacted by those discharges. The Fact Sheet describes each facility including the location of outfalls. However, Ecology should also require King County to conduct an environmental justice analysis of the communities near those receiving waters or using those receiving waters. See additional information below.

**WCA/DRCC #30**

## **Address Environmental Justice and Affordability**

**WCA/DRCC #31 - Start** Washington State is making strides toward achieving a future where everyone has access to clean water. Until that time, the state has more work to do, and needs to pick up the pace where pollution-reduction schedule delays impact some people disproportionately more than others. Given the passage of the HEAL Act and the goals outlined in Ecology's 2023 – 2025 Strategic Plan, this permit cycle must make environmental justice a direct and



actionable component of the requirements under individual sewage permits, and in this permit specifically for West Point and CSOs.

We recommend that Ecology require King County to conduct an environmental justice assessment of what Black, Indigenous, and other People of Color currently experience impacts from both the West Point discharge and the combination of treated and untreated CSOs covered in this permit. This is not a new concept. In fact, 2012 was the 40<sup>th</sup> anniversary of the Clean Water Act, and a news article published at that time acknowledges the environmental justice impacts of King County's CSO discharges (<https://crosscut.com/2012/06/surface-water-pollution-consent-decrees>). Over a decade later, those concerns remain.

The Fact Sheet section II.B. describes the receiving waters of Puget Sound and the Duwamish River but there is no mention of who uses those waters for what. This leads to a disconnect between the discharges and the end users of the system, which hides the real impacts of this pollution on people's uses of the receiving waters. First and foremost, the description of receiving waters must include the Tribes with treaty-protected resources in the impacted waterways, and we urge Ecology to consult directly with Suquamish Tribe and Muckleshoot Tribe, and also the Tribes with Usual and Accustomed Areas that are downstream of the discharges. This includes the Puyallup, Nisqually, and Squaxin Island Tribes, given the results of Ecology's Salish Sea Modeling and circulation patterns in the Salish Sea. For example, after the first sentence on page 32 of the Fact Sheet, Ecology should include the following:

*"This proposed permit authorizes discharges of treated domestic wastewater to various locations in central Puget Sound, Elliott Bay, and the Lower Duwamish Waterway. Due to Puget Sound circulation patterns, effluent from the West Point outfall flows southward, toward and into Commencement Bay and South Puget Sound. Collectively, these receiving waters are within the Usual and Accustomed Areas of the Suquamish Tribe, Muckleshoot Tribe, Puyallup Tribe, Nisqually Tribe, Squaxin Island Tribe. In addition, members of the public recreate within these waters, including for swimming, boating, shellfishing, fishing, and other active and passive uses."*

Members of the public use the receiving waters impacted by the West Point and CSO discharges extensively, and the Fact Sheet needs to be updated with this information. Public Health – Seattle and King County will have good information on Duwamish Waterway users, including communities engaging in fishing and shellfishing. We urge you to connect with Shirlee Tan ([shirlee.tan@kingcounty.gov](mailto:shirlee.tan@kingcounty.gov)) for more specific information on communities using the Duwamish Waterway.





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Even if this information is not required by the Permit Writers Manual, Ecology is evolving its practices around Environmental Justice and Tribal Sovereignty. We stress that the West Point discharge is the largest in the state and warrants exceptional attention to new and evolving information and practices. Further, Ecology has new obligations under the HEAL Act and needs to center environmental justice throughout your operations, including in permits that are designed to achieve swimmable, fishable, and diggable waters for everyone in the State of Washington. **Who is impacted by these discharges may be even more important than the water quality data summarized in the Fact Sheet for the discharges.**

**WCA/DRCC  
#31 - End**

Finally, as King County's schedule for addressing known water quality problems continues to slip, infrastructure costs will continue to rise. We realize that rates are an issue for households with low income. We have advocated for increasing federal and state infrastructure funds for many years, including in advocacy letters alongside a number of local jurisdictions. We will continue to do so with Members of Congress and in the Washington State Legislature. King County cites costs as a reason for further delay. As described above, the costs of the impacts to real people have never been and can never be calculated. Moreover, other local jurisdictions, most notably the Lacey Olympia Tumwater and Thurston County sewage treatment system, have managed to both produce high-quality sewage effluent and address CSOs while also keeping rates affordable. Part of LOTT's success has been attributed to their governance structure where its member organizations have agreed to standard annual rate increases. In contrast, rate fights permeate the King County geography and lead to uncertainty in financing future infrastructure upgrades.

**WCA/DRCC  
#32**

We recommend that Ecology require King County to conduct a funding and finance evaluation for the total of its clean water obligations, including deep engagement and review by its local government customers. In recent years King County has chosen not to pursue state funds because it found lower interest rates through other mechanisms. As economic conditions have changed, it would be helpful for the state to know how much demand there will be for state funding to help King County achieve its clean water obligations.



## **Reduce Inflow and Infiltration**

Fact Sheet section II.A.3 on Inflow and Infiltration (I/I) lists values of 17.5 mgd of dry weather flow and 27.5 mgd of non-storm wet weather flow, or approximately 25% of the influent to the West Point plant. The Fact Sheet also notes that the local jurisdictions have no flow limits to what they can convey to the County system nor are there incentives for reducing I/I. In December 2021, King County WTD published technical reports on guidance to the Metropolitan Water Pollution Abatement Advisory Committee to help manage private side sewer connections. However, Special Condition S4.B.b is the only permit provision covering I/I, and simply mentions that reducing excessive I/I should be part of any future plan for achieving plant capacity once certain thresholds are exceeded.

Rather than wait for a future trigger, Ecology needs to include more substantive work around reducing I/I in a special study in this individual permit. During the King County Clean Water Plan discussions that WCA attended in 2019-2022, system metering was discussed as a standard element that is done throughout the country yet is behind in King County. King County's responses generally described metering within the transmission system as too expensive or too difficult.

However, jurisdictions on the East Coast, including a comparable system in the greater Boston area managed by the Massachusetts Water Resources Authority, have been metering the transmission system for decades to pinpoint sites with high I/I. Further, the metering was a critical component to incentivize local jurisdictions to track down and address excessive I/I. In the 1990s, the City of Boston found that every \$1 invested in I/I reduced their overall costs paid for sewage treatment by >\$1, and in doing so significantly reduced I/I in their part of the transmission system. Only through metering was this viable.

Therefore, Ecology should require a much more detailed I/I assessment as a permit provision, including metering of jurisdictions and incentives for I/I abatement plus video of pipe condition to support asset management. The local jurisdictions that figure this out more quickly will be deeply incentivized to invest in addressing excessive I/I abatement, but only once cost shares are based on metered flows.

## **Additional Specific Comments**

In addition to the priority areas identified above, we offer the following comments on specific Special Conditions of the permit and in the Fact Sheet:





WCA/DRCC  
#34

- We concur with adding Enterococci monitoring in Special Condition S2 Table 17; however, this should be analyzed once per day, coincident with the fecal coliform monitoring frequency as they both indicate pathogenic organisms.

WCA/DRCC  
#35

- We concur with adding Total Ammonia, Nitrate plus Nitrite Nitrogen, and Total Kjeldahl Nitrogen to CSO monitoring requirements for the plants in Special Condition S2 Tables 26 and 27.

WCA/DRCC  
#36

- Table 29 of Special Condition S2.C has no monitoring requirements for sediments nor settleable solids, which were in the previous permit, S13.C. These need to be added back in to provide a more complete quantification of pollutant loads from untreated CSOs.

WCA/DRCC  
#37

- We concur with the new calibration requirements included in Special Condition S2.E3.

WCA/DRCC  
#38

- Special Condition S2.3 A.8 has a typographical error – “Not report zero for bacteria monitoring” is more likely “Do not report zero for bacteria monitoring.”

WCA/DRCC  
#39

- Special Condition S2.3.A.9 needs to be reflected because Enterococcus does not use a geometric mean for water quality compliance. From the state water quality standards for marine waters Table 210(3)(b) “*Enterococci organism levels within an averaging period must not exceed a geometric mean value of 30 CFU or MPN per 100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample values exist) obtained within the averaging period exceeding 110 CFU or MPN per 100 mL.*”

WCA/DRCC  
#40

- The previous permit included a requirement that If permittee monitors sediment or untreated CSO discharges more frequently than required, the permittee must enter that data into the EIM database. Special Condition S3.E no longer includes this provision. However, this is important information that must be reported and should be included in the final permit as data entered into the DMR database, not EIM.

WCA/DRCC  
#41

- We concur with the addition to Special Condition S5.A that “... *Permittee must notify Ecology when the operator in charge at the facility changes.*”

WCA/DRCC  
#42

- Special Condition S5.D on Electrical Power Failure should be expanded to clearly include the provisions of the agreement reached with the Suquamish Tribe regarding maintaining adequate electrical service to the West Point plant.



- Special Condition S6.A on Pre Treatment references a 1996 King County Ordinance No. 11963 on Industrial Pretreatment and a 1981 document on Industrial Pretreatment. Pretreatment practices have improved over the past 42 years, and we encourage King County and Ecology to revisit the content and approach for pretreatment programs to ensure modern approaches are used.

**WCA/DRCC  
#43**

- Special Condition S6.A.1.f requires King County to publish all domestic water users not in compliance with pretreatment requirements in the largest daily newspaper. This is no longer sufficient to reach the King County populace. Ecology should add a requirement that King County publish this information on the front page of the Wastewater Treatment Division web page and leave it visible for the duration of the permit term, adding sequentially each of the five years of the permit term.

**WCA/DRCC  
#44**

- We concur with Special Condition S6.A.1.j that King County "... must develop a Memorandum of Understanding (or Inter-local Agreement) that outlines the specific roles, responsibilities, and pretreatment activities of each jurisdiction."

**WCA/DRCC  
#45**

- The pretreatment report described in Special Condition S6.A.4 needs a specific due date and S6.A.4.c should also require reports of any issues in jurisdictions covered by MOUs in S6.A.1.j. We concur with including PFAS source identification and/or reduction activities included in the pretreatment report.

**WCA/DRCC  
#46**

**WCA/DRCC  
#16**

- We concur with sections S9.A and S9.C on the Sediment sampling and analysis plan requirements around the West Point and CSO plant outfalls.

**WCA/DRCC  
#47**

- While Ecology requires reporting on sediment quality under Special Condition S9.B and S9.D, storing the data in EIM decouples the data from DMRs. Ecology should require King County to summarize sediment data within their DMRs, in addition to adding to EIM. In addition, the previous permit allowed the Sediment Data Report to be submitted in hard copy, which has been removed from the draft. However, Ecology should explicitly include instructions that the PDF must be searchable and available to the public electronically. The sediment reports should also include trend analyses including data from previous permit terms, which was required for the CSO sediment data the previous permit term.

**WCA/DRCC  
#48**

- We appreciate that Ecology included the status of each CSO location in Special Condition S.11.A Table 32 as Controlled or Uncontrolled. As noted in S.11.A, only Controlled CSOs may receive a mixing zone. However, we urge Ecology to revisit the status of each CSO annually during the permit term to check for any previously



**WCA/DRCC  
#48**

Controlled CSOs that no longer meet requirements, which would then eliminate the use of a mixing zone. We concur with the corrective actions described in Special Condition S.11.C.d for facilities that no longer meet the performance standard of no more than one overflow per year and simply add a clarification through a footnote to Table 32 that the status would be re-evaluated annually. Ecology should clarify how King County should submit the Tier I and Tier II Corrective Action Reports and where they will be stored so the public can access this information.

**WCA/DRCC  
#49**

- Special Condition S.11.E outlines engineering reports and plan requirements, including the need to submit a Quality Assurance Project Plan to Ecology. We suggest that Ecology add “for approval” to clarify the role that Ecology will have on the QAPP.
- The Fact Sheet history on pages 11-12 completely misses the July 2019 West Point Wastewater Treatment Plant power failure that led to the discharge of inadequately treated sewage to Puget Sound. This then led to beach closures, shellfish closures, and people exposed to sewage pollution, including participants in the annual Canoe Journey. The Suquamish Tribe noted this impact in its Notice of Intent to Sue King County, that then led to a negotiated Settlement Agreement requiring King County to provide adequate power and backup power to West Point, among other provisions. Ecology also issued stipulated penalties for CSO violations in December 2022, which are an important part of the Administrative Record for this facility. Ecology needs to add this important context to the history in the Fact Sheet.

**WCA/DRCC  
#50**

- In the Fact Sheet sections summarizing water quality in the receiving waters, data are averaged over the entire water column. This is not appropriate for parameters such as dissolved oxygen, especially where the water quality standards specifically preclude averaging that would hide an impairment. We suggest that the DO values in Table 11, Table 13, and Table 15 be updated to present the minimum DO values and not the water column average. Similarly, the 90<sup>th</sup> percentile high values are not appropriate for this parameter and should be interpreted as the 10<sup>th</sup> percentile to remain consistent with the intent of the other water quality parameters like metals, where higher values are worse. For DO, lower values are worse and these tables hide the problematic water quality.

**WCA/DRCC  
#51**

- Fact Sheet page 11, first paragraph contains a typographical error: “... two small community wastewater treatment plants....”

**WCA/DRCC  
#52**



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Thank you again for the opportunity to comment on the draft permit. If you have questions on these comments, please do not hesitate to contact us.

Sincerely,

Mindy Roberts, Ph.D., P.E.

Jamie Hearn

Puget Sound Program Director

Superfund Program Manager

Washington Conservation Action

Duwamish River Community Coalition

## **ATTACHMENTS (see separate files)**

ATTACHMENT 1 – Effects of Nutrient and Carbon Loadings on Dissolved Oxygen and Ocean Acidification Conditions in Puget Sound – Scientific Perspectives, Mindy Roberts, Washington Environmental Council (March 16, 2020).

ATTACHMENT 2 – Clean Water Plan Strategies: Need for Increased Transparency around Costs, Risks, and Guiding Principles, King County Auditor's Office Report, September 2021. (<https://kingcounty.gov/~media/depts/auditor/new-web-docs/cpo-reports/cwp/cwp-letter-2021.ashx?la=en>)

## Effects of Nutrient and Carbon Loadings on Dissolved Oxygen and Ocean Acidification Conditions in Puget Sound – Scientific Perspectives (March 16, 2020)

Mindy Roberts, P.E., Ph.D., Washington Environmental Council (206-485-0103, [mindy@wecprotects.org](mailto:mindy@wecprotects.org))

***What is known, with what level of confidence, about the contributions of nitrogen and carbon inputs derived from regional human activity to changes in biogeochemical cycles, and in particular, dissolved oxygen reductions in bottom layers and ocean acidification in Puget Sound marine waters?***

### Concise Characterization of Agreements with Published Works

A – Parts of Puget Sound experience low levels of dissolved oxygen, which is vital for aquatic life.

1. In several areas, and mostly in near-bottom waters, oxygen concentrations do not meet part 1 of the Washington State water quality standard (Washington Administrative Code 173-201A-210(1)(d)). (Albertson et al., 2002a; Roberts et al., 2008)
2. Lowest dissolved oxygen concentrations typically occur in late summer, when river flows are low, temperatures warm, and sunlight is available. (Albertson et al., 2002a; Roberts et al., 2008)
3. Areas of Puget Sound naturally experience low oxygen due to factors like bathymetry, and are susceptible to further decreases due to human-derived nutrients. (Albertson et al., 2002a; Roberts et al., 2008)
4. Primary productivity declines when sunlight and/or water temperature is low, as typically occurs in the winter in the Puget Sound region. (Albertson et al., 2002a; Roberts et al., 2008)
5. Low levels of dissolved oxygen result from decomposition of organic matter, driven by materials that settle through the water column and reach the sediment. Both water column and sediment processes influence the levels of dissolved oxygen in bottom waters, where oxygen is typically the lowest. (Pelletier et al., 2017a; Ahmed et al., 2014; Albertson et al., 2002a; Roberts et al., 2008)

B – Human activities increase nitrogen and carbon contributions through both wastewater treatment plant discharges and watershed activities, with wastewater loads the dominant source in the summer months.

1. Nitrogen from municipal wastewater treatment plants contribute much of the annual average load of dissolved inorganic nitrogen from human-derived activities and the vast majority of the load in the summer season. This finding has been consistent from the initial South Puget Sound Dissolved Oxygen Study to present. (Mohamedali et al., 2011a; Mohamedali et al., 2011b; Roberts et al., 2008; Albertson et al., 2002a)
2. Wastewater treatment plants typically discharge treated wastewater lower in the water column to keep nitrogen away from the surface layer where light drives primary productivity and

nitrogen is generally the limiting nutrient. (Ahmed et al., 2014; Mohamedali et al., 2011a; Mohamedali et al., 2011b; Roberts et al., 2008)

3. Watershed human-derived activities add to the average annual load to Puget Sound but proportionally less of the summer load of dissolved inorganic nitrogen from human-derived activities than wastewater treatment plants. (Mohamedali et al., 2011a; Mohamedali et al., 2011b; Roberts et al., 2008; Roberts and Bilby, 2009)
4. Rivers and other freshwater sources typically discharge to the surface layer, where the presence of sunlight can accelerate primary productivity. (Mohamedali et al., 2011a; Mohamedali et al., 2011b; Roberts et al., 2008)

C – Added nutrients from human-derived activities cause or contribute to violations of the Washington State water quality standard for dissolved oxygen in Puget Sound due to complex circulation and biogeochemical processes.

1. Part 2 of the Washington State water quality standard for marine dissolved oxygen stipulates that the cumulative effect of all human sources cannot worsen oxygen by more than 0.2 mg/L. (Washington Administrative Code 173-201A-210(1)(d)(i))
2. Circulation is quite complicated throughout Puget Sound and the Salish Sea. (Khangaonkar et al., 2017; Banas et al., 2015; Roberts et al., 2014b)
3. Nitrogen is the primary nutrient driving primary productivity. (Ahmed et al., 2014; Albertson et al., 2002a)
4. Carbon contributions from human-derived activities also impact oxygen and acidification in Puget Sound. (Pelletier et al., 2017b)
5. Nitrogen and carbon from municipal wastewater treatment plants cause or contribute to violations of the Washington State water quality standard for dissolved oxygen in Puget Sound. (Ahmed et al., 2019; Pelletier et al., 2017a; Pelletier et al., 2017b; Ahmed et al., 2014; Roberts et al., 2014a; Khangaonkar et al., 2012b; Albertson et al., 2002a)
6. Nitrogen and carbon from watershed contributions of human-derived nutrients cause or contribute to violations of the Washington State water quality standard for dissolved oxygen in Puget Sound. (Ahmed et al., 2019; Pelletier et al., 2017a; Pelletier et al., 2017b; Ahmed et al., 2014; Roberts et al., 2014a; Cope and Roberts, 2013; Khangaonkar et al., 2012b; Albertson et al., 2002a)
7. Nitrogen and carbon released in one location negatively impact dissolved oxygen and acidification miles away. (Ahmed et al., 2019; Pelletier et al., 2017a; Pelletier et al., 2017b; Ahmed et al., 2014; Roberts et al., 2014a; Khangaonkar et al., 2012b; Albertson et al., 2002a)
8. The areas most impacted by human nitrogen and carbon contributions are distant from the sources of those contributions. (Ahmed et al., 2019; Pelletier et al., 2017a; Pelletier et al., 2017b; Ahmed et al., 2014; Roberts et al., 2014a; Khangaonkar et al., 2012b; Albertson et al., 2002a)

9. Human nitrogen and carbon cause dissolved oxygen levels to fall by more than 0.2 mg/L. (Ahmed et al., 2019; Pelletier et al., 2017a; Ahmed et al., 2014; Roberts et al., 2014a; Albertson et al., 2002a)

D – Future growth and development will increase nutrients from human activities in the Puget Sound watershed, which will worsen dissolved oxygen impacts from local human activities unless nutrients and carbon are managed differently.

1. The population of the Puget Sound region is expected to double by 2070. (Estimates do not include any effect of climate refugees from other parts of the United States or abroad) (Roberts et al., 2014a)
2. Increasing the population will increase nitrogen from wastewater without changes to wastewater treatment plant technology. (Roberts et al., 2014a)
3. Technology exists today to upgrade plants to nutrient removal, which several have elected to plan and design for now (Roberts et al., 2014a). (Upgrades will require additional capital and operating expenditures, which will require creative solutions to implement and permit.)
4. Projected land development patterns will result in increased nitrogen contributions without substantial changes to managing nutrients from nonpoint sources including onsite sewage systems, fertilizer applications, and conversion from forests to developed land. (Roberts et al., 2014a)
5. Salish Sea Model scenarios indicate that increasing nitrogen from increased wastewater contributions will worsen dissolved oxygen concentrations in Puget Sound. (Roberts et al., 2014a)

E – The Salish Sea Model, built on years of application, is the most appropriate tool to explore the relative impacts of different natural and human stressors that influence dissolved oxygen. At each phase of model development, Ecology concluded that human nutrient sources likely were violating the dissolved oxygen criteria in portions of Puget Sound. The magnitude and location of the violations have remained remarkably consistent over 19 years, even as the modeling tools continued to be refined in response to uncertainties identified by the modeling team.

1. The Salish Sea Model and its precursors have been developed under the strict requirements of tools used for regulatory purposes at the Department of Ecology, including Quality Assurance Project Plans, peer review, documentation, and public and stakeholder engagement.
2. The Salish Sea Model represents the evolution of a model framework initially applied to South Puget Sound beginning in 2000 to understand whether low dissolved oxygen in South Sound inlets was due to natural factors or human nutrient contributions from wastewater treatment plants and/or watershed sources. The Phase 1 South Puget Sound model results indicated that wastewater treatment plants could be contributing to dissolved oxygen impairments. (Albertson et al., 2002a) However, lack of facility-specific data and the influence of sources near the

northernmost boundary limited firm conclusions and additional data and model development were needed.

3. South Puget Sound modeling Phase 2 focused on the biogeochemistry and hydrodynamics of South and Central Puget Sound and the potential impacts of human nutrients on dissolved oxygen in South Puget Sound. The effort included effluent data collected from many wastewater treatment plants and model simulations for 2006 and 2007 (Mohamedali et al., 2011b; Norton, 2009; Albertson et al., 2007). Phase 2 of the South Puget Sound Dissolved Oxygen Study concluded with the finding that wastewater treatment plants could be contributing to dissolved oxygen impairments (Ahmed et al., 2014). However, the strong influence of sediment/water interactions limited firm conclusions and additional data and model developments were needed.
4. Ecology and Pacific Northwest National Laboratory began developing a model of the larger Salish Sea, including shared waters with Canada (Sackmann, 2009). Ecology refined loading estimates from wastewater treatment plants and watersheds (Mohamedali et al., 2011a). The initial findings of the Salish Sea Model were that wastewater treatment plants could be contributing to dissolved oxygen impairments (Khangaonkar et al., 2012a; Khangaonkar et al., 2012b). However, the strong influence of sediment/water interactions limited firm conclusions and additional data and model developments were needed.
5. The next iteration added sediment diagenesis to the Salish Sea Model (Roberts et al., 2015a). The refined model was used to quantify impacts from wastewater treatment plants and human sources in watersheds. The updated findings of the Salish Sea Model were that wastewater treatment plants could be contributing to dissolved oxygen impairments (Ahmed et al., 2019; McCarthy et al., 2018; Pelletier et al., 2017a).
6. The Salish Sea Model was adapted to evaluate impacts from wastewater treatment plants and human sources in watersheds on acidification in the Salish Sea (Roberts et al., 2015b). Increased dissolved inorganic nitrogen (DIN), phytoplankton biomass, and non-algal organic carbon caused by regional anthropogenic nutrient sources can constitute significant contributors to acidification in the Salish Sea (Bianucci et al., 2018; Pelletier et al., 2018; Pelletier et al., 2017b). These sources are impacting acidification parameters include aragonite saturation state. Decreasing regional human sources of nitrogen and carbon would improve acidification in the Salish Sea.

F – At each phase of model development, Ecology was held to the highest standards of peer review, stakeholder input, and public review to ensure the integrity of the work and to hold up in a court of law.

1. Each modeling and monitoring stage included Quality Assurance Project Plans (McCarthy et al., 2018; Roberts et al., 2015a; Roberts et al., 2015b; Sackmann, 2009; Albertson et al., 2007; Roberts, 2007a; Roberts, 2007b; Roberts and Pelletier, 2007).
2. Where monitoring data limited interpretations, refined monitoring programs were developed (Gonski et al., 2019; Norton, 2009; Roberts et al., 2008; ; Roberts, 2007a; Roberts, 2007b; Roberts and Pelletier, 2007).



3. Where work by others lacked documentation or public review, Ecology summarized their work and had that publicly reviewed and independently reviewed (Cope and Roberts, 2013).
4. Ecology published interim and final data reports for public review and comment (Mohamedali et al., 2011a; Mohamedali et al., 2011b; Roberts et al., 2008).
5. Ecology published model calibration and scenarios reports for public review and comment (Ahmed et al., 2019; Pelletier et al., 2017a; Pelletier et al., 2017b; Ahmed et al., 2014; Roberts et al., 2014a; Roberts et al., 2014b).
6. Given the complexity of the issues, Ecology developed simple summaries of the findings (Roberts and Kolosseus, 2011; Albertson et al., 2002b).
7. Ecology authors published journal articles (Pelletier et al., 2018; Bianucci et al., 2018; Khangaonkar et al., 2017; Khangaonkar et al., 2012a; Roberts and Bilby, 2009).

G – Ecology’s regulatory processes protect public health and aquatic life.

1. Ecology has no history of weakening water quality standards, other than an interim measure related to Total Dissolved Gas in the Columbia River system related to increasing spill for the benefit of salmon survival.
2. Weakening the water quality standards for dissolved oxygen in Puget Sound would not likely be supported by the public, based on polling on the value of clean water.
3. Models developed by Ecology have long been used to make regulatory decisions for multiple purposes (Albertson, 2013).

### Rationale for any Points of Disagreement

While I do not disagree with the statements in the references cited in the call for papers, I feel compelled to document my concerns regarding the scientific integrity of this process.

Academic-oriented journals require peer review of typically three anonymous reviewers, who must agree that a paper and revised versions of a paper pass scientific muster before they can be published. Otherwise, the journal loses credibility and scientific integrity would be lost. This does not mean that every scientist gets to weigh in on every paper before it is published. The journal articles included in the references list in the call for papers have passed scientific muster by the review process before they were accepted for review. Opinions to the contrary in no way rebut these published works.

The Department of Ecology is required to follow strict procedures for ensuring that technical products like the Salish Sea Model are developed transparently and without bias. At each stage in its development, Ecology modelers developed Quality Assurance Project Plans and results reports all subject to strict peer review and public review. Ecology documented these critical quality assurance and public review steps from its earliest related publications in 2002 through present day.

Finally, this process concerns me as a credentialed and published scientist and engineer. The Halo Effect occurs when society attributes a set of skills to someone beyond their actual areas of expertise due to

favorable impressions, hierarchical standing, or credentials. Experts routinely overestimate the breadth of their own expertise, in part due to society's impressions. The Halo Effect negatively impacts decisionmaking when it substitutes expert opinions for evidence-based findings in fields as wide ranging as pharmacology (Austin and Foster, 2019) and avalanche risk assessment (McCammon, 2004). Opinions and unsubstantiated hunches are no substitute for scientific process.

## Scientific Confidence

It is virtually certain that human-derived nutrients, primarily from municipal wastewater treatment plants, cause or contribute to violations of the water quality standards for dissolved oxygen standards in Puget Sound. Throughout its 19-year investigation of the impacts of human-derived nutrients on Puget Sound dissolved oxygen levels, Ecology's findings have consistently identified impacts from human nutrients as early as 2002 through recent analyses.

It is virtually certain that adopting nutrient-control technology, which is available today, would more than offset the expected increases in nitrogen contributions expected from doubling the regional population by 2070. This will substantially but not completely resolve dissolved oxygen impairments.

It is virtually certain that human nitrogen and carbon sources in watersheds must be reduced to resolve dissolved oxygen impairments.

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# KING COUNTY AUDITOR'S OFFICE

SEPTEMBER 30, 2021

## Presentation of Clean Water Plan Strategies: Need for Increased Transparency around Costs, Risks, and Guiding Principles

**The King County Wastewater Treatment Division (WTD) is at a critical juncture in development of the Clean Water Plan (CWP) as it prepares to develop its preferred strategy for billions of dollars in future wastewater investments. We reviewed WTD's presentation of Actions and strategies to policy-makers and identified a lack of transparency about the risk that some strategies being considered may not meet current and future regulatory requirements, a lack of clear project cost information, and an absence of clarity in guiding principles that could leave optimal strategies off the table.**

In this letter, we describe our observations and suggest questions policy-makers may ask WTD to resolve before a preferred strategy is presented for adoption. These questions are provided in blue callout boxes at the end of each section and in Appendix 1.

### Policy-maker opportunity to provide input on Clean Water Plan development

**King County policy-makers currently have an opportunity to weigh options and ask questions about the strategies proposed by WTD for how the County prioritizes and spends billions of dollars on wastewater facilities and water quality investments over the next 40 years.** These wastewater investments will directly impact monthly base rates and capacity charges as well as water quality throughout the region.

Development of the CWP is a five-step process, illustrated in exhibit A, below. In step 2, WTD identified Actions<sup>1</sup> that King County could implement, ranging from wastewater treatment plant upgrades to enhanced source control programs. WTD is currently in step 3—Strategy Development and Analysis—where WTD has grouped selections of Actions into five strategies that represent different approaches to wastewater investment. WTD now has initial strategies and has presented them to policy-makers for discussion and feedback. After the conclusion of the current step, the County Executive will select a preferred strategy and refer a proposal to the Regional Water Quality Committee for both its review and the recommendation to transmit it to the King County Council for adoption.

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<sup>1</sup> WTD summarized these Actions in its *Actions: Characterizing Water Quality Investment Options* (2021) report.



## EXHIBIT A: Development process for Clean Water Plan.



Source: King County Auditor's Office modified graphic from Wastewater Treatment Division Clean Water Plan.

### Some WTD strategies may not be viable under current and potential future regulations

**WTD is asking policy-makers to affirm whether the range of strategies presented should proceed to evaluation without clear information from WTD on how external conditions could affect the feasibility of the proposed strategies and component Actions.** By exploring different strategies, policy-makers can discuss and weigh priorities, such as ensuring rate affordability and maximizing water quality improvement. However, wastewater conveyance and treatment are highly regulated, and regulatory decisions, both current and future, can have significant impacts that limit the range of feasible options. For these discussions to be meaningful, and to effectively inform decision-making, policy-makers must have clear information about each strategy's viability in the wastewater regulatory environment and how both WTD assumptions and federal and state regulations could affect strategy feasibility. Without this information, policy-makers may find themselves choosing a strategy which is not viable under current or future regulations, risking the imposition of wastewater investment decisions by regulatory agencies and losing control over rates.

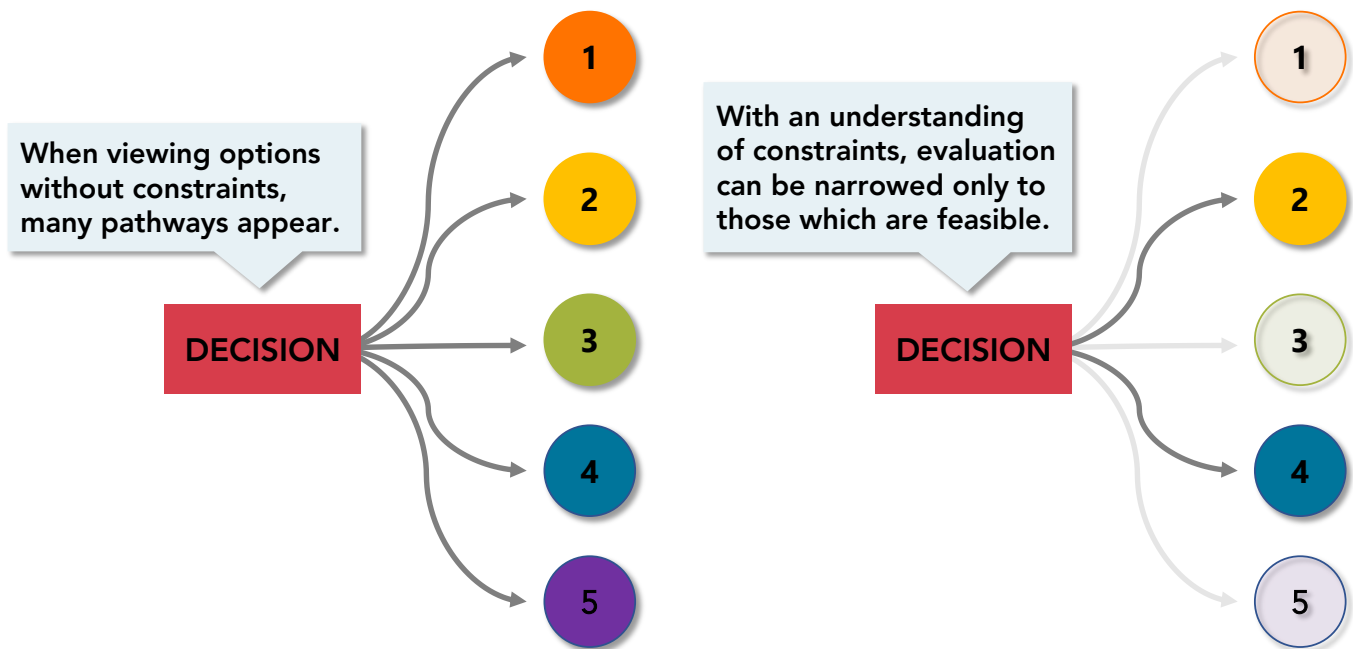
Additionally, if WTD does not analyze strategies against current and future regulatory considerations, plans for plant expansion could be at risk. Based on the 2019 *Treatment Plant Flows and Loadings Study Summary Report*, King County's largest wastewater treatment plants (WWTP)—Brightwater, South Plant, and West Point—are at or expected to exceed design parameters<sup>2</sup> and require expansion or facility re-

<sup>2</sup> All three facilities are expected to exceed max month influent loading for Total Suspended Solids (TSS) and 5-day Biological Oxygen Demand (BOD<sub>5</sub>) within the planning period. According to the 2019 *Treatment Plant Flows and Loadings Study Summary Report* West Point is already near the maximum month influent levels. South Plant is expected to reach max month loading between 2025 and 20230, and Brightwater is expected to reach maximum month loading between 2020 and 2023.

rating<sup>3</sup> to serve forecasted demand growth in the region. As part of the plant expansion process, WTD will need to modify each facility's National Pollutant Discharge Elimination System permit, at which time the public—including tribal and non-governmental organizations—will have the opportunity to weigh in and could oppose changes on the basis of the WWTPs by applying all known, available, and reasonable methods of prevention, control, and treatment. If this were to occur, WTD may find that it cannot meet the needs of new growth, leading to a moratorium on new service connections.

Modeling the impact of regulatory outcomes on various strategies by WTD will help ensure policy-makers are considering viable strategies, that they understand the impacts of regulatory outcomes on consumer rates, and ensure plants are able to serve growth in the region. Moreover, it can help the County create a roadmap of alternatives should a crucial assumption prove false.

EXHIBIT B: Evaluating constraints, such as regulatory changes, allows policy-makers to focus only on feasible plans of action.



Source: King County Auditor's Office.

**The five strategies proposed by WTD are unlikely to be feasible given current expectations around future regulatory outcomes.** Regulatory uncertainty comes largely from two areas, both related to federal Clean Water Act compliance: King County's consent decree with the US Environmental Protection Agency (EPA) for combined sewer overflows (CSO) and the Puget Sound Nutrient Source Reduction Program. These

<sup>3</sup> Re-rating is a process by which a plant's design parameters (Flow, Total Suspended Solids, Biological Oxygen Demand) are modified without making capital improvements. Facility expansion is the process of adding infrastructure to the plant to support higher design parameters.



regulations can dictate the range of feasible Actions within two of the highest cost decision areas identified by WTD: wastewater treatment<sup>4</sup> and wet weather management.<sup>5</sup>

**EXHIBIT C:** Federal and state regulatory decisions may make many of the strategies proposed by WTD infeasible.

| SCENARIO                   | Existing consent decree; no nitrogen limits issued | Modified consent decree; no nitrogen limits issued | Modified consent decree; nitrogen loading set at current levels | Existing consent decree; nitrogen loading set at current levels | Nitrogen loading set at 8mg/L equivalent | Nitrogen set at 3mg/L equivalent |
|----------------------------|----------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------|----------------------------------|
| STRATEGIES PROPOSED BY WTD | A                                                  | A                                                  | A                                                               | A                                                               | A                                        | A                                |
|                            | B                                                  | B                                                  | B                                                               | B                                                               | B                                        | B                                |
|                            | C                                                  | C                                                  | C                                                               | C                                                               | C                                        | C                                |
|                            | D                                                  | D                                                  | D                                                               | D                                                               | D                                        | D                                |
|                            | E                                                  | E                                                  | E                                                               | E                                                               | E                                        | E                                |

Source: King County Auditor's Office analysis of WTD strategies as presented to the Regional Water Quality Committee on July 7, 2021.

**None of the strategies presented by WTD<sup>6</sup> would result in a nitrogen reduction within the range of nutrient loading limits likely to be set by the Department of Ecology (DOE).<sup>7</sup>** WTD has identified

<sup>4</sup> The wastewater treatment decision area cost will vary based upon actions selected for implementation, but is estimated by WTD to have a cost at most optimistic between \$710 million to \$27.7 billion. WTD states conceptual capital cost estimates are provided with an accuracy of most optimistic to plus 150%.

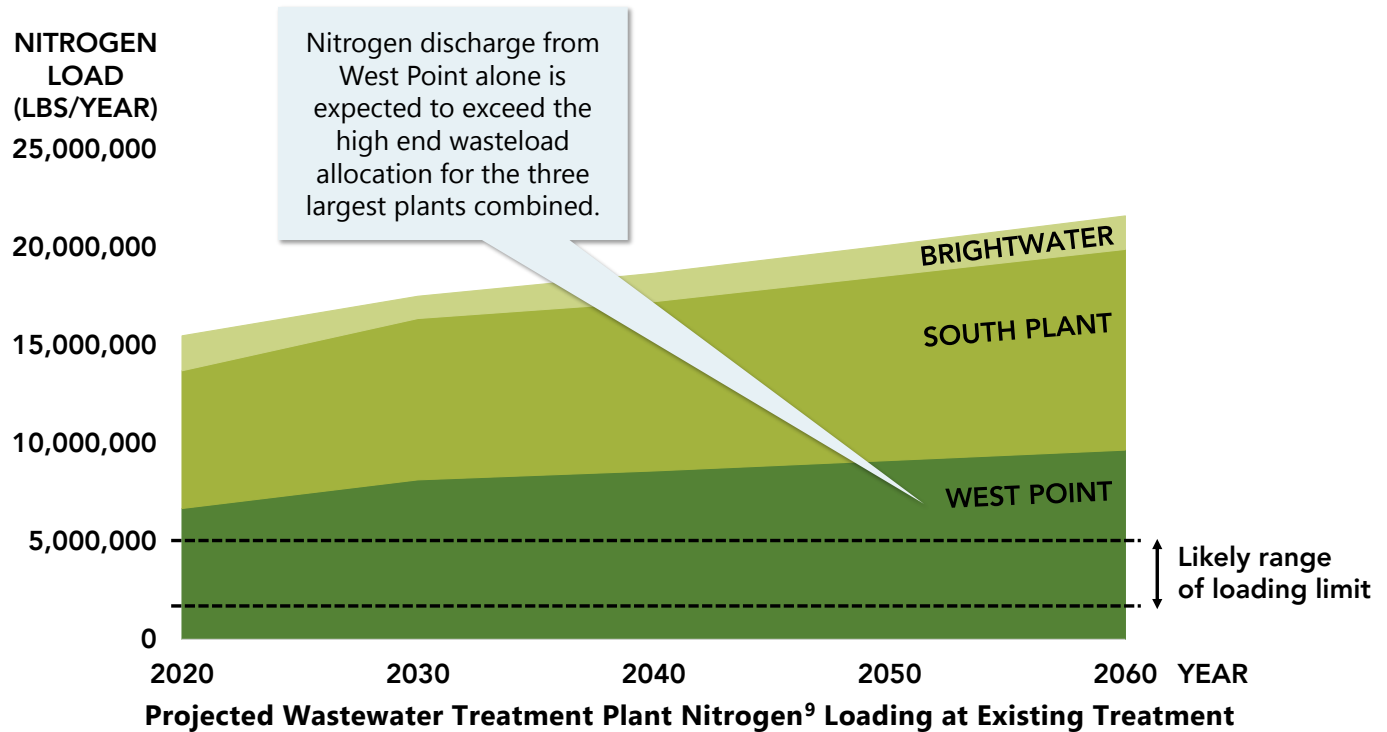
<sup>5</sup> The wet weather management decision area cost will vary based upon actions selected for implementation, estimated by WTD to cost, at most optimistic, between \$3.3 billion and \$20 billion in conceptual capital. WTD states conceptual capital cost estimates are provided with an accuracy of most optimistic to plus 150%.

<sup>6</sup> Strategy A, as presented to date by WTD in *Actions: Characterizing Water Quality Investment Options* (2021), proposes individual nitrogen reduction at each regional WWTP at 8mg/L.

<sup>7</sup> The Puget Sound Nutrient Source Reduction Program (PSNSRP) is a Department of Ecology (DOE) program to develop a nutrient reduction plan and accompanying wasteload allocations for anthropogenic sources of nitrogen within the Puget Sound watershed. While wasteload allocations are in development, DOE plans on issuing the first Puget Sound Nutrient General Permit (PSNGP) effective January 1, 2022, which will set action levels for municipal wastewater treatment plants that directly discharge to Puget Sound. These action levels are based upon historical nitrogen loading and were set with the goal of preventing nitrogen loading to Puget Sound from increasing from current levels. For jurisdictions like King County with multiple plants, the most recent draft permit allows a jurisdiction to choose to either use a bubbled action level for all three plants, allowing flexibility for improved nitrogen treatment at one plant to offset nitrogen increases at another, or individual plant action levels. In the second permit cycle, the PSNGP will set a nitrogen-loading limit, in pounds per year (lb/yr), for King County's wastewater treatment plants (WWTP). The wasteload allocation is not a concentration-based limit. If an 8mg/L effluent limit on nitrogen achieves the required loading limit in the second permit cycle, future growth in the service area will require further nitrogen removal efforts or a decrease in effluent volume to Puget Sound (i.e., through

wastewater treatment plant improvements and decentralized approaches<sup>8</sup> that may result in a nitrogen reduction within the likely range of outcomes, but this approach is not presented as a wholistic strategy to demonstrate what compliance with potential nitrogen limits would require. Exhibit D, below, shows nitrogen loading under various scenarios, with bars representing the lower and higher range of wasteload allocations currently being modeled by DOE.

**EXHIBIT D:** Without significant reductions, King County will not comply with potential future nutrient limits developed by the Department of Ecology.



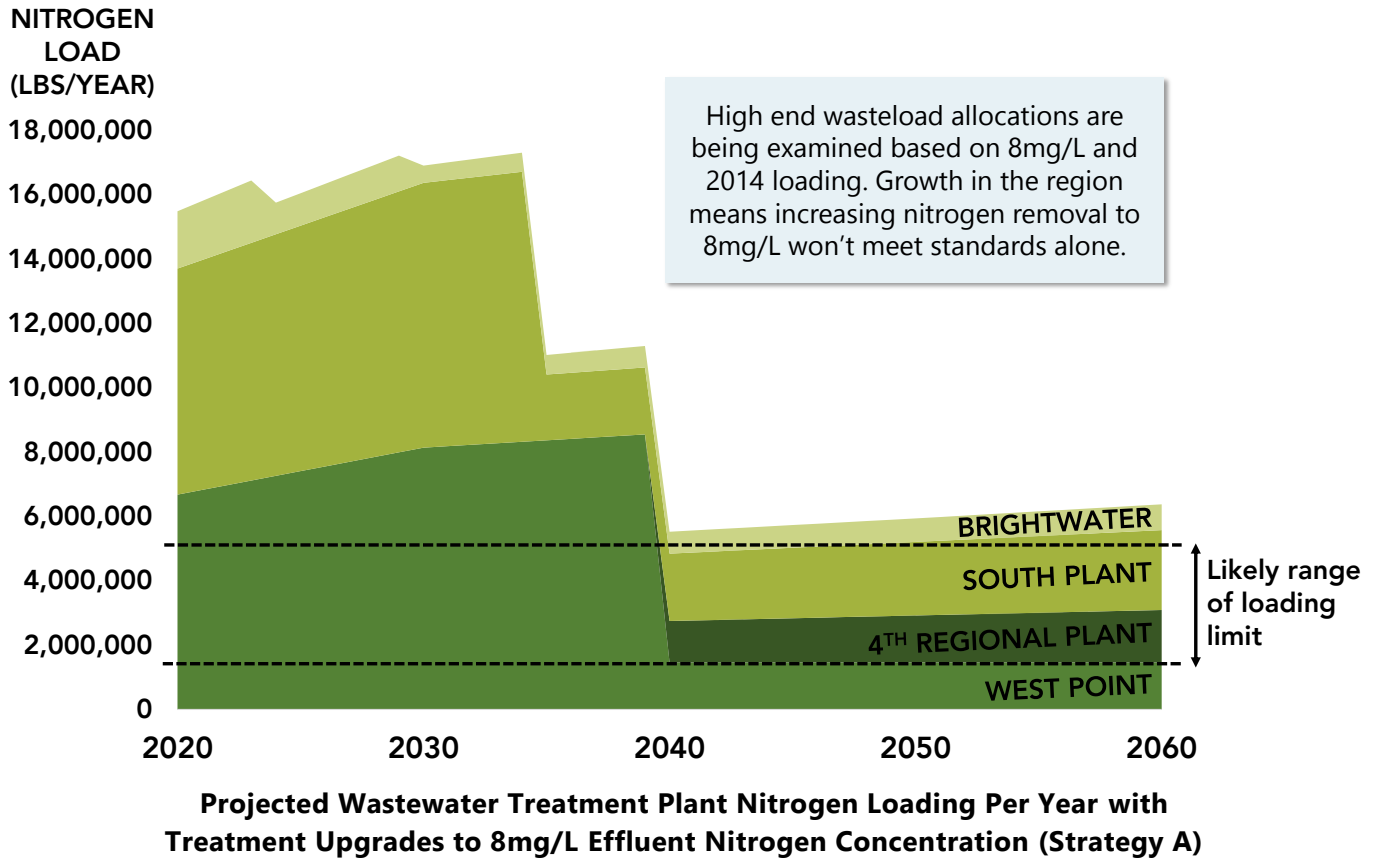
Source: King County Auditor's Office analysis of data from WTD Priority 1 question responses dated August 16, 2021, Brown and Caldwell *King County Nitrogen Removal Study: Final Report*, September 2020, *Brightwater Treatment Plant Peak Flow and Wasteload Projects 2010-2060*, January 2019, *South Plant Treatment Plant Peak Flow and Wasteload Projects 2010-2060*, January 2019, *West Point Treatment Plant Peak Flow and Wasteload Projects 2010-2060*, January 2019, and Department of Ecology Salish Sea Year 2 Modeling Inputs provided August 2021.

aquifer recharge or indirect potable reuse) in order to maintain the same nitrogen-loading level. DOE is currently modeling scenarios that evaluate water quality improvements based upon different nitrogen reduction scenarios. For King County's plants, these scenarios range from nitrogen-bubbled loads of approximately 11 to 33 percent of 2020 levels (wasteload allocation range of 1,690,010 lbs/yr to 5,076,150 lbs/yr). It is, therefore, reasonable to assume the wasteload allocation for King County's WWTPs will be in this range.

<sup>8</sup> These approaches included building scale decentralized treatment, secondary treatment at wet weather treatment stations, implementation of treatment upgrades to achieve 8mg/L TIN at West Point and 3m/L at South Plant and Brightwater, and advanced treatment and beneficial use of South Plant effluent.

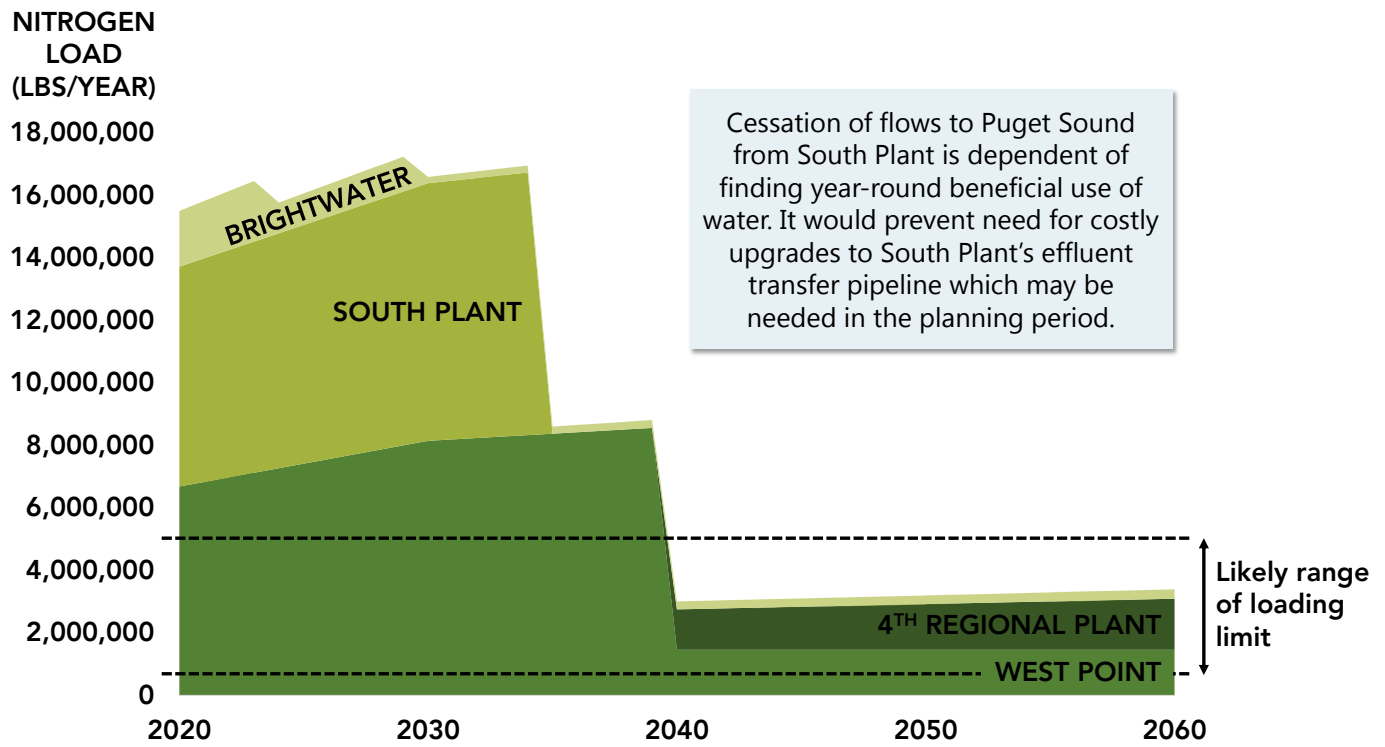
<sup>9</sup> Where the word nitrogen is used in the report, it means total inorganic nitrogen or TIN.

EXHIBIT E: Even the most aggressive wastewater treatment plant reductions proposed may not meet likely nutrient limits developed by the Department of Ecology.



Source: King County Auditor's Office analysis of data from WTD Priority 1 question responses dated August 16, 2021, Clean Water Plan Advisory Group Meeting #10 Briefing Document, *Actions Characterizing Water Quality Investment Options*, May 2021, Brown and Caldwell *King County Nitrogen Removal Study: Final Report*, September 2020, *Brightwater Treatment Plant Peak Flow and Wasteload Projects 2010-2060*, January 2019, *South Plant Treatment Plant Peak Flow and Wasteload Projects 2010-2060*, January 2019, *West Point Treatment Plant Peak Flow and Wasteload Projects 2010-2060*, January 2019, and Department of Ecology Salish Sea Year 2 Modeling Inputs provided August 2021. This assumes one regional facility is upgraded every five years, starting in 2030.

EXHIBIT F: WTD has identified wastewater treatment improvements which may meet likely nutrient limits developed by the Department of Ecology, but they are not presented by any Action, or within any strategy.



**Projected Wastewater Treatment Plant Nitrogen Loading Per Year Treatment Upgrades to 8mg/L Effluent at West Point, 3m/L at Brightwater, and Full Reuse of South Plant Effluent**

Source: King County Auditor's Office analysis of data from WTD Priority 1 question responses dated August 16, 2021, Brown and Caldwell, *Actions Characterizing Water Quality Investment Options*, May 2021, *King County Nitrogen Removal Study: Final Report*, September 2020, *Brightwater Treatment Plant Peak Flow and Wasteload Projects 2010-2060*, January 2019, *South Plant Treatment Plant Peak Flow and Wasteload Projects 2010-2060*, January 2019, *West Point Treatment Plant Peak Flow and Wasteload Projects 2010-2060*, January 2019, and Department of Ecology Salish Sea Year 2 Modeling Inputs provided August 2021.

Given the magnitude of discharge from King County's WWTPs, compliance with strict nutrient limits set by DOE is likely to require significant capital investments at the regional WWTPs. King County's WWTPs contribute 57 percent of the total nitrogen loading to Puget Sound from domestic wastewater treatment plant marine point discharges. In the best-case scenario—meaning highest expected wasteload allocation—King County would be expected to reduce nitrogen loading by 67 percent compared to 2020 levels. Decentralized treatment at wet weather treatment stations and building-scale decentralized treatment can produce significant reductions in marine nitrogen. However, even at the most optimistic range, these reductions are only approximately 37 percent of the reductions needed, and at least optimistic only 9 percent. While non-point trading has been discussed, WTD has determined non-point trading is not a feasible option to pursue to offset improvements at wastewater treatment plants because a large amount of land is needed. Additionally, trading can only occur once water quality-based limits are set, meaning any reductions needed in the first permit cycle must occur at the WWTPs.

**Four of five WTD strategies assume a successful modification of the existing consent decree, extending the timeline for compliance by 30 years—an unlikely outcome given current EPA guidance.**<sup>10</sup>

King County's consent decree requires all CSO locations to be under control by December 31, 2030. In 2019, WTD requested the consent decree be renegotiated with an extended compliance timeline to 2040. While the status of the negotiations is not public due to confidentiality agreements, four of the five strategies include a renegotiated consent decree compliance timeline of 2060, effectively proposing a 47-year compliance timeframe. The EPA consent decree compliance tracking spreadsheet, dated 2017, shows average compliance timeframe for CSO and/or sanitary sewer systems consent decrees at an average of 15 years. Therefore, it is likely that negotiations may not lead to an extended compliance timeframe of 2060. If King County is unsuccessful in renegotiating the consent decree, then strategies B-E would no longer be viable, as they all assume renegotiation of the compliance timeline to 2060.

**Two WTD strategies assume an approach that would require a change to Washington**

**Administrative Code.** Strategies C and D indicate the method for CSO compliance is "extended CSO Control Program timeline and/or *alternative water quality investments*"<sup>11</sup>. Policy-makers should be aware there is no existing regulatory framework that would allow King County to pursue alternative water quality investments in lieu of controlling CSOs. Such a change would require an amendment to the Washington Administrative Code, which requires achievement of the greatest reasonable reduction of CSOs, defined as "control of each CSO in such a way that an average of one untreated discharge may occur per year"<sup>12</sup>.

**Questions for policy-maker consideration:**

- What are the risks of an unsuccessful renegotiation of the consent decree, and what would be the impact on rates?
- What are the risks of not planning for implementation of nutrient removal, including how it might affect WTD's ability to serve new connections?
- What regulatory outcomes are required for each strategy and/or action to be viable?
- Are there examples and lessons learned from other jurisdictions in the United States, where broad regulatory changes, such as those proposed by WTD, were sought and achieved?

## Lack of transparency obscures cost differences between Actions

**The packaging of projects into Actions and the presentation of cost and benefits at the Action level, rather than the project level, obscures details about the costs and benefits of each Action's component projects making it more difficult for decision-makers to effectively weigh options.** For example, there are two Actions proposed for compliance with the consent decree: Current CSO Long-Term Control Plan (LTCP) Implementation and Extended CSO Control Implementation (exhibit G, below). In the *2021 Actions* Report, which provides cost estimates on a high-level Actions basis, an extended LTCP implementation results in a conceptual capital cost savings of \$1.1B–2.6B—when compared to

<sup>10</sup> *Environmental Protection Agency Combined Sewer Overflows — Guidance for Financial Capability Assessment and Schedule Development*, February 1997, and *Memorandum on Financial Capability Assessment Framework for Municipal Clean Water Act Requirements*, November 2014.

<sup>11</sup> Emphasis added

<sup>12</sup> WAC 173-245-020 (22)

current LTCP implementation.<sup>13</sup> The majority of the difference in capital cost (\$980M–2.5B) is the result of a 30 percent acceleration fee, which WTD presents as the premium for delivering the remaining LTCP within ten years. However, it is unclear why this 30 percent markup is included on supplemental compliance, which would occur after 2033 and alone contributes 20 percent to the increased conceptual capital cost when compared to the extended CSO control implementation timeline. Additionally, it is unclear why the consent decree compliance project costs continue to grow at such a fast pace. In a 2019 letter to the EPA, WTD stated the remaining consent decree compliance projects would be expected to cost \$1.9B or more, depending on alternative chosen and timeline. In the most recent cost estimates provided by WTD, the remaining projects now have a lowest, most optimistic conceptual capital cost of \$2.94B,<sup>14</sup> an increase of nearly 55 percent.<sup>15</sup>

**EXHIBIT G: Presentation of costs on Action-level basis obscures differences in costs.**



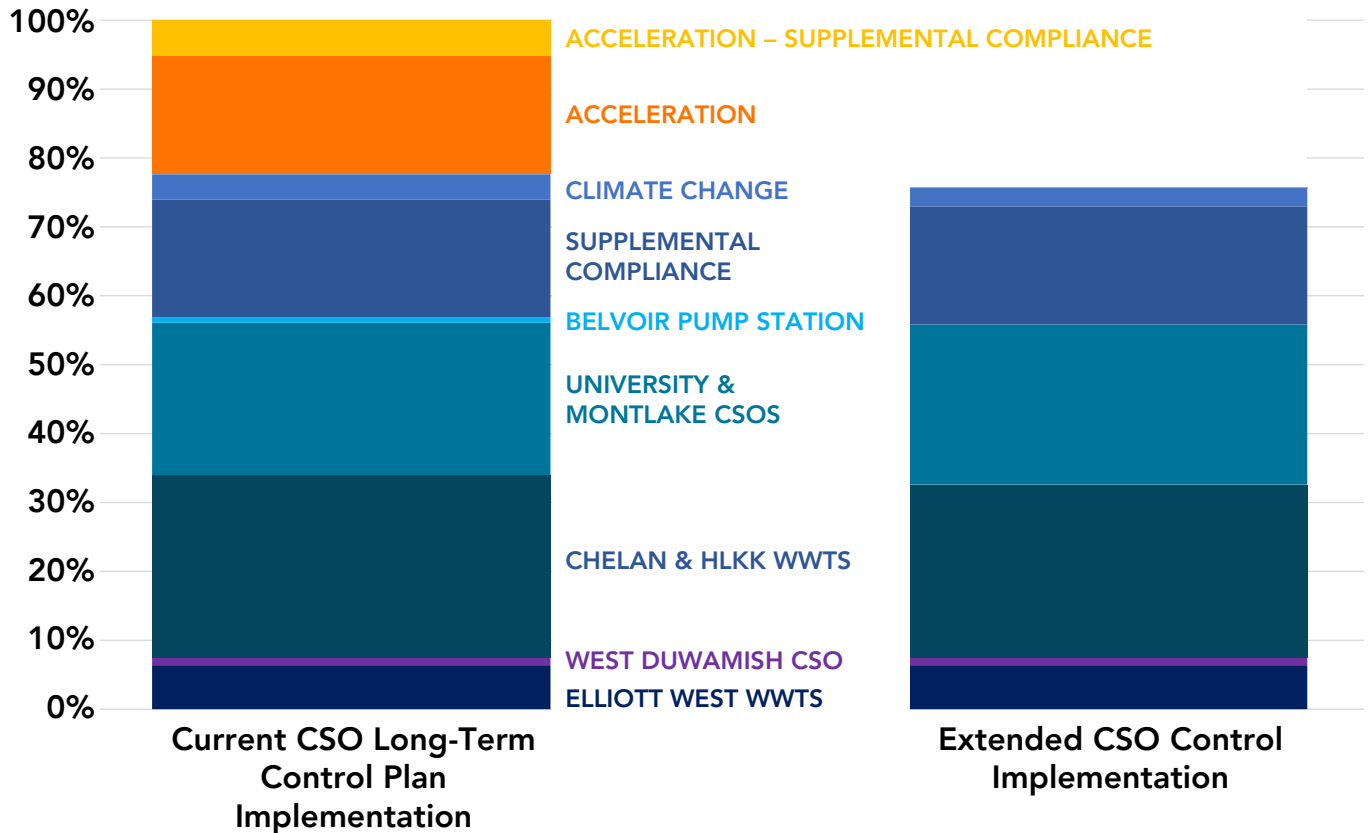
Source: WTD Priority 1 question responses, dated August 26, 2021

<sup>13</sup> Comparisons made here are based upon the low-end range. WTD has presented its estimates as conceptual program planning estimates with a range of lowest, most optimistic to +150%.

<sup>14</sup> 2020 nominal dollars. Conceptual cost estimates are provided by WTD with a range of lowest, most optimistic, to +150%.

<sup>15</sup> This represents the conceptual capital costs presented by WTD for Duwamish CSO Storage Tank (West Michigan St. and Terminal 115), CSO Storage Tank near Chelan Ave. Regulator Station, HLKK WWTS, University Storage Tank, and Montlake CSO Storage Tank with the five percent climate change, and 30 percent acceleration factor.

EXHIBIT H: Difference in conceptual capital costs between current and extended CSO control implementation is due mostly to acceleration factor.

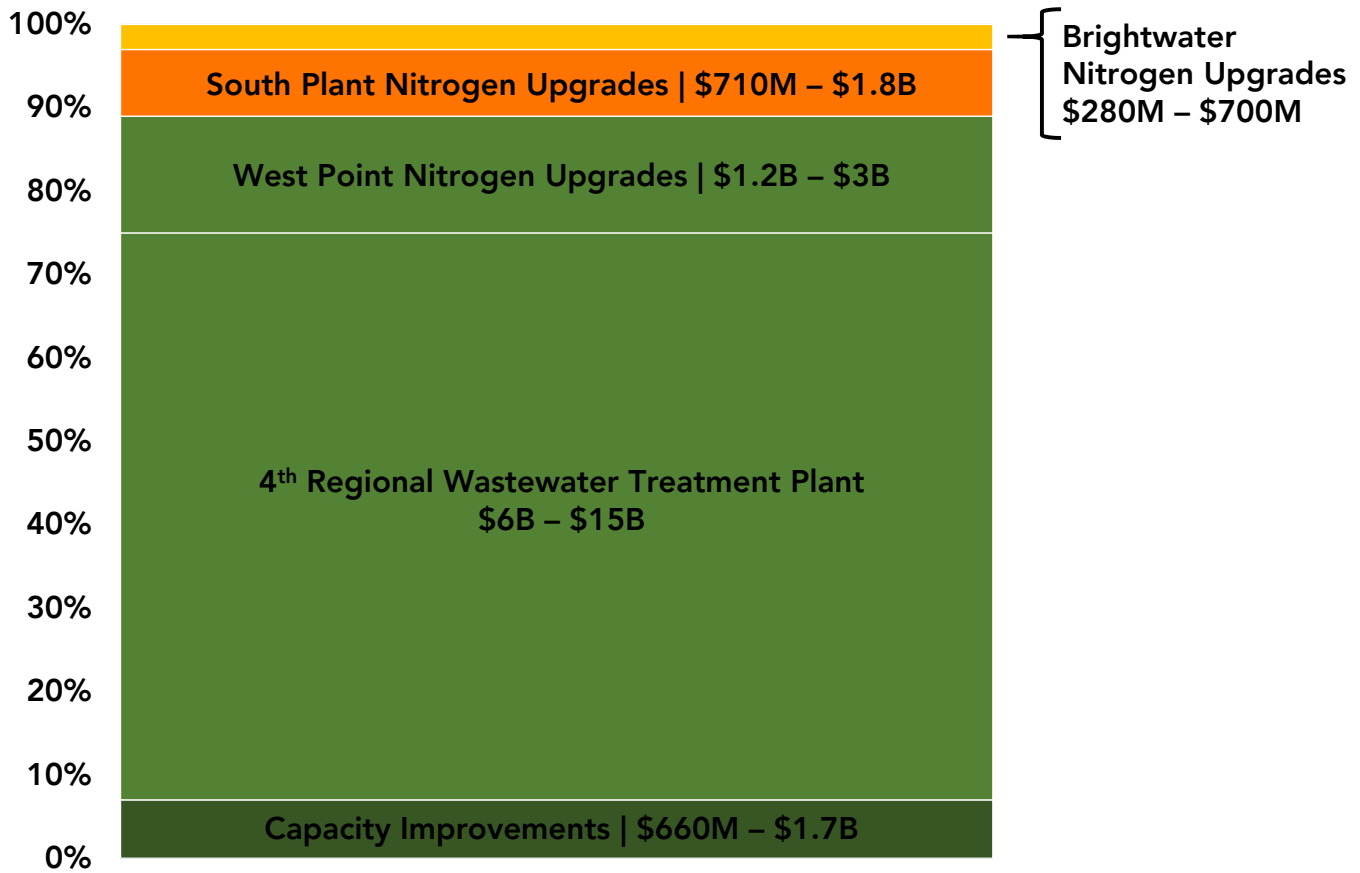


Source: WTD Priority 1 question responses, dated August 26, 2021

Similarly, the grouping of WWTP upgrades obscures the cost of upgrades at each individual plant. Grouping the projects as packages without providing a cost breakdown may make it appear that WWTP improvements are an expensive method to achieving nitrogen reductions. Viewing a detailed breakdown provides a more nuanced view and shows improvements at some plants can lead to big benefits for a fraction of the total Action cost. Exhibit I, below, shows of the needed \$8.9B–\$22B estimated by WTD to achieve individual nitrogen levels at each WWTP, \$7.2B–\$18B in capital costs are related to nitrogen removal at West Point, while only \$990M–\$2.5B in conceptual capital costs would be required to achieve nitrogen levels of 8mg/L at both South Plant and Brightwater. Implementing these upgrades at South Plant and Brightwater would result in a reduction of nitrogen loading at King County’s WWTPs by 43 percent for a conceptual capital investment of \$990M–\$2.5B.<sup>16</sup>

<sup>16</sup> WTD presented its estimates as conceptual program planning estimates with a range of lowest, most optimistic to +150%.

EXHIBIT I: Implementing nutrient removal improvements<sup>17</sup> at South Plant and Brightwater represents only 11 percent of the cost of individual plant nitrogen reduction.



Source: WTD Priority 1 question responses dated August 26, 2021.

#### Questions for policy-maker consideration:

- What are the costs of projects within individual Actions?
- Are there alternative ways projects could be grouped to improve outcomes at a lower cost?

### Strategies may not ensure the best water quality outcome

**The best water quality outcome may not be represented in WTD's strategies, making it difficult for decision-makers to facilitate the best outcomes.** According to the Office of Performance, Strategy and Budget, review of the strategies will include an assessment against the 2020–2025 Clean Water Health Habitat Strategic Plan. However, determination of achievement of the best water quality outcome at the lowest cost can only occur if all Actions are carefully considered by WTD. For example, Urban Growth Area (UGA) On-Site Septic System (OSS) Conversion, Regional Stormwater Facilities Program, and Regional Stormwater Retrofits are the only Actions with meaningful freshwater phosphorus reductions. Phosphorus has been identified by King County as the pollutant most frequently leading to "potentially toxic cyanobacteria blooms, reduction in water clarity, and odors and surface scums associated with nuisance

<sup>17</sup> The capital cost to achieve 8mg/L year-round effluent concentrations.



levels of algae"<sup>18</sup> in local lakes. UGA OSS Conversion results in higher phosphorus reductions than all three stormwater treatment options combined. However, UGA OSS Conversion does not appear in any of the five strategies presented by WTD, while Regional Stormwater Facilities Program and Retrofit appear in two (strategies C and D).

EXHIBIT J: Urban Growth Area On-Site Septic System Conversion provides significantly greater phosphorus removal (lb/yr) than other Actions, but is not considered as part of any strategy.

| Actions                                                         | Freshwater Phosphorus (lb/yr) |        | King County Costs <sup>19</sup> |                 |
|-----------------------------------------------------------------|-------------------------------|--------|---------------------------------|-----------------|
|                                                                 | Low                           | High   | Low                             | High            |
| Urban Growth Area On-Site Septic System Conversion              | 1,700                         | 40,000 | \$940,000,000                   | \$2,360,000,000 |
| Expanded Stormwater Treatment at Existing Wastewater Facilities | 100                           | 410    | \$230,000,000                   | \$580,000,000   |
| Regional Stormwater Facilities Program                          | 350                           | 1,400  | \$3,560,000,000                 | \$9,000,000,000 |
| Regional Stormwater Retrofit Program                            | 630                           | 2,500  | \$1,500,000,000                 | \$3,800,000,000 |

Source: Freshwater phosphorus reductions are as provided in the 2021 *Actions* Report. King County costs were calculated by the King County Auditor's Office.

**The screening lens WTD used to select Actions can also unnecessarily limit the range of projects under consideration.** For example, City-Scale Decentralized Treatment limits screening of satellite wastewater facilities to those "where conveyance capacity limitations have been identified... or where significant future development has been identified."<sup>20</sup> However, satellite facilities could be located along areas of existing development and transmission mains and without these two limitations. This would create beneficial water reuse opportunities higher up in the sewershed, eliminating costly long transmission lines from South Plant, and reduce nitrogen discharges to Puget Sound. Additionally, satellite treatment could provide flow reductions to regional wastewater treatment plants, similar to decentralized building-scale treatment, without the safety concerns and potential de-incentivization of industry/commercial business growth in the county that decentralized building-scale treatment faces.

<sup>18</sup> King County (2017) *2016 Freshwater water quality* <https://kingcounty.gov/services/environment/data-and-trends/indicators-and-performance/kingstat/2016/indicators/aquatic-environment/fresh-water-quality.aspx>

<sup>19</sup> King County costs are calculated as conceptual capital, operations and maintenance, and repair and replacement less revenue and avoided costs in nominal 2020 dollars.

<sup>20</sup> King County Wastewater Treatment Division, *Actions: Characterizing Water Quality Investment Options*, 2021

**Question for policy-maker consideration:**

- What are WTDs goals for the Clean Water Plan and how do those align with yours?
- To what extent did WTD consider water quality benefits in its development of Actions and strategies?

## Conclusion

The Clean Water Plan will guide how billions of public dollars are invested over the next 40 years. By evaluating non-viable strategies and Actions, instead of a range of actionable ones that meet anticipated regulatory requirements, King County risks selecting a sub-optimal strategy that does not meet regulatory requirements, provide the lowest possible rates, or deliver the best water quality outcome. Greater clarity around regulatory constraints and project costs, along with inclusion with a wider range of strategies would increase the probability of determining the optimal approach for the future of King County's wastewater system.

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Zainab Nejati, PE, Principal Capital Analyst, conducted this review. Please contact Zainab at 206-263-1692 if you have any questions about the issues discussed in this letter.

## Acknowledgments

We wish to thank the Department of Natural Resources and Parks, the Wastewater Treatment Division, and the Clean Water Plan team for their cooperation with this review and provision of timely information.

## Appendix 1

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### Questions to Wastewater Treatment Division for policy-makers to consider

This appendix consolidates the questions laid out in our Clean Water Plan management report, which policy-makers may wish to ask as they explore the water quality investments options and deliberate on what Actions should be evaluated as part of the Clean Water Plan strategies.

- What are the risks of an unsuccessful renegotiation of the consent decree, and what would be the impact on rates?
- What are the risks of not planning for implementation of nutrient removal, including how it might affect WTD's ability to serve new connections?
- What regulatory outcomes are required for each strategy and/or action to be viable?
- Are there examples and lessons learned from other jurisdictions in the United States, where broad regulatory changes, such as those proposed by WTD, were sought and achieved?
- What are the costs of projects within individual Actions?
- Are there alternative ways projects could be grouped to improve outcomes at a lower cost?
- What are WTDs goals for the Clean Water Plan and how do those align with yours?
- To what extent did WTD consider water quality benefits in its development of Actions and strategies?

## Appendix 2

### Conceptual Program Planning Estimates for Combined Sewer Overflow (CSO) Program Wet Weather Management Actions

Breaking down costs by project shows the difference in the projects and costs between the two programs. Projects here are grouped by CSO locations.

| CSO Program — Current CSO Long-Term Control Plan Implementation       |                               | CSO Program — Extended CSO Control Implementation                              |                                 |
|-----------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------|---------------------------------|
| CONCEPTUAL PROGRAM PLANNING ESTIMATES (2020 DOLLARS)                  |                               |                                                                                |                                 |
| Project                                                               | Total Project Cost Range      | Project                                                                        | Total Project Cost Range        |
| Elliott West Wet Weather Treatment Station (WWTS)                     | \$280,000,000–\$700,000,000   | Elliott West Wet Weather Treatment Station (WWTS)                              | \$280,000,000–\$700,000,000     |
| West Duwamish CSO Storage Tank (West Michigan St. and Terminal 115)   | \$48,000,000–\$120,000,000    | West Duwamish CSO Storage Tank (West Michigan St. and Terminal 115)            | \$48,000,000–\$120,000,000      |
| CSO Storage Tank near Chelan Ave. Regulator Station                   | \$210,000,000–\$520,000000    | Chelan Hanford Lander Kingdome King Street (CHLKK) CSO WWTS                    | \$1,100,000,000–\$2,800,000,000 |
| Hanford Lander Kingdome King Street (HLKK) Wet Weather Treatment WWTS | \$950,000,000–\$2,400,000,000 |                                                                                |                                 |
| University Storage Tank                                               | \$600,000,000–\$1,500,000,000 | Consolidated CSO Tunnel for University and Montlake                            | \$880,000,000–\$2,200,000,000   |
| Montlake CSO Storage Tank                                             | \$370,000,000–\$930,000,000   | Opportunistic ROW and Flow Separation in Montlake Basin: Interlaken Park Creek | \$10,000,000–\$25,000,000       |
| Table continues on next page                                          |                               |                                                                                |                                 |

*CSO Program comparison table, continued*

| Project                                                                                                                                    | Total Project Cost Range                     | Project                                                                                                                                    | Total Project Cost Range                    |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
|                                                                                                                                            |                                              | Opportunistic ROW and Flow Separation in Montlake Basin: Alley Creek                                                                       | \$57,000,000–<br>\$140,000,000              |
|                                                                                                                                            |                                              | System Optimization (University Regulator Gate Setpoint Modification)                                                                      | \$72,000,000–<br>\$180,000,000              |
| Belvoir Pump Station Overflow Storage                                                                                                      | \$34,000,000–<br>\$85,000,000                | System Optimization (Belvoir Pump Station Modification)                                                                                    | \$250,000–<br>\$630,000                     |
| Supplemental compliance: potential future operational and capital measures to maintain control given anticipated climate change conditions | \$750,000,000–<br>\$1,900,000,000            | Supplemental compliance: potential future operational and capital measures to maintain control given anticipated climate change conditions | \$750,000,000–<br>\$1,900,000,000           |
|                                                                                                                                            |                                              | Programmatic Green Stormwater Infrastructure (GSI) for CSO Reduction (GSI Retrofit Partnership Program)                                    | \$2,100,000–<br>\$5,300,000                 |
| Climate Change Factor (5%)                                                                                                                 | \$160,000,000–<br>\$400,000,000              | Climate Change Factor (5%)                                                                                                                 | \$120,000,000–<br>\$300,000,000             |
| Acceleration Factor (30%)                                                                                                                  | \$980,000,000–<br>\$2,500,000,000            |                                                                                                                                            |                                             |
| <b>Total (40-year)</b>                                                                                                                     | <b>\$4,400,000,000–<br/>\$11,000,000,000</b> | <b>Total (40-year)</b>                                                                                                                     | <b>\$3,300,000,000–<br/>\$8,400,000,000</b> |

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NON-AUDIT

**NON-AUDIT:** This letter is not an audit as defined in Generally Accepted Government Auditing Standards, but conforms to office standards for independence, objectivity, and quality.