King County
Department of Natural Resources and Parks
Wastewater Treatment Division
King Street Center, KSC-NR-0500
201 South Jackson Street
Seattle, WA 98104-3855

MEMO

July 22, 2020

TO: Tricia Miller, Water Quality Permit Coordinator, Department of Ecology, Northwest Regional Office

FM: Rebecca Singer, Manager, Resource Recovery Section

RE: Comments on Draft NPDES Permits for Big Lake and Birch Bay Wastewater Treatment Plants

On behalf of the King County Wastewater Treatment Division (WTD), thank you for the opportunity to comment on the Washington State Department of Ecology's (Ecology) draft NPDES permits for the Big Lake and Birch Bay wastewater treatment plants.

WTD operates five wastewater treatment plants, four of which discharge directly to Puget Sound: West Point, South Plant, Brightwater, and Vashon Island facilities. Collectively, these facilities serve a residential population of approximately 1.7 million people. Along with wastewater treatment, other environmental resource programs such as stormwater management, habitat restoration and conservation, agricultural assistance, and water quality monitoring are part of King County's efforts to have clean water and healthy habitat.

WTD recognizes Ecology's responsibility to develop a comprehensive regulatory framework to address compliance with water quality standards and address the dissolved oxygen (DO) impairment concerns in sensitive areas of Puget Sound. WTD has an interest in the draft NPDES permits for the Big Lake and Birch Bay facilities with respect to nutrient management requirements that are being specified in advance of the development of the Nutrient Management Plan and the NPDES General Permit for nutrients. WTD anticipates that the individual NPDES permits for our West Point and South Plant wastewater treatment plants will be renewed soon, and thus may be subject to these types of requirements as well. Accordingly, based on the County's experience and expertise with Puget Sound water quality issues and our interests in wastewater management requirements specifically, we provide the following detailed comments and recommendations on the approach and content of these draft NPDES permits.

Comments Common to the Big Lake and Birch Bay Draft NPDES Permits

Nutrient Loading Cap - S1.A Effluent Limits (Big Lake Table 3, p.6; Birch Bay, Table 2, p.6)

1. The effluent limitations in the draft permits for Big Lake and Birch Bay that specify nitrogen as annual maximum mass loads should clearly be identified as interim requirements for two reasons. First, the nutrients General Permit currently being developed is intended to be applicable to all municipal wastewater treatment discharges to Puget Sound. The General Permit is being developed through a multi-stakeholder Advisory Committee and is meant to inform and guide the regulatory, technical, and economical considerations for initial nutrient requirements, including consistent approaches to the loading cap. Consequently, the approach and technical characteristics of the loading cap requirements in the General Permit ultimately should dictate the approach to all individual dischargers. Second, the Nutrient Management Plan, which is intended to address broader and comprehensive nutrient reduction requirements for all discharges including point and non-point sources, will not be developed for several years. Moreover, WTD understands that there remain significant scientific uncertainties and gaps in available information regarding the effects of individual wastewater discharges to DO conditions in Puget Sound and best approaches to resolve or mitigate sources to the problem. With the Salish Sea Modeling analyses still in progress, the effect of nitrogen mass discharges from relatively small facilities like Big Lake and Birch Bay to DO levels in Puget Sound cannot be determined within the level of uncertainty of the available modeling tools. Therefore, a nutrient loading cap on any individual discharger may conflict with, or result in barriers to, implementing solutions that address the technical, feasible, and socio-economic considerations of each facility once the ultimate nutrient reduction framework is completed.

   As written in the draft NPDES permits for Big Lake and Birch Bay, there is no description that the individual facility nutrient cap requirement will be coordinated with the General Permit or Nutrient Management Plan processes. Therefore, the permit will establish an enforceable requirement that could be difficult to revise or redact at a later date. Accordingly, WTD recommends that Ecology provide a flexible approach that identifies the loading cap as being subject to revision pending the adoption of the ultimate regulatory framework. Providing flexibility in the loading cap will best address the uncertainties so that treatment investments will result in Puget Sound water quality improvements with these facility-specific considerations in mind.

   Finally, as a recommendation for the nutrient loading cap to be an interim requirement, the draft permits for Big Lake and Birch Bay also should describe the path for the discharger to remain in compliance should monitoring data indicate that the annual cap has been exceeded. Because the General Permit and Nutrient Management Plan are still under development, the permit should reference or defer a course of compliance to ultimately be dictated by the future regulatory requirements.

2. WTD supports a nutrient loading cap that is based on an annual average mass discharge. Given that SSM modeling efforts to develop the Nutrient Management Plan are ongoing

and the effects of seasonal and locational wastewater discharges is uncertain, there is currently insufficient information to justify regulating nitrogen discharges on a shorter averaging period. However, it should also be noted a single annual load cap and compliance based on 365 days of data will not accurately account for the extra day that occurs in leap years. While understanding that the difference in load calculation of one day is likely minimal for a given facility, the relative differences among facilities could be measurable and thus the annual mass cap (or reporting of monitoring data) should be adjusted to appropriately consider the extra day in February of leap years.

cc: Mark Isaacson, Division Director, Wastewater Treatment Division (WTD), Department of Natural Resources and Parks (DNRP)
Jeff Lafer, NPDES Permit Administrator, Environmental and Community Services Section, WTD, DNRP