SAVE THE BAY®
NARRAGANSETT BAY

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January 31, 2019

Abdulrahman Ragab
RIPDES Program
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, RI 02908

Re: RIPDES Permit No. RI0100013 – Cranston Water Pollution Control Facility
RIPDES Permit No. RI0100234 – Warwick Wastewater Treatment Facility
RIPDES Permit No. RI0100153 – West Warwick Wastewater Treatment Facility

Dear Mr. Ragab,

Save The Bay has reviewed the Rhode Island Pollutant Discharge Elimination System (RIPDES) draft permits for the Cranston, Warwick, and West Warwick wastewater treatment facilities (the facilities). The facilities discharge into the Pawtuxet River and flow downstream into the Providence River. According to the state's 2016 Impaired Waters Report, Final, dated March 2018, the Providence River is not meeting water quality standards due to nitrogen, dissolved oxygen, and fecal coliform impairments. The facilities are a significant contributor of nitrogen to the Providence River and suitable technologies exist to reduce nitrogen discharges. For more than a decade, a need for additional data, monitoring, and modeling has been cited as a reason to postpone further reductions. However, the best available science and evidence of continued impairments indicates otherwise. Save The Bay urges the Department of Environmental Management (DEM) to reduce nitrogen limits at the facilities to 3.0 mg/l from June 1 through October 31.

The facilities discharge into the main stem of the Pawtuxet River, which empties into the Providence River at Pawtuxet Cove. The Providence River is classified as an SB/SB1 waterbody by the Rhode Island Water Quality regulations. SB/SB1 waterbodies are designated for fish and wildlife habitat, which the River is not supporting due to nitrogen and dissolved oxygen impairment. It is estimated that 82% of the wastewater treatment load from the Pawtuxet facilities is discharged into the Providence River, and past analyses have indicated that wastewater treatment facilities are the largest sources of nitrogen to the Bay. As you know, nitrogen is a nutrient that persists and accumulates in water systems. Nitrogen is a major cause of violations of Rhode Island's water quality standards. It negatively affects wildlife, ecosystem functions, and habitat, and threatens fishing, recreation, and tourism. Stringent limits on total nitrogen discharges from Rhode Island and Massachusetts wastewater treatment facilities are critical for achieving water quality standards in Narragansett Bay. Narragansett Bay suffers from eutrophication – a condition in which nutrients cause excessive algae growth. As algae decomposes, it consumes oxygen that fish and shellfish require to live. Eutrophication can also

cause foul smells, affect the aesthetic qualities of our waterways, and lead to conditions that are unsupportive of submerged aquatic vegetation such as eelgrass.

In developing permit limits, as stated in the Fact Sheet, DEM is charged with calculating acceptable water quality based discharge levels based on in-stream criteria, background data and available dilution, identifying technology-based limits that apply to the facility, and assigning Best Professional Judgment Limits. DEM should set the most stringent of these as final available levels, and evaluate the ability of the facility to meet final permit effluent limits. In 2008, DEM established seasonal limits for total nitrogen of 8.0 mg/l for the Cranston, Warwick, and West Warwick facilities. This limit was developed as required by law to achieve a 50% reduction from 1995-1996 treatment facility loadings, and as part of a phased approach toward meeting water quality standards in the Providence River and Upper Narragansett Bay. The original targeted 50% reduction in summer nitrogen levels was first achieved in 2012. Despite the reduction, impairments remain, as demonstrated by ongoing testing conducted by several entities and most recently compiled in the Narragansett Bay Estuary Program's *State of Narragansett Bay and Its Watershed.*

Rhode Island has not developed a total daily maximum load (TMDL) for nitrogen to ensure that the Providence River will meet and continue to meet water quality standards. In 2004, DEM chose a phased approach to addressing nitrogen pollution in part based on recommendations in EPA's 1991 "*Guidance for Water Quality Based Decisions: The TMDL Process*. The phased approach, when implemented, "provides for further pollution reduction without waiting for new data collection and analysis" (EPA 1991). It also indicates a need for the design and implementation of a monitoring plan to address data or modeling gaps. Save The Bay is unaware of such a plan, data, or funding to support such efforts to follow through on recommendations made in DEM's 2004 evaluation and 2005 *Plan for Managing Nutrient Loadings in Rhode Island Waters*. In fact, the language citing a need for water quality reassessment and evaluation in the 2018 draft permits is virtually identical to the language included in the 2008 final permits and the 2005 plan. As such, DEM has failed to justify the maintenance of current permit levels. Absent data or information to the contrary, the best available science indicates a need for further nitrogen reductions.

As previous permits for these facilities and others affecting the health of the Providence River and Upper Narragansett Bay continue to note, further assessment is needed to study the impact of current nitrogen reductions. We urge DEM to allocate the necessary resources and prioritize research on the impact of nitrogen reductions on the Bay. However, the current body of knowledge, coupled with recent data indicating continued degradation, demonstrates that lower limits are necessary now. As a delegated state, Rhode Island has the responsibility to issue permits that prevent and reduce pollution with the ultimate goal of eliminating water pollution. The RIPDES regulations require a more stringent permit limit because the three facilities' nitrogen discharges have the "reasonable potential" to cause violations of the applicable standards. DEM's 2004 *Evaluation of Nitrogen Targets and WWTF Load Reductions for the Providence and Seekonk Rivers* concluded that a reduction of treatment facility nitrogen loads to the Providence River watershed to the limit of technology (3.0 mg/l) would be

required, and even that may not be enough to meet water quality standards. The EPA, in limiting the discharge to the Taunton River, in part at the insistence of Rhode Island, concluded based on the extensive scientific record before it, there was "no reasonable likelihood that a less stringent limit will meet [state water quality] standards." DEM should apply the same reasoning and impose a limit of 3.0 mg/l for the plants located within its own jurisdiction.

In addition, given the science on the risk analysis of the consequences of waiting to impose more stringent limits, it is clear that nitrogen-based cultural eutrophication becomes more difficult to address the longer it is left unchecked. Nitrogen loadings accumulate and persist in water systems in a way that can exacerbate future water quality problems. The EPA found that both the severity of the existing water quality problems, and the potential for aggravated future problems, "counsel[ed] in favor of imposing a nitrogen limit... based on information currently available." Rhode Island, as a delegated state, has the obligation to exercise its judgment and discretion to require the reduction of nitrogen discharges.

Failure to take action now to reduce nitrogen limits will be compounded by the stressors of climate change. As average Bay temperatures continue to rise, the entire ecosystem is affected. As cited in the Estuary Program report, average Bay temperature has increased 3°F, and this trend is expected to accelerate. Rapid algal growth and further degradations to water quality can be expected. Climate change impacts must be included in any legitimate discussion about the future of Narragansett Bay, and the Fact Sheet is devoid of climate change considerations. DEM has the power and the duty under the Resilient Rhode Island Act to consider the impacts of climate change in exercising its duties and responsibilities. The Fact Sheet, and permits issued by DEM, must consider rising water temperatures and more frequent and intense storms in determining the applicable nutrient limits.

In summary, the Providence River and Upper Narragansett Bay continue to suffer from poor water quality, due in large part to the significant nutrient inputs from these facilities and others in the watershed. Studies have shown that water quality is the limiting factor preventing submerged aquatic vegetation restoration in the Upper Bay, which in turn limits its ability to support healthy fish and shellfish populations. Save The Bay urges DEM to modify the permits for the Cranston, Warwick, and West Warwick wastewater treatment facilities and demonstrate a strong commitment to water quality improvement in Narragansett Bay.

Thank you for considering our comments.

Sincerely,

Michael Jarbeau
Narragansett Baykeeper