MEMO

Date: October 2, 2025

To: Sewage Disposal Working Group

From: Audra Dickson, Director of the Water Permitting and Enforcement Division for the CT Department of Energy and Environmental Protection

Purpose:
This memo provides a summary of the regulatory landscape DEEP has been directly involved in and watching regarding the Underground Injection Control Program and subsurface sewage disposal systems of all sizes. It addresses recent developments in case law, EPA guidance, and litigation activity in EPA Region 10 and outlines how the design mitigates potential permitting and legal risks.

1. Legal Context — Maui Decision & EPA Guidance

The U.S. Supreme Court's decision in County of Maui v. Hawaii Wildlife Fund (2020) establishes that discharges to groundwater may require an NPDES permit if they are the "functional equivalent" of a direct discharge to surface water. Relevant factors include:

- Travel time and distance
- Dilution/attenuation
- Nature of the discharge and subsurface flow
- Hydrogeologic connectivity

The EPA's implementation guidance (2021) outlines how to apply this standard in permitting decisions. County of Maui v. Hawaii Wildlife Fund, 140 S. Ct. 1462 (2020). EPA: Applying the "Functional Equivalent" Standard After Maui Decision (Final/Draft Guidance.)

2. Region 10 Litigation — Lower Umatilla Basin (Oregon)

Subject to federal litigation and regulatory enforcement due to nitrate contamination of groundwater used for drinking water. Ongoing lawsuits allege that permitted discharges have contributed to unsafe conditions. OPB Reporting: Nitrate contamination and federal lawsuit in Morrow/Umatilla Counties. Oregon DEQ: Nitrate Reduction Plan and Groundwater Management Area documents

3. Nitrate Benchmarking — 5 mg/L and 10 mg/L

While the federal MCL for nitrate is 10 mg/L (NO_3-N), some regulatory and public health programs use 5 mg/L as an action level. This design has been evaluated to determine whether projected nitrate concentrations in local groundwater could: 1) Reach or exceed 5 mg/L, triggering oversight, 2) Approach the 10 mg/L MCL, triggering compliance concerns. OSU Extension: Understanding Nitrate in Drinking Water and Monitoring Thresholds.

Iowa Environmental Council:
https://www.iaenvironment.org/webres/File/IEC_Nitrate_in_Drinking_Water_2024FINAL.pdf

EPA IRIS Assessment: https://iris.epa.gov/ChemicalLanding/&substance_nmbr=76

4. Hydrogeologic Considerations — Lag Time & Legacy Load

The receiving groundwater system may have long residence times, meaning improvements in loading may not reflect in well water for decades. The design incorporates:

- Conservative travel time assumptions
- Consideration of legacy nitrate loading
- Adaptive monitoring provisions

As we embark on this important journey—balancing the State's goals for housing, economic development, and protection of human health and the environment—I ask that we remain vigilant in grounding our discussions and decisions in the latest national developments and science. In particular, we must ensure all of our planning reflects current legal, technical, and regulatory trends related to:

- NPDES permit exposure under the Maui "functional equivalent" standard
- Groundwater nitrate projections vis-à-vis 5 mg/L and 10 mg/L thresholds
- Site-specific hydrogeology and robust monitoring plans
- Legal and litigation risk in EPA Region 10, especially in light of developments in the Lower Umatilla Basin

5. Nitrogen Control Program for the Long Island Sound

Long Island Sound ("LIS") has an approved TMDL to achieve water quality standards for dissolved oxygen by addressing sources of nitrogen in the watershed. The watershed for the LIS encompasses virtually the entire state of Connecticut as well as portions of Massachusetts, Vermont, New Hampshire, and Quebec, Canada. Nitrogen is the primary limiting nutrient for the growth of algal blooms in LIS. Algal growth and decay contribute to low dissolved oxygen levels and the subsequent impairment of the designated uses of the waterbody. While nitrogen naturally occurs in the environment and is essential to the health of the waterbody, excess nitrogen caused by human-related disturbances can have significant impacts on the receiving water. Stormwater run-off from urban areas is considered to be a significant source of nitrogen into LIS.

CT DEEP Website: Nitrogen Control Program for Long Island Sound

I truly believe there is always a pathway forward that meets all of these goals—supporting housing and economic growth while safeguarding public health and environmental quality. I have full confidence that, together, we will find that path. By anchoring our work in these evolving national frameworks, we'll be better positioned to deliver effective, defensible solutions that serve both our development and environmental protection imperatives.