



DNREC Virtual Public Hearing

SUSSEX COUNTY COUNCIL PERMITS FOR THE INLAND BAYS REGIONAL WASTEWATER TREATMENT FACILITY (IBRWTF) (Docket #2022-P-W-0008)

Welcome. Any visual content that is part of this hearing will appear in this window.

Computer Audio: Use the **audio connections menu** to turn audio on or off.

Telephone Audio: DIAL-in Number: 1-408-418-9388

Access code: 2334 080 1424

Comments will be accepted using the DNREC Comment form, via email, or by USPS mail as noted on the hearing event page (de.gov/dnrechearings)

INTRODUCTION

- Sussex County Council is currently authorized to operate and maintain the Inland Bays Regional Wastewater Treatment Facility (IBRWTF), under State Permit 359141-05
- Sussex County is proposing a Phase 2 Upgrade and Expansion Project for the facility
 - Phase 1 occurred in 2010 when the wastewater treatment facility was upgraded to include a Biological Nutrient Removal Treatment Process
- The County's application materials for the proposed Phase 2 Construction Project will result in the following improvements:
 - Upgrade of the facility to increase/improve influent/effluent treatment and disposal capacity
 - Expand the number of disposal fields
 - Construct a wetland for a nutrient reduction demonstration and research project
 - Distribute treated wastewater to farmers for beneficial reuse
- The purpose of this presentation is to provide an overview of the Application, and if approved, the proposed Construction and Operations Permits

Current Phase 1 Operations Permit






State Permit 359141-05

- The facility is currently permitted to receive wastewater from Sussex County's wastewater service areas for treatment and disposal via spray irrigation
- The average daily flow of treated effluent received at the current facility is 1.5 million gallons per day (MGD) with a peak flow of 2.0 MGD
- Treated wastewater (effluent) is stored in one 39 million gallon and one 32 million gallon synthetically lined lagoons prior to being discharged via spray irrigation to approximately 432.5 acres of County-owned agricultural fields located around the wastewater treatment facility
- The disposal system's current design capacity is 2.65 MGD
- The permit includes effluent limitations, operational, monitoring, and reporting requirements designed to protect human health and the environment

Current Facility Site Map



Legend

-  Observation Wells
-  Monitoring Wells
-  Required Observation Well
-  Required Lysimeter
-  Lysimeter

Application for Phase 2 Construction Permit

- Proposed construction activities associated with the upgrades and expansion of the wastewater treatment and disposal system include:
 - New Screening and Grit Facilities
 - New Aeration Lagoon Distribution Box
 - Expansion of the Biolac Aeration Lagoon Treatment System
 - Two New Clarifiers
 - Expanded Pump and Blower Building
 - Expanded Sludge Pumping Building
 - New Effluent Filtration Facility, Pump Station, and Effluent Distribution Infrastructure
 - Expansion of County-owned forested lands
- The upgrade and expansion project is designed to increase the facility's treatment capacity to 3.0 MGD on an annual average basis or 4.0 MGD on a maximum monthly basis and the facility's disposal capacity to 6.94 MGD

Application for Phase 2 Construction Permit

- Expand infrastructure allowing the distribution of treated wastewater (effluent) to area farmers for beneficial use
- Submerged Gravel Wetland Research and Demonstration Project
 - Designed to research and demonstrate the effectiveness of constructed wetland systems to remove nutrients for the remediation local groundwater resources, improve wastewater quality prior to disposal, and serve as an innovative alternative to treated wastewater storage

Draft Phase 2 Construction Permit AND Draft Operations Permit Renewal/Modification

- If approved, the proposed Construction Permit and Operations Permit Renewal/Modification would be issued in accordance with the provisions of 7 Del. C. §6003 and 7 Del. Admin. C. §7101 *Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems*
- The permits would include effluent limitations, operational, monitoring and reporting requirements, and other conditions designed to ensure the protection of public health and the environment

The Draft Construction Permit Proposes the Following Requirements

- The Permittee is required to notify the Department of the intent to initiate construction at least fifteen days prior to commencement
- All systems shall be constructed/installed by a DNREC licensed Class E.4 system contractor and the design engineer shall periodically review the construction work to ensure compliance with design specifications
- Proper construction or installation of the components of the treatment and disposal system shall be certified in writing by the design engineer and the manufacturer's representative prior to startup of the wastewater treatment facility
- DNREC staff are authorized to perform inspections during construction activities and perform a final inspection and system test upon completion of construction activities

The Draft Construction Permit Proposes the Following Requirements

- Upon completion of construction, the Permittee shall provide the Department with the following items:
 - Design Engineer Inspection Report certifying the treatment and disposal system was constructed in accordance with the approved Design Engineer Report, Plans and Technical Specifications
 - Wastewater Treatment and Disposal System As-Builts
 - An amended Operation and Maintenance (O&M) Plan for the Facility

Draft Operations Permit Renewal/Modification

- If approved, upon completion of the proposed wastewater treatment and disposal system authorized by Construction Permit, submission of all required reports and other documentation, and upon receiving written approval from the Department, the IBRWTF will be authorized to receive and treat wastewater from within Sussex County's service territories
- This requires the current Operations Permit to be renewed and modified to delineate requirements during Phase 1 as well as Phase 2 operations
 - The proposed permit renews the IBRWTF current operations allowing it to receive and treat up to 2.0 MGD of wastewater from Sussex County's wastewater service territories. Treated wastewater (effluent) is stored prior to being discharged to 432.5 acres of County-owned agricultural fields via eight center pivot spray irrigation systems.
 - The proposed permit will also allow the IBRWTF to operate the upgraded and expanded facilities (increasing the facility's total treatment and disposal capacities) and discharge treated wastewater (effluent) to the new County-owned agricultural fields, distribute effluent to area farmers for beneficial reuse, and discharge effluent to the constructed wetland project

Draft Operations Permit Renewal/Modification Proposes the Following Requirements

- Influent Limitations
 - Phase 1: 2.0 MGD
 - Phase 2: 3.0 MGD (annual average basis) or 4.0 MGD (maximum monthly basis)
- Effluent Limitations
 - Phase 1 and Phase 2 requires treated wastewater to meet 10 mg/L total nitrogen
 - Total Nitrogen Contingency Plan Requirements for Failure to meet Total Nitrogen Limit
 - Phase 1 Disposal Capacity: 2.65 MGD
 - Phase 2 requires treated wastewater to meet 8.0 mg/L total phosphorus
 - Phase 2 Disposal Capacity: 2.94 MGD
- Phase 1 and Phase 2 Water Quality Requirements
 - The Chloride concentration of the effluent shall not exceed 250 mg/L on an average annual basis.
 - The Sodium concentration of the effluent shall not exceed 210 mg/L on an average annual basis.

Draft Operations Permit Renewal/Modification Proposes the Following Requirements

- Phase 1 Public Access Water Quality Criteria

Parameter	Daily Permissible Average Concentration
BOD ₅	50.0 mg/L
Fecal Coliform	200 colonies/100 mL
Total Suspended Solids	50 mg/L

- Phase 2 Public Access Water Quality Criteria

Parameter	Daily Permissible Average Concentration
BOD ₅	10.0 mg/L
Fecal Coliform	20 colonies/100 mL
Total Suspended Solids	10 mg/L
Turbidity	5 NTU



Draft Operations Permit Renewal/Modification Proposes the Following Requirements

- Phase 1 and Phase 2 Spray Requirements
 - The effluent discharge to the spray irrigation fields shall be free from material such as floating solids, sludge deposits, debris, scum, oil, and grease.
 - The monthly quantity of effluent discharged may not exceed hydraulic loading assimilative capabilities of the fields.
 - There shall be sufficient rest periods between applications to prevent field saturation and runoff from occurring in any part of the field.
- Monitoring and Reporting Requirements
 - Quarterly Groundwater Monitoring Well Sampling (45 wells monitoring the discharge)
 - Quarterly Lysimeter Sampling
 - Yearly Soil Sampling (including metals)
 - Yearly Vegetative Analysis
 - Submission of Monthly Discharge Reports (DMRs) and an Annual Report
- The facility will continue to be under the direction of a Class IV Licensed Operator in Direct Responsible Charge of the facility

Conclusions

- Sussex County's Phase 2 construction application materials received by the Department
 - Consists of proposals to upgrade and expand the IBRWTF to increase treatment and disposal capacity including the addition of new spray fields for disposal, construct infrastructure to distribute treated wastewater to farmers, and a constructed wetland research and demonstration project
- If approved, the Department would issue a Construction Permit and an Operations Permit Renewal/Modification
 - Construction Permit will ensure proper construction, installation, and documentation of all new systems and equipment
 - The Operations Permit will renew current operations and authorize future operations (following construction activities) and will include effluent limitations (including several more restrictive limits), operational, monitoring and reporting requirements, and contingency plans designed to protect public health and the environment

Public Hearing Exhibits

- Exhibit 1: DNREC On-Site Regulations and Guidance Documents – January 11, 2014
- Exhibits 2-7: Sussex County's Phase 2 Upgrades Application Package
- Exhibit 8: Sussex County's Application for Renewal of Operation Permit
- Exhibits 9 and 10: Sussex County's Application for the Constructed Wetland Project
- Exhibits 11-14: Sussex County's Application for the Distribution of Treated Wastewater for Agricultural Use
- Exhibit 15: DNREC Draft Construction Permit
- Exhibit 16: DNREC Draft Operations Permit Modification and Renewal
- Exhibit 17: Public Meeting Calendar Notice of the Public Hearing

Public Hearing Exhibits

- Exhibit 18: Virtual Public Hearing Event Page
- Exhibit 19: DNREC Website Public Notice of the Public Hearing
- Exhibit 20: Public Notice of the Public Hearing in the Delaware State News
- Exhibit 21: Public Notice of the Public Hearing in the News Journal
- Exhibit 22: DNREC Operations Permit 359141-05
- Exhibit 23: DNREC Presentation



DNREC Virtual Public Hearing

**SUSSEX COUNTY COUNCIL PERMITS FOR THE INLAND BAYS WASTEWATER TREATMENT FACILITY (IBWTF)
(Docket #2022-P-W-0008)**

Thank you for joining us. We will accept comments on this matter through **XXXX**, 2022.

Comments may be submitted in writing

via [DNREC Comment form](https://dnrec.alpha.delaware.gov/public-hearings/comment-form/) - <https://dnrec.alpha.delaware.gov/public-hearings/comment-form/>

via [email](mailto:DNRECHearingComments@delaware.gov)- DNRECHearingComments@delaware.gov

or by USPS mail:

Lisa A. Vest, Hearing Officer

DNREC – Office of the Secretary

89 Kings Highway, Dover, DE 19901

The full verbatim transcript will be posted when it becomes available.

For more information, find the event page for this hearing on the DNREC Public Hearings page

dnrec.alpha.delaware.gov/public-hearings/