AUTHORIZATION TO OPERATE AND DISCHARGE UNDER THE LAWS OF THE STATE OF DELAWARE

PERMITTEE: Sussex County Council
P.O. Box 589
Georgetown, DE 19947

FACILITY: Inland Bays Regional Wastewater Treatment Facility (IBRWTF)
Located at 29445 Inland Bay Rd, Millsboro, DE 19966 near the north side of County Road 306, between County Road 307 and 303, Sussex County

DISCHARGES: Spray Irrigation, Rapid Infiltration Basins (RIBs), Distribution, and Constructed Submerged Gravel Wetland System [upon Department approval]

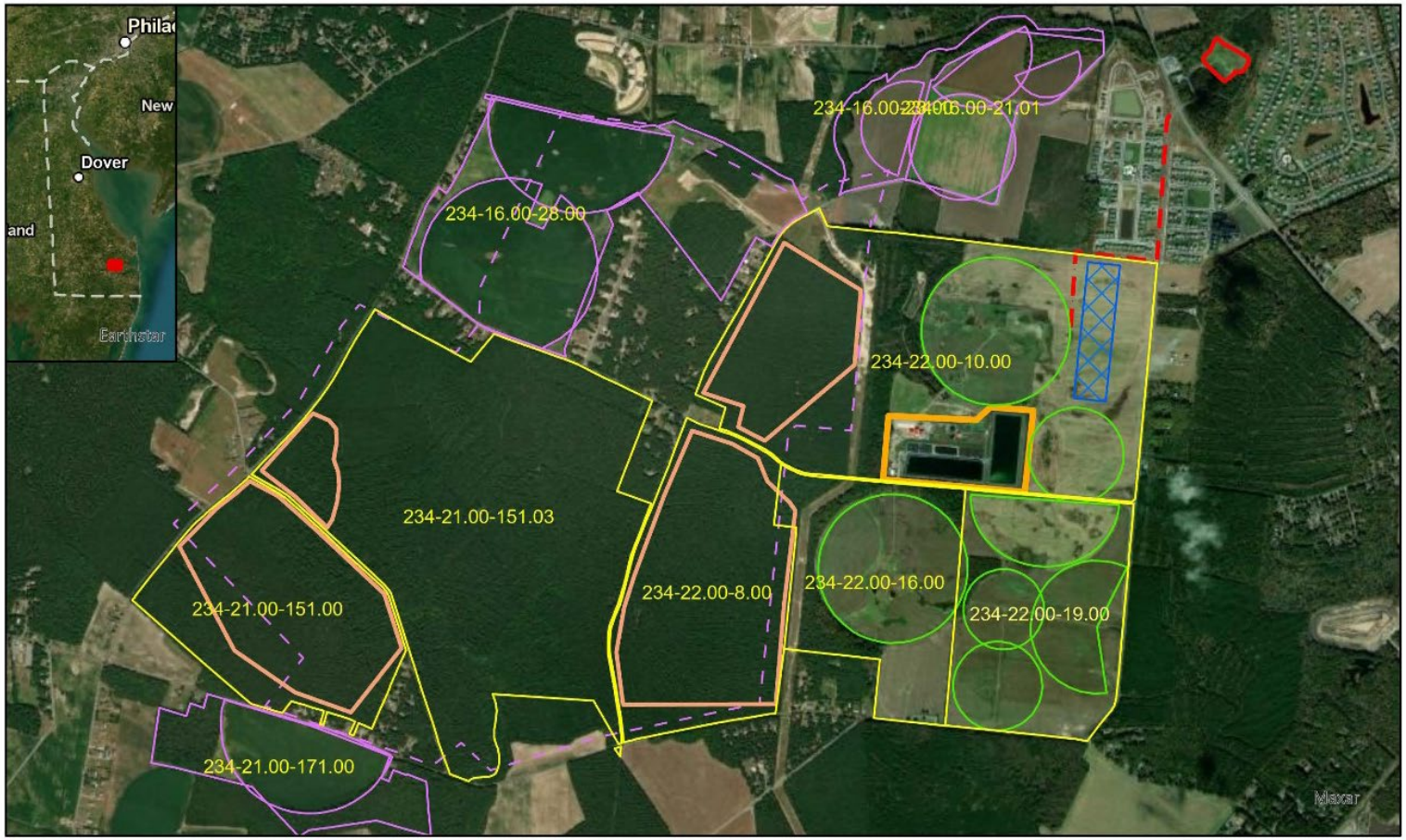
1. The Delaware Department of Natural Resources and Environmental Control (the Department or DNREC) issues this Operations Permit Renewal and Modification (Permit No. 000000-00) to the Sussex County Council (the Permittee or the County) pursuant to the provisions of 7 Del. C. §6003 and 7 Del. Admin. C. §7101 *Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems* (the Regulations).

2. The Department's purpose in issuing this Operations Permit Renewal and Modification (this Permit) and in imposing the conditions and requirements specified herein, is to ensure that all systems and discharges at the Inland Bays Regional Wastewater Treatment Facility (IBRWTF) are operated and maintained so as not to create a public health hazard or cause water pollution. It is the responsibility of the Permittee to comply with the terms and conditions of this Permit. Effluent limitations, operational and monitoring requirements, and other conditions are set forth herein.

_____ _____

John J. Rebar, Jr. Date Signed
Environmental Program Manager II
Division of Water
Delaware Department of Natural Resources
and Environmental Control

Inland Bays RWTF - Site Map



Legend

- Spray Irrigation Pivots
- Parcels Distribution
- Parcels Existing and ABCD
- Distribution Piping
- Constructed Wetlands
- Stonewater Creek
- Fields ABCD Spray Areas

N
W
E
S

0 500 1,000 2,000 3,000 4,000
Feet

North Field - Site Map

Legend

- Lysimeters
- Observation Wells
- Monitoring Wells
- Distrubution Site Pivots
- Spray Irrigation Pivots
- Parcels Existing and ABCD
- Parcels Distribution
- Distribution Piping
- Constructed Wetlands
- Stonewater Creek
- Fields ABCD Spray Areas

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0 205410 820 1,230 1,640
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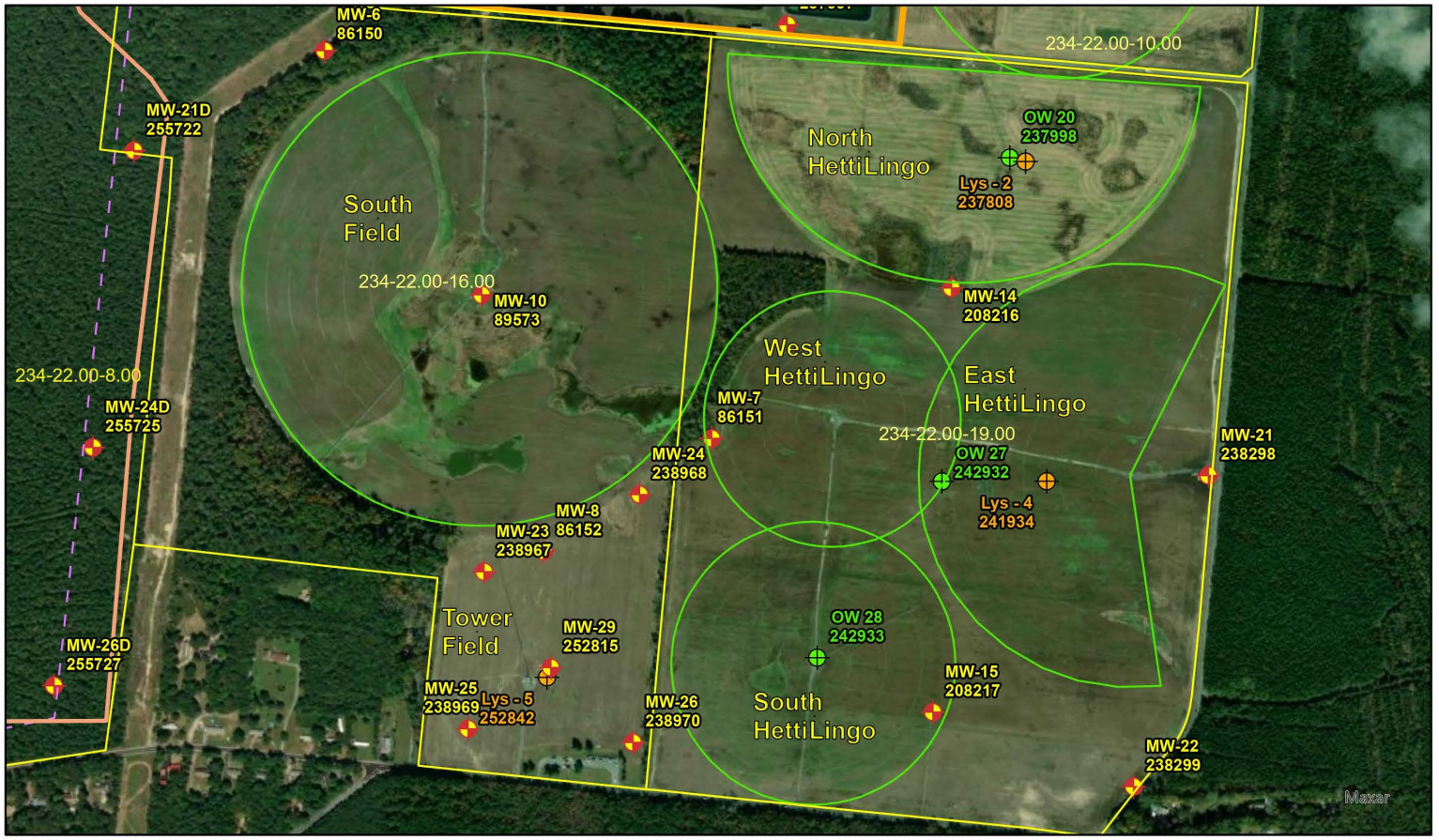
South Field and Hettie Lingo Fields - Site Map



Legend

- Lysimeters
- Observation Wells
- Monitoring Wells
- Distrubution Site Pivots
- Spray Irrigation Pivots
- Parcels Existing and ABCD
- Parcels Distribution
- Distribution Piping
- Constructed Wetlands
- Stonewater Creek
- Fields ABCD Spray Areas

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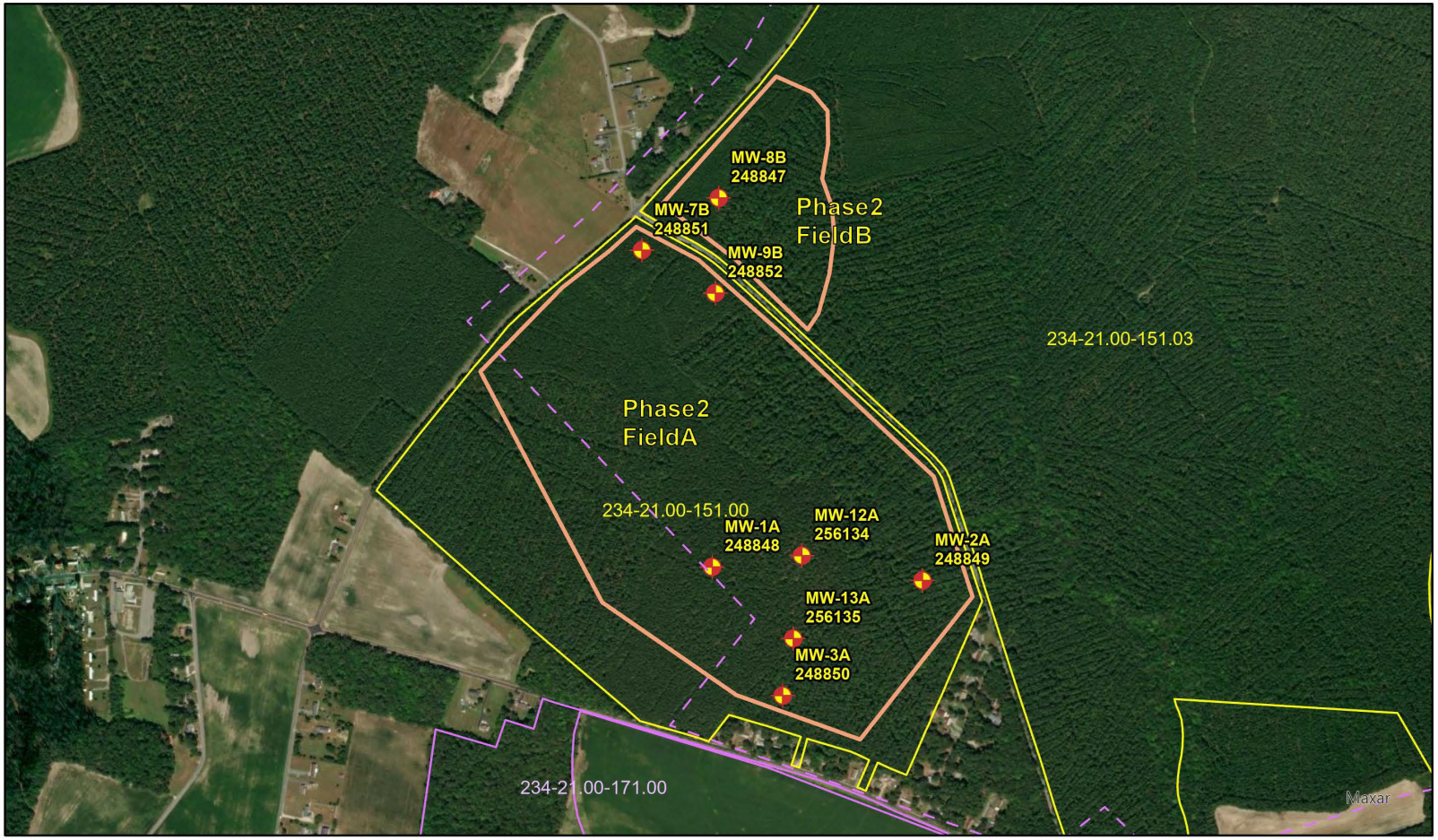
0 165330 660 990 1,320
Feet

Phase 2 Fields A and B - Site Map



Legend

- Lysimeters
- Observation Wells
- Monitoring Wells
- Distrubution Site Pivots
- Spray Irrigation Pivots
- Parcels Existing and ABCD
- Parcels Distribution
- Distribution Piping
- Constructed Wetlands
- Stonewater Creek
- Fields ABCD Spray Areas

N
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0 240480 960 1,440 1,920
Feet

Phase 2 Field C - Site Map

Legend

- Lysimeters
- Observation Wells
- Monitoring Wells
- Distrubution Site Pivots
- Spray Irrigation Pivots
- Parcels Existing and ABCD
- Parcels Distribution
- Distribution Piping
- Constructed Wetlands
- Stonewater Creek
- Fields ABCD Spray Areas

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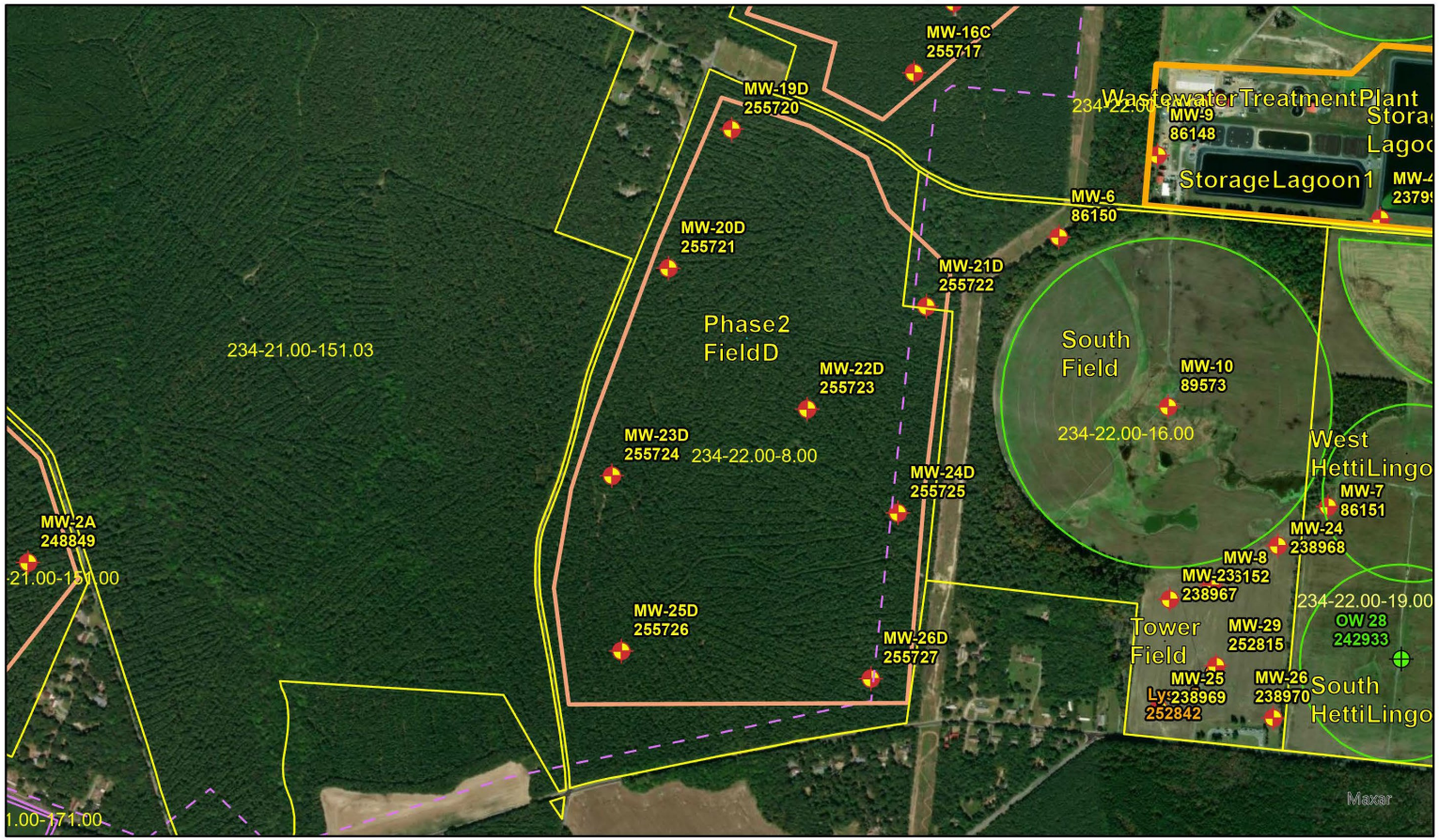
0 155310 620 930 1,240 Feet

Phase 2 Field D - Site Map



Legend

- Lysimeters
- Observation Wells
- Monitoring Wells
- Distrubution Site Pivots
- Spray Irrigation Pivots
- Parcels Existing and ABCD
- Parcels Distribution
- Distribution Piping
- Constructed Wetlands
- Stonewater Creek
- Fields ABCD Spray Areas

N W E S

0 240480 960 1,440 1,920 Feet

PART I

A. DESCRIPTION OF OPERATIONS AND DISCHARGES

Pursuant to 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 Regulations), the Sussex County Council (the Permittee or the County) is herein authorized to operate and maintain the Inland Bays Regional Wastewater Treatment Facility (IBRWTF or the facility) to serve as a regional on-site wastewater treatment and disposal system (OWTDS) meeting the existing and future wastewater treatment and disposal needs of Sussex County's service territories in southern Delaware. The facility's operations are divided into multiple Phases. See Map Page 2.

Phase 1 Operations

The IBRWTF is currently authorized to receive and treat up to 2.0 million gallons per day (MGD) of wastewater from Sussex County's wastewater service territories. The current system consists of influent headworks for screening and grit removal, two Biolac aeration lagoons for biological nutrient removal (BNR), two secondary clarifiers, one chlorine contact tank for disinfection, and two treated wastewater (effluent) storage lagoons. The facility's biosolids handling system includes three waste solids holding lagoons (one of which also serves as an overflow lagoon) and a belt filter press for sludge dewatering.

Phase 1 Discharges

Treated wastewater (effluent) is currently stored in one 39 MG lagoon and one 32 MG lagoon prior to being discharged to 432.5 acres of County-owned agricultural fields via eight center pivot spray irrigation systems. The disposal system's current design capacity is 2.65 MGD. See Maps Page 3 and Page 4.

Table 1. Phase 1 Spray Fields

WETTED FIELD AREA	WETTED ACRES	Parcel Number	Rate (inches/ week)	Disposal Capacity (MGD)
North Field	103	234-22.00-10.00	1.86	0.73
South Field	103	234-22.00-16.00	1.86	0.73
North Burton Field[1]	52	234-22.00-10.00	1.5	0.3
South Burton Field	41.9	234-22.00-10.00	1.0	0.18
North Hettie-Lingo Field	47.5	234-22.00-19.00	1.0	0.18
South Hettie-Lingo Field	30.48	234-22.00-19.00	2.0	0.24
East Hettie-Lingo Field	34.46	234-22.00-19.00	1.0	0.13
West Hettie-Lingo Field	20.16	234-22.00-19.00	2.0	0.16

In addition, Phase 1 under this Permit, authorizes the IBRWTF to receive and transfer wastewater from the County-owned and Artesian Wastewater Management Inc. owned wastewater treatment facilities (upon Department approval) for additional treatment and/or disposal via Spray Irrigation or Rapid Infiltration Basins (RIBs).

[1] North Burton Field has been taken offline

Phase 1 Reference Drawings:

Process Flow Schematic Drawing M00.02, As-builts dated June 2012
Wastewater Treatment Facility Drawing C00-03, As-Builts dated June 2012
Sludge Process Flow Schematic Drawing M00.02, As-builts dated August 11, 2016
Spray Irrigation Discharge Areas Drawing C-2, Drawings dated October 2012

Phase 2 Operations

Upon completion of the upgrade and expansion project authorized by Construction Permit No. 000000-00, and upon receiving written approval from the Department, the IBRWTF will be authorized to receive and treat up to 3.0 MGD of wastewater on an annual average basis or 4.0 MGD on a maximum monthly basis. The upgraded and expanded IBRWTF will consist of headworks with two new mechanical screens and a new grit removal system, four [2 new] Biolac aeration lagoons for BNR, four [2 new] secondary clarifiers, a new filtration system, one chlorine contact tank for disinfection, and two treated wastewater (effluent) storage lagoons consisting of a combined capacity of 135 MG.

In addition, IBRWTF will utilize an expanded biosolids handling system designed to allow the facility to receive biosolids from other Sussex County wastewater treatment facilities, the Rehoboth Beach wastewater treatment plant (WWTP), the Lewes WWTP, Seaford WWTP, and other WWTPs upon Department approval. The facility's biosolids system will include two waste solids holding lagoons, a belt filter press for sludge dewatering, an indirect paddle-type drying unit and areas/facilities for loading and unloading sludge. The facility will also utilize a new regional septage receiving station with dual preliminary treatment units.

Phase 2 Discharges

Upon completion of the upgrade and expansion project authorized by Construction Permit No. 000000-00, and upon receiving written approval from the Department, the Permittee shall be authorized by this Permit to discharge treated wastewater (effluent) to approximately 442.9 acres of new County-owned wooded land (total area and 347.9 wetted acres) divided into four spray disposal fields: Area A and B (south and north of Lawson Rd), and Area C and D (north and south of Inland Bays Rd). Effluent from the two storage lagoons will be land applied utilizing fixed-head spray irrigation systems. Upon completion of the upgrade and expansion project the disposal system's design capacity will be 6.64 MGD. See Maps Page 4, Page 5, Page 6, and Page 7.

Table 2. Phase 2 Spray Disposal Fields

WETTED FIELD AREA	WETTED ACRES	Parcel Number	Rate (inches/ week)	Disposal Capacity (MGD)
Field 'A'	117.7	234-21.00-151.00	2.5	1.45
Field 'B'	10.3	234-21.00-151.03	2.5	0.13
Field 'C'	70.7	234-22.00-10.00	2.5	0.87
Field 'D'	149.2	234-22.00-8.00	2.5	1.84

In addition, Phase 2 under this Permit, authorizes the IBRWTF to distribute treated wastewater (effluent) to farmers for irrigation of agricultural fields for beneficial reuse in accordance with Section 6.11 of the Regulations (see Part III of this Permit). See Map Page 4.

Table 3. Phase 2 Agricultural Fields Receiving Distributed Treated Wastewater

Owner	Farmer	Site/Irrigated Acres	Tax Map Number	Zoning
Hollyville Farms, LLC	Hollyville Farms, LLC, 17420 Minos Conaway Road, Lewes DE 19958	Whittington Estates 65 Acres	234-21.00-171.00	AR-1-Agricultural / Residential
Sussex County	M&M Farms, LLC, 15046 Gravel Hill Road, Milton, DE 19968	14411 Hollyville Rd 210 Acres	234-16.00-28.00	AR-1-Agricultural / Residential
Sussex County	Double H Farm, LLC, 32740 Webbs Landing Road, Lewes, DE 19958	North Townsend Rd 35.5 Acres	234-16.00-23.00	AR-1-Agricultural / Residential
Double H Farm, LLC	Double H Farm, LLC, 32740 Webbs Landing Road, Lewes, DE 19958	24458 Townsend Rd 62.5 Acres	234-16.00-21.01	AR-1-Agricultural / Residential

Also, as part of Phase 2, this Permit authorizes the flow of treated wastewater (effluent) to a constructed submerged gravel wetland system as a demonstration and research project. The wetland project is designed to evaluate the effectiveness of constructed wetland systems to serve as an innovative alternative to treated wastewater storage in lagoons, provide an enhanced treated wastewater disposal option, and remediate local groundwater resources. The discharge of treated wastewater (effluent) to the wetland system will only occur after pilot testing utilizing groundwater and Department approval. The approval will detail the specifics of how the County will be allowed to operate the wetland system and the pilot study will inform if the wetland system will be fully permitted in the future for treated wastewater use. The constructed submerged gravel wetland system will be located on North Burton Field, Parcel Number: 234-22.00-10.00. See Map Page 4.

Phase 1 operations and discharges will continue to be authorized under Phase 2.

Phase 2 Reference Drawings

Process Flow Schematic Drawing M00.02, submittal dated October 24, 2022
Wastewater Treatment Facility Drawing, submittal dated October 24, 2022
Spray Irrigation Discharge Areas Drawings, submittal dated October 24, 2022

B. DOCUMENTATION

The application consists of the materials submitted by the Permittee and materials contained in the administrative record prior to the issuance of this Permit. This includes documents associated with the Phase 1 construction and operation of the IBRWTF.

1. Documentation associated with the Phase 2 construction of IBRWTF.
    a. February 25, 2017, Soil Investigation Report (SIR) for Spray Expansion Project. Prepared by Accent Environmental, LLC. Revised May 2017.
        i. May 2017 SIR Revisions Appendix B2, C2 and Site Map of Area A1.
        ii. May 19, 2017, DNREC SIR Approval.
    b. December 6, 2018, DNREC Application Form and Legal Notice Fee.
    c. January 11, 2019, Hydrogeologic Report (HSR) for Spray Expansion Project dated October 26, 2017. Prepared by: Whitman, Requardt & Associates, LLP (WRA).
    d. January 31, 2019, Surface Water Assessment Report (SWAR) for Inland Bays Regional Wastewater Facilities Sussex County, Delaware, dated January 28, 2019. Prepared by WRA.
    e. July 17, 2019, Design Engineering Report for the Phase 2 Upgrade and Expansion Project for Inland Bays Regional Wastewater Facilities Sussex County, Delaware, dated July 12, 2019. Prepared by: WRA.
        i. Drawings titled Inland Bays Regional Wastewater Facility Phase 2 Expansion Contract S19-10 100% Submittal. Signed by the County Engineer on January 7, 2019.
        ii. Project Specification Contract S19-10 Inland Bays Regional Wastewater Facility: Phase #2 Expansion, December 2018, Final for Bid, Volume I of II. Signed by the County Engineer on January 7, 2019.
        iii. Project Specification Contract S19-10 Inland Bays Regional Wastewater Facility: Phase #2 Expansion, December 2018, Final for Bid, Volume II of II. Signed by the County Engineer on January 7, 2019.
    f. March 20, 2020, Two WPCC Applications for Distribution Loop. Prepared by WRA.
    g. August 03, 2020, DNREC Letter Requesting Additional Information.
    h. October 22, 2020, Revised Design Engineering Report for the Phase 2 Upgrade and Expansion Project for the Inland Bays Regional Wastewater Facilities in Sussex County, Delaware, dated October 2020. Prepared by WRA.
        i. Nitrogen and Water Balance 2020_09_28A.
        ii. Nitrogen and Water Balance 2020_09_28B.
        iii. IBRWF Phase 2 Summary of Design Parameters.
    i. December 11, 2020, Revised Drawings Titled Inland Bays Regional Wastewater Facility Phase 2 Expansion Contract S19-10 100% Submittal, dated October 2020. Signed by David Ronald Nixson, P.E. 11/04/2020.
    j. December 17, 2020, Effluent Disposal Expansion Construction Plans. Prepared by WRA.
    k. February 24, 2021, Design Engineer Report for Distribution of Treated Wastewater for Agricultural Use. Prepared by WRA.
    l. January 28, 2022, Hydrogeologic Report for Submerged Gravel Wetland. Prepared by John A. Mayhut, PG with RK&K.
        i. Hydrogeologic Report Appendices.
    m. April 18, 2022, Submerged Gravel Wetland Construction Plans. Prepared by RK&K.
    n. October 21, 2022, Sussex County Council's response to Department's request for Additional Information dated August 24, 2022.

2. Documentation associated with the Phase 2 Operation of IBRWTF.
    a. May 12, 2017, Application for Renewal and 5-Year Compliance Monitoring Report (CMR).

C. FACILITY CLASSIFICATION

A classification was performed on the permitted facility in accordance with 7 DE Admin. Code 7204 *Regulations for Licensing Operators of Wastewater Facilities*. The IBRWTF is designated as a Class IV Facility. The facility shall be under the direction of a Class IV Licensed Operator in Direct Responsible Charge (DRC) for the facility who is always available. A licensed operator, operating under the direction of the licensed operator in DRC for the facility, shall also be available when the spray irrigation system is in operation. The Permittee shall notify the Department whenever a new DRC is assigned to this facility.

D. PERMIT LIMITATIONS

Unless specified otherwise, all conditions set forth herein apply to both Phase 1 and Phase 2 Operations.

E. VEGETATIVE MANAGEMENT PLAN - PHASE 1 FIELDS

The spray irrigation fields shall be maintained in accordance with the design Vegetative Management Plan (VMP) and Nitrogen Balances provided in the October 2020 Design Engineer Report; or subsequent Vegetative Management Plans as approved by the Department.

Alternative vegetative coverage may be permitted with written Department approval to address instances of compromised crop growth/density or change in vegetation. Requests shall be submitted to the Department for review and approval; and shall include an update to all applicable items of the VMP in accordance with Section 6.5.1.4.1.7.6.8 of the Regulations.

F. FOREST STEWARDSHIP PLAN - PHASE 2 FIELDS A, B, C and D

1. **Within 60 days of the issuance of this Permit**, the Permittee shall provide the Department with a finalized Forest Stewardship Plan for Fields A, B, C and D following its review by the Department of Agriculture and executed by both party's signature.

2. The Permittee shall maintain a current copy of the Forest Stewardship Plan onsite at the IBRWTF and submit revised plans to the Department as updated.

3. The Permittee shall operate in accordance with the current Forest Stewardship Plan.

G. STORAGE LAGOON RESERVE LAND REQUIREMENTS

As depicted on the October 2020 Drawing C02.01 by Whitman Requardt & Associates, LLP, the Permittee shall maintain a 17.6-acre reserve area for a possible future storage lagoon if the Department deems its construction and operation is necessary.

H. INFLUENT LIMITATIONS

During the period beginning on the effective date of this Permit, the Permittee is authorized to receive and treat the following influent flows specified below:

1. Phase 1: The monthly average volume of influent flowing to the existing wastewater treatment facility shall not exceed 2.0 MGD in any calendar month.

   Volumes shall be calculated as Total Monthly Volume divided by number of days in month.

2. Phase 2: Upon completion of the upgrade and expansion project authorized by Construction Permit No. 000000-00, and upon receiving written approval from the Department, the volume of influent to the existing wastewater treatment facility shall not exceed 3.0 MGD on an annual average basis or 4.0 MGD on a maximum monthly basis.

   Volumes shall be calculated as Total Monthly Volume divided by number of days in month.

I. EFFLUENT LIMITATIONS

During the period beginning on the effective date of this Permit, the Permittee is authorized to discharge to the Phase 1 approved disposal sites in the quantity and quality of effluent specified in this Permit. Upon Department written approval, the Permittee shall be authorized to discharge to the Phase 2 disposal sites in the quantity and quality of effluent specified in this Permit.

1. Effluent Discharges

   Phase 1

   a. Phase 1: The average monthly volume of treated wastewater (effluent) discharged from the wastewater treatment facility to the spray irrigation fields shall not exceed 2.65 MGD in any calendar month.

      Phase 1: The average volume of effluent discharged to the spray irrigation fields shall not exceed the following rate limits (inches per week) in Table 4.

Table 4. Phase 1 Disposal Capacity

Wetted Field Area	Acres	Rate (inches per week)	Effluent Disposal Capacity (MGD)
North Field	103.00	1.86	0.73
South Field	103.00	1.86	0.73
South Burton Field	41.90	1.00	0.18
North Hetti-Lingo Field	47.50	1.00	0.18
South Hetti-Lingo Field	30.48	2.00	0.24
East Hetti-Lingo Field	34.46	1.00	0.13
West Hetti-Lingo Field	20.16	2.50	0.16
Total	432.50		2.65

Phase 2

b. Phase 2 Spray Irrigation Volume Limitation: Upon completion of the upgrade and expansion project authorized by Construction Permit No. 000000-00, and upon receiving written approval from the Department, the average monthly volume of treated wastewater (effluent) discharged from the wastewater treatment facility to the spray irrigation fields shall not exceed 6.64 MGD in any calendar month.

c. Phase 2 Spray Irrigation Rates Limitation: Upon completion of the upgrade and expansion project authorized by Construction Permit No. 000000-00, and upon receiving written approval from the Department, the average volume of effluent discharged to the spray irrigation fields shall not exceed the following rate limits (inches per week) in Table 5.

Table 5 Phase 2 Disposal Capacity

Wetted Field Area	Acres	Rate (inches per week)	Effluent Disposal Capacity (MGD)
North Field	103.00	1.86	0.73
South Field	103.00	1.86	0.73
South Burton Field	41.90	1.00	0.18
North Hetti-Lingo Field	47.50	1.00	0.18
South Hetti-Lingo Field	30.48	2.00	0.24
East Hetti-Lingo Field	34.46	1.00	0.13
West Hetti-Lingo Field	20.16	2.50	0.16
Field A (south of Lawson Rd)	117.7	2.50	1.45
Field B (north of Lawson Rd)	10.3	2.50	0.13
Field C (north of Inland Bays Rd)	70.7	2.50	0.87
Field D (south of Inland Bays Rd)	149.2	2.50	1.84
Total	780.4		6.64

Phase 1 and 2

d. The monthly quantity of effluent discharged shall not exceed hydraulic loading assimilative capabilities of the fields.

e. There shall be sufficient rest periods between applications to prevent field saturation and runoff from occurring in any part of the field.

f. The quantity of effluent discharged to any portion of the spray irrigation field shall not exceed 0.25 inch/acre/hour.

g. If the system has a partial circle center pivot, there shall be a minimum one-hour rest period when the center pivot reaches any in-field end stops if the instantaneous application rate exceeds a rate of 0.125 inch/acre in any one hour.

h. The effluent discharge to the spray irrigation fields shall be free from material such as floating solids, sludge deposits, debris, scum, oil, and grease.

2. Effluent Total Nitrogen Concentration

a. Phase 1 and 2: Treated wastewater (effluent) discharged from the wastewater treatment system shall not exceed the following maximum total nitrogen concentration limitation at any time.

Total Nitrogen: 10 mg/L

During construction activities associated with the Phase 2 upgrades to the wastewater treatment system, if for any reason the Permittee anticipates it will be unable to comply with, the effluent total nitrogen concentration specified in this Permit, the Permittee shall provide the Department with the following information in writing.

1) A description of the activity and/or cause of the issue anticipated to impact the ability for the treatment system to meet the effluent total nitrogen concentration.
2) A construction schedule reasonably estimating the times when the facility is anticipated to not meet the effluent total nitrogen concentration. The schedule shall be approved by the Department prior to construction activities.
3) The Permittee shall incorporate the elevated effluent total nitrogen concentrations into design nitrogen balances to calculate reduced loading rates that will not cause the percolate to exceed drinking water standards for Nitrates for the authorized spray fields. Calculations shall be performed and submitted monthly to the Department for each month total nitrogen concentrations exceed 10 mg/L. Volumes irrigated shall not exceed the calculated reduced loading rates for the month.
4) Upon Department notification, the Permittee shall cease discharges to rapid infiltration basins (RIBs), the constructed submerged gravel wetland system, and the agricultural fields authorized to receive effluent for beneficial reuse in accordance with Section 6.11 of the Regulations.

During scheduled and approved construction activities to the wastewater treatment system, elevated total nitrogen concentrations will not be considered a violation of the effluent total nitrogen concentration limit specified in this Permit if the above protocol is followed.

3. Effluent Total Nitrogen Limitation Contingency Plan

Phase 1 and 2

If analytical results of a treated wastewater sample indicate an exceedance of the Total Nitrogen limitation of 10 mg/L set by Part I.I.2 of this Permit, the Permittee shall collect and analyze a second sample within 24 hours of becoming aware of the original exceedance. If the second sample results indicate that the maximum Total Nitrogen limitation is continuing to be exceeded, the following contingency plan shall be enacted.

a) The Permittee shall notify the Department within 24-hours after becoming aware of the second exceedance and submit a copy of all analytical results indicating the exceedances.
b) The Permittee shall cease discharging to RIBs, the constructed submerged gravel wetland system, and the agricultural fields authorized to receive effluent for beneficial reuse in accordance with Section 6.11 of the Regulations.
c) The Permittee shall increase the frequency of Total Nitrogen treated wastewater sampling to twice per week (at a minimum) and submit weekly results to the Department.

d) The Permittee shall examine the operation and maintenance log, required to be maintained by this Permit, for any possible improper operational procedures.
e) The Permittee shall conduct a physical inspection of the treatment system to detect abnormalities. Any abnormalities discovered shall be corrected. A report detailing the corrections made shall be submitted to the Department within 30 days of correction.
f) The Permittee shall incorporate the elevated effluent total nitrogen concentrations into design nitrogen balances to calculate reduced loading rates that will not cause the percolate to exceed drinking water standards for Nitrates for the authorized spray disposal fields. Calculations shall be performed and submitted monthly to the Department for each month total nitrogen concentrations exceed 10 mg/L. Volumes irrigated shall not exceed the calculated reduced loading rates for the month.

When analytical results from three consecutive weeks of wastewater sampling do not exceed the limitation, the Permittee is authorized to return to a twice per month monitoring frequency and resume discharge to approved disposal outlets.

If the facility is required to enact this contingency plan more than four times in a 12-month period, the Permittee shall have the system evaluated to determine the cause of the elevated total nitrogen concentrations and submit a revised Design Engineer Report with proposed corrective actions to achieve a maximum total nitrogen concentration of 10 mg/L that bears the seal and signature of a Class C licensed Delaware Professional Engineer to the Department. The report shall be submitted within one year of the fourth notification of the contingency plan being enacted. The Permittee shall initiate implementation of the plan within 90 days following approval by the Department.

4. Effluent Total Phosphorous Concentration

a. Phase 1 and 2: Treated wastewater (effluent) discharged from the wastewater treatment system shall not exceed the following maximum total phosphorous concentration limitation at any time.

Total Phosphorous: 8 mg/L

During construction activities associated with the Phase 2 upgrades to the wastewater treatment system, if for any reason the Permittee anticipates it will be unable to comply with, the effluent total phosphorous concentration specified in this Permit, the Permittee shall provide the Department with the following information in writing.

1) A description of the activity and/or cause of the issue anticipated to impact the ability for the treatment system to meet the effluent total phosphorous concentration.
2) A construction schedule reasonably estimating the times when the facility is anticipated to not meet the effluent total phosphorous concentration. The schedule shall be approved by the Department prior to construction activities.
3) Upon Department notification, the Permittee shall cease discharges to rapid infiltration basins (RIBs), the constructed submerged gravel wetland system, and the agricultural fields authorized to receive effluent for beneficial reuse in accordance with Section 6.11 of the Regulations.

During scheduled and approved construction activities to the wastewater treatment system, elevated total phosphorous concentrations will not be considered a violation of the effluent total phosphorous concentration limit specified in this Permit if the above protocol is followed.

5. Effluent Total Phosphorous Limitation Contingency Plan

   Phase 1 and 2

   If analytical results of a treated wastewater sample indicate an exceedance of the Total Phosphorous limitation of 8 mg/L set by Part I.I.4 of this Permit, the Permittee shall collect and analyze a second sample within 24 hours of becoming aware of the original exceedance. If the second sample results indicate that the maximum Total Phosphorous limitation is continuing to be exceeded, the following contingency plan shall be enacted.

   g) The Permittee shall notify the Department within 24-hours after becoming aware of the second exceedance and submit a copy of all analytical results indicating the exceedances.
   h) The Permittee shall cease discharging to RIBs, the constructed submerged gravel wetland system, and the agricultural fields authorized to receive effluent for beneficial reuse in accordance with Section 6.11 of the Regulations.
   i) The Permittee shall increase the frequency of Total Phosphorous treated wastewater sampling to twice per week (at a minimum) and submit weekly results to the Department.
   j) The Permittee shall examine the operation and maintenance log, required to be maintained by this Permit, for any possible improper operational procedures.
   k) The Permittee shall conduct a physical inspection of the treatment system to detect abnormalities. Any abnormalities discovered shall be corrected. A report detailing the corrections made shall be submitted to the Department within 30 days of correction.

   When analytical results from three consecutive weeks of wastewater sampling do not exceed the limitation, the Permittee is authorized to return to a once per month monitoring frequency and resume discharge to approved disposal outlets.

   If the facility is required to enact this contingency plan more than four times in a 12-month period, the Permittee shall have the system evaluated to determine the cause of the elevated total phosphorous concentrations and submit a revised Design Engineer Report with proposed corrective actions to achieve a maximum total phosphorous concentration of 8 mg/L that bears the seal and signature of a Class C licensed Delaware Professional Engineer to the Department. The report shall be submitted within one year of the fourth notification of the contingency plan being enacted. The Permittee shall initiate implementation of the plan within 90 days following approval by the Department.

6. The pH of the effluent shall not be less than 5.5 standard units nor greater than 9.0 standard units.

7. The total residual chlorine concentration shall not be less than 1.0 mg/L nor more than 4.0 mg/L at any time.

8. The Chloride concentration of the effluent shall not exceed 250 mg/L on a rolling 12-month average. The rolling 12-month average shall be calculated by adding the current month's Chloride concentration to the previous eleven (11) month’s Chloride concentrations and dividing the sum by the number of samples obtained (i.e., 12 unless sample data was unattainable for any given month). The rolling 12-month average shall be reported to the Department monthly.

   If the rolling 12-month average exceeds the maximum Chloride concentration of 250 mg/L, the Permittee shall notify the Department in accordance with this Permit, examine the facility’s operation and maintenance log for improper operational procedures, conduct a physical inspection of the treatment and disposal system to detect abnormalities, and review monitoring data and other records to determine the cause/source of the Chloride exceedance. The Permittee shall report the finding to the Department with any

proposed modifications to operational procedures or other corrective actions. The Permittee shall implement proposed actions upon approval by the Department.

9. The Sodium concentration of the effluent shall not exceed 210 mg/L on a on a rolling 12-month average. The rolling 12-month average shall be calculated by adding the current month's Sodium concentration to the previous eleven (11) month's Sodium concentrations and dividing the sum by the number of samples obtained (i.e., 12 unless sample data was unattainable for any given month). The rolling 12-month average shall be reported to the Department monthly.

   If the rolling 12-month average exceeds the maximum Sodium concentration of 210 mg/L, the Permittee shall notify the Department in accordance with this Permit, examine the facility's operation and maintenance log for improper operational procedures, conduct a physical inspection of the treatment and disposal system to detect abnormalities, and review monitoring data and other records to determine the cause/source of the Sodium exceedance. The Permittee shall report the finding to the Department with any proposed modifications to operational procedures or other corrective actions. The Permittee shall implement proposed actions upon approval by the Department.

10. Phase 1 Public Access Water Quality Requirements

    The existing wastewater treatment facility has been designed for limited public access. Treated wastewater (effluent) utilized for limited public access sites shall meet the following daily permissible average concentrations. See Table 6.
    a. The 5-day Biochemical Oxygen Demand (BOD_5) of the treated wastewater shall not exceed 50 mg/L.
    b. Disinfection of wastewaters containing domestic waste is required to yield a discharge not to exceed 200 col/100 mL Fecal Coliform.
    c. The treated wastewater shall not contain more than 50 mg/L of Total Suspended Solids (TSS).

    The daily average concentration shall be determined by the summation of all the measured daily concentrations obtained from composite samples divided by the number of days during the calendar month when the measurements were made.

Table 6. Daily Permissible Average Concentrations

Parameter	Daily Permissible Average Concentration
BOD_5	50.0 mg/L
Fecal Coliform	200 colonies/100 mL
Total Suspended Solids	50 mg/L

11. Phase 1 Fecal coliform bacteria Limitation Contingency Plan

    If analytical results of a treated wastewater sample indicate an exceedance of the daily permissible average concentration of fecal coliform bacteria (200 colonies/100 mL), the Permittee shall collect and analyze a second sample within 24 hours of becoming aware of the original exceedance. If the second sample result indicates that the fecal coliform bacteria concentration is exceeding 200 colonies/100 mL, the following contingency plan shall be enacted.
    a. The Permittee shall notify the Department within 24-hours after becoming aware of the second fecal coliform bacteria result and submit a copy of the analytical results.
    b. The Permittee shall cease discharging to the spray irrigation fields.

c. The Permittee shall increase the frequency of fecal coliform bacteria sampling and submit weekly results to the Department.
d. The Permittee shall examine the operation and maintenance log, required to be maintained by this Permit, for any possible improper operational procedures.
e. The Permittee shall conduct a physical inspection of the treatment system to detect abnormalities. Any abnormalities discovered shall be corrected. A report detailing the corrections made shall be submitted to the Department within 30 days of correction.

When analytical results indicate that the daily average concentration limitations for fecal coliform bacteria set by this Permit is no longer being exceeded, the Permittee can reduce additional sampling and resume discharging to the spray irrigation fields.

If a facility is required to enact the contingency plan more than four times in a 12-month period, the Permittee shall have the system evaluated to determine the cause of the elevated fecal coliform bacteria concentrations and submit a revised Design Engineer Report with proposed corrective actions to achieve a maximum fecal coliform bacteria concentration of 200 col/100 mL that bears the seal and signature of a Class C licensed Delaware Professional Engineer to the Department. The report shall be submitted within one year of the fourth notification of the contingency plan being enacted. The Permittee shall initiate implementation of the plan within 90 days following approval by the Department.

12. Phase 2 Public Access Water Quality Requirements

The upgraded and expanded wastewater treatment facility is designed for unlimited public access. Treated wastewater (effluent) utilized for unlimited public access sites shall meet the following daily permissible average concentrations. See Table 7.

a. The 5-day Biochemical Oxygen Demand (BOD_5) of the treated wastewater shall not exceed 10 mg/L.
b. Disinfection of wastewaters containing domestic waste is required to yield a discharge not to exceed 20 col/100 mL Fecal Coliform.
c. The treated wastewater shall not exceed 10 mg/L of Total Suspended Solids (TSS).
d. The treated wastewater shall not exceed a turbidity of 5 NTU.

The daily average concentration shall be determined by the summation of all the measured daily concentrations obtained from composite samples divided by the number of days during the calendar month when the measurements were made.

Table 7. Effluent Limitations for Unlimited Public Access

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

13. Phase 2 Fecal coliform bacteria and Turbidity Limitation Contingency Plan

If analytical results of a treated wastewater sample indicate an exceedance of the daily permissible average concentration of fecal coliform bacteria or turbidity (Table 7), the Permittee shall collect and analyze a second sample within 24 hours of becoming aware of the original exceedance. If the second sample result

indicates that the fecal coliform bacteria concentration is exceeding 20 colonies/100 mL or the turbidity exceeds 5 NTU, the following contingency plan shall be enacted.

a. The Permittee shall notify the Department within 24-hours after becoming aware of the second fecal coliform bacteria or turbidity result and submit a copy of the analytical results.
b. The Permittee shall cease discharging to the constructed submerged gravel wetland system and the agricultural fields authorized to receive effluent for beneficial reuse in accordance with Section 6.11 of the Regulations. The permittee shall also cease discharging to the spray irrigation fields if limited public access criteria are exceeded (Table 6).
c. The Permittee shall increase the frequency of fecal coliform bacteria sampling and submit weekly results to the Department.
d. The Permittee shall examine the operation and maintenance log, required to be maintained by this Permit, for any possible improper operational procedures.
e. The Permittee shall conduct a physical inspection of the treatment system to detect abnormalities. Any abnormalities discovered shall be corrected. A report detailing the corrections made shall be submitted to the Department within 30 days of correction.

When analytical results indicate that the daily average concentration limitations for Fecal coliform bacteria or Turbidity set by this Permit (Table 7) is no longer being exceeded, the Permittee can reduce additional sampling and resume discharge to the constructed submerged gravel wetland system (if authorized to do so), the agricultural fields authorized to receive effluent for beneficial reuse in accordance with Section 6.11 of the Regulations, and the spray fields (if applicable as listed in Table 6).

If a facility is required to enact the contingency plan more than four times in a 12-month period, the Permittee shall have the system evaluated to determine the cause of the elevated fecal coliform bacteria and turbidity concentrations and submit a revised Design Engineer Report with proposed corrective actions to achieve a maximum fecal coliform bacteria concentration of 20 col/100 mL and/or turbidity of 5 NTU that bears the seal and signature of a Class C licensed Delaware Professional Engineer to the Department. The report shall be submitted within one year of the fourth notification of the contingency plan being enacted. The Permittee shall initiate implementation of the plan within 90 days following approval by the Department.

J. BUFFER REQUIREMENTS

1. Phase 1 Buffers

   a. As applicable, a buffer zone of at least 150 feet shall be maintained between the edge of the wetted field area and all highways, individual lots, and property lines.

   b. As applicable, a buffer zone of 50 feet shall be maintained between the wetted edge of the spray field and the edge of any natural wetlands or any perennial lake or stream provided that the buffer zone is maintained in perennial vegetation.

   c. As applicable, a buffer zone of 100 feet shall be maintained between the wetted edge of the spray field and all other areas not previously mentioned in items 1 and 2 of Buffer Requirements.

2. Phase 2 Buffers

   a. As applicable, a 100-foot buffer is required between the wetted edge of spray fields and the edge of any perennial lake or stream or ephemeral drainage.

b. As applicable, a 50-foot buffer is required between spray fields and the edge of any channelized, intermittent watercourse. If an intermittent watercourse were to become perennial, a 100-foot buffer requirement will apply.

K. SLUDGE HANDLING REQUIREMENTS

1. The Permittee shall comply with all existing Federal and State laws and regulations that apply to its sludge use or disposal practice(s) including, but not limited to, Federal Regulations 40 CFR Part 258, Section 28 Liquids Restrictions; 40 CFR Part 503 Standards for the Use and Disposal of Sludge, February, 1993; and the Department's *Guidance and Regulations Governing the Land Treatment of Wastes*, including Part III.B, *Regulations Governing the Use and Disposal of Wastewater Sludge*, October, 1999. If the Department determines that additional requirements or permit conditions are needed to ensure compliance with the referenced regulations, or if the Federal Government promulgates new regulations under Section 405(d) of the Act governing, (a) the treatment or disposal of sewage sludge, (b) sewage sludge management practices, or (c) concentrations of pollutants in sewage sludge, this permit may be reopened, and after notice and opportunity for public hearing, modified accordingly during its term. If the *Guidance and Regulations Governing the Land Treatment of Wastes* or applicable Federal regulations are revised, this Permit may be opened and modified accordingly after notice and opportunity for a public hearing.

2. The land application of Class B Biosolids to the spray disposal fields and agricultural distribution spray fields authorized by this Permit to receive treated wastewater (effluent) is prohibited (unless authorized by the Department).

PART II

A. MONITORING REQUIREMENTS

During the period beginning on the effective date of this Permit, the Permittee shall monitor the facility's operations as specified herein.

All analytical results shall be reported in accordance with Part II.B.2 of this Permit.

Requests for monitoring modifications shall be submitted to the Department's Division of Water in writing. Such requests shall clearly state the reason for and nature of the proposed modification and, where applicable, shall contain supporting scientific information, analysis, and justification. Requests will be addressed by the Department on a case-by-case basis.

1. INFLUENT MONITORING REQUIREMENTS

The Permittee shall sample flows entering the wastewater treatment system. See Table 7.

Table 7. Influent Requirements

Parameter	Unit of Measurement	Monitoring Frequency	Sample Type
Flow	Gallons/Day	Continuous	Recorded
BOD_5	mg/L	Monthly	Grab
TSS	mg/L	Monthly	Grab
Total Nitrogen	mg/L	Monthly	Grab
Ammonia Nitrogen	mg/L	Monthly	Grab
Nitrate/Nitrite as Nitrogen	mg/L	Monthly	Grab
pH	S.U.	Monthly	Grab
Total Phosphorus	mg/L	Monthly	Grab
Chloride	mg/L	Monthly	Grab

2. EFFLUENT MONITORING REQUIREMENTS

Samples taken in compliance with the monitoring requirements for Fecal coliform bacteria, Oil and Grease, Total Dissolved Solids, and Total Residual Chlorine (as needed) shall be collected at the spray irrigation pivot(s). See Table 8.

Samples taken in compliance with the monitoring requirements for pH and all composite sampling shall be collected at the effluent irrigation pump station wet well. Alternative sampling locations can be proposed for Department approval. See Table 8.

Table 8. Effluent Requirements

Parameter	Unit Measurement	Monitoring Frequency	Sample Type
Ammonia Nitrogen	mg/L	Monthly	Composite
BOD_5	mg/L	Twice per month[2]	Composite
Cadmium	mg/L	Annually	Composite
Calcium	mg/L	Annually	Composite
Chloride	mg/L	Quarterly	Composite
Copper	mg/L	Annually	Composite
Effluent Flow	Gal/day	Continuous	Recorded
Fecal Coliform	Col/100 ml	Twice per month[1]	Grab
Lead	mg/L	Annually	Composite
Magnesium	mg/L	Annually	Composite
Nickel	mg/L	Annually	Composite
Nitrate + Nitrite Nitrogen	mg/L	Monthly	Composite
Oil and Grease	mg/L	Monthly	Grab
Organic Nitrogen	mg/L	Monthly	Calculation
pH	S.U.	Daily	Grab
Potassium	mg/L	Quarterly	Composite
Sodium Adsorption Ratio	N/A	Quarterly	Calculation
Sodium	mg/L	Quarterly	Composite
Total Dissolved Solids	mg/L	Quarterly	Grab
Total Nitrogen[1]	mg/L	Twice per month[1]	Composite
Total Nitrogen Loading	lbs/acre	Monthly	Calculation
Total Phosphorus	mg/L	Monthly	Composite
Total Phosphorus Loading	lbs/acre	Monthly	Calculation
Total Residual Chlorine	mg/L	Daily	Grab
Total Suspended Solids	mg/L	Twice per month[1]	Composite
Turbidity	NTU	Daily	Recorded
Zinc	mg/L	Annually	Composite

Additionally, the Permittee shall provide the following information.

Parameter	Unit Measurement	Monitoring Frequency	Sample Type
Total Effluent Flow to all Discharge Points[3] combined	Gallons	Monthly	Data
Max Daily Effluent Flow to all Discharge Points combined	Gallons	Monthly	Data

[2] Samples shall be taken 14 days apart.

[3] Discharge Points include Fields, Zones, Pivots, Wetlands, and RIBs

Average Daily Effluent to all Discharge Points combined	MGD or gpd	Monthly	Calculation (Total Monthly Effluent Flow / Number of Days in Month)
Total Effluent Flow to each Discharge Point	Gallons	Monthly	Data
Number of Days Discharged During the Month to each Discharge Point)	Days	Monthly	Data
Nitrogen Loading Rate to each Discharge Point	lbs/acre	Monthly	Calculation
Cumulative Annual Nitrogen Loading Rate to each Discharge Point	lbs/acre	Monthly	Calculation
Phosphorus Loading Rate to each Discharge Point	lbs/acre	Monthly	Calculation
Cumulative Annual Phosphorus Loading Rate to each Discharge Point	lbs/acre	Monthly	Calculation

3. GROUNDWATER MONITORING REQUIREMENTS

Groundwater samples shall be taken from each monitoring well for the facility.

Samples taken in compliance with the monitoring requirements specified shall be taken at each monitoring well in accordance with procedures approved by the Department.

Groundwater monitoring results for each monitoring well shall be reported using the State of Delaware Well Identification Tag Number that is required on all wells in accordance with the Delaware *Regulations Governing the Construction and Use of Wells*, Section 10 A.

All field sampling logs and laboratory results for samples obtained from a well shall be provided and identified by the DNREC ID affixed to the well.

Groundwater samples shall be tested from the following wells for the following parameters. See Table 9, Table 10, Table 11, and Table 12.

Table 9. Monitoring Wells for the Existing Spray Fields

Local ID	DNREC ID		Local ID	DNREC ID
MW-1	86145		MW-13	208215
MW-2	86146		MW-14	208216
MW-3	237996		MW-15	208217
MW-4	237997		MW-16	228543
MW-5	86153		MW-18	237074
MW-6	86150		MW-21	238298
MW-7	86151		MW-22	238299

MW-8	86152		MW-23	238967
MW-9	86148		MW-24	238968
MW-10	89573		MW-25	238969
MW-11	208213		MW-26	238970
MW-12	208214			

Table 10. Monitoring Wells for the Phase 2 Spray Fields

Spray Site	Local ID	DNREC ID
A	MW-1A	248848
	MW-2A	248849
	MW-3A	248850
	MW-12A	256134
	MW-13A	256135
B	MW-7B	248851
	MW-8B	248847
	MW-9B	248852
C	MW-14C	255715
	MW-15C	255716
	MW-16C	255717
	MW-17C	255718
	MW-18C	255719
D	MW-19D	255720
	MW-20D	255721
	MW-21D	255722
	MW-22D	255723
	MW-23D	255724
	MW-24D	255725
	MW-25D	255726
	MW-26D	255727

Table 11. Monitoring Wells currently associated with the Constructed Submerged Gravel Wetland System

Local ID	DNREC ID
MW-2	86146
MW-12	208214
MW-16	228543

Table 12. Monitoring Well Parameters

Parameter	Unit Measurement	Measurement Frequency	Sample Type
Ammonia as Nitrogen	mg/L	Quarterly	Grab
Arsenic	mg/L	Quarterly	Grab
Chloride	mg/L	Quarterly	Grab
Depth to Water	hundredths of a foot	Monthly	Field Test
Dissolved Oxygen	mg/L	Quarterly	Field Test
Fecal Coliform	Col/100mL	Quarterly	Grab
Nitrate + Nitrite as Nitrogen	mg/L	Quarterly	Grab
pH	S.U.	Quarterly	Field Test
Sodium	mg/L	Quarterly	Grab
Specific Conductance	µS/cm	Quarterly	Field Test
Temperature	°C	Quarterly	Field Test
Total Dissolved Solids	mg/L	Quarterly	Grab
Total Nitrogen	mg/L	Quarterly	Grab
Total Phosphorus	mg/L	Quarterly	Grab

Parameter	Unit Measurement	Measurement Frequency	Sample Type
Cadmium	mg/L	Once per 5 years	Grab
Chromium	mg/L	Once per 5 years	Grab
Copper	mg/L	Once per 5 years	Grab
Hardness	mg/L	Once per 5 years	Grab
Iron	mg/L	Once per 5 years	Grab
Lead	mg/L	Once per 5 years	Grab
Manganese	mg/L	Once per 5 years	Grab
Mercury	mg/L	Once per 5 years	Grab
Nickel	mg/L	Once per 5 years	Grab
Selenium	mg/L	Once per 5 years	Grab
Sulfate	mg/L	Once per 5 years	Grab
Zinc	mg/L	Once per 5 years	Grab

Whenever a new monitoring well is installed, the Permittee shall take immediate samples in compliance with the monitoring requirements specified herein; in accordance with the requirements of and the parameters listed in Section 6.2.3.5 of the Regulations, and the procedures approved by the Department.

4. GROUNDWATER TABLE ELEVATION MONITORING REQUIREMENTS

Groundwater level measurements shall be taken monthly from the following observation wells for the facility. See Table 13.

Table 13. Observation Wells

Field	Local ID	DNREC ID
South Burton Field	OW-19	237999
North Burton Field	OW-17	228544
North Hettie-Lingo Field	OW-20	237998
West Hettie-Lingo Field	OW-27	242932
South Hettie-Lingo Field	OW-28	242933

While performing the monitoring as required by this Permit, if the 'Depth to Water' in any one of the monitoring or observation wells has reached within 3 feet of the ground surface, the Permittee shall be required to collect additional weekly depth to water measurements from the monitoring and observation wells with ground water levels within 3 feet of the ground surface. The additional monitoring is necessary to ensure that spray irrigation ceases on any areas of the spray fields where the groundwater may reach within 2 feet of the ground surface in accordance with this Permit. The Permittee may discontinue the additional weekly sampling for depth to water in a well when the groundwater table elevation readings in the well exceeds a 3-foot separation between groundwater and ground surface. The additional groundwater table elevation measurements shall be recorded in the operator's log and reported to the Department accordance with this Permit.

5. LYSIMETER MONITORING REQUIREMENTS

Samples shall be taken from each lysimeter for the facility.

Samples taken in compliance with the monitoring requirements specified shall be taken at each lysimeter well in accordance with procedures approved by the Department.

Monitoring results for each lysimeter shall be reported using the State of Delaware Well Identification Tag Number that is required on all wells in accordance with the Delaware Regulations Governing the Construction and Use of Wells, Section 10 A.

All field sampling logs and laboratory results for samples obtained from a lysimeter shall be provided and identified by the DNREC ID affixed to the well. If any new lysimeters are installed during this Permit term the new lysimeters shall also be sampled as required by this Permit. See Table 14.

Samples be tested from the following wells for the following parameters. The constituents are listed below in highest priority first. If enough sample volume may not be obtained to test for all parameters listed, the sample shall be tested for as many constituents possible in the following order. See Table 15.

Table 14. Lysimeters

Local ID	DNREC ID	Notes
LY-1	237807	South Burton Field
LY-2	237808	North Hettie-Lingo Field
LY-3	241292	North Burton Field
LY-4	241934	East Hettie-Lingo Field
LY-5	TBD	Field A
LY-6	TBD	Field B
LY-7	TBD	Field C
LY-8	TBD	Field D

Table 15. Lysimeter Parameters

Parameter	Unit Measurement	Measurement Frequency	Sample Type
Total Nitrogen	mg/L	Monthly	Grab
Total Phosphorus	mg/L	Monthly	Grab
Nitrate + Nitrite as Nitrogen	mg/L	Monthly	Grab
Ammonia as Nitrogen	mg/L	Monthly	Grab
Chloride	mg/L	Monthly	Grab
Sodium	mg/L	Monthly	Grab
Total Dissolved Solids	mg/L	Monthly	Grab
pH	S.U.	Monthly	Field Test
Specific Conductance	µS/cm	Monthly	Field Test
Temperature	°C	Monthly	Field Test

6. SOIL MONITORING REQUIREMENTS

Composite soil samples representing each soil series within the wetted spray field shall be taken separately from both soil depths of 0–12 inches and 12–24 inches. A minimum of three composite samples for each of the depths (0–12 inches and 12–24 inches) is required for every 20 acres of each soil series. The composite soil sampling shall represent the average conditions in the sampled body of material. The discrete samples that are to be composited shall be collected from the same soil horizon and depth interval. See Table 16.

Each soil sample location shall be plotted on a scaled drawing and labeled consistent with the sample nomenclature. Each field shall also be identified so that sample results may be tracked and properly assessed for field life limiting factors.

Soil chemical testing should be in accordance with Methods of Soil Analysis published by the American Society of Agronomy, Madison, Wisconsin.

If a Compliance Monitoring Report (CMR) is required for the facility, testing for Cadmium, Nickel, Lead, Zinc, and Copper should be performed approximately one year prior to permit renewal so results may be utilized by the Permittee in the CMR. Reference Section 6.5.4 of the Regulations regarding CMR requirements.

Soil sampling of the new spray fields (A, B, C, and D) shall be implemented upon authorization to discharge to the new spray fields. See Table 16.

Table 16. Soil Parameters

Parameter	Unit Measurement	Measurement Frequency	Sample Type
pH	S.U.	Annually	Soil Composite
Organic Matter	%	Annually	Soil Composite
Phosphorus (as P_2O_5)	mg/kg	Annually	Soil Composite
Potassium	mg/kg	Annually	Soil Composite
Sodium Adsorption Ratio	meq/100g	Annually	Soil Composite
Arsenic	mg/kg	Once per 5 years	Soil Composite

Cadmium	mg/kg	Once per 5 years	Soil Composite
Nickel	mg/kg	Once per 5 years	Soil Composite
Lead	mg/kg	Once per 5 years	Soil Composite
Zinc	mg/kg	Once per 5 years	Soil Composite
Copper	mg/kg	Once per 5 years	Soil Composite
Cation Exchange Capacity	meq/100g	[1]Only if soil pH changes significantly	Soil Composite
Phosphorus Adsorption (Mehlich 3 acceptable)	meq/100g	[2]Only if soil phosphorus levels become excessive for plant growth	Soil Composite
Percent Base Saturation	%	[1]Only if soil pH changes significantly	Soil Composite

[1] A significant change in soil pH is defined as a change of one or more standard units from the original value established in the Design Development Report.

[2] Excessive levels of soil phosphorus are defined by the Delaware Nutrient Management Commission. Soil phosphorus levels shall be tested in accordance with the University of Delaware soil testing methods (Gartley, 2002). If the soil phosphorus levels become excessive, the Permittee shall perform a Phosphorus Site Index (PSI) study. The results shall be submitted to the Department within 30 days of completion. Based on these, the Department may require the Permittee to submit a plan for detailing steps to reduce the phosphorus loading rates at the site.

7. VEGETATION MONITORING

A minimum of one composite sample for each field is required upon each harvest for each crop type annually.

Table 17. Harvest Data Parameters

Parameter	Unit Measurement	Measurement Frequency	Sample Type
Yield	Bushels/acre and lbs/acre	Annually - Per crop type per harvest	Vegetation Composite
Nitrogen	% and lbs/acre	Annually - Per crop type per harvest	Vegetation Composite
Phosphorus	% and lbs/acre	Annually - Per crop type per harvest	Vegetation Composite
% Moisture	%	Annually - Per crop type per harvest	Vegetation Composite

8. OPERATIONS MONITORING REQUIREMENTS

a. Spray Field Fertilizer Applications

The application of fertilizer is only authorized in a manner protective of groundwater. The Permittee shall provide notification to the Department within 48 hours of fertilizer application (including biosolids application) and submit fertilizer monitoring data (See Table 18) in the appropriate monthly DMRs. The DMRs shall also include supplemental design nitrogen balance(s) that incorporated the fertilizer nitrogen concentrations and calculated loading rates that documented the application did not cause the percolate to exceed drinking water standards for Nitrates for the spray fields.

Table 18. Fertilizer Application Requirements

Parameter	Unit Measurement	Monitoring Frequency	Sample Type
Fertilizer Nitrogen	lbs/acre per field/zone/pivot	Monthly	Reported
Fertilizer Phosphorus	lbs/acre per field/zone/pivot	Monthly	Reported

The Department reserves the right to revoke the authorization of fertilizer application if monitoring identifies impacts to groundwater, or the Permittee fails to submit complete and accurate monitoring data.

b. Storage Volume

Volumes shall be monitored in both storage lagoons. Each lagoon volume shall be reported in depth (ft) and volume (MG) and compared to the total depth available in each lagoon in depth(ft) and volume (MG). The combined volume of storage shall also be reported in volume (MG) in comparison to the combined capacity of both storage lagoons in depth(ft) and volume (MG). In accordance with the Oct 2020 DER, Storage Lagoon 1 has a capacity of 31 MG, Storage Lagoon 2 has a capacity of 39 MG, and the combined capacity is 71 MG. See Table 19.

Table 19. Lagoon Monitoring Parameters

Parameter	Sample Location	Unit Measurement	Monitoring Frequency	Sample Type
Lagoon Levels	Storage Lagoons 1 & 2	Feet of depth of lagoon and Volume (MG)	Weekly	Field Test
Freeboard	Storage Lagoons 1 & 2	Feet	Weekly	Field Test

B. MONITORING SPECIFICATIONS AND REPORTING REQUIREMENTS

1. Representative Sampling

Samples and measurements taken as required in the Operations Permit shall be representative of the volume and nature of the monitored discharge. If there has been significant increase (> 25%) in the characterization of any one parameter of the effluent wastewater as established in the Design Engineer Report, the Permittee shall resample the wastewater and submit the additional analyses to the Department. The Permittee shall re-characterize the wastewater to determine if a change in treatment is required and/or if the land limiting constituent has changed. If a change in treatment is required and/or if the land limiting constituent has changed, a revised Design Engineer Report shall be submitted to the Department. After a review of these results, the Department may invoke the provisions of Part V.A.1 of this Permit.

2. Reporting

Monitoring results obtained during the previous one month/quarter shall be summarized and reported on an approved monitoring report form(s) postmarked no later than the 28th day of the month following the completed reporting period. Laboratory analytical results and sampling logs shall be submitted with the corresponding month's monitoring report. Signed reports/forms, laboratory analytical results, laboratory sampling logs and field data sheets shall be submitted in one complete package to the Department at the following address:

Division of Water - Resource Protection Section
Department of Natural Resources and Environmental Control
89 Kings Hwy
Dover, DE 19901
dnrec.groundwater.reporting@delaware.gov

The Department may provide written requirements for the permittee to submit monitoring data in an approved digital format. Upon notification from the Department, the Permittee shall transition (as directed) to the Department's electronic submittal system. The submission may need to be electronically signed.

3. Monitoring results reported as less than the detectible limit shall be reported with the less than symbol "<" before the detection limit. The full detection limit value shall be utilized in any necessary calculations. The less than symbol shall be carried through the calculation. The resulting value shall include any appropriate less than or greater than symbol resulting from the calculation.

4. Additional Monitoring by Permittee

   If the permittee monitors any parameter at the location(s) designated herein more frequently than required, using approved analytical methods, the results shall be reported to the Department on an approved monitoring report form. Such increased frequency shall also be indicated.

5. Annual Report

   The Permittee shall submit to the Department an Annual Report summarizing the operations, management, administration, and maintenance of the facility for the calendar year. The Annual Report shall be submitted to the Department electronically on or before February 28th of each year. The Annual Report shall include all applicable items found in Section 6.8.2.4.1.3 and Section 6.9 of the Regulations. The Annual Report shall also include the calibration documentation and records of solids disposal, as required by this Permit.

6. Annual Nutrient Loading Report

   On February 28th of each year, the Permittee shall submit to the Department electronically a Supplemental Nutrient Loading Report (to be included with the Annual Report) calculating the monthly and total annual loading and offsets (e.g., septic connections, stormwater BMPs, biosolids removal, etc.) for total nitrogen and total phosphorus for all here-in permitted discharge locations. Individual monthly loads shall be calculated by using the following formula:

   average monthly concentration (mg/L) x total monthly flow (MG) x 8.34 =
   monthly total discharge load (pounds/month)

   Within four (4) years of the effective date of this Permit, the Permittee shall submit (electronically) a 10-year sanitary buildout and loading and offset analysis to characterize the potential nutrient (total nitrogen and total phosphorus) impacts of the Inland Bays Regional Wastewater Treatment Facility on the Inland Bays Watershed (consisting of Indian River, Indian River Bay, Rehoboth Bay, and their tributaries).

7. Test Procedures

   Test procedures for analysis of pollutants shall conform to the applicable test procedures identified in 40 CFR, Part 136 or the most recently adopted copy of Standard Methods unless otherwise specified in this permit.

8. Recording of Results

   For each measurement or sample taken pursuant to the requirements of this Permit, the Permittee shall record the following information:
   a. The exact place, date and time of sampling and/or measurement;
   b. The person(s) who performed the sampling and/or measurement;

c. The date(s) the analyses were performed and the time the analyses were begun;
d. The person(s) who performed the analyses; and
e. The results of each analysis.

9. Records Retention

All records and information resulting from the monitoring activities required by this Permit or the Regulations including all records of performed analyses, calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation shall be retained for five years. This period of retention shall be extended automatically in the event of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the Permittee or as requested by the Department.

10. Availability of Reports

All reports prepared in accordance with the terms of this Permit shall be available for public inspection at the offices of the Department. Monitoring data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in 7 Del. C., §6013.

11. Operator Log

An operator log shall always be kept onsite. Each spray system section shall be numbered and referred to by number in the operator log. All records and reports shall always also be kept in a bound logbook onsite and shall be made available upon request for review by the Department. This log shall, at a minimum, include the applicable items listed in Section 6.7.3 of the Regulations.

12. Quality Assurance Practices

The Permittee is required to show the validity of all monitoring data by requiring its laboratory to adhere to quality assurance practices in accordance with Section 6.8.2.4 of the Regulations.

PART III

A. DISTRIBUTION OF TREATED WASTEWATER TO AGRICULTURAL PARCELS IN ACCORDANCE WITH DELAWARE CODE TITLE 3, CHAPTER 23, SECTION 2301

1. Distribution of Treated Wastewater to Agricultural Fields

a) Upon completion of the upgrade and expansion project authorized by Construction Permit No. 000000-00, and upon receiving written approval from the Department, the Permittee may provide treated wastewater (effluent) to the following farmers/parcels in accordance with Delaware Code Title 3, Chapter 23, Section 2301; Section 6.11 of the Regulations, and the limitations set forth in this Permit. See Table 20.

Table 20. Distribution to Agricultural Fields

Owner	Farmer	Site/Irrigated Acres	Tax Map Number	Zoning
Hollyville Farms, LLC	Hollyville Farms, LLC, 17420 Minos Conaway Road, Lewes DE 19958	Whittington Estates 65 Acres	234-21.00-171.00	AR-1-Agricultural / Residential
Sussex County	M&M Farms, LLC, 15046 Gravel Hill Road, Milton, DE 19968	14411 Hollyville Rd 210 Acres	234-16.00-28.00	AR-1-Agricultural / Residential
Sussex County	Double H Farm, LLC, 32740 Webbs Landing Road, Lewes, DE 19958	North Townsend Rd 35.5 Acres	234-16.00-23.00	AR-1-Agricultural / Residential
Double H Farm, LLC	Double H Farm, LLC, 32740 Webbs Landing Road, Lewes, DE 19958	24458 Townsend Rd 62.5 Acres	234-16.00-21.01	AR-1-Agricultural / Residential

b) The total volume of treated wastewater the Permittee may distribute to each farmer shall not exceed agronomic rates, nor the following inches/acre/week, without written authorization from the Division of Water. The total volume of treated wastewater distributed shall be recorded/calculated over a weekly period to verify meeting the inches/acre/week restriction. See Table 21.

Table 21. Distributed Volume

Field Number(s)	Owner	Application Rate (Inches/Week)
3	Hollyville Farms, LLC,	1.0
4	Sussex County	1.0
5	Sussex County	1.0
6	Sussex County	0.75
7	Double H Farm, LLC	1.0
8	Double H Farm, LLC	1.0
9	Double H Farm, LLC	1.0

c) The treated wastewater shall meet Delaware's highest level of required treatment in accordance with the Regulations; unlimited public access criteria; as well as, Performance Standard Nitrogen Level 2 (PSN2), and Performance Standard Phosphorus Level 2 (PSP2).

i. The treated wastewater discharged for distribution shall not exceed the following limits. See Table 22.

Table 22. Distribution Limitations

Parameter	Limit
BOD_5	10 mg/L
TSS	10 mg/L
Fecal Col	20 colonies/100mL
Turbidity	5 NTU
Chlorides	250 mg/L
Total Nitrogen	10 mg/L
Total Phosphorus	8 mg/L

ii. Treated wastewater that is not filtered or that does not meet these requirements shall not be distributed to the farmers and shall be either recycled to the headworks for retreatment or discharged to a permitted dedicated field designated as a limited public access site, provided limited public access treatment criteria is met.

d) The Permittee shall maintain on file with the Department a current executed Agricultural Spray Agreement with each farmer receiving treated wastewater.

e) Monitoring Requirements

Effluent Monitoring Requirements are as required in accordance with Part II.A.2 of this Permit.

f) Soil Monitoring Requirements

Background and decennial soils sampling shall be performed at each distribution site for the parameters listed in Part II.A.6. A minimum of one (1) composite sample shall be taken for each 50-acre area unless otherwise directed by the Department.

g) Reporting

The Permittee shall report the following information to:

The Department:

i. Monthly - The quality and quantity of the treated wastewater provided to each of the recipients' monthly DMRs.

ii. Annual - An Annual Summary Report that summarizes all parameters monitored as required in Section 6.9 of the Regulations. The report shall include the annual volume of treated wastewater provided to each recipient and any additional items specified in this Permit. If the recipient is reusing the treated wastewater for agricultural use in accordance with Delaware Code Title 3, Chapter 23, Section 2301 the report shall also include the Total Nitrogen, Total Phosphorus, Potassium, and metals loading to each recipient reported in pounds. The cumulative metals loading shall also be calculated and reported. The total number of acres under irrigation for each recipient for that reporting year shall also be indicated.

iii. Decennial - Results of soils sampling and the calculated remaining site life on a constituent-by-constituent basis for phosphorus, cadmium, copper, lead, nickel, and zinc.

Recipients of treated wastewater:

i. Weekly - The quantity of treated wastewater provided to the recipient on a weekly basis.
ii. Monthly - Copies of all effluent monitoring results.
iii. Annual - A copy of the Annual Summary Report.

Delaware Department of Agriculture:

i. Monthly - Copies of all effluent monitoring results for the farmer to utilize in their Nutrient Management Plans/Annual Reporting.
ii. Annual - A copy of the Annual Summary Report.

h) The distribution of treated wastewater does not increase the permitted disposal capacity for the Inland Bays Regional Wastewater Treatment Facility.

i) The land application of Class B Biosolids to the spray disposal fields and agricultural distribution spray fields authorized by this Permit to receive treated wastewater (effluent) is prohibited (unless authorized by the Department).

j) Providing treated wastewater to farmers to utilize in accordance with Delaware Code Title 3, Chapter 23, Section 2301 shall not cause the quality of Delaware's ground water resources to be in violation of applicable Federal or State Drinking Water Standards and shall not cause violation of

State Water Quality Standards for streams. If providing treated wastewater to any farmer results in the violation of Delaware Code, Title 7, Chapter 60 or, any of the above mentioned, standards, appropriate enforcement and/or administrative action may be taken.

PART IV

A. OPERATIONAL REQUIREMENTS

1. Duty to Comply

   The Permittee shall comply with all the terms and conditions of this Permit.

   The discharge of any pollutant more frequently than, or at a level that exceeds that identified and authorized herein, shall constitute a violation of the terms and conditions of this Permit. The violation of any influent/effluent limitation or of any other condition specified in this Permit is a violation of 7 Del. C. Chapter 60 and is grounds for enforcement as provided in 7 Del. C., Chapter 60 "Enforcement; civil and administrative penalties; and expenses.", "Criminal Penalties." and "Cease and desist order." for Permit termination or loss of authorization to discharge pursuant to this Permit, for Permit revocation and reissuance, or Permit modification, or denial of a Permit renewal application. The Department may seek voluntary compliance by way of warning, notice or other educational means, pursuant to 7 Del. C., Chapter 60 "Voluntary compliance." or any other means authorized by Law. However, the Law does not require that such voluntary means be used before proceeding by way of compulsory enforcement.

2. Groundwater Requirements

   The operation of the wastewater treatment facility and spray irrigation system shall not cause the quality of Delaware's groundwater resources to be in violation of applicable Federal or State Drinking Water Standards.

3. Facilities Operation

   The Permittee shall properly maintain and operate all structures, pipelines, systems and equipment for collection, treatment control and monitoring which are used by the Permittee to achieve compliance with the terms and conditions of the Permit. Proper operation and maintenance may include, but is not limited to, effective performance based on designed facility removals, adequate funding, effective management, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures.

   The Permittee shall immediately perform clean-up and disinfection actions upon becoming aware of a sanitary sewer overflow (SSO) event. In addition, the Permittee shall notify the Division of Water within 24-hours from the time the Permittee becomes aware of the SSO event and shall submit the following information with 5-days of providing notification.

   a) The facility name and location of release.
   b) An estimate of the quantity of sewage released.
   c) The date, time, and duration of the release.
   d) The clean-up and disinfection methods utilized.
   e) The date and time of completed clean-up and disinfection activities.
   f) Any other information as the Division of Water may require.

4. Department Required Additional Monitoring

   The Permittee shall perform additional monitoring of effluent, groundwater, soils, and/or surface water upon Department notification. Monitoring requirements may include increased sampling frequency, additional sampling parameters/contaminants, and/or additional monitoring locations (including additional wells) to assure the protection of human health and/or water resources. Analytical results from additional monitoring shall be submitted in the monthly DMRs unless the Department requests an alternative submission schedule.

5. The spray irrigation fields shall be managed to assure at a minimum that:

   a. Spray irrigation of wastewater shall only occur on fields being prepared for planting or already planted with a crop and shall not occur on fields with crops not actively growing or on voluntary vegetation. This condition does not apply to planned and/or controlled wild vegetative cover including meadows.

   b. The spray fields shall be maintained in such a manner as to prevent wastewater pooling and/or discharge of wastewater to any surface waters. Should pooled areas become evident, spraying on those areas shall be prohibited until saturated conditions no longer exist.

   c. Aerosols or nuisance odors shall not extend beyond the boundary of the spray irrigation site when treated wastewater is being applied. If aerosols are not contained within the site or if odors are produced that are considered a public nuisance, within 30 days the Permittee shall submit a corrective action plan to alleviate aerosol migration and odors for Department review and approval. All action taken shall be reported to the Department in accordance with this Permit.

   d. Erosion controls shall be employed to prevent wastewater runoff from the spray irrigation fields. The Permittee shall notify the Department immediately if any wastewater runoff occurs.

   e. The spray irrigation field's crops shall be maintained in optimal condition, including any necessary weed management, reseeding, or other vegetative management practices.

   f. Effective vegetative management shall be provided such that crops harvested on the spray irrigation sites are removed from the sites.

   g. Forage crops shall be harvested and removed from the irrigation field(s) as appropriate. Crops harvested shall be removed from the irrigation site within six (6) months of harvest.

   h. The wastewater shall be applied in a manner such that the application is even and uniform over the irrigation area.

6. Spray irrigation is prohibited when saturated or frozen soil conditions exist.

7. The groundwater mound created by the added infiltration shall at no time reach within two feet of the ground surface in any section of the spray irrigation fields. Should the groundwater mound exceed this limit, the Permittee shall cease all irrigation of wastewater to the affected fields until the groundwater mound recedes to acceptable levels.

8. Connections or additions to the spray irrigation system other than those indicated on the approved plans are prohibited without prior approval from the Department.

9. Roof downspouts, foundation drains, area drains, storm sewers, combined sewers, or appurtenances thereto or any sewer or device carrying storm water shall not be connected to the spray irrigation system unless accounted for in the wastewater treatment system design.

10. The Permittee shall take appropriate measures to protect the spray irrigation system from damage because of sub-freezing conditions.

11. Any leaks shall be reported to the Department and repaired immediately.

12. Signs

    a. Limited Public Access: Signs shall be posted on all limited public access spray fields utilized to irrigate treated wastewater to prohibit public contact. The signs shall indicate that the water being irrigated is treated wastewater. The signs shall be legible. Limited public access sites shall have signs posted on the perimeter every 1,000 feet, at a minimum, and at all entry points. Unlimited public access sites must have signs posted at all entry points.

13. Potable ground or surface water may be used for distribution system testing and irrigation to establish vegetation (including vegetation for the wetland system) when appropriate treated effluent is not available.

14. Phased Systems

    a. Once an operation permit has been issued and the wastewater flow reaches 80% of the permitted treatment capacity for the constructed phase based on a period of seven (7) consecutive days, the Permittee shall submit written notification to the Department. The written notification shall include a work plan for construction of the next permitted phase. The Permittee shall submit a construction permit application, plans and specifications and Design Engineer Report with applicable fees if the next phase has not yet been permitted or if there are changes to the previously permitted design.

    b. Any flow above the permitted flow for a phase shall not be allowed to be discharged to the system until construction is completed on the following phase and an operating permit has been issued or amended by the Department for the next phase.

15. If the Permittee installs new monitoring wells or replaces any existing monitoring wells, the Permittee shall submit to the Department new surveyed locations and elevation details relative to the common benchmark previously established. In addition, Abandonment Reports for any replaced wells shall be provided to the Department within 30-days of replacement to document the replacement of the well.

16. The Permittee shall calibrate all flow meters in accordance with the Manufacturer's recommendations. Calibration shall include, but not be limited to influent, effluent, continuous online turbidity, and chlorine residual monitors. The calibration documentation shall be submitted with the Annual Report in accordance with this Permit.

17. The Permittee shall operate and maintain wastewater treatment and disposal system in accordance with the approved Operation and Maintenance Plan (O&M). A copy of the O&M shall always be onsite. The Permittee shall maintain the O&M's accuracy and applicability in accordance with both their Permit and the Regulations. In the event of a discrepancy between the O&M and the Permit or Regulations, the requirements of the Permit and the Regulations would govern.

18. At least two feet of freeboard, measured vertically from the lowest point of the berm, is required for all storage lagoons. The lowest point of the berm shall be determined and marked.

    The Permittee shall notify the Department in writing prior to utilizing the freeboard in any storage lagoon or immediately upon unexpected encroachment into freeboard. In the event of encroachment into freeboard, Permittee shall contact the Department to coordinate relief measures. In the event of an emergency, Permittee may verbally contact the Department; however, written notification shall subsequently be provided within five days of encroachment.

19. If the facility does not treat sewage and has a storage tank that requires cleanout, and if the Permittee intends to land apply material collected from the cleanout onto the spray irrigation field, the Permittee shall analyze the material for nutrients and any other applicable parameters of concern as determined by the Department prior to tank cleanout being performed. Permittee shall submit to the Department a report including the results, the frequency and estimated volume of material to be applied, and how and where it will be applied. The report shall include a mathematical analysis determining any nitrogen loading from the tank cleaning combined with nitrogen loading from wastewater application will not exceed the allowable nitrogen load.

20. Fencing is required at treatment facilities, pump stations and storage/treatment ponds. Fencing of spray fields is not required.

21. The collection and channelization of irrigated wastewater for purposes other than retreatment is prohibited.

22. Direct application of treated wastewater to drainage ditches, any water bodies, and wetlands (other than the constructed submerged gravel wetland) is prohibited.

23. Emergency Repairs

    Emergency repairs or the replacement of critical “like kind” components of the wastewater treatment facility necessary for the continued operation of the facility may be performed without first obtaining a construction permit from the Department.

    A report shall be submitted to the Department within five (5) days of completion of the emergency repairs or the replacement of critical “like kind” components of the wastewater treatment facility necessary for the continued operation of the facility. The report shall summarize the nature of the emergency and the repairs performed. All violations shall also be reported in accordance with Part IV.A.4 of this Permit and Section 6.5.9 of the Regulations.

24. Adverse Impact

    The Permittee shall take all reasonable steps to eliminate or minimize any adverse impact to waters of the State resulting from this Permit, including such accelerated or additional monitoring as necessary to determine the source, nature, and extent of the impact from a noncomplying discharge. In addition, at the direction of the Department, the Permittee shall submit a corrective action plan which will include a description of the proposed actions to mitigate or eliminate the source of the impact and an associated completion schedule. The plan shall be enacted as approved by the Department.

25. Bypassing

The diversion of flow from any portion of the treatment facility's process flow (including, but not limited to, pretreatment, storage, distribution, and land application) necessary to maintain compliance with the terms and conditions of this Permit is prohibited unless:

a) The bypass is unavoidable to prevent personal injury, loss of life, severe property damage, or materially adversely affect public health and/or the environment; or

b) There are no alternatives readily available.

The Department shall be orally notified within 24 hours after such bypass, and a written submission and proposed corrective actions regarding the bypass shall be submitted within five days of the Permittee's becoming aware of the bypass. Where the need for a bypass is known (or should have been known) in advance, this notification shall be submitted to the Department for approval at least ten days prior, or as soon as possible, before the date of bypass. Proposed corrective actions shall be implemented within 30 days of Department approval and the treatment facility shall be repaired and restored to the permitted design operations process flow.

26. Removed Substances

Solids, sludges, filter backwash or other pollutants removed in the collection, conveyance, or treatment of wastewater shall be disposed of in a manner such as to prevent any pollutant from entering the surface water or groundwater and to comply with applicable federal or state laws and regulations.

27. Power Failures

An alternative power source, which is enough to operate the wastewater treatment and disposal facilities, shall be available. If such alternative power source is not available, the Permittee shall halt, reduce, or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater facilities.

PART V

A. MANAGEMENT REQUIREMENTS AND RESPONSIBILITIES

1. Initiation of Facility Operations Notification

   If this Permit is for initial operations following construction, the Permittee shall notify the Department in writing within 24 hours of the initiation of operations.

2. Additional Information

   The Permittee shall furnish to the Department within a specified period, any information including copies of records, which may be requested by the Department to determine whether cause exists for modifying, revoking, reissuing, or terminating the permit, or to determine compliance with the Permit and the Regulations.

3. Operation Permit Re-Issuance

   At least 180 days before the expiration date of this permit, the Permittee shall apply for renewal or notify the Department of the intent to cease discharging by the expiration date. The application package for systems with a design flow ≥ 100,000 gpd, shall include a five (5) year Compliance Monitoring Report (CMR). The CMR shall be in accordance with Section 6.5.4.3 of Regulations. If a timely and complete application has been submitted as determined by the Department, and the Department is unable, through no fault of the Permittee, to issue a new permit before the expiration date of this Permit, the terms and conditions of this permit are automatically continued and remain fully effective and enforceable until a decision is made on the new application.

4. Change in Discharge

   All discharges authorized herein shall be consistent with the terms and conditions of this Permit. The discharge of any pollutant identified in this Permit more frequently than or at a level exceeding that authorized shall constitute a violation of this Permit.

   Any anticipated facility expansions, production increases, or process modifications that will result in new, different, or increased discharges of pollutants shall be reported in writing to the Department for approval. A new permit may be required.

   Any other activity which would constitute cause for modification or revocation and reissuance of this Permit as described in Part V.A.1 of this Permit shall be reported to the Department. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

5. Non-compliance Notification

   The Permittee shall report to the Department orally within 24 hours from the time the Permittee became aware of any noncompliance that may endanger the public health or the environment by contacting the Department.

   If for any reason the Permittee does not comply with, or will be unable to comply with, any effluent limitations or other conditions specified in this Permit, the Permittee shall provide the Department with the following information in writing within five days of becoming aware of any actual or potential noncompliance:

a. A description and cause of the non-compliance with any limitation or condition;
b. The period of non-compliance including exact dates and times; or, if not yet corrected, the anticipated time the non-compliance is expected to continue; and
c. The steps being taken or planned to reduce, eliminate and/or prevent recurrence of the non-compliant condition.

The notification shall be submitted to the Department at the following address:

Division of Water - Resource Protection Section
Department of Natural Resources and Environmental Control
89 Kings Hwy
Dover, DE 19901
Office Telephone: (302) 739-9945
dnrec.groundwater.reporting@delaware.gov

6. Spill Reporting

In the event of any environmental release of pollutants (i.e., spill), the Permittee shall call the Department's 24-hour Emergency Release Reporting Hotline at (800) 662-8802.

The Permittee shall also notify the Division of Water regarding any environmental release of pollutants (i.e., spill) into surface water or groundwater or on land, within 24-hours from the time the Permittee becomes aware of the release and activate their emergency site plan. In addition, the following information shall be reported to the Division of Water within five days.

a. The facility name and location of release;
b. The chemical name or identity of any substance involved in the release;
c. An indication of whether the substance is an extremely hazardous substance;
d. An estimate of the quantity of any such substance that was released into the environment;
e. The time and duration of the release;
f. The medium or media into which the release occurred;
g. Any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for exposed individuals;
h. Proper precautions to take as a result of the release, including evacuation;
i. The names and telephone number of the person or persons to be contacted for further information; and
j. Such other information as the Division of Water may require.

7. Facility and Construction Changes

The Permittee shall submit a written report to the Department for review and approval, of any changes to the facility or construction of the system within the following time periods:

a. Thirty days before any planned activity, physical alteration to the permitted facility or addition to the permitted facility if that activity, alteration or addition would result in a change in information that was previously submitted to the Department;

b. Thirty days before any anticipated change which would result in noncompliance with any permit condition or the regulations; or

c. Immediately after the Permittee becomes aware of relevant facts omitted from, or incorrect information submitted in, a permit application or report to the Department.

8. Wastewater Treatment Facility Closure/Abandonment

   In the event the wastewater treatment facility, or a component of the facility, is proposed to be abandoned, the permittee shall submit a proposed closure and abandonment work plan with procedures on how the facility will be abandoned for review and approval by the Department. The work plan shall address remediation if monitoring data indicates impacts to the environment. Upon review and approval of the work plan and completion of all closure and abandonment actions the permittee must contact the Department for a final inspection of the site.

9. Right of Entry

   The permittee shall allow the Department entry and access, consistent with 7 Del.C. Ch. 60, to:
   a. Enter the permitted facility.
   b. Inspect any records that shall be kept under the conditions of the permit.
   c. Inspect any facility, equipment, practice, or operation permitted or required by the permit.
   d. Sample or monitor for the purpose of assuring permit compliance of any substance or any parameter at the facility.

10. Permit Transferability

    Permits may be transferred to a new owner or operator. The Permittee shall notify the Department by requesting a change of ownership of the permit before the date of transfer. The transfer shall be consistent with any notarized legal documents and/or CPCN required by the Regulations. The legal documentation shall be provided with the application. The application shall be received 30 days before the transfer.
    a. No person shall transfer a permit from one (1) person to another unless 30 days written notice is given to the Department, indicating the transfer is agreeable to both persons, and approval of such transfer is obtained in writing from the Department, and any conditions of the approval of such transfer is obtained in writing from the Department, and any conditions of the transfer approved by the Department are complied with by the transferor and the transferee.
    b. The notice to the Department shall contain a written agreement between the transferor and the transferee, indicating the specific date of proposed transfer of permit coverage and acknowledging responsibilities of current and new permittees for compliance with and liability for the terms and conditions of this Permit. The notice shall be signed by both the transferor and the transferee.

PART VI

A. PROVISIONS

1. Permit Revocation

   The Department may revoke a permit if, among other things, the Permittee violates any permit condition, these regulations, fails to pay applicable Departmental fees, obtains the permit by misrepresentation, or fails to fully disclose all relevant facts.

   Except in cases of emergency, the Department shall issue a written notice of intent to revoke to the Permittee prior to final revocation. Revocation shall become final within 20 days of receipt of the notice by the Permittee, unless within that time the permittee requests an administrative hearing in writing.

   The Department shall notify the Permittee in writing of any revocation hearing at least 20 days prior to the date set for such hearing.

   If the Department finds the public health, safety or welfare requires emergency action, the Department shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the Permittee. Thereafter, if requested by the permittee in writing, the Department shall provide the permittee a revocation hearing.

2. Permit Modifications/Amendments

   In consultation with the Permittee, the Department may modify or amend an existing permit provided that the modifications would not result in an increased impact or risk to the environment or to public health.

3. State Laws

   This Permit shall not be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation.

4. Property Rights

   The issuance of this Permit does not convey any property rights of either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

5. Severability

   The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit, to any circumstances is held invalid; the application of such provision to other circumstances, and the remainder of this Permit, shall not be affected thereby.

6. This Permit does not relieve the Permittee of complying with any applicable Federal, State, or local regulations.

7. If the *Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems* or applicable state/federal regulations are revised, this Permit may be opened and modified accordingly.

8. This Permit supersedes all previous spray irrigation operation Permits issued to the Permittee for this facility.