



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

1. Pursuant to the provisions of 7 Del. C., 6003

The Town of Millsboro  
322 Wilson Highway  
Millsboro, DE 19966

**is herein authorized to operate and maintain an on-site wastewater treatment and disposal system to service:**

The Town of Millsboro


**Located (tax map #: 1-33-11.00-3.00):**

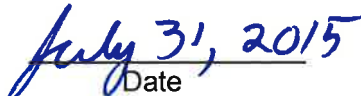
Approximately 3.5 miles west of the Town of Millsboro wastewater treatment plant along the north side of SR 20 between CR 433 and CR 432.

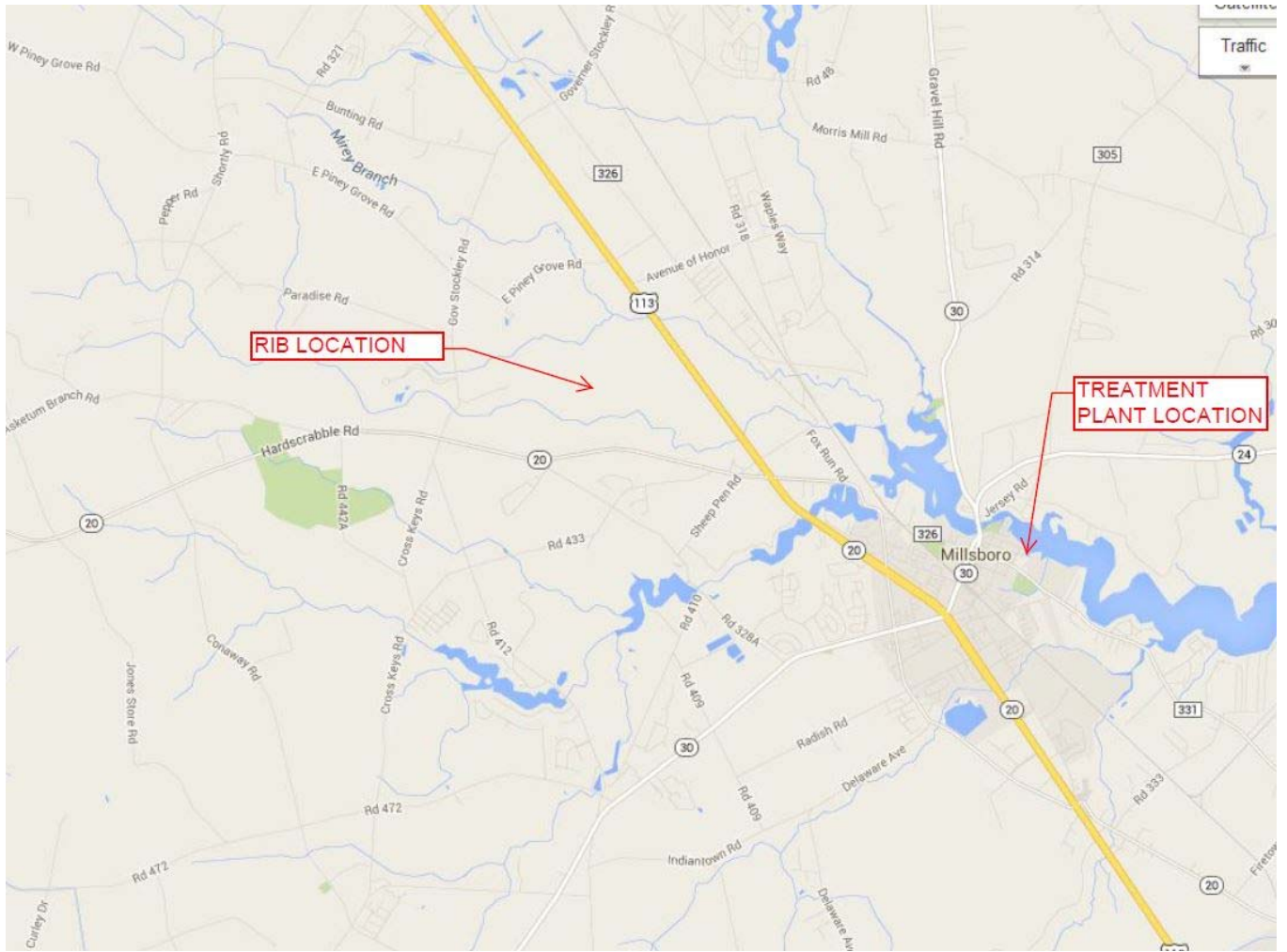
**To dispose of:**

Treated wastewater from the Town of Millsboro wastewater treatment plant

2. **The effluent limitations, monitoring requirements and other permit conditions are set forth in Part I, II and III hereof.**

  
\_\_\_\_\_  
Ronald E. Graeber, Program Manager  
Ground Water Discharges Section  
Department of Natural Resources &  
Environmental Control

  
\_\_\_\_\_  
Date







# Town of Millsboro

- Legend**
-  Monitoring Wells



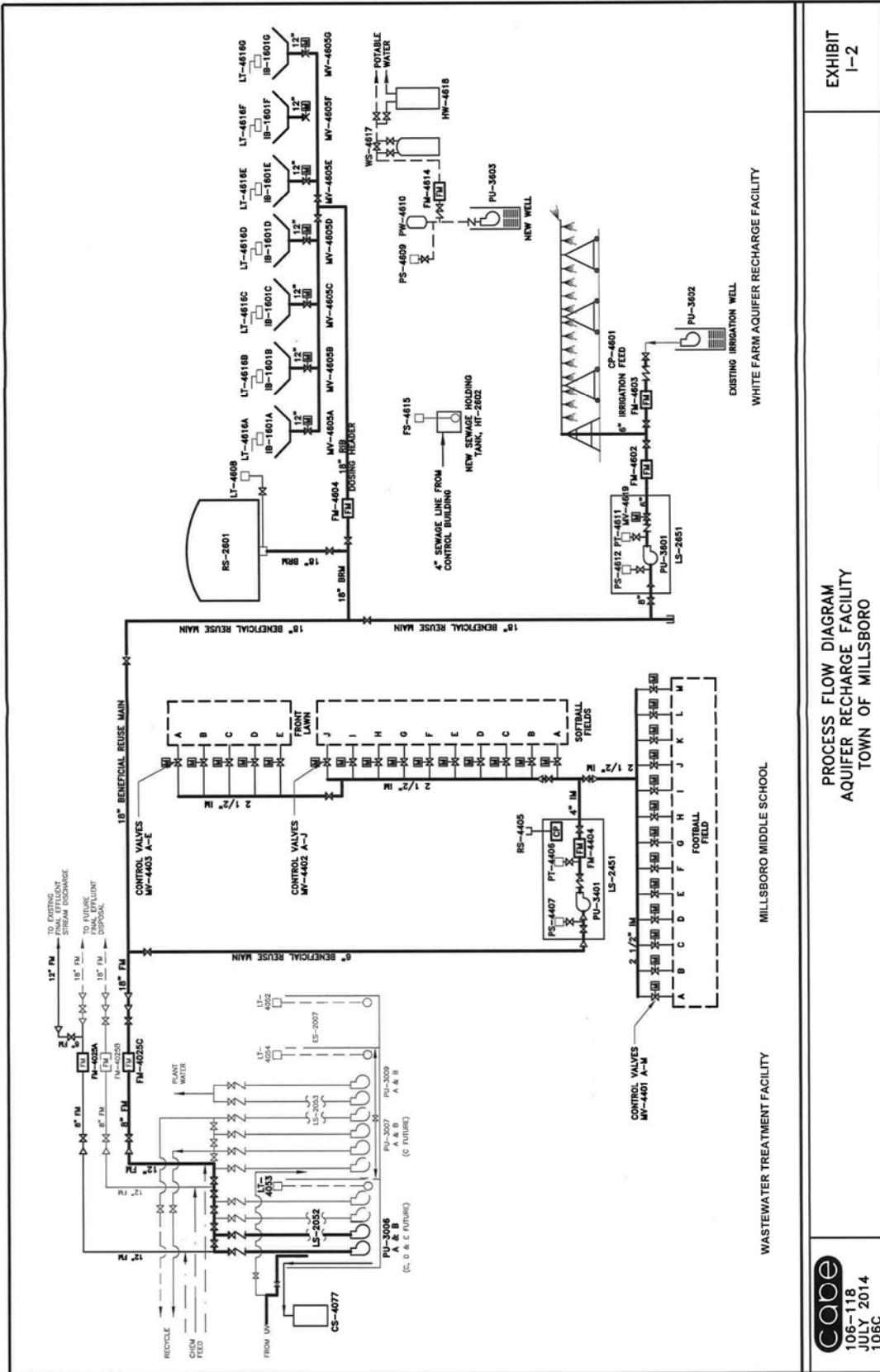


EXHIBIT  
1-2

PROCESS FLOW DIAGRAM  
 AQUIFER RECHARGE FACILITY  
 TOWN OF MILLSBORO

WASTEWATER TREATMENT FACILITY  
 MILLSBORO MIDDLE SCHOOL  
 WHITE FARM AQUIFER RECHARGE FACILITY



## Part I

### A. General Description of Discharges

The discharge shall be domestic wastewater that is generated by the Town of Millsboro. The wastewater shall undergo advance treatment using a biological nutrient removal system with membrane filtration and ultra-violet (UV) disinfection. The treated wastewater will be stored in a 2.74 million gallon tank which will be used to send flow by gravity to seven Rapid Infiltration Basins (RIB). Wastewater discharges into each RIB via two (2) 6-foot diameter precast concrete manholes located centrally in each RIB bottom.

### B. Influent Limitations

Beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to treat and discharge to the rapid infiltration basin system identified above the quantity and quality of effluent specified below:

1. During the first year of operation, discharge to the rapid infiltration basins shall not exceed an average flow of 600,000 gallons per day (gpd). The permittee shall complete performance testing of the rapid infiltration basins to verify the design value of 1.15 MGD and parameters derived during field investigations. The performance testing will include the following:
  - i. At least one week prior to dosing the RIB, water level recorders will be placed in each RIB piezometer and monitor wells 228606, 228608, 228609, 228611, 228612, and 228612. A recording rain gauge will also be installed.
  - ii. Testing will be performed at the current flow rates and total flow to each basin will be recorded daily.
  - iii. RIB will be dosed using 2 days dosing in a 12 day sequence.
  - iv. RIB infiltrative surface will be inspected monthly at a minimum to evaluate possible accumulation or formation of material that may reduce the infiltration properties of the soil.
  - v. Data loggers will be downloaded monthly and checked with respect to weekly manual electric tape measurements. These values will be used with daily flow records to compare observed and predicted ground water mounding.
  - vi. Monthly updates of the testing shall be submitted to the Department.

- vii. At the conclusion of the testing a report that includes the summarizing of the results of the testing, predicated and observed mounding and infiltration rates shall be submitted to the Department.

C. Effluent Limitations

1. BOD monthly average concentration shall not exceed 5 mg/l
2. TSS monthly average concentration shall not exceed 2 mg/l
3. Total Nitrogen annual average concentration shall not exceed 5 mg/l
4. Total Phosphorous annual average concentration shall not exceed 2 mg/l
5. Fecal coliform concentration shall not exceed 200 col/100 ml

D. Monitoring Requirements

During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to discharge to the system. Such discharge shall be monitored by the permittee as specified below:

1. Influent and effluent samples

Influent to the wastewater treatment plant and effluent monitoring requirements from the wastewater treatment plant prior to discharge to the rapid infiltration basins shall be sampled for the following parameters:

Parameter	Unit Measurement	Monitoring Frequency	Sample Type	
			Influent	*Effluent
Flow	Gallons Per Day	Continuous	Recorded	Recorded
BOD <sub>5</sub>	mg/L	2 x Month	Grab	Composite
TSS	mg/L	2 x Month	Grab	Composite
Total Dissolved Solids	mg/L	Quarterly	NA	Grab
Fecal Coliform	Col/100 ml	Quarterly	NA	Grab
Total Nitrogen	mg/L	2 x Month	Grab	Composite
Ammonia Nitrogen	mg/L	Monthly	Grab	Composite
Nitrate/Nitrite as Nitrogen	mg/L	Monthly	Grab	Composite
pH	S.U.	3 x per week	Grab	Composite
Total Phosphorus	mg/L	Monthly	Grab	Composite
Chloride	mg/L	Quarterly	Grab	Composite

\*Effluent samples shall be taken from the effluent sampling basin.



2. Monitoring Well

The following monitoring wells:

DNREC ID
228606
228608
228609
228611
228612

shall be sampled by the permittee for the following parameters:

Parameter	Unit Measurement	Monitoring Frequency	Sample Type
pH	S.U.	Quarterly	Field Test
Temperature	°F	Quarterly	Field Test
Specific Conductance	µS/cm	Quarterly	Field Test
Dissolved Oxygen	mg/L	Quarterly	Field Test
Depth to Water Table	Hundredth of a foot	Weekly	Field Test
Ammonia Nitrogen	mg/L	Quarterly	Grab
Nitrate + Nitrite Nitrogen	mg/L	Quarterly	Grab
Total Nitrogen	mg/L	Quarterly	Grab
Total Coliforms	Col/100 ml	Quarterly	Grab
Fecal Coliform	Col/100 ml	Quarterly	Grab
Total Phosphorus	mg/L	Quarterly	Grab
Sodium	mg/L	Quarterly	Grab
Chloride	mg/L	Quarterly	Grab
Total Dissolved Solids	mg/L	Quarterly	Grab

Should water levels in the wells rise above the minimum isolation distance of two (2) feet, the discharge shall be reduced at the area of concern and the Ground Water Discharge Section shall be notified within 24 hours.

Samples taken in compliance with the monitoring requirements specified above shall be taken at each monitoring well and observation well in accordance with procedures approved by the Department and listed in the

State of Delaware Field Manual for Groundwater Sampling (Custer, 1988).

E. Monitoring Reporting

In accordance with Section 6.9 of the Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems (Regulations), the permittee shall submit to the Department an annual report summarizing operations, management, administration and maintenance of the facility for the calendar year. The annual report must be submitted to the Department on or before February 28<sup>th</sup> of each year.

Monitoring results obtained during the previous one (1) month/quarter shall be summarized for each month/quarter and reported on an approved On-Site Effluent/Groundwater Monitoring Report Form postmarked no later than the 28<sup>th</sup> day of the month following the completed reporting period. Signed copies of these, and all other reports required herein shall be submitted to the Department at the following address:

Delaware Department of Natural Resources and Environmental Control  
Ground Water Discharges Section  
89 Kings Highway  
Dover, DE 19901

Telephone: (302) 739-9948  
Fax: (302) 739-7764

F. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

G. Test Procedures

Test procedures for the analysis of pollutants shall conform to the applicable test procedures identified in 40 C.F. R. Part 136, unless otherwise specified in this permit.

H. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation shall be retained for five (5) years. This period of retention shall be extended automatically during the course of any unresolved litigation



regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Department.

I. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods specified herein, then the results of such monitoring shall be included in the calculation and reporting of the values required in the appropriate Monitoring Report Form. Such increased frequency shall also be indicated.

J. Schedule of Compliance

1. The permittee shall submit information needed for proper operation of the on-site wastewater treatment and disposal system in accordance with the following schedule:
  - i. Within 90 days of issuance of this permit, the permittee shall submit to the Department an "as-built" set of plans of the facility bearing the seal and signature of a DNREC Class C Licensed Professional Engineer registered in the State of Delaware. The as-built shall contain the following: all permit modifications made; identify all equipment changes; provide new equipment specifications.
  - ii. Within 90 days of issuance of this permit, the permittee shall submit to the Department an emergency contingency plan to demonstrate preparedness in the event that the wastewater treatment facility may experience a significant natural occurrence. The contingency plan must address, but must not be limited to, extended periods of excessive precipitation.
    - a. The contingency plan must delineate the wastewater treatment facility's available options to reduce, eliminate and/or prevent non-compliant conditions.

K. Quality Assurance Practices

The permittee is required to show the validity of all effluent monitoring and groundwater monitoring data by requiring its laboratory to adhere to the following minimum quality assurance practice:

1. Duplicate and spiked samples must be run for each effluent monitoring and groundwater monitoring constituent in the permit on 5% of the samples, or at least on one sample per quarter, whichever is greater. If the analysis frequency is less than one sample per quarter, duplicate

and/or spiked samples must be run for each analysis.

- i. Duplicate samples are not required for color, temperature, and turbidity.
  - ii. Spike samples are not required for the following parameters: acidity, alkalinity, bacteriological, benzidine, chlorine, color, dissolved oxygen, hardness, pH, oil & grease, radiological, residues, temperature, turbidity, BOD<sub>5</sub>, and total suspended solids.
2. For spiked samples, a known amount of each constituent is to be added to the discharge sample. The amount of constituent added should be approximately the same amount present in the unspiked sample, or must be approximately that stated as maximum or average in the discharge permit.
  3. The data resulting from (1) and (2) shall be summarized in the annual report in terms of precision; percent recovery; number of duplicate and spiked samples run; date and laboratory log number of samples run; and name of analyst.
  4. Precision shall be calculated by the standard deviation(s) formula;  $s = (\sum d^2/k)^{.5}$  where d is the difference between duplicate results and k is the number of duplicate pairs used in the calculations.
  5. Percent recovery (R) shall be reported on the basis of the formula  $R = 100 (F-I)/A$  where F is the analytical result of the spiked sample, I is the result before spiking of the sample, and A is the amount of constituent added to the sample.
  6. The percent recovery in Quality Assurance Practice shall be summarized in yearly terms of mean recovery and standard deviation from the mean.  
$$s = \sqrt{\frac{\sum(x - \bar{x})^2}{N - 1}}$$
The formula, where s is the standard deviation around the mean  $x - \bar{x}$ , x is an individual recovery value, and n is the number of data points, shall be applied.
  7. The permittee or contract laboratory is required to annually analyze an external quality control reference sample for each pollutant. These are available through the EPA regional quality assurance coordinator. Results shall be included in the annual report Quality Assurance Practices.
  8. The permittee and/or contract laboratory is required to maintain an up-to-date and continuous record of the method used, any deviations from the method or options employed in the reference method, reagent standardization, equipment calibration and the data obtained in Quality

Assurance Practices.

9. If a contract laboratory is utilized, the permittee shall report the name and address of the laboratory and the parameters analyzed together with the monitoring data.

L. Termination of NPDES Permit

Within 30 days of issuance of this permit, the permittee shall abandon the NPDES permit according to the following procedures:

1. The permittee must notify the Department in writing of its desire to abandon their NPDES permit.
2. The permittee must take steps to plug any point source discharge points, such that there cannot be any future discharges from that discharge point. This is typically accomplished by filling in (cement) the discharge piping and disassembling from the process.
3. The permittee must notify the Department in writing that any and all point source discharges have been eliminated and that all discharge piping has been rendered total inoperable.
4. The Surface Water Discharges Section shall be notified once the discharge point is eliminated to physically inspect the inoperability of the discharge and piping.
5. A final Approval Letter to Abandon the NPDES Permit must be obtained from the Department.

**Part II**

A. MANAGEMENT REQUIREMENTS

a. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible all collection, treatment and disposal system components installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

Operation of this wastewater disposal facility requires a Class IV operator. The operator is responsible for operation, maintenance, and sampling of the facility. The operator shall perform site checks at a minimum of once every two weeks or as needed to adequately operate the facility.

An operator log must be kept on site at all times. All records and reports shall also be kept on site at all times. This log shall, at a minimum, include the following:

- i. Time spent at the treatment facility on any date
- ii. Details of the operation and maintenance performed on the system on any date
- iii. The volume of wastewater treated and disposed of
- iv. Identification of and description of any portions of the disposal system that were ponding
- v. A record of any deviations from the operation and maintenance manual
- vi. General daily weather conditions
- vii. A record of all actions taken to correct violations of this permit and the Department's regulations
- viii. Record of all site management activities undertaken
- ix. Record the date and volumes, and destination of biosolids removed from the facility. A copy of the biosolids hauling receipts with amounts removed shall be kept on file at the site

b. Change in Discharge

Any usage authorized herein shall be consistent with the terms and conditions of this permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges must be reported by submission of a written report to the Department with the following time lines:

- i. Thirty (30) days before any planned physical alteration or addition to the permitted facility or activity if that alteration or addition would result in any change in information that was submitted to the Department.
- ii. Thirty (30) days before any anticipated change which would result in noncompliance with any permit condition or the regulations.

- iii. Immediately after the permittee becomes aware of relevant facts not submitted or incorrect information submitted in a permit application or any report to the Department. Those facts or the correct information shall be submitted as soon as possible and be included as part of the report.

c. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any limitations specified in this permit, the permittee shall contact the Ground Water Discharges Section at 739-9948, within 24 hours of noncompliance issue occurring. During non-business hours, weekends or holidays, the permittee shall call the Department's Enforcement Section at (800) 662-8802.

The permittee shall also provide the Ground Water Discharges Section with the following information, in writing, within five (5) days of becoming aware of such condition:

- i. A description of, and cause of noncompliance with any such limitation or condition; and
- ii. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying condition; and
- iii. Steps taken or planned to reduce or eliminate reoccurrence of the noncompliance.

d. Facilities Operation

The permittee shall at all times properly maintain and operate as efficiently as possible all structures, systems and equipment for treatment control and monitoring which are used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes, 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.

e. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the State resulting from this permit, including such



accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

f. Removed Substances

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

g. Power Failures

An alternative power source, which is sufficient 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.

h. Start-Up Notification

The permittee shall notify the Ground Water Discharges Section at (302) 739-9948, 15 days prior to placing the facility into operation.

B. RESPONSIBILITIES

a. Reapplication for a Permit

At least 180 days prior to the expiration date of the operation permit, the permittee must submit an application 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  $\geq 100,000$  gpd, must include a five (5) year Compliance Monitoring Report (CMR) in accordance with Section 6.5.4.3 of the Regulations.

In the event that 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.

b. Right of Entry

The permittee shall allow, at reasonable times, the Secretary of the Department of Natural Resources and Environmental Control, or his

authorized representatives, upon the presentation of credentials and such other documents as may be required by law:

- i. To enter upon the permittee's premises where the on-site wastewater treatment and disposal system is located or where any records are required to be kept under the terms and conditions of this permit;
- ii. To have access to and copy any records required to be kept under the terms and conditions of this permit;
- iii. To inspect any facility, equipment, monitoring method, monitoring equipment, practice or operation permitted or required under this permit; and
- iv. d. To sample or monitor for the purpose of assuring permit compliance with any condition of this permit, the regulations or 7 Del C., Chapter 60.

c. Transfer of Ownership and Control

No person shall transfer a permit from one location to another or from one piece of equipment to another. No person shall transfer a permit from one person to another unless thirty 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 transfer approved by the Department are complied with by the transferor and the transferee.

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.

d. 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 of Natural Resources and Environmental Control. 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.

e. Permit Modification, Revocation and Termination

After notice and opportunity for a hearing, this permit may be modified, terminated, or revoked in whole or in part during its term for cause including, but not limited to, any of the following:

- i. Violation of any terms of conditions of this permit, the regulations, 7 Del. C., Chapter 60 or failure to pay applicable Department fees;
- ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- iv. If the Department finds that the health, safety or welfare of the public 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 and prior notice thereof. Such hearings shall be conducted in accordance with 7 Del. C., Chapter 60.

f. 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.

g. 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.

h. 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.

### **PART III**

#### **A. SPECIAL CONDITIONS**

- a. Connections or additions to the on-site wastewater treatment and disposal system other than those indicated on the approved plans will not be allowed without prior approval of the Department.
- b. 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 on-site wastewater treatment and disposal system.
- c. In the event that the permittee installs new monitoring wells/observation wells, the permittee shall submit to the Department new elevation details relative to the common benchmark previously established.
- d. A valid sludge hauling contract shall be maintained for the life of the system. A copy of the waste manifest shall be made available to the Department during the annual compliance inspection or upon request. Any changes in the sludge haulers shall be reported to the Department immediately.
- e. This permit does not relieve the permittee of complying with any other applicable Federal, State or local regulations.
- f. The rapid infiltration basins shall have at least a 72-hour resting period between doses.
- g. The rapid infiltration basin surface must be maintained as necessary to remove any impedance of infiltration. Any maintenance activity, scheduled or emergency must be performed when the basin is dry.
- h. The Department will conduct annual compliance inspection with the facility's operator of the on-site wastewater treatment and disposal system. An inspection fee will be charged.
- i. The permittee must comply with the conservation easement made on June 8, 2012 between the Town of Millsboro and the Department.
- j. Discharge to the stream outfall shall cease upon issuance of this permit.
- k. This permit does not permit the discharge to the spray irrigation disposal area.