

MARYLAND DEPARTMENT OF THE ENVIRONMENT

WATER MANAGEMENT ADMINISTRATION

1800 Washington Boulevard

Baltimore, Maryland 21230

Response to Public Comments

Regarding

Centreville Wastewater Facility

State Discharge Permit Application No. 05-DP-3323

May 25, 2007

RESPONSE DOCUMENT

State Discharge Permit Application No. 05-DP-3323

Centreville Town Council, P.O. Box 100, 101 Lawyers Row, Centreville, Maryland 21617 submitted an application to renew a permit to discharge an average of 542,000 gallons per day (gpd) (including 500,000 gpd in the existing permit and 42,000 gpd additional flow) of treated domestic wastewater from the Centreville Wastewater Treatment Plant located at 116 Johnstown Lane, Centreville, Maryland to groundwater via a spray irrigation system.

A Notice of Public Hearing and Tentative Determination to issue a discharge permit was published on February 9 and 16, 2007, and a public hearing was held on March 26, 2007. Extensive written comments received during the public participation process and testimony received during the public hearing on the tentative determination have been reviewed by the Department. A summary of the significant comments related to the proposed groundwater permit and the Department's response are provided below.

COMMENT (Objection to increase the system capacity for additional 42,000 gal/day)

The Town has had to discharge some of the stored effluent back into the Corsica River for the last two years. The spray irrigation site might not have adequate capacity for the additional wastewater flow. The decision to increase capacity should be deferred until it is shown that the soil, crop, storage capacity and spray equipment have the proven capacity to handle a much greater load for a sustained period of time.

RESPONSE

The permittee identified an additional 7 acres for irrigating the requested increased flow of 42,000 gal/day (gpd). The calculations to demonstrate the site capacity of 542,000 gpd for the total spray area of 173.4 acre are shown in URS Corporation's letter of September 19, 2006 to MDE. The calculations also demonstrate that the 24.2- acre reserve area can provide a spray irrigation capacity of 135, 500 gpd to meet the MDE 25% reserve capacity requirement.

COMMENT (Storage capacity requirement)

MDE Guidelines for Land Treatment of Municipal Wastewater recommends a 60-day storage capacity for spray irrigation system. The existing Centreville storage pond provides a 41-day storage time at the proposed flow of 542, 000 gpd which does not meet the MDE storage time requirement.

RESPONSE

The purpose of requiring 60-days storage is to hold treated wastewater during inclement weather periods including freezing temperature and rainy days. The Centreville wastewater treatment plant is permitted to discharge treated wastewater to surface water during winter months. This alternative for surface water discharge eliminates the need of 60-day storage. The 41-day storage currently provided at the storage pond provides adequate storage for consecutive rainy days.

COMMENT (Effect of stream flow on trees)

There are trees no longer standing next to the stream since a great volume of water has been directed to the stream.

RESPONSE

There is no identifiable direct link that the volume of water in the stream is due to irrigating treated wastewater from the Centreville spray irrigation site. The amount of stream flow is affected by many factors such as rainfall intensity, landscape characteristics of the drainage area and acreage of drainage area. Since surface runoff from spray irrigation operation is prohibited by the permit, there shall be no contribution to stream flow from runoff of irrigating treated wastewater. Some of the irrigation water is consumed by vegetation or evaporated. The evapotranspiration (ET) potential between May and September averages 4 inches per month, which reduces the infiltration flow from irrigation water to the groundwater system.

COMMENT (Excessive wastewater to the treatment plant for stream discharge)

On 3/16/2006, there was as much as one and a half million gallons (MG) wastewater that went through the plant, including the stored effluent from the pond, and discharged to the stream. If all of the wastewater is treated at the plant, does the plant have adequate treatment capacity? If the system has to rely on the surface discharge of stored effluent, it may not have adequate capacity for the flow increase.

RESPONSE

The Centreville Wastewater Treatment Plant (WWTP) daily records indicate that the permit outfall effluent flow on 3/16/2006 was 1.147 million gallons per day (MGD) while the WWTP influent flow was 0.337 MGD. This means 0.81 MG was pumped from the storage pond back to the WWTP outfall for stream discharge. Discharge to surface water in March is allowable by the NPDES permit. Lowering the lagoon water level prior to the spray irrigation season provides operational flexibility.

Approval of a flow increase of 42,000 gpd is based on the additional available spray area of 7 acres mentioned in Comment 1 on the preceding pages.

Comment (nutrient management plan)

It was requested that the nutrient management plan (NMP) should include a soil test once per year. Nitrogen, phosphate and potassium contents in wastewater must be tested for preparing the NMP. Metals concentrations in the wastewater shall also be tested. The spray irrigation site should not be permitted for chicken manure application.

RESPONSE

The existing NMP includes a soil testing schedule of once every two years which is more frequent than the 3-year valid period for soil analysis stipulated in COMAR 15.20.08.05.D.(3). The following conditions were added to Section I.C.7. to address the NMP comments: The plan shall be prepared in accordance with COMAR 15.20.08.05 with applicable effluent

characteristics. The permittee has ruled out the potential for applying chicken manure waste as fertilizer at this site and therefore such application is prohibited.

COMMENT (Queen Anne County Commissioners request to include 7 conditions)

In a letter to Secretary Wilson on March 22, 2007, the Queen Anne County Commissioners requested to add the following seven conditions to the permit. Similar conditions were proposed by MDE staff during a meeting with the Commissioners on March 20, 2007 in response to input received from the community.

- Add a statement indicating that the permitted flow is 542,000 gpd and the irrigation period is from January 1 through December 31.
2. The condition limiting the windy day operation must be revised to indicate that irrigation may not take place if there is a chance that aerosols or droplets will be carried off site.
 3. The permit needs an additional condition clarifying that the required reserve area is in addition to and separate from the buffer zone.
 4. We would like to see another condition requiring flow meter installation for each spray field in use.
 5. Operator qualifications should be clarified.
 6. Explanation of existing rules for buffer reduction if effluent quality meets reclaimed water quality with review and approved by MDE.
 7. Provide clearer maps better delineating the locations of the spray irrigation fields.

RESPONSE:

The following permit conditions have been incorporated into the final permit determination:

Condition I.A.1. now includes: The Permittee is authorized to discharge treated wastewater via spray irrigation to ground waters of the State at the site shown on Maps A&B up to a maximum annual average flow of 0.542 million gallons per day. The authorized discharge period is January 1 through December 31.

Condition I.C.4. now includes: Irrigation of treated wastewater that results in aerosols or droplets being carried off site is prohibited

Condition I.C.8. now includes: The required 25% reserve area is in addition to and separate from the required buffer zone in Condition 9 below.

Condition I.C.10. now includes: Beginning no later than 3 months after the permit effective date, each spray field that is in use shall have a flow meter to accurately determine the irrigation rate.

Condition I.D.1. now includes : The spray irrigation system shall be operated by a Class 5 certified operator or an operator with a temporary certificate per COMAR 26.06.01.06 if

supervised by a Class 5 certified operator (supervisor must be available but does not have to be onsite).

Condition I.C.9. (b) now includes: Upon review and approval by the Department, the buffer zone distance specified in items 9.a and 9.b above may be reduced to meet the buffer distance stipulated in §9-303.1 of the Environmental Article if the effluent quality meets the reclaimed water quality of BOD₅ < 10 mg/l, total suspended solids <10 mg/l and fecal coliform <3 MPN/100 ml.

Map B was revised to reflect comments included in Item 7 above.

COMMENT (Daily report)

The daily report of the spray irrigation system, which is prepared by the trainee, shall be reviewed by the supervisor on a daily basis.

RESPONSE:

Permit condition I.C.11. now includes : Within 60 days of permit issuance, the permittee shall develop and implement a set of standard operating procedures (SOPs) for the supervision of any temporary certified operator to ensure permit requirements are being implemented. The SOPs shall include daily review of the operating logs by the supervising operator. The SOPs shall be kept onsite and be available for inspection by the Department personnel upon request