



State of New Jersey

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DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Via Email Only

James F. Cosgrove, Jr., P.E.
Kleinfelder, Inc.
150 College Road West
Suite 100
Princeton, NJ 08540

October 23, 2020

Dear Mr. Cosgrove:

The Department has completed review of the final report entitled, “Chester Borough Wastewater Treatment Plant Antidegradation Study,” dated July 15, 2020, including an addendum dated August 24, 2020. The addendum addressed the Department’s comments that were sent via e-mail on August 14, 2020. The purpose of this study is to determine the water quality based effluent limitations for a new New Jersey Pollutant Discharge Elimination System (NJPDES) discharge to surface water permit that ensures compliance with the antidegradation policies at N.J.A.C 7: 9B-1.5(d) and 1.9. Consistent with the provisions of N.J.A.C. 7:14A-2.12(c), this study required a Department approved Work/Quality Assurance Project Plan prior to the start of sampling. The permittee received a formal work plan approval letter on June 25, 2018, and sampling commenced on July 3, 2018.

Chester Borough owns a wastewater treatment plant that has a daily maximum permitted flow of 75,000 gallons per day (gpd), which is regulated through a NJPDES Discharge to Ground Water permit no. NJ0054101. Numerous excursions of the permitted flow have occurred resulting in hydraulic overloading of the disposal beds during high ground water periods. This excess flow can potentially reach and impact nearby streams and available ambient data is showing such impacts as described in the report. Additionally, there are unsewered areas in the Borough with failing septic systems. In order to rectify both of these problems, the permittee is proposing to replace the existing facility with an upgraded wastewater treatment plant that has a design flow of 275,000 gpd that will discharge to surface water. This new treatment plant’s service area will include those presently connected to the existing DGW plant, as well as the unsewered areas of the Borough.

The proposed discharge location is to Oakdale Creek, which is classified as FW2-NT Category 2. The study also considered the impact of the discharge on the Lamington River, which is approximately 1.4 km from the proposed outfall location. Lamington River is classified as FW2-NT Category 1 at the confluence with Oakdale Creek. The 2014 Final 303(d) list of Water Quality Limited Waters included identification of the Lamington River due to a total phosphorus (TP) impairment. This impairment is

addressed in the final TMDL report entitled, “Total Maximum Daily Load Report for the Non-Tidal Raritan River Basin Addressing Total Phosphorus, Dissolved Oxygen, pH, and Total Suspended Solids Impairments,” which was adopted by the Department into the applicable Water Quality Management Plans on May 24, 2016.


In accordance with N.J.A.C. 7:9B-1.5(d) for Category Two Waters, water quality characteristics that are generally better than, or equal to the water quality standards shall be maintained within a range of quality that shall protect the existing/designated uses, while Category One Waters shall be protected from any measurable changes to the existing water quality. The Department’s anti-degradation policy defines no measurable change in water quality as a change that is less than or equal to 5% of either the downstream concentration or assimilative capacity. Any measurable degradation of water quality parameters currently better than the water quality criteria would be allowed because of necessary and justifiable social or economic development in accordance with N.J.A.C. 7:9B-1.9.

The proposed wasteload allocations referenced in Table 13, page 45 of the above referenced final report and a chronic WET limit of IC25 = 61%, will ensure that the discharge does not violate the Surface Water Quality Criteria, provides for sufficient reserve capacity in Oakdale Creek and Lamington River, and is in accordance with the Raritan TMDL. Also, the proposed surface water discharge will not cause any measurable change in water quality in the Lamington River; although there may be some measurable changes in Oakdale Creek for nitrate, copper, lead, nickel, and zinc during low flow periods. However, the overall environmental benefit of this project extends beyond the protection of water quality in Oakdale Creek during low flow periods. Water quality sampling data show human Bacteroides are present in high concentrations during wet weather events in Oakdale Creek and Peapack Brook (two areas known to be impacted by failing septic systems). Additionally, the annual nitrate load to all headwater streams in Chester Borough will decrease as a result of the upgraded treatment facility. The purpose of this project is to rectify the problems associated with the existing DGW treatment plant as well as the failing septic systems in the area. This will result in improved water quality for Oakdale Creek, Lamington River, and the surrounding streams during all flow conditions. Therefore, the proposed surface water discharge to Oakdale Creek satisfies the antidegradation regulations.

The findings from this study will be utilized in any proposed NJPDES discharge to surface water permit which will be subject to public comment and review, in accordance with N.J.A.C. 7:14A-16.4. In addition, any formal approval of a wastewater discharge will be conditional on receipt of a water quality management plan amendment as well as a Treatment Works Approval. Application forms for a NJPDES permit can be found at: https://www.nj.gov/dep/dwq/forms_surfacewater.htm

If you have any questions, please contact me at Marzooq.Alebus@dep.nj.gov .

Sincerely,



Marzooq Alebus
Supervising Research Scientist
Bureau of Surface Water Permitting

cc: Susan Rosenwinkel, Bureau Chief, Bureau of Surface Water Permitting
Jenna Immordino, Bureau of Surface Water Permitting
Teresa Guloy, Environmental Scientist 3, Bureau of Surface Water Permitting