

**DOCKET NO. D-1996-045 CP-3**

**DELAWARE RIVER BASIN COMMISSION**

**Lansdale Borough  
Wastewater Treatment Plant Upgrade  
Lansdale Borough, Montgomery County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Hazen and Sawyer, PC on behalf of Lansdale Borough on April 11, 2014 (Application) for review of modifications to the docket holder's existing wastewater treatment plant (WWTP). The Pennsylvania Department of Environmental Protection (PADEP) issued National Pollutant Discharge Elimination System (NPDES) Permit No. PA0026182 A-2 for the project WWTP on February 20, 2014.

The Application was reviewed for inclusion of the project in the Comprehensive Plan and approval under Section 3.8 of the *Delaware River Basin Compact*. The Montgomery County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on June 10, 2014.

**A. DESCRIPTION**

**1. Purpose.** The purpose of this docket is to approve an upgrade of the docket holder's existing 4.5 million gallons per day (mgd) WWTP. The proposed upgrade will enable the facility to accommodate a higher peak instantaneous flow rate in order to minimize the frequency of combined sewer overflows (CSOs) and to increase plant efficiency. The project consists of expanding the existing influent pump station, modifying existing nitrification and de-nitrification tanks to be used for aeration, and appurtenant modifications.

**2. Location.** The Lansdale WWTP is located on 9<sup>th</sup> Street, adjacent to the east of railroad tracks now or formerly owned by Penn Central Railroad, in the Borough of Lansdale, Montgomery County, Pennsylvania. The Lansdale WWTP discharges to an unnamed tributary to the West Branch Neshaminy Creek, itself a tributary to the Neshaminy Creek, at River Mile 115.63 – 40.01– 5.35 – 1.25 (Delaware River – Neshaminy Creek– West Branch Neshaminy Creek – UNT West Branch Neshaminy Creek).

The project outfalls are located in the Neshaminy Creek Watershed as follows:

OUTFALL NO.	TYPE	LATITUDE (N)	LONGITUDE (W)
001	WWTP	40° 15' 34"	75° 17' 20"
002	CSO	40° 15' 34"	75° 17' 20"
003	CSO	40° 14' 50"	75° 16' 21"
004	Stormwater	40° 07' 48"	75° 09' 31"

**3. Area Served.** The project WWTP currently serves the Borough of Lansdale in Montgomery County, Pennsylvania. The WWTP is also approved to receive up to 1,000,000 gallons per day (gpd), not to exceed a monthly average of 750,000 gpd, of pre-treated, industrial wastewater from the Merck pharmaceutical facility, located in Upper Gwynedd Township, Montgomery County, Pennsylvania. The Merck facility is a light industrial/manufacturing use, batch-operation facility and sources of the industrial wastewater are office, utility, laboratory, and vaccine production buildings and a pharmaceutical finishing facility. The equipment in the pharmaceutical building is vacuum cleaned; wastewater is generated from post-vacuum rinsing and cleaning of the building. Merck pretreats its wastewater onsite to inactivate, neutralize, and equalize the flow prior to leaving the Merck property.

For the purpose of defining the Area Served, the Application is incorporated herein by reference consistent with conditions contained in the DECISION section of this docket.

**4. Physical features.**

**a. Design criteria.** The project WWTP is hydraulically designed to treat a monthly average flow of up to 4.5 mgd and an annual average flow of up to 3.2 mgd, via an activated sludge / extended aeration treatment system, with nitrification and de-nitrification, and post-aeration. The proposed project includes upgrades to the facility to increase the peak instantaneous flow rate from 8.0 mgd to 12.0 mgd in order to minimize CSOs. The upgrades will also enable the plant to operate more efficiently during normal operations in order to reduce operation costs. The design monthly average flow and average annual flow will remain at 4.5 mgd and 3.2 mgd, respectively.

**b. Facilities.** The existing WWTP facilities consist of an influent pump station, a mechanically cleaned bar screen and comminutor with a standby manually-cleaned bar screen, two (2) grit removal tanks, one (1) on-line flow equalization basin and three (3) off-line storage/flow equalization basins, two (2) aeration tanks, and two (2) activated sludge clarifier tanks. Aeration is provided by four (4) diffuser systems along the length of each tank. A phosphorus stripper tank and reactor clarifier are designed to remove phosphorus from sludge collected in the secondary clarifiers. Sludge handling facilities include two (2) gravity thickeners. Nitrification and denitrification facilities include two (2) nitrification trickling filters utilizing plastic media, two (2) nitrification clarifier tanks (currently out-of-service), two (2) denitrification reactors, and two (2) denitrification clarifier tanks. Two (2) chlorine contact tanks provide chlorine disinfection for Outfall 001 effluent. Sodium bisulfite is added to accomplish

dechlorination and eliminate active chlorine residual in the effluent. Following dechlorination, post-aeration is provided via two (2) aeration tanks using mechanical aerators.

During excess wet weather flow conditions, combined raw sewage and storm water overflow (combined sewer overflow or CSO) is diverted into an overflow chamber where chlorine is added for disinfection, and the chlorinated wastewater is diverted to a swirl concentrator for solids removal prior to discharge to an unnamed tributary to the Neshaminy Creek via Outfall 002.

The proposed improvements are designed to minimize CSOs and consist of adding an influent pump station to operate in parallel with the existing pump station; replacing undersized piping; and replacing the existing parshall flume that monitors effluent flow to accommodate a peak instantaneous flow up to 12.0 mgd. The proposed improvements designed to increase plant efficiency consist of retrofitting existing de-nitrification basins with fine bubble membrane diffusers in order to provide aeration and utilizing the existing out-of-service nitrification clarifiers for settling.

Prior facilities and processes for the existing WWTP have been described in DRBC Docket Nos. D-1975-047 CP-1, D-1996-045 CP-1, and D-1996-045 CP-2, approved by the DRBC on July 28, 1976, December 11, 1996, and July 13, 2011, respectively.

The project facilities are protected from the 100-year flood zone through the construction of a levee that is located above the flood protection elevation (one foot above the 100-year flood elevation).

Wasted sludge will continue to be hauled off-site by a licensed hauler for disposal at a State-approved facility.

**c. Water withdrawals.** The potable water supply in the project service area is provided by groundwater wells owned and operated by North Penn Water Authority. The groundwater withdrawal is described in detail in Docket No. D-1992-044 CP-3, which was approved by the DRBC on December 7, 2005.

**d. NPDES Permit / DRBC Docket.** PADEP issued NPDES Permit No. PA0026182 A-2 for the WWTP on February 20, 2014, which includes final effluent limitations for an annual average flow of 3.2 mgd to surface waters classified by the PADEP as Warm Water Fishery (WWF) and Migratory Fishery (MF). The following average monthly effluent limits are among those listed in the NPDES permit and meet or are more stringent than the effluent requirements of the DRBC.

**EFFLUENT TABLE A-1: DRBC Parameters Included in NPDES permit**

<b>OUTFALL 001 (WWTP discharge)</b>		
<b>PARAMETER</b>	<b>LIMIT</b>	<b>MONITORING</b>
pH (Standard Units)	6 to 9	As required by NPDES permit
Total Suspended Solids	30 mg/l	As required by NPDES permit
CBOD (5-Day at 20° C) (5-1 to 10-31) (11-1 to 4-30)	11 mg/l (85% minimum removal*)	As required by NPDES permit
	22 mg/l (85% minimum removal*)	
Ammonia Nitrogen (5-1 to 10-31) (11-1 to 4-30)	1.5 mg/l	As required by NPDES permit
	4.5 mg/l	
Fecal Coliform	200 col. / 100 ml as a geo. avg.	As required by NPDES permit

\* DRBC Requirement

**EFFLUENT TABLE A-2: DRBC Parameters Not Included in NPDES Permit**

<b>OUTFALL 001 (WWTP discharge)</b>		
<b>PARAMETER</b>	<b>LIMIT</b>	<b>MONITORING</b>
Total Dissolved Solids*	1,000 mg/l *	One Per Quarter ** (WWTPs)

\* DRBC Requirement

\*\* See Condition II.t.

e. **Cost.** The overall cost of this project is estimated to be \$2,925,083.00.

f. **Relationship to the Comprehensive Plan.** The existing Lansdale WWTP was included in the Comprehensive Plan via Docket No. D-1975-047 CP-1 on July 28, 1976. The WWTP was re-rated via Docket Nos. D-1996-045 CP-1 and D-1996-045 CP-2 on December 11, 1996 and July 13, 2011, respectively.

## **B. FINDINGS**

The purpose of this docket is to approve an upgrade to the docket holder's existing WWTP to enable the facility to accommodate a peak instantaneous flow rate up to 12.0 mgd in order to minimize the frequency of combined sewer overflows (CSOs) and to increase plant efficiency. The project consists of expanding the existing influent pump station, modifying existing nitrification and de-nitrification tanks to be used for aeration, and appurtenant modifications. The WWTP will remain hydraulically designed to treat a monthly average flow of up to 4.5 mgd and an annual average flow of up to 3.2 mgd,

At the project site, the unnamed tributary to the West Branch Neshaminy Creek is intermittent.

The nearest surface water intake of record for public water supply downstream of the project discharge is operated by the Aqua Pennsylvania, and is located on the Neshaminy Creek approximately 35 miles downstream of the project discharge.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

The effluent limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the Water Quality Regulations (WQR) of the DRBC.

### **C. DECISION**

I. Effective on the approval date for Docket No. D-1996-045 CP-3 below:

a. The project described in D-1996-045 CP-2 is removed from the Comprehensive Plan to the extent that it is included in Docket No. D-1996-045 CP-3; and

b. Docket No. D-1996-045 CP-2 is terminated and replaced by Docket No. D-1996-045 CP-3.

c. The project and the appurtenant facilities described in the Section A “Physical Features” of this docket shall be added to the Comprehensive Plan.

II. The project and appurtenant facilities as described in the Section A “Physical features” of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP in its NPDES permit and Water Quality Management (Part II) permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s. Commission approval of this docket is contingent upon PADEP’s approval of the Part II permit.

b. The facility and operational records shall be available at all times for inspection by the DRBC.

c. The facility shall be operated at all times to comply with the requirements of the WQR of the DRBC.

d. The docket holder shall comply with the requirements contained in the Effluent Table(s) in Section A.4.d. of this docket. The docket holder shall submit the required monitoring results directly to the DRBC Project Review Section. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations.

e. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.

f. If at any time the receiving treatment plant proves unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.

g. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

h. Sound practices of excavation, backfill and reseeded shall be followed to minimize erosion and deposition of sediment in streams.

i. Within 10 days of the date that construction of the project has started, the docket holder shall notify the DRBC of the starting date and scheduled completion date.

j. Within 30 days of completion of construction of the approved project, the docket holder is to submit to the attention of the Project Review Section of DRBC a Construction Completion Statement (“Statement”) signed by the docket holder’s professional engineer for the project. The Statement must (1) either confirm that construction has been completed in a manner consistent with any and all DRBC-approved plans or explain how the as-built project deviates from such plans; (2) report the project’s final construction cost as such cost is defined by the project review fee schedule in effect at the time the application was made; and (3) indicate the date on which the project was (or is to be) placed in operation. In the event that the final project cost exceeds the estimated cost used by the docket holder to calculate the DRBC project review fee, the statement must also include (4) the amount of any outstanding balance owed for DRBC review. The outstanding balance will equal the difference between the fee paid to the Commission and the fee calculated on the basis of the project’s final cost, using the formula and definition of “project cost” set forth in the DRBC’s project review fee schedule in effect at the time application was made.

k. The WWTP modifications shall be completed within three years of approval of this docket or the docket holder shall demonstrate to the Executive Director that it has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval. If the modifications have not been completed within three years of Docket Approval and the docket holder does not submit a cost analysis demonstrating substantial funds have been expended, Commission approval of the modifications to the existing WWTP shall expire. If the docket expires under this condition, the docket holder shall file a new application with the Commission and receive Commission approval prior to initiating construction of any modifications.

l. The docket holder is permitted to treat and discharge wastewaters as set forth in the Area Served Section of this docket, which incorporates by reference Sections B

(Type of Discharge) and D (Service Area) of the docket holder's Application to the extent consistent with all other conditions of this DECISION Section.

m. The docket holder shall discharge wastewater in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

n. No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

o. Nothing in this docket approval shall be construed as limiting the authority of DRBC to adopt and apply charges or other fees to this discharge or project.

p. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.

q. Unless an extension is requested and approved by the Commission in advance, in accordance with paragraph 11 of the Commission's Project Review Fee schedule (Resolution No. 2009-2), the docket holder is responsible for timely submittal of a docket renewal application on the appropriate DRBC application form at least 12 months in advance of the docket expiration date set forth below. The docket holder will be subject to late charges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below (or the later date established by an extension that has been timely requested and approved), the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

r. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

s. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the Delaware River Basin Compact, cases and controversies arising under the Compact are reviewable in the United States district courts.

t. The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.

u. The docket holder is prohibited from treating/pre-treating any hydraulic fracturing wastewater from sources in or out of the Basin at this time. Should the docket holder wish to treat/pre-treat hydraulic fracturing wastewater in the future, the docket holder will need to first apply to the Commission to renew this docket and be issued a revised docket allowing such treatment and an expanded service area. Failure to obtain this approval prior to treatment/pre-treatment will result in action by the Commission.

**BY THE COMMISSION**

**DATE APPROVED: June 11, 2014**

**EXPIRATION DATE: June 30, 2021**