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DOCKET NO. D-1992-018 CP-5

DELAWARE RIVER BASIN COMMISSION

**Delaware County Regional Water Quality Control Authority
Western Regional Wastewater Treatment Plant
City of Chester, Delaware County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an application submitted to the Delaware River Basin Commission (DRBC or Commission) on October 1, 2024 (Application), for renewal of the docket holder's existing wastewater treatment plant (WWTP) and its discharge. The Pennsylvania Department of Environmental Protection (PADEP) issued National Pollutant Discharge Elimination System (NPDES) Permit No. PA0027103 for this discharge.

The application was reviewed for continuation of the project in the Comprehensive Plan and approval under Section 3.8 of the *Delaware River Basin Compact*. The Delaware County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on August 5, 2026.

A. DESCRIPTION

- Purpose.** The purpose of this docket is to renew approval of the docket holder's existing 44 million gallons per day (mgd) wastewater treatment plant (WWTP) and its discharge.
- Location.** The docket holder's WWTP is located at West Front Street, adjacent to the Delaware River, approximately one mile south of the Commodore Barry Bridge in the City of Chester, Delaware County, Pennsylvania. The WWTP will continue to discharge treated effluent to Water Quality Zone 4 of the Delaware River, at River Mile 80.7.

The location of the WWTP outfall in the Delaware River Watershed is as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	39° 49' 25"	75° 23' 22"

3. **Area Served.** The docket holder's WWTP will continue to serve Aston Township, Borough of Chester Heights, Central Delaware County Authority, Darby Creek Joint Authority, Delaware River Service Area, Lower Chichester Township, Marcus Hook Area, Middletown Township Sewer Authority, Muckinipates Authority, Radnor Haverford Marple Authority, Rose Valley Borough, and Southern Delaware County Authority, all located in Pennsylvania. For the purpose of defining the Area Served, the Type of Discharge and the Service Area sections from the docket holder's Application are incorporated herein by reference, to the extent consistent with all other conditions contained in Section C. DECISION of this docket.

The WWTP also receives trucked-in wastewater such as municipal sludge, landfill leachate, and residual waste from municipal treatment plants and industrial users outside the Western Regional WWTP's service area. The docket holder indicated in the application that the WWTP does not import 50,000 gallons per day (gpd) or greater of wastewater from outside the Delaware River Basin (DRB) for treatment at and discharge from the Western Regional WWTP. Prior to importing and/or treating 50,000 gpd or greater of wastewater from outside the DRB, the docket holder is required to apply for and obtain DRBC approval.

4. **Design Criteria.** The docket holder's existing 44 mgd WWTP utilizes an extended aeration/activated sludge treatment process with chlorine disinfection. The WWTP is designed for an annual average flow of 44 mgd, and a hydraulic design capacity of 50 mgd.

5. **Facilities.** The WWTP facilities provide wastewater collection and treatment for the western portion of its regional service area at the WWTP. Existing key liquid treatment processes include two (2) aerated grit chambers, eight (8) rectangular primary clarifiers, four (4) square activated sludge aeration basins, six (6) final clarifiers, and four (4) chlorine contact tanks. Hauled in waste waters are introduced at PS-6 and mix with influent wastewater prior to pre-aeration. Form 43 waste and Form U sludges are hauled into the sludge holding tanks. Grease is introduced to the DAF for thickening.

Wasted sludge will continue to be processed via gravity belt thickeners, belt presses, and incinerators. Incinerated ash is stored in on-site silos and then taken to a landfill for disposal.

6. **Water Withdrawals.** The potable water supply in the project service area is provided by Chester Water Authority, which was approved by Docket No. D-1969-060 CP-1 on May 28, 1969.

7. **NPDES Permit / DRBC Effluent Requirements.** NPDES Permit No. PA0027103, issued by the PADEP includes final effluent limitations for the project discharge to surface waters classified by the PADEP as supporting warm water fishes and migratory fishes (WWF-MF). EFFLUENT TABLES C-1 & C-2, included in Section C. DECISION condition C.1. of this docket, contain effluent requirements for DRBC parameters that must be met as a condition of this approval. Effluent requirements for Outfall No. 001 are based on a discharge rate of 44 mgd.

8. **Relationship to the Comprehensive Plan.** The existing WWTP was included in the Comprehensive Plan by Docket No. D-1972-008 CP-1 on February 23, 1972. The WWTP approval was renewed and/or modified by Docket Nos. D-1973-031 CP-1 on February 28, 1973,

D-1992-018 CP-1 on April 28, 1993 and D-1992-018 CP-2 on September 21, 2011. Docket Nos. D-1992-018 CP-3 and D-1992-018 CP-4 approved a proposed expansion and new outfall diffuser construction on June 15, 2016 and March 13, 2019, respectively. However, neither were constructed. Issuance of this docket will continue the WWTP and its discharge in the Comprehensive Plan.

B. FINDINGS

The docket holder applied to renew approval of their existing 44 mgd WWTP and its discharge. The docket holder has also proposed to make the following WWTP upgrades in the next few years: replacement of chlorine disinfection with UV light disinfection along with installing a bulk sodium hypochlorite storage facility and site wide feed system to support non-disinfection needs. Additional upgrades include replacement of one of the clarifiers, management of odor control at the influent pump station, replacement of the Belt Filter Presses, and switch to conveyors for incinerator feed. The docket holder shall require approval from PADEP for all appropriate upgrades.

1. Zone 4 Water Quality Criteria

DELCORA evaluated whether the dilution factors achieved by the current outfall are sufficient to satisfy the receiving water quality criteria in DRBC's Administrative Manual – Part III Water Quality Regulations (18 CFR Part 410). Those regulations specify the method for determining the dilution factor to be applied in evaluating compliance with acute aquatic life criteria (i.e., Section 4.20.4.A.1), hereafter referred to as the acute dilution factor. The regulations also specify that for estuaries, complete vertical and lateral mixing shall be assumed in applying chronic aquatic life and human health criteria (i.e., Section 4.20.5.A.4), hereafter referred to as the complete mix dilution factor.

As previously determined by DELCORA, the acute dilution factor achieved by the existing outfall is 1.2, DRBC staff have determined complete mix dilution factors as follows: 99 to 1 for evaluation of compliance with chronic aquatic life criteria and systemic (noncarcinogenic) human health criteria, and 170 to 1 for evaluation of compliance with carcinogenic human health criteria. DELCORA's analysis found that the above acute and complete mix dilution factors for the current outfall are sufficient to obviate the need for chemical specific effluent limitations for all parameters in DRBC's Water Quality Regulations with the following clarifications:

Acrylonitrile

According to DELCORA, this parameter was detected in only 2 out of 39 samples (i.e., 5% of the samples) for the WWTP effluent. As the substance may be present in effluent, continued monitoring and reporting for acrylonitrile shall be required.

Free Cyanide

The complete mix dilution factor of 99 is sufficient for protection against chronic aquatic life and noncarcinogenic human health effects due to free cyanide. The acute aquatic life criterion

requires a dilution factor of 3.2 (with one effluent outlier data point removed) compared with the actually achieved dilution factor of 1.2. DELCORA is currently evaluating mitigation alternatives to reduce free cyanide concentrations in the effluent, with the first pilot effort expected to be completed by the end of 2026. Based on DELCORA's initial assessment of available technology, it is expected that the free cyanide concentration in the effluent will be reduced below the acute aquatic life criterion thereby ensuring compliance with the criterion in the receiving water. Monitoring of free cyanide in the effluent will be continued before and after mitigation treatment is installed to demonstrate no reasonable potential for exceedance of the acute aquatic life water quality criterion in the receiving water.

2. Total Dissolved Solids (TDS)

Zone 4 stream quality objectives require Total Dissolved Solids (TDS) not to exceed 133% of background. The Commission reserves the right, in accordance with the *WQR* and the *Rules of Practice and Procedure*, to apply the basin-wide TDS requirements in Zone 4 when and where it determines that the requirements are necessary to protect water uses in Zone 4. Effluent Table C-1 in Section A.4.d of this docket includes quarterly effluent monitoring and reporting of TDS. If TDS monitoring indicates that the WWTP effluent exceeds the DRBC's basin-wide effluent limit for TDS of 1,000 mg/l, the docket holder may be required to demonstrate that the Zone 4 water quality objective of 133% of background is not exceeded.

3. CBOD₂₀ Wasteload Allocation

The Commission's *WQR* provide for the allocation of the stream assimilative capacity where waste discharges would otherwise result in exceeding such capacity. It was determined in the late 1960's that discharges to the Delaware Estuary be limited to a total of 322,000 lbs/day of carbonaceous biochemical (first stage) oxygen demand (CBOD₂₀). In accordance with the Regulations, the assimilative capacity of each Delaware Estuary zone minus a reserve was originally allocated in 1968 among the individual dischargers based upon the concept of uniform reduction of raw waste in a zone (Zones 2, 3, 4 and 5). The totals and percent reduction for each zone are given in Table 1 of the Commission's *Status of CBOD₂₀ Wasteload Allocations* (Revised October 1, 2000). The DELCORA WWTP is located in Zone 4 at river mile 80.7. Zone 4 is allocated at 91,000 lbs/day of CBOD₂₀ and has a minimum percent removal requirement of CBOD₂₀ of 89.25%. Currently, Zone 4 has 17,604 lbs/day of unused allocation (capacity).

The Commission approved a CBOD₂₀ allocation for the Western Regional WWTP of 10,500 lbs/day on December 10, 1976, via letter from the DRBC. The allocation is based on an assumed influent CBOD₂₀ load of 97,000 lbs/day and the required Zonal removal percentage of 89.25 %. 97,000 lbs/day was calculated based on the population of the service area at the time of the allocation approval. Docket No. D-1992-018 CP-4, approved the increase from their current 10,500 lbs/day CBOD₂₀ allocation to 13,761 lbs/day on March 13, 2019 for the 44 mgd design flow.

4. CBOD₂₀ Allocation Compliance and Monitoring

Compliance with the 89.25% CBOD₂₀ Zone 4 reduction requirement can be demonstrated by meeting the 89.25% CBOD₅ removal requirement. Compliance with the CBOD₂₀ allocation of 13,761 lbs/day can be demonstrated by meeting the CBOD₅ effluent load limit of 9,174 lbs/day. However, PADEP has a more stringent limit for CBOD₅ as described in EFFLUENT TABLE C-1. The CBOD₅ effluent load limit is calculated as the CBOD₂₀ allocation divided by the CBOD₂₀/CBOD₅ ratio of 1.5:1.

5. Other

At the docket holder's WWTP discharge, the Delaware River Estuary has an estimated seven-day low flow with a recurrence interval of ten years (Q₇₋₁₀) of 2191 mgd (4072 cfs). The ratio of this low flow to the annual average discharge rate from the 44 mgd WWTP is 50 to 1 (2191 mgd / 44 mgd).

There are no public water supply intakes downstream of this project discharge.

The project as approved herein does not impair or conflict with the Comprehensive Plan.

The effluent limits in the NPDES Permit meet or exceed Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge that meets the effluent requirements as set forth in the Commission's *Water Quality Regulations (WQR)*.

C. DECISION

Effective on the approval date for Docket No. D-1992-018 CP-5 below, the project described in Docket No. D-1992-018 CP-4 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-1992-018 CP-5; Docket No. D-1992-018 CP-4 is terminated and replaced by Docket No. D-1992-018 CP-5; and the project and the appurtenant facilities described in Section A "DESCRIPTION" of this docket shall be included in the Comprehensive Plan. The project and appurtenant facilities as described in Section A of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

Monitoring and Reporting

1. The docket holder shall comply with the requirements contained in the EFFLUENT TABLES below. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email aemr@drbc.gov on the **Annual Effluent Monitoring Report Form** located at this web address: <https://www.nj.gov/drbc/programs/project/docket-app-info.html#3>. 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. 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 C-1: DRBC Parameters Included in NPDES Permit

OUTFALL 001 (44 MGD DESIGN FLOW)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids	30 mg/l	As required by NPDES permit
Fecal Coliform	200 colonies per 100 ml	As required by NPDES permit
CBOD (5-Day at 20° C)	19 mg/l (7,000 lbs/day) (89.25% minimum removal)	As required by NPDES permit
Ammonia Nitrogen (5/1-09/30) (10/1-04/30)	15 mg/l (5,500 lbs/day) 23 mg/l (8,440 lbs/day)	As required by NPDES permit
Total Dissolved Solids*	1,000 mg/l*	As required by NPDES permit
Chronic WET IC25 Statre 7 day (P. promelas)	Monitor & Report	As required by NPDES permit
Chronic WET IC25 Statre 7 day (C. dubia) TUc	5.5 Daily Max	As required by NPDES permit
Total Cadmium	Monitor & Report	As required by NPDES permit
Total Copper	Monitor & Report	As required by NPDES permit
Free Cyanide	Monitor & Report	As required by NPDES permit
Total Cyanide	Monitor & Report	As required by NPDES permit
Total Lead	Monitor & Report	As required by NPDES permit
Total Zinc	Monitor & Report	As required by NPDES permit
PCBs	Monitor & Report	As required by NPDES permit

* See DECISION Condition C.5.

The following monitoring requirements and average monthly effluent limits are for DRBC parameters not listed in the NPDES Permit.

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

OUTFALL 001 (Delaware River Estuary)		
PARAMETER	LIMIT	MONITORING
Acrylonitrile	Monitor & Report	Monthly
True Color (Platinum-Cobalt Scale)	100 Pt-Co Units	Quarterly

Other Conditions

2. Nothing in this docket constitutes a defense to any penalty action for past conduct of the docket holder or ongoing activity not authorized by this approval. In particular, renewal of this docket does not resolve violations – whether in the past or continuing – of provisions of the Delaware River Basin Compact (“Compact”) or any rule, regulation, order or approval duly issued by the Commission or the Executive Director pursuant to the Compact. The Commission reserves its right to take appropriate enforcement action against the docket holder, including but not limited

to recovery of financial penalties consistent with Section 14.17 of the Compact, for any and all such prior or continuing violations.

3. The discharge of wastewater shall not increase the ambient temperatures of the receiving waters by more than 5°F above the average 24-hour temperature gradient displayed during the 1961-1966 period, nor shall such discharge result in stream temperatures exceeding 86°F.

4. 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*.

5. The docket holder may request permission from the Executive Director to perform specific conductance monitoring in lieu of TDS monitoring. The request shall be made in writing and shall include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow specific conductance monitoring in lieu of TDS monitoring.

6. In accordance with 18 C.F.R. 401.8. of the Commission's *Rules of Practice and Procedure (RPP)*, if at any future time the Project is changed materially from the Project as described in this docket, it will be deemed to constitute a new and different project for the purposes of Article 11 of the Delaware River Basin Compact and will require Commission amendment of the Comprehensive Plan. In accordance with the same section of the RPP, whenever a change to the Project is made, the sponsor must advise the Executive Director, who will determine whether the change is deemed material for purposes of this provision.

7. This approval shall expire on the expiration date set forth below unless prior thereto the docket holder has applied to the Commission to renew or extend this approval.

8. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 C.F.R. 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges in the event of untimely submittal of its renewal application, whether DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. If the docket holder has not applied to renew the docket or the DRBC is unable to reissue the docket before the expiration date below, the terms and conditions of the current docket will remain fully effective and enforceable pending the renewal of the docket.

9. The docket holder is permitted to treat and discharge wastewater as set forth in the Area Served Section of this docket, which incorporates by reference the Type of Discharge and Service Area sections of the docket holder's Application to the extent consistent with all other conditions of this section. Any expansion beyond that included in Section A.3. Area Served is subject to DRBC review and approval in accordance with Section 3.8 of the Compact.

10. In accordance with the Commission's regulations at 18 C.F.R. Part 440, the docket holder is prohibited from discharging wastewater from high volume hydraulic fracturing ("HVHF") or

HVHF-related activities to waters or land within the Basin. Violation of this or any condition of this docket approval may result in enforcement, including the risk of financial penalties, pursuant to Section 14.17 of the Delaware River Basin Compact and Section 2.7.8 (18 CFR 401.98) of the Commission's Rules of Practice and Procedure.

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

12. The facility shall be operated at all times to comply with the requirements of the Commission's *WQR*.

13. 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.

14. 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.

15. 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.

16. 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).

17. 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, to ensure proper control, use and management of the water resources of the Basin.

18. The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations (see 18 C.F.R. 401.43).

19. This approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 C.F.R. 401.43).

20. The docket holder shall request a name change if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 C.F.R. 401.43).

21. 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.

22. 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 (RPP)*. 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.

BY THE COMMISSION

APPROVAL DATE:

EXPIRATION DATE: March 31, 2031

DRAFT