

DOCKET NO. D-2014-014 CP-1

DELAWARE RIVER BASIN COMMISSION

**Tinicum Township
Wastewater Treatment Plant
Tinicum Township, Delaware County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Herbert E. MacCombie, Jr., P.E. on behalf of Tinicum Township (TT or docket holder) on July 15, 2014 (Application), for approval of the docket holder's existing wastewater treatment plant (WWTP) and its discharge. National Pollutant Discharge Elimination System (NPDES) Permit No. PA0028380 for this facility was issued by the Pennsylvania Department of Environmental Protection (PADEP) on July 7, 2008, effective August 1, 2008. The PADEP issued a draft for the renewal of this Permit on June 27, 2013. Issuance of the final Permit is expected shortly.

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 Delaware County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on June 9, 2015.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to approve the docket holder's existing 2.8 million gallons per day (mgd) WWTP and its discharge. The PADEP and DRBC have based effluent limits at Outfall No. 001 on an average annual discharge flow of 1.4 mgd.

2. Location. The WWTP will continue to discharge treated effluent to the tidal portion of Darby Creek at River Mile 85.28 – 1.0 (Delaware River – Darby Creek) via Outfall No. 001, within Water Quality Zone 4, in Tinicum Township, Delaware County, Pennsylvania as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	39° 52' 30"	75° 17' 48"

3. **Area Served.** The docket holder's WWTP will continue to serve portions of Tinicum Township, Delaware County, Pennsylvania. For the purpose of defining the Area Served, Section B (Type of Discharge) and D (Service Area) of the docket holder's Application are incorporated herein by reference, to the extent consistent with all other conditions contained in the DECISION Section of this docket.

4. **Physical Features.**

a. **Design Criteria.** The docket holder will continue to operate its existing 2.8 mgd WWTP. The PADEP and DRBC have based effluent limits at Outfall No. 001 on an average annual discharge flow of 1.4 mgd.

b. **Facilities.** The WWTP consists of a grit chamber, a comminutor, two (2) primary settling tanks, a primary and secondary trickling filter, three (3) secondary settling tanks, a primary and secondary anaerobic digester, and a chlorine contact tank.

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 supplied by Aqua Pennsylvania.

d. **NPDES Permit / DRBC Docket.** NPDES Permit No. PA0028380 was issued by the PADEP on July 7, 2008 (effective August 1, 2008) and includes final effluent limitations for the project discharge of 1.4 mgd to surface waters classified by the PADEP as cold water, migratory fisheries (CWF/MF). The PADEP issued a draft for the renewal of this Permit on June 27, 2013. Issuance of the final Permit is expected shortly. The following average monthly effluent limits are among those listed in the current 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

OUTFALL 001 (WWTP)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	30 mg/l, 525 lbs/day	As required by NPDES Permit
CBOD ₅ (at 20° C) *	16 mg/l, 183 lbs/day, 89.25% Minimum Removal	As required by NPDES Permit
Fecal Coliform	200 colonies per 100 ml as a geo. avg.	As required by NPDES Permit
CBOD ₂₀ *	365 lbs/day	As required by NPDES Permit
PCBs	Monitor & Report	As required by NPDES Permit

* See FINDINGS Section

The requirements in EFFLUENT TABLE A-2 are not listed in the NPDES Permit, but are Commission basin-wide and/or estuary specific parameters that must be met as a condition of this docket approval. Commission staff have requested PADEP include these

parameters in their renewed Permit. Monitoring shall begin July 1, 2015 for each parameter (See DECISION Condition II.d.).

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

OUTFALL 001 (WWTP)		
PARAMETER	LIMIT	MONITORING
Ammonia Nitrogen	Monitor & Report	Monthly
Total Dissolved Solids*	Monitor & Report	Quarterly
Chronic Toxicity**	Monitor & Report	1/Year

* See DECISION Condition II.p.

** See DECISION Condition II.t.

e. **Cost.** There are no construction costs associated with this existing WWTP.

f. **Relationship to the Comprehensive Plan.** Issuance of this docket will incorporate the docket holder's 2.8 mgd WWTP in the Comprehensive Plan (See DECISION Condition I.c.).

B. FINDINGS

The purpose of this docket is to approve the docket holder's existing 2.8 mgd WWTP and its discharge. The PADEP and DRBC have based effluent limits at Outfall No. 001 on an average annual discharge flow of 1.4 mgd.

Chronic Toxicity

Zone 4 stream quality objectives exist for toxic pollutants. They include criteria to protect the taste and odor of ingested water and fish (Table 4 of DRBC's Water Quality Regulations (WQR)), to protect aquatic life (Table 5), and to protect human health (Tables 6 & 7). Toxicity in effluent is measured as Whole Effluent Toxicity (WET), and results from both acute and chronic exposures. The acute toxicity stream quality objective for Zone 4 is 0.3 Toxic Units (TU_a = 0.3). The chronic toxicity stream quality objective for Zone 4 is 1.0 Toxic Units (TU_c = 1.0).

The docket holder is required to perform annual Whole Effluent Toxicity (WET) tests to generate chronic toxicity data on the cladoceran (*Ceriodaphnia dubia*) and the fathead minnow (*Pimephales promelas*) as described in DECISION Condition II.t. below.

The chronic toxicity results shall be reported as No Observed Effect Concentration (NOEC) and Chronic Toxic Units (TU_c) with a Percent Minimum Significant Difference (PMSD) reported. The results shall also be reported as Inhibitory Concentration, 25 percent (IC₂₅). The testing should follow USEPA guidance on Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA 821-R-02-013, 4th Ed, 2002).

Where the salinity of the receiving water is ≥ 1 ppt, marine and estuarine organisms may be used as test species. The mysid species, *Americamysis (Mysidopsis) bahia* and one of the following fish species, and *Cyprinodon variegates* or *Menidia beryllina* may be used. The testing should follow USEPA guidance on Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms (EPA-821-R-02-014, 3rd Ed, 2002).

CBOD₂₀ Wasteload Allocation

The Commission's Water Quality Regulations provide for the allocation of the stream assimilative capacity where waste discharges would otherwise result in exceeding such capacity. It was determined in the 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 docket holder's facility is located in Zone 4 at River Mile 85.28 – 1.0.

CBOD₂₀ Allocation History

A letter from the Executive Director in August 1999 approved an allocation of 365 lbs/day of CBOD₂₀ with a correlating CBOD₂₀ to CBOD₅ ratio of 2 to 1.

CBOD₂₀ Determination

The docket continues an allocation of 365 lbs/day of CBOD₂₀ (183 lbs/day of CBOD₅). Since a ratio has been established the docket holder may monitor for CBOD₅ as a surrogate for CBOD₂₀ as long as the docket holder continues to meet the loading limit and 89.25 % minimum removal requirement for CBOD₅. Actual CBOD₂₀ testing is only required monthly in 2018 to show that the ratio has not changed. This correlation data set shall be submitted to the Commission (See DECISION Condition II.s.) as part of the docket renewal (See DECISION Condition II.m.) if the docket holder deviates from the monitoring frequency in the existing NPDES Permit (effective August 1, 2008). The 2 to 1 ratio may be used for the remainder of the docket cycle as long as the docket holder's Annual Effluent Monitoring Report (AEMR) signifies that the ratio was used each month where applicable (See DECISION Condition II.d.).

PCB TMDL

The docket holder shall monitor for PCBs annually as required in their NPDES Permit (See DECISION Condition II.r.).

Other

Near the project discharge site, the Delaware River is tidal and its flow is regulated by upstream reservoir releases. The Trenton low flow target is 2,500 cfs (1.62 billion gallons per day). The addition of the tidal tributaries upstream of the discharge location at their Q7-10 flow and the low flow Trenton target results in a low-flow of approximately 3,947 cfs (2.55 billion gallons per day) for the Delaware River at the discharge location (River Mile 85.28).

There are no surface water intakes of record for public water supply within a 5 mile tidal influence of the docket holder's 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 Commission's *Water Quality Regulations (WQR)*.

C. DECISION

I. Effective on the approval date for Docket No. D-2014-014 CP-1 below, the project and the appurtenant facilities described in Section A "Physical Features" of this docket shall be added to the Comprehensive Plan.

II. The project and appurtenant facilities as described in 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 such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's.

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 Commission's *WQR*.

d. The docket holder shall comply with the requirements contained in the EFFLUENT TABLES in Section A.4.d. of this docket. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email aemr@drbc.state.nj.us on the **Annual Effluent Monitoring Report Form** located at this web address: <http://www.state.nj.us/drbc/programs/project/application/index.html>. 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. 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.

i. 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.

j. 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).

k. 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.

l. 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.

m. 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.

n. 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.

o. 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.

p. 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.

q. 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.

r. The docket holder shall continue to submit monitoring data and PMP Annual Reports to the Commission's Modeling, Monitoring and Assessment Branch as required in the NPDES Permit.

s. Actual CBOD20 testing is only required monthly in 2018 to show that the CBOD20 to CBOD5 ratio has not changed. This correlation data set shall be submitted to the Commission as part of the docket renewal (See DECISION Condition II.m.) if the docket holder deviates from the monitoring frequency in the existing NPDES Permit (effective August 1, 2008) upon approval of the PADEP. The 2 to 1 ratio may be used for the remainder of the docket cycle as long as the docket holder's AEMR signifies that the ratio was used each month where applicable (See DECISION Condition II.d.).

t. The docket holder is required to perform annual Whole Effluent Toxicity (WET) tests to generate chronic toxicity data on the cladoceran (*Ceriodaphnia dubia*) and the fathead minnow (*Pimephales promelas*). The results shall be reported as part of the docket holder's AEMR (See DECISION Condition II.d.).

BY THE COMMISSION

DATE APPROVED: June 10, 2015

EXPIRATION DATE: June 10, 2020