

DOCKET NO. D-1986-028 CP-2

DELAWARE RIVER BASIN COMMISSION

**City of Reading
Wastewater Treatment Plant Upgrade
City of Reading, Berks County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by T & M Associates, Inc. on behalf of the City of Reading on February 27, 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. PA0026549 for the project WWTP on November 25, 2013. The PADEP issued Water Quality Management Permit No. 0686404 A-1 for the proposed WWTP modification project on February 18, 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 Berks 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 20.5 million gallons per day (mgd) Fritz Island WWTP. The proposed upgrade consists of modifying the WWTP's two (2) existing secondary digestors to be able to function as primary or secondary digestors and modifying the existing digester and sludge handling equipment and controls to accommodate the upgrade. No other modifications are proposed to the existing WWTP facilities.

2. **Location.** The project WWTP is located off of Morgantown Road on Fritz Island in the City of Reading, Berks County, Pennsylvania and will continue to discharge to the Schuylkill River, at River Mile 92.47 – 72.8 (Delaware River – Schuylkill River).

The project outfalls are located in the Schuylkill River Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 15' 34"	75° 17' 20"

3. **Area Served**. The project WWTP currently serves the City of Reading, the Townships of Cumru, Bern, Muhlenberg, Robeson, and Spring, and the Boroughs of Kenhorst, Laureldale, Mohnton, and Wyomissing Borough in Berks County, Pennsylvania.

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 designed to treat an average annual flow of up to 20.5 mgd via an activated sludge, two-stage trickling filter, and fixed film aeration treatment processes. The WWTP is designed to treat a monthly average design flow of up to 27.8 mgd.

b. **Facilities**. The existing WWTP facilities consist of a grit chamber, a primary clarifier distribution box, four (4) primary clarifiers, three (3) primary tricklers, three (3) intermediate clarifiers, two (2) secondary trickling filters, three (3) tertiary clarifiers, a submerged fixed film aeration tank, four (4) final clarifiers, disinfection via chlorination, and sodium dioxide dechlorination. Sludge handling facilities include three (3) primary anaerobic digestors (Digester Nos. 1, 2, and 3), two (2) secondary anaerobic digestors (Digester Nos. 4 and 5), two (2) gravity belt thickeners, and belt filter presses.

The proposed upgrade consists of converting Digester Nos. 4 and 5 (the two secondary anaerobic digestors) to primary anaerobic digestors. The project precedes a future construction project to upgrade the entire wastewater treatment plant, and will enable Digestors No. 4 and 5 to operate independently as primary or secondary digestors during the construction of the overall plant upgrade.

The proposed improvements to Digester Nos. 4 and 5 and appurtenant equipment include modifications to the existing digester covers and internal tank components, the installation of liner motion mixers, the installation of sludge recirculation pumping system, the installation of boilers and heat exchangers for sludge heating, and modifications to the sludge handling control equipment. No new structures are proposed. All improvements are to be performed at the existing Digester Nos. 4 & 5 tanks and control building.

This docket approves the upgrade to the digestors discussed in this docket only. The docket holder indicated that future project to upgrade the entire WWTP is currently being designed. Prior to advertising for bids for the future WWTP upgrade, the docket holder is required to submit an application and have approved by the Commission the future WWTP upgrade project via a docket (see DECISION Condition II.q.).

Several of the existing WWTP facilities are located in flood fringe portion of the 100-year flood hazard area. The facilities located in the flood zone are considered floodproofed (protected from the 100-year flood) since the tops of the tanks are above the flood protection elevation (one foot above the 100-year flood elevation). All of the proposed improvements discussed in this docket are not located in the flood hazard area..

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 a surface water intake owned and operated by Reading Area Water Authority (RAWA). RAWA's surface water withdrawal from the Lake Ontelaunee Reservoir is described in detail in Docket No. D-2000-059 CP-2, which was approved by the DRBC on May 11, 2011.

d. **NPDES Permit / DRBC Docket.** PADEP issued NPDES Permit No. PA0026549 for the WWTP on November 25, 2013, which includes final effluent limitations for an annual average flow of 20.5 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

OUTFALL 001 (Schuylkill River)		
PARAMETER	LIMIT	MONITORING
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)	19 mg/l (85% minimum removal*) 24 mg/l (85% minimum removal*)	As required by NPDES permit
Ammonia Nitrogen (5-1 to 10-31) (11-1 to 4-30)	6.5 mg/l 19 mg/l	As required by NPDES permit
Fecal Coliform (5-1 to 9-30) (10-1 to 4-30)	200 col. / 100 ml as a geo. avg. 2,000 col. / 100 ml as a geo. avg.	As required by NPDES permit
Total Dissolved Solids**	1,000 mg/l	As required by NPDES permit
Color (Pt-Co)	186 Units	As required by NPDES permit

* DRBC Requirement

** See DECISION Condition II.u.

e. **Cost.** The overall cost of this project is estimated to be \$4,134,570.00

f. **Relationship to the Comprehensive Plan.** The existing Fritz Island WWTP was included in the Comprehensive Plan by Resolution No. 62-14 on July 25, 1962. Upgrades to the WWTP were approved via Docket Nos. D-1967-053 CP-1 and D-1986-028 CP-1 on May 24, 1967 and September 17, 1986, respectively. This docket (D-1986-028 CP-2) approves an upgrade to the WWTP.

B. FINDINGS

The purpose of this docket is to approve an upgrade to the docket holder's existing WWTP, which consists of converting the two (2) existing secondary anaerobic digestors to primary anaerobic digestors. The project precedes a future construction project to upgrade to the entire wastewater treatment plant, and will enable the existing secondary digestors to operate independently as primary or secondary digestors during the construction of the overall plant upgrade.

This docket approves the upgrade to the digestors only. Prior to advertising for bids for the future WWTP upgrade, the docket holder is required to submit an application and have approved by the Commission the future WWTP upgrade project via a docket (see DECISION Condition II.q.).

Just upstream of the project discharge location, the Schuylkill River at the USGS Schuylkill River at Reading Gage (USGS Gage No. 01471510) has an estimated seven-day low flow with a recurrence interval of ten years (Q7-10) of 145 mgd (224 cfs). The ratio of this low flow to the hydraulic design wastewater discharge rate (27.8 mgd) from the WWTP is approximately 5 to 1.

The nearest surface water intake of record for public water supply downstream of the project discharge is operated by the City of Pottstown, and is located on the Schuylkill River approximately 16 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-1986-028 CP-2 below:

a. The projects described in Docket Nos. D-1967-053 CP-1 and D-1986-028 CP-1 are removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-1986-028 CP-2; and

b. Docket Nos. D-1967-053 CP-1 and D-1986-028 CP-1 are terminated and replaced by Docket No. D-1986-028 CP-2.

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.

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 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 reseedling 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. This docket approves the construction of the modifications to the existing digestors as outlined herein and included in the docket application. The docket holder will not advertise for bids for the future project to upgrade the entire WWTP without first filing an

application with the Commission and receiving written (docket) Commission approval for the future upgrade.

r. 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.

s. 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.

t. 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.

u. 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.

v. 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: November 30, 2018