DOCKET NO. D-2004-015 CP-3

DELAWARE RIVER BASIN COMMISSION

Buckingham Township
Buckingham Village Wastewater Treatment Plant and Furlong Spray Fields
Buckingham Township, Bucks County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Buckingham Township (docket holder) on November 24, 2014 (Application) for a renewal of the docket holder's existing wastewater treatment plant (WWTP) and its related discharges. National Pollutant Discharge Elimination System (NPDES) Permit No. PA0052353 for this facility was issued by the Pennsylvania Department of Environmental Protection (PADEP) on December 20, 2010.

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 (Compact)*. The Bucks County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on February 10, 2016.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew approval of the docket holder's existing 0.236 million gallon per day (mgd) Buckingham Village WWTP and its seasonal discharges to Lahaska Creek and the existing Furlong lagoon treatment system and three (3) sets of spray irrigation fields, referred to as the Kaplan, Coles, ad Lindquist Spray Fields. No modifications to the WWTP and associated facilities are proposed.

2. Location. The project WWTP is located adjacent to the east of State Route 263 in Buckingham Township, Bucks County, Pennsylvania. Treated effluent not discharged to the Furlong spray fields via spray irrigation will continue to be discharged to Lahaska Creek, which is a tributary to Mill Creek, itself a tributary to Neshaminy Creek at River Mile 115.6 – 23.7 – 5.7 – 0.4 (Delaware River – Neshaminy Creek – Mill Creek– Lahaska Creek), via exiting Outfall No. 1.

The project outfall is located in the Neshaminy Creek Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 19' 15"	75° 03' 24"

3. **Area Served**. The docket holder's WWTP and lagoon treatment system will continue to serve Buckingham Village, Lahaska, Furlong, and Spring Valley sections within Buckingham Township, Bucks 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's existing Buckingham Village WWTP will continue to utilize a sequencing batch reactor (SBR) treatment process. The Buckingham Village WWTP is permitted by the PADEP (via NPDES Permit No. PA0052353) to discharge up to 236,000 gpd of treated of sewage effluent to the Lahaska Creek from November 1 through April 30. From May 1 through October 31, the Buckingham Village WWTP directs treated sewage effluent to the Furlong sewage treatment lagoon system for storage and treatment prior to being directed to the spray fields for land application via spray irrigation. The Furlong lagoon treatment system provides partial mixed aeration and is hydraulically designed and permitted (via PADEP's Water Quality Management Permit No. 0911402) to treat a flow up to 304,000 gpd.

The Furlong lagoon treatment system receives raw sewage from portions of the Furlong section of Buckingham Township and treated sewage from the Buckingham Village WWTP. Treated sewage from the Buckingham Village WWTP is normally stored at Furlong Lagoon No. 3 or a small lagoon associated with the Coles Spray Fields and then discharged to the spray fields located at the Furlong lagoon system or the Coles Spray Fields. Raw domestic wastewater directed to the Furlong lagoon system is treated at the sewage lagoon system for an approximate treatment time of seven weeks prior to land application via spray irrigation. The sewage lagoon system provides partial mixed aeration and has a volume capacity of 53.02 million gallons and storage up to 107 days.

The sewage lagoon system will continue to discharge treated sewage effluent to three (3) sets of spray fields: the Kaplan Spray Fields, the Coles Spray Fields, and the Lindquist Spray Fields. Another set of spray fields, the Yerkes Spray Fields, are currently held in reserve for future use.

The effluent is applied to the spray fields at an hourly rate of 0.1 to 0.25 inches depending upon the slope of the terrain, provided that more than 0.5 inches of rain had not fallen during the previous 24 hours. This is done to prevent ponding of effluent and run-off. A Crop Management Plan has been implemented to control fertilizing, weed growth and the designed crop height. Orchard Grass is used to remove nitrogen and tolerate high moisture conditions. Mixed hardwood areas also serve as spray application zones.

b. **Facilities**. The existing Buckingham Village WWWTP facilities consist of three (3) influent pumps, two (2) screening devices, two (2) aeration tanks, two (2) rapid sand filters (currently not in service), a chlorine contact tank with a dechlorination area, two (2) effluent

high-head pumps for discharge to the Furlong lagoon treatment system, an aerobic digestion tank (currently used for storage), and sludge vacuum drying beds (currently not in service). The rapid sand filters and sludge vacuum drying beds may be used in the future.

The Furlong lagoon treatment system consists of two (2) bentonite clay-lined lagoons and one (1) synthetic-lined lagoon and three (3) sets of spray fields. The first two (2) lagoons (Furlong Lagoons Nos. 1 & 2), totaling 17.6 million gallons in capacity, are located at the Furlong site and provide treatment through aeration. The third lagoon (Furlong Lagoon No. 3), providing partial aeration, polishing of wastewater, and winter storage, is 35.4 million gallons in capacity and is located at the Lindquist Spray Fields site. There is also a small storage lagoon located at the Coles Spray Fields site. The Kaplan Spray Fields are 46.3 acres in area, the Coles Spray Fields are 39.8 acres in size, and the Lindquist Spray Fields are 49.7 acres in area. The total spray field area is approximately 136 acres. The Lindquist site also includes a 3-acre wooded spray field. Effluent disinfection is achieved via a hypochlorite solution chlorination system.

The project facilities are not located in the 100-year floodplain.

Wasted sludge will continue to be hauled offsite 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 the docket holder, as described in detail in DRBC Docket No. D-2003-013 CP-7, approved on September 10, 2014.

d. NPDES Permit / DRBC Docket. PADEP issued NPDES Permit No. PA0052353 for the project discharge on December 16, 2010, which includes final effluent limitations for the project discharge of 0.236 mgd to surface waters classified by the PADEP as Cold Water Fishery (CWF), suitable for migratory fish passage. The following average monthly effluent limits are among those listed in the NPDES permit that meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE A-1: DRBC Parameters Included in NPDES permit for the seasonal discharge to Lahaska Creek

OUTFALL 001 (Lahaska Creek)		
PARAMETER	**LIMIT**	**MONITORING**
pH (Standard Units)	6.0 to 9.0	As required by NPDES permit
Total Suspended Solids	30 mg/l	As required by NPDES permit
CBOD (5-Day at 20^{o} C)	20 mg/l (85 % minimum removal)	As required by NPDES permit
Ammonia-Nitrogen	10 mg/l	As required by NPDES permit
Fecal Coliform	200 colonies per 100 ml	As required by NPDES permit

The requirements in EFFLUENT TABLE A-2 are not listed in the NPDES Permit, but are Commission basin-wide parameters that must be met as a condition of this docket approval.

EFFLUENT TABLE A-2: DRBC Parameters Not Included in NPDES permit for the seasonal discharge to Lahaska Creek

OUTFALL 001 (Lahaska Creek)		
PARAMETER	**LIMIT**	**MONITORING**
Total Dissolved Solids *	1,000 mg/l	Quarterly

*See DECISION Conditions II.p.

e. Relationship to the Comprehensive Plan. The existing Buckingham Village WWTP was added to the Comprehensive Plan by Docket No. D-1986-065 CP-1 on March 27, 1968. Docket Nos. D-1998-049 CP-1 and D-2004-015 CP-1 approved upgrades and additions to the WWTP on March 3, 2010 and. October 27, 2004, respectively. D-2004-015 CP-2 renewed the DRCB approval on May 11, 2011. This docket (D-2004-015 CP-3) renews approval of the WWTP and continues the project in the Comprehensive Plan.

B. FINDINGS

This docket renews approval of the docket holder's existing 0.236 mgd Buckingham Village WWTP, Furlong lagoon treatment system, and associated spray irrigation fields. No modifications to the WWTP and associated facilities are proposed.

At the project site, the Lahaska Creek has an estimated seven-day low flow with a recurrence interval of ten years ($Q_{7\text{-}10}$) of 0.2 mgd (0.3 cfs). The ratio of this low flow to the WWTP design flow of 0.236 mgd is 0.8 to 1.

The nearest surface water intake of record for public water supply is located on Neshaminy Creek approximately 20 River Miles downstream of the docket holder's WWTP outfall, and is operated by Aqua, Pennsylvania.

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-2004-015 CP-3 below:

a. The project described in Docket No. D-2004-015 CP-2 is removed from the Comprehensive Plan to the extent it is not included in Docket No. 2004-015 CP-3; and

b. Docket No. D-2004-015 CP-2 is terminated and replaced by Docket No. D-2004-015 CP-3.

c. The project and the appurtenant facilities described in the Section A "Physical Features" of this docket shall be continued in 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 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* and *Flood Plain Regulations* (*FPR).*.

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.nj.gov** 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 is required to perform quarterly TDS effluent sampling in accordance with EFFLUENT TABLE A-2 in Section A.4.d. of this docket. The Docket holder may also submit a written request to substitute 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.

BY THE COMMISSION

DATE APPROVED: March 16, 2016

EXPIRATION DATE: December 31, 2020