

**DOCKET NO. D-1989-018 CP-6**

**DELAWARE RIVER BASIN COMMISSION**

**Delaware County Solid Waste Authority  
Rolling Hills Leachate Treatment Plant and Wetlands Treatment System  
Earl and Oley Townships, Berks County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Keystone Engineering Group on behalf of the Delaware County Solid Waste Authority (DCSWA or docket holder) on March 27, 2014 (Application), for renewal of the docket holder's existing Rolling Hills leachate treatment plant (LTP), wetland treatment system (WTS), and their discharges. National Pollutant Discharge Elimination System (NPDES) Permit No. PA0040860 for this facility was issued by the Pennsylvania Department of Environmental Protection (PADEP) on March 17, 2010, effective April 1, 2010. The PADEP is expected to renew the Permit shortly.

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 Berks County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on March 10, 2015.

**A. DESCRIPTION**

**1. Purpose.** The purpose of this docket is to renew approval of the docket holder's existing 0.12 million gallons per day (mgd) LTP, 0.087 mgd WTS, and their discharges from Outfalls Nos. 001 and 006, respectively.

**2. Location.** The LTP will continue to discharge treated effluent to Manatawny Creek at River Mile 92.47 – 54.15 – 12.2 (Delaware River – Schuylkill River – Manatawny Creek) via Outfall No. 001. Three underdrains convey leachate to the WTS for treatment prior to discharge to Furnace Run at River Mile 92.47 – 54.15 – 13.9 – 1.4 (Delaware River – Schuylkill River – Manatawny Creek – Furnace Run) via Outfall No. 006. The LTP and WTS are located in Earl Township, Berks County, Pennsylvania as follows:

<b>OUTFALL NO.</b>	<b>LATITUDE (N)</b>	<b>LONGITUDE (W)</b>
001	40° 20' 21"	75° 44' 35"
006	40° 21' 26"	75° 43' 00"

3. **Area Served.** The docket holder's LTP will continue to serve the adjacent Rolling Hills Sanitary Landfill. The landfill will continue to receive non-hazardous municipal/commercial refuse and incinerator ash, plus PADEP-approved residual and special-handling wastes, such as sludge from industrial and municipal sources chiefly located in Delaware County and a portion of Berks County, both in Pennsylvania.

Less than 1% of the total solid waste received at Rolling Hills Sanitary Landfill comes from an incinerator in Essex County, New Jersey; otherwise all of the refuse received at the landfill is from sources that are within the Delaware River Basin.

Section 2.30.6 of the Commission's *WQR* states:

*"It is the policy of the Commission to give no credit toward meeting wastewater treatment requirements for wastewater imported into the Delaware Basin. Wasteload allocations assigned to dischargers shall not include loadings attributable to any importation of wastewater."*

Due to the nature of incinerator ash being virtually inert and devoid of organic load, as well as the leachate treatment provided at Rolling Hills Sanitary Landfill, the 100 percent removal requirement regarding the Biochemical Oxygen Demand (BOD) loading related to waste received from sources that are outside of the basin is considered satisfied.

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 0.12 mgd LTP and 0.087 mgd WTS.

b. **Facilities.** The LTP consists of two (2) chamber/pump stations, two (2) equalization tanks, a chemical mixing tank, a primary clarifier, a neutralization tank, a heat treatment unit, four (4) sequencing batch reactor (SBR) units, a chemical addition unit, a neutralization unit, a filtration unit, two (2) upflow carbon adsorption units, a secondary dual media pressure filter, a distillation unit, two (2) brine tanks, distillation water storage tanks, and an ultraviolet (UV) disinfection system.

The WTS consists of a constructed wetland area that receives up to 0.087 mgd of flow from three (3) landfill underdrains, which are monitored.

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

The PADEP has approved the disposal of dewatered LTP sludge at the active zones of the landfill or it can 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 an on-site, up-gradient well and LTP maintenance water supply is provided by another on-site well. The total withdrawal is less than 100,000 gallons per day as a 30-day average and therefore does not require a DRBC Docket.

d. **NPDES Permit / DRBC Docket.** NPDES Permit No. PA0040860 was issued by the PADEP on March 17, 2010 (effective April 1, 2010) and includes final effluent limitations for the project discharge of 0.12 mgd from the LTP and 0.087 mgd from the WTS to surface waters classified by the PADEP as cold water fisheries (CWF). The PADEP is expected to renew the Permit shortly. The following average monthly effluent limits are among those listed in the current NPDES Permit for the LTP, meet or are more stringent than the effluent requirements of the DRBC, and are expected to be part of the renewed Permit.

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

<b>OUTFALL 001 (LTP)</b>		
<b>PARAMETER</b>	<b>LIMIT</b>	<b>MONITORING</b>
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
CBOD <sub>5</sub> (at 20° C)	25 mg/l, 85% Minimum Removal	As required by NPDES Permit
Ammonia Nitrogen	4.9 mg/l	As required by NPDES Permit
Fecal Coliform (5-1 to 9-30)	200 colonies per 100 ml as a geo. avg.	As required by NPDES Permit
(10-1 to 4-30)	2000 colonies per 100 ml as a geo. avg.	
Color (Platinum Cobalt Scale)	100 Units (Daily Maximum)	As required by NPDES Permit
Total Dissolved Solids	See EFFLUENT TABLES A-3 and A-4 (Daily Maximum)	As required by NPDES Permit

The requirements in EFFLUENT TABLE A-2 are among those listed in the current NPDES Permit for the WTS, meet or are more stringent than the effluent requirements of the DRBC, and are expected to be part of the renewed Permit.

**EFFLUENT TABLE A-2: DRBC Parameters Included in NPDES Permit**

<b>OUTFALL 006 (WTS)</b>		
<b>PARAMETER</b>	<b>LIMIT</b>	<b>MONITORING</b>
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
CBOD (5-Day at 20° C)	25 mg/l, 85% Minimum Removal	As required by NPDES permit
Ammonia Nitrogen (5-1 to 10-31)	6.0 mg/l	As required by NPDES Permit
(11-1 to 4-30)	18 mg/l	
Total Dissolved Solids	2,000 mg/l	As required by NPDES permit

EFFLUENT TABLES A-3 and A-4 were derived from EQUATION 1 (MGD) and EQUATION 2 (CFS) below and summarized in the respective TABLE for easy reference. The tables and equations are also included in the current NPDES Permit and are expected to be in the renewed Permit. The docket holder shall follow the appropriate equation when determining what

flow may be discharged from the LTP when flows in Manatawny Creek are below 49 mgd (76 cfs). When flows in the Manatawny Creek are above 49 mgd (76 cfs), the docket holder is allowed to discharge up to 0.12 mgd from Outfall 001.

$$\text{EQUATION 1 (MGD): } Q_{LTP} = 0.00245 \times Q_{\text{Manatawny}}$$

$Q_{LTP}$  is the allowable discharge flow from the LTP in mgd

$Q_{\text{Manatawny}}$  is the in-stream flow of Manatawny Creek at Spangsville in mgd

$$\text{EQUATION 2 (CFS): } Q_{LTP} = 0.00158 \times Q_{\text{Manatawny}}$$

$Q_{LTP}$  is the allowable discharge flow from the LTP in mgd

$Q_{\text{Manatawny}}$  is the in-stream flow of Manatawny Creek at Spangsville in cfs

**EFFLUENT TABLE A-3: DRBC Parameters Included in NPDES Permit**

<b>SPANGSVILLE &amp; LTP FLOWS W/RELATED ALLOWABLE LTP MAXIMUM DAILY TDS CONCENTRATIONS *</b>			
<b>FLOW AT SPANGSVILLE (MGD)</b>	<b>FLOW FROM LTP (MGD)</b>	<b>TDS FROM LTP (MG/L)</b>	<b>ESTIMATED DAILY STORAGE REQUIRED (MG)</b>
49 or greater	Up to 0.12	30,000	0
45 or greater	Up to 0.11	30,000	0.01
41 or greater	Up to 0.10	30,000	0.02
37 or greater	Up to 0.09	30,000	0.03
33 or greater	Up to 0.12	20,289	0
33 or greater	Up to 0.11	22,107	0.01
33 or greater	Up to 0.10	24,000	0.02
33 or greater	Up to 0.09	26,667	0.03
33 or greater	Up to 0.08	30,000	0.04
29 or greater	Up to 0.07	30,000	0.05
25 or greater	Up to 0.06	30,000	0.06
21 or greater	Up to 0.05	30,000	0.07
17 or greater	Up to 0.04	30,000	0.08
13 or greater	Up to 0.03	30,000	0.09
8.34 ( $Q_{7-10}$ ) or greater	Up to 0.02	30,000	0.10

\* When flow at the USGS Spangsville gage (#01471875) is 49 mgd or greater, an LTP discharge of up to 0.12 mgd with a maximum daily TDS concentration of 30,000 mg/l is permitted. Weekly monitoring is required under these conditions. When flow at Spangsville is less than 49 mgd, both the LTP discharge flow and TDS concentrations shall be recorded/measured daily and shall be in accordance with EFFLUENT TABLE A-3.

EFFLUENT TABLE A-4: DRBC Parameters Included in NPDES Permit

SPANGSVILLE & LTP FLOWS W/RELATED ALLOWABLE LTP MAXIMUM DAILY TDS CONCENTRATIONS *			
FLOW AT SPANGSVILLE (CFS)	FLOW FROM LTP (MGD)	TDS FROM LTP (MG/L)	ESTIMATED DAILY STORAGE REQUIRED (MG)
76 or greater	Up to 0.12	30,000	0
70 or greater	Up to 0.11	30,000	0.01
64 or greater	Up to 0.10	30,000	0.02
58 or greater	Up to 0.09	30,000	0.03
51 or greater	Up to 0.12	20,289	0
51 or greater	Up to 0.11	22,107	0.01
51 or greater	Up to 0.10	24,000	0.02
51 or greater	Up to 0.09	26,667	0.03
51 or greater	Up to 0.08	30,000	0.04
45 or greater	Up to 0.07	30,000	0.05
38 or greater	Up to 0.06	30,000	0.06
32 or greater	Up to 0.05	30,000	0.07
26 or greater	Up to 0.04	30,000	0.08
19 or greater	Up to 0.03	30,000	0.09
12.90 (Q <sub>7-10</sub> ) or greater	Up to 0.02	30,000	0.10

\* When flow at the USGS Spangsville gage (#01471875) is 76 cfs or greater, an LTP discharge of up to 0.12 mgd with a maximum daily TDS concentration of 30,000 mg/l is permitted. Weekly monitoring is required under these conditions. When flow at Spangsville is less than 76 cfs, both the LTP discharge flow and TDS concentrations shall be recorded/measured daily and shall be in accordance with EFFLUENT TABLE A-4.

*EFFLUENT TABLES A-3 and A-4 represent LTP flows and effluent TDS concentrations that must be met in order for the discharge not to increase the background TDS concentration in Manatawny Creek by more than 133% at Q<sub>7-10</sub>.*

e. **Cost.** There are no construction costs associated with this LTP and WTS renewal.

f. **Relationship to the Comprehensive Plan.** The Rolling Hills Sanitary Landfill was originally known as the Colebrookdale Builders Landfill, named after its original owners. The original LTP and effluent discharge were approved by DRBC Docket No. D-77-11, but the LTP was not constructed by Colebrookdale Builders, Inc. In 1982 the landfill was sold to DCSWA and DRBC Docket No. D-89-18 CP was approved on June 22, 1994 for the construction of a 0.08 mgd LTP and its discharge to Manatawny Creek. Prior to completion of the LTP, leachate was hauled to local sewage treatment plants for treatment and discharge. On June 28, 1995 the LTP outfall to Manatawny Creek was relocated approximately 1-river mile downstream from the originally planned site for the LTP outfall in order to provide additional streamflow and to diffuse effluent. Docket No. D-1989-018 CP-4 approved the continuation of the Rolling Hills LTP in the Comprehensive Plan at a discharge rate of 0.115 mgd on December

9, 2009. Docket No. D-1989-018 CP-5 was approved on March 3, 2010 and included an expansion of the LTP to 0.12 mgd. Issuance of this docket will continue approval of the docket holder's existing 0.12 mgd LTP in the Comprehensive Plan (See DECISION Condition I.c.).

## **B. FINDINGS**

The purpose of this docket is to renew approval of the docket holder's existing 0.12 mgd LTP, 0.087 mgd WTS, and their discharges from Outfalls Nos. 001 and 006, respectively.

### **Total Dissolved Solids (TDS)**

The Commission's basin-wide TDS effluent limit is 1,000 mg/l [Section 3.10.4D.2. of the Commission's *Water Quality Regulations (WQR)*]. In addition, the Commission's basin-wide in-stream TDS requirements provide the analysis of the in-stream conditions after the introduction of the project's effluent discharge demonstrate that 1) the receiving stream's resultant TDS concentration be less than 133% of the background (Section 3.10.3B.1.b. of the Commission's *WQR*) and the receiving stream's resultant TDS concentration be less than 500 mg/l (Section 3.10.3B.2. of the Commission's *WQR*).

The 133% of the background TDS requirement is for the protection of aquatic life. The 500 mg/l TDS requirement is to protect the use of the receiving stream as a drinking water source. The EPA's Safe Drinking Water Act's secondary standard for TDS is 500 mg/l.

Docket No. D-89-18 CP-2 established that Manatawny Creek at docket holder's LTP discharge has an estimated seven-day low flow with a recurrence interval of ten years ( $Q_{7-10}$ ) of 8.34 mgd (12.9 cfs). The ratio of this low flow to the hydraulic design wastewater discharge from the 0.12 mgd LTP is 69.5 to 1. However, the docket holder's LTP effluent flow is estimated to be 0.02 mgd during  $Q_{7-10}$  conditions under both current and proposed conditions. Therefore, the ratio of streamflow to expected LTP discharge is determined to be 347 to 1.

Docket No. D-1989-018 CP-5 was approved on March 3, 2010 and continued approval of a variance to the Commission's basin-wide TDS effluent limit for the LTP at varying flows in accordance with EFFLUENT TABLES A-3 and A-4 above and for the WTS. As part of the continued variance, the docket holder was required to perform annual ecological studies to determine if the continued discharge would have a significant adverse impact on the aquatic community of the receiving streams. Commission staff have reviewed the ecological studies and agree with the conclusion that the aquatic community to date has not been significantly adversely impacted by the LTP and WTS discharge. DECISION Condition II.p. of this docket requires the docket holder to continue to perform an ecological study that includes sampling locations on both Manatawny Creek and Furnace Run in accordance with the plan previously approved by the Commission following issuance of Dockets No. D-1989-018 CP-4 and D-1989-018 CP-5. Frequency will be reduced from every year to twice for the docket cycle. Commission staff require that the studies be performed in 2016 and 2018 and be submitted by April 1 of the following year. The ecological studies are required to support the continued maximum daily TDS effluent limit of 30,000 mg/l for Outfall 001 and 2,000 mg/l for Outfall 006. The annual

ecological assessments will be evaluated by Commission and PADEP staff to confirm that the discharges from the docket holder's LTP will not result in a significant adverse impact to the aquatic life of the receiving streams. The docket holder is also required to submit this assessment to the Pennsylvania Fish and Boat Commission (PFBC).

On February 3, 2010, Commission staff met with representatives of the DCSWA and PADEP to discuss flow monitoring frequency and the possibility of allowing the docket holder to discharge effluent at flows greater than 0.12 mgd. The docket holder had indicated a desire to discharge greater than 0.12 mgd in order to drain any treated leachate that it may have to store in accordance with the TDS determination and limitations in EFFLUENT TABLES A-3 and A-4.

In order to evaluate the docket holder's request to discharge greater than 120,000 gpd, Commission staff requested the docket holder to provide additional data. The data requested included flow data, pump descriptions and limitations, treatment flow processes, and an evaluation of whether or not the docket holder's mass permit limits would be impacted by a discharge greater than 0.12 mgd. The information provided by the docket holder was insufficient for staff to recommend approval of a discharge greater than 0.12 mgd at that time. However, DECISION Condition II.r. has been included in this docket granting the Executive Director the ability to approve such a modification if sufficient data can be provided in the future.

The docket holder shall take a minimum of one flow reading per day from the Spangsville gage in order to modify their daily operations. The flow and time shall be recorded and all discharge flows from the LTP shall be made in accordance with permissible flows as related to TDS.

### **Other**

The nearest surface water intake of record for public water supply is located on the Schuylkill River approximately 21 River Miles downstream of the docket holder's LTP, and is operated by the Pennsylvania American Water Company.

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 *WQR*.

## **C. DECISION**

- I. Effective on the approval date for Docket No. D-1989-018 CP-6 below:

a. The project described in Docket No. D-1989-018 CP-5 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-1989-018 CP-6; and

b. Docket No. D-1989-018 CP-5 is terminated and replaced by Docket No. D-1989-018 CP-6; and

c. The project and the appurtenant facilities described in Section A “Physical Features” of this docket shall be continued in 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](mailto: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. 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.

k. 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.

l. 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.

m. 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.

n. 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.

o. 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.

p. An ecological study like that required in the previous docket, shall be submitted to the DRBC, PFBC, and PADEP for both Manatawny Creek and Furnace Run for the years 2016 and 2018. The study shall be submitted by April 1 of the following year (i.e. April 1, 2017 and 2019). As part of that report, the docket holder is required to perform a TDS characterization for anion/cation makeup.

q. The docket holder is required to continue funding the Spangsville USGS gage to ensure that the proper discharge from the LTP can be performed each day.

r. The docket holder may submit material to the Executive Director for review and approval to discharge more than 0.12 mgd when flows in Manatawny Creek are greater than 49 mgd. Such a submittal may include daily flow readings of Manatawny Creek and the LTP discharge from the last 5 years. These readings can be used by the docket holder to conduct an analysis which would indicate how many days a flow greater than 0.12 mgd would have been required under the new discharge scheme and whether such a discharge would meet all discharge parameters including, but not limited to, mass loadings and concentrations. .

s. 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 11, 2015**

**EXPIRATION DATE: March 31, 2020**