

DOCKET NO. D-2009-044 CP-2

DELAWARE RIVER BASIN COMMISSION

Discharge to a Tributary of Special Protection Waters

**Country Club Estates Condominium Association, Inc.
Springdale Estates Wastewater Treatment Plant
Mahoning Township, Carbon County, Pennsylvania**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Keystone Consulting Engineers on behalf of Country Club Estates Condominium Association, Inc. (CCECA or docket holder) on July 23, 2013 (Application), for renewal of the docket holder's existing Springdale Estates wastewater treatment plant (WWTP), its replacement with a larger facility, and the discharge from each facility. National Pollutant Discharge Elimination System (NPDES) Permit No. PA0060879 for this facility was issued by the Pennsylvania Department of Environmental Protection (PADEP) on July 6, 2009, effective August 1, 2009. Renewal of the NPDES Permit is expected 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 Carbon 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 renew approval of the docket holder's existing 0.0126 million gallons per day (mgd) WWTP, its replacement with a 0.03 mgd WWTP, and the discharge from each facility.

2. Location. The WWTP will continue to discharge treated effluent to an unnamed tributary (UNT) of Mahoning Creek at River Mile 183.66 – 42.5 – 7.0 – 0.44 (Delaware River – Lehigh River – Mahoning Creek – UNT) via Outfall No. 001, within the drainage area to the Lower Delaware Special Protection Waters (SPW), in the Mahoning Township, Carbon County, Pennsylvania as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	40° 47' 54"	75° 47' 41"

3. Area Served. The docket holder's existing and proposed WWTPs will continue to serve the Springdale Estates development located in Mahoning Township, Carbon 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 0.0126 mgd WWTP. Docket No. D-2009-044 CP-1 approved the construction of a 0.03 mgd WWTP to replace the existing facility. This docket continues that approval.

b. Facilities. The existing 0.0126 mgd WWTP consists of an extended aeration tank, clarifier, and chlorine contact tank.

The proposed 0.03 mgd WWTP is a prefabricated Biological Engineered Single Sludge Treatment (BESST) system. The BESST system consists of a comminutor/bar screen, a surge tank, an anoxic compartment, two (2) aeration compartments, two (2) clarifiers, an aerated sludge storage tank/digester, an ultraviolet (UV) disinfection unit, a weir box with flow meter, and a post aeration chamber.

The docket holder's wastewater treatment facility discharges to waters classified as SPW and is required to have available emergency power. The docket holder is required to install a generator capable of providing emergency power as part of the construction of the new WWTP that is designed to replace the existing facility. Should the replacement not occur prior to June 10, 2017 emergency power shall be installed at the existing 0.0126 mgd WWTP to bring the existing facility into conformance with the Commission's SPW requirements (See DECISION Condition II.r.).

The docket holder's wastewater treatment facility is not/will not be staffed 24 hours per day, and shall have a remote alarm system that continuously monitors plant operations in accordance with the Commission's SPW requirements. The docket holder is required to install remote alarm systems as part of the construction of the new WWTP that is designed to replace the existing facility. Should the replacement not occur prior to June 10, 2017 remote alarm systems shall be installed at the existing 0.0126 mgd WWTP to bring the existing facility into conformance with the Commission's SPW requirements (See DECISION Condition II.r.).

The docket holder's wastewater treatment facility has not prepared and implemented an emergency management plan (EMP) in accordance with Commission SPW requirements. The docket holder is required as part of this docket approval to prepare and implement an EMP within 6 months of approval of this docket for both the 0.0126 mgd and 0.03 mgd WWTPs (See DECISION Condition II.s.).

The docket holder satisfactorily proved the financial infeasibility of using natural wastewater treatment technologies in accordance with the Commission's SPW requirements as part of the application for Docket No. D-2009-044 CP-1. Should the docket holder not construct the 0.03 mgd WWTP by June 10, 2017, the docket holder will be required to re-submit a natural treatment alternatives analysis for said expansion in advance of construction in the future (See DECISION Condition II.y.).

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

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 the docket holder. The total withdraw of water is less than 100,000 gallons per day as a 30-day average and is not required to have Commission approval.

d. NPDES Permit / DRBC Docket. NPDES Permit No. PA0060879 was issued by the PADEP on June 6, 2009 (effective August 1, 2009) and includes final effluent limitations for the project discharge of 0.0126 mgd and 0.03 mgd to surface waters classified by the PADEP as a high quality – exceptional value (HQ-EV) stream. Renewal of the NPDES Permit is expected shortly. The following average monthly effluent limits are among those listed in the NPDES Permit for the 0.0126 mgd discharge 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 (0.0126 mgd WWTP)		
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
CBOD ₅ (at 20° C)	25 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.	

The requirements in EFFLUENT TABLE A-2 are not listed in the NPDES Permit, but are Commission basin-wide and/or SPW specific parameters that must be met as a condition of this docket approval for the 0.0126 mgd WWTP. Commission staff have requested PADEP include these parameters in their renewed Permit. These effluent limits were included in Docket No. D-2009-044 CP-1 and monitoring shall continue for each parameter until start-up of the new facility (See DECISION Condition II.d.).

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

OUTFALL 001 (0.0126 mgd WWTP)		
PARAMETER	LIMIT	MONITORING
Total Dissolved Solids *	1,000 mg/l	Quarterly
CBOD ₅ (at 20° C) Influent	85% minimum removal	Same as CBOD ₅ effluent frequency in the NPDES Permit
Ammonia Nitrogen	20 mg/l	Monthly
Dissolved Oxygen	Monitor & Report	Monthly
Nitrate + Nitrate as N	Monitor & Report	Monthly
Total Nitrogen	Monitor & Report	Monthly
Phosphorous	Monitor & Report	Monthly

* See DECISION Condition II.w.

The requirements in EFFLUENT TABLE A-3 are among those listed in the NPDES Permit for the 0.03 mgd discharge from the new facility, come into effect upon start-up of the new facility, and meet or are more stringent than the effluent requirements of the DRBC.

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

OUTFALL 001 (0.03 mgd WWTP)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	18 mg/l	As required by NPDES Permit
CBOD ₅ (at 20° C)	15 mg/l	As required by NPDES Permit
Ammonia Nitrogen (5-1 to 9-30) (11-1 to 4-30)	1.3 mg/l 3.9 mg/l	As required by NPDES Permit
Fecal Coliform (5-1 to 9-30) (10-1 to 4-30)	200 colonies per 100 ml as a geo. avg. 2000 colonies per 100 ml as a geo. avg.	As required by NPDES Permit
Dissolved Oxygen	7.0 mg/l (minimum at all times)	As required by NPDES Permit
Nitrate + Nitrite as N	9.6 mg/l	As required by NPDES Permit
Phosphorous	1.7 mg/l	As required by NPDES Permit

The requirements in EFFLUENT TABLE A-4 are not listed in the NPDES Permit, but are Commission basin-wide and/or SPW specific parameters that must be met as a condition of this docket approval for the 0.03 mgd WWTP upon start-up of the facility. Commission staff have requested PADEP include these parameters in their renewed Permit. These effluent limits were included in Docket No. D-2009-044 CP-1 and monitoring shall begin as soon as start-up has commenced for each parameter (See DECISION Condition II.d.).

EFFLUENT TABLE A-4: DRBC Parameters Not Included in NPDES Permit

OUTFALL 001 (0.03 mgd WWTP)		
PARAMETER	LIMIT	MONITORING
Total Dissolved Solids *	1,000 mg/l	Quarterly
CBOD ₅ (at 20° C)	85% minimum removal	Same as CBOD ₅ effluent frequency in the NPDES Permit
Total Nitrogen	20 mg/l	Monthly

* See DECISION Condition II.w.

e. Cost. The overall cost of this project is estimated to be \$295,000 (See DECISION Condition II.j.).

f. Relationship to the Comprehensive Plan. The 0.0126 mgd Springdale Estates WWTP and its replacement with a 0.03 mgd WWTP were incorporated into the Comprehensive Plan upon approval of Docket No. D-2009-044 CP-1 on May 5, 2010. Issuance of this docket will continue approval of both facilities 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 0.0126 mgd WWTP, its replacement with a 0.03 mgd WWTP, and the discharge from each facility.

On July 16, 2008, the DRBC approved amendments to its *Water Quality Regulations (WQR)* that provide increased protection for waters that the Commission classifies as SPW. The portion of the Delaware River and its tributaries within the boundary of the Lower Delaware River Management Plan Area was approved for SPW designation.

Articles 3.10.3A.2.e.1). and 2). of the Commission's *WQR* states that projects subject to review under Section 3.8 of the Compact that are located in the drainage area of SPW must submit for approval a Non-Point Source Pollution Control Plan (NPSPCP) that controls the new or increased non-point source loads generated within the portion of the docket holder's service area which is also located within the drainage area of SPW. The service area of the docket holder is located within in the drainage area to the SPW. Since this project does entail additional construction and expansion of facilities/service area (i.e., there are new or increased non-point source loads associated with this approval), the NPSPCP requirement is applicable at this time. Accordingly, DECISION Conditions II.q. and II.z. have been included in this docket.

The docket holder's existing and proposed WWTPs were analyzed as part of Docket No. D-2009-044 CP-1 to determine if there would be no measurable change (NMC) to existing water quality (EWQ) as a result of the discharge in accordance with Commission requirements. NMC to EWQ is to occur at the Lehigh River Boundary Control Point (BCP), which is located near the confluence of the Lehigh and Delaware Rivers (see Table 2J of the Commission's *WQR*).

EWQ is defined as the actual concentration of a water constituent at an in-stream site or sites, as determined through field measurements and laboratory analysis of data collected over a time period determined by the Commission to adequately reflect the natural range of the hydraulic and climatologic factors which affect water quality. EWQ is described in terms of:

- (a) an annual or seasonal mean of the available water quality data,
- (b) two-tailed upper and lower 95 percent confidence limits around the mean, and
- (c) the 10th and 90th percentiles of the data set from which the mean was calculated.

The mean and upper 95th percentile data as defined in Table 2J of the Commission's *WQR* are summarized in Table C below and have the following characteristics:

Table C: EWQ for the Lehigh River BCP

PARAMETER	MEDIAN	UPPER 95 TH %
NH ₃ N (mg/l)	0.08	0.09
DO (mg/l)	8.85	9.20
FC (#/100ml)	120	200
NO ₂ N+ NO ₃ N (mg/l)	1.80	2.00
TKN (mg/l)	0.50	0.58
TP (mg/l)	0.17	0.24

TSS (mg/l)	4.0	6.0
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Commission staff completed the Lehigh River Water Quality Model (LR-WQM) in 2010, using the USEPA's QUAL2K platform, for the Lehigh River Watershed below the Lehigh Water Gap. The 2010 LR-WQM was used to analyze the impact from the existing and proposed WWTPs on the watershed. Section 3.10.3.A.2.d.9) of the Commission's *WQR* further states "In making the demonstration required in the preceding sentence the applicant shall use a DRBC-approved model of the tributary or main stem watershed if available." Commission staff developed the 2010 LR-WQM in order to evaluate new and expanding wastewater treatment facilities that are located in the Lehigh River watershed. The 2010 LR-WQM was used to develop effluent limitations protective of the existing water quality described in Table C above.

The model was used to predict in-stream concentrations of TSS, Total Phosphorous (TP), Nitrite-Nitrate Nitrogen (NO₂ N + NO₃ N), Ammonia Nitrogen (NH₃ N), Total Kjeldahl Nitrogen (TKN) and Dissolved Oxygen (DO) under different discharge scenarios for the project WWTP. The PADEP NPDES Permit limits were used by Commission staff to evaluate NMC to EWQ. The PADEP limits found in Effluent Table A-3 were found to prevent a MC to EWQ.

The LR-WQM has continued to evolve thru several iterations and the effluent limits provided in Docket No. D-2009-044 CP-1 have been present in each model update.

The docket holder failed to monitor for most of the parameters located in EFFLUENT TABLE A-2 since the issuance of Docket No. D-2009-044 CP-1, which was required by DECISION Condition II.d. of that docket. The Commission's Compliance Section is currently handling these violations. Issuance of this docket does not absolve the docket holder from any prior violations (See DECISION Condition II.x.).

At the docket holder's WWTP discharge, the UNT of Mahoning Creek has an estimated seven-day low flow with a recurrence interval of ten years (Q₇₋₁₀) of 0.763 mgd (1.18 cfs). The ratio of this low flow to the hydraulic design wastewater discharge from the proposed 0.03 mgd WWTP is 25.4 to 1.

The nearest surface water intake of record for public water supply is located approximately 24.3 River Miles downstream of the docket holder's WWTP on the Lehigh River and is operated by the Northampton Borough Municipal Authority.

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-2009-044 CP-2 below:

a. The project described in Docket No. D-2009-044 CP-1 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-2009-044 CP-2; and

b. Docket No. D-2009-044 CP-1 is terminated and replaced by Docket No. D-2009-044 CP-2; 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 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 reseeded 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 0.03 mgd WWTP 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 0.03 mgd WWTP has 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 0.03 mgd WWTP shall expire. If the 0.03 mgd WWTP approval expires under this condition, the docket holder shall file a new application with the Commission and receive Commission approval prior to initiating construction of the 0.03 mgd WWTP.

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. Prior to allowing connections from any new service areas or any new developments, the docket holder shall either submit and have approved by the Executive Director of the DRBC a NPSPCP in accordance with Section 3.10.3.A.2.e, or receive written confirmation from the Executive Director of the DRBC that the new service area is in compliance with a DRBC approved NPSPCP.

r. The docket holder shall provide for emergency power and install remote alarm systems at the 0.03 mgd WWTP during its construction. If Commission approval of the 0.03 mgd WWTP expires in accordance with DECISION Condition II.k. of this docket, then emergency power and remote alarm systems must be installed at the existing 0.0126 mgd WWTP prior to June 10, 2017 (the rescinding date).

s. The docket holder shall prepare an EMP within six (6) months of docket approval for both the 0.0126 mgd and 0.03 mgd WWTPs. The docket holder shall submit the EMP and certify in writing to the Commission that it has complied with this condition by December 10, 2014.

t. 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.

u. 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.

v. 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.

w. 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.

x. 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.

y. 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.

z. Prior to the docket holder initiating any further substantial alterations or additions to the existing/proposed WWTP as defined in Section 3.10.3A2.a.16) of the Commission’s *WQR*, an application must be submitted and approved by the Commission. Such an application shall be submitted prior to final design to ensure that the Commission can provide the docket holder with draft effluent limitations for SPW specific parameters as guidance for design as to not require duplication of work or cause a substantial expenditure of public funds without Commission approval. The docket holder is encouraged to contact the Commission staff during the planning stages to identify the potential effluent limitations required to meet the no measurable change parameters under SPW.

BY THE COMMISSION

DATE APPROVED: June 11, 2014

EXPIRATION DATE: July 31, 2019