

DOCKET NO. D-68-24 CP-2

DELAWARE RIVER BASIN COMMISSION

**City of Harrington
Wastewater Treatment Plant Modifications
City of Harrington, Kent County, Delaware**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) by Davis, Bowen, & Friedel, Inc. on behalf of the City of Harrington on September 24, 2007 (Application), for review of wastewater treatment facility. The project was approved by the Delaware Department of Natural Resources and Environmental Control by National Pollutant Discharge Elimination System (NPDES) Permit No. DE 0020036 effective January 1, 2007.

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 Kent County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on July 16, 2008.

A. DESCRIPTION

1. Purpose. The purpose of this project is to upgrade and expand the existing 0.57 million gallons per day (mgd) wastewater treatment plant (WWTP) that serves the City of Harrington to 0.75 mgd and to construct a force main for piping of treated effluent for spray irrigation discharge at the Kent County Sludge Farm Lands (Blessing Farm). Spray irrigation will eliminate the existing surface water discharge except during periods of winter or wet weather.

2. Location. The project WWTP is located in the City of Harrington, Kent County, Delaware. The discharge outfall is located on Browns Branch, a tributary to the Murderkill River, in Water Quality Zone 6 at River Mile 23.14-11.35-8.6 (Delaware River – Murderkill River – Browns Branch).

The project outfalls are located as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001	38° 55' 14"	75° 33' 48"
Blessing Farm Spray Irrigation	38° 56' 2.47"	75° 30' 55.62"

3. **Area Served.** The docket holder's WWTP will receive wastewater flows from the City of Harrington and nearby commercial and business customers. 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 City of Harrington WWTP upgrade and expansion includes construction of new facilities and modification of existing facilities to treat 0.75 mgd of flow. Activities include construction of WWTP appurtenances and a new 15,400 linear foot force main to convey treated effluent to the spray irrigation site.

b. **Facilities.** The upgraded and expanded wastewater treatment includes comminutor / bar screen, two lagoons that can be operated in parallel or series, dissolved air flotation (DAF) unit, sand filters, chlorination and dechlorination. Sludge and solids from DAF are gravity thickened, aerobically digested, lime stabilized as needed, and land applied.

The project facilities are above the 100-year flood zone.

Wasted sludge will be hauled off-site by a licensed hauler for deposit at a (State-approved) facility.

c. **Water withdrawals.** Potable water for the Harrington WWTP service area is provided by the City of Harrington and originates from groundwater wells.

d. **NPDES Permit / DRBC Docket.** The NPDES Permit No. DE 0020036 approved by DNREC effective January 1, 2007, includes final effluent limitations for the project discharge of 0.75 mgd to spray irrigation fields and to surface waters with designated uses of industrial water supply, primary and secondary contact recreation, fish, aquatic life, wildlife, and agricultural water supply. The following 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 Prior to Expansion/Modification

OUTFALL 001 Brown's Branch		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids	13 mg/l (85% minimum removal*)	As required by NPDES permit
CBOD (5-Day at 20° C)	37.5 lbs/day (85% minimum removal*) 3,000 lb moving 12-month cumulative average load limit	As required by NPDES permit
Ammonia – Nitrogen	Monitor and Report	As required by NPDES permit

* DRBC Requirement

EFFLUENT TABLE A-2: DRBC Parameters Included in NPDES Permit After Expansion/Modification

OUTFALL 001 Brown's Branch		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids	13 mg/l (85% minimum removal*)	As required by NPDES permit
CBOD (5-Day at 20° C)	37.5 lbs/day (85% minimum removal*) 3,000 lb moving 12-month cumulative average load limit	As required by NPDES permit
Ammonia – Nitrogen ***	***	As required by NPDES permit

* DRBC Requirement

*** DNREC has required a Total Nitrogen limit of 140 lbs/day and a moving 12-month cumulative average load of 9,125 lbs for the Harrington City WWTP for compliance with the Murderkill River TMDLs as amended in 2005. The corresponding TN daily limit at 0.75 mgd is ~ 22 mg/l. The corresponding TN yearly average limit at 0.75 mgd is ~ 4.0 mg/l. Commission staff have determined that this satisfies the Commission's basin-wide effluent limit of 20 mg/l for Ammonia-Nitrogen.

EFFLUENT TABLE A-3: DRBC Parameters Not Included in NPDES Permit

OUTFALL 001 Brown's Branch		
PARAMETER	LIMIT	MONITORING
Fecal Coliform	200 colonies/100 ml	Same as Enterococcus
Total Dissolved Solids*	1,000 mg/l *	One Per Quarter ** (WWTPs)

* DRBC Requirement

** See Condition II.v.

DNREC has included an effluent limit of 33 col/100 ml for Enterococcus.

DNREC has required a Total Phosphorous limit of 0.75 lbs/day and a moving 12-month cumulative average load of 55 lbs for the Harrington City WWTP for compliance with the Murderkill River TMDLs as amended in 2005.

e. Cost. The overall cost of this project is estimated to be \$1,980,000.

f. Relationship to the Comprehensive Plan. The WWTP was previously included in the Comprehensive Plan on January 25, 1967 and amended by DRBC Docket D-68-24.

B. FINDINGS

The upgraded and expanded WWTP will result in a decreased load to Brown's Branch through the implementation of spray irrigation during suitable weather conditions.

The 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* of the DRBC.

Near the project site, the Brown's Branch has an estimated seven-day low flow with a recurrence interval of ten years of 2.2 mgd (1.4 cfs). The ratio of this low flow to the average design wastewater discharge from the City of Harrington WWTP is 2.9 to 1.

There are no surface water intakes of record for public water supply 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.

C. DECISION

I. Effective on the approval date for Docket No. D-68-24 CP-2 below:

a. Docket No. D-68-24 is terminated and replaced by Docket No. D-68-24 CP-2.

b. 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 DNREC 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 *Water Quality Regulations* of the DRBC.

d. The docket holder shall maintain and make available to DRBC upon request, records identifying the sources, volumes and characteristics of all wastewaters and sludges treated at the IWTP, as well as the dates when off-site wastes were received and treated. Records are to be retained for 5 years.

e. 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 DRBC required monitoring results directly to DRBC (Project Review Section). The monitoring results shall be submitted annually absent any observed limit violations. If a DRBC effluent limit is violated, the docket holder shall submit the results and provide a written explanation within 30 days of the violation the action(s) the docket holder has taken to correct the violation and protect against a future violation.

f. 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*.

g. 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.

h. 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.

i. The discharge of wastewater shall not increase the ambient temperatures of the receiving waters by more than 5°F, nor shall such discharge result in stream temperatures exceeding 87°F.

j. Sound practices of excavation, backfill and reseedling shall be followed to minimize erosion and deposition of sediment in streams.

k. 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.

l. Upon completion of construction of the approved project, the docket holder shall submit a statement to the DRBC, signed by the docket holder's engineer or other responsible agent, advising the Commission that the construction has been completed in compliance with the approved plans, giving the final construction cost of the approved project and the date the project is placed into operation.

m. This docket approval shall expire three years from date below unless prior thereto the docket holder has commenced operation of the subject project or has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval.

n. The docket holder is permitted to treat and discharge the categories of wastewaters defined in the "Area Served" section of this docket.

o. The docket holder shall make wastewater discharge in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

p. 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).

q. 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.

r. 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.

s. A complete application for the renewal of this docket, or a notice of intent to cease the operations (withdrawal, discharge, etc.) approved by this docket by the expiration date, must be submitted to the DRBC at least 12 months prior to the expiration date below (unless permission has been granted by the DRBC for submission at a later date), using the appropriate DRBC application form. 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, the terms and conditions of this docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

t. 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.

u. The docket holder and any other person aggrieved by a reviewable action or decision taken by the Executive Director or Commission pursuant to this docket may seek an administrative hearing pursuant to Articles 5 and 6 of the Commission's *Rules of Practice and Procedure*, and after exhausting all administrative remedies may seek judicial review pursuant to Article 6, section 2.6.10 of the *Rules of Practice and Procedure* and section 15.1(p) of the Commission's *Compact*.

v. 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.

BY THE COMMISSION

DATE APPROVED: July 16, 2008

EXPIRATION DATE: December 31, 2011