

DOCKET NO. D-1996-050 CP-4

DELAWARE RIVER BASIN COMMISSION

**Veolia Water Delaware, Inc.
Groundwater and Surface Water Withdrawal
Stream Encroachment Tidal Capture Structure
Stanton, New Castle County, Delaware**

PROCEEDINGS

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) on June 25, 2024 for a renewal and approval of an allocation of groundwater and surface water and review of a groundwater and surface water withdrawal project and Tidal Capture Structure (TCS). The docket holder's groundwater and surface water withdrawals as well as the TCS will continue to be regulated by Department of Natural Resources and Environmental Control (DNREC) in accordance with the Administrative Agreement (AA) between DRBC and the State of Delaware, Section IV.C.4, enacted in July 2010 and modified on May 8, 2013. The project sources were approved by the Delaware Department of Natural Resources and Environmental Control (DNREC) as follows:

INTAKE OR WELL NO.	DNREC PERMIT NO.	DNREC APPROVAL DATE
Stanton Intakes Nos. 1, 2 and 2A	90-0013RM1	July 17, 2023
Christiana Intake No. 1	90-0014	April 8, 1996
Christiana Well No. 1	01-0011	June 16, 2001

The Application was reviewed for continuation in the Comprehensive Plan and for approval under Section 3.8 of the *Delaware River Basin Compact*. The New Castle County Planning Department has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on May 7, 2025.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew the approval of an existing withdrawal of up to 30.0 million gallons per day (mgd) and 930 million gallons per month (mgm) of groundwater and surface water to serve the docket holder's public water supply distribution system from existing surface water Intakes Stanton No. 1, Stanton No. 2 and Stanton No. 2A on White Clay Creek, Christiana Intake No. 1 on the Christina River and Christiana Well 1. The docket will also renew the

approval of a Tidal Capture Structure (TCS) located on White Clay Creek, a tributary of the Christina River, at River Mile 70.73 - 10.3 - 1.8 (Delaware River - Christina River - White Clay Creek). The docket holder's existing groundwater and surface water withdrawals are approved by DNREC and will continue to be regulated in accordance with the Administrative Agreement (AA) between DRBC and the State of Delaware, Section IV.C.4, enacted in July 2010 and modified on May 8, 2013.

2. Location. The project intakes are located in the White Clay Creek and Christiana River Watersheds in New Castle County, Delaware. The project well is completed in the Potomac aquifer and is located in the Christiana River Watershed, in New Castle County, Delaware. The White Clay Creek and Christiana River near the project site is designated by DNREC as supporting Exceptional Recreational or Ecological Significance (ERES)

Specific location information has been withheld for security reasons.

3. Area Served. The docket holder's water distribution system serves a portion of New Castle County, Delaware. The area served is outlined on a map entitled "Delaware Veolia Service Territory" submitted with the Application. For the purpose of defining Area Served, the Application is incorporated herein by reference consistent with conditions contained in Section C. DECISION of this docket.

4. Design Criteria. The system currently serves water to approximately 97,000 customers via 36,032 domestic, 2,817 commercial, 67 industrial, 1,117 other/ institutional service connections and records an existing average and maximum water demand of 14.478 million gallons per day (mgd) and 20.05 mgd, respectively. The docket holder projects the 10-year average and maximum water demand to increase to 15.994 mgd and 22.147 mgd, respectively. The allocation of 30 mgd or 930 mgm should be sufficient to meet the future demands of the docket holder's public water supply distribution system.

The docket holder's primary treatment facility is the Stanton Water Treatment Plant (WTP) which has a 30 mgd treatment capacity. The Stanton intakes and the smaller Christiana Plant (6 mgd) located at Smalley's Dam on the Christina River constitute the entire public water supply system, other than bulk purchases from other water purveyors via interconnections.

The TCS was constructed in 1997 for the primary purpose of improving the docket holder's ability to withdraw from the White Clay Creek during low stream flows. The TCS operating status is determined by regular monitoring of stream flows as published continuously by the Delaware Geologic Survey's calibrated stream gages. The facility is controlled remotely from the Stanton WTP to provide for immediate operational adjustments as needed. Operations include inflation to improve intake conditions or to provide protection from downstream contamination which may be incoming with the tide. Deflation, to ensure upstream flooding is not exacerbated is also part of the remotely controlled operation system. An adjustable sluice gate at the south side of the TCS controls passing flow.

5. Facilities. The existing project well and intakes have the following characteristics:

WELL NO.	CASING DEPTH/ DIAMETER	SCREENED INTERVAL	PUMP CAPACITY (GPM)	YEAR DRILLED
Christiana 1	306' / 12"	216 to 239 feet and 274 to 306 feet	200	1968

INTAKE NO.	WITHDRAWAL WATER BODY	PUMP CAPACITY (GPM)	7Q10 FLOW AT INTAKE (CFS)	YEAR CONSTRUCTED
Stanton No. 1	White Clay Creek	14,000	37.1	1947
Stanton No. 2	White Clay Creek	21,000	37.1	1960
Stanton No. 2A	White Clay Creek	21,000	22.9	1960
Christiana No. 1	Christina River	4,100	6.98	1906

The TCS facility is an inflatable structure approximately 125 feet long installed across the White Clay Creek. The structure inflates to approximately 5 feet above the steam bed. Bypass sluice gates are used for the purpose of controlling pass-by flows as required. Remote controls from the Stanton Plant provide for immediate operational adjustments when needed.

The intakes, well and all water service connections are metered.

Prior to entering the distribution system, the groundwater is treated by coagulation, flocculation, sedimentation, high-rate filtration, fluoridation and disinfection.

Christiana Well 1 is above the 100-year flood elevation.

The docket holder's storage facilities total 16.9 mg, which is approximately 1 day of supply.

The docket holder's water distribution system is presently interconnected with the following:

WATER COMPANY	INTERCONNECTION CAPACITY (MGD)	STATUS
Chester Water Authority	0.24	Regular
Veolia Water PA, Inc.	0.78	Regular
City of Wilmington (7 interconnections)	7.53	Emergency
Artesian Water Company (3 interconnections)	0.5	Emergency

6. **Other.** Wastewater is conveyed to the City of Wilmington sewage treatment facility most recently approved by DRBC Docket No. D-1998-026 CP on November 11, 2000. DNREC issued

NPDES Permit No. DE0020320 for this treatment facility. The treatment facility has adequate capacity to receive wastewater from the project.

7. **Relationship to the Comprehensive Plan.** The docket holder's sources were previously included in the Comprehensive Plan by Docket No. D-1991-072 CP on August 4, 1993. The TCS was previously included into the Comprehensive Plan by Docket No. D-1996-050 CP on April 30, 1997. The approval of the sources and TCS were continued in Docket Nos. D-1996-050 CP-2 and D-1996-050 CP-3 which were approved on January 19, 2005 and September 16, 2015, respectively. Christiana Well No. 1 was included in the Comprehensive Plan in Docket Nos. D-1967-110 CP and D-2001-037 CP approved on September 27, 1967 and April 3, 2002, respectively. Issuance of this docket will continue the docket holder's public water supply distribution system in the Comprehensive Plan.

B. **FINDINGS**

1. **Water Audits for Public Water Supply Systems Serving Greater than 100,000 gpd**

Section 2.1.8 of the Water Code states that it is the policy of the Commission to establish a standardized water audit methodology for owners of water supply systems serving the public to ensure accountability in the management of water resources. Voluntary Water Audits were encouraged for public water supply systems through December 31, 2011 (Section 2.1.8.B.). Effective January 1, 2012, the owners of each public water supply system are required to implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding AWWA guidance (Section 2.1.8.C). Water audits shall be submitted annually to the Commission by March 31. The docket holder submitted their most recent Water Audit on February 27, 2025.

2. **Surface Water Charges**

The docket holder shall pay for surface water use in accordance with Basin Regulations-Water Supply Charges 18 C.F.R. Part 420. See Section C. DECISION Condition C.2.

3. **Water Allocation**

The docket holder's surface water and groundwater use comes from four (4) surface water intakes and one (1) well and is not expected to exceed 30 mgd or 930 mgm. As such, the docket holder requested an allocation of 30 mgd or 930 mgm in their DRBC withdrawal Application. However, the docket holder's existing surface water and groundwater withdrawals are approved by the DNREC in Permit Nos. 90-0013RM1, 90-0014 and 01-0011 will continue to be regulated by DNREC in accordance with the Administrative Agreement (AA) between DRBC and the State of Delaware, Section IV.C.4, enacted in July 2010 and modified on May 8, 2013. As such, this allocation may change as a result of future permit actions by DNREC (See Condition C.9.).

4. Other Findings

The docket holder shall operate the Tidal Capture Structure (TCS) in accordance with the attached operating plan. Any revision to the TCS operating plan shall be approved by the Executive Director (See Condition C.3.).

The DNREC water allocation is valid for a period of 30 years from date of issue, with review every five years.

The DRBC estimates that the project withdrawals, used for the purpose of public water supply, result in a consumptive use of 10 percent of the total water use. The DRBC definition of consumptive use is defined in Basin Regulations-Water Supply Charges 18 C.F.R. 420.1(d).

The project is designed to conform to the requirements of the *Water Code (WC)* and *Water Quality Regulations (WQR)* of the DRBC.

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

Effective on the approval date for Docket No. D-1996-050 CP-4 below, the project described in Docket No. D-1996-050 CP-3 is removed from the Comprehensive Plan to the extent that it is not included in Docket No. D-1996-050 CP-4; Docket No. D-1996-050 CP-3 is terminated and replaced by Docket No. D-1996-050 CP-4; and the project and the appurtenant facilities described in in Section A.4. (Design Criteria) and A.5. (Facilities) shall be continued in the Comprehensive Plan. The project and appurtenant facilities as described in Section A.4. (Design Criteria) and A.5. (Facilities) are approved subject to the following conditions, pursuant to Section 3.8 of the *Compact*:

Monitoring and Reporting

1. The project withdrawals shall be metered by means of an automatic continuous recording device, flow meter, or other method, and shall be measured to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted for surface water withdrawals by the designated agency (DNREC) if maintenance of the 5 percent performance is not technically feasible or economically practicable. Meters or other methods of measurement shall be subject to approval and inspection by the DNREC as to the type, method, installation, maintenance, calibration, reading and accuracy. A record of daily withdrawals shall be maintained, and monthly totals shall be reported to the DNREC annually and shall be available at any time to the Commission if requested by the Executive Director.

2. The docket holder shall pay for surface water use in accordance with *Basin Regulations – Water Supply Charges 18 C.F.R. Part 420*.

3. The docket holder shall operate the Tidal Capture Structure (TCS) in accordance with the attached operating plan. Any revision to the TCS operating plan shall be approved by the Executive Director.
4. In accordance with DRBC Resolutions No. 87-6 (Revised) and No. 2009-1, the docket holder shall continue to implement to the satisfaction of the DNREC, the systematic program to monitor and control leakage within the water supply system. The program shall at a minimum include: periodic surveys to monitor leakage, enumerate non-revenue water and determine the current status of system infrastructure; recommendations to monitor and control leakage; and a schedule for the implementation of such recommendations. The docket holder shall proceed expeditiously to correct leakages and unnecessary usage identified by the program.
5. In accordance with DRBC Resolution No. 2009-1 and Section 2.1.8 of the *Water Code (WC)*, the docket holder shall implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding guidance. Water audits shall be submitted annually to the Commission by March 31.
6. The docket holder shall continue to implement its Water Conservation Plan as approved by DNREC and shall report to the DNREC on actions taken pursuant to this program and the impact of those actions as requested by the DNREC.

Other Conditions

7. In accordance with 18 C.F.R. 401.8. of the Commission's *Rules of Practice and Procedure (RPP)*, if at any future time the Project is changed materially from the Project as described in this docket, it will be deemed to constitute a new and different project for the purposes of Article 11 of the *Delaware River Basin Compact* and will require Commission amendment of the Comprehensive Plan. In accordance with the same section of the *RPP*, whenever a change to the Project is made, the sponsor must advise the Executive Director, who will determine whether the change is deemed materially for purposes of this provision.
8. Section 2.3.10 of the Commission's *Rules of Practice and Procedure* (18 C.F.R. 401.41), limiting the Commission's approval to five years in the absence of an expenditure of substantial funds by the project sponsor in reliance on the approval, is hereby waived for good cause shown in accordance with Section 2.9.3 (18 C.F.R. 401.123) of the same regulations.
9. During any month, the total withdrawal of groundwater and surface water from Intakes Stanton No. 1, Stanton No. 2 and Stanton No. 2A on White Clay Creek, Christiana No. 1 on the Christina River and Christiana Well 1 shall not exceed 930 million gallons (based on 31 days) (30 mgd). This allocation may be modified as a result of future permit actions by DNREC in accordance with the Administrative Agreement (AA) between DRBC and the State of Delaware, Section IV.C.4, enacted in July 2010 and modified on May 8, 2013.
10. The well, surface water intakes, facility and operational records shall be available at all times for inspection by the DRBC.

11. The well, surface water intakes and facility shall be operated at all times to comply with the requirements of the *WC* and *WQR* of the DRBC.
12. The well shall be equipped, where possible, with readily accessible capped ports and minimum ½ inch inner diameter (ID) drop pipes as repairs or modifications are made at the existing well so that water levels may be measured under all conditions.
13. Each new water service connection shall include a water meter in accordance with the DRBC’s Resolution No. 87-7 (Revised).
14. No water 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).
15. The docket holder shall implement to the satisfaction of the DNREC, a drought or other water supply emergency plan.
16. No new water service connections shall be made to premises connected to sewerage systems which are not in compliance with all applicable effluent limits contained in State permits and the *Water Quality Regulations* of the Commission.
17. 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.
18. The docket holder is permitted to provide the water approved in this docket to the areas included in Section A.3. Area Served of this docket. Any expansion beyond those included in Section A.3. Area Served is subject to DRBC review and approval in accordance with Section 3.8 of the *Compact*.
19. The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations. (see 18 CFR 401.43).
20. This approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).
21. The docket holder shall request a name change of the entity to which this approval is issued if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 C.F.R. 401.43).
22. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the rights to amend, alter or rescind any actions taken hereunder to ensure the proper control, use and management of the water resources of the Basin.

23. If the monitoring required herein or any other relevant data or information demonstrates that the operation of this project is interfering with or otherwise impairing existing uses of ground or surface water, or if the docket holder receives a complaint from an existing ground or surface water user within the zone of influence of the withdrawal alleging such interference or impairment, the permit holder shall immediately notify the Executive Director, and unless excused by the Executive Director, shall investigate the demonstrated or alleged impacts. For purposes of this condition, notification shall mean either (a) electronic transmittal of written notice to the Executive Director via email (using addresses posted on the DRBC website); or (b) written notice to the Executive Director and a telephone call to the Project Review Section at 609-883-9500, ext. 216. (Oral notification must always be accompanied by immediate written notification directed to the Executive Director.) In addition, the docket holder shall provide written notice to all potentially affected water users of the docket holder's responsibilities under this condition. **Any well or surface water supply that is impaired as a result of the docket holder's project withdrawal shall be repaired, replaced or mitigated at the docket holder's expense.** The scope of the options to consider for repair, replacement and/or mitigation shall not be limited solely to those that are owned, operated, or controlled by the project sponsor. An investigation report and/or mitigation plan prepared and certified by a licensed professional engineer and/or a licensed professional geologist shall be submitted to the Executive Director as soon as practicable following notice of the demonstrated or alleged impairment consistent with this paragraph. The Executive Director shall make the final determination regarding the scope and sufficiency of the investigation and the extent of any mitigation measures that may be required. Where ground and surface waters are rendered unavailable, unusable, or unsuitable for the pre-existing use, the Executive Director may direct the docket holder to take interim actions to mitigate such impacts, pending completion of the investigative report and any long-term repair, replacement, or mitigation.

24. 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.

25. For the duration of any drought emergency declared by either Delaware or the Commission, water service or use by the docket holder pursuant to this approval shall be subject to the prohibition of those nonessential uses specified by the Governor of Delaware, to the extent that they may be applicable, and to any other emergency resolutions or orders adopted hereafter by the Commission

26. 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.

BY THE COMMISSION

APPROVAL DATE:

VEOLIA WATER DELAWARE

OPERATING PLAN

Tidal Capture Structure (TCS) Operating Plan

Stage 1: Natural stream flow equal to, or greater than, 47.2 mgd and chlorides immediately at the outlet of the TCS bypass structure downstream of TCS less than 250 ppm.

TCS may be operated (partial inflation and gates open) in such a fashion that natural stream flows (less 30 mgd net withdrawal) will be released to the downstream side of TCS.

Stage 2: Natural stream flow less than 47.2 mgd but greater than or equal to 17.2 mgd and chlorides immediately at the outlet of the TCS bypass structure downstream of TCS less than 250 ppm.

TCS may be operated twice daily (full inflation/deflation at tidal cycles). Minimum flow-by rate of 17.2 mgd to be maintained for the two (2), ½-hour periods daily when there is an absence of tide immediately downstream of the TCS.

Stage 3: Natural stream flow less than 17.2 mgd and chlorides immediately at the outlet of the TCS bypass structure downstream of TCS less than 250 ppm.

The TCS may be operated twice daily (full inflation/deflation at tidal cycles). Minimum flow-by rate equal to the natural stream flow will be maintained for the two (2), ½-hour periods when there is an absence of tide downstream of the TCS.

Stage 4: Natural stream flow less than 17.2 mgd or chlorides immediately at the outlet of the TCS bypass structure downstream of the TCS greater than 250 ppm.

The TCS may be fully inflated and remain inflated throughout multiple tidal cycles. By-pass gates at the TCS to be used, as necessary, to blend, supplement and maintain the pool upstream of the TCS at chloride levels less than 250 ppm (average pool concentration). No minimum flow-by is required.

VEOLIA WATER DELAWARE**OPERATING PLAN**
(CONTINUED)**Salinity Monitoring**

- When the natural stream flow at the Stanton WTP is equal to or less than 37 mgd for five (5) consecutive days, Veolia will commence twice-weekly conductivity measurements at the bridge over the Christina River near S. James St. in Newport.

Stream Flow at Stanton WTP = (White Clay Creek Stream Flow near Newark USGS Gage No. 01479000 x 1.11) + (Red Clay Creek Stream Flow at Stanton USGS Gage No. 01480015)

- When specific conductance at the bridge over the Christina River near S. James St in Newport correlates to 250 ppm chloride concentration, Veolia will notify the Temporary Water Coordinator for New Castle County and will begin daily measurements at the DNREC Churchman's Road Boat Ramp, the downstream side of the Tidal Capture Structure (TCS) and the Stanton WTP Low Service No. 1 Pump house intake.
- When specific conductance begins to show an upward trend at the Churchman's Road Boat Ramp, Veolia will notify the City of Wilmington of an impending request for water releases from Hoopes Reservoir.
- The monitoring frequency may revert back to the twice-weekly schedule at the bridge over the Christiana near S. James St in Newport after stream flows at the Stanton WTP exceed 37 mgd for 5 days.
- The monitoring may cease after significant rainfall events indicated chlorides are at normal background levels of around 50 ppm at the Churchman's Road Boat