

DOCKET NO. D-1981-061 CP-5

DELAWARE RIVER BASIN COMMISSION

Drainage Area to the Special Protection Waters

**Aqua Pennsylvania, Inc.
Fawn Lake, Masthope, and Woodloch Water System
Groundwater Withdrawal
Lackawaxen Township, Pike County, Pennsylvania**

PROCEEDING

This docket is issued in response to an Application submitted to the Delaware River Basin Commission (DRBC or Commission) on October 12, 2023 for renewal of an allocation of groundwater and review of a groundwater water withdrawal project (Application). The groundwater withdrawal project was approved by the Pennsylvania Department of Environmental Protection (PADEP) on May 6, 2009 (Permit No. 2520037).

The Application was reviewed for continuation of this project in the Comprehensive Plan and for approval under Section 3.8 of the *Delaware River Basin Compact*. The Pike County Planning Commission has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on February 7, 2024.

A. DESCRIPTION

1. Purpose. The purpose of this docket is to renew the approval of an existing groundwater withdrawal with an increase in total allocation from 18.38 million gallons per 30 days (mg/30 days) to 20.5 million gallons per month (mgm) to supply the docket holder's Fawn Lake, Masthope and Woodloch public water supply distribution systems from existing Wells FL-2, FL-3, FL-4, FL-5, MH-4, MH-5, WL-5, WL-6 and new Well WL-10. The approval will also increase the Fawn Lake water system allocation from 8.5 mg/30 days to 10.5 mgm. Wells MH-1 and WL-9 will be removed from the docket with this approval.

2. Location. The project wells are completed in the Upper Devonian Catskill Formation and are located in the Westcolang Creek, West Falls Creek, and Teedyuskung Creek Watersheds, within the drainage area to the Upper Delaware Special Protection Waters, in Lackawaxen Township, Pike County, Pennsylvania. The Westcolang Creek, West Falls Creek, and Teedyuskung Creek near the project site are designated by the PADEP as High Quality-Cold Water Fishes (HQ-CWF) and Migratory Fishes (MF).

Specific location information has been withheld for security reasons.

3. Area Served. The docket holder’s Fawn Lake, Masthope, and Woodloch water system wells serve water to the Fawn Lake Forest residential development, the Masthope Rapids and Falling Waters at Masthope residential developments, and the Woodloch Springs residential development as shown on a map entitled “Fawn Lake Service Area Map”, submitted with this 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 docket holder operates eight (8) existing and one (1) new production wells in their Fawn Lake, Masthope, and Woodloch public water supply systems. The system currently serves water to approximately 3,250 customers via 2,587 domestic service connections and 28 commercial connections. The docket holder records an existing average and maximum water demand of 0.390 million gallons per day (mgd) and 0.479 mgd, respectively. The docket holder projects an average and maximum water demand of 0.430 mgd and 0.661 mgd, respectively, by the year 2034. The requested allocation of 20.5 mgm should be sufficient to meet the future demands of the docket holder.

5. Facilities. The existing project wells have the following characteristics:

WELL NO.	DEPTH (FEET)	CASED DEPTH / CASING DIAMETER	PUMP CAPACITY (GPM)	YEAR DRILLED
FL-2	642	42’/8”	165	1969
FL-3	527	38’/8”	95	1969
FL-4	657	116’/8”	50	1969
FL-5	630	58’/8”	120	1969
MH-4	870	63’/8”	35	1980
MH-5	107	50’/8”	65	1985
WL-5	500	120’/6”	75	1988
WL-6	500	175’/6”	60	1988
WL-10 (new)	640	126’/ 10”	90	2022

All water service connections are metered.

All wells are metered.

Prior to entering the distribution system, the water from the Fawn Lake and Woodloch water systems is disinfected by chlorination and treated for iron and manganese. The water from the Masthope system is disinfected by chlorination.

The project wellheads are located above the 100-year flood elevation.

The water systems noted above are presently interconnected. The Woodloch and Fawn Lake distribution systems were interconnected in Fall 2003. The Masthope and Fawn Lake distribution systems were interconnected in Fall 2006. Because of topography and pressure gradients, Woodloch and Fawn Lake can supply water to Masthope, but there is no booster station that would allow Masthope to supply water to the other systems. The docket holder’s water systems are not interconnected with any other distribution system.

6. Other. Wastewater from the Fawn Lake system is disposed of entirely via on-lot septic systems within the Fawn Lake residential community.

Wastewater from the Woodloch Springs and Woodloch Pines developments is conveyed to the docket holder’s Woodloch Springs sewage treatment facility most recently approved by DRBC Docket No. D-2014-005 CP-2 on June 12, 2019. The PADEP issued NPDES Permit No. PA0062341 A-1 for this treatment facility. The treatment facility has adequate capacity to receive wastewater from the proposed project.

Wastewater from the Masthope development is conveyed to the docket holder’s Masthope sewage treatment facility most recently approved by DRBC Docket No. D-1976-021-4 on March 9, 2022. The PADEP issued NPDES Permit No. PA0060496 for this treatment facility. The treatment facility has adequate capacity to receive wastewater from the proposed project.

7. Relationship to the Comprehensive Plan. The docket holder’s existing wells were previously included in the Comprehensive Plan as follows:

Docket No.	Date Approved	Approved Wells
D-1970-235 CP	September 27, 1972	FL-2 and FL3
D-1981-062 CP	February 23, 1983	MH-1, MH-3 and MH-4
D-1987-096 CP	April 26, 1989	MH-1, MH-4 and MH-5
D-1987-096 CP REN	January 22, 1997	MH-1, MH-4 and MH-5
D-1989-057 CP	August 8, 1990	WL-5, WL-6 and WL-9
D-1989-057 CP REN	September 19, 1996	WL-5, WL-6 and WL-9
D-1981-061 CP	August 5, 1982	FL-1, FL-2, FL-3, FL-4 and FL-5
D-1981-061 CP REN	May 27, 1987	FL-1, FL-2, FL-3, FL-4 and FL-5
D-1981-061 CP REN 2	May 20, 1992	FL-1, FL-2, FL-3, FL-4 and FL-5
D-1981-061 CP REN 3	June 25, 1997	FL-1, FL-2, FL-3, FL-4 and FL-5
D-1981-061 CP-4	May 6, 2009	FL-2, FL-3, FL-4, FL-5, MH-1, MH-4, MH-5, WL-5, WL-6 and WL-9

Issuance of this docket will continue the groundwater withdrawal project in the Comprehensive Plan.

B. FINDINGS

Well WL-10 is intended to replace WL-9 due to lost capacity in Well WL-9. Well WL-9 will be abandoned once Well WL-10 becomes operational. Also, Well MH-1 was abandoned and ongoing efforts to improve the system are being made including development of a replacement well for Well MH-5 which is still in the testing phase.

1. Special Protection Waters

In 1992, the DRBC amended its *Water Quality Regulations (WQR)* by the addition of regulations for the protection of Special Protection Waters (SPW), designed to maintain the quality of interstate waters where existing quality is better than the established stream quality objectives. As the result of its initial classifications and subsequent amendments, the Commission has designated the entire non-tidal main stem Delaware River from Hancock, New York to Trenton, New Jersey as SPW. DRBC's SPW regulations apply within the designated reaches and their drainage area.

The wells providing water supply to the docket holder are located within the drainage area to SPW. Sections 3.10.3A.2.e.1) and 2) of the *WQR* state that projects subject to review under Section 3.8 of the *Compact* that are located within 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.

Since this project involves the renewal of an approval for existing activities and does not entail additional construction or expansion of facilities or create new or increased non-point source loads, the NPSPCP requirement is not applicable at this time. Condition C.24. of this docket provides that at such time, if ever, as additions to the area served by the docket holder's withdrawals are proposed, the docket holder will be required to demonstrate compliance with an approved NPSPCP in accordance with DRBC's SPW regulations.

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

Section 2.1.8 of the *Water Code (WC)* 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 March 28, 2023.

3. Well WL-10 Hydrogeologic Evaluation

On September 19, 2022, through September 22, 2022, a 72-hour pumping test was conducted to assess groundwater withdrawal capabilities of Well WL-10 and the underlying aquifer characteristics and potential impacts to the local hydrologic system. The average pumping rate of the test on Well WL-10 was 90 gallons per minute (gpm). Discharge from the pumping well was conveyed through a 4-inch diameter lay flat hose approximately 560 feet southwest where the water was allowed to disperse onto a hillside that conveyed the discharge water to a small drainage ditch and culvert under Glennwood Drive that leads in the direction of Teedyuskung Creek. Well WL-10 was pumped for a total period of 4,320 minutes.

Groundwater response monitoring was conducted in the pumping well (Well WL-10) and Monitoring Wells 1650 Rt. 590, 109 Glennwood (Pond Well), TRQ Farm well and Well WL-5. All wells were monitored electronically and manually. Monitoring Wells 1650 Rt. 590, 109 Glennwood (Pond Well), TRQ Farm well and Well WL-5 are located approximately 430 feet, 990 feet, 2,400 feet and 2,950 feet from the pumping well, respectively.

Prior to the start of the pumping test, the water level in Well WL-10 was 211.48 feet below the top of casing (btoc). The maximum drawdown observed at the pumping well, after approximately 72 hours of pumping at an average rate of 90 gpm, was 153.88 feet (water level of 365.36 feet btoc). However, during the pumping phase of Well WL-10, Well WL-9 was cycling on and off at an average rate of 33 gpm. The drawdown of Well WL-10 includes the drawdown interference from Well WL-9. The estimated Well WL-10 drawdown was determined to be approximately 129 feet by projecting the initial 100 minutes of pumping, when Well WL-9 was off, out to 180 days.

During the 72-hour aquifer test at the rate of 90 gpm, interference from WL-10 pumping occurred at two of the four wells (the 1650 Rt. 590 Well and the Ponds Well). Well 9 pumping interference could also be seen in the same two wells. The 1650 Rt. 590 residential well was estimated to experience approximately 23 feet of drawdown from WL-10 pumping 90 gpm. This constitutes 14 percent of the monitoring well's total water column (400 feet total depth – 238.04 feet pre-test static water level (swl) = 162 feet). Well 9 drawdown interference can also be seen through the pumping test. During the course of the 72-hour test, the water level in the Ponds Well dropped below the datalogger after 2,000 minutes. Therefore, total drawdown from WL-10 was estimated at approximately 22.5 feet by projecting a data segment when Well 9 was not in operation. This interference constitutes 15 percent of the total water column (280 feet total depth – 127.60 feet pre-test swl = 152 feet). No discernable drawdown was observed in any of the other monitoring wells due to the pumping of Well WL-10.

The observed drawdown data was used to calculate aquifer parameters to characterize the underlying aquifer. The median Transmissivity value for the Well WL-10 test data was 115 ft²/day from Well WL-10 and monitoring well data using the Cooper-Jacob drawdown, Theis Recovery and Distance-Drawdown methods at an average test rate of 90 gpm. A median Storativity value of 0.00009 was calculated from the drawdowns observed in Monitoring Wells 1650 Rt. 590 and 109 Glennwood (Pond Well). The Storativity value is consistent with a confined aquifer value.

Commission staff have reviewed the Hydrogeologic Report for the Well WL-10 pumping test. No adverse impacts are expected to occur to the local hydrologic system due to the pumping from Well WL-10.

4. Other Findings

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 Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

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

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact to 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-1981-061 CP-5 below, the project described in Docket D-1981-061 CP-4 is removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-1981-061 CP-5; Docket No. D-1981-061 CP-4 is terminated and replaced by Docket No. D-1981-061 CP-5; 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 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 docket holder shall continue to report to the PADEP all surface and groundwater sources described in this docket in accordance with the Pennsylvania Regulations (Title 25 - Environmental Protection, [25 PA. CODE CH. 110], Water Resources Planning).

2. 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. Meters or other methods of measurement shall be subject to approval and inspection by the PADEP 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 PADEP annually and shall be available at any time to the Commission if requested by the Executive Director.

3. 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 PADEP, 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.

4. In accordance with DRBC Resolution No. 2009-1 and Section 2.1.8. of the *Water Code*, 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.

5. The docket holder shall implement to the satisfaction of the PADEP, a continuous program to encourage water conservation in all types of use within the facilities served by this docket approval. The docket holder will report to the PADEP, on the actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

6. The docket holder shall continue to implement its Water Conservation Plan as approved by PADEP and shall report to the PADEP on actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

Other Conditions

7. During any month, the combined withdrawal from all well sources shall not exceed 20.5 million gallons. No well shall be pumped above the maximum rate and monthly allocation as indicated below:

WELL NO.	MAXIMUM RATE (GPM)*	MONTHLY ALLOCATION (MGM)
FL-2	165	4.75
FL-3	95	2.75
FL-4	50	1.75
FL-5	120	4.18
MH-4	35	1.50
MH-5	65	2.80
WL-5	75	3.03
WL-6	60	2.52
WL-10	90	3.45

*Based on a 24-Hour Average

8. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 CFR 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges 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, 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.

9. The wells and operational records shall be available at all times for inspection by the DRBC.

10. The wells shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

11. The wells shall be equipped with readily accessible capped ports and minimum ½ inch inner diameter (ID) drop pipes so that water levels may be measured under all conditions. Existing wells are to be similarly equipped, where possible, with readily accessible ports and ½ inch ID drop pipes as repairs or modifications are made at each existing well.

12. Each new water service connection shall include a water meter in accordance with the DRBC’s Resolution No. 87-7 (Revised).

13. 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).

14. The docket holder shall implement to the satisfaction of the PADEP, a drought or other water supply emergency plan.

15. 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.

16. 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.

17. 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*.

18. 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).

19. 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).

20. 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 CFR 401.43).

21. 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 in order to insure the proper control, use and management of the water resources of the Basin.

22. 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.

23. 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.

24. 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 Non-Point Source Pollution Control Plan (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.

25. 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: March 6, 2024

EXPIRATION DATE: March 6, 2034