



COMMONWEALTH of VIRGINIA

Karen Shelton, MD
State Health Commissioner

Department of Health
P O BOX 2448
RICHMOND, VA 23218

TTY 7-1-1 OR
1-800-828-1120

**STATE BOARD OF HEALTH
ORDER BY CONSENT
ISSUED TO THE
Town of Berryville
FOR THE
Town of Berryville Waterworks
PWSID No. 2043125**

This is a Consent Order issued under authority granted by Va. Code § 32.1-26 between the State Board of Health and the Town of Berryville for the Town of Berryville Waterworks for the purpose of resolving certain violations of the Public Water Supplies Law and the applicable regulations.

Section A. Definitions

Unless the context clearly indicates otherwise, the following words and terms have the meaning assigned below:

1. "Board" means the State Board of Health, a permanent citizens' board of the Commonwealth of Virginia, as described in Va. Code § 32.1-5.
2. "CFO" means the ODW Culpeper Field Office, located in Culpeper, Virginia.
3. "Commissioner" means the State Health Commissioner, who supervises and manages the Department, as described in Va. Code §§ 32.1-16 and 17.
4. "Community waterworks" means a waterworks that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.
5. "DBPs" means disinfection byproducts.
6. "Department" or "VDH" means the Department of Health, an agency of the Commonwealth of Virginia, as described in Va. Code § 32.1-16.
7. "HAAs" means the sum of the concentrations of the haloacetic acids, expressed in parts per billion (ppb) and rounded to two significant figures. "HAAs" includes monochloroacetic acid,

dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid, which are DBPs.

8. "Human consumption" means drinking, food preparation, dishwashing, bathing, showering, handwashing, teeth brushing, and maintaining oral hygiene, as defined in Va. Code § 32.1-167 and 12VAC5-590-10 of the Regulations.
9. "LRAA" means locational running annual average, which is the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.
10. "Notice of Alleged Violation" or "NOAV" means a type of notice of alleged violation issued under 12VAC5-590-110 of the Regulations.
11. "ODW" means the VDH Office of Drinking Water.
12. "Order" means this document, also known as a "Consent Order" or "Order by Consent," which the Board is authorized to issue to require any person to comply with the provisions of any law administered by it, the Commissioner or the Department, or any regulations promulgated by the Board, or to comply with any case decision, as defined in Va. Code § 2.2-4001, of the Board or Commissioner.
13. "Permit" means Waterworks Operation Permit No. 2043125.
14. "PMCL" means Primary Maximum Contaminant Level.
15. "ppb" means parts per billion.
16. "Public Water Supplies Law" or "PWSL" means Article 2, Chapter 6 of Title 32.1 of the Va. Code.
17. "Pure water" means water fit for human consumption that is (i) sanitary and normally free of minerals, organic substances, and toxic agents in excess of reasonable amounts and (ii) adequate in quantity and quality for the minimum health requirements of the persons served.
18. "PWSID" means Public Water System Identification.
19. "Regulations" means the Waterworks Regulations, 12VAC5-590-10, *et seq.*
20. "Va. Code" means the Code of Virginia (1950), as amended.
21. "VAC" means the Virginia Administrative Code.

22. "Waterworks" means a system that serves piped water for human consumption to at least 15 service connections or 25 or more individuals for at least 60 days out of the year. Waterworks includes all structures, equipment, and appurtenances used in storage, collection, purification, treatment, and distribution of pure water except the piping and fixtures inside the building where such water is delivered.

Section B. Findings of Fact and Conclusions of Law

1. The Town of Berryville owns and operates the Town of Berryville waterworks, located in Clarke County, Virginia. The Town of Berryville waterworks is a community waterworks that serves piped water for human consumption to approximately 1,964 service connections and approximately 4,574 year-round residents.
2. The Town of Berryville waterworks consists of a raw water intake on the Shenandoah River and a pump station with a packaged conventional water treatment plant. Treatment consists of coagulation, flocculation, limited sedimentation via tube settlers, and gravity filtration. Pre-treatment chemical additions include potassium permanganate, powdered activated carbon, aluminum sulfate, and a polymer-based coagulant aid as needed. Sodium hypochlorite and fluoride are added after filtration. The Town of Berryville waterworks is equipped for the addition of soda ash, but this is not currently practiced. Water flows from the clearwell to the distribution system and is then stored in three finished water storage tanks with the assistance of booster pumps, pressure valves, and associated equipment. The water flows from the storage tanks into a distribution system.
3. On July 16, 2012, ODW issued to the Town of Berryville the Permit to operate the Town of Berryville waterworks in compliance with the PWSL and Regulations.
4. The Town of Berryville reported to VDH laboratory results for HAA5 with compliance Locational Running Annual Averages (LRAAs) as follows:

Contaminant	Compliance Period Ending Quarter	LRAA (ppb)	Sampling Points DS009 - 320 Dunlop Blvd. DS024 - 409 McNeil Street	PMCL (ppb)
HAA5	September 2024	67	DS009 and DS024	60
HAA5	June 2024	69	DS009 and DS024	60
HAA5	March 2024	70	DS009 and DS024	60
HAA5	December 2023	66	DS009 and DS024	60
HAA5	September 2023	67	DS009 and DS024	60
HAA5	June 2023	66	DS009 and DS024	60

5. On June 8, 2023, VDH issued an NOAV to the Town of Berryville for exceeding the PMCL for HAA5 based on the calculated LRAA for the period of the second quarter of 2023 at the sample locations at DS009 and DS024.

6. On October 12, 2023, VDH issued an NOAV to the Town of Berryville for exceeding the PMCL for HAA5 based on the calculated LRAA for the period of the third quarter of 2023 at the sample location at DS009 and DS024.
7. On January 19, 2024, VDH issued an NOAV to the Town of Berryville for exceeding the PMCL for HAA5 based on the calculated LRAA for the period of the fourth quarter of 2023 at the sample location at DS009 and DS024.
8. On March 28, 2024, VDH issued an NOAV to the Town of Berryville for exceeding the PMCL for HAA5 based on the calculated LRAA for the period of the first quarter of 2024 at the sample location at DS009 and DS024.
9. In a Warning Letter dated May 7, 2024, ODW notified the Town of Berryville that the Town of Berryville waterworks had been identified as a "Serious Violator." The letter noted the corrective actions that the Town of Berryville had taken to date to attempt to resolve the HAA5 PMCL exceedances. The letter discussed the enforcement priority for the above-mentioned violations, and that if the violations were not resolved during that calendar quarter, VDH may take formal enforcement action.
10. On June 21, 2024, VDH issued an NOAV to the Town of Berryville for exceeding the PMCL for HAA5 based on the calculated LRAA for the period of the second quarter of 2024 at the sample location at DS009 and DS024.
11. On September 13, 2024, VDH issued an NOAV to the Town of Berryville for exceeding the PMCL for HAA5 based on the calculated LRAA for the period of the third quarter of 2024 at the sample location at DS009 and DS024.
12. On October 2, 2024, VDH sent a letter of correction to the Town of Berryville, noting that the above-listed NOAVs cited a regulation that had been repealed and replaced in pertinent part with 12VAC5-590-384.B.1.a. The substantive requirements of the repealed regulation and the current regulation do not materially differ.
13. The Regulations, at 12VAC5-590-384.B.1.a (Residual disinfectant, DBPs, and DBPPs compliance.), state in part, "The owner of a waterworks required to monitor quarterly shall calculate the LRAAs for...HAA5 using monitoring results collected under 12VAC5-590-374 F and determine that each LRAA does not exceed the PMCL in order to comply with the PMCLs listed in Table 340.6."
14. The Regulations, at 12VAC5-590-340 (Compliance standards.), Table 340.6 (Disinfection Byproducts), state that the PMCL for HAA5 is 0.060 mg/L, which is equivalent to 60 ppb.
15. Since 2020, the Town of Berryville has attempted to identify the cause of the high HAA5 levels, but the cause has not yet been identified. In consultation with engineers and manufacturers, the Town of Berryville has attempted to address the high HAA5 levels through various actions,

including without limitation the following: (1) regularly scheduled distribution system flushing; (2) installation of three new automatic distribution flushing devices, bringing the total number of such devices to five; (3) replacement of the mixer at the northwest elevated tank in 2022; (4) professional cleaning and inspection of the northwest and southeast elevated storage tanks in 2022, and the clear well, ground reservoir, and both elevated storage tanks in 2024; (5) reduction of chlorine feed rates while maintaining the required minimum distribution system chlorine residual levels; (6) review of water storage level strategies; (7) modification of water treatment processes, including use of a new coagulant with the purpose of reducing DBPs – though the Town of Berryville later stopped using the new coagulant when it did not improve HAA5 levels; (8) cleaning filter settling tubes in August 2024; (9) repair of surface wash system on treatment train 2 in 2024; (10) engaging the services of an engineering firm to consult on chlorine by-product surveillance testing and reduction strategies, with surveillance testing beginning in July 2023; and (11) engaging the services of an engineering firm in April 2024 to review coagulants, optimize coagulant feed rates, and train operators on treatment adjustment procedures.

16. Pursuant to Va. Code § 32.1-26, the Board may issue orders requiring compliance with any law or regulation administered by the Board.
17. Based on a review of ODW records, the Board concludes that the Town of Berryville has violated 12VAC5-590-384.B.1.a and Table 340.6 at 12VAC5-590-340 of the Regulations, as described in paragraphs B.4 through B.14, above.

Section C. Agreement and Order

Accordingly, by virtue of the authority granted it in Va. Code §§ 32.1-26 and 32.1-27, the Board orders the Town of Berryville, and the Town of Berryville agrees, to:

1. Perform the actions described in Appendix A of this Order.
2. Pay a civil charge of \$2,734.00 within 30 days of the effective date of this Order in settlement of the violations cited in this Order.

Payment shall be made by check, certified check, money order or cashier's check payable to the "Treasurer of Virginia," and shall be delivered to:

Virginia Department of Health
Office of Drinking Water
109 Governor Street, 6th Floor
Richmond, Virginia 23219

The Town of Berryville shall indicate that the payment is being made in accordance with the requirements of this Order for deposit into the Virginia Water Supply Assistance Grant Fund. If VDH must refer collection of monies due under this Order to the Department of Law, the Town of Berryville shall be liable for attorneys' fees of 30% of the amount outstanding.

Section D. Administrative Provisions

1. This Order addresses and resolves only those violations specifically identified in Section B of this Order. This Order shall not preclude VDH from taking any action authorized by law, including but not limited to taking any action authorized by law regarding additional, subsequent, or subsequently discovered violations or taking subsequent action to enforce this Order.
2. This Order does not suspend, minimize, or otherwise alter the Town of Berryville's obligation to comply with federal, state, and local laws and regulations. The Board waives no lawful means of enforcing the laws it administers, the regulations it has adopted, or this Order.
3. The Town of Berryville agrees that it has received fair and due process under the Administrative Process Act (Va. Code § 2.2-4000, *et seq.*) and waives its right to further hearings or challenges, whether civil or administrative, regarding the terms, conditions, or issuance of this Order and specifically waives its rights to a hearing under Va. Code §§ 2.2-4019 or 2.2-4020 as a predicate for issuance of this Order. The Town of Berryville consents to the issuance of this Order freely, voluntarily, and after an opportunity to consult counsel of its choice.
4. Any plans, reports, schedules, or specifications submitted by the Town of Berryville and approved by the Department pursuant to this Order are incorporated into this Order. Any non-compliance with such approved documents shall be considered a violation of this Order.
5. To the fullest extent allowed by law, this Order is binding on the Town of Berryville, its agents and legal representatives, heirs, devisees, executors, administrators, and successors in interest, jointly and severally as applicable.
6. The Board may modify, rewrite, or amend this Order with the consent of the Town of Berryville. Additionally, the Board may modify, rewrite, or amend this Order on the Board's own motion pursuant to the Administrative Process Act, Va. Code §§ 2.2-4000, *et seq.*, after the Town of Berryville has received notice and an opportunity to be heard. Any request by the Town of Berryville for modification of this Order shall be submitted to VDH in writing to be considered for approval by the Board or its designee.
7. This Order shall not preclude the Board, the Commissioner, or the Department from taking any action authorized by law, including but not limited to: (1) taking any action authorized by law regarding any additional, subsequent, or subsequently discovered violations; (2) seeking subsequent remediation of the facility; or (3) taking subsequent action to enforce this Order.
8. Failure by the Town of Berryville to comply with any terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board or Department as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.

9. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.
10. The Town of Berryville shall be responsible for failure to comply with any of the terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or such other unforeseeable circumstances beyond its control and not due to a lack of good faith or diligence on its part. The Town of Berryville shall demonstrate that such circumstances were beyond its control and not due to a lack of good faith or diligence on its part. The Town of Berryville shall notify the Department in writing within three business days when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of this Order. Such notice shall set forth:
 - a. The reasons for the delay or noncompliance;
 - b. The projected duration of any such delay or noncompliance;
 - c. The measures taken and to be taken by the Town of Berryville to prevent or minimize such delay or noncompliance; and
 - d. The timetable by which the Town of Berryville will implement such measures and the date full compliance will be achieved.
- Failure by the Town of Berryville to notify the Department verbally within 24 hours and in writing within three business days of learning of any condition above, which the Town of Berryville intends to assert will result in the impossibility of compliance, shall constitute a waiver by the Town of Berryville of any claim to inability to comply with a requirement of this Order.
11. This Order shall become effective on the 15th day after a copy of it is mailed to the Town of Berryville by certified mail. Va. Code § 32.1-26.
12. This Order shall continue in effect until:
 - a. The Commissioner or the Commissioner's designee terminates the Order after the Town of Berryville has completed all of the requirements of this Order;
 - b. The Commissioner or the Commissioner's designee terminates the Order after finding that the circumstances that led to the Order's issuance no longer exist, and that the Order is no longer needed to enforce the PWSL and Regulations to protect the public health;
 - c. The Town of Berryville petitions the Commissioner or the Commissioner's designee to terminate the Order after the Town of Berryville has completed all of the requirements of the Order and the Commissioner or the Commissioner's designee approves the termination of the Order; or
 - d. The Commissioner or the Commissioner's designee, or the Board, in their sole discretion, terminates the Order upon 30 days written notice to the Town of Berryville. Termination of the Order pursuant to this authority without the Town of Berryville having satisfied all terms

of the Order may result in VDH pursuing further enforcement related to the violations identified in the Order.

13. Termination of this Order, or any obligation imposed in this Order, shall not operate to relieve the Town of Berryville from its obligation to comply with any statute, regulation, permit condition, other order, certificate, standard, or requirement otherwise applicable.
14. The undersigned representative of the Town of Berryville certifies that they are a responsible official authorized to enter into the terms and conditions of this Order and to execute and legally bind the Town of Berryville to this document. Any documents to be submitted pursuant to this Order shall also be submitted by a responsible official of the Town of Berryville.
15. By its signature below, the Town of Berryville voluntarily agrees to the issuance of this Order.

It is SO ORDERED this day, Dec 13, 2024.

STATE BOARD OF HEALTH
Commonwealth of Virginia



Karen Shelton, MD
State Health Commissioner

Owner Signature and Notary

The Town of Berryville voluntarily agrees to the issuance of this Order.

Harry Lee Arnold Jr.

Name

November 13, 2024

Date

Mayor

Title

Haylee Arnold Jr.

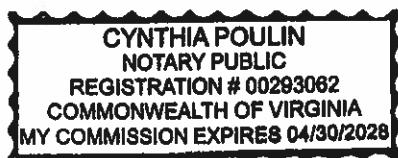
Signature

Notary Public:

Commonwealth of Virginia

City/County of Clarke

The foregoing document was signed and acknowledged before me this 13th day of November, 2024, by Harry Lee Arnold Jr. who is Mayor of the Town of Berryville, signing on behalf of the entity.



Cynthia Poulin

Notary Public

00293062

Registration No.

My commission expires: 04/30/2028
Notary seal:

Appendix A

Corrective Action Plan and Schedule for Compliance

The Town of Berryville shall:

- a. Within 50 days of the effective date of this Order, submit to CFO a Corrective Action Plan (CAP) and Schedule for Compliance (Schedule) for review and approval. The Town of Berryville is encouraged to consult with CFO in drafting the CAP and Schedule prior to submitting it to CFO for review and approval. The CAP and Schedule shall set forth actions that the Town of Berryville has taken or plans to take, and a schedule within which to take them, to comply consistently with the PWSL and the Regulations.

The Town of Berryville's CAP and Schedule must include the following:

- i. Timeline for submission to CFO of a preliminary engineering report (PER), signed and sealed by a Professional Engineer with expertise in disinfection byproduct control, which evaluates current operational practices and proposes specific steps for improving these practices to reduce the potential for DBP formation, for review and approval by ODW (the Operational Practices PER). The Operational Practices PER should address the following:
 1. Optimized dosing for all treatment chemicals (pre-oxidant, carbon, coagulant, coagulant aid, chlorine) to reduce disinfection byproduct formation.
 2. Frequency and duration of filter backwash and filter-to-waste.
 3. Distribution system storage and targeted flushing protocols to reduce water age.
 4. An evaluation of options for additional treatment that may help to reduce DBP formation at the water treatment plant and/or in the distribution system.
- ii. Assessment of the age and physical condition of the tube settlers and the filter media, and potential benefits of full or partial replacement of either or both components. The Town of Berryville may have the assessment performed in-house or with consultation of outside consultants and manufacturers.
- iii. Timeline for submission to CFO of a Revised Plant Upgrades PER that revises the Town of Berryville's PER for treatment plant upgrades, dated November 2023. ODW provided comments on the treatment plant upgrades PER in May 2024 and required a significant revision to the preliminary plans, as ODW had determined that membrane filtration without pre-treatment consisting of coagulation, flocculation, and sedimentation would not be acceptable.

The Town of Berryville's CAP and Schedule must take into consideration financing needed to implement the CAP. The Town of Berryville must use reasonable and diligent efforts, taking into consideration costs and other reasonable factors, to obtain financing to implement the ODW-approved CAP and Schedule that is intended to resolve the violations identified in this Order.

The Town of Berryville recognizes that it may need to seek approval from ODW to amend the ODW-approved CAP and Schedule, despite the Town of Berryville's exercise of reasonable and diligent effort, due to potential delays in obtaining financing.

- b. Upon ODW's approval of the CAP and Schedule, the Town of Berryville can begin implementing the CAP in accordance with the Schedule. The approved CAP and Schedule shall become a part of, and enforceable under, the terms of this Order. If the Town of Berryville does not present a CAP and Schedule with terms that are acceptable to ODW such that ODW cannot approve it, and the Town of Berryville and ODW are unable to reach agreement on the terms of a mutually agreeable CAP and Schedule, the Board or Commissioner may terminate this Order subject to Section D.12.d of this Order, which may result in further enforcement action against the Town of Berryville as stated therein.
- c. After initial approval of the CAP and Schedule by ODW, submit any proposed modifications to the CAP and Schedule to CFO for review, discussion and consideration for approval prior to the Town of Berryville taking any action. The Town of Berryville shall submit any proposed modification of the CAP and Schedule to CFO at least 30 days prior to expiration of a deadline that the Town of Berryville seeks to modify.
- d. Within 30 days of the Town of Berryville's submission to CFO of the Operational Practices PER, the Town of Berryville must submit to CFO for review and approval an amended CAP and Schedule that includes actions that the Town of Berryville will take to implement the Operational Practices PER's recommendations. If the Town of Berryville does not present an amended CAP and Schedule with terms that are acceptable to ODW such that ODW cannot approve it, and the Town of Berryville and ODW are unable to reach agreement on the terms of a mutually agreeable amended CAP and Schedule, the Board or Commissioner may terminate this Order subject to Section D.12.d of this Order, which may result in further enforcement action against the Town of Berryville as stated therein.
- e. Within 30 days of the Town of Berryville's submission to CFO of the Revised Plant Upgrades PER, the Town of Berryville must submit to CFO for review and approval an amended CAP and Schedule that includes actions that the Town of Berryville will take to implement the Revised Plant Upgrades PER's recommendations. Following ODW's approval of the CAP and Schedule, the ODW-approved CAP and Schedule may be amended with approval of ODW, including amendments to address scheduling delays due to the inability of the Town of Berryville to obtain timely financing, as discussed in section of a. of Appendix A of this Order. If the Town of Berryville does not present an amended CAP and Schedule with terms that are acceptable to ODW such that ODW cannot approve it, and the Town of Berryville and ODW are unable to reach agreement on the terms of a mutually agreeable amended CAP and Schedule, the Board or Commissioner may terminate this Order subject to Section D.12.d of this Order, which may result in further enforcement action against the Town of Berryville as stated therein.

- f. Continue quarterly monitoring for disinfection byproducts in accordance with the approved Monitoring Plan. Distribute all required public notifications in accordance with specified timeframes.
- g. Submit to CFO quarterly progress reports regarding the CAP and Schedule requirements. The Town of Berryville shall send quarterly submissions to CFO by the 10th day of the month following the end of the reported quarter.
- h. Upon completion of the CAP, submit to CFO a final report verifying that the CAP has been completed in accordance with the terms of this Order.
- i. Mail, email, fax, and/or personal delivery all submittals and reports required by this Order to:

VDH - Office of Drinking Water - Culpeper Field Office
c/o Compliance Specialist
400 S. Main Street, 2nd Floor
Culpeper, Virginia 22701
Office phone number: (540) 829-7340
Email address: ODWFieldOffice6@vdh.virginia.gov
Fax number: (540) 829-7337

(If the Town of Berryville does not send the original documents, it must file the original documents appropriately so if asked to produce the documents they are easy to access.)