



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
KNOXVILLE ENVIRONMENTAL FIELD OFFICE
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November 16, 2023

Clearfork Utility District
Mr. Rick Johnson, President
P.O. Box 63
Clairfield, TN 37715

RE: **Sanitary Survey of Community Water System**
Clearfork Utility District
PWSID #0000826
Claiborne County, TN

Dear Mr. Johnson:

On November 3, 2023, personnel from the Division of Water Resources (The Division) visited the Clearfork Utility District Water System and performed a Sanitary Survey. The survey consisted of a records review to document the operational performance of the system and an on-site inspection of the water distribution system. The survey covered the time from the previous survey on September 23, 2021, through November 3, 2023. The Division would like to thank Mr. Andy Maidan, Mr. Wayne Huddleston, and Mr. Josh Taylor for their courtesy and timely responses to Division requests. In accordance with the Sanitary Survey Manual, the Clearfork Utility District Water System earned 595 points out of a possible 599 points for a numerical score of ninety-nine percent (99%). This rating retains the Clearfork Utility District Water System in the State's "**Approved**" category.

The following deficiencies, comments, and/or recommendations as outlined in the Sanitary Survey Rating Form were identified during the survey and should be addressed as applicable:

1. Section 1: System Management and Operation

• Subsection A. Record Keeping

The Division would like to remind you on the following retention requirements, these records must be kept onsite to present during the survey:

- Microbiological Records: 5 years
- Nitrate Results: 10 years
- Sanitary Surveys: 10 years

It is noted that there are some records not available prior to 2018 and that there was a large turnover of personnel at this time. Since 2018, all records are neatly organized and easily auditable. The operator has many records available in electronic format, which eases the burden of hard copies. The Division appreciates the efforts to maintain required records in an organized fashion and encourages this continued records management.

- **Subsection B. Construction Projects**

The system is reminded that no new construction or modification of the water system may be made without approval of the Division's Engineering Section. Please contact Ms. Cindy Wheeler with any questions, at Cindy.Wheeler@tn.gov, if you are planning any water system alterations.

There have been two construction projects completed since the last sanitary survey, and one more approved for completion. Of the two completed projects, the Division did not receive construction start notifications. The system is advised to provide construction start notifications to the Division when work using approved plans has been commenced. Job DW20230317 was approved in May 2023 for Sled Creek booster pump station. When work begins on this project, please notify Ms. Jenna Williams, of the Division, at jenna.williams@tn.gov.

- **Subsection H. Emergency Operations Plan**

The Emergency Operations Plan (EOP) was available on site; however, it was last approved in June 2019. The Drought Management Plan (DMP) was last updated on June 11, 2019. Per Division Rule 0400-45-01-.17(7), the EOP and DMP are required to be updated and approved by the Division every three years. Further, this rule requires that the DMP be included in the EOP. There were various points of contact listed in these plans, who are no longer valid contacts. The Division requires an updated EOP and DMP be submitted within 60 days of the date of this letter. Please see previous Sanitary Survey letter dated October 15, 2021 (provided during this survey), Section 2: Subsection H, for previous guidance concerning EOPs and DMPs. For failing to have an updated EOP and DMP, a one-point deduction was assessed to the overall rating.

2. Section 4: Treatment

- **Subsection O. Sludge Handling/Backwash Handling**

As part of the Sanitary Survey, Division staff conducted a Compliance Evaluation Inspection (CEI) of the filter backwash discharge that is covered under the National Pollution Discharge Elimination System (NPDES). Filter backwash discharge from the Clearfork Utility District WTP is permitted under NPDES permit #TN0060852. The Division has sent separate correspondence regarding this CEI separate from the Sanitary Survey letter.

3. Section 5: Monitoring, Data Verification, & Compliance

- **Subsection A. Laboratory – Process Monitoring**

In accordance with Division Rule 0400-45-01-.14(1)(a), State approval for the analysis of turbidity, free chlorine residual, temperature, pH, hardness, alkalinity, iron, and manganese is hereby granted to Clearfork Utility District under Mr. Josh Taylor, Mr. Andy Maidan, Mr. Wayne Huddleston. This approval is effective until the next sanitary survey and is contingent

upon use of approved methodologies and proper operation of the analysis equipment. The updated Drinking Water Monitoring Program for the system in accordance with Division Rule 0400-45-01-.17(3) is enclosed and reflects recommended Area Wide Optimization Program (AWOP) sampling locations.

During the survey a free chlorine residual of 1.60 mg/l was collected at Eagin Hollow.

4. Section 5: Monitoring, Data Verification and Compliance

- **Subsection B. Bacteriological Monitoring**

As part of each Sanitary Survey, Division staff requests a total connection count consisting of active, inactive, and multi-user connections in accordance with Division Rule 0400-45-01-.32. Clearfork Utility District provided 580 as their total connections. When the overall count is multiplied by the Claiborne County household factor of 2.25, the estimated population served is 1,305. Based on this population number, Clearfork Utility District will continue to be required to collect two bacteriological samples each month. Following the last Sanitary Survey, the system updated their bacteriological site sampling plan. This plan was approved October 26, 2021, and was available on site. All routine monitoring is being conducted per the site sampling plan.

- **Subsection G. Primary Chemicals Monitoring**

The system failed to sample for Atrazine in 2022. The system sampled raw water for Atrazine instead of sampling finished water. The system was issued a Compliance Status Notification on August 11, 2022, and posted a public notice as required. For failing to sample for Atrazine in Q2 2022, a three-point deduction has been assessed from the overall rating score.

- **Subsection K. Disinfection/Disinfection By-Products and Precursors Monitoring**

Clearfork Utility District personnel were unable to locate a disinfectant byproduct monitoring plan. While it is likely a plan was approved by the Division when the rules requiring it were implemented, knowledge of the plan and lack of a physical copy of the plan should be addressed, especially considering changing of personnel over the last five years. A template has been sent via separate correspondence to assist in developing a DBP monitoring plan.

5. Section 8: Distribution System and Cross Connection Controls

- **Subsection B. Flushing Program / Blow offs**

The system appears to have an effective flushing program as required by Division Rules. Documentation of flushing was available; however, contrary to Division Rule 0400-45-01-.17(10), flushing records did not include the person responsible for conducting the flushing. The Division requests you update your flushing checklist/program to include a section identifying the person conducting the flushing, and to conduct training with personnel on the requirement to document the person conducting the flushing.

- **Subsection G. Working Cross Connection Program**

Clearfork Utility District appears to have an effective working cross-connection program. The cross-connection control plan was last updated on October 27, 2021. There are three known devices in the system, which are tested by Backflow Specialties on an annual basis as required.

Surveys of residential and commercial properties are being conducted to identify potential cross-connections; however, the dates of these surveys are not being annotated. The Division requests the cross-connection survey sheet be updated, and personnel trained on documenting the date of the survey.

General Observations, Comments, and Other Recommendations

The Division of Water Resources utilizes EPA's Enforcement Tracking Tool (ETT) in tracking violations. Violation types are assigned a point value and if a public water system reaches a point total of 11, the Division must pursue enforcement action against the public water system. Based on the current ETT listing, Clearfork Utility District has an ETT score of 4, for failing to conduct atrazine sampling in August 2022. This deficiency was discussed in further detail in Section 5, Subsection G above.

Clearfork Utility District personnel have done a great job working through issues stemming from before their time. It is noted that shortly after the sanitary survey in 2021, many of the items requested by the Division were updated and implemented by the system. The Division appreciates this effort and commends the hard work put in by system personnel.

The courtesy extended during the survey was appreciated. If you have any questions or need assistance, please contact me at (865) 323-8650 in the Knoxville Environmental Field Office.

Sincerely,



Brad Antone, Environmental Scientist 2
Knoxville Environmental Field Office
Division of Water Resources
Email: Brad.Antone@tn.gov

cc: Mr. Andy Maiden, WTP Operator in Direct Charge, CUD (via email)
Mr. Wayne Huddleston, Distribution Operator, CUD (via email)
Nashville Central Office, via WaterLog database.

DRINKING WATER MONITORING PROGRAM

Clearfork Utility District

Water Treatment Grade 2 / Distribution Grade 1

PWSID# TN0000826, Claiborne County

November 2023

The following Drinking Water Monitoring Program (DWMP) has been developed in accordance with Division Rule 0400-45-01-.17(3) and other applicable drinking water regulations. Unless otherwise noted, all results must be reported on the Monthly Operations Report (MOR). Please place this monitoring program in an easily accessible location for water system personnel to review.

Raw Water: Collect a representative sample prior to any chemical additions.	
Parameters	Frequency
Temperature	Daily
Turbidity	Daily
Alkalinity, Total	Daily
pH	Daily
Iron	Daily
Manganese	Daily
Jar Test	As needed to optimize floc formation (enhance coagulation)

Finished Water: Collect a representative sample after (post) filtration	
Parameters	Frequency
Turbidity	Report highest individual reading for each 4 hour block in which the water treatment plant operates from all data generated.
Chlorine residual, free	Report lowest daily measurement from all data generated
Alkalinity, total	Daily
pH	Daily
Hardness	Daily
Iron	Daily
Manganese	Daily
Contact Time (CT) Profile	Daily (maximum flow rate, etc.)

Distribution System: Collect a representative sample from tank sites during discharge, disinfection by-product compliance locations, and identified critical sites based on investigative sampling. For consecutive systems, all distribution entry points must be sampled in addition to the above sites. Sample locations must be reported on or with MOR. Dead-end hydrants or blow-offs can be used for sampling purposes.	
Parameters	Frequency
Chlorine residual, free	Five days per week*
Iron	Three days per week*
Manganese	Three days per week*
Bacteriological	Two (2) samples per month, analyzed by a State Certified laboratory. Free chlorine residual must be collected at the same time and frequency of bacteriological sample.

*Excluding weekends and holidays

Sanitary Survey Rating

PWSID: TN0000826

Water System Name: Clearfork UD

Survey Date: 03-Nov-23

System Category (Points): 421
488
599

421 - Consecutive Systems/Distribution Only
488 - Treatment Systems/Wholesalers
599 - Both Treatment and Distribution

1. System Management and Operation (94)

	Requirement	Points Range	Deduction	Comments
A.	Record Keeping 0400-45-01-.20	(0)	Narrative	See Survey Letter.
B.	Construction Projects 0400-45-01-.05, 0400-45-01-.17	(1-5)	0	See Survey Letter.
C.	Submission of Monthly Operations Reports 0400-45-01-.17	(0)	Narrative	No deficiencies noted.
D.	Reporting Requirements 0400-45-01-18	(4-30)	0	No deficiencies noted.
E.	Public Notification 0400-45-01-.19	(1-10)	0	No deficiencies noted.
F.	Facility Maintenance Fee	(0)	Narrative	No deficiencies noted.
G.	Enforcement - TCA §68-221-701 et seq	(4-10)	0	No deficiencies noted.
H.	Emergency Operations Plan 0400-45-01-.17	(1-2)	1	See Survey Letter.
Deficiency Subtotal			1	

2. Operator Compliance (23)

	Requirement	Points Range	Deduction	Comments
A.	Certified Operator – Plant and Distribution System 0400-45-01-.17(1) and 0400-49-01-04	(3-15)	0	Andy Maiden - WT4, Wayne Huddleston - DS2, Josh Taylor - WT2
Deficiency Subtotal			0	

3. Source (25)

	Requirement	Points Range	Deduction	Comments
A.	Source Adequacy 0400-45-01-.02, .05, .16, .17(13) and .34(3)	(3-5)	0	No deficiencies noted.
B.	Intake 0400-45-01-.05, .17	(2)	0	N/A
C.	Wellhead/Springbox Construction 0400-45-01-.05(12), 16 and 17(3) and (16)	(2)	0	No deficiencies noted.
D.	Source Protection Plans 0400-45-01-.34	(1-2)	0	Last updated 11/8/2021, next update 2024
Deficiency Subtotal			0	

4. Treatment (153)

	Requirement	Points Range	Deduction	Comments
A.	Aerator 0400-45-01-.05, .17	(2)	0	No deficiencies noted.
B.	Chemicals / Chemical Feeders 0400-45-01- .05 (8) and .17,36	(2)	0	No deficiencies noted.
C.	Mixing 0400-45-01-.02, .05, .17	(2)	0	No deficiencies noted.
D.	Flocculation 0400-45-01-.02, .05, .17	(2)	0	N/A
E.	Sedimentation 0400-45-01-.02, .05, .17	(2)	0	No deficiencies noted.
F.	Filtration / Alternative Technology 0400-45- 01-.17(12) and (27)	(2-30)	0	No deficiencies noted.
G.	Re-Wash / Filter-to-Waste 0400-45-01- .17(35)	(2)	0	No deficiencies noted.
H.	Turbidimeters / Calibration 0400-45-01- .05(11), .17, .31, .39	(2-4)	0	No deficiencies noted.
I.	Disinfection/Calibration 0400-45-01-.02, .17, .31, .36	(2-30)	0	No deficiencies noted.
J.	Disinfection Contact Time 0400-45-01-.02, .17,31	(2-4)	0	No deficiencies noted.
K.	Master Meter 0400-45-01.17(2) and (3)	(1-2)	0	No deficiencies noted.
L.	Maintenance of Equipment, Buildings and Grounds 0400-45-01-.02, .17(3), (17) and (19)	(1)	0	No deficiencies noted.
M.	Laboratory Facilities 0400-45-01-.02, .14, .17(3)	(1-3)	0	No deficiencies noted.
N.	Safety 0400-45-01-.02	(2)	0	No deficiencies noted.
O.	Sludge Handling/Backwash Handling 0400- 45-01-.05	(2)	0	CEI conducted for NPDES Permit #TN0060852.
P.	Sanitary Conditions 0400-45-01-.17(17)	(2)	0	No deficiencies noted.
Q.	Fluoridation Techniques 0400-45-01-.06, .12, .17	(2)	0	N/A
R.	Design Capacity 0400-45-01-.05(10)	(2-4)	0	67% capacity
S.	Filter Backwash Recycling 0400-45-01-.31(9)	(1)	0	No deficiencies noted.
Deficiency Subtotal			0	

5. Monitoring, Data Verification and Compliance (175)

	Requirement	Points Range	Deduction	Comments
A.	Laboratory-Process Monitoring (excluding Turbidity and Chlorine Residual) 0400-45-01-17(3)	(2)	0	No deficiencies noted.
B.	Bacteriological Monitoring	(3-6)	0	No deficiencies noted. BacT sampling plan updated 10/26/2021.
C.	Bacteriological Compliance 0400-45-01-.06	(4-7)	0	No deficiencies noted.
D.	Turbidity Monitoring	(2-3)	0	Monitor turbidity for iron removal. No compliance monitoring required.
E.	Turbidity Compliance	(4-7)	0	No deficiencies noted.
F.	Chlorine Residual Monitoring 0400-45-01-.17,31,36, 40	(2-3)	0	No deficiencies noted.
G.	Primary Chemicals Monitoring	(2-3)	3	See Survey Letter.
H.	Primary Chemicals Compliance	(4)	0	No deficiencies noted.
I.	Lead and Copper Monitoring 0400-45-01-.33	(2-3)	0	Sampled in 2023. Awaiting analysis results at time of survey.
J.	Lead and Copper Action Level 0400-45-01-.33	(3-5)	0	No deficiencies noted.
K.	Disinfection/Disinfection By-Products and Precursors Monitoring 0400-45-01-.36, .37, .38	(2-3)	0	See Survey Letter.
L.	Disinfection/Disinfection By-Products and Precursors Compliance 0400-45-01-.06, .36	(2-30)	0	No deficiencies noted.
M.	Secondary Chemicals 0400-45-01-.12	(2)	0	No deficiencies noted.
N.	Secondary Chemicals Compliance 0400-45-01-.12	(3)	0	No deficiencies noted.
O.	Cryptosporidium Monitoring 0400-45-01-.39	(0)	Narrative	N/A
Deficiency Subtotal			3	

6. Finished Water Storage (25)

	Requirement	Points Range	Deduction	Comments
A.	Adequate Storage 0400-45-01-.17(14)	(2-4)	0	No deficiencies noted.
B.	Inspection and Maintenance of Reservoirs, Tanks and Clearwell 0400-45-01-.17(16), (17), (33) and (34)	(1-10)	0	Tank inspections conducted in 2022.
Deficiency Subtotal			0	

7. Pumps, Pump Facilities and Controls (18)

	Requirement	Points Range	Deduction	Comments
A.	Pump Facilities 0400-45-01-.17(9) and (13)	(1-4)	0	No deficiencies noted.
B	Maintenance of Pumping Equipment 0400-45 - 01-.17(13)	(1-3)	0	No deficiencies noted.
Deficiency Subtotal			0	

8. Distribution System and Cross Connection Controls (86)

	Requirement	Points Range	Deduction	Comments
A.	Notification, Inspection, Disinfection and Sample Collection of New or Existing Facilities 0400-45-01-.17(8), (19)	(3-5)	0	No deficiencies noted.
B	Flushing Program / Blow Offs 0400-45-01-.17(10) and (23)	(3-4)	0	See Survey Letter.
C.	Fire Hydrants 0400-45-01-.17(18)	(0)	Narrative	No deficiencies noted.
D.	Adequate Pressure 0400-45-01-.17(9)	(5)	0	No deficiencies noted.
E.	Map of Distribution System 0400-45-01-.17(15)	(3)	0	ARPA funding granted and GIS mapping is in progress.
F.	Approved Cross Connection Policy or Ordinance and Plan 0400-45-01-.17(6)	(4)	0	No deficiencies noted.
G.	Working Cross Connection Program 0400- 45-01-.17(6)	(3-9)	0	See Survey Letter
H.	Percent Estimated Water Loss(real loss/water produced)	(0)	Narrative	No deficiencies noted.
Deficiency Subtotal			0	

Rating

- 95% - 100% Approved
- 90% - 94% Provisionally Approved
- 0% - 89 % Unsatisfactory

Total Deficiency Points	-4
System Category Points	595
Overall Rating	99%

Inspectors Signature



Additional Comments/Explanation: