

DRINKING WATER MONITORING PROGRAM
Smyrna Water System
Water Treatment 4, Distribution 2
PWSID #000639, Rutherford County
November 2024

The following Drinking Water Monitoring Program has been developed in accordance with Division Rules 0400-45-01-.07 and 0400-45-01-.17(3). Unless otherwise stated, all results must be reported on the Monthly Operations Report. Please place this monitoring program in an easily accessible location for water system personnel to review.

I. Raw Water

- A. Collect a representative sample each day the plant is in operation and analyze for the following:
1. Temperature
 2. Turbidity
 3. Alkalinity (Total)
 4. pH
 5. Hardness
 6. Iron
 7. Manganese
 8. Fluoride (once per week)
 9. Jar Test (as needed)

II. Settled Water

- A. Collect a representative sample before filtration each day the plant is in operation and analyze for the following:
1. Turbidity
 2. Chlorine residual (Free)

III. Finished Water

- A. Collect a representative sample after filtration each day the plant is in operation and analyze for the following:
1. Turbidity – continuously, (report highest value every four hours from all data generated)
 2. Chlorine residual (Free) - continuously, reporting lowest recorded Cl₂ residual from all data generated
 3. Alkalinity (Total)
 4. pH
 5. Hardness
 6. Iron
 7. Manganese
 8. Aluminum
 9. Fluoride
 10. Orthophosphate

IV. Membrane Plant

- A. Collect a representative sample after filtration each day the plants are in operation and analyze for the following:

1. (Indirect Integrity Testing) Turbidity – Continuously monitor, and record, for EACH membrane unit. Maintain data, but does not need to be reported on MOR.

B. Direct Filter Integrity Tests must be performed, and reported, for each membrane unit, each day the system is producing water. Additionally, if the filtrate turbidity readings are above 0.15 NTU for a period greater than 15 minutes (i.e., two consecutive 15-minute readings above 0.15 NTU), direct integrity testing must immediately be performed on the associated membrane unit. More information on direct integrity testing can be found in Division rule 1200-5-1-.39(20)(b)(3).

V. Distribution System

A. Collect a representative sample from low usage areas and dead end lines **five (5) days per week** and analyze for the following:

1. Chlorine residual (Free)
- 2. Fluoride**
3. Orthophosphate (three days per week)
4. Manganese (5 days per week)

B. Bacteriological - A minimum of **seventy (70) samples per month** are to be collected and analyzed. Chlorine residual must be measured at the same time as the bacteriological samples.