



Potable Water Sampling and Sanitary Surveys

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Northwest District / Compliance Assurance Program
Florida Department of Environmental Protection

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FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Presentation Agenda

- Northwest District (NWD) Contacts
- Sampling
 - Requirements
 - Timeliness
- Sanitary Survey
 - Efficiency
 - Typical Deficiencies



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest District Responsibility

DEP's mission is to protect, conserve and manage the state's natural resources and enforces its environmental laws.

The Northwest District is responsible for most permitting, compliance and enforcement for the potable water program.



NORTHWEST DISTRICT LEADERSHIP



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POTABLE WATER CAP CONTACTS

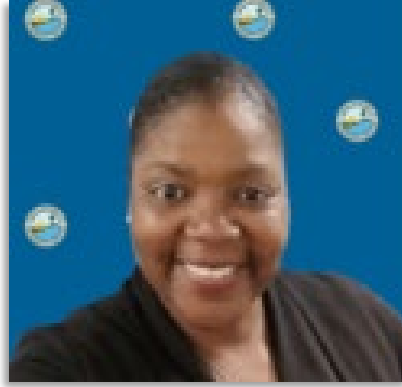


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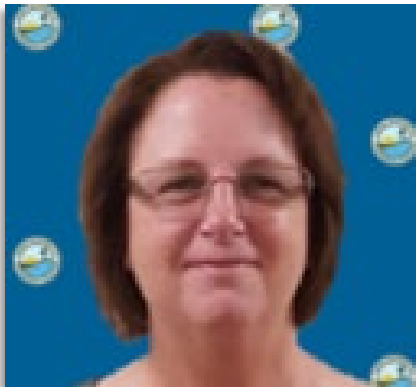
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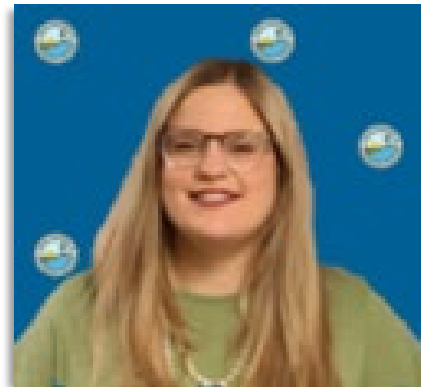
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POTABLE WATER SHARED EMAIL INBOX

Shared Permitting Inbox: Epost.NWDWF@FloridaDEP.gov

Email Monthly Operating Reports (MORs)	DWRM_Data_Entry_Tal@FloridaDEP.gov CC: NWDPWS@FloridaDEP.gov	ALL Records/Reports
Email <u>All</u> Reports/Results/PBWN	NWDPWS@FloridaDEP.gov	

FloridaDEP.gov/DrinkingWaterFacilities

Note that DEP contact info is also available in each county's Annual Monitoring Letter

Potable water forms can be found at: FloridaDEP.gov/DrinkingWaterForms



SAMPLING REQUIREMENTS



QUARTERLY MONITORING TIMELINES

<u>Quarter 1</u>	<u>Quarter 2</u>
Monitoring Period January 1 – March 31	Monitoring Period April 1 – June 30
Submittal Deadline April 10	Submittal Deadline July 10
<u>Quarter 3</u>	<u>Quarter 4</u>
Monitoring Period July 1 – September 30	Monitoring Period October 1 – December 31
Submittal Deadline October 10	Submittal Deadline January 10



MONITORING

Nitrate/Nitrite Monitoring

- Nitrate and nitrite requires annual sampling.
- Sample at each Point of Entry to the distribution.
- Highly recommend sampling by June 30. This allows for time to adjust if an error occurs, or if the lab is backlogged.

Bacteriological Monitoring

- TNC systems under 1,000 population must sample quarterly in accordance with approved Bacteriological Sampling Plan.
- TNC systems over 1,000 population must sample monthly in accordance with approved Bacteriological Sampling Plan.
- CWS/NTNC are required to monitoring monthly.



FREE AND TOTAL CHLORINE

Free Chlorine

- The amount of chlorine available to disinfect water from harmful bacteria.
- The minimum level is 0.2 mg/L.
- Taken for PBWN, water clearances, routine BacTs, and should be routinely checked in distribution.

Total Chlorine

- The combination of free chlorine and chlorine currently utilized sanitizing the water.
- The max acceptable level is 4.0 mg/L.
- Should always be equal to or greater than free chlorine.
- Taken for PBWN and water clearances.



CHEMICAL MONITORING

9-year Compliance Cycle								
1st Compliance Period			2nd Compliance Period			3rd Compliance Period		
2011	2012	2013	2014	2015	2016	2017	2018	2019
LCWS	SCWS	NTNC	LCWS	SCWS	NTNC	LCWS	SCWS	NTNC
9-year Compliance Cycle								
1st Compliance Period			2nd Compliance Period			3rd Compliance Period		
2020	2021	2022	2023	2024	2025	2026	2027	2028
LCWS	SCWS	NTNC	LCWS	SCWS	NTNC	LCWS	SCWS	NTNC
9-year Compliance Cycle								
1st Compliance Period			2nd Compliance Period			3rd Compliance Period		
2029	2030	2031	2032	2033	2034	2035	2036	2037
LCWS	SCWS	NTNC	LCWS	SCWS	NTNC	LCWS	SCWS	NTNC



LEAD AND COPPER

Major Monitoring Provisions

Lead and Copper Tap

Applicability	▶ All CWSs and NTNCWSs.
Standard	▶ CWSs and NTNCWSs must collect first-draw samples at taps in homes/buildings that are at high risk of Pb/Cu contamination as identified in 40 CFR 141.86(a). ▶ Number of samples is based on system size (see Table 1). ▶ Systems must conduct monitoring every 6 months unless they qualify for reduced monitoring.
Reduced	▶ See Table 1 for sample number and Table 2 for criteria.

Table 1: Lead and Copper Tap and WQP Tap Monitoring

Size Category	System Size	Number of Pb/Cu Tap Sample Sites ³		Number of WQP Tap Sample Sites ⁴	
		Standard	Reduced	Standard	Reduced
Large	> 100K	100	50	25	10
	50,001 - 100K	60	30	10	7
Medium	10,001 - 50K	60	30	10	7
	3,301 - 10K	40	20	3	3
Small	501 - 3,300	20	10	2	2
	101 - 500	10	5	1	1
	≤ 100	5	5	1	1

³ With written State approval, PWSs can collect < 5 samples if all taps used for human consumption are sampled.

⁴ Two WQP tap samples are collected at each sampling site.

Table 2: Criteria for Reduced Pb/Cu Tap Monitoring

Annual	1. PWS serves ≤ 50,000 people and is ≤ both ALs for 2 consecutive 6-month monitoring periods; or 2. Any PWS that meets optimal WQPs (OWQPs) and is ≤ Pb AL for 2 consecutive 6-month monitoring periods.
Triennial	1. PWS serves ≤ 50,000 people and is ≤ both ALs for 3 consecutive years of monitoring; or 2. Any PWS that meets OWQP specifications and is ≤ Pb AL for 3 consecutive years of monitoring; or 3. Any PWS with 90 th percentile Pb and Cu levels ≤ 0.005 mg/L and ≤ 0.65 mg/L, respectively, for 2 consecutive 6-month monitoring periods (i.e., accelerated reduced Pb/Cu tap monitoring).
Every 9 years	PWS serves ≤ 3,300 people and meets monitoring waiver criteria found at 40 CFR 141.86(g).



SANITARY SURVEY PREPARATION



WHAT IS A SANITARY SURVEY?



A sanitary survey is an on-site review of the water source, facilities, equipment, operation and maintenance of a PWS to evaluate the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.



SANITARY SURVEY FREQUENCY

When to expect:

Currently public water systems in Florida undergo sanitary surveys once every three or five years, depending on the type of system.

Results:

Results of the survey are provided to the system within a Sanitary Survey Report.

May be done more frequently as necessary:

Doing so helps to gain a working knowledge of the operation, maintenance, management and technology of water systems to identify sanitary risks which may interrupt the “multiple barrier” protection system and adversely affect the ability of a water system to provide safe water.



SANITARY SURVEY AREAS

Eight areas of a sanitary survey

Area	Description
Source	Reviews a raw water source's features for the purposes of preventing potential contamination or water quality degradation.
Treatment	Identifies existing or potential sanitary risks by evaluating the design, operation, maintenance and management of water treatment plants.
Distribution System	Reviews the design, operation, maintenance and management of distribution systems to prevent contamination of the drinking water as it is delivered to customers.
Finished Water Storage	Reviews the design and major components of finished water storage facilities in order to prevent water quality problems from arising during storage.
Pumps	Reviews the design and use of water supply pumping facilities in order to determine overall reliability and identify potential sanitary risks.
Monitoring & Reporting	Determines water system conformance with regulatory requirements through the review of water quality monitoring plans and system records; verifies data reported to the regulatory agency are consistent with system records.
Management & Operation	Evaluates water system performance in terms of management and operation, including its long-term viability in meeting water quality goals.
Operator Compliance	Ensures water systems have qualified professionals that meet all applicable operator certification requirements.



SANITARY SURVEY EFFICIENCY

- All paperwork should be organized and readily available.
- The more experienced operator should be with DEP staff on the sanitary survey.
- Communication between all entities responsible for the water system (i.e., operators and public works).



MOST COMMON DEFICIENCIES

- Corrosion and biogrowth at wells.
- 24-gauge mesh missing or too large of a mesh on outlets.
- Missing MORs.
- Missing or inadequate operations and maintenance manual.
- Not adhering to approved cross-connection, valve exercising, and flushing plans.



PRE-SURVEY COMMUNICATION

Prior to the survey, DEP personnel will contact the water system owner in order to:

- Explain the purpose of the sanitary survey.
- Schedule a meeting location, date and time when key personnel will be available.
- Discuss any preparations the water system staff will need to make for the sanitary survey.

A follow-up email will be sent to the PWS contact to allow for the water system personnel to organize necessary records and personnel for the sanitary survey.



PRE-SURVEY EMAIL REQUEST

- Current facility and staff contact information.
 - Include all certified operators with certification numbers.
- Records/reports.
- Capacity Analysis Report (most current if applicable).
- Most recent flow meter accuracy/calibration test reports.



BASIC SYSTEM DISTRIBUTION UPDATE

- Current population served (census or population/connection factor).
- Current number of active connections.
- Design capacity and storage capacity for each source/well/tank.
- Number of hydrants.
- Number of dead ends, and number of dead ends without flush hydrants.
- Number of valves and frequency of valve exercising.
- General operation pressure, lowest operation pressure and location of lowest system pressure.
- Percent water loss.
- Add any recent updates to wells that are new, out of service (OOS) or undergoing maintenance.



NECESSARY DOCUMENTS ON DAY OF SURVEY

- Daily logbooks (operation/maintenance).
- Operation and Maintenance (O&M) manual for each plant.
- System map.
- Emergency response plan.
- Bacteriological sampling plan.
- Cross-connection control plan.
- Storage tank inspection reports (annual and 5-year) washout/inspection (signed and sealed).
- Backflow preventer testing records since last sanitary survey.
 - Include documentation regarding reuse, dedicated irrigation service connections, dedicated fire service connections, onsite auxiliary water system connections, etc. to ensure that each of those connections meet the required minimum for backflow protection.



NECESSARY DOCUMENTS ON DAY OF SURVEY

- Disinfection byproducts plan.
- Lead and Copper sampling plan.
- Wellhead protection plan.
- Flushing plan.
- Valve exercising plan and log containing when and what valves were exercised
- Auxiliary power exercise log.





RECORD KEEPING REQUIREMENTS

- CCRs - 3 years.
- Bacteriological results - 5 years.
- Chemical results - 10 years.
 - 12 years for Pb/Cu.
- Monthly operation reports - 10 years.
- Asbestos results or waiver.
- Coliform/bacteriological sampling plan.
- Pb/Cu and D/DBP sampling plans.
- Operation and maintenance logbooks.
- Operation and maintenance manuals.



RECORD KEEPING REQUIREMENTS

- Tank Inspection Records for each finished water storage tank, signed/sealed by a PE licensed in Florida.
- Emergency response/preparedness plan.
- Cross Connection Control Program as described in American Water Works Association (AWWA) Manual M14, including risk hazard assessments and device testing records.
- Preventive maintenance plan including generator and valve exercising and water main flushing records.
- Map of the distribution system.
- Chemical NSF certifications.

