

Design and Permitting of Small Public Water Supplies in Florida (Chapters 64E-8, 62-550 and 62-555 FAC)

Course Content

- **What is a public water supply?** Rules of Thumb: If you can answer “No” to ALL of the following questions, then it is NOT a public water supply. In “gray areas” call the regulating agency and ask.
 - (a) Does the system serve more than one (1) rental residential unit?
Example: A duplex with BOTH sides rented.
 - (b) Does someone that drinks or cooks with the water pay your client?
Examples: A tenant in the duplex above, children in a day care center, a nursing home, an office building.
 - (c) Does your client pay someone that drinks or cooks with the water?
Example: An employee other than household help working in your client’s home.
 - (d) Does anyone except your client’s family and friends drink or cook with the water? Example: Your client is a rancher and every 4th of July they have a “pig roast” on their ranch for their family, friends, and business associates. Over 100 people they know come every year. The ranch water system is NOT a public water supply. BUT, one of the business associates wants to rent the ranch every Labor Day so their company can hold a pig roast too. If your client says, “Yes,” they now have a public water supply and need a permit.
 - (e) Would a reasonable member of the public attempt to drink or cook with the water? Example: Your client runs a small shop and allows customers to use the restroom. The restroom has only a toilet, so it is not a public water supply. If your client adds a sink, it becomes a gray area, someone could cup their hands and try to drink from the sink faucet or use the sink to fill a coffee pot. Add a water cooler or water fountain and it is a public water supply.

- **Internet resources, where to get a copy of the regulations.** The State of Florida has all their forms, rules, and guides to compliance on the Internet. The links below cover only the links to the high points necessary for this course. There is a lot of useful information here, feel free to surf to other areas.
 - (a) Florida Department of Health Drinking Water Manual:
www.doh.state.fl.us/environment/water/manual/encl2.htm
 - (b) Overview of Limited Use Public Water Supplies
www.doh.state.fl.us/environment/water/manual/64e8.htm
 - (c) Limited Use Public Water Supply – Daily Flow Estimation using Table I for septic tanks
www.doh.state.fl.us/environment/onestop/ostds/64e6.pdf
 - (d) Limited Use Public Water Supply – Forms
www.doh.state.fl.us/environment/water/manual/encl1.htm
 - (e) Regulations for Limited Use Systems
www.doh.state.fl.us/environment/water/manual/64e8.pdf
 - (f) Regulations for SDWA systems – Water Quality (62-550 FAC)
www.dep.state.fl.us/water/drinkingwater/rules.htm
 - (g) Regulations for SDWA systems – Water Quality Tables
Now part of FAC 62-550 See Link above
 - (h) Regulations for SDWA systems – Construction (62-555 FAC)
www.dep.state.fl.us/water/drinkingwater/rules.htm
 - (i) Regulations for SDWA systems – Construction Forms
www.dep.state.fl.us/water/drinkingwater/forms.htm

- **Design and permitting of a Limited Use Public Water Supply with supporting document checklist and 64E-8 FAC interpreted.** Download b, c, d, & e above, and review. Limited Use Public Water Supplies are regulated by the county Health Departments. In general, for MOST Limited Use Public Water Supply, 64E-8 FAC does NOT require a Professional Engineer's seal. However, many Health Departments are starting to require sufficient rigor in the preparation of the applications that water well and other contractors are finding it necessary to hire an engineer to prepare the applications and related documents.

A. Limited Use Public Water Supply Design Considerations

- a) For MOST Limited Use Systems, a Professional Engineer's seal is NOT required on the design documents or the applications.
- b) 64E-8 FAC is NOT a rigorous regulation. Much is left to the judgement of the system designer and the Health Department. Be prepared to deal with, "The Regulations don't require that." from owners and contractors. On issues of public health and safety, the Health Department may be your only ally.
- c) Disinfection is NOT required if there is no bacteriological problem with the source water or the site. The Health Department may require disinfection, if the source water or the site is suspect.
- d) As of April 2003, no manufacturer will certify that the bladders in their hydropneumatic tanks will not be damaged by contact with chlorinated water. Therefore, if the system has disinfection, a check valve must be installed between the bladder pressure tank(s) and the point of chlorine injection.
- e) To protect against vandalism or malicious mischief, all above ground facilities should be enclosed either by a chain link fence or a small building.

B. Permit to Construct a Limited Use Public Water Supply should include:

- a) Cover Letter addressing the requirements of 64E-8 FAC
- b) Form DH4092B – Signed by the OWNER or their Authorized Agent (Include Letter of Authorization signed by Owner)
- c) Well site approval by Health Department and Water Management District

- d) Site Plan drawn to scale showing pws system, source of raw water, and septic tanks or other potential contaminant sources within 100 or 200 feet (depending on daily demand) of the source of raw water.
- e) Well Construction Permit from Water Management District
- f) Well Log and Completion Report
- g) Grouting Report from Water Management District
- h) Well Abandonment Permit and Grouting Report, if a well was abandoned
- i) Nitrate analysis on raw water
- j) Five (5) coliform bacteria samples on the raw water in accordance with 64E-8.006 FAC.
- k) Equipment sizing calculations, pump curves, etc. Daily demand can be estimated using Table 1 of 64E-6.008 FAC (Download c, above)
- l) Cut-sheets for proposed equipment in accordance with 64E-8.002(6) FAC
- m) Construction Drawings showing proposed equipment layout. Drawing must show ALL required equipment and appurtenances. (Signed and sealed by a Florida Professional Engineer in those cases where 64E-8 requires a PE seal.)

C. Application for a Permit to Operate a Limited Use Public Water Supply should include:

- a) Cover letter addressing the requirements of 64E-8 FAC
- b) Form DH4092A, signed by OWNER or Authorized Agent (Include Letter of Authorization signed by Owner)
- c) Record Drawing noting any material deviations from permitted. (Signed and sealed by a Florida Professional Engineer in those cases where 64E-8 requires a PE seal.)
- d) Two (2) coliform bacteria samples from the distribution system in accordance with 64E-8.006 FAC.
- e) A Lead analysis from the distribution system in accordance with 64E-8.006 FAC

- **Design and permitting of a Safe Drinking Water Act Public Water Supply with supporting document checklist** - Download f through i and review. The Florida Department of Environmental Protection regulates SDWA Public Water Supplies. The DEP may delegate this permitting authority to the local county Health Department or handle PWS permitting through their regional offices. Counties that have delegated authority as of April 2003 are Broward, Dade, Hillsborough, Lee, Manatee, Palm Beach, Pinellas, Polk, Sarasota, and Volusia. Delegated counties must have rules at least as stringent as 62-550 and 62-555 FAC.

A. SDWA Design Considerations

- a) The design documents and the applications must be signed and sealed by a Florida Professional Engineer.
- b) Chapter 62 FAC is a rigorous regulation. Compliance with the letter of the Regulation is generally sufficient to protect the public health and safety. Occasionally, a situation will occur where the Regulation does not clearly address how to comply with its intent. In those cases, contact the permitting agency, explain the situation with a detailed description of the issue, and how you plan (think) the issue should be resolved. Then handle the issue as they direct.

B. Application for a Public Drinking Water Facility Construction Permit should include:

- a) Cover Letter addressing the requirements of 62-550 and 62-555 FAC
- b) Form 62-555.900(1) – Signed by the OWNER and/or OPERATOR or their Authorized Agent(s) (Include Letter of Authorization signed by Owner) and signed and sealed by the Florida Professional Engineer of Record
- c) For ground water source, Well Construction Permit from Water Management District
- d) For ground water source, Well Log , Completion Report, and Well Construction Diagram
- e) For ground water source, Well Abandonment Permit and Grouting Report, if a well was abandoned
- f) For ground water source, Well Site Plan drawn to scale for each well showing potential contaminant sources within 500 feet of well(s) - Signed and sealed by the Florida Professional Engineer of Record

- g) For ground water source, Grouting Report from Water Management District
- h) Cut-sheets with pump curves for raw water and high service pumps
- i) Demand and population calculations including fire flows - Signed and sealed by the Florida Professional Engineer of Record.
- j) Raw water analyses per 62-550 FAC
- k) Process Flow Diagram with process narrative - Signed and sealed by the Florida Professional Engineer of Record
- l) Summary of design calculations - Signed and sealed by the Florida Professional Engineer of Record
- m) Method of disposal of process wastes with DEP Waste Disposal Permit - Signed and sealed by the Florida Professional Engineer of Record
- n) Treatment Plant Site Plan to scale - Signed and sealed by the Florida Professional Engineer of Record
- o) Source of Emergency Power, if required
- p) FEMA Flood Zone classification for source(s) of raw water and treatment plant site (Must be outside 100 year flood zone).
- q) Twenty (20) coliform bacteria samples on the raw water in accordance with 62-555.315(3) (c) 1 FAC.
- r) Cut-sheets for proposed equipment, process chemicals, and water contact materials in accordance with 62-555.320(3) FAC.
- s) Specifications (signed and sealed by the Florida Professional Engineer of Record) for proposed equipment, process chemicals, and water contact materials in accordance with 62-555.320(3) FAC.
- t) Construction Drawings - Signed and sealed by the Florida Professional Engineer of Record

C. Application for Certification of Construction Completion and Request for a Letter of Clearance to Place a Public Drinking Water Facility into Service should include:

- a) Cover letter addressing the requirements of 62-550 and 62-555 FAC.
- b) Form 62-555.900(9) – Signed by the OWNER and/or OPERATOR or their Authorized Agent(s) (Include Letter of Authorization signed by Owner) and signed and sealed by the Florida Professional Engineer of Record

- c) Record Drawing - Signed and sealed by the Florida Professional Engineer of Record, noting any material deviations from permitted
- d) Twenty (20) coliform bacteria samples on the raw water in accordance with 62-555.345(d) 1 FAC.
- e) Two (2) coliform bacteria samples from the distribution system in accordance with .62-555.345(d)2 FAC
- f) See 62-555.345(e & f) FAC for additional attachments that might be required

Course Summary

1. Is it a public water supply? Yes, if:
 - It serves more than one rental residential unit
 - It is used to drink or cook and money changes hands.
 - A reasonable member of the public would use it to drink or cook
2. Is it Limited Use or SDWA system?
 - If it serves fewer than 25 people (total all year) AND has less than 15 Service Connections it is Limited Use.
 - Everything else is SDWA
3. How they are different.
 - Limited Use Systems do NOT normally require a Professional Engineer; SDWA systems do.
 - The Limited Use Regulation 64E-8 FAC is NOT rigorous. Much is left to the judgement of the system designer and the Health Department. Be prepared to deal with, "The Regulations don't require that." from owners and contractors. On issues of public health and safety, the Health Department may be your only ally.
 - Limited Use Systems are NOT required to have disinfection; SDWA systems are.
 - The SDWA Regulations are very rigorous and directed toward large systems. However, small systems that are too large to be permitted under the 64E-8 FAC SHOULD include design features like protecting a bladder tank from chlorinated water even though 62-555 FAC does NOT address that issue.