

#### **64E-8.002 Limited Use Public Water System Construction.**

No person shall construct a new water well to supply a Limited Use Public Water System unless a well construction permit has been issued by the appropriate water management district or their delegated well permitting agents, in accordance with Rule 62-532.400, F.A.C. and Chapter 40A-3, 40B-3, 40C-3, 40D-3, or 40E-3, F.A.C. All wells serving Limited Use Public Water Systems must be constructed in accordance with Rule 62-532.500, F.A.C. and Chapter 40A-3, 40B-3, 40C-3, 40D-3, or 40E-3, F.A.C.

(1) To apply for new construction or modification of a Limited Use Public Water System, an applicant must complete Form DH 4092B, Application for Limited Use and Multifamily Water System Construction Permit. Form DH 4092B, effective 9/07, is hereby adopted and incorporated by reference, and can be obtained from the Department of Health, Division of Environmental Health/Water Programs at: 4052 Bald Cypress Way, Bin C22, Tallahassee, Florida 32399-1742, at [www.doh.state.fl.us/environment/water/manual/enc11.htm](http://www.doh.state.fl.us/environment/water/manual/enc11.htm), or from the County Health Department (CHD). The applicant must submit a completed Form DH 4092B to the Department along with:

(a) Two (2) copies of a site plan and two (2) copies of a construction plan. Each such plan shall be a minimum size of 8.5 x 11 inches and of sufficient clarity for reproduction.

(b) A \$90 processing fee. For newly constructed systems, this fee shall also serve as the annual operating permit fee for the first year, or portion thereof, as described in Rule 64E-8.004, F.A.C.

(2) Distances between contaminant sources and potable water supply wells shall be maintained as specified in subsection 62-532.400(7), F.A.C., Water Well Permitting and Construction Requirements.

(a) Wells shall be located upgradient of contaminant sources, unless sanitary or safety concerns prevent this placement.

(b) Abandonment of wells is required per Rule 62-532.440, F.A.C.

(3) Water systems shall be equipped with:

(a) A conveniently accessible, non-threaded downward opening tap, located at least twelve (12) inches above grade between the source and any storage or treatment equipment.

(b) A working pressure gauge.

(c) A six (6) foot by six (6) foot by four (4) inch thick concrete apron centered around the well.

(d) An aboveground check valve between the raw water source tap and the disinfectant injection point (for systems with chemical disinfection).

(e) A well vent as described in paragraph 62-555.320(8)(c), F.A.C., for well pumps installed under a water system construction permit issued by the Department on or after the effective date of this rule, unless the criteria for exemption listed in that section are met.

(4) Systems shall be sized and designed as follows, unless designed by a professional engineer:

(a) Calculate Peak Demand (PD) as follows:

$PD = (GPD/T) \times 0.1 + IF$ , where:

PD is Peak Demand in Gallons per minute (GPM);

GPD is projected Gallons per day from Rule 64E-6.008, F.A.C., Table I;

T is daily time of system operation in hours (Use sixteen (16) for limited use community systems or facilities open ten (10) or more hours per day; use eight (8) for all other facilities);

IF is the Irrigation flow factor (Use five (5) if site has lawn or landscaping; use zero (0) if site has none).

(b) Minimum storage tank size:

1. A hydropneumatic tank shall be at least ten (10) times the PD. For a flexible diaphragm or bladder tank, the amount of water delivered between pump shutdown and start shall equal or exceed the PD. Therefore:

Gross Storage Tank Volume, no disinfection =  $PD \times 10$

Drawdown Volume, bladder tank = PD

2. Beginning on the effective date of this rule, where continuous disinfection is required for groundwater supplied systems to remove confirmed microbiological contamination, Table 1 shall be used to determine the minimum water contact time and free chlorine residual concentration needed at various water temperatures:

Table 1: Minimum Free Chlorine Residual (mg/L)

Contact Time	Water Temperature <sup>1</sup>					
	≥36°F	≥41.0°F	≥50.0°F	≥59.0°F	≥68.0°F	≥77.0°F
15 minutes	NA	NA	NA	2.7	2.0	1.4
30 minutes	3.5	2.7	2.0	1.4	1.0	0.7
45 minutes	2.4	1.8	1.4	0.9	0.7	0.5

Table 1 Notes:

Above values are based on a water pH of no greater than 9.0 and a baffling factor of 0.1 (no baffling). Water temperature, pH and free chlorine residuals are based on the water exiting the contact tank.

<sup>1</sup> For initial design of disinfection systems, use the coldest anticipated water temperature exiting the contact tank.

a. Therefore, the effective water contact volume for groundwater supplied systems shall be a minimum of fifteen (15), thirty (30) or forty-five (45) times the PD (to achieve a minimum water contact time of 15, 30 or 45 minutes with the disinfectant at peak demand flow, based on Table 1 values).

b. The effective water contact volume in hydropneumatic tanks shall be no more than 50% of the gross hydropneumatic tank volume, therefore:

$$\text{Gross Hydropneumatic Tank Volume} = \text{PD} \times \text{Contact Time} / 0.5$$

c. A flexible diaphragm or bladder storage tank may not be used as a contact tank.

d. 100% of the volume of a second, airless retention tank may be considered effective volume.

e. Influent and effluent contact tank piping shall enter and exit at opposite ends of the longest tank dimension.

(c) Pump capacity shall be as large as the PD.

(d) Filtration to remove oxidation precipitates shall be required if they invalidate microbiological tests.

(e) Beginning on the effective date of this rule, systems supplied by surface water or cisterns, and systems supplied by groundwater where continuous disinfection is required but is not designed according to Table 1 above, must be designed by a professional engineer and must include treatment designed according to Chapters 3 and 4 of the Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources, March 1991 Edition, available from the U.S. Environmental Protection Agency (EPA) at: Office of Groundwater and Drinking Water (4601), Ariel Rios Building, 1200 Pennsylvania Avenue NW, Washington, DC, 20460-0003, or [www.epa.gov/safewater/mdbp/implement.html](http://www.epa.gov/safewater/mdbp/implement.html). All such plans must be reviewed and approved by the Department’s Bureau of Water Programs.

(5) Piping:

(a) Inside pipe diameter size requirements are as listed in Table 2, unless designed by a professional engineer:

Table 2: Minimum Water System Pipe Size

For GPM <sup>1</sup> up to:	Or length <sup>2</sup> up to:	Use pipe diameter:
6	50'	½"
10	100'	¾"
15	200'	1"
25	300'	1 ¼"

35	400'	1 ½"
60	600'	2"
90	800'	2 ½"
125	1000'	3"

Table 2 Notes:

These figures prevent water velocity from exceeding six (6) feet per second, and pressure loss from exceeding twenty (20) pounds per square inch per one-hundred (100) feet of pipe at peak demand based upon Hazen & Williams friction loss tables using constant = 150.

<sup>1</sup> Use Gallons per minute flow from Peak Demand calculation in subsection (4) above.

<sup>2</sup> Distribution pipe lengths shall be summed to find the length factor in column two.

(b) Potable water pipes shall be no closer than five (5) feet horizontally to building sewer pipes and effluent transmission lines of an onsite sewage treatment and disposal system (OSTDS) as defined in Rule 64E-6.002, F.A.C. This separation shall not apply where all portions of the bottom of the water pipe within five (5) feet of the sewer pipe are a minimum of twelve (12) inches above the top of the sewer pipe, or the water pipe is sealed with a waterproof sealant within a sleeve of similar or stronger material pipe to a distance of at least five (5) feet from the nearest portion of the sewer pipe.

(c) Potable water pipes shall meet all separation requirements to sanitary or storm sewers, wastewater or stormwater force mains, and reclaimed water pipelines as described in Rule 62-555.314. F.A.C.

(d) Potable water pipes shall be no closer than ten (10) feet horizontally to an OSTDS unless such water pipes are sealed with a waterproof sealant within a sleeve of similar or stronger material pipe to a distance of at least ten (10) feet from the nearest portion of the OSTDS. In no case shall the sleeved water pipe be located within twenty-four (24) inches laterally of the OSTDS. Water pipes within five (5) feet of a drainfield shall not be located at an elevation lower than the drainfield absorption surface.

(e) Both new and replacement pipes shall be no more than 8.0% lead, and new and replacement flux or solders shall be no more than 0.2% lead.

(6) All equipment shall be installed and operated in accordance with manufacturer's instructions and specifications. Only food or water-grade chemicals, equipment and materials shall be used. These items shall meet the standards of the U.S. Food and Drug Administration under Title 21 of the Code of Federal Regulations (CFR) Parts 170-199, April 1, 2007; or meet the National Sanitation Foundation/American National Standards Institute, NSF/ANSI Standard 60-2005, entitled Drinking Water Treatment Chemicals - Health Effects, and NSF/ANSI Standard 61-2007, entitled Drinking Water System Components - Health Effects, available from NSF International at P.O. Box 130140, Ann Arbor, Michigan 48113-0140; or meet the standards of another ANSI accredited testing and certification organization.

(7) The Department shall issue a permit to construct or modify a Limited Use Public Water System provided that:

(a) All items in subsection (1) above have been submitted.

(b) All submitted plans and application materials meet the criteria listed in subsections (2) through (6) above.

(c) The Department has performed a sanitary survey and has verified that the actual site conditions are as indicated on the submitted plans and application materials and meet the criteria listed in subsection (2) above.

(8) Water system construction or modification permits are valid for eighteen (18) months. An extension of time to complete construction or modification shall be granted for a period of ninety (90) days if the Department receives a written request from the applicant prior to expiration of the construction permit and the conditions under which the original construction permit was granted have not changed.

(9) Upon completion of water system construction or modification, the applicant shall perform a water quality clearance as follows:

(a) Microbiological analysis of five (5) source water samples:

1. One (1) source water sample shall be collected per day for five (5) days within a period of twenty-three (23) consecutive days. Collection of two (2) samples per day is permitted if collected six (6) hours apart and the pump is run at rated capacity for at least fifteen (15) minutes before each collection.

2. No more than one (1) of these five (5) samples and neither of the last two of these samples shall reveal the presence of coliform bacteria.

(b) One (1) microbiological analysis of a remote distribution water sample per day for two (2) consecutive days.

(c) One (1) Lead analysis of a first draw water sample collected from an indoor tap after the water has been undisturbed in the plumbing for at least six (6) hours.

(d) One (1) Nitrate (Nitrate as N) analysis of a source water sample.

(e) Any analyses required per subsection 64E-8.006(4) or Rule 64E-8.007, F.A.C.

The results of such analyses shall not exceed the Maximum Contaminant Levels (MCL) or Health Advisory Levels (HAL) listed in subsection 64E-8.006(2), F.A.C.

(10) To obtain approval to place a new or modified Limited Use Public Water System into service, the applicant must submit a completed Form DH 4092A, Application for Limited Use Public Water System Operation, and obtain either an annual operating permit, or a Registration exemption as described in subsection 64E-8.004(5), F.A.C. Form DH 4092A, effective 9/07, is hereby adopted and incorporated by reference, and can be obtained from the Department of Health, Division of Environmental Health/Water Programs at: 4052 Bald Cypress Way, Bin C22, Tallahassee, Florida, 32399-1742, at [www.doh.state.fl.us/environment/water/manual/encl1.htm](http://www.doh.state.fl.us/environment/water/manual/encl1.htm), or from the CHD.

(a) The Department shall then issue an annual operating permit or a Registration provided that:

1. The Department has inspected the system and has verified that it was constructed according to the approved plans, in compliance with this section, and meets the operating and maintenance standards of Rule 64E-8.005, F.A.C.

2. Satisfactory results of the analyses listed in subsection (9) above have been submitted.

3. A copy of the well completion report prepared per Rule 62-532.410, F.A.C., has been submitted.

(b) If deficiencies are found, written notice shall be provided to the applicant by the Department. Deficiencies shall be corrected within ninety (90) days of the expiration date of the construction or modification permit, unless a time extension is granted in writing by the Department.

(c) Re-inspection requests must be accompanied by a \$40 fee.

*Specific Authority 381.006, 403.862(1)(f) FS. Law Implemented 381.006(1), 381.0062, 403.862(1)(f) FS. History—New 1-1-93, Amended 8-20-96, Formerly 10D-4.025, Amended 1-26-98, 1-24-00, 11-13-00, 10-7-02, 5-4-08.*