



FLORIDA RURAL WATER ASSOCIATION

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Public Access Reuse for Water Treatment Plants with Design Capacities Less Than 100,000 Gallons Per Day

Typically, small domestic wastewater treatment facilities (WWTFs) with design or permitted capacities less than 100,000 gallons per day (gpd) dispose of their effluent via surface water discharge, sprayfields, or percolation ponds/rapid infiltration basins (RIBs).

These small systems have been discouraged from implementing public access reuse because Rule 62-610.451(1), Florida Administrative Code (F.A.C.), prohibits facilities with design capacities less than 0.1 mgd from engaging in public access reuse regulated by Part III of Chapter 62-610, F.A.C. However, there are little known rules in Chapter 62-610, F.A.C., that make it easy for smaller domestic wastewater systems to engage in public access reuse!

Rule 62-610.450(2), F.A.C., states, “Public access also may be provided to sites irrigated using subsurface application systems as described and regulated by Part II of Chapter 62-610, F.A.C. Subsurface application projects regulated by Part II are not subject to the requirements of Part III of Chapter 62-610, F.A.C.”

When one refers back to Part II of the reuse rules, Rule 62-610.418(2), F.A.C., reads, “The permittee may allow public access to the land application site if a subsurface application system is used. Subsurface application systems may be used to irrigate residential properties, if the requirements of Part II of Chapter 62-610, F.A.C., are met.”

In the State of Florida, domestic wastewater effluent must meet a minimum requirement of secondary treatment and basic disinfection. Secondary treated effluent must meet a total suspended solids (TSS) of 20 mg/L, and a biological oxygen demand (BOD₅) of 20 mg/L. In order to meet the basic disinfection requirement the effluent must contain less than 200 fecal coliforms per 100 mL of effluent, and must maintain a chlorine residual of 0.5 mg/L for at least 15 minutes during peak hour demand.

Part II of Chapter 62-610, F.A.C., requires secondary treatment and basic disinfection for sprayfield application and a more stringent TSS of 10 mg/L for subsurface application systems to prevent clogging. Filtration will probably be needed in order to meet a TSS of 10 mg/L.

In essence, small WWTFs can irrigate medians, parks (including office parks, ball parks/stadiums, and playgrounds), and golf courses with secondary treated wastewater that meets basic disinfection, as long as subsurface irrigation is used and the effluent/reclaimed water meets a TSS of 10 mg/L.

Smaller utilities that are considering public access reuse should consider irrigating areas around or near the WWTP in order to keep distribution costs down. [Note: The following equation can be used to estimate distribution system costs: $\text{Distribution Costs} = \$3 \times \text{pipe diameter (inches)} \times \text{length of pipe (feet)}$] Also, those that opt to engage in public access reuse should keep their sprayfields and/or RIBs as backup for emergency discharges.

In order to provide residential irrigation, small systems would also need to meet all of the requirements of Part II of Chapter 62-610, F.A.C. These additional requirements mainly deal with system storage, application rates, ground water monitoring, surface run-off control, advisory signs, cross-connection control, and setback distances. Systems that already send effluent to sprayfields should already meet these additional requirements (e.g., an initial design loading rate of 2 inches/week or 0.286 inches/day as an annual average).

If small systems are willing to meet the stringent requirements of Part III of Chapter 62-610, F.A.C., additional opportunities for reuse exist. Rule 62-610.451, F.A.C., states "A minimum system size is not required if reclaimed water will be used only for toilet flushing or fire protection." However, it would be very expensive for smaller systems to meet the Class I reliability and operator staffing required by Part III of the rule in order to engage in this type of reuse.

Water reuse is a significant component of water resource planning in the State of Florida. In fact, Florida is a national leader in water reuse and has an award winning reuse program. Many larger WWTFs take pride in the fact that they engage in public access reuse, but smaller WWTFs also have the opportunity to participate in public access reuse and provide reclaimed water for beneficial uses throughout the State.

As the former Water Reuse Specialist for the State of Florida, it would be nice to visit one of our smaller facilities and see the State's reuse motto, "*Use It Again, Florida!*" proudly displayed.

Florida Rural Water Association is available to assist domestic wastewater utilities with design capacities less than 100,000 gpd in determining the feasibility of implementing public access reuse.