

Field Trip #2:

Table Rock Lake Area Wastewater Systems Tour

8:30 a.m. – 5:00 p.m.

November 2, 2022

Table Rock Lake is one of the premier tourist areas of Missouri. The U.S. Corps of Engineers Lake is used for flood control, recreation and power generation. This field trip will view an Advanced Enviro Septic installation project where the system will be partially exposed. Proper installation techniques will be discussed. The lunch stop will coincide with an optional cave tour at Talking Rocks Cavern. This is a vertical cave that requires many stairs and tight spaces. The cave is a wonderful example of the karst topography in the area. Two more sites will be visited in the afternoon. Serenity Shores is home to large vacation homes where each house separates the black water from the grey water. Black water is sent to a Delta Fixed Film Ecopod treatment system while the gray water flows to a gray water absorption garden next to each house. The last site is Pointe 7, which is a condo development that services 44 condos but was designed for 200 condos at full capacity of 18,000 GPD. The systems utilize Orenco Advantex AX-100 pods and direct discharges after treatment through a NPDES permit with the Missouri DNR.

Note: Sites will require walking on uneven ground. Appropriate footwear is recommended. If you plan to attend the Talking Rock Cavern tour, we suggest you wear shoes with excellent grip as the cave is damp and the stairs are steep.

8:30 a.m. **Field Trip Bus Departure from University Plaza Hotel, Springfield, MO**

9:15 a.m. **Arrive at 1st Site – Infiltrator Water Technologies: Advanced Enviro Septic Installation**

Touring a commercial waste site for 600 GPD on a sloping site. System is being used for employee waste connecting 5 buildings. This stop will show half of the system uncovered and the other half covered to examine the sand-based system. It is a gravity flow system with no pumps and controls.

10:30 a.m. Depart Site to Talking Rocks Cavern

11:00 a.m. **Lunch and Tour – Talking Rocks Cavern**

Tour Group 1 – 11:15 AM – Tour Group 2 – Lunch

Tour Group 2 – 12:15 PM – Tour Group 1 – Lunch

1:30 p.m. Depart Talking Rocks Cavern

1:45 p.m. **Arrive at 2nd Site – Serenity Shores**

Serenity Shores Resort is a Family Lakefront Resort that sits on 44 private acres. The property offers 22 large vacation rental homes with a unique wastewater treatment system. The plumbing in each house separates the gray water from the black water. The gray water gravity flows to a Gray Water Absorption

Garden next to each house. The black water has a STEP Tank that is shared by two homes and then is pumped to the wastewater treatment plant. The first tank is 4,500 gallon concrete flow equalization tank. The waste is then pumped via a duplex pump to three 4,500 gallon concrete tanks that house three 3,000 GPD Delta Fixed Film Ecopods for treatment. From the Delta Ecopod it flows to a 4,500 gallon pump tank that time doses 21,000 linear feet of drip tube in four zones.

2:45 p.m. Depart Serenity Shores

2:50 p.m. **Arrive at 3rd Site – Tour Pointe 7 System**

System serves approximately 44 condos but was engineered for 200 condos. The full built out system is 18,000 gpd but is currently permitted for 6,000 gpd. Tanks are in place with Orenco pods for 6,000 gpd. The sewage flows to a large settling tank and effluent goes to a pump tank and is pumped to Orenco Advantex AX-100 pods. Part of the treated effluent is recirculated and part is directed to direct discharge. System uses coagulant to settle out phosphorus to meet the 0.5 ppm limit. The system was never originally engineered to meet the low ammonia permit limits so pump run times and pumping out settling tanks more often was added to meet ammonia limits. Chlorine is added for disinfection followed by removal of chlorine prior to discharge. Monthly rate to condo owners is \$51 that covers the operation, maintenance, administration, billing, overhead, and reserve for repair.

4:00 p.m. Depart Tour Pointe 7 for hotel

5:00 p.m. **Arrive back at University Plaza Hotel**



Note: Itinerary and times subject to change. All attendees are expected to ride the bus transportation provided. No private vehicles are allowed on the field trip tour.