



## Table Rock Lake Ridgedale Residence

*Presented as part of an extensive study and works project undertaken from 2001 to 2005 by Table Rock Lake Water Quality*

### **PROJECT OVERVIEW**

Table Rock Lake is located in the Upper White River Basin watershed, in the heart of the Ozarks.

The second largest of five reservoirs in the Upper White River, covering over 43,000 acres, the reservoir's drainage basin covers over 5,000 square miles in both Missouri and Arkansas. The lake, which is widely considered to have the best water quality of any in Missouri, is quite clear and supports a variety of fish species including bass, crappie and sunfish.

Table Rock's excellent water quality has led to a booming recreation and tourism business, with many resorts catering to fishing, boating and swimming activities, principally during the summer months. The U.S. Army Corps of Engineers estimates that the recreational use at Table Rock Lake ranges between 30 and 40 million visitor hours annually. Along with the Branson tourism industry, Table Rock Lake and other reservoirs on the White River are responsible for the hundreds of millions of dollars annually pumped into the local economy. This growth has benefited the local economy, but has not come without costs. The large numbers of visitors, an increase in confined animal production in the basin, and population growth present the greatest challenges to the water quality in Table Rock Lake.

To learn more about the Table Rock Water Quality Onsite Wastewater Demonstration Project, please visit <http://www.trlwq.org/onsiteDemoproj.html>

### **ISSUES FACED**

The Missouri Department of Natural Resources identified three probable sources of excessive nutrient loading in the lake: municipal sewage discharge from wastewater treatment plants, residential on-site wastewater treatment systems associated with increasing populations, and livestock and poultry wastes.

### **RIDGEDALE RESIDENCE STATS**

#### **LOCATION**

Table Rock Lake, Upper White River Basin  
Missouri

#### **PROPERTY TYPE**

Single family residence

#### **SITE BACKGROUND**

The Ridgedale residence is a single family, lake front home with three bedrooms. The homeowner was planning to add two bedrooms to the home.

#### **SITE CONDITIONS**

- Lake front property
- Steep slopes
- Very little native soil

#### **ISSUES TO ADDRESS**

- Site had very little soil - needed a unique way to disperse effluent in eco-friendly manner
- Homeowner was planning to add additional bedrooms
- Sewage was running from the old tank directly into the lake

#### **TYPE OF TREATMENT SYSTEM**

- BioMicrobics FAST system with Netafim Bioline in imported soil

#### **DESIGN FLOW (GPD)**

600



Among the challenges faced on this site are its proximity to the lake and a lack of soil.



Dripperline is laid in even rows perpendicular to the slope of the field. Note how the tubing passes close to trees that remained in the drip field. Notice the use of flex PVC to transition from the supply and return headers up to the dripperline laterals. This helps to protect the dripperline from damage in poor soils as well as preventing drippers from being placed outside the boundary of the drip field.



Imported soil is spread across the future drip dispersal field before dripperline is installed. Bringing in soil in 4" to 6" lifts is typical. Total soil depth of approximately 18" was achieved.



It is impossible to tell that this open lawn area hides a drip dispersal field. With turf, trees and plants above the dripperline, nitrogen and phosphorus uptake is an additional benefit.



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