



Table Rock Lake Highway DD Resort

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.

HIGHWAY DD RESORT STATS

LOCATION

Table Rock Lake, Upper White River Basin
Missouri

PROPERTY TYPE

Resort

SITE BACKGROUND

The Highway DD Resort location consists of a three bedroom single family home and four one bedroom cabins.

Design included low flow toilets and shower heads to reduce peak flow from 1,080 to 740 GPD.

Usage exceeding 240 GPD is stored in a 5,000 gallon tank for dosing during periods of lower flow. If the tank reaches capacity, a pumper takes the excess to a municipal treatment facility. The drip field could only accommodate 1,200 feet of dripperline instead of the 3,700 feet needed to accommodate the design flow.

ISSUES TO ADDRESS

- Failing system with untreated effluent surfacing
- Limited area to site the drip field

TYPE OF TREATMENT SYSTEM

- BioMicrobics FAST system with Netafim Bioline in imported soil

DESIGN FLOW (GPD)

740



The completed drip dispersal field is now ready for use.



Here is an excellent example of the flexibility of Bioline drip dispersal tubing. It easily allows the designer and installer to adapt to the shape of the dispersal field.



As shown above, when laying the dripperline on a slope, it is recommended that the dripperline be laid perpendicular to slope.



6" soil lifts were used to cover the Bioline in the drip fill. This technique is referred to as 'drip and fill'.



Before effluent is pumped to the drip field, it passes through a Netafim disc filter. Cleaning the discs is as easy as rinsing the rings with a garden hose. Disc filters capture over 50% more debris than screen filters by forcing the water through an overlapping grid of capture points.



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