



Quick4® Chambers Installed in Flood-Dosed Onsite Wastewater Treatment and Disposal System

Crazy D's Truck Stop needed a replacement septic system that would finally be able to handle the high strength waste produced by the facility.

Project

Flood-dosed trench onsite wastewater treatment and disposal system utilizing 2,000 Quick4 Standard chambers.

Installation Date

November/December 2005

Designer

Christopher Limcaco, P.E.
Algaewheel, Inc.
Indianapolis, Indiana

Contractor/Installer

Joel Johnston
Algaewheel, Inc.
Indianapolis, Indiana

Permitting Agencies

Indiana State Department of Health
Marshall County Health Dept.

Owner

Ken Ford
Crazy D's Inc.
Gary, Indiana

Design Flow

7,000 GPD

The Crazy D's Truck Stop is a 24-hour gas station in Plymouth, Indiana that includes a restaurant, bathroom, and shower facilities. The truck stop's three previous onsite wastewater treatment systems had each failed primarily because the system designs were not able to properly handle the high strength wastes. Crazy D's considered abandoning their existing onsite treatment system and installing new pumping facilities to pump the wastewater to the city's wastewater collection system, however, due to the high costs it was decided to replace the existing failed system.

Algaewheel, Inc handled the design, permitting and installation of a new onsite system. The previously installed disposal fields and other site constraints would require the new disposal field site to be installed in a remote location. Traditional pipe and trench, a pressure dosed field, and chamber technology were all evaluated as options but the logistics and costs associated with installing these leach fields tipped the scale towards chambers. A quick installation was also critical because the entire current system had to be shut down during installation forcing the owner to pump and haul until the new system was complete.

Limcaco designed the new system to include a bacpac® wastewater treatment system that replaced the existing failed constructed wetland system. It also included a new absorption field that utilized 8,000 linear feet of Infiltrator® chambers. The new flood-dosed system is the largest system of its kind permitted in the State of Indiana to date and is designed for a peak flow of 7,000 gallons per day. From the restaurant, the waste travels to three 1,500-gallon grease traps. It then mixes with wastewater from the restrooms and moves to an equalization tank where it can be stored and then pumped to a d-box. The d-box distributes the flow equally to seven bacpac units where sewage is treated before entering seven 2,000 gallon septic tanks. From here the effluent enters a dosing tank, which feeds four separate pressurized disposal fields including Quick4 Standard chambers. A total of 20 concrete d-boxes were used and the system is designed to dose each field once per day.

In addition to completing the system design and installation, Algaewheel operates and manages the onsite wastewater system. This is a real plus since the local health department had to shut down the previous systems due to lack of maintenance. The Owner was very pleased with the timely installation and that the project was completed quickly and within budget.



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