

Large Pressurized Drainfield System in Illinois uses EZflow® by Infiltrator



Arch Coal-Viper Mine needed to expand its workforce and build a new changing facility with restrooms and showers. The existing small and outdated wastewater treatment system was unable to handle the daily flow created by the 180 miners and office workers who would use the new facility. With the closest sanitary sewer two miles away, mine owners turned to Rick Maguire of Maguire Backhoe Company in Virden, Illinois for an onsite solution.

Challenges

A tie-in to the local sewer at well over \$300,000 was too expensive and undesirable as the ultimate goal was to treat all residual waste from mine operations onsite.

Additionally, the existing onsite wastewater treatment system was too small to meet the anticipated 3600 gallons per day and seasonal high ground water levels, poor soils, and limited space were also challenges for onsite design.

Project Name

Arch Coal-Viper Mine

System Specifications

3600 GPD shallow pressure-dosed drainfield

Infiltrator Products Used

4200 linear feet of EZflow by Infiltrator
Aquaworx IPC Control Panel

Installation Date

2011

Installer

Rick Maguire
Maguire Backhoe
Virden, Illinois

Distributor

Connor Company
Springfield, Illinois

Solution

Maguire worked closely with Infiltrator's Technical Director to design a subsurface system that includes a 5000-gallon concrete tank and a 5000-gallon single-compartment dose tank, duplex pumps, and a shallow drainfield incorporating 4200 feet of EZflow by Infiltrator geosynthetic aggregate bundles with high-pressure dosing. The limited size of the site required the system to be installed in a 20-foot high, 600-foot long berm of clay-loam soil that was leftover from the original mine excavation. No aggregate was used in the system.

Now the largest pressurized system in Illinois, the drainfield includes six, 100-foot long mounds that are pressure-dosed automatically in alternating zones by duplex pumps. This allows the beds to rest between dosings and reduces biomat development. An Aquaworx™ IPC Controller enables Maguire to monitor and manage the system on an ongoing basis.

Cost

The system cost only half of what it would have to extend the sanitary sewer line out to the site.



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