CASE STUDY

# LPP EZflow System with Aquaworx Control Panel for Remote Monitoring

## Plainfield, IL

**SYSTEM SPECIFICATIONS**
1,050 GPD LPP Wastewater Treatment System

**INSTALLATION DATE**
Summer 2013

**PRODUCTS**
EZflow®
Aquaworx Control Panel

**OWNER**
**Resource Management Company**

**INSTALLER**
**Carl's Septic Service,** Lemont, IL

**DISTRIBUTOR**
**Welch Brothers,** Elgin, IL

**DESCRIPTION**

Resource Management Company (RMC) needed to replace a failing wastewater treatment system. RMC was in need of a simple, easy to monitor system design. RMC faced challengles of costly pumping and hauling of effluent from the employee restroom facility and lunchroom, additional capacity to handle a wastewater flow of 1,050 GPD generated by the 70 employees, and further capacity to grow. With poor soils compromising the existing system, a comprehensive soil test was needed to determine the best options including pretreatment and a water meter was installed to obtain water usage information as input for the system design.

A Low Pressure Pipe (LPP) system with a daily hydraulic loading rate of 1,050 GPD was designed. The system includes a 2,400-gallon tank with VBT200 vacuum bubble technology aerator, an A300 Zabel large flow discharge filter that can handle 6,500 GPD, and a second 2,400-gallon dosing tank with a 50 GPD high head turbine pump and a filtered pump vault controlled by an Aquaworx IPC control panel. There are three alarms trained to the urinals and the toilets. Effluent is retained in the dosing tank for six days and then is dispersed over seven days. The tank feeds an indexing valve, which time doses the effluent to alternating sides and is surge-dosed down to zero.

Due to lack of space and in consistencies in the trench area, a low profile drainfield system is installed on top of the old drainfield. To install the drainfield, a large rectangle was excavated and filled with six inches of FA2 and SA2 sand to provide an increased capillary footprint beyond the 2' by 70' "real" space needed due to the "disturbed" existing soils. The actual 25' w X 150' l X 6" d dispersal system sand bed includes 700 linear feet of EZflow geosynthetic aggregate bundles placed on top of the sand and split into two 350 linear foot zones. Each zone receives three, 150-gallon doses per day for a total of six doses over the daily period with eight hours to rest between pump cycles. Pump cycles alternate at a rate of five minutes running for every 3 hours 55 minutes of rest. There is one LPP pressure adjustment valve per lateral. EZflow was selected because, if needed, it provides a highly oxygenated area for continuous BOD reduction. The reserve was calculated to allow the dosage to move away from the EZflow system quickly. Effluent is time dosed to a LPP dispersal field with a soil loading rate of .27 gallons per square foot per day. The LPP dispersal field size is calculated at 5 square feet per linear foot of EZflow 803H LPP geosynthetic aggregate bundles.

The Aquaworx IPC control panel made it possible to identify and repair a leak in the system just after installation and enabled RMC reduce overall water usage at the facility.

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