



**Project Name**

RMC Waste Recycling Center

**System Specifications**

1050 GPD Low Pressure Pipe system

**Infiltrator Products Used**

700 linear feet of EZflow by Infiltrator  
Aquaworx IPC Control Panel

**Installation Date**

Summer 2013

**Installer**

Carl's Septic Service  
Lemont, Ill.

**Distributor**

Welch Brothers  
Elgin, Ill.

**Owner**

Resource Management Company



# Low Pressure Pipe (LPP) System Using EZflow® by Infiltrator Saves Money for Illinois Waste Recycling Center

Resource Management Company (RMC) needed to replace an inadequate and failing wastewater treatment system at the company's Waste Recycling Center in Plainfield, Illinois. RMC turned to Carl's Septic Service in Lemont, Illinois and Infiltrator for a simple, easy to monitor system design.

**Challenges**

Costly pumping and hauling of effluent from the employee restroom facility and lunchroom, additional capacity to handle a wastewater flow of 1050 GPD generated by the 70 employees, and further capacity to grow without further expansion impacted system selection. 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.

**System Details**

A Low Pressure Pipe (LPP) system with a daily hydraulic loading rate of 1050 GPD was designed based on the assumption that there will be 70 employees working at the facility creating 15 GPD/employee six days a week. This equates to a 6300 gallons per week over the 7-day period. In order to meet the LPP regulations of Illinois, a reserve area was created for infiltration. The system includes a 2400-gallon tank with VBT200 vacuum bubble technology aerator, an A300 Zabel large flow discharge filter that can handle 6500 GPD, and a second 2400-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 6 days and then is dispersed over 7 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 inconsistencies 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 6 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 6 doses over the daily period with 8 hours to rest between pump cycles. Pump cycles alternate at a rate of 5 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. This was critical to the operation of the facility and to gaining final approvals for the system.



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