

Rodale “Water Purification Eco-Center” Unveiled

A rainwater collection system for flushing toilets is the first step in this demonstration project at the new visitor center restrooms at Rodale Institute in Kutztown, PA. Next comes regular flush toilets and a standard, tho’ oversized, septic tank. As with all septic tanks, solids float to the top or settle to the bottom and the liquid between those layers flows out through a baffle, which allows only liquids out. At the Rodale project, liquids flow to an equalization tank and from there to a constructed wetland and then to a trickling filter finally leaving the system through a subsurface drip irrigation system which waters gardens around the restrooms. The water will be purified even further as it filters through the soil.

What’s different about this project is that the wetland is used to clean the liquid effluent before going to the drip field. The liquid recirculates several times between the wetland and the equalization tank and through a filter made of plastic “honeycomb” boxes before heading to the drip lines. The footprint of the system would fit in most back yards. The system treats about 300-500 gallons per day, the output from a typical 3-bedroom house.

The goal at Rodale is to see if the wetland and recirculation design, will treat the liquid to a level clean enough to discharge to the ground or to a stream. Water quality tests at several points in the system will show how the various stages are working.

Long known for its educational programs and literature on organic farming, Rodale hopes that this project will educate builders, planners and homeowners about better ways to treat wastewater. Rodale plans to hold training workshops for municipal officials and sewage enforcement officers so they will be knowledgeable about alternatives to standard septic systems and sand mounds – alternatives that do a better job, last longer and protect water quality.

The project was “unveiled” on June 16, 2011 and is introduced on the Rodale website at <http://www.rodaleinstitute.org/wpec/home>. As visitors and staff use the system, and tests results come in, more information will be posted at that link.



Jim Wilson, Northampton County Watershed Specialist, examines the inflow pipe to the constructed wetland.