



Barbara Behrendt, Tampa Bay Times, April 12, 2013

**BROOKSVILLE** — When county officials first approved the Peck Sink stormwater improvement project in June 2011, the goal was simple: safeguarding the area's drinking water supply.

Less than a year later, as the contractor was preparing to complete the project, the first wave of summer rains came. The rush of water undermined the earthwork and eroded berms — where seed rather than sod had been used — that were designed to retain stormwater. Not long after, it got even worse when Tropical Storm Debby inundated Hernando County with double-digit rainfall amounts. Peck Sink was under water for days.

But now the stormwater improvement system is back in business. The project is finished. Sod carpets the sloping banks and swales, yearning for the rainy season. And county officials say they are ready for whatever summer might bring.

The 112-acre Peck Sink Preserve property, southwest of Brooksville, was purchased by the county in two pieces in 2006 and 2008. The price was \$2.3 million, with \$1.9 million coming from the county's environmentally sensitive lands fund and the remainder from the state Department of Environmental Protection. The county wanted the property because it acts as a sort of community drainage basin for an area of approximately 17 square miles. The drain for the basin is a series of sinkholes, and the ultimate destination is the aquifer, the source of the area's drinking water supply.

Prior to the site improvements, anything floating in the water — from as far away as urban Brooksville and agricultural lands outside the city — was flowing downstream and into Peck Sink. From dead animals and rubber tires to glass bottles and residue from fertilizers and pesticides, it all flowed toward the open sinkholes and into the aquifer. Now, the water and whatever it carries has a much more rigorous course.

Before water even makes it to the first basin constructed on the site, it must pass over a filtering system that strains out the garbage. County employees can collect the trash and truck it away. If the water comes too fast, a nearby weir allows for an overflow back into the natural stream system. The large first pond was made stronger with sections of cascaded rocks glued together by \$18,000 worth of concrete grout. In the settling basin, other impurities can settle out before the water moves through a skimmer structure that removes oil on the surface.

The next step takes water to the filter marsh. That basin features layers of native aquatic plants, ranging from spatterdock and fragrant water lily to pickerelweed and sand cordgrass. The plants absorb the nutrients in the water, further purifying it before it passes another 900 or so feet down the stream, then drops off into the sink.

The project required moving 138,000 cubic yards of material. That is enough storage volume to contain an estimated 28 million gallons of water when filled to the top. A monitoring well near the end of the gravity-driven system keeps track of the water quality.

The construction cost is \$1.87 million, and that includes \$274,000 worth of repairs after Debby. The money has come from a variety of state and local sources, including the local stormwater tax and funding from the Southwest Florida Water Management District and the state DEP.

One day last week, when the sun was high and only a few clouds interrupted the blue sky, Brian Malmberg, the county's assistant administrator for operations; Mark Guttman, engineering services manager; and Dawn Velsor, the lead environmental planner, led a tour through the property. Each looked at the finished project with pride.

Malmberg pointed out that Guttman engineered the trash filtering device, something he borrowed from a design for bar racks on a wastewater treatment plant. Velsor was proud to have been involved with the project since the start. And she is ready to take it to the next phase should the County Commission ever change its mind about development of a passive park once planned for the property next door.

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The following pictures of the completed Peck Sink Stormwater Project were contributed by City Public Works staff.



Steel grate at the entrance to settling ponds prevents large debris from entering the system



First settling pond. View is looking south towards Wiscon Road



First settling pond showing “skimmer structure” that minimizes the carry-over of contaminants into the next settling pond



Second settling pond, view is looking north



Peck Sink is a large depression in the ground where stormwater collects, and drains directly into the aquifer. This is where we get our drinking water from. Therefore, it's understandable why it is so important to prevent contaminants from entering the water system. Note the auto tire on the far side of the sink.

