

Inside the \$1M Boyd Hill project restoring streams, wetlands in St. Pete

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An aerial drone view is shown in this photo as work continued on Tuesday at the Boyd Hill Nature Preserve on a project that will restore natural stream systems and expand the wetlands along Lake Maggiore. [DIRK SHADD | Times]

By

Michaela Mulligan Times staff

ST. PETERSBURG — The tram was halted as a small, slithery black snake scurried across the Boyd Hill Nature Preserve trail.

“I’ve been out here for the last year, pretty much every week,” Nancy Norton, an engineer and project manager for the Southwest Florida Water Management District, said Tuesday morning.

“I’ve never seen a snake before.”

She laughed.

Norton sat at the front of the tram, riding toward a project seven years in the making. The tram stopped at a clearing, where new dirt packed the ground and a small amount of freshwater sat in a newly contoured stream.

The packed dirt can act as a land bridge for the preserve's beloved Gopher tortoises, a threatened species in Florida.

About 10 workers planted native vegetation along the water, their boots squelching in the wet soil.

The area is one of four within Boyd Hill that the district and the city of St. Petersburg determined were in need of restoration.

"As time passed, humans have impacted our waterways, the drainage, the plants — all of those things have been impacted by development," Norton said. "And in this case, we were looking to put some of that natural hydrology, rehydrate the wetlands and so on, back at Boyd Hill."



Nancy Norton, an engineer for the Southwest Florida Water Management, is shown on site at the Boyd Hill Nature Preserve project that will restore natural stream systems and expand the wetlands along Lake Maggiore. [DIRK SHADD | Times]



Nancy Norton, an engineer for the Southwest Florida Water Management, shows the various areas where work has been done on site at the Boyd Hill Nature Preserve. [DIRK SHADD | Times]

Partnered with the city, the district sought to rehabilitate the natural flow of water in sections of preserve, clear invasive species and expand its wetlands. The four-area effort spans about 30 acres in the nature preserve. The project cost a little over \$1 million and will improve water quality and provide new wildlife habitat, Norton said.

The project was first approved in 2018, and construction began in March, Norton said. The Tampa Bay Estuary Program contributed about \$200,000, while St. Petersburg and the district split the remaining cost, nearly \$450,000 each.

“We do natural system restoration and water quality improvement projects — so this is one of those,” Norton said.

Norton is part of the district’s Surface Water Improvement and Management program, which was created after the Legislature crafted the SWIM Act in 1987. The act tasked the state’s water management districts to identify water bodies within their authority and create plans to improve them.

Tuesday morning, Norton stood in the dirt wearing thick boots, and overlooking the last phase of the project.

Norton said about 7,000 plants, of a few different native varieties, were planted on Tuesday, including Jointed Spikerush (a plant that resembled a long green pencil) to Softstem Bulrush (a thin, budding plant).

From the fenced area at the edge of the preserve, where Norton stood, to a winding path leading toward Lake Maggiore, this area of the project spans about 1,500 linear feet, Norton said.

Tampa Contracting Services placed a 4-foot-wide pipe underground that connects upstream in the watershed. A baffle box, a structure that pulls out sediment and pollutants from stormwater, already is in place for the nearby development. The pipe is a drainage for the watershed, Norton said.

Maya Burke, the assistant director of the Tampa Bay Estuary Program, said the Boyd Hill project is a model of what a functional creek system should look like.

In years past, particularly in the neighborhoods surrounding Boyd Hill, construction has dug out golf course ponds and altered and deepened natural creeks to catch water and prevent flooding, Burke said.

The same volume of water can be accommodated by a more natural, braided water channel design, like what the district and the city have now created in Boyd Hill, Burke said.

“When we ditch and drain the landscape, what we’re doing is taking water that’s moving really fast from urbanized environments, and it carries a lot of pollution with it,” Burke said. “Then we’re basically delivering it to the Bay as quickly as possible, because we’ve prioritized flood control.”

Part of the Boyd Hill project seeks to restore natural stream systems, and slow the water through a winding path.

At the slower pace, the water can spread over the landscape and percolate through the soil, Burke said. The newly planted vegetation can take in the pollutants, like nitrogen and phosphorous, and use them to grow.

“So rather than taking the water and moving it with all the pollution as fast as possible to the Bay, instead we’re finding a more beneficial use,” Burke said.

The new system will not worsen flooding, but it likely will not improve it, either. The district said water will spread through the system at a slower rate, but can pass the same volume of water as the drainage ditch that was previously in place.

The true test came during Hurricane Milton. Portions of the project were already completed when the storm dumped several inches of rain on the area. Areas where the construction was finished didn’t see extreme flooding, Burke said.

"If they didn't exacerbate the flooding, if it didn't make it worse, then they probably were moving at least the same amount of water, if not more," Burke said.

The district looked back at historical data of the landscape. Norton wanted to know:

"What did it look like? When did it change? How fast did it change? What used to be here?"

The United States Geological Survey showed where the creeks originally were, Norton said.

"It really just makes those areas on land function more like they did 100, 200 years ago," Burke said. "And it provides that extra benefit of cleaner, fresh water to the estuary."

Hundreds of streams leading to larger waterbodies spider throughout Tampa Bay, and some are in residents' backyards.

The project shows that instead of ditching and draining water, restoring these spaces provides environmental benefits and flood protection, Burke said.

Before the project, Burke said these areas of Boyd Hill were covered in invasive species and erosion.

"I think when you go to a nature space, and you see that, you think 'Oh, I guess these are just how these things are supposed to look,'" Burke said. "This project helps people visualize, 'oh this is what a creek ought to look like.'"

For the next year, contractors will visit the Boyd Hill sites to ensure non-native plants don't take over. Then, it will be St. Petersburg's responsibility to maintain the site.

On Tuesday, the stream, while sculpted and nearly-finished, was still in its infancy. But Norton delighted in the teeny fish that had already begun to show up.

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