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Terry Creek outfall project nearly complete

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James Cunningham, the manager of the Hercules outfall canal replacement, explains how the project design prevents any contaminated water from getting into the often flooded concrete-lined canal during construction.

Terry Dickson/The Brunswick News

As Pinova dismantles its operations, a \$9 million installation is nearing completion to the east.

Ashland/Hercules has spent \$9 million to relocate the outfall canal that discharged water from the former Hercules Inc. specialty chemical plant and later Pinova into Terry and Dupree creeks.

The project includes the construction of a new 850-foot long canal lined with articulated concrete blocks that are woven together. An upper section connecting it to a Georgia Department of Transportation box culvert that carries water beneath U.S. 17 is lined with geosynthetic material and armored with granite boulders, said James Cunningham, a senior field project manager of remediation for CleanHarbors, the company doing the construction.



The work is essentially a “water management project” with the goal of removing toxaphene from the food chain, he said.

The plan sounds simple enough: dig a new canal and fill in the old one, but it’s complicated.

In 1997, the EPA was prepared to place the 216-acre Terry Creek Dredge Spoil Area/Hercules Outfall Superfund site on its National Priorities List which would have resulted in a massive and expensive cleanup with constant oversight from the federal regulatory agency.

The EPA opted instead to take what is called the Superfund alternative approach, under which it works with a responsible party – Hercules in this case – to engineer and carry out an approved cleanup.

With Leo Francendese, an EPA emergency response and recovery team member overseeing it, Hercules started the work and in the late 1990s had removed nearly 40,000 tons of material from the outfall canal and from the connected channels of Terry and Dupree creeks, said Tim Hassett, who supervises remediation for Ashland/Hercules.

But Hercules had produced toxaphene, a chlorinated compound highly effective against boll weevils and other pests, for 32 years before the chemical was found to be too dangerous to human health. By that time, the adjoining creeks and uplands were badly contaminated along with a huge dredge spoil area in the marsh north of the F.J. Torras Causeway.

Rather than another round of removing sediments from the canal, Hercules' contracted engineers and consultants and proposed a remedy with a new outfall combined with filling the old one with clean soil to seal in the toxaphene. U.S. District Court approved the agreement Nov. 27, 2019. The agreement stated the project would cost \$4.4 million, which was ultimately less than half the actual cost.

Geosyntec, an environmental engineering firm, designed the project and are on site as CleanHarbors builds it.

Any material that is removed is segregated and tested. Materials that are not considered unsafe to reuse are staged and will be used for fill.



“Anything with actionable levels of toxaphene is transported and disposed of,” Cunningham said.

Cunningham called it a water management project and there is no shortage of water to manage, especially October through November, when the lunar high tides are extremely high.

The tide comes and goes as it pleases in the section of the canal with the articulated concrete, but in the upper reaches that will tie into the culvert beneath U.S. 17, the water has to be pumped out until it is complete. Before it is pumped across a temporary barrier into the new canal, it passes through a treatment system that operates around the clock.

The high tides have required moats to protect the big pumps from being flooded. Cunningham had to build berms along the new canal.

“If we didn’t have those controls the tides would have blown the site out,” he said.

Once the new canal is done and the old one sealed off, Cunningham said contractors will close off the mouth of the old canal at Dupree Creek, pump out the water and begin filling it. Although the old canal is far wider than the new one, it is shallow. The articulated concrete section of the replacement canal runs from 8.5 feet

to 9 feet below the surface of the surrounding land.

Material from the site tested and deemed clean enough for reuse will be placed into the old outfall canal first. Then clean soil that is trucked from outside will be used to finish it, Cunningham said.

Also, the new canal will have a manatee barrier.

“I never thought I would have to know the turning radius of a manatee. It’s become very important to me,” he said.

He also noted he has become an expert on tides.

Cunningham said he expects to begin filling the old canal by the end of December and that it could be finished in February.

The outfall canal replacement will not be the final work done at the site. The canal is operable unit 1, or OU1. Still to come are OU2, the uplands, and OU3, the sediments in Dupree and Terry creeks.



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