SYSTEM PROFILE

An overview of the layout after precast tanks were set and lids placed. Also pictured, is a pile of the decomposed garbage muck that was removed to make room for the tanks.

Installer Scott Blaney backfills around the plumbed-in Anua BioCoir filters using his Kubota mini-excavator.

A Complex Treatment Solution Is on the Menu

New owners of a popular Georgia seafood restaurant require clean effluent and 2,500 feet of dripline to open for business

By Tim Dobbins

For generations, Desposito's Seafood Shack has been a staple establishment for Georgians and tourists looking for an authentic southern-style seafood experience in the Savannah area.

Setbacks due to the COVID-19 pandemic caused the restaurant to close and eventually change ownership in 2020. When the new owners acquired the restaurant, they lost the grandfather clauses that allowed it to operate with an outdated and tiny onsite system, a system that consisted of a single 1,000-gallon septic tank and roughly 50 feet of gravel bed drainfield.

It was so small the business had to wait until the end of the night when all the customers were gone to wash any dishes. So along with renovations to the building itself, an entirely new and substantially larger septic system was required before the business could be back up and operational.

Taking on the task

Unfortunately, it wasn't as simple as dropping in a bigger septic tank and moving on. The restaurant's proximity to the Intercoastal Waterway, local regulations and high water table created a challenge many installers shied away from. Most in the area passed on the prospect, but Scott Blaney, owner and operator of Reliable Septic Services, was willing and confident he could get it done.

The new owners met with Blaney after struggling to find an engineer that wanted the project. "They went through two different engineers and neither of them could come up with anything," he says. "They met me and I suggested Mike Fugate out of Atlanta with Smartwater Solutions. Mike jumped in there and came up with a plan."

Challenging prep work

The plan started with groundwork and for a number of reasons, getting the site prepped was a massive job all on its own.

"The restaurant actually sits on an old landfill that was used in the 1930s and '40s," Blaney says. "When I started digging, I hit a layer of decomposed garbage and glass bottles. I ended up hauling out 19 full dump truck loads of garbage muck."

Also, due to the restaurant's location within 150 yards of the Intercoastal Waterway, Blaney and the engineer had to abide by specific Georgia state requirements when it came to discharge into the drainfield.

They had two options. Either add fill above the water table to create at least 24 inches of vertical separation, or install a system that discharges 100% clean water. They ultimately decided to take the safest route possible and do both.

"The first thing I did was bring rock in and assemble the six zones of the drainfield," Blaney says. "The water table was only 12 inches below the surface, we hauled in 26 tandem dump trucks of sand and 300 tons of 57 stone to raise the system 30 inches and set the 2,500 feet of low-pressure pipe."

And even that presented more challenges than anticipated due to the fast rising costs of sand and rock. "I was paying $200 per load of sand,"

<< The Anua PuraACE reactor pods getting prepped before installation in the aeration tanks.

The distribution box during plumbing.

System Profile

Location:	Savannah, Georgia
Facility served:	Desposito's Seafood Restaurant
Designer:	Smartwater Solutions of Atlanta
Installer:	Reliable Septic Service
Type of system:	Select Precast Concrete septic tanks with Anua high-strength pretreatment units, Anua recirculating media biofilters and low pressure dispersal drainfield
Site conditions:	Disturbed soils and sand
Hydraulic capacity:	8,000 gpd

Blaney says. "After the years of COVID and things changed, it first went to $300, then about halfway through the project it went to $350."

Gearing up

Blaney rented two CASE 320 excavators for one week to dig the holes for the tanks. And due to the sheer size and weight of the concrete tanks needed for the system, he also used the large excavators to move and set them in place. Besides those excavators, Blaney and his operator spent time in a Kubota KX057-4.

"I'd say 90% of the job was done with my Kubota," Blaney says. "I use that to dig, backfill and everything else really."

System flows

Now hooked up and ready for use, water exiting the restaurant flows via gravity through approximately 10 feet of 4-inch, Schedule 40 PVC pipe before entering into a 2,500-gallon precast concrete grease trap, immediately followed by a 3,000-gallon septic tank, also precast. At the discharge end of the grease trap and septic tank, Polylok PL-625 effluent filters were installed.

After flowing through the grease trap and septic tank, water enters a 2,000-gallon pump tank where it is pumped into two, 2,000-gallon aeration tanks. Inside each aeration tank are two PuraACE (Anua) reactor pods for additional treatment of wastewater.

After aeration, water flows to a 2,000-gallon clarifier tank where it is pumped into two Anua model 1530 BioCoir coconut fiber biofilters for further treatment ensuring clean discharge. Following the BioCoir filters, water flows via gravity into a precast concrete distribution box.

"The D-box sends 20% of the water over to two more distribution tanks," Blaney says. "The remaining 80% goes through an Anua Puralinity pH Biobuffer and from there, it reenters the system in the clarifier tank."

The 20% that reaches the distribution tanks is pumped directly to the drainfield. Each distribution tank contains three water pumps that disperse water to three separate areas of the drainfield. Between the two tanks, six pumps push water throughout the entire drainfield. "Each pump is on a timed schedule alternating between zones to evenly spread out flow," Blaney says. "So no one area gets an overdose of water."

"The restaurant actually sits on an old landfill that was used in the 1930s and '40s. When I started digging, I hit a layer of decomposed garbage and glass bottles. I ended up hauling out 19 full dump truck loads of garbage muck."

Scott Blaney

SYSTEM PROFILE

The Anua Puralinity pH Biobuffer set and ready to be plumbed (far right).

The system is set up that way so there isn't an overwhelming amount of volume entering the drainfield at one time and to ensure the water going into the drainfield is completely clean. "It's really one big drainfield, but it's broken into six equal parts," Blaney says. "It's 140 feet long by 75 feet wide and has 2,500 feet of dispersal pipe."

To feed the six areas, Blaney plumbed 2-inch PVC pipe to each zone. Once it reaches, it narrows to 1 1/4-inch PVC pipe. The pipe has 3/16-inch holes drilled every four feet and is positioned over the top of gravel and sand. The end of each distribution pipe is capped with a ball valve for easy pipe flushing and cleaning.

"We put in another 180 tons of sand for cover, then I covered that with geotextile filter cloth followed by another 10 loads of sand." The system ended up with a total mound height of 40 inches at the highest point.

Controlling the system's timing and pumps are three SJE Rhombus control panels. "There is one main master control panel that controls two other panels," Blaney says. "One for each of the two distribution tanks to control the timing of pumping."

With only a few final loose ends to tie up, the restaurant's much needed onsite system upgrade will be ready for its reopening and the wave of customers looking for their southern-style seafood fix.

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