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Barging In

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CHANGE SERVICE REQUESTED

A custom-built sectional barge helps Joe Mayers Excavating install onsite systems on islands.

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Joe Mayers Excavating finds a niche free of competition in onsite system installations for inland lake island properties

By Jim Kneiszel

Joe Mayers Excavating LLC, Wantage Township, N.J.

Owner: Joe Mayers

Founded: 1983

Employees: 4

Services: Septic installation and repair, certified septic inspections

Service Area: Sussex County 60-mile radius

Affiliations: NJSMA, Pennsylvania Septage Management Association, PASEO

Web: www.septicexperts.com

It was a real head-scratcher for the home inspector. He'd gone out to look at an island home, only to find that the septic system was failing and needed to be replaced. The inspector turned to onsite system installer Joe Mayers, owner of Joe Mayers Excavating, LLC in Wantage Township, N.J.

"He said, 'Are you up for the challenge?'" Joe recalls. "That's how this whole thing started, and I haven't looked back." His first island septic system installation was on an island at Highland Lakes in Vernon, N.J.

Joe put together a barge, experimented with techniques using small-scale equipment on rugged terrain, and successfully replaced an aging system. The job brought him a great deal of satisfaction and a handful of referrals for similar work that nobody else seemed to want to do.

Now, after 20 years of installing onsite systems, Mayers has found his passion for the business at the tiller of an outboard motor, riding the waves on his custom sectional barge. "As an excavator, you're used to working on land, solid ground," says Joe. "Now you're taking a machine onto something that floats on water. It's not an easy feeling in your stomach to take a machine on water, but once you get on an island and are working, you're home again."

Thousands of lakes

Mayers has found a niche market with endless possibilities. In New York alone, there are more than 5,000 small inland lakes, some with single homes on small islands, others with island communities of 40 to 50 homes. Between New York and Joe's home state of New Jersey, there are thousands of lakefront and island homes, many built from the 1920s to the 1950s and still using their original, primitive septic systems.

State water quality officials are starting to demand better septic systems for these homes. At the same time, regulators are putting tighter controls on how contractors work on islands. Increasingly, states forbid installers to transport equipment over the ice, wanting to avoid the risk of heavy equipment breaking through.

Owners of island properties and other waterfront sites generally can afford the premium price a specialist like Joe must demand. While typical septic system replacement in New Jersey costs about $15,000, an island system may cost twice as much, though the price per system


Joe Mayers piloting his barge.

comes down about 20 - 25% when Joe contracts for multiple replacements on one island.

"I never knew how many island homes there were in my area," says Joe. "I simply never paid any attention to it. After that one job, I started getting phone calls from other lake communities inquiring about my services. I never thought in a million years I'd be doing septic systems on islands. But I just fell into it and it took off."

The right equipment

Joe does about 30 installations per year, about one-third on islands or rustic lake properties. He has bought two barges and is working on a third for island pumping work. He has tailored his fleet of machinery to cross the water easily and leave no footprints.

When he started going over the water in 2000, Joe found that homeowners were having trouble coordinating island system replacements. They might find someone with a barge but no knowledge of onsite systems. Or they may find an onsite installer with no means of getting to the work site. Joe eliminates the logistical issues.

His first job was difficult. Using a 12- by 12-foot floating wooden dock with extra pontoons, he moved an 1,800-pound mini-excavator to the island. "It was tippy and started to look like a cereal bowl by the time I got across the lake," says Joe. "It started to deflect and bend and flex under the weight. I realized that wasn't good enough."

That first customer ended up buying Joe a smaller used sectional barge to help him complete the project. As he worked with the equipment at hand, Joe kept thinking of ideas that would make an island or confined-space job work easier.

"There were many sleepless nights because we didn't know exactly how this was going to work out," he says. "We learned a lot, but there's nobody to teach you. It's all gut instinct." His equipment includes:

Custom barges. Joe designed a sectional barge with components small enough to back into the water at even the most rustic boat landing. He uses a 16- by 30-foot sectional barge to haul equipment and materials and has a second small barge to use when necessary. He's design-

It's About the Barge

The barge is built in rectangular sections.

The success of Joe Mayers' island septic system installations starts with his ingenious sectional barge design. Without a sturdy, compact barge, he'd never get to the job site safely and efficiently.

Joe hired a Florida barge-building company to realize his vision for a barge with four equal rectangles of 8 feet wide, 15 feet long and 4 feet deep that fit two-deep, side-by-side, for a maximum 16- by 30-foot deck. Each section is an airtight cube, purged with argon gas, built with 1/4- to 3/8-inch steel panels and a reinforcing superstructure to prevent flexing on the waves. The front end of each 4.5-ton section is raked at a 45-degree angle to cut through water efficiently or to move over and break ice in early winter. The two rear sections have a steel catwalk on the back with adjustable brackets to hold the engines.

The sections are joined through steel flanges that mate together and are held in place with 2-inch-diameter steel pins. The two front sections have a steel lip on the front for mounting ramps to load equipment. Each corner of the barges has a built-in 5-inch hole through the deck bottom called a spud well. A 15-foot-long, 4-inch schedule 40 PVC pipe runs through each spud well and into the lake bottom to hold the barge steady in the water for equipment loading.

"Some barges have a manhole so you can get down inside them," Joe says. "With this barge, if you were to rip a hole in the bottom, it wouldn't sink because there's no hole on top to let the air out. And if one cube leaks, you still have three holding you up."

Joe hauls the barge to the lake using a semi tractor and trailer. Joe has two ways of getting the barge into the water for assembly. He can back the sections down a boat launch using a pickup truck and gooseneck trailer when the space is tight. Or he can pick each section off the semi trailer with an excavator and drop it into the water.

Once in the water, he loads equipment via a pair of 700-pound channel steel ramps. When empty, the 18-ton barge has a 10-inch draft. Fully loaded with 22 tons of equipment, the draft is 3 feet, and a foot of the barge is above water. Joe likes to load to about half capacity to transport sand or gravel. He moves one piece of equipment at a time, securing it to barge cleats. The barge deck has an anti-slip sand surface.


The barge is loaded up and ready to travel to a work site.

The barge can be powered by two 25-hp tiller-controlled outboards or, where lake rules prohibit gasoline engines, by four electric trolling motors powered by eight deep-cycle marine batteries. An onboard generator charges the batteries for longer trips.

Joe avoids using the trolling motors in high winds. He also keeps a rowboat on board as an emergency escape craft in case he's stranded on a lake in bad weather. Joe has a patent pending on the design and use of the sectional barge.

A special ramp is used to load the barge from shore.

ing a barge specifically to haul a 1,100-gallon vacuum tank and containment pan for septic system pumping.

Compact equipment. Joe found it best to load the big barge with small, maneuverable machinery to handle tight spaces efficiently. He owns three compact Yanmar dump trucks. The trucks have dual sets of controls, and the seat turns around so that the driver can run the vehicles forward or backward without having to turn around. The 3-cylinder diesel trucks will climb up to a 57-degree incline with a full load.

Rubber tracks. All Joe's equipment, except for his John Deere long stick excavator, has rubber tracks that are easy on the steel deck of the barge and on island landscapes. The sticky treads scale slippery rocks with ease and safely board the barge over dual 700-pound channel steel ramps.

Clustering jobs

Rather than hunt for customers, Joe usually piggybacks several jobs each time he sets out for an island. Lake associations let all homeowners know when Joe will be in the area. With several contracts in hand, and with extra work hauling lumber and debris for home building projects, Joe often can spend a few profitable months with his barges in the same lake.

Joe works hard to limit impact on the natural beauty and water quality in inland lake regions. The rubber-tracked equipment helps. He also can use electric trolling motors to power the barge, thus eliminate the noise and exhaust from outboard engines.

Joe is gratified when he replaces an outdated septic system with a new conventional or alternative system, which treats waste more effectively and protects the environment.

Joe wants to concentrate more and more on his specialty. He sees no competition and wants to take advantage of the knowledge he has built over the years. He sees only growth in his niche as lake property continues to gain in value and concern increases for environmental quality on the lakes.

Other local installers have been skeptical, waiting in the weeds to see how Joe succeeds with island systems. "They're waiting to see what happens to me," says Joe. "But it's been working out quite well. All I know is they can't believe we're doing this. It just doesn't look right when you're going out across the lake." ■

Upper photo: Loading concrete components. Lower photo: A mini-excavator helps the barge travel light.


It's not your average inland lake watercraft!