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UNDERGROUND TANK REMOVAL: DOING IT RIGHT

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The new tank has been installed, right, and now it's time to dig up the old one.

Underground tank removal: doing it right

With New Jersey's new grant program for tank replacement, homeowners can get needed financial help while heading off the complications of a leaking tank

Article and photos by Editor Mike SanGiovanni

The ranch home in Bayville, NJ was typical of homes built along the New Jersey shore. Only a stone's throw away from Barnegat Bay, the house and the sandy soil on which it rests sit above a fairly high water table. These homes typically do not have a basement. In this case, the house—and the underground oil tank—were about 30 years old.

Concerned about leaks, the homeowner contacted her oil company, Finley Oil, out of Toms River. David E. Raimann, Sales/Fuel Manager for Finley, met with the homeowner. He informed her that his company has a system in place for tank replacements. And given the fact that the State of New Jersey has new grant money available to replace tanks, this would be an ideal time to do so. She agreed and Finley contacted Firstech Environmental, based in Wall, NJ. Finley had been working with Firstech for some time. Firstech specializes in environmental solutions, including underground tank removal, leak remediation and a host of other environmental consulting and contracting services. Firstech works with wetlands and CAFRA (New Jersey's Coastal Area Facility Review Act) issues, Phase I and II environmental investigations, regulatory compliance and even mold inspections. Finley chose to work with Firstech because, said Raimann, "they are able to help the customer throughout the entire project."

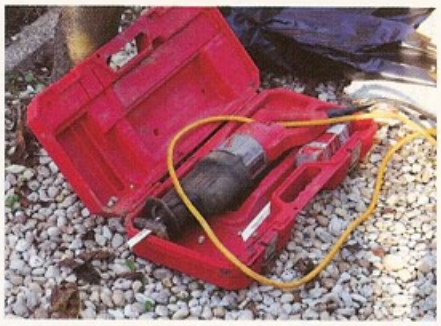
Watching the removal process is a lesson in appropriate procedures. Finley Oil had already installed the new above-ground storage tank and had disconnected the oil lines to the underground tank. Completely new, insulated lines would be used for the above-ground tank.

Testing the soil: a sniff will tell

Taking an old tank out of the ground might seem a simple task, but it is an involved process. First of all, the company doing the job has to have all the necessary environmental credentials to handle the job in a safe way. They are certified by the state's Department of Environmental Protection, for one thing. And procedures are in place to document every step of the process, necessary for insurance and other purposes.

Because NJ will help a homeowner pay for replacing an old tank, Firstech has staff members who handle all the paperwork, applications and associated documentation for the homeowner. Things change if there is a leak, but they are prepared to assist the homeowner through the insurance process as well.

Teaming up with an environmental specialist has also lessened the burden on Finley. The company can pass on the complex removal job to Firstech.



Clockwise, from upper left above: ***steel plates protect unpaved areas****; old, disconnected oil lines;* ***electrically operated tools avoid fuel issues****; removing soil by hand protects the top of the tank;* ***sludge from inside the tank will be retained for disposal in these buckets****; insurance inspector watches tank cleanoff.*
Immediately below, plastic sheeting protects clean soil at site.

TANK REPLACEMENT

The homeowner does pay for the tank removal, and reviews bids for the job, but thanks to changes this past August to the NJ Underground Petroleum Storage Tank Upgrade Remediation and Closure Fund, New Jersey's Economic Development Authority now provides up to $3,000 to reimburse the homeowner's costs for the removal and replacement of a non-leaking

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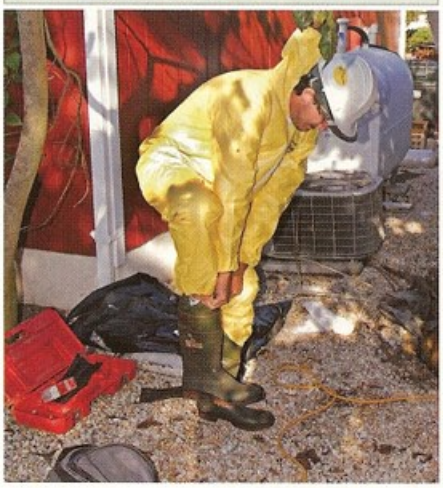
underground storage tank. Or, if the homeowner only needs to close or remove the underground (non-leaking) tank, they can receive up to $1,200. There are some financial restrictions, but they are fairly generous.

The money can be used to replace non-leaking underground tanks with either another underground tank, or an above-ground tank. While there are some application fees, the state will reimburse the homeowner if the work was done by a certified contractor, as in the case shown here.

The Bayville home was also protected by tank insurance—in this case, ProGuard. If there is a tank leak (which can happen in about 20% of the cases with underground, non-protected steel tanks in this area), then either ProGuard or the homeowner's insurance can kick in. ProGuard typically covers the costs associated with first party impact, which is impacted property owned by the homeowner that is above groundwater. If groundwater or a neighboring property has become impacted by a release from a tank, the homeowners insurance may cover the cost of the additional necessary cleanup. If insurance coverage is not available, the homeowner is typically responsible, but Firstech says that state grant money or low interest loans are available to qualified homeowners, and Firstech will help a homeowner get through the process.

Choosing a specialized company in UST removal makes sense from another aspect. They are state certified and will file the appropriate paperwork with local and/or state authorities to verify that the tank has been removed and that any leaks have been remediated and that there is no longer any problem with the tank. A homeowner will need this paperwork to sell his or her home in future. Such paperwork transcends the permits and so on, and includes receipts for such things as certified clean replacement soil (fill), waste disposal, and various inspection reports. Firstech keeps all of this documentation on file as well.

The tank must be opened large enough for a worker to get inside and clean it out. Supervisor Mike Nardone, who also drove the backhoe, makes the cut with a sabersaw while Field Technician Tim Price, below, suits up into protective gear before getting to the heart of the matter, inside the tank.



The only way to clean out an old tank is by wiping it out. After having shoveled as much sludge as possible, absorbent wipes pick up the rest of the bottom sediment in this tank. After the cleanup, it will be lifted out (facing page).

Removal of the UST

The first step in underground tank removal is to survey the site. Firstech sends out an inspector to examine the site and determine the best—and safest—way to remove the tank. This job would be easy, hopefully. The tank was sitting just below the surface on the side of the home. A small backhoe could easily be brought in to the location. Given the green light by the homeowner (she had other companies to choose from, some of which

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A simple dip, flip and it's out!

After tank removal, the soil beneath is checked, immediately below, by a ProGuard insurance inspector. At bottom, he inspects the bottom of the removed tank, scraping off moist soil to inspect the base while Firstech's Mike Nardone observes in background.

were more expensive, some less, but opted to go on Finley's recommendation), Firstech brought in its tank removal team. In addition to the two men who would do the excavating, tank cleanout and removal, the ProGuard insurance representative and the homeowner were on site to oversee the tank closure work. (And in this case, *Oilheating Journal*).

Also on the scene: a dump truck filled with certified clean fill to replace the soil where the tank was. Large steel plates were put into position on the homeowner's property where there was no paved surface, to avoid surface damage from the backhoe's tracks.

When Finley Oil installed the new above-ground tank, they also pumped out any oil in the old tank and followed the cardinal rule not to transfer it to the new tank. It was removed and disposed of safely, leaving only a slight bit of sludge at the bottom of the old tank. Even that would have to be removed later.

It was now time to start the procedure. The ground was covered with crushed stone, common among shore houses. That top surface was scraped away over the tank, and before any soil was placed alongside the area, the ground was covered with a plastic tarp. That was done to insure that any oil-bearing soil does not leach into pristine areas and is contained. The backhoe was then brought to the tank and after making certain the tank's oil lines were not in place, the operator removed some of the soil surrounding tank. A second man was on hand to make sure the backhoe's toothed shovel did not puncture the tank. When enough soil (about a foot) was removed on the sides, the top of the tank was cleaned off manually until about a third of the tank was exposed. Soil removed was then checked for any oil leakage. Most of the time, one can detect a leak in the soil just by sniffing a sample closely.

Satisfied that no leaks were occurring, at least at that point, the next step was to

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open the tank. An electric saber saw was the tool of choice. Electric saws are preferred over gasoline powered ones for this kind of job because they are less likely to be an ignition source and because they do not have any fuel to spill. A good supply of blades was also on hand. Firstech's backhoe operator unceremoniously popped off the fill pipes with a simple stroke of the hoe's shovel, which provided an opening to start the cut. He then manned the saw, cutting an oval opening large enough for a man to fit into, with some room to spare.

And yes, a man did go into that tank.

After donning a protective suit and mask, boots and gloves, a field technician gingerly stepped into tank and knelt in the dark sludge. After scooping out what he could with a dustpan and putting the sludge into containers that will be removed by Firstech, he then wiped the inside bottom of the tank with absorbent pads until it was dry. The idea is that no oil will spill from the tank after removal or during the removal process. That less than enticing job done, the field technician stepped out of the tank and the supervisor then plunged the backhoe shovel into the opening and pulled the tank out in one stroke.

After the tank is removed and set aside (on plastic sheeting), the soil underneath the tank is examined closely. If there is ground water present, as there was in this case, the town inspectors will look for telltale signs of rainbows forming on the surface, a sure indicator of oil. Dark soil and the obvious odor are other signs.

The tank is rolled onto its side and the bottom is scraped clean so the surface can be inspected. This was an unprotected steel tank that had been sitting in ground water for several decades. Firstech says underground water can increase the corrosion rate of a UST tenfold. Also, there was no secondary containment, so extra care must be taken to assure no oil leaked.

This particular tank did show signs of leaking. Two holes near the top had opened, and possibly some leakage had occurred at one of the seams. With evidence of oil in the water, and two pencil sized holes in the tank, the town inspector will undoubtedly reject the site.

When rejected, the excavation, minus the tank (which is wrapped in plastic and removed), is filled with clean soil. While it might make sense to leave the hole open for future testing, it becomes a safety hazard to people and pets. The hole is filled and the next step in the process, remediation, begins.

Cleanup is required and the homeowner is required to address the environmental concerns. In many cases, insurance coverage is available through policies like ProGuard or homeowner's insurance. There is also financial assistance available for site cleanup from the State for qualified people, although authority switches to NJ Department of Environmental Protection (from the Economic Development Authority) and Firstech is able to assist in the paperwork and application process for this funding too. For more information, try this website: http://www.nj.gov/dep/srp/publications/brochures/homeowner/.

In any case, the idea is to remove all contaminated soil and to test the area until the DEP says no further action is required.

Incidentally, even above-ground tanks must be cut open and swabbed out when removed. That way, when discarded or destroyed, there is no issue with leaking oil. As far as the arrangement goes, Finley Oil could have done the tank removal, but quickly realized that there are experts in this area. And the customers, while not happy with the situation, are at least in good hands when it comes to getting the help they need. This is an example of a successful symbiotic relationship.

Oh, and how can one argue with the name of Firstech's website? www.askusfirst.com. Sounds like a pretty good idea. ❑