

If the legislation becomes law, New York would become the third state, after Minnesota and Wisconsin, to require winter burials, according to the National Conference of State Legislatures.

Graceland's caretaker, Bob Curtis Jr., said he used a "frost dome," a tin structure that is heated by propane, to soften the earth in the winter. But in states like Minnesota and Wisconsin, state law requires them to dig graves amid the harsh winters.

Thankfully, technology makes it less back breaking to dig through the top layers of frozen soil. At a cemetery in Henning, Minn., gravedigging brothers Matt and Andrew Goeden use jackhammers powered by an air compressor to break through the frozen soil, which can often go as far as four feet deep.

"We do about a foot of frost an hour with the jackhammer, but the more frost there is, the longer it takes. Four feet doesn't take four hours, it takes more like six hours," Matt Goeden explained in a [2014 CNN segment](#).



Brothers Matt and Andrew Goeden dig graves with jackhammers and backhoes in Henning, Minn. Photo courtesy of CNN.

Sometimes they use a little non-mechanical help in the form of a heater. "Light a couple bags of Kingsford charcoal, put a couple pieces of plywood over the top and come back the next day. Make a little oven out of it and that'll knock the rest of the frost out of it," Matt said.

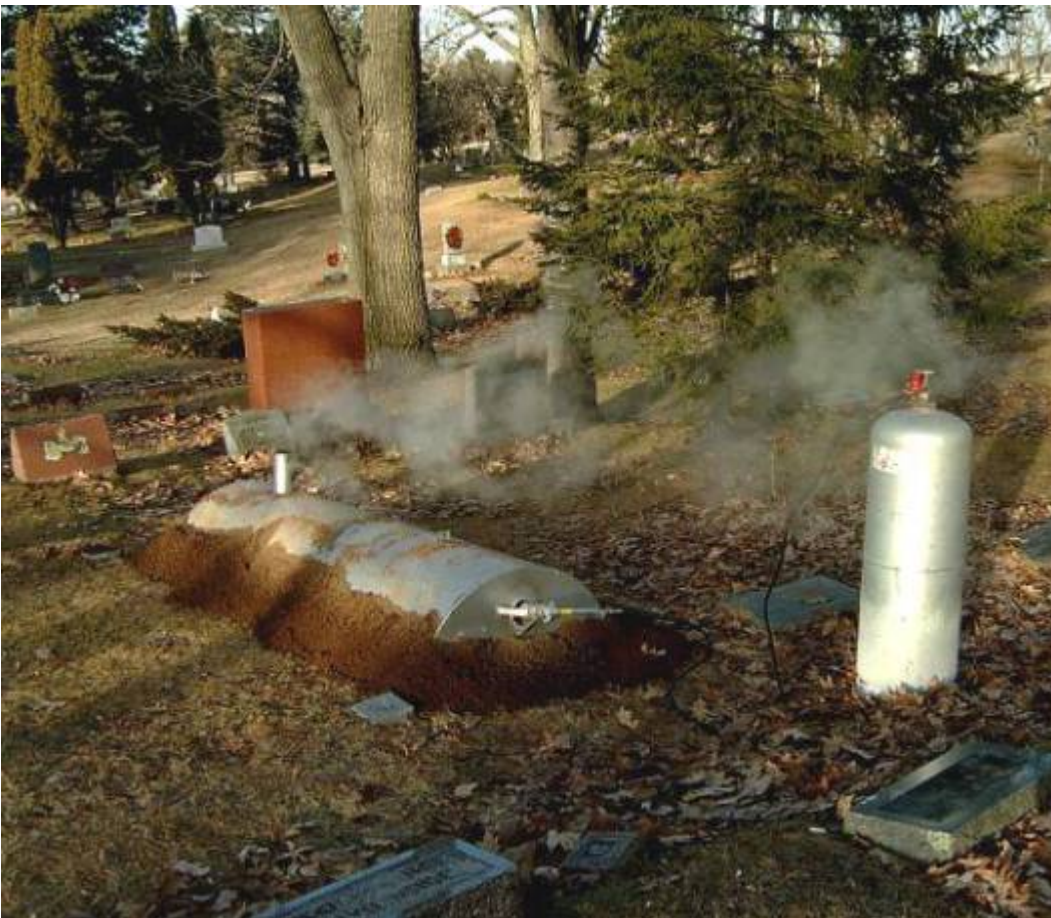
Backhoes also do the lion's share of winter grave digging. At Highland Memorial Park Cemetery in New Berlin, Wis., E. Glenn Porter III's crews take a different tack. They fit the bucket of a backhoe with a pair of "frost teeth" — curved metal arms several feet long with carbide tips that, combined with the power and leverage of the backhoe, are strong enough to break the frozen ground.

"The width of the teeth is exactly the width of our grave, so I can set up once and then just dig along the long dimension of a grave until I get below the frost," Porter said. "I also cut across the short direction twice, just so that I get smaller pieces ... to break out."



Cory Lidwin (left) and Rick Budnick use “frost teeth” attached to a backhoe while digging a grave at Highland Memorial Park Cemetery in New Berlin, Wis. Photo by Mark Hoffman, *Milwaukee Wisconsin Journal Sentinel*.

One of the more recent innovations in winter grave digging is the ground thawer. They resemble oil barrels cut in half lengthwise, then fitted with smokestacks and a hole for a torch. You place the barrel open-end down over the grave site, insert a propane-powered torch and pump heat into the dome. When you return 24 to 30 hours later, you can then scoop out the now-soft dirt with a backhoe.



This is an example of a grave thawer that resembles an oil barrel. Propane is used to heat the barrel which in turns, thaws the ground to make it easier to dig.

A more sophisticated version is made by [ThawDawg](#) and sold through Ground Specialties, Inc. based in Milaca, Minn. It, too, operates via propane tanks. ThawDawg's website states these units can fit in the back of a truck and be set up/taken down by one person. I could not find a cost online for them.



The ThawDawg ground warmer can fit into tight spaces that a backhoe cannot, preparing the frozen soil for easier digging. Photo courtesy of Ground Specialties, Inc.

Finally, ground thawing blankets are also becoming popular with cemetery grave diggers. You can lay it on top of the ground, plug it into an electrical source or gas generator then let it do the work. This type of ground thawing blanket is also used in the construction industry.

In Creston, Iowa, [Graceland Cemetery's superintendent Bruce Hodge](#) is a fan of them, having used the barrel thawers in the past. "You get the wind blowing with that LP burner and it'd blow it out," said Hodge. "I just decided there had to be a better way."

To make the dirt soft enough to dig, the blanket usually has to remain on one plot for 12 to 18 hours, depending on how deep the frost is. It can thaw approximately 10 inches deep every four or five hours, if conditions are favorable.



Graceland Cemetery superintendent Bruce Hodge uses a ground thawing blanket, powered by a generator, to soften the frozen soil to dig a grave. Photo courtesy of the *Creston News Advertiser*.

RapidTHAW sells a 4.5 foot by 15-foot ground thawing 110-volt [outdoor electric blanket](#) for \$685.00. Larger ones can sell for over \$1,000 depending on the size. Cemetery crews are finding these blankets to be a less cumbersome and more fuel efficient option.

So whether you choose a jackhammer, “frost teeth” or an outdoor electric blanket, grave digging through hard winter soil isn’t quite as difficult for the “frozen chosen” as it used to be.



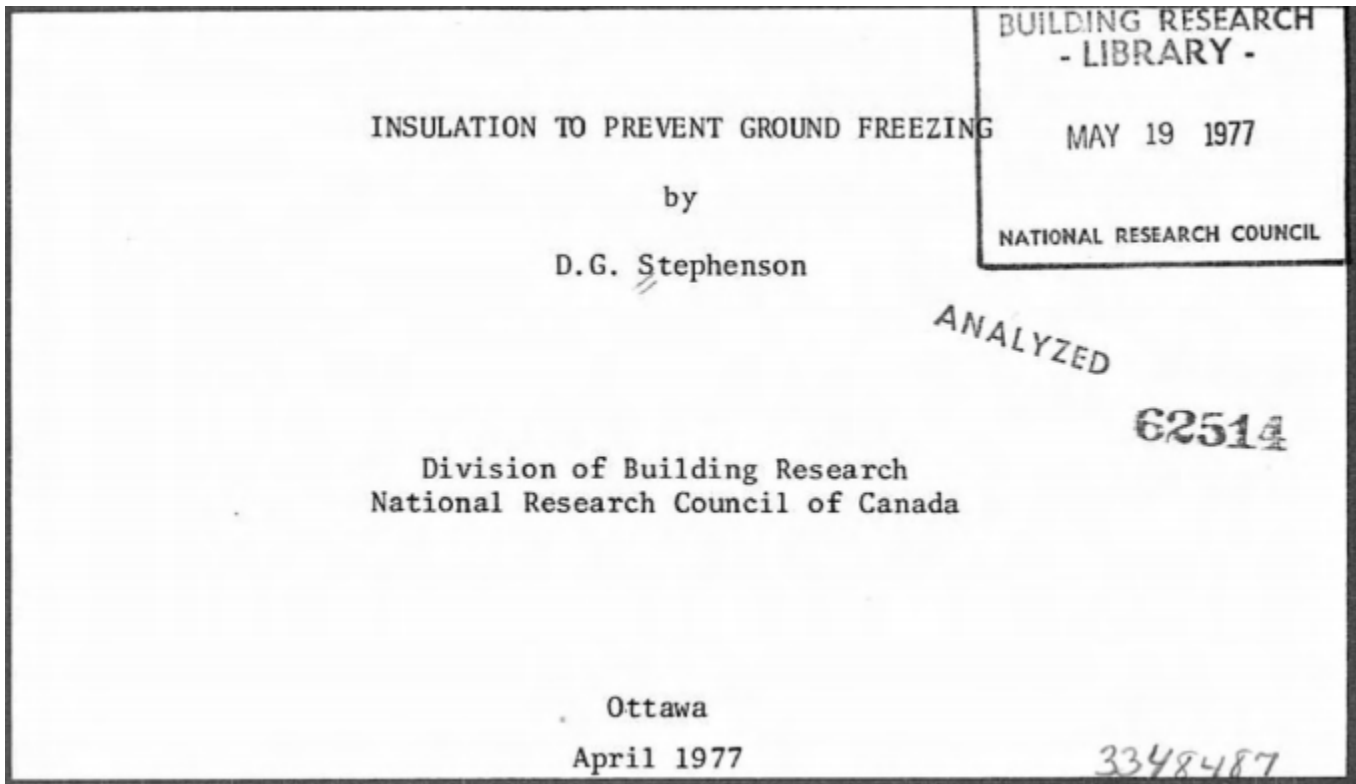
[P.D. Baker Ltd.](#) in Ontario, Canada uses a John Deere 110 TLB (tractor/loader/backhoe) and Pro-Gator to maneuver through tight cemetery spaces.

[Sheboygan, Wisconsin](#), cemetery caretaker Tiffanie Butzen commented that the frost line was three to four feet deep, which makes digging graves difficult. Wisconsin cemeteries, however, are still encouraged to dig through the frozen ground pursuant to Wisconsin Statute § 157.114, which states that a “cemetery authority shall, insofar as practicable, provide for burials during each season, including winter.”

Thus, cemeteries in cities like Sheboygan employ a variety of tactics, including jackhammers, to dig graves in winter. Another method is to thaw the ground overnight using bags of charcoal or propane torches. These extra measures, of course, make funerals more expensive. Wisconsin Statute § 157.114 also states that “nothing in this subsection may be construed to prohibit a cemetery authority from charging a reasonable fee to recover the costs related to providing for a burial during difficult weather conditions

<https://www.powerblanket.com/grave-digging-ground-thawing/>

Another generalization can be made. The insulation should be applied when the heat content of the ground is at its annual maximum. This is usually the later part of August. If the insulation is applied this early the To will usually be greater than the 40°F assumed in the example. In fact, 2 ft of straw applied at the end of August would probably be adequate to keep the ground unfrozen in those parts of Canada where the minimum mean monthly temperature is the order of -20”~.



John Farrier • Saturday, January 18, 2014 at 12:00 AM • 3



(Photo: Amy Buster/Dakota County Star)

How do you dig a 6-foot deep grave when the ground is frozen? You use this device: a [grave defroster](#).

Dakota City, Nebraska recently purchased the one you see pictured above. Kurt Peterson, the Maintenance Manager for the city, is squatting next to it. He explained to the *Dakota County Star* that before he had this device, exhuming graves during the winter required the use of a backhoe and a jackhammer as well as 4-5 hours of labor.

Now digging up a grave is a simpler process. The grave defroster is a double-walled steel chamber. Fill it with charcoal and burn it for a full day. The ground will then be thawed enough for digging.

If you want one for your own personal use, it will cost about \$1100-1200. So start saving your pennies.

Kurt Peterson, Maintenance Supervisor for Dakota City, reported during last week's Dakota City Council meeting that the city had purchased a grave defroster for use at the cemetery.

"The purchase of a grave defroster saved us a lot of work," reported Peterson. Up until three and a half months ago when he was hired, when the city needed to dig up a grave and there was solid frost in the ground, they used either the backhoe or the jackhammer to break up the ground and dig up a grave.

"Using a jack hammer meant you had a man out there chipping away at the frozen ground for at least four or five hours before you could easily dig a grave," reported Peterson. With the use of the grave defroster, a grave can be dug in an hour.

"Not only do we save on the labor cost, but then it also takes out all of the liability in the equation. Using a jack hammer there is always the risk of an injury, using the grave defroster eliminates that," said Peterson.

The grave defroster is approximately 8 feet long, and 4 feet wide. It is double walled steel construction, insulated between the two walls.

"We surround it with sand to secure the charcoal stays inside and no risk of a grass fire," said Peterson.

It is then filled with 100 to 120 pounds of charcoal, lit, sealed, and then left for a period of 24 hours or so. Once that time has passed, one man can easily dig the grave within an hour's time. Propane can also be used to heat the unit, in which case a 100-pound cylinder would be used. However, with the cylinder, it burns at a higher temperature and requires supervision. The cost, at the present time, is also significantly more for propane than charcoal.

For the past three and a half months, Peterson was using a grave defroster loaned to the city for no cost from Sioux City.

"Normally one unit costs between \$1100 and \$1200 dollars. However, we were able to get this unit at a discounted cost," reported Peterson.

The unit had been previously owned, but was dented in the shipping process. The dent did nothing to effect the integrity of the unit, however, the owners returned the unit to the company for a replacement. Due to the dent, the company lowered the cost to \$700 for the unit, and that included shipping.

“We don’t make any money using the defroster. The charges that will occur on a funeral bill are strictly the amounts of money it costs us to run it to warm the ground for a grave,” said Peterson. That cost is \$110.

<https://www.youtube.com/watch?v=TaseG1-ceTc> Youtube video of metal burner