Refusing to Cut Corners

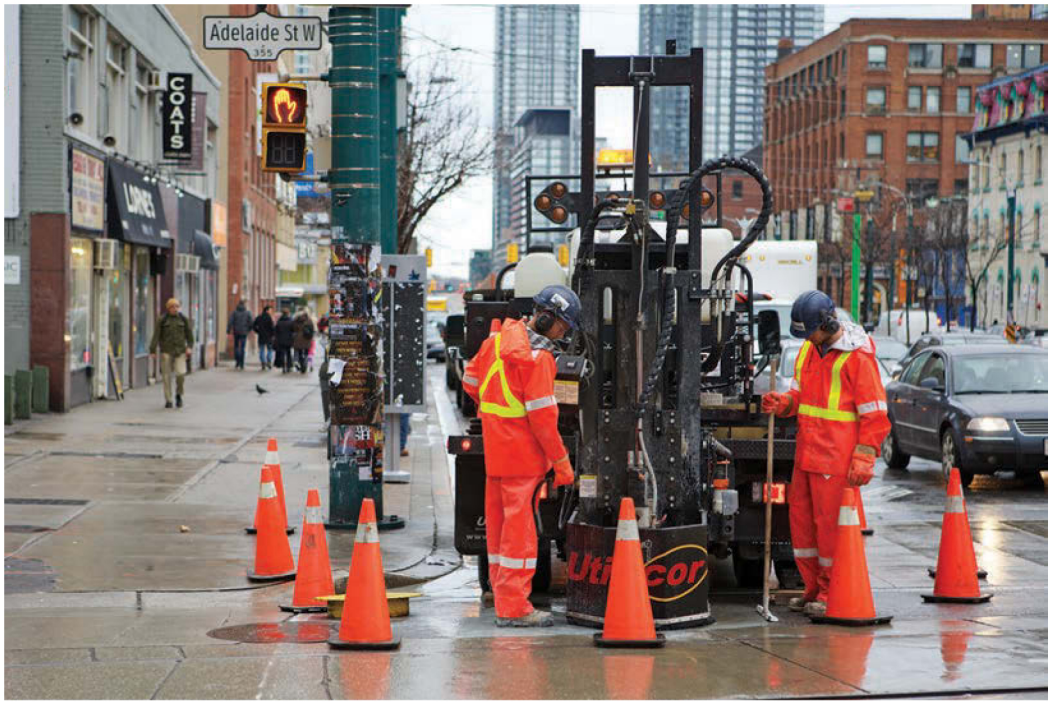
ONTARIO HYDROEXCAVATION CONTRACTOR RIDS SELF OF TRADITIONAL PAVEMENT CUTTERS

BY MARSHALL POLLOCK

Super Sucker Hydro Vac Service, a hydroexcavation contractor with locations across southern and southwest Ontario, has always had a focus on safety for its employees.

"Safety has always been job No. 1 for our company and for our employees," says Dan Bartels, operations manager for the company. "The hydrovac process has been proven to be safer for the buried infrastructure we locate. However, conventional methods of hard-surface excavation have become a safety concern for our employees. We needed to find a better, smarter, safer way to perform pavement cuts."

Conventional pavement cutting tools like concrete saws, jackhammers, pavement breakers and backhoes can bring peripheral damage to the roadway, sunken temporary patches, greater delay and inconvenience to the traveling public, and pavement utility cuts that sink or crack and never heal.



Super Sucker Hydro Vac Service of Ontario uses a Utilicor keyhole coring drill to cut an 18-inch-diameter core from the roadway in order to perform hydroexcavation duties.

KEYHOLE CORING

But worker safety is the most important issue. More than half of the injuries to construction workers are musculoskeletal disorders, or repetitive stress injuries to the hand, wrist, arm, elbow, shoulder and back. This is a real concern for employees tasked with breaking out utility cuts using a jackhammer that may often weigh 90 pounds.

For hydroexcavation operators, cutting through pavement is a necessary evil all of them regularly face. Super Sucker used to contract out pavement saw cutting to those who specialize in this type of service.

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"These traditional methods of pavement removal and repair were just not working for us," Bartels says. "The subcontractor was completing only half the job. The physically demanding work of jacking out the pavement was left to our crews, and I can tell you nobody was putting their hand up to be on the wrong side of those jackhammers. That's when we added keyhole coring and reinstatement to our suite of services."

The contractor called in Utilicor Technologies, a manufacturer of keyhole coring equipment, to demonstrate the keyhole coring process.

"They cut four 18-inch-diameter cores, 12 inches deep, through composite pavement in less than an hour," says Bartels. "Doing it the way we used to could take us all day and involve a huge amount of manpower and equipment, not to mention the wear and tear on the backs of our employees. Now, in less than an hour, we had completed four pavement cuts with four perfect cores sitting at the side of the road, and were able to get down to our real work of vacuum excavation to expose the buried infrastructure. We were impressed, and our customer was too."

THE PROCESS

With a purpose-built, hydraulically driven coring unit, the keyhole coring process became simpler, easier and safer for the worker. After the core has been cut to the full depth of the pavement (up to 22 inches deep), it is safely removed from the roadway using a special core puller tool and set aside.

Hydroexcavation follows to expose the buried infrastructure, allowing the underground work to be safely performed from the surface of the road.

"Today, keyhole coring and reinstatement is seen as a smarter, safer, environmentally friendly and more cost-effective way of performing and repairing utility cuts," says Colin Donoahue, vice president of field operations for Utilicor. "Because it is faster than other methods, it makes business sense to hydrovac utility contractors who are always operating under time and pres-

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sure from both the client and the municipality, anxious to get the job done quickly and anxious to reopen the road for traffic. And from a safety perspective, it saves the worker from unnecessary repetitive strain injuries and saves the road from being damaged. It is a true win-win technology."

But the real magic, according to Bartels, was the realization that they could repair the utility cut by reinstating the core, and that repair was both permanent and final.

"Reinstating the same core back into the roadway was the icing on the cake for us," Bartels says. "In the past, we had to babysit the temporary patches we installed — inevitably getting callbacks at the most inopportune times. Crews would need to be dispatched to add another load of cold patch. Core reinstatement put an end to that problem."

With keyhole coring and reinstatement, after the underground work has been completed and the hole backfilled to the base of the pavement, that same core of pavement can be permanently bonded back into the roadway with a specially designed, super-strong, fast-setting bonding compound that will support a wheel load five times greater than the AASHTO Standard, and allow the road to be safely reopened to traffic in just 30 minutes after the core has been reinstated.

The reinstated core is a permanent waterproof repair that matches the existing pavement and results in a paved surface that, in just minutes, has been restored to its original, pre-excavation, design-load carrying capacity.

An 18-inch-diameter core is extracted from the roadway by a Utilicor keyhole coring drill at a hydroexcavation job site.

THE ADVANTAGES

For the contractor, the advantages of coring and reinstatement are almost too numerous to mention. No callbacks for sunken patches. No trip-and-fall hazards for pedestrians. No tooth-jarring potholes for vehicular traffic. No punitive charges for paving cutbacks or slurry treatments, and all of this accomplished by an environmentally friendly utility construction practice that boasts a carbon footprint up to 12 times lower than conventional methods.

Add to these a work process that is safer for employees and has minimal pavement restoration cost, as well as shorter road closures for positive community relationships, and you have a construction process that makes sense for everyone — and dollars for the utility contractor.

ABOUT THE AUTHOR

Marshall Pollock is the president and CEO of Utilicor Technologies.