



Dig Fast, Dig Easy, Dig Safe

## HYDRO-EXCAVATION



Dig Fast, Dig Easy, Dig Safe

### What is Hydro-Excavation?

Hydro-excavation is a non-mechanical and non-destructive process combining pressurized water and high flow air to excavate at a controlled rate. This process allows for quick, clean & precise excavations which require less backfill, labor force, restoration, & environmental impact than conventional excavating methods.



### Safety First

While working on the job-site, safety is the top priority for the community, client, and the contractor. Implementing safe practices protects the employees and the public from injury and death. There are many disadvantages to not following safe operational practices. These include a loss of resources such as equipment damage, as well as time in reporting the accident, and avoidable cost. Additionally, the contractor is burdened with increased insurance costs and irrevocable damage to the reputation of the company.

As mentioned earlier, **GE Mechanical's** hydro-excavation processes can safely and confidently reveal buried utilities. Therefore, the general public will not experience avoidable power outages because of accidental line damage. Furthermore, gas lines are protected and emergency evacuations are virtually eliminated.

Proper excavating around utility lines is beneficial for the community, the client, and the contractor. Consequently, it is quickly becoming the preferred method by utility operators. Since the operator's are working with dangerous utility lines, serious injury and death is a major concern. However, through hydro-excavating processes, the safety of the operator is vastly improved as he or she can work on the surface out of the excavated hole. For that reason, accidental trench cave-ins are virtually eliminated.

### Access Remote Locations

Hydro-excavating is unique in that remote locations do not present a problem when excavating. **GE Mechanical's Vector** services allow for proper excavating when conventional excavating equipment cannot access the construction site. This can be accomplished through the extendable rubber hose, which allows **GE Mechanical** to work over one hundred feet away from the Vector itself. Furthermore, excavating inside a building or under a structure is no longer an issue.

The vacuum hose and pressurized water gun can complete this task leaving a non-existing footprint with no spoils to remove.

## Cost-Benefit Analysis

This table provides a cost-benefit analysis comparing conventional excavation means to hydro-excavation.\*

### Option 1: Conventional method

Open hole with sloped sides to allow for legal hand digging for exposure of utility.

Operation	Time	Cubic Yards	No. in Crew	Amount
Unchain, unload & stage equipment	0.5 hr.			
Uncover utility	3 hrs.	13.3	4	
Backhoe, Dump truck				
Backfill (compacted)	2 hrs.	12.1		
Restoration (196 sq. ft.)	1.5 hrs.			
Reload equipment	0.5 hr.			
<b>Totals</b>	<b>7.5 hrs.</b>	<b>25.4</b>		

### Option 2: Hydro-excavation method

Open hole for exposure of utility. There's no need to slope the sides, because this process keeps workers on the surface, not in the excavation.

Operation	Time	Cubic Yards	No. in Crew	Amount
Park truck, turn on vacuum & water	5 min.			
Uncover utility	0.5 hr.	0.9	2	
Hydro-excavator				
Backfill (compacted)	25 min.	0.9		
Restoration (sod was cut & peeled back at start of excavating)	1.5 hrs.	1.2		
<b>Totals</b>	<b>2.5 hrs.</b>	<b>3</b>		

\*Tables provide time, labor and cost savings between the different methods. The Option 1 crew will likely be occupied onsite almost all day, while Option 2's crew has time for multiple jobs in one day.

\*Source: www.federalssignal.com

After analyzing both methods, it can be seen that a total of **5 hours** were saved while on this particular job. Additionally, there was over 22 cubic yards difference in the amount of soil used to excavate and fill the site.\*

Hydro-excavation is **safe, smart, and reliable** allowing for **"surgeon like" accuracy**. **GE Mechanical** will remove only the material necessary for the inspection or repair.

**GE Mechanical** offers **emergency Hydro-Excavation** services that are available **24 hours a day, 365 days per year!**

