

Innovative Service Location on the A46

Problem: How to safely expose live services passing under and around trees, fence posts and other obstructions?

The problem of safely exposing live services has been exacerbated on the A46 Newark to Widmerpool Improvement Project with a significant number of trees, posts, columns etc being found to have been planted or erected over or next to existing services.

The photograph below for example shows several services passing through a tree's root system. Even with a permit to dig in place and the use of insulated tools, safe digging practices and briefings, there remains a significant risk of services being struck in these situations and the resultant potential for serious harm, interruption or financial impacts.

Such obstructions have not only made 'access' to the services difficult, they have also altered the direction and depth of some of them giving a false impression to those undertaking the excavation work i.e. seeing the located depth and direction one side of an obstruction and assuming it will be same on the other side.



Solution: Use a Vacuum!!

Various types of vacuum excavators are available for varying conditions, locations and applications, however in simple terms the services are exposed by using either pressurised water or air to agitate the ground and a vacuum suction pipe to suck up the soil/ground into a disposal unit.

The photo below shows the water agitation method being used on the project. The actual vacuum excavator itself is trailer mounted meaning it can be towed easily to the various site locations. The results of its use on the project to date have been extremely positive.



Benefits of Vacuum Excavation

Ultimately, it significantly reduces the risk to operatives as there is no 'direct' interface with the services themselves i.e. with a shovel or other tool.

It also significantly reduces potential costs of damaging services during trial hole and subsequent excavation work & the associated costs of repairs, loss of services to local communities and businesses and impact to the company's reputation.

There are also several other potential 'non-service related' uses - for example exploration work, trenching applications and tree transplanting, that could be programmed in to maximise its effectiveness.

The removed spoil can also be stockpiled for re-use and depending on the particular location can reduce the need for additional plant and manpower to locate services and relocate spoil.