

# Underground Mapping Services



**Locate.Trace.Identify**



## Profind Surveys -

Specialist in-house utilities division uses the latest technology to trace, identify and map all underground utilities and service routes including gas, water, telecoms, electricity and drainage.



Dale Taylor - 07508128346  
Jamie Mills - 07949093941



[www.Profindsurveysltd.co.uk](http://www.Profindsurveysltd.co.uk)



[info@profindsurveysltd.co.uk](mailto:info@profindsurveysltd.co.uk)



# Welcome to Profind Surveys

## Why choose us ?

- **Innovation at the Core:** We are pioneers in integrating the latest surveying technologies and methodologies to provide cutting-edge solutions.
- **Tailored Solutions:** Understanding that each project is unique, we offer customised solutions designed to meet the specific needs and challenges of your project.
- **Unwavering Quality:** Our commitment to excellence is reflected in our meticulous attention to detail, ensuring high-quality results that you can trust.
- **Experienced Professionals:** Our team of experts brings together decades of experience across a wide range of surveying disciplines, offering unmatched expertise and professionalism.







# Ground Penetrating Radar (GPR) Surveys

At Profind Surveys, we harness cutting-edge Ground Penetrating Radar (GPR) technology to offer unparalleled utilities mapping services. GPR allows us to discover and map underground utilities and features, providing a comprehensive view beneath the surface.



# Why we use GPR

**Versatile Detection:** GPR is incredibly effective at locating a wide range of underground objects, including non-metallic items and complex structures, that other methods might miss.

**Advanced Analysis:** We use sophisticated software to analyse GPR data, enhancing the clarity and detail of our findings. This ensures we can identify and map everything from service lines to hidden voids with precision.

**2D Modelling:** Our capability extends to converting GPR data directly into detailed 2D models. This integration with AutoCAD and BIM technologies allows for seamless planning and design processes, accommodating the needs of modern construction and infrastructure projects.





# Common Misconceptions & Limitations

There is a widespread belief that all underground pipes, cables, and ducts can be identified and mapped, regardless of size, duty, depth, location, material type, geology, or proximity to other utilities. A well-designed and conducted survey should detect up to 95% of utilities, while 100% detection may not be practicable. Frequently, the environment is not optimal for GPR because the soil or ground conditions are inappropriate. Furthermore, the GPR cannot detect some services because they are too small and too deeply buried.





# Electromagnetic locators (EML)

EML technique works by immediately connecting to an asset at a valve pit and following the signal down the pipe's course.

Low voltage electrical routes are traced by connecting to a surface feature, such as a lamppost, or by clamping the cable in an inspection chamber and tracing the signal along its course. Once all known services have been identified, the location is searched for any conductivity anomalies. These unrecorded abnormalities are then discovered and included to complete the survey.

Because the EML signal might be drawn to other services, this method performs best when the density of services is low. Although the specific location of a service is not always known, its presence is recognised and should be considered for future planned works.



- Accurately map routes of underground metallic, water and gas pipes, cable ducts and other metallic services
- Identify cable services such as telecoms, cable television and CCTV
- Where services cannot be directly connected, the transmitter can be placed on the ground directly above and a signal induced into the cable



# PAS128 UTILITY SURVEY

- Have an accurate record of existing and as-built services
- Minimise site disruption and potential delays
- Improve compliance
- Identify potential problems and avoid the risk of costly asset failures and emergency repairs
- Reduce health and safety risks
- Comply with HSE guidelines
- Mitigate the risk of utility strikes



The diversification of the utilities sector in recent years has led to increasing difficulties in unifying utilities asset information. This lack of understanding, coupled with incomplete and inaccurate statutory records, leads to many unknowns and risks. Pinpointing the exact location of utilities is vital when planning and undertaking both design and construction work. A PAS128 survey by Profind surveys provides a comprehensive understanding of infrastructure below ground.



# GS6 - Assessments for overhead cables & structures

The Suparule Cable Height Metre is a handheld tool for measuring cable sag, height, and overhead clearance, offering a safer alternative to telescopic range sticks. The Suparule Cable Height Metre uses ultrasonic waves to measure the height of overhead cables up to 23 metres (75 ft). After completing the survey and gathering all heights, we will create an evaluation document that includes all relevant information for safe working heights.





