

Impulse

Radar Services

Stanger Asia Limited can help solve your problems with hidden features and defects.

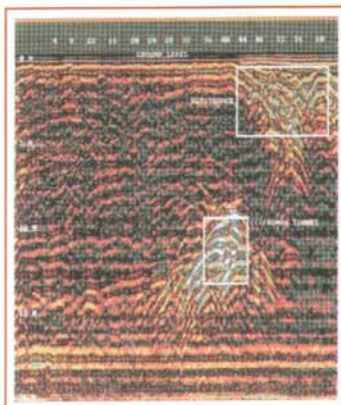
Impulse Radar is one of the many investigation tools which we can utilise to solve your problems. Impulse Radar gives a continuous trace of subsurface interfaces and once correlated with data from conventional techniques, can be used to provide a profile plot of hidden features underground, in buildings and structures.

Stanger Asia Limited is frequently commissioned to perform structural examinations, diagnose building defects, and to investigate both fresh field and contaminated sites.

These tasks can now be performed much more rapidly, efficiently, and comprehensively due to the addition of impulse radar technology to our already extensive armoury of analytical tools.

The use of impulse radar can allow significant cost savings to be made on many investigations where the alternatives involve extensive sampling, coring or excavation.

Utility Detection



Do you need to locate

- Buried objects and structures
- Underground utilities
- Moisture
- Buried waste
- Cracking and voids
- Concrete reinforcement
- Fixings
- Hidden services

Do you need to investigate

- Subsurface strata
- Geotechnical features
- Moisture ingress
- Pavement thickness
- Construction details
- Condition / Deterioration / Structural defects

GEOTECHNICAL SURVEYS

The location of

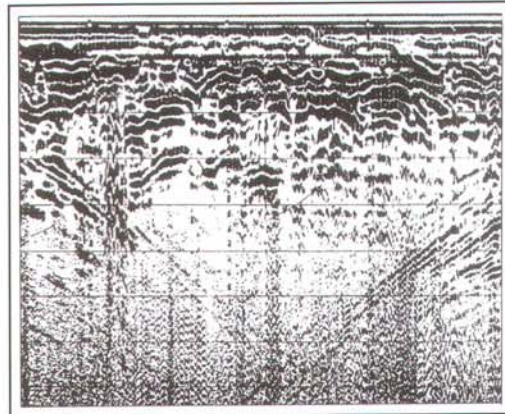
- ◆ Subsurface Voids
- ◆ Hydrological Features
- ◆ Swallow Holes
- ◆ Buried Waste
- ◆ Old Underground Excavations and workings

The mapping of

- ◆ Subsurface strata
- ◆ Bedrock
- ◆ Subsidence
- ◆ Subsurface solution features

When geotechnical investigations to determine strata, groundwater levels, bedrock etc are being carried out using conventional borehole or trial pit methods, the number of excavations can be significantly reduced if the site investigation includes an impulse radar survey to map detail between pits and boreholes.

Radar scan showing dipping strata

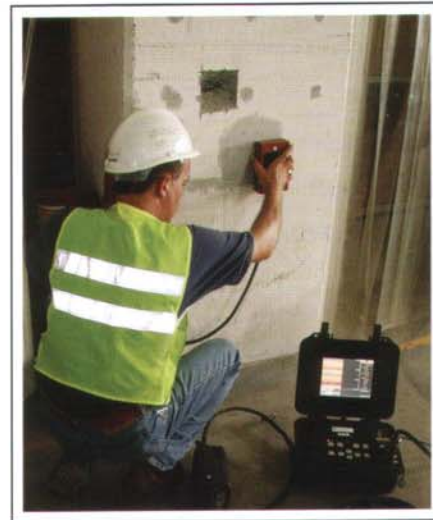


Ground Investigation by Radar



Investigation of

- ◆ Construction details
- ◆ Structural Elements
 - location
 - dimensions
 - type
- ◆ Fixings
- ◆ Condition / deterioration
- ◆ Moisture Ingress
- ◆ Structural Defects
- ◆ Failures



The work of the consulting materials engineer increasingly involves reinvestigation of buildings and structures both old and new. In the case of new constructions, it may be necessary to verify that correct practices have been adhered to or, in the case of older structures, for example during refurbishment, it may be necessary to determine the original form of construction where plans are missing. Another important area is in the investigation of the extent and causes of structural defects.

Digitized Radar Signal showing reinforcement details



Location and investigation of

- ◆ Services
- ◆ Tunnels
- ◆ Water pipes
- ◆ Gas pipes
- ◆ Electric cables
- ◆ Tanks

There are many instances when it is vital to investigate or locate the presence of underground services, buried objects or disused sub-surface structures. Previously it was only possible to detect metallic objects such as cables and steel pipes. Now using Impulse Radar, it has become possible to locate a wide variety of underground features which otherwise could only be detected by excavation.

Hidden services can, and frequently do, present the contractor and engineer with a problem. The precise location of pipes and cables on a site is often not known because no plans are available.

The presence of old cables, disused tanks, air raid shelters, shafts and tunnels can cause enormous disruption to the building programme when they are discovered during excavation or piling in what was thought to be a 'solid' ground. Such underground structures can also be a potential hazard to workmen.

The cost of damaging services during excavation can be enormous, particularly in the case of new fibre optic telephone cables. The repair of a broken electricity cable or water main will be several times the cost of a radar survey.

Example of Radar Analogue Signal

