

Structural Imaging - Radar

LandScope Engineering specialise in non destructive investigation using best available technology based primarily on ground penetrating radar to survey a wide variety of structures. With such a wide range of uses LandScope Engineering would welcome the opportunity to design a solution around your requirements.

Applications include:

- Buildings & Structures
 - Civil Structures, eg. Bridges, Swimming Pools, etc.
 - Industrial Unit Floor Slabs
 - Tunnels & Pipelines
 - Harbours & Sea Defences
- Heritage Structures
- Transportation
 - Road carriageways
 - Pedestrian footways
 - Railways
 - Airports

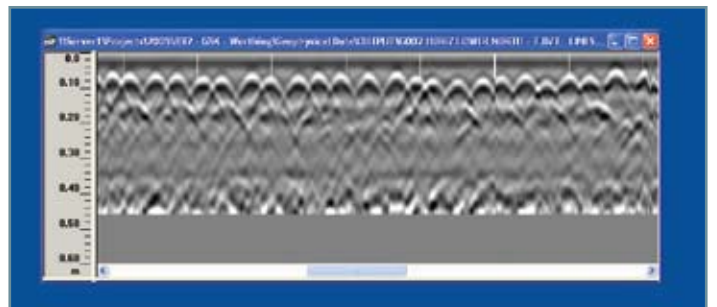
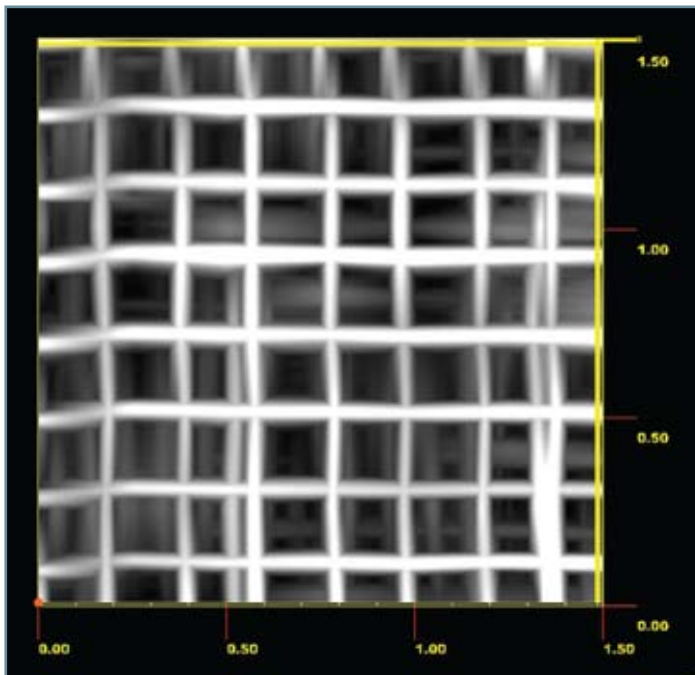


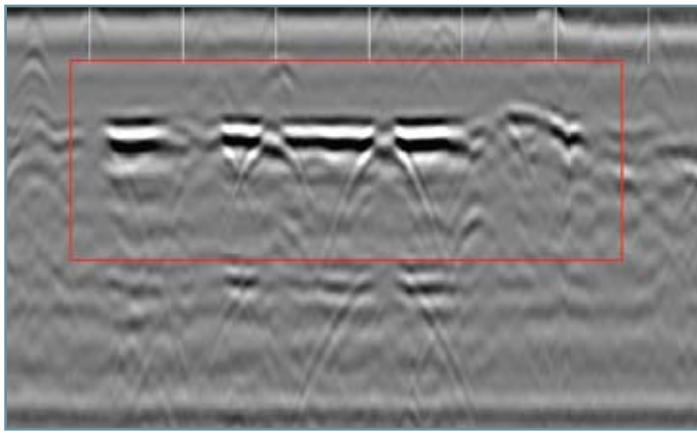
Concrete Scanning

Radar provides an exceptionally effective method of mapping elements of interest within cast concrete structures. High frequency antennae are used to provide high resolution images and measurements both within and beyond the concrete structure, including:

- Reinforcing elements, eg. rebar density
- Stitch bars and tie rods
- Slab thickness and reinforcing cover
- Voiding & honey-combing within spray cast concrete
- Ground beams & pile caps
- Voiding beneath slabs

Survey campaigns are designed to ensure the best resolution / penetration balance and an appropriate acquisition density. Reporting may be illustrated with a variety of formats including 2D & 3D Radar visualisations and 3D CAD models. The survey campaign will be custom designed to meet each customer's specification.





Void Mapping

LandScope Engineering has utilised radar to detect and map voids in a wide variety of situations including:

- Pipeline Back-fill washout
- Honeycomb voids within Spray Cast Concrete
- Harbour Walls & Sea Defences
- Subterranean Bunkers / Basements
- Brownfield Sites
- Carriageway & Pathways

Given the variation in void size and depth the selection of the correct radar antennae frequency / frequencies is of paramount importance.

Structural Investigation

Our structural imaging services utilise the latest radar technology to accurately map out a wide variety of buried and covered features. As a Non-Destructive Testing technique it is assured that no damage will be inflicted upon the structure. The signal emitted from the radar is able to penetrate a wide variety of materials including concrete, stone, tarmac, wood, and many more. There are numerous applications for which non-destructive structural imaging has become invaluable, including:

- Rebar location and mapping
- Slab thickness measurement
- Location of structural beams
- Locating hidden architectural features such as chimney flues
- Providing clearance for bore holes and drilling
- Void Mapping
- Retaining wall integrity assessment
- In-Pipe Assessment
- Tunnel Wall mapping
- River and sea defence analysis
- Ballistic mapping
- Structural element mapping



Carriageway Pavement Mapping

Surface distress in roads is a reasonable indicator of poor structural integrity however by utilising our carriageway mapping service we can provide a cost effective, nondestructive, safe and reliable evaluation for the preservation, planning and regeneration on roads. Ground penetrating radar provides the ideal tool for mapping roads and carriageways. With deployment of the GSSI RoadScan system LandScope is able to provide:

- Road thickness measurements
- Base and sub-base evaluations
- Pre-planning clearance
- Pre-planning volume estimates
- Utility and service mapping
- Void mapping

Surveys may be designed to tie in to existing coring programmes – dramatically reducing the number of cores or even removing the need for such. Our carriageway mapping service can be acquired at high speed so there is no need to close lanes or roads, less time is spent in dangerous traffic environments, and no coring is required for calibration.

Related Inserts Available

