

# CAPABILITY STATEMENT NON-DESTRUCTIVE FOUNDATION ASSESSMENT



## OUR CHALLENGE

Our extensive experience in undertaking ground investigations enables us to provide appropriate parameters for optimal foundation design.

Our geotechnical and survey teams offer a multi-disciplinary service for overhead line, rail and underground cabling projects.

## NON-DESTRUCTIVE TESTING

The extent of non-destructive testing recommended will be based upon the desk study work and techniques will include:

- Transient dynamic response, TDR (including TECO) to assess the integrity of the concrete and the foundation depth using sophisticated impedance profiling and simulation software adapted from pile integrity testing.
- BGCMap corrosion system to determine the rate of corrosion of the steel stub using linear polarisation techniques.
- Soil resistivity testing as high resistance will limit electron flow and reduce corrosion potential.
- Soil redox testing (an indicator of oxygen levels) and pH which can affect the rate of corrosion of the sub surface steelwork. High oxygen levels and acidic conditions increase corrosion potential.
- Soil chemical testing - pH, sulphates (water soluble and acid soluble), total sulphur, chloride, magnesium, ammonium, aggressive carbon dioxide and nitrate for concrete design in aggressive ground.
- Concrete testing - in situ carbonation testing to assess the penetration of potential carbonation associated with reinforcement corrosion and shrinkage.
- Concrete testing - Schmitt hammer for compression strength and visual inspection.



## OUR SERVICES

We have taken the non-destructive testing of transmission line towers in house and now offer a full range of foundation analysis:

- Structural loading
- Desk study incorporating quantified risk assessment (QRA)
- Non-destructive testing
- Intrusive inspection
- Interpretive reporting
- Foundation strengthening/upgrading design