

## UK Case Study – Birkenhead Commercial Development

This site was planned for development as a commercial warehouse and associated hard-standing areas (Loading bays and Lorry Park).

Landpac was requested to perform HEIC treatment of “External Areas” of  $\pm 4$  Ha to address concerns relating to future settlement and differential settlement under service loading of the hardstand areas surrounding the warehouse.



### In-situ Materials Description

The site was underlain by predominantly Granular Made Ground soils to a maximum depth of 11.10m bgl over Natural Soils and Bedrock of the Wilmslow Formation.

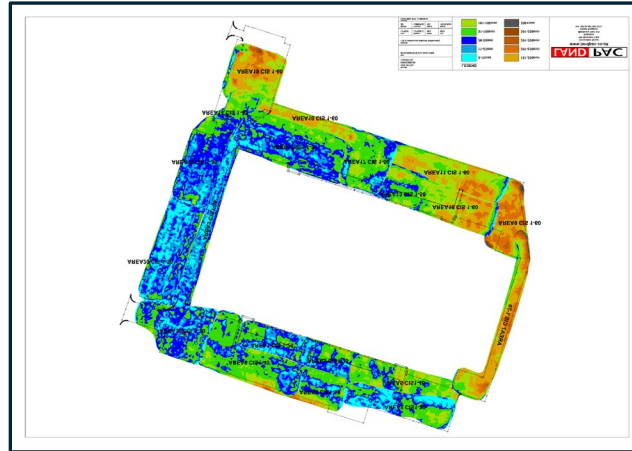
The Natural Soils were also highly variable and consisted of a mixture of Silts, Clays and Sands.

The water Table was relatively deep at >3m bgl.

### Settlement Induced by Landpac HEIC treatment

Settlement to refusal with HEIC treatment led to an **Average Settlement** across the site of  $\pm 80\text{mm}$ .

The **Differential Settlements** over the entire site varied from **10mm to > 400mm**



### Ground Improvement by Landpac HEIC treatment

Landpac HEIC treatment led to a **Homogenization and Improvement of the Ground Bearing Capacities** of the external areas and highlighted the remaining **“Soft/Weak”** areas.

