

## WELLINGBOROUGH ROAD UNDERBRIDGE, LINCOLN

### Project Description

#### The Contract

Quality Ground Investigation data was required from a steeply sloping railway embankment to enable the design of a new road bridge under the railway.

#### The Challenge

The Ground Investigation data was required from six locations on both the northern and southern aspects of a steeply sloping railway embankment. A flexible practical and cost effective approach was required to access the borehole positions. The strata beneath the embankment comprised Made Ground, alluvial sands and gravels and Charmouth Mudstone Formation. Information was required on the complete strata description, insitu testing, chemical and geotechnical testing, and long term ground water monitoring.

#### The Solution

Geotechnical Engineering mobilised the award winning P60 slope climbing rig to complete the boreholes to depths up to 25m. Traditionally the boreholes would have been formed using multiple rigs and the locations would have been accessed from multiple scaffolding platforms that are expensive, time consuming to construct, and require considerable safety considerations. Multiple rig lifts from a Hiab or crane would have also been required. By using one P60 rig, the boreholes were accessed directed and quickly from the base of the slope, and were able to efficiently relocate to the next borehole location. The P60 rig was also able to both dynamic sample and carry out insitu testing in the Made Ground and alluvial deposits, and rotary core the more competent layers of the Charmouth Formation. All samples, including undisturbed U100 samples and Class 1 core subsamples, were taken to the geotechnical laboratory for testing. Selected samples were sent to a chemical laboratory for testing.

#### The Result

Geotechnical Engineering's P60 slope climbing rig carried out 150m of drilling on the steep embankment in three weeks. The investigation was completed safely, on time and to budget, to the satisfaction of the supervising engineer and Client.

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### Project Overview

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#### **Project Name:**

Wellingborough Road  
Underbridge, Lincoln

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#### **Project Type:**

GI P60 Slope Investigation

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#### **Client Name:**

Lincolnshire County Council

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#### **Date/Duration:**

April 2014

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