

Lexdon Viaduct

COLCHESTER – UNITED KINGDOM

Dynamic measurement of railway viaduct piles movements



Above: View of the Lexdon Viaduct equipped with accelerometers

The Lexdon Viaduct is a masonry structure built over 50 years ago. Located in the North-East of London, it is part of a major railway line.

The structure is showing some weaknesses, principally with the bricks that have been affected by the dysfunction of the water outlets.

SolData Ltd was appointed by the consultancy firm White Young and Green to carry out a vibratory study of the lower part of the piles with the help of 7 low frequency 3D accelerometers connected to the GORGONE unit.

The maximum shifts, as well as the main vibratory characteristics, were continuously measured under the influence of rail traffic during 24 hours.

These recordings allowed the detection of movements 50% higher on a pile under dynamic structural loading.

This analysis will then allow the following investigations to focus on that pile and to optimize the stabilization solution.

3D accelerometer held on a pile



GORGONE acquisition unit



CONTRACTOR	WHITE YOUNG AND GREEN
PROJECT DATE	APRIL 2006
AMOUNT	10 K€
Scope of works :	
<ul style="list-style-type: none">• Study and implementation of 7 points of vibratory measurement• Real time automatic data processing• Report and graphic presentations of the results	