



Royal Albert Hall, London, UK



PROJECT SUMMARY

PROJECT NAME: Royal Albert Hall/ Student Union Cellar

PROJECT DATE: Sept 2017

CONTRACTOR : Sir Robert McAlpine

INSTRUMENTATION SPECIALIST: Sir Robert McAlpine



OVERVIEW

The Great Excavation is the grand name for plans for the Royal Albert Hall which will add an additional 1000m² of space. The project will result in the installation of a two-storey, double height basement on the south-west quadrant of the building.

The increased back-of-house space will make possible the creation of a new multi-purpose space for artists, schools and community groups, the installation of a new café area for visitors, and a new space to share rare material from the archives.

<https://www.royalalberthall.com/about-the-hall/news/2017/august/the-great-excavation-royal-albert-hall-announces-major-building-development-plans/>

Due to the works at the Royal Albert Hall, it was necessary for adjoining buildings to be monitored.

A local university Students Union cellar was monitored to ensure the excavations were not affecting it.

MONITORING

Tilt monitoring was required on the wall of the cellar adjoining the excavation site. Geosense MEMS tilt beams were installed in a 'T shape' configuration to ensure any movement of the wall was recorded.

Two sets of tilt beams were installed on both sides of the supporting wall. The tilt beams were then bussed together and connected to a single digital node above ground. The node then sent data to a gateway located in the site office.

The client and their client were very impressed with the sensors and wireless equipment.

The data was very stable and confirmed that the excavation was not affecting the parting wall.

The surveyor who has specified tilt beams was happy with the data and also the installation.

Both parties confirmed that due to the success of this project that other similar project would be specified in the same way.

PRODUCTS USED

MEMS Tilt Beams

Biaxial MEMS tilt beams used to monitor tilt on adjoining walls during excavation.

WI-SOS 480 Gateway

Central data acquisition logger fitted with SIM card to provide GPRS connection for remote access via the internet. It can be configured over air via an Android device and includes sampling intervals and sensor configuration. Data can be either downloaded directly or forwarded to any FTP address.

WI-SOS 480 Nodes

Long-range 800MHz wireless battery-powered multi-channel (1-5) node/ logger for connecting the vibrating wire piezometers to the Gateway. Easily configured using Android phone or tablet via G-LOG APP.

WI-SOS WebCentre

Website where the connectivity, health of the Gateways and Nodes can be monitored in real time. Data can be viewed, visualised and downloaded.