

Profound IS – Geotechnical Monitoring System

BAT® - system

Project: National Opera House, Norway

Project description

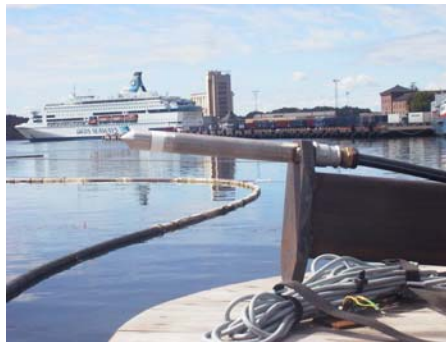
A new opera house (Nytt Operahus) is being built in Oslo. Construction began in February 2003 and will be completed by September 2008.

The opera house will have nearly 1,000 rooms and will be the workplace for over 600 people. The building is composed of three main elements: front of house, back of house and the 'roofscape'.



Ground improvement by preloading in combination with vertical drains

The new Oslo Opera is being built within the harbor basin of Oslo. In order to improve the soft clay below sea bottom, preloading was carried out in combination with vertical drains that were installed offshore from a barge.



BAT® IS-system for monitoring pore pressures and settlements

In order to monitor the preloading process a total number of twelve BAT IS-piezometers and four BAT IS-settlement pressure sensors were installed (see layout on the next page). The instruments were installed at a distance of about 200 to 250 m (650 to 850 ft) from the quay.

Client: Statsbygg

Location: Oslo, Bjørvika, Norway

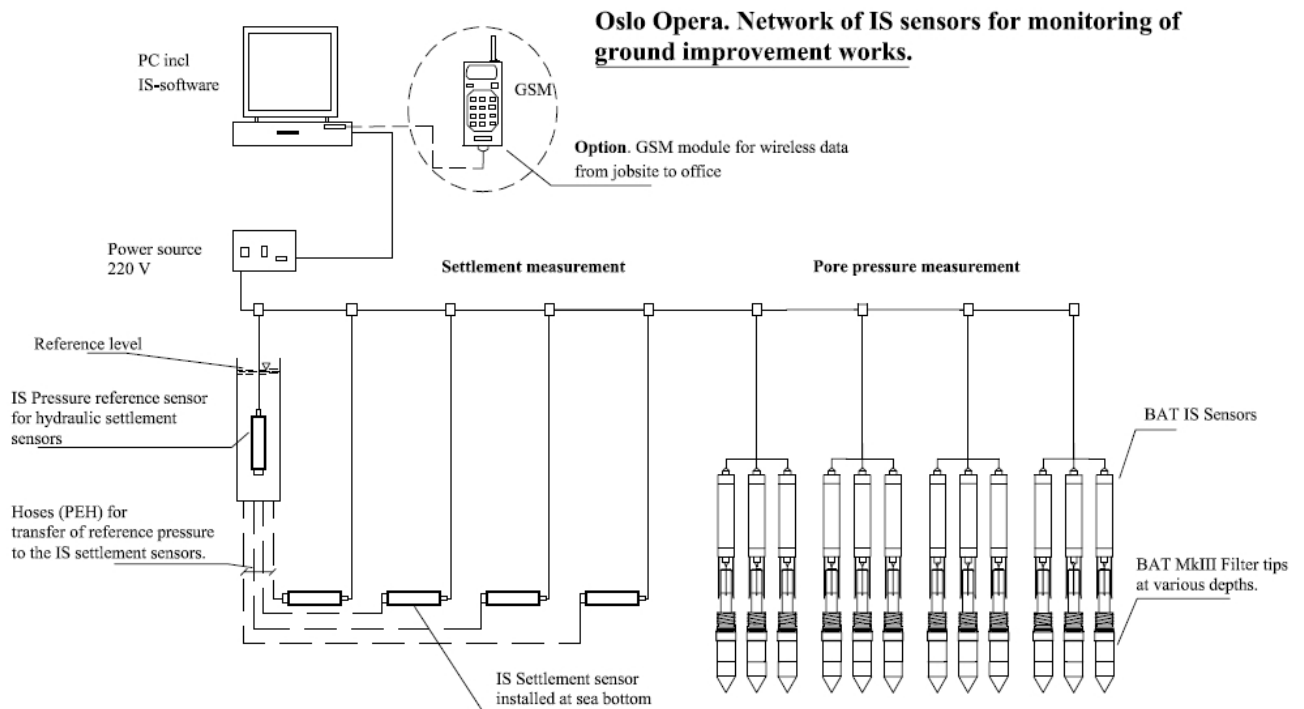
Equipment:

In total 12 BAT IS-piezometers and 4 BAT-IS settlement pressure sensors were installed. The sensors are connected to an IS-power supply and a central network PC.

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A layout of the IS-network is shown below:



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