

### Vejle Hospital, Denmark



#### PROJECT SUMMARY

NAME: Vejle Hospital New Psychiatric Facility

YEAR: July 2014 – 2017 (Ongoing)

CLIENT: Region of Southern Denmark

MAIN CONTRACTOR: MT Hojgaard A/S

INSTRUMENTATION SPECIALIST: GEO AB



#### OVERVIEW

A new Psychiatric Facility is to be built adjacent to Vejle Hospital in Vejle, Denmark. It will provide a psychiatric emergency room, a children's and youth department and about 100 psychiatric beds.

The new facility is built on a approx. 20.000 m<sup>2</sup> embankment on postglacial organic clay. The embankment is constructed as part of preparation of the building site. The filling height of approx. 4,5 m is carried out stepwise to prevent failure in the subsoil.

#### MONITORING

To speed up the consolidation process vertical drains are installed in a 3m grid and VW piezometers are installed to monitor the dissipation of porewater pressure and determine when to continue filling and to document the completion of the consolidation process.

Piezometers are installed with the CPT-rig adjacent to existing borings approx. 2 meters into the soft soil using. Settlements are monitored with plates installed next to the piezometers.

A suitable pressure range was required to avoid over range causing permanent deformation of diaphragm. The installation method including a drive in adaptor which can be made to suit various CPT rods and is retrievable. The hole was backfilled with bentonite but grout could have been used.

A monitor tab allows viewing of the piezometer during installation to ensure they are not driven in too quickly.

#### PRODUCTS USED

##### Drive in VW Piezometers

Used to monitor pore water pressures.

##### DT2011-B

A purpose-built logger ideal for remote locations or instruments that require frequent reliable data recording.

##### GEO-XR Rod Settlement Plates

Used to monitor sub-surface settlement or heave of ground.