



## Norway

### Drilling and blasting completed at Oslo wastewater treatment plant

Last May, the excavation and support works were finished for the extension of the Bekkelaget sewage treatment plant in Oslo, the first of the three contracts to expand the Bekkelaget wastewater treatment plant carried out by VAV (Oslo city's water and wastewater agency, or *Vann og Avløpsetaten* in Norwegian).

The Bekkelaget treatment plant needs expansion from the current capacity of 290,000 residents to approximately 490,000 people. The extension is built in the mountains north and south of the existing rock facility.

The three contracts are as follows:

- excavation and support carried out by **OSSA** of Spain;
- civil works (structures, concreting, etc.) carried out by AF Gruppen; and
- installations and systems to be done by Porr.

The treatment plant expansion works include the construction of seven large caverns with cross-sections varying from 300 m<sup>2</sup> to 500 m<sup>2</sup> and a total length of 1,000 linear metres as well as more than 1,500 metres of tunnels for access, transport and ventilation and shafts of different cross-sections. The caverns will be equipped with technical installations (digesters, sludge treatment, fat receptions, etc.).

All in all, more than 450,000 m<sup>3</sup> were excavated in 30 months of work, where night time working was restricted due to the urban location of the work.

The contract, worth approximately €55 million, was carried out by OSSA. The completion of these works has ensured the continuity of the second public works contract being carried out by AF Gruppen. The third installation and commissioning contract for the new treatment plant is due to be completed by 2020.



*Excavation of the Bekkelaget sewage treatment plant by drilling and blasting.*