

# REFURBISHMENT OF PÄIJÄNNE WATER TUNNEL

## Supervision of the refurbishment of the worlds' longest rock tunnel that carries water to the capital of Finland

Finland's Päijänne Water Tunnel (constructed in 1972) is the world's longest continuous rock tunnel and provides Helsinki and surrounding cities with pure water from Lake Päijänne in central Finland. Ramboll has been involved in several maintenance projects on the 120 kilometre long tunnel where an amazing amount of water (3m<sup>3</sup>/sec) flows by gravity to over a million consumers in the big cities. In 2009, we completed the supervision of an extensive renovation project of the southern part of the tunnel. This section has been reinforced with 215,000m<sup>2</sup> of shotcrete and 7,000 new rock bolts to prevent caveins and secure future operational reliability. Päijänne

water's high degree of purity means that only a simple process of purification is needed, whereas waste water, in comparison, requires complex and costly purification processes.

As the water flows by natural gravity, energy to ensure flow is not necessary.

### Value added for the customer

The water tunnel ensures clean drinking water without extensive purification systems and pumping. More than xxx households receive their water supply from this tunnel.

### Customer

Metropolitan area water Plc

### Location

Vantaa, Jokela

### Period

2007-2009

### Services provided

Water Supply, Rock Engineering, Site Supervision, Project Management

