

KURNELL SUBSTATION

MICROPILES



Client: Energy Australia
Consultant: Garde Services Pty Ltd

Contractor: Garde Services Pty Ltd
Specialist Contractor: Menard Bachy Pty Ltd

THE PROJECT

In 2009 Energy Australia were upgrading the electrical substation in Kurnell, which links the Eastern Suburbs to Kurnell Peninsula via Botany Bay. Part of this redevelopment comprised building a new substation without any closures to the grid.

MENARD BACHY'S ROLE

Menard Bachy were engaged by Garde Services Pty Ltd on behalf of Energy Australia to design and construct the footings for the proposed substation underneath the operational 132,000kV electrical cables.

The substation was located on the edge of Botany Bay in an area surrounded and influenced over time by soft mangrove deposits. The ground conditions comprised saturated loose sands, silts and shells to approximately 10m before becoming medium to dense.

The overhead electrical cables limited the foundation options for the new structures. Menard Bachy proposed to use a specialized mini drilling rig to install micropiles while continuously working under live high voltage electrical cables.

Due to the presence of saturated sands the drilling was performed using a combination of air, polymers and continually progressing the casing.

The work was completed as designed without any interruptions or stoppage to the substation's normal operations. The micropiles proved to be an ideal foundation solution for the Energy Australia's specific site constraints.