Three wind farms were proposed near Lancelin in Western Australia. A geotechnical team from Douglas Partners assisted with these developments that included five wind turbines at West Hills Farm, ten wind turbines at Anderson Wind Farm and five wind turbines at Cowalla Road Wind Farm.

Douglas Partners’ engineers provided advice and design parameters on an alternative pier foundation system (Patrick & Henderson Tensionless Pier) achieving project cost savings (25-30% less concrete used and 40-55% less steel used). Douglas Partners is committed to innovative renewable energy projects that respect the environment and benefit communities.

The results of the ground investigation, including borehole drilling, CPT and in situ testing, were used to provide advice and solutions on:

- Soil, rock and groundwater conditions;
- Geotechnical parameters for foundation design, including allowable bearing pressures, angle of internal friction, cohesions, static and dynamic soil stiffness;
- Stability analysis and estimated foundation settlement;
- Construction considerations;
- Soil resistivity for each soil type and appropriate foundation systems for the proposed turbines.

Douglas Partners carried out testing in accordance with European standards to comply with the German wind turbine design that is to be used for all three farms. Douglas Partners’ analysis was then provided to the USA team responsible for the design of the innovative P&H Pier system for the final design of the footings.

To find out more about Douglas Partners’ projects contact us on (02) 9809 0666 or email us on marketing@douglaspartners.com.au or check out the website www.douglaspartners.com.au