

## Onshore Wind Farms

Early engineering input is the most effective way for wind farm developers to control cost, risk, and project performance. At Riley, we provide high-value insights into site constructability and engineering risk, assisting your team with critical decision-making before major capital is committed.

### WHY PARTNER WITH RILEY?

Choosing the right site is the primary driver of project feasibility. Riley provides the technical basis for comparing and ranking candidate sites by leveraging our in-house civil, geotechnical, and hydrological engineering expertise:

- Extensive New Zealand Experience: 20-years of experience navigating New Zealand's unique geological landscapes across numerous wind farm projects.
- The Pre-Feasibility Assessment Framework: We understand there is a balance to be struck between project cost, risk, and performance. We leverage multi-disciplinary inputs to maximise efficiency while maintaining Best for Project outcomes.

### SCALABLE SCOPE: TAILORED TO YOUR PHASE AND BUDGET

Our scalable scope is designed to systematically de-risk technical uncertainties and produce solutions that are feasible from a geometric and geotechnical perspective. By focusing effort where it has the highest impact, we provide developers with confidence in site feasibility and construction viability.

#### A. Desktop Geotechnical Assessment

- Review of regional geology, LiDAR, and GIS datasets.
- Identification of slope stability hazards, guiding the geometric design to avoid high-risk areas.
- Evaluate the potential for on-site aggregate availability.

#### B. Concept-Level Geometric Modelling

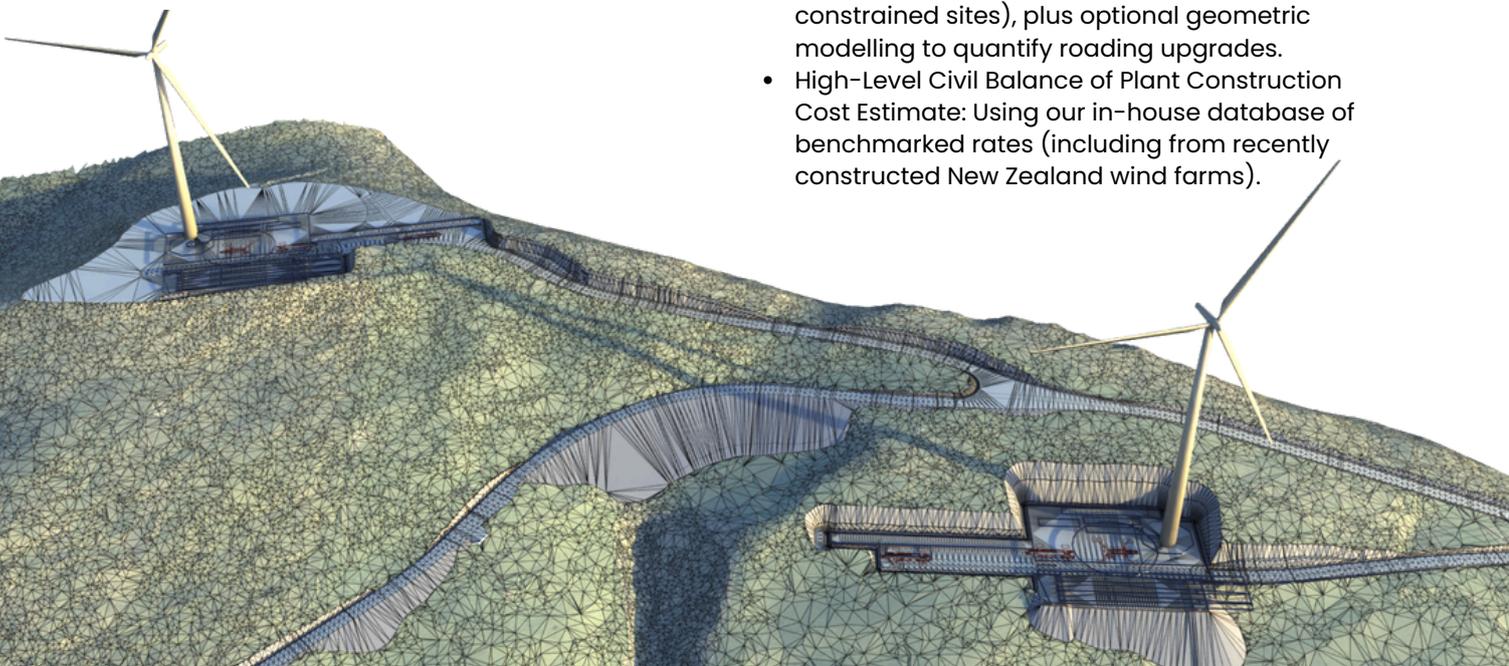
- Turbine micro siting, test platform configuration options to maximise turbine numbers whilst keeping earthwork volumes in check.
- Test the viability of access track routes and gradients to the potential turbine sites.
- Produce indicative cut/fill volumes, to allow for site-to-site comparisons.
- Integration of ecological and GIS mapping constraints, where available.

#### C. Desktop Civil Engineering and Hydrological Assessments

- Stormwater catchments, culvert needs, stream crossing identification, and indicative solutions.
- Construction water supply opportunities.
- On-site surplus fill disposal availability/feasibility.

#### D. Specialised Optional Add-Ons

- Site Inspection: Ground-truthing desktop assumptions to validate constraints and observe areas of potential ground instability.
- Turbine Construction Classification Matrix: Summarise buildability metrics for each turbine, earthworks volume and complexity, geotechnical risk profile [qualitative], and access constraints.
- Transport Route Assessment: Vehicle swept path assessment for local public roads (access-constrained sites), plus optional geometric modelling to quantify roading upgrades.
- High-Level Civil Balance of Plant Construction Cost Estimate: Using our in-house database of benchmarked rates (including from recently constructed New Zealand wind farms).



## THE RILEY DELIVERABLES

We don't just provide data; we provide clarity. Our typical output includes:

- Concise Risk Reports: Summarising geology, civil constraints, and recommended next steps.
- Professional Sketch Plans: GIS-prepared layouts illustrating geometric layout, earthwork depths, volumes, and ground slope heat maps; along with shapefiles of the design.
- High-Level-Estimate: High-level Civil Construction Cost Schedule [optional]

## DEVELOPER BENEFITS

- Fast-Tracked Decisions: Rapidly prioritise your project pipeline based on informed engineering data.
- Risk Mitigation: Identify 'fatal flaws' before committing heavy investment.
- Constructability-Led Design: Benefit from Riley's extensive history with New Zealand wind farm design and construction.

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**At Riley, we pride ourselves on being an integral part of your project. Our team is ready to provide the technical edge you need.**

### CONTACT THE RILEY RENEWABLES TEAM

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