

CASE STUDY

HARAPAKI WIND FARM ROCK BOLTING AND SLOPE STABILISATION WORKS

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INTRODUCTION

Located at the Harapaki Wind Farm along SH5 in Hawke's Bay, this project was carried out between August 2023 and November 2024 under the direction of CMW Geosciences for the client. Following the severe damage caused by Cyclone Gabrielle to the original wind farm access road slope protection, Abseil Access was appointed to undertake improvement and replacement works. Due to strong cost-effectiveness, productivity, and safety performance, additional work areas were awarded throughout the contract period.

PROCESS

The scope of work included de-vegetation, rock scaling, profiling, removal of damaged rockfall systems, and site assessment. Boulder deconstruction was completed using expanding grout, and approximately 1,500m² of damaged mesh was removed. Replacement protection systems were installed, including ±3,650m² of Macmat R mesh, ±20m² of Tecco mesh, and ±200m² of Enkamat and coconut husk matting. A total of ±4,001m of anchors (R32 and T30 via DTH and SDA drilling) and ±600 Duckbill anchors were installed, with 55 anchor tests performed up to 180kN. Hundreds of cubic metres of debris—comprising rocks, soil, and damaged materials—were removed during the process.

OUTCOME

The existing damaged protection systems were successfully restored following close consultation with CMW engineers. Despite variable ground conditions and steep site access, multiple drill rigs were effectively deployed to maintain productivity. Continuous on-site excavator and tip truck support ensured efficient material handling and post-weather cleanup. The project was completed to specification, restoring slope stability and ensuring long-term protection for the wind farm infrastructure.

