

# LOERIESFONTEIN WIND FARM

60 km from Loeriesfontein, Northern Cape, South Africa  
(Working in a sensitive desert habitat)

**PROJECT TYPE: Main civils and road infrastructure for wind farm**

**CLIENT:**  
Mainstream Renewable Energy

**PROJECT DURATION:**  
34 months

**PROJECT DESCRIPTION:**

Minimise environmental impact whilst constructing a 122 wind turbine farm in the Hantam district of the Northern Cape.

**CONTROLS:**

- Biodiversity:
  - Early access to the clients Environmental Management Plan, Water Use Licence, Mining Permits for quarries and Threatened and Protected Species Permits ensured well defined operational outcomes.
  - Early plant species survey and recovery conducted.
  - Examples of plant species recovered included *Hoodia gordonii*, *Aloinopsis luckhoffii*, *Aptosimum spinescens*, *Hermannia spinosa* and *Euphorbia muliceps* plants requiring licence for relocation.
  - Road discipline strictly enforced to minimise trampling.
- Scarce resources:
  - The project occurred during a drought in the region which dried up several water sources allocated to the project which meant extensive recycling of available water and water reuse of process water from the concrete batch plants was returned to road layer production.
- Carbon footprint:
  - The plinths were constructed using 60 MPa concrete with a design mix of 75% ground granulated corex slag (GGCS) in place of cement. This initiative reduced the construction carbon footprint from approximately 300 kg to 90, 7 kg of CO<sub>2</sub> per cubic metre concrete.

