



## Case Study

# Fryston Lane

Project: Construction of a new 132kV substation, West Yorkshire

Client: Siemens Transmission and Distribution Ltd

End User: Northern Power Grid

Services Provided: Civil Engineering  
Building Construction  
Mechanical and Electrical Design and Installation



## Summary:

Delivered the civil engineering and M&E package to enable a critical grid connection between a new multi-fuel power station and the regional electricity network.

## Scope of Works:

- Bulk earthworks and engineered fill, raising site levels to enable construction of HV substation foundations.
- Application of specialist Rolling Dynamic Compaction techniques, improving ground bearing capacity to meet structural and equipment load requirements.
- Construction of reinforced concrete foundations, cable troughs and ducting to support high-voltage transformers and associated infrastructure.
- Construction of a new brick-and-tile Control Building, including full M&E design and installation, internal finishes and drainage systems (cess tank and soakaway).
- Installation of electrified palisade fencing and concrete fence beams, providing secure site protection.
- External infrastructure works, including drainage, tarmac access roads and site finishes.

## Project complexities, simplified by Alpha:

- Significant site level raising, requiring engineered fill and specialist Rolling Dynamic Compaction (RDC) techniques to achieve the required ground bearing capacity for high-voltage infrastructure.
- Integration of civil, structural and M&E elements, ensuring seamless coordination between substation foundations, control building construction and electrical installation works.
- Delivery of critical grid infrastructure, where ground performance and construction accuracy were essential to long-term operational reliability.



## Project Outcome:

- ✓ **Delivered a stable and engineered platform** for critical 132kV infrastructure.
- ✓ **Successfully improved ground performance** using specialist compaction techniques.
- ✓ **Integrated civil and M&E works** into a single coordinated delivery package.
- ✓ Provided a **secure and fully operational** grid connection facility.
- ✓ **Enabled reliable power export** from the multi-fuel generation facility to the regional network.

