

Case study

132kV NPG Substation

Alan Wood & Partners were appointed to deliver the civil and structural design for a new 132kV grid connection for Northern Power Grid (NPG), currently under construction. The project required strict adherence to NPG specifications while ensuring resilience against environmental risks. Our team provided a fully integrated engineering solution, combining drainage, earthworks, and structural design to create a robust substation for long-term operation.

Scope of Work

- **Flood Risk Assessment & Drainage Design:** Comprehensive assessment to confirm compliance with NPG flood resilience requirements. Design of surface and foul water drainage systems to meet NPG standards and manage runoff.
- **Platform Development:** Design of earthworks for the substation platform.
- **Crane Pad Assessment:** Verified safe working areas for heavy lifting operations.
- **Foundation Design:** Structural design of foundations for AIS switchyard structures, transformer bunds, and customer switchrooms.
- **Control Room Design:** Full substructure and superstructure design for a traditionally built NPG control room.
- **Access Road Design:** Detailed design of compound access roads.
- **Switchyard Structures:** Detailed structural engineering design for AIS support structures within the switchyard.

Challenges

- Coordination with multiple stakeholders to align with strict utility specifications.
- Managing flood risk and drainage within a constrained site footprint.
- Designing for heavy equipment loads while maintaining long-term durability.

The project delivered a fully compliant, resilient substation platform and associated infrastructure, ensuring operational reliability and safety for Northern Power Grid's network.



Location:
Grimsby



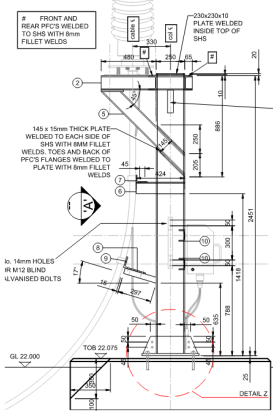
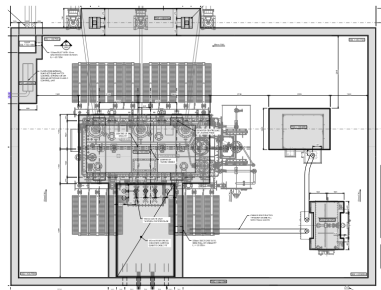
Client:
Novus Power



Architect:
Novus Power



Value:
£5m



Civil
Engineering

Structural
Engineering

Engineer/
Manage/
Deliver/