"Extremely impressed with the site and the conduct of all the people working on it. I would like to thank you all for your hard work in making the site a safe well-managed environment in which we, and all our staff, work."

Client Testimonial, Site Manager, Hitachi Energy

Case Study

Padiham

Project:	Design and construction of a new GIS Substation, Lancashire
Client:	Hitachi Energy | Electricity North West
End User:	National Grid
Services Provided:	Design - Architectural, Structural, Mechanical, Electrical Temporary Works Civil Engineering Building Construction

Alpha Construction Ltd

Summary: Delivered a technically complex facility on a highly constrained and water-affected site, maintaining programme continuity despite design uncertainty and environmental constraints.

Scope of Works:

- Design and construction of a new specialist facility, incorporating piled foundations and reinforced concrete substructure to provide a stable base suited to challenging ground conditions.
- Structural steel frame with factory-applied fire protection and composite cladding, forming a compliant and durable building envelope.
- High-security access systems, including roller shutter and personnel doors with fire-protected service penetrations to maintain operational security and compliance.
- Composite metal deck floor slab with integrated earthing system and provision for an overhead gantry crane, supporting safe electrical operation and efficient maintenance of heavy equipment.
- Specialist internal finishes, including anti-slip and acid-resistant epoxy and vinyl flooring for durability in demanding operational environments.
- External infrastructure works, including new cable ducting, drawpits, drainage systems and upgraded lighting to enhance operational functionality and long-term service reliability.

Project complexities, simplified by Alpha.

- Unstable and waterlogged ground conditions, including a high water table and an uncapped historic borehole connected to an artesian source, requiring rapid investigation and stabilisation measures.
- Design progression without confirmed cable installation details, with building layout and foundations dependent on future routes. Alpha applied grid-standard expertise and prior substation experience to maintain programme certainty.
- Complex multi-party specification and stakeholder interface, requiring coordinated design management to reconcile differing technical requirements into a single buildable solution.

- Environmental management of Himalayan Balsam, using best-practice identification, controlled removal and compliant disposal to prevent spread and protect the site.

Project Outcome:

- ✓ **Stabilised** a high-risk, water-affected site **without programme delay**.
- ✓ **Maintained delivery certainty** despite incomplete third-party design inputs.
- ✓ **Resolved** multi-party specification **complexity into a buildable solution**.
- ✓ **Protected environmental compliance** and client reputation.
- ✓ **Delivered a durable, operationally robust facility** ready for long-term performance.