

PROJECT EXPERIENCE



Ely to Peterborough (E2P)/Anglia Signal Structures Modernisation (A2SM)

Project:	Ely to Peterborough (E2P) / Anglia Signal Structures Modernisation (A2SM)
Client:	AtkinsRèalis
Project Commencement:	July 2024
Project Completion:	November 2025

Introduction:

Global Rail Construction Limited (GRCL) has successfully completed its Lineside Civils and Rail Systems sub-contract scope with Principal Contractor AtkinsRèalis and client Network Rail on the Ely to Peterborough (E2P) / Anglia Signal Structures Modernisation (A2SM) project.

The project aimed to renew life-expired signalling infrastructure but was postponed after achieving AFC design status. Whittlesea was identified as a critical area due to deteriorating infrastructure. Limited funds led to the creation of the A2SM project, which covered the following scope:

- Renew signal structures
- Modify mechanical interlocking
- Upgrade power systems
- Install new track circuits and IRJs
- Recover redundant equipment

The project objectives were achieved covering the extension of the life of existing infrastructure without service enhancements, improvement of reliability and maintainability of signalling assets, ensuring compliance with Network Rail standards and safety requirements.

GRCL's project deliverables covered the civils and rail systems scope for the renewal of signals (Whittlesea: W3, W4, W5, W23, W26; Manea: M1, M2, M3, M21, M23; March: MS933, ME8, MS32, MSA, MS1/2, MS9; Kings Lynn: KL8 including signal box and panel modifications), updating signalling scheme plans and block shelf diagrams, and delivering compact PSP installations and LV power upgrades. The team supplied all health & safety files and as-built documentation and were responsible for the recovery and disposal of redundant equipment.

Due to financial constraints, the project was split into Year 1 and Year 2 scopes of work.

A2SM - Scope of Works:

Year 1 - GRCL's works covers the following sites and consists of the following equipment upgrades:

Whittlesea:

- Mechanical interlocking testing
- New signal box diagram
- Compact PSP installation (90/40(P))
- Renewal of signals W3, W4, W5, W23, W26
- Installation of new locations (94/15, 94/24, 94/37, 94/43, 94/47, 95/45)
- URX remedial works and duct installations
- Installation of 3 pairs of new IRJs and CMS
- Hollow bearer installations across the siding at the Signal Box
- Cable installation
- Recovery of redundant equipment

March:

- In-situ foundation for ME8 GPL signal
- Concrete foundations for ground signals MS2 and MS4
- Power upgrades (1kVA & 2.5kVA transformers)
- Installation of new LV feed and cabling
- Install MSA Shunter's Post trough; half-loc base

Manea:

- Supply & Construct Single Loc Hardstanding plus BOP for Loc 80/28 and 80/35
- Supply & Construct Compact PSP 80/10 & Single Loc Hardstanding, foundation and including compound area
- LV power cable installation from DNO to PSP
- Installation of Now Cable from new PSP to FSP

Year 2 - Renewal of remaining life-expired equipment in March and Manea. Manea also included the installation of 3 pairs of new IRJs and the renewal of the signallers panel diagram in the signal box.

Technical and Engineering Requirements:

- Compliance with NR12 Lump Sum Design & Build Contract
- Integration of multi-disciplinary works (S&T, Civils, E&P)
- Use of DOORS for requirements management
- Production of V&V evidence for all requirements
- Health & Safety file as per QF703
- Engineering Management and Project Quality Plan submissions
- All new colour-light signals to be Dorman LED type
- Mechanical interlocking alterations at Whittlesea, Manea, and March
- Safety assurance delivered under CSM-RA

Challenges:

- Financial constraints requiring phased delivery
- Integration with other projects (e.g., Cambridge Resignalling)
- Coordination of multiple disciplines and subcontractors
- Managing legacy mechanical systems alongside modern signalling

Solutions:

- Early stakeholder engagement was critical for integration
- Phased delivery helped manage budget constraints
- Strong programme management enabled timely delivery of the project schedule

Benefits:

GRCL offer our clients a service that helps them plan, build and maintain their railway infrastructure. We have the skills and experience to deliver multi-disciplinary turnkey design and construct projects. We work to meet and exceed their needs on time and within budget. We understand the importance of minimising disruption to their operations while we work. Working on mainline railways, metro systems and light rail, we offer as a group a full in-house solution and provide full design, build, test and commission services in the following areas:

- Civil, Structural Engineering and Building
- Mechanical, Electrical and Power
- Signalling & Telecoms
- Permanent Way