

CASE STUDY

Cambridge Area Resignalling - GRIP 6-8 Civils Works

LOCATION: Cambridge
CLIENT: Alstom
DATE COMPLETED: August 2022 - April 2026



Introduction

Global Rail Construction Limited (GRCL) were awarded a long-term programme of GRIP 6-8 railway civil engineering works, on behalf of valued client and Cambridge Resignalling Principal Contractor and Designer, Alstom. This sub-contract was secured by our UK team, following previous successful delivery of both GRIP 4 Surveys and GRIP 5 Advanced Civils Works.

Cambridge Resignalling is a condition led renewal, where a significant number of level crossings will be either renewed or modified as part of the project. The scope covers the area controlled by Cambridge signal box.

The delivery programme covers 4-key commissioning stages - Stage 1 Commissioning in December 2024, Stage 2 Commissioning May 2025, Croxton Stage October 2025 and Stage 3 Commissioning

Easter 2026, and requires GRCL to interface with Alstom's Lead Engineers and provide inputs into other discipline requirements/deliverables.

GRCL provides competent management and staff to ensure that the works meet the required Network Rail standards and the expected level of quality, in order to assist Alstom with production and verification of the scheme, to enable satisfactory and timely sign off of the Engineering Completion Certificates for all stages of the works.

Deliverables

GRCL's GRIP 6-8 civil installation activities include all necessary earth retention systems, temporary works, traffic management, track monitoring/track handback engineering and full handback for the following extensive scope:

- ① Geo-spatial setting out to accurately install assets to the required tolerances
- ① Vegetation clearance
- ① Civil foundations as follows, including provision of control measures for foundation activities in areas of medium risk areas as per UXO risk assessment:
 - 87No new fold-down signals, 1No new two track cantilever, 1No new three track signal gantry, 3No new banner repeaters and 5No new ground level signals - either with helical piled or RC foundation solutions
 - 5No DNO Bases
 - 41No REB Bases/stagings and Compounds
 - 6No PSP Bases and Compounds
 - 16No FSPs Bases
 - 157No SPT Bases and Walkways

- 30No PLOD Bases
- 35No Point Telephone Bases
- 50No BOP Bases (half loc case)
- 4No Interfacing LOC bases
- 23No Signage Bases / Renewals
- 100No Disconnection Boxes
- ① Driver walkways / signal lay down areas
- ① Level Crossing Civils - full rail and highway works required to complete 5No level crossing upgrades/conversions including service diversions (overhead and buried)
- ① 11 no Lineside UTX's including 11No new stakka box chambers
- ① 9No URX's
- ① Demolition of 1No redundant signal box
- ① Lineside cable containment route works including HV routes
- ① Earthing arrangements of PSP's, REB's and FSP's, Dis boxes
- ① Removal/recovery of redundant equipment
- ① Health and Safety Files and O&M Manual submission in accordance with AMP008 and QF703

Challenges and Solutions

One of the key challenges on this project has been the limited track possession access to undertake the work. This has been overcome by installing Vortok fencing and delivering the required materials during available possessions or rules of the route and then with the fencing in place, completing installation works during midweek days, as far as possible.

Another of the challenges has been the receipt of timely AFC designs to enable procurement of the required materials to meet the midweek installation works programme. We have worked closely with the Alstom team, and through a collaborative and pro-active approach to the SMIO's and PSP designs, we have been provided with continuity of work and project timeline certainty.

Benefits

Global Rail Construction Limited provide UK civil and structural design and build engineering solutions from initial project planning and design, to enabling works covering site surveys, hazard and environmental assessments, procurement, onsite construction, and equipment installation, through to final commissioning.

The company is flexible in its approach and can undertake civil engineering projects on a turnkey, consultancy, main contract, sub-contract, or resource supply basis to meet each individual client's requirement.

Skills are applied to new build, refurbishment, and maintenance projects - activities include:

- ① Condition and dilapidation surveys
- ① Demolition and remediation
- ① Temporary works

- ① Utility services enabling and diversion
- ① Ground and site investigation
- ① Site excavation and enabling works
- ① New build and refurbishment (Sub-Stations, Platforms, Station buildings)
- ① Road construction
- ① Embankment works and retaining structures
- ① In-situ and precast concreting works