

CASE STUDY

Connolly Loop Line, Permanent Way Replacement works

LOCATION: Dublin, Ireland
CLIENT: Irish Rail



Introduction

Global Rail Services provided a most compelling offer to Irish Rail and were awarded a €1.1m track renewal contract, to remove and replace 1km of railway track on both the Up and Down lines between Tara St and Connolly Station.

The works were to be completed during restricted working hours - 24/7 possession working – commencing on St Stephens's day and for 14 consecutive days thereafter throughout the Christmas period.

Having a vastly experienced project engineering team, enabled Global Rail Services to put together a fully planned and detailed methodology to deliver a huge volume of critical infrastructure works, which formed part of Irish Rail's railway upgrade programme.

With access over $\frac{3}{4}$ of a mile away from the site and the works limited to a single line for both removal of the old and delivery of the new track materials, Global Rail Services meticulously prepared a detailed hour-by-hour programme for all activities. This included full contingency provision.

With this in mind, early stage preparation works were undertaken to build the track panels in readiness for the works. A bill of materials was also prepared, so that all materials could be delivered, quality checked and stacked ready for the Christmas shutdown.

The works also involved the re-alignment of a bridged line over the centre of Dublin, which required advance notices and planning and also the replacement of curved check rails.

Having a strong in-house capability of 60 track staff provided Irish Rail with the confidence that Global Rail Services were the partner of choice and this proved to be a wise decision.

With strong supply chain partnership with their plant and machinery providers, Global Rail Services provided full project surety, enabling the works to be handed over defect free, on time and to the required budget.

The Deliverables

Global Rail Services are a multi-disciplinary infrastructure contracting organisation, providing a fully managed program of permanent way works, whilst effectively co-ordinating with Irish Rail and other project stakeholders, achieving compliance with all relevant quality, safety and environmental standards, based on the following scope of activities:

- ① Preparation of a detailed program of works and methodology
- ① Full design co-ordination with Irish Rail
- ① Site inductions, safety planning and regular audit, reports and client liaison meetings
- ① Provision of traffic management and community relations activities
- ① Materials logistics co-ordination and quality control
- ① Construction of new CWR track panels in advance of the works
- ① Removal of existing track panels including sleepers and excavation of the ballast to formation level including removal off site
- ① Formation preparation including earthworks, drainage and boundary treatment works
- ① Delivery of new ballast, track panels, check rails and all fixtures and fittings
- ① Relaying of the new formation, track panels and check rails to line and level
- ① Thermit welding of new rails
- ① Tamping of new track
- ① Handover to Irish Rail for final hand back

Challenges and Solutions

The biggest challenge was the volume of works to be completed in a short window, with the access point some $\frac{3}{4}$ of a mile away. Only being able to use one road for removing the old and bringing in the new further complicated this.

Global Rail Services worked closely with their plant and equipment suppliers to devise a means of handling large quantities of materials quickly and effectively. By modifying the machinery, they were able to use Road Rail Vehicles equipped with four side tipping trailers to move efficiently up and down the single line. They also provided 4 side-tipping dumpers to both remove and bring in the required volumes.

With the works being over Christmas also provided a resourcing challenge. Fortunately, Global Rail Services have a large in-house permanent way capacity and were able to resource in full the requirements of the contract which peaked at nearly 40 operatives per shift.

By building the track panels off site and preparing the ballast yard in preparation of the works, Global Rail Services were able to start works without delay.

Global Rail Services also had to liaise with outside parties and the other rail systems departments of Irish Rail including OHLE and Signalling. As a rail infrastructure contractor, Global Rail Services are familiar with these systems and were able to co-ordinate the design and delivery collaboratively.

The Benefits

By appointing Global Rail Services as their track engineering contractor with a large in-house workforce, Irish Rail procured a contracting organisation that not only delivered their project defect free, but one that were able to interface with others and deliver a complex project on time on their behalf.

Having their roots in railway engineering, also aided access planning and logistics and their accredited management systems, that work in accordance with certified bodies across safety, and the environment, provided the client with a project of the highest quality.