



NOVUS RAIL



ISO 9001
CERTIFICATION

Railway System *Permanent Way Design Specialists*
Established: 2001 *and On-site engineering services*

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About Us

- We are one of the most technically capable Permanent Way Specialists operating within the UK.
- Novus Rail was formed in 2001 by former employees of British Rail and we operate nationally from our regional headquarters in Lancashire.
- Our uncompromising business objectives are to consistently surpass our clients expectations in terms of response, quality, reliability, trust and risk.
- We are totally self-sufficient and highly competent in rail system engineering, assured by the implementation of individual training programmes.
- If you are seeking a cost effective and practical solution for your project requirements, you need look no further.

Services

Novus Rail is a specialist supplier of railway engineering consultancy and technical services, operating throughout the UK on both light and heavy rail networks.

Rail Networks

- Network Rail
- Ministry of Defence
- Northern Ireland Railways
- Transport for London
- Manchester Metro
- Isle of Man Railways
- Tyne & Wear Metro
- Docklands Light Railway

Services

- Railway consultancy
- Permanent Way design
- 3rd & 4th rail design
- Topographical surveys
- Gauging surveys / analysis
- Track drainage design
- Track condition examinations
- Technical site services

Project Stages

- Scope Definition
- Engineering Assurance
- Feasibility Design
- Asset Management
- Outline Design
- Detailed Design
- As-built Design Verification
- BIM (Level 2)

We support numerous Principal Designers and Contractors on large multi-disciplinary projects.

Assurance, Indemnity & Accreditations

We operate under a bespoke integrated Company Management System (CMS) covering all aspects of safety, quality and environmental assurance.

We are a Sentinel 'Sponsor' and also a member of CIRAS

(confidential incident reporting & analysis system)



Our technical staff are fully certified for track operations and hold a valid PTS card.

Personal Track Safety



We maintain a minimum of £5m insurance coverage with a flexible policy allowing up to £10m coverage when required:

£10m Professional Indemnity

£10m Public Liability

£10m Employers Liability

Our Accident Frequency Rate (AFR) for the last three years has been Zero, which is a testament to the effectiveness of our Management System.



"Our Management System is Accredited by RISQS (Railway Industry Supplier Qualification Scheme) and also to ISO 9001:2015 (UKAS) Quality Certification."

Project Experience

The following pages show a snapshot of our portfolio detailing elements lifted from our designs. If you would like to discuss a project of your own please get in touch for a free quote.



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Bicester Bridge Scheme

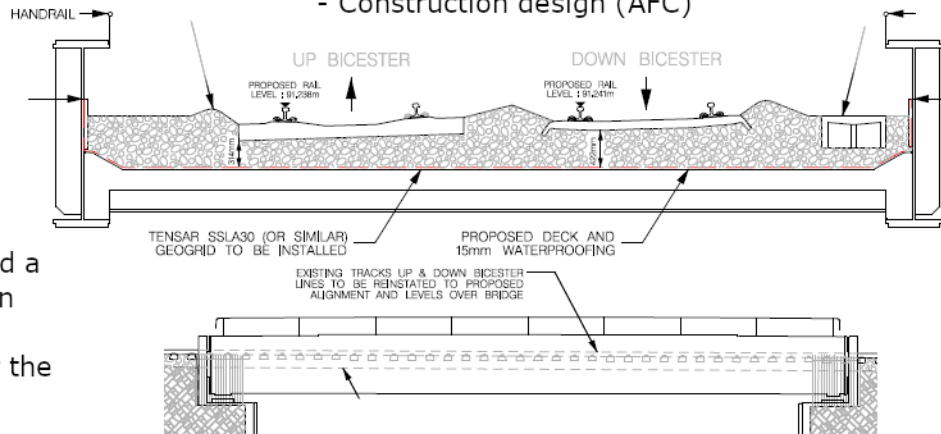


- Full topographical surveys
- Track condition exams
- Track layout design
- Track level design
- 3D strings
- Civil engineering design co-ordination
- Track construction detailing
- Structure gauging assessments
- Construction design (AFC)

Overview:

The objective of this project was to increase the capacity and efficiency of the new A4095 link road by installing a new underbridge and cycle underpass with an embankment.

The topographical survey and pre-installation traverse surveys played a key part in ensuring the installation works ran smoothly and efficiently during the 100 hour blockade over the Easter weekend.

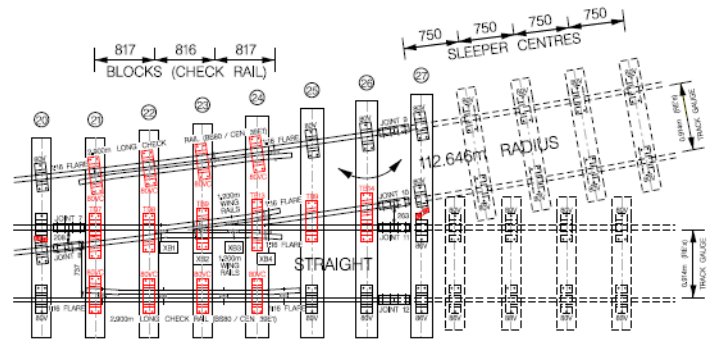


Douglas Yard / Station Remodelling

Overview:

Isle of Man Railways commissioned us to produce a new design and remodelling scheme for Douglas Yard.

The new design had to make considerations for the heritage trains using the yard along with HGV access to the coal pit located within the yard.



- New (CEN 39) 1 in 7.85 standard turnout design
- Production of S&C manufacturing designs for 9nr layouts
- Overall horizontal and vertical track alignment design
- New (CEN 39) fixed buffer stop design
- Slab track system for HGV access / egress
- Concrete slab structural designs
- Surface drainage design including interceptors
- HGV swept path analysis for coal deliveries
- Platform gauge clearance and stepping distances
- Cable route designs



Stevenage Turnback Facility

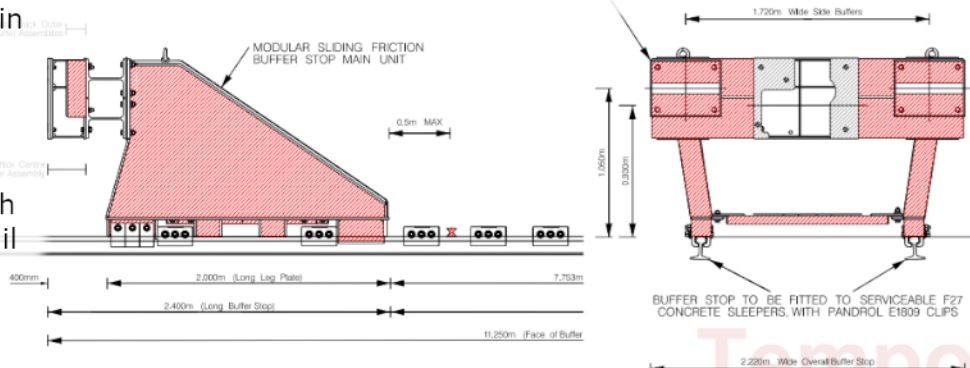


- BIM (Level 2) compliance
- Projectwise Document Control
- S&C design, including point motor conversion
- Standard deviation assessments
- Gauging for new structures and station platform
- Preparation of S&C manufacturing drawings
- CWR stressing plans
- Derailment risk assessment
- Buffer stop over-run assessment
- As-built design drawings

Overview:

A new 1.8km long turnback facility and additional station platform at Stevenage station was required to reduce demand on the East Coast Main Line (ECML), by connecting the new turnback line to the Hertford North branch line.

We provided P-Way design support from the feasibility stage right through to the detailed design via Network Rail GRIP assurance.



TfGM Victoria Tram Stop

Overview:

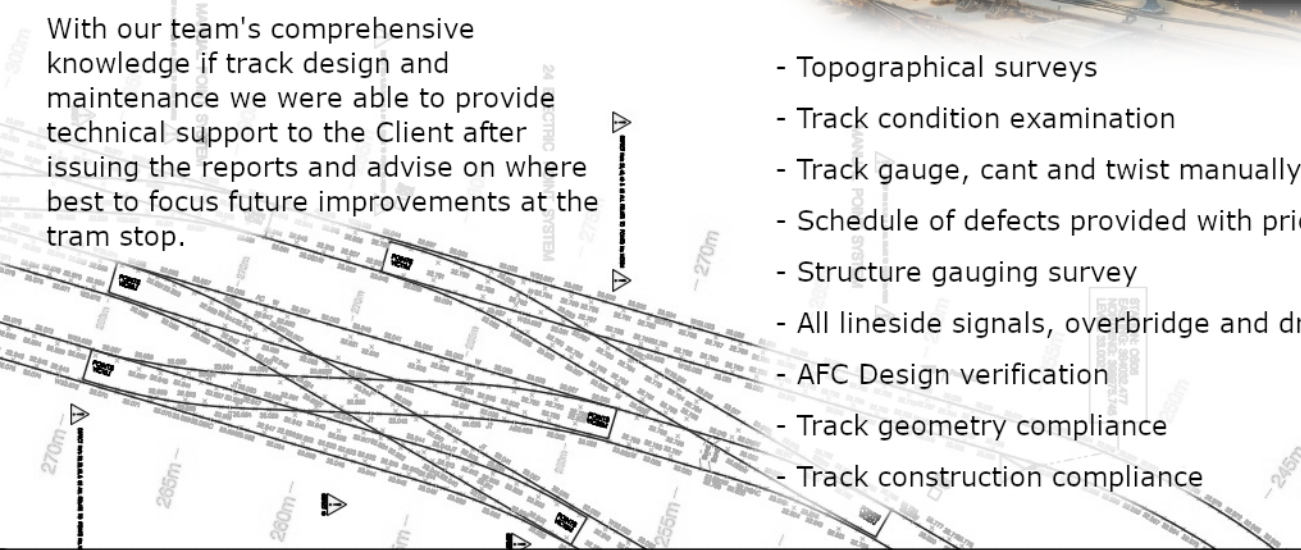
Concerns were raised by the maintainer on the excessive track deterioration of the newly constructed tram stop.

Novus Rail were commissioned by Wilde Consulting to conduct various surveys and assess the results against the approved construction design.

With our team's comprehensive knowledge of track design and maintenance we were able to provide technical support to the Client after issuing the reports and advise on where best to focus future improvements at the tram stop.



- Topographical surveys
- Track condition examination
- Track gauge, cant and twist manually verified throughout
- Schedule of defects provided with priorities for resolution
- Structure gauging survey
- All lineside signals, overbridge and driver hop-ups
- AFC Design verification
- Track geometry compliance
- Track construction compliance



Anglia Wheel Timber Renewals

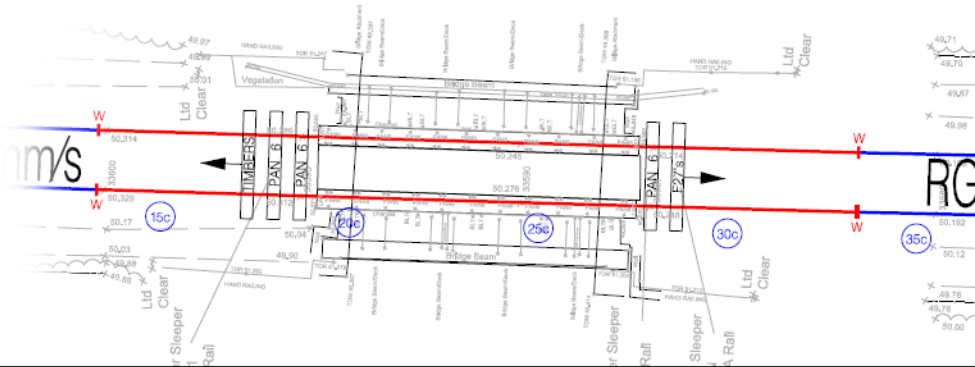


- Topographical surveys
- Track condition examinations
- Track layout design
- Track level design
- 3D design strings
- Civil engineering design co-ordination
- Track construction detailing
- Bearer sections and packing schedules
- Structure gauging assessments
- Construction design (AFC)

Overview:

Several underbridges in the Anglia region required wheel timbers to be renewed. We were commissioned to undertake Topographical surveys at each bridge and provide a design for the renewal works required.

The turnaround for our section of this project was very tight with an 8 week turnaround on the survey and design. We did also provide ongoing support through the construction phase



Munitions Depot Remodelling

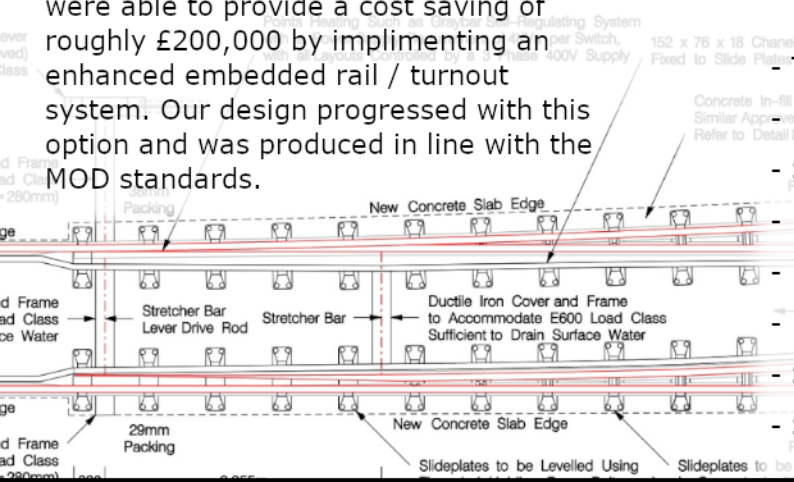
Overview:

The HMNB (Clyde) munitions depot was withdrawn from operation in 2011 due to deterioration of the concrete embedded rails. A renewal / remodelling project was proposed and Novus Rail was tasked with providing the P-Way design including bespoke embedded concrete slab, switch and turnout designs.

During the initial phase of design we were able to provide a cost saving of roughly £200,000 by implementing an enhanced embedded rail / turnout system. Our design progressed with this option and was produced in line with the MOD standards.



- Track system concrete base / in-fill structure slab design
- Bespoke embedded concrete switch clearance design
- Strategic slab surface water run-off design
- Bespoke turnout switch recess drainage design
- Buffer stip specification and over-run assessments
- Rail signage specification
- Safety demarcation specification
- Structure gauging analysis



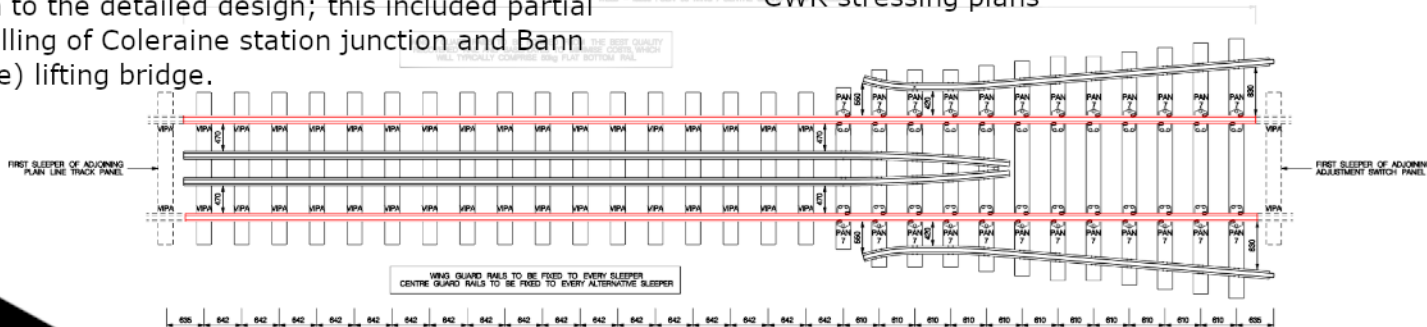
Northern Ireland Track Renewals



- 20km of track renewal design
- Bascule (lifting) bridge track fastening design
- New guard rail systems over underbridges
- New adjustment switches at underbridges
- Increased line running speeds throughout
- Switch and crossing remodelling designs
- Track drainage design
- Direct fastening design
- Formation design
- Structure gauging analysis
- CWR stressing plans

Overview:

Poor track condition led to 20km of track and drainage renewals between Coleraine and Londonderry. We provided P-Way design support from the feasibility stage through to the detailed design; this included partial remodelling of Coleraine station junction and Bann (bascule) lifting bridge.



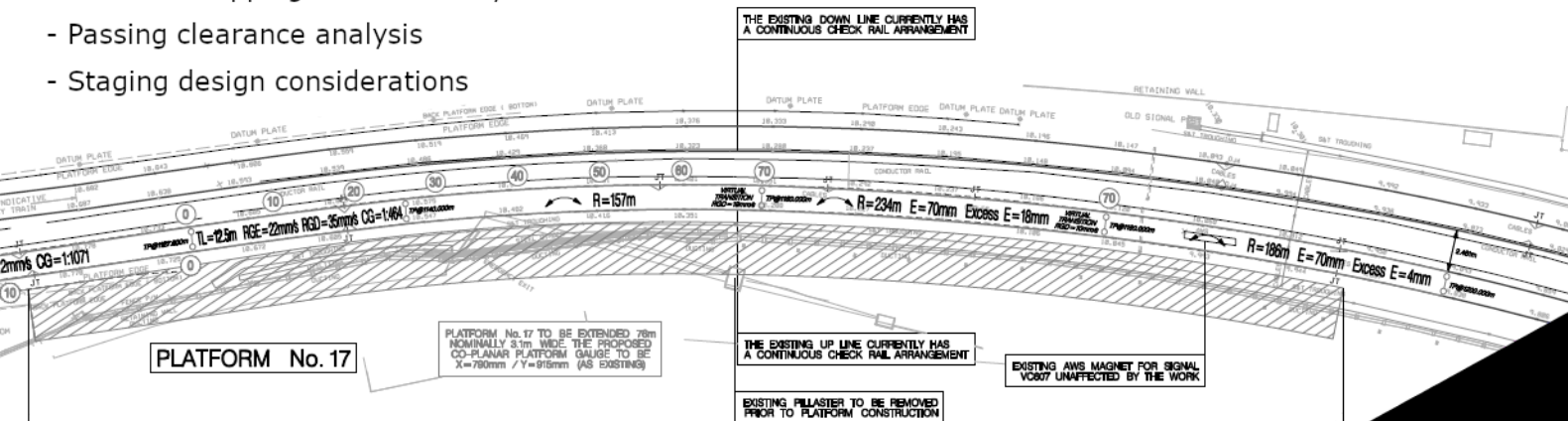
West London Lines Stations

Overview:

Six stations across West London required platform extensions to accommodate the new 8/10 x car operations in a bid to reduce over-crowding.

Station Upgrades Included:

- Permanent Way Design (Grip 4+5)
- 3rd Rail ETE Design
- Signal, trap point and siding relocation
- Traction reinforced bonding design
- Platform stepping distance analysis
- Passing clearance analysis
- Staging design considerations





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