Introduction to Asset Protection

New Roads & Streetworks | Interface Guidance

Contents

Introduction

Asset Protection and Optimisation teams (ASPRO) provide expert railway assistance and support to those who are planning activities on or near the railway.

Collaboration is essential for Network Rail & External Organisations, and those who work for them, to work collaboratively to deliver their projects, manage their risks in an efficient, timely and cost-effective manner.

Early engagement with the AsPro team is important to understand how your works affect the operational railway & managing project interfaces with Network Rail

Example Engagement & Consultation Activities

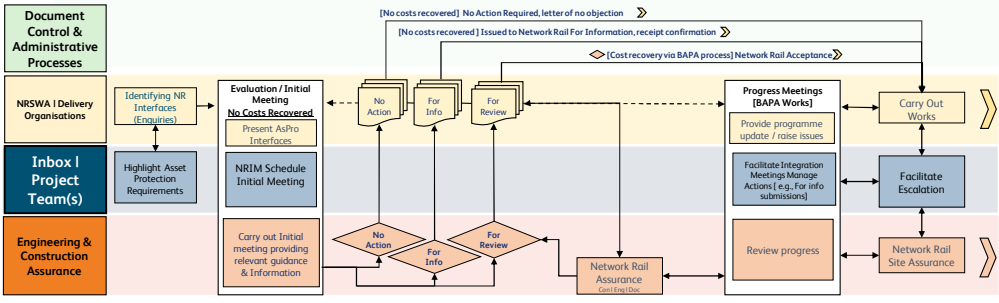
- Reviewing risk assessments
- Review of interface complexities
- NRSWA interface evaluation
- Design consultations
- Constructability reviews
- Site access planning & safe access requirements
- Permanent & Temporary works (outline discussions)
- Progress update programme reviews

Background

The New Roads and Street Works Act 1991 (NRSWA) regulates how statutory undertakers, such as utility companies and local authorities, carry out street and road works, aiming to minimise disruption and ensure safety. However, NRSWA, along with the Highways Act, the Health and Safety at Work etc. Act 1974 (HSWA), and the Construction (Design and Management) Regulations 2015 (CDM), makes clear that the responsibility for managing safety risks near railway infrastructure lies with the party undertaking the works.

Therefore, if works impact the railway, Network Rail is entitled to recover reasonable costs for the oversight and protective measures it must implement to fulfil its statutory safety obligations.

Network Rail New Roads & Streetworks Process



NRSWA – Interface Evaluation

Upon receiving the initial enquiry, the Network Rail Asset Protection Team will assign the appropriate resources and team members to evaluate the risks to the railway interface associated with the proposed construction activities. This evaluation will follow a structured process, guided by clearly identified risks and defined profiles. Based on this assessment, one of the following actions may be determined:

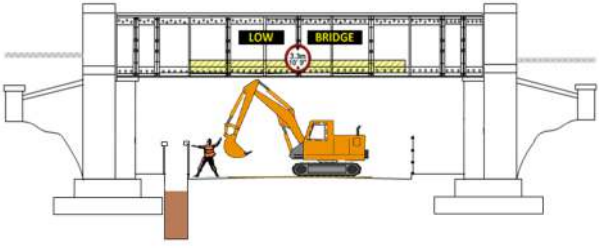
1. **No Further Action**: A letter of no objection will be issued.
2. **For Information**: RAMS (Risk Assessments and Method Statements) or other relevant documentation will be issued to Network Rail for information only, providing notification of planned works.
3. **BAPA (Basic Asset Protection Agreement)**: In cases where required, a Basic Asset Protection Agreement (NRSWA) will be initiated, which may include provisions for Engineering Assurance, Construction Assurance, triggering the requirement for a railway-safe system of work, and administrative support. This would enable **reasonable cost recovery** on behalf of Network Rail this is NOT a charging exercise for working in the highway.

These actions are designed to ensure that Network Rail can effectively support Delivery Organisations in fulfilling their duties and ensuring compliance with relevant legislation.

This approach ensures that all potential risks to the railway interface are carefully evaluated and mitigated, while supporting legal and safety requirements.

NRSWA – Case Study | 1

Network Rail owned over and underbridges that caters for roads [public/private]



Alternative works in the same location risk dependent may not trigger the requirement for a BAPA. Examples may include signing and lining, shallow excavations, tactile surveys, non-intrusive works

Statutory undertaker excavation works adjacent to structure foundation in footway / carriageway. An evaluation of the works was carried out by NR Asset Protection. Based on the control measures in place and the mitigated risk to the railway.

The evaluation determined this required engineering and construction assurance by NR AsPro in this instance a BAPA was a requirement for NR AsPro to support the works in the safe delivery whilst assuring the managed mitigation of risks to the operational infrastructure.

NRSWA – Case Study I 2

Network Rail owned over and underbridges that caters for roads [public/private]

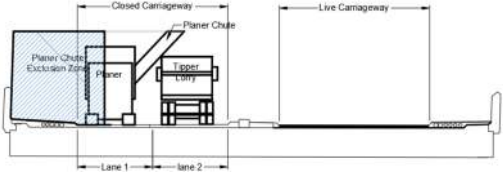
Alternative works in the same location risk dependent may not trigger the requirement for a BAPA. Examples may include signing and lining, shallow excavations, tactile surveys, non-intrusive works

Statutory undertaker excavation works over to structure deck in footway / carriageway. An evaluation of the works was carried out by NR Asset Protection. Based on the control measures in place and the mitigated risk to the railway. *Contributing factors could include, effects of work to structure waterproofing, existing asset condition other issues Network Rail as the bridge authority.*

The evaluation determined this required engineering and construction assurance by NR AsPro in this instance a BAPA was a requirement for NR AsPro to support the works in the safe delivery whilst assuring the managed mitigation of risks to the operational infrastructure.

NRSWA – Case Study I 3

Third-Party owned overbridge that over sails NR owned infrastructure



Local Authority planned resurfacing and waterproofing works. An evaluation of the works was carried out by NR Asset Protection. Based on the control measures in place and the mitigated risk to the railway.

In THIS instance a BAPA was not required with the evaluation deemed: **For Information** *Alternative works in the same location risk dependent can also trigger the requirement for a BAPA. Examples including but not limited to; parapet works, intrusive deck works, temporary works etc*

NRSWA – Case Study | 4

Third-Party owned overbridge that over sails NR owned infrastructure

Local Authority planned resurfacing and waterproofing works similar to case study 3 with further intrusive works adjacent to the parapet and temporary works requirements. An evaluation of the works was carried out by NR Asset Protection.

The evaluation determined this required engineering and construction assurance by NR AsPro and in this instance a BAPA was a requirement for NR AsPro to support the works in the safe delivery whilst assuring the managed mitigation of risks to the operational infrastructure.

NRSWA – Case Study | 5

Level Crossings – Inside / Outside Precautionary area

Local Authority conducted a drainage survey adjacent to a level crossing. The survey involved visiting each manhole/gully, flushing them with a vacuum truck, and performing a visual inspection using a camera. The closest location to the level crossing being 20m away. No works planned within the stop lines. Traffic management was varied: outside 200m from the crossing, two-way lights will be used; within 200m, a stop/go system was in place. Each site required 5-10 minutes of work, and the sequence began at the location closest to the level crossing and proceeded away from it

In THIS instance a BAPA was not required with the evaluation deemed: **For Information** *Alternative works in the same location risk dependent can also trigger the requirement for a BAPA. Examples including but not limited to; parapet works, intrusive deck works, temporary works etc*

NRSWA – Case Study l 6

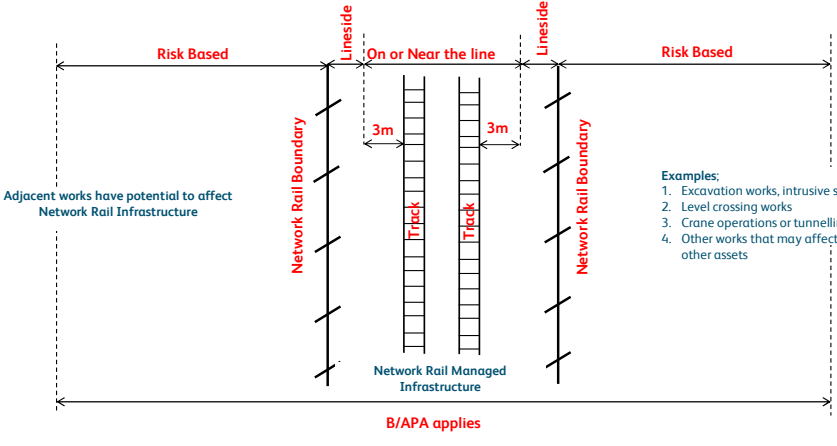
Level Crossings – Inside / Outside Precautionary area

Local Authority required Works was to saw cut pothole adjacent to the keep clear line there. Traffic management was varied: a stop/go system was be in place with road closure from the emerging side road.

In THIS instance a BAPA was required with the evaluation deemed: **Railway Safe System of Work –** Due to the nature of the works and the proximity to the railway it was deemed a railway safe system of work was required to protect the Highways workforce from encroachment and to mitigate the risks to operational infrastructure. A Segregated Safe System of Work was initiated with a Railway "Controller of Site Safety / Site Warden" . *Alternative works in the same location risk dependent may not trigger the requirement for a BAPA.*

Things to consider when working adjacent to the railway

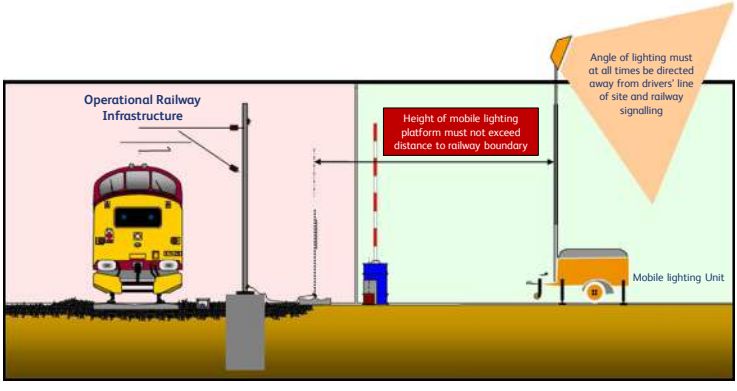
Overview | Works affecting Network Rail



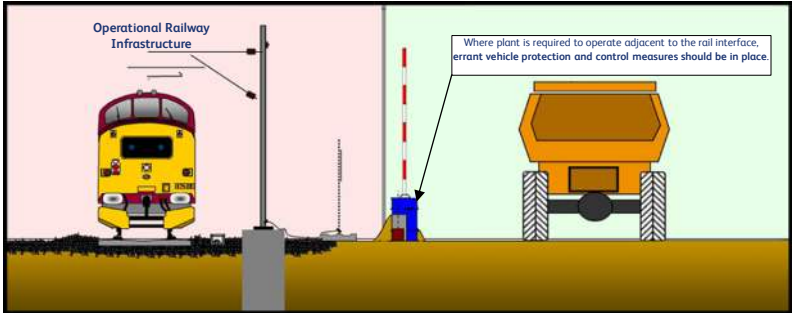
Examples;

1. Excavation works, intrusive survey works
2. Level crossing works
3. Crane operations or tunnelling operations
4. Other works that may affect NR structures or other assets

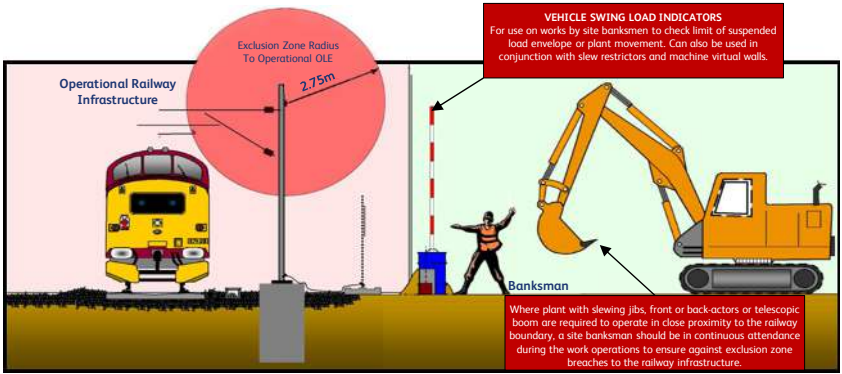
Example: Use of Mobile Lighting Platforms on Site



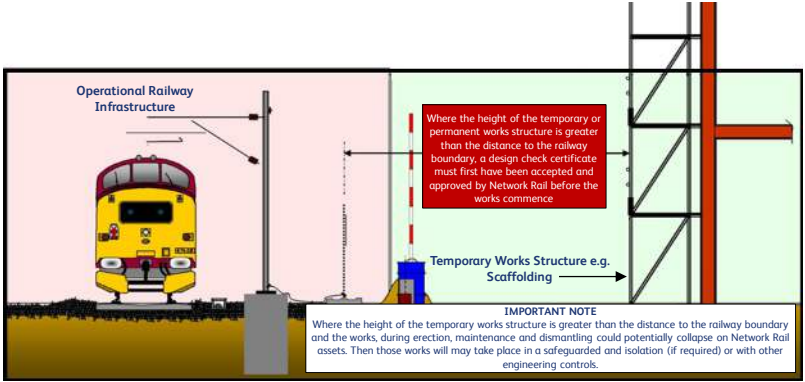
Example: Vehicle Protection | Vehicle Incursion



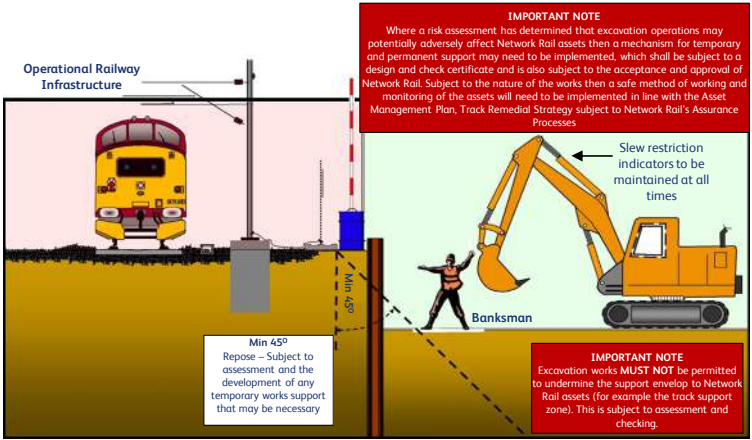
Example: Use of Swing Limitation Indicators - Section



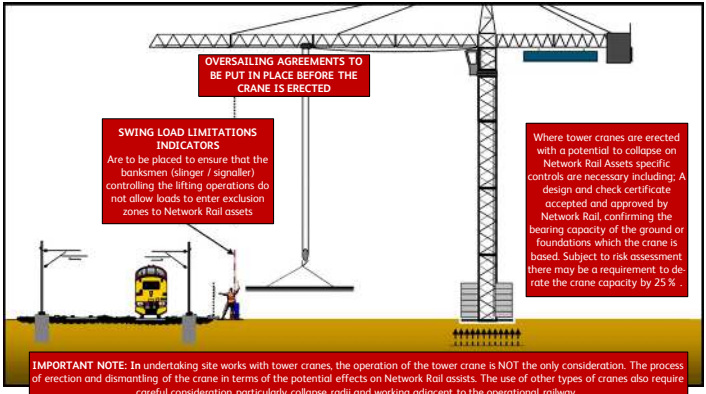
Example: Temporary & Permanent Works



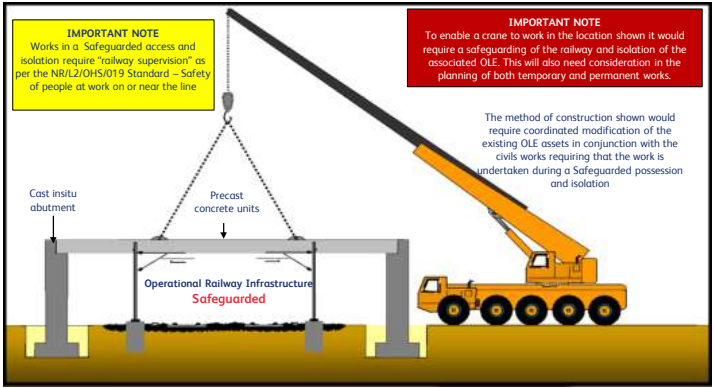
Example: Excavations



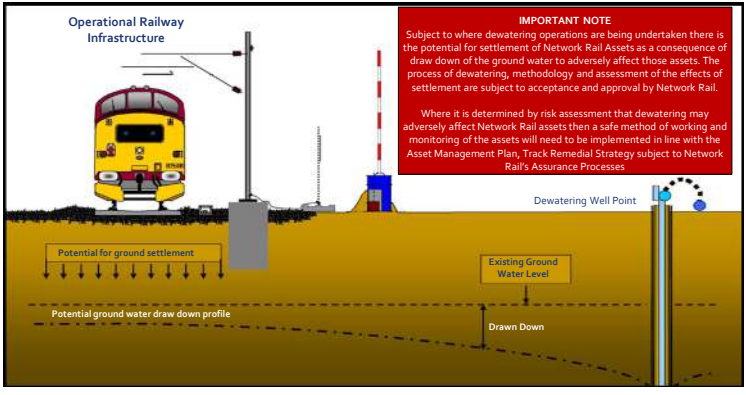
Example: Tower Crane Operations



Example: Lifting Operations – Over the Operational Railway



Example: Subsurface Works – Dewatering Operations

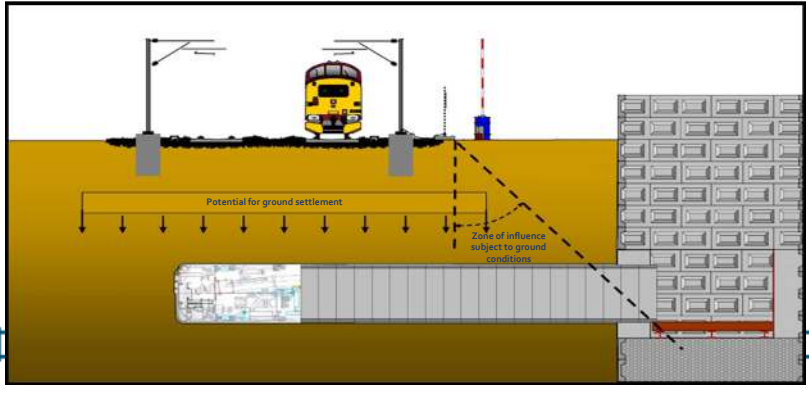


Example: Subsurface Works – Shafts & Tunnelling

IMPORTANT NOTE

Subject to where shaft construction and operations are being undertaken there is the potential for settlement of Network Rail Assets as a consequence of ground loss adversely affect those assets. The process of shaft and tunnelling methodology and assessment of the effects of settlement are subject to acceptance and approval by Network Rail. A thorough understanding of the existing asset condition is critical to the comprehensive assessment of potential for global impact on the assets. Where it is determined by risk assessment that tunnelling operations may adversely affect Network Rail assets then a safe method of working and monitoring of the assets will need to be implemented in line with the Asset Management Plan, Track Remedial Strategy subject to Network Rail's Assurance Processes.

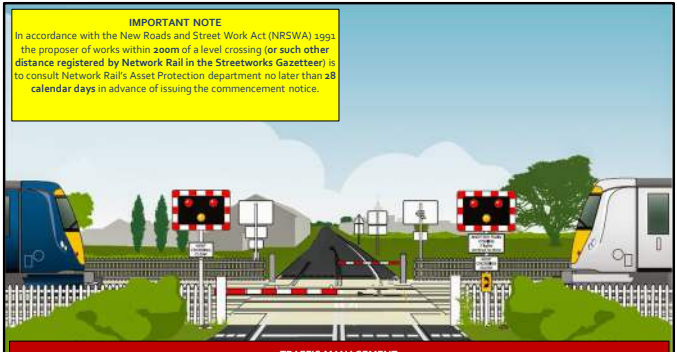
Monitoring is to be in place in advance of works 6months min



Example: Works adjacent to level crossings

IMPORTANT NOTE

In accordance with the New Roads and Street Work Act (NRSWA) 1991 the proposer of works within **200m** of a level crossing (**or such other distance registered by Network Rail in the Streetworks Gazetteer**) is to consult Network Rail's Asset Protection department no later than **28 calendar days** in advance of issuing the commencement notice.



TRAFFIC MANAGEMENT

Statutory Undertakers and other works promoters should recognise that both NRSWA and HASWA require them to consider the implications of their works and identify the effects on traffic in the vicinity of level crossings. Extreme care must be taken to avoid stationary traffic tailing back across a railway level crossing at any point ("blocking back"). Particular attention must be paid to situations where works might cause traffic to tail back over the crossing because of long traffic delays, even though the works could be a considerable distance from the crossing.

Each case must be individually assessed by Network Rail Asset Protection to ensure appropriate safety and control measures are in place.

What happens when it goes wrong?

Incident | NRSWA

Date and time of incident:	07/03/19 | 13.15	Injury severity:	n/a
Location of incident:	Moorbridge Lane, Nottingham	Investigation required:	Local
Reported by:	Richard Cashmore	Trade/company involved:	Stone Utility Services
Operating unit:	Utilities	Potential severity:	Major
		Operational disturbance:	Use of power tools

Details of incident:

As part of tier 2 replacement works, Stone Utility Services were excavating over a railway bridge in readiness for the installation of a 200mm Steel Duct to allow a new 180mm PEMP main be inserted as part of a shallow main deviation.

Network Rail had approved tRIIO RAMS and permission had been granted by Network Rail to undertake the works. Preconstruction surveys and trial holes were undertaken as part of the planning stage. Surveys identified 500mm of cover from carriageway level to a concrete bridge deck.

The engineering site team were using a 5t excavator and breaker to break up the surface course of the carriageway on the approach to and over the railway bridge. During this activity the team removed the surface course and subsequent layers to a depth of approx. 300mm, in doing so damaged the e bridge deck. The bridge deck construction at this location was a series of small individual bricks creating an arch, this makeup was different to the trial hole preconstruction information. Immediate contact was made with National Rail who took over the site.

Repairs were undertaken to the bridge deck overnight (07/02/2019) and the freight line reopened the following day (08/02/2019).

Area made safe and no injuries reported. Investigation on going.

Photo(s):

Actions taken by the project:

- Team ceased work and Incident Line informed
- Network Rail informed and attended site (completed repair).
- Near side freight line operation was suspended pending structural engineering review (line reopened).

Level Crossing Misuse | NRSWA

Brief Description

A MOP car miss judged distance and entered the level crossing with no exit as the warning signs were triggered by an approaching train.

Full Description

Works was to saw cut pothole approx. 1 m from the keep clear line @ Fydell Street, Boston.

Streetworks restrictions - off peak hours (10:00 – 15:00) TM was 2 man stop and go, and this was approved with LONO from Network Rail – Conebars installed Level with the Network Rail Boundary (Wigwag Stop Line) to prevent accidental incursion into the Network Rail zone by site Operatives working.

The NR COSS was on site solely to provide separated safe system of work for operatives working on the pothole adjacent to the stop line.

After installation of the traffic management a MOP failed to keep the crossing clear when traffic was backing up from the junction. Even though stop and go was deployed, the MOP's failed to stop at the stop line when the crossing was not clear as the lights activated. MOP misjudging the time and distance.

As the lights had activated the Network Rails COSS stepped in and got the Vehicle to pull forward into the traffic management area clearing the line.

Vehicles block this crossing on a regular basis regardless of additional TM restrictions.

Traffic control during installation was causing an issue with the public and Site Supervisor and COSS had to intervene and speak to the TM provider allowing better control over public manoeuvres.

Traffic was very congested in the area due to other issues in the local area.

Noted during the investigation that this site has numerous incursions where traffic builds up and MOP stop within the stop lines and barriers.

Noted within the site visits that mobility scooters struggle to cross the line and have to travel in the live carriageway often at slow pace and have been caught crossing as the barriers activated.

Immediate Actions Taken and Lessons Learned

- **Intervention by the COSS on site pulling the MOP into works area.**
- **COSS contacted the signaller as per NR procedures to ensure the safety of the line, please can this be noted.**
- **RA was inclusive of controlling the traffic with manually controlling traffic with stop and go boards.**

Lesson learned

- **Any works at this crossing to be completed during out of hours/ full road closure.**
- **Review traffic flow during works.**
- **Access restrictions – apply signage reminding public to not cross the line until clear to pass or 'Do not block the level crossing.**
- **Introduce a buffer zone within TM either side of the crossing to allow vehicles to escape if they are blocked on the crossing.**
- **Pre-site meeting with TM to pre agree working method and traffic control.**

Weekly Best Practice and Incident Report
Fast Facts

Overturning

Extract from investigation;

The potential for injury is very high. The rig could potentially have tipped and fully overturned onto the West Coast Mainline, a 25,000-volt rail transformer, the site accommodation, the highway beyond the site boundary or injured operators of the attendant excavators, concrete pump, and mixer truck within the site.

A managed heavy recovery was undertaken using three cranes. The mat subject to investigation and inspections, while the rig was split from the mast and recovered for engineering examination.

Stoke Piling Rig Collapse

"HSE Investigation Ongoing"

Jan 2025 (Last updated)

Overturning

CTIL Piling Rig Collapse

"An investigation by the Health & Safety Executive found the accident was caused by the main contractors failing to reinstate the piling platform adequately after excavating into it to remove an obstruction."

Errant Vehicles - Incursion

- Dumper veers 50m collides with adjacent fencing
- Runaway trailer mounted welfare unit comes to stop in hedgerow

Surveys - Tresspass

OPERATIVES ON THE RAILWAY EKFB – UTILITIES

Wednesday 23rd February 2021, two utility surveyors in the normal course of their duties in doing so they had encroached onto the **MCJ3** line which is an operational railway, and entered a position termed 'On or Near the Line'. They returned along the access route, towards their vehicles where they were approached and challenged by a Network Rail employee. It became apparent that they were unaware it was an operational railway and the prerequisites required in order to carry out works whilst in this location.

This is technically a Network Rail 'Operational Close Call' and was escalated to EKFB via Network Rail. To confirm, no individuals were injured as a result of this incident

Surveys - Signal Sighting

CHILTERN LINE DISRUPTION – Shared Learning

A Chiltern Line train stopped adjacent to the SCS worksite that as the previous train had reported seeing a **red light from the worksite**. The train driver identified the rotating laser as the source.

- The red rotary laser had not been identified as a risk to the operational railway.

- A **red** aspect could potentially be mistaken as a warning signal to a train driver. Section 8.2 of the Personal Track Safety (PTS) Handbook states '**In darkness or poor visibility, shine a red light or wave any light vigorously**'

Image 2: Location of tripod

Incidents - Survey Fatality

Parapet Raising Survey - Jacobs Engineering were undertaking survey works on behalf of Buckinghamshire County Council to the north verge of the bridge at Stoke Hammond. On the 7th December 2008 J Kinns (Bridge Engineer Jacobs) was electrocuted when his steel tape came into contact with the live OLE, he died a few days later. Network Rail was not advised of this site visit and the deceased was working alone without a method statement or appropriate risk assessment. It was believed he was measuring the parapet (rail side) when the tape came into contact with the OLE. This video, titled "Kate's Story," serves as a powerful message about workplace safety and the impact of losing a loved one.

Watch Kate's Story here

Reference Information

- Asset Protection & Optimisation Management of 3rd Party Works on Network Rail Infrastructure NR/L2/CIV/095
- Asset Protection & Optimisation Management of Outside Party NR/L2/CIV/096
- Safety of people at work on or near the line NR/L2/OHS/019
- Delivering Work Within Possessions (DWWP) NR/L3/INI/CP0064
- Disruptive Possessions (trains diverted)
- Non-disruptive (between trains)

Glossary

- RFI – Requests for Information
- TQ – Technical Queries
- RAMS – Risk Assessment Method Statements
- WPP – Works Package Plans
- TBS – Task Briefing Sheets

Network Rail Asset Protection team will provide guidance as to where documents fit within the NR assurance process timescales within service level agreement

Network Rail Route ASPRO Teams

Region	Email	Phone
Anglia	AssetProtectionAnglia@networkrail.co.uk	07752 468929
Central	assetprotectioncentral@networkrail.co.uk	0330 854 0274
Kent, Sussex, Wessex(London South East)	AssetProtectionSouthern@networkrail.co.uk	03308 540 648
North & East, East Coast (North & South)East Midlands	AssetProtectionEastern@networkrail.co.uk	07922 019905
West Coast Mainline South	AssetProtectionLNWSouth@networkrail.co.uk	Not listed
North West	AssetProtectionLNWNorth@networkrail.co.uk	0330 857 7772
Scotland	AssetProtectionScotland@networkrail.co.uk	07922 020801
Wales	AssetProtectionWales@networkrail.co.uk	0330 857 7288
Western	AssetProtectionWestern@networkrail.co.uk	0330 857 7127
High Speed 2	ASPRO_HS2@networkrail.co.uk	Not listed

National Contacts Map

Thank You from the Network Rail Asset Protection Team