

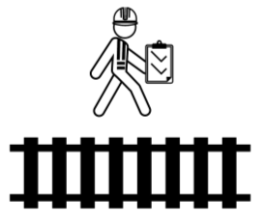
Perth Delivery Unit

Carrs Croft, Priory Place, Perth, PH2 0DS

Infrastructure Maintenance Delivery Manager
Lee Ross

Providing Maintenance and Response
Services for the following:

- Track
- Signalling
- Off-Track (Drainage, Vegetation, Fencing)



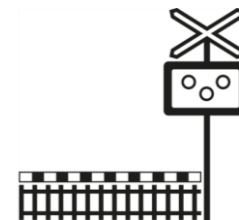
834 Track Miles



865 Signals



493 Points



380 Level Crossings

About me



- I'm in my 23rd year in the rail industry since leaving school at 16, starting as an S&T modern apprentice.
- I've worked in all S&T grades from frontline, management, engineering & now leading Perth Delivery Unit.
- I joined Perth in 2021 after spending the majority of my career in the Central belt.



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Maintenance Challenge



Track Headlines

Wet bed removal	497 bays
Lubricate fishplates	16,177 joints
Track patrolling (BVI only)	12,743 miles
Stress CWR	4.86 miles
Unload ballast	6,418 tonnes
Renew rail	3.97 miles
Replace sleepers	1,449 sleepers



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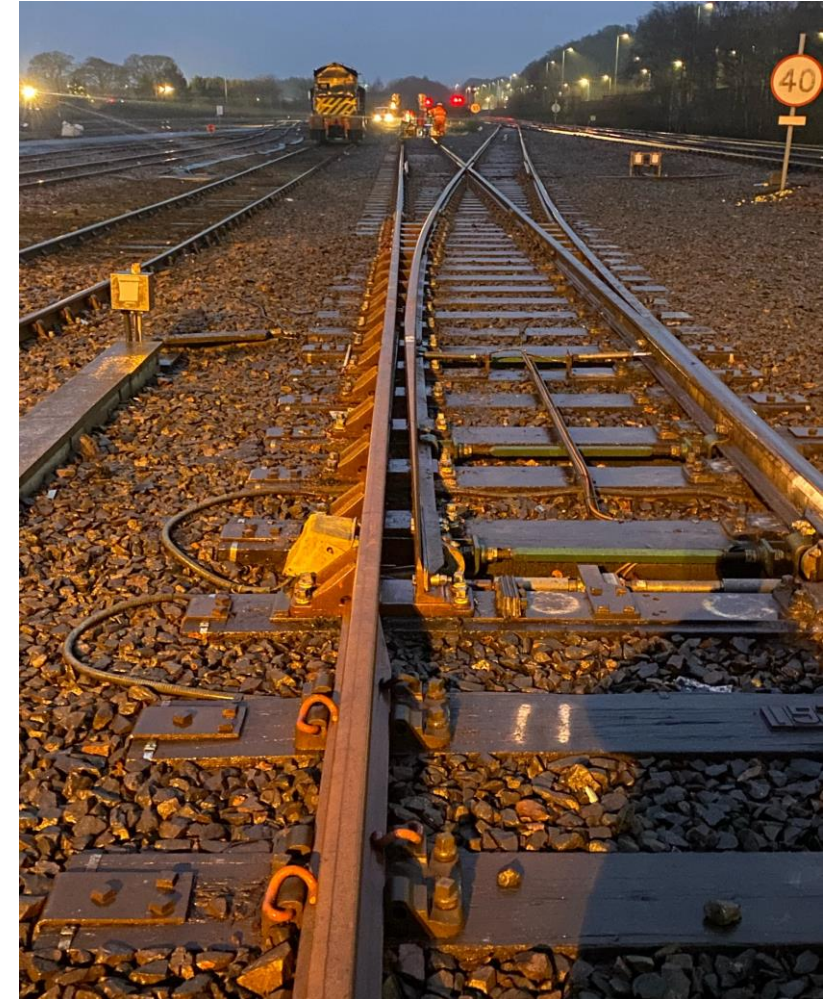
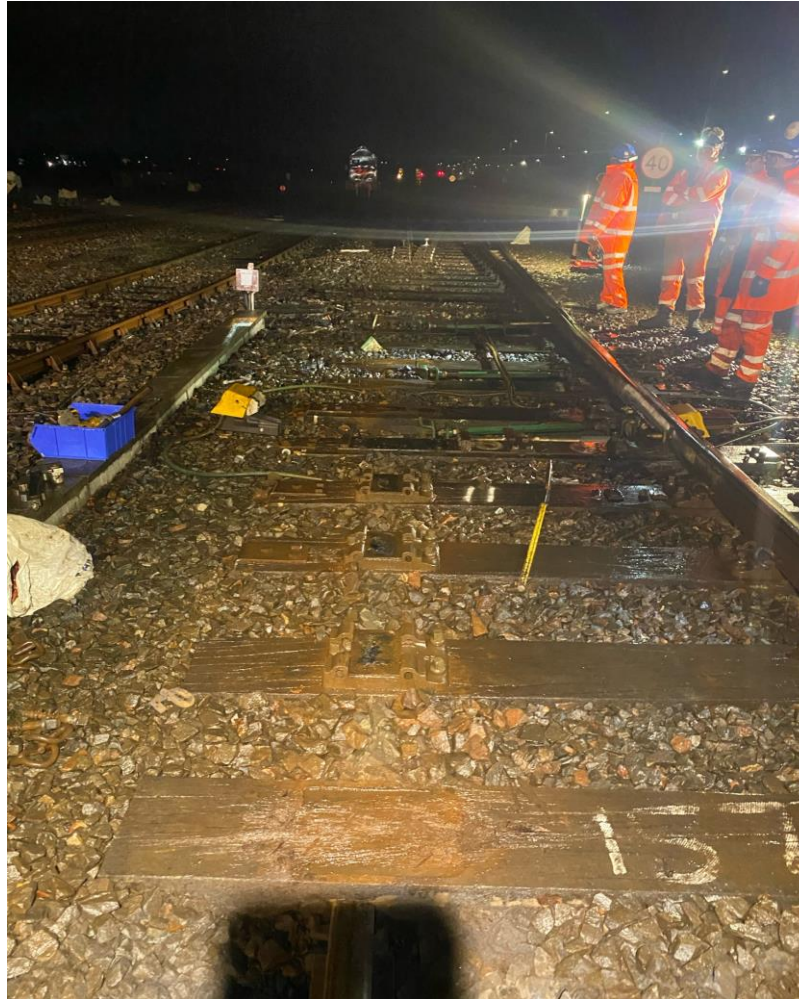
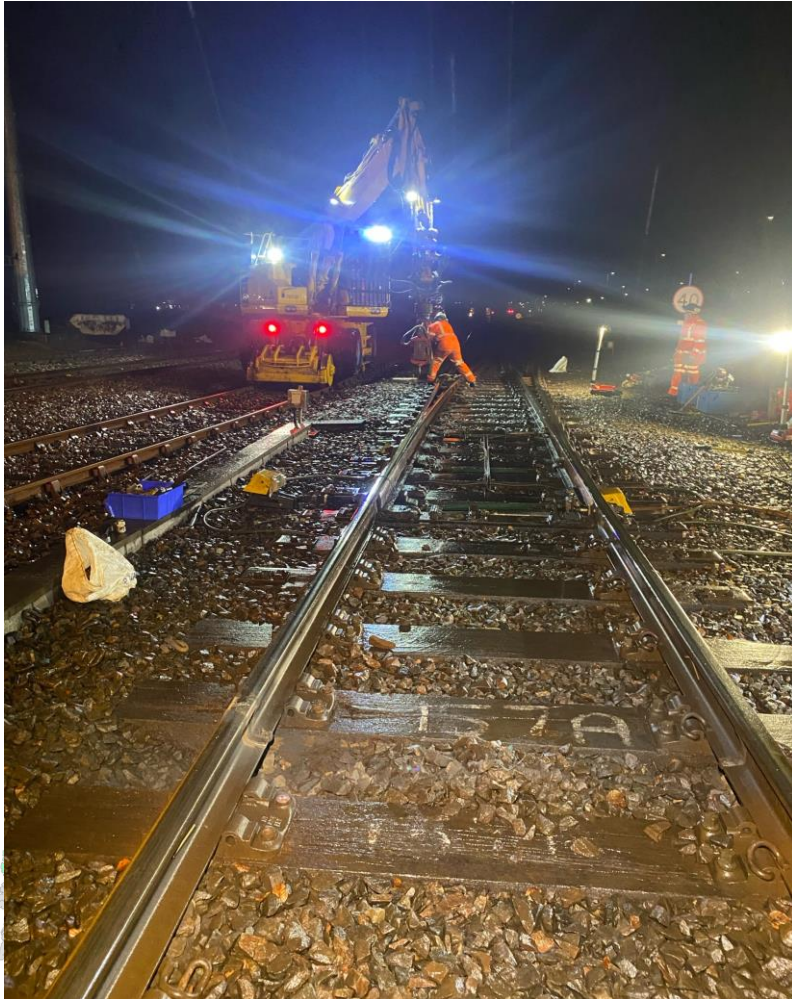
Track



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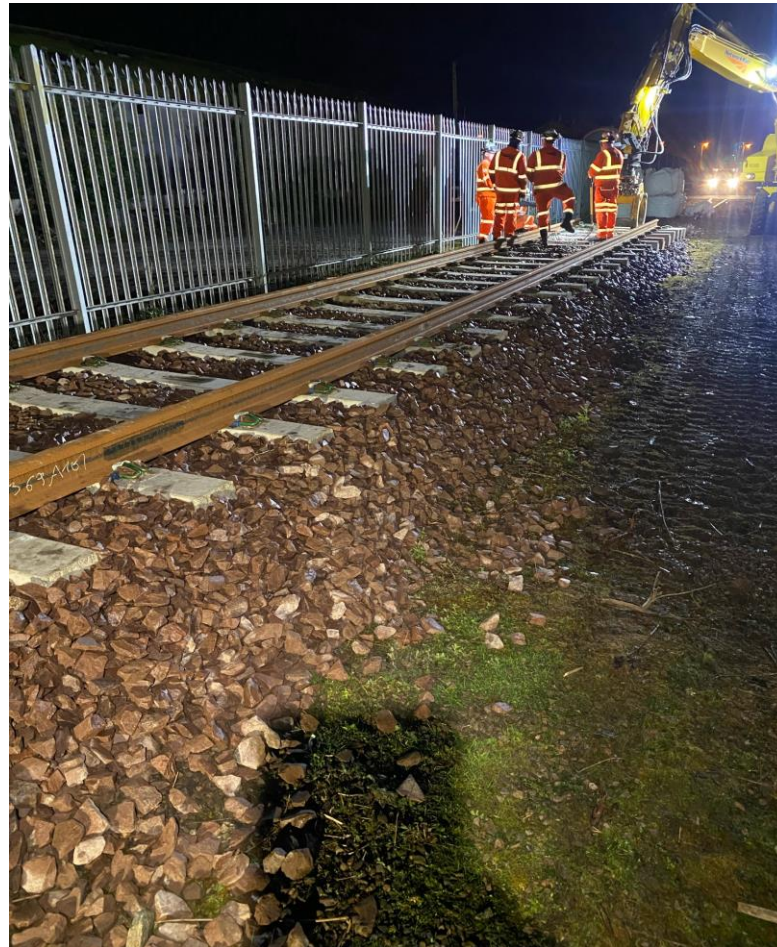
Inverness Station – Renewal of 157A Left Hand half set

Inverness Track and Inverness S&T team replaced the left-hand half set of 157A pts in Inverness Station. Replacement was required due to side wear on the asset, and a requirement for increased inspections. S&T renewed the full clamp lock set. A critical set of points in the station area which control moves from the ScotRail Inverness Depot onto the mainline.



Inverness – Track Training Panel

The Inverness Track Team recently installed a new 40m concrete sleeper test track in Inverness as a sandpit for maintenance training courses for Far North teams. This removes the requirement for the teams to travel to the central belt (Larbert) for practical courses, reducing fatigue, increasing availability for fault response/maintenance, and reducing the financial burden of travelling/hotels. There was also another 5m wooden sleeper panel installed for softwood plant courses.



S&T Headlines

Track circuit services	1,590 services
Level Crossing checks/services	1,619 tests
Wire degradation checks	383 cables
Veg clearance at location cases	632 locations
Cable route visual inspections	191 miles
FPL tests	1,441 point ends
Semaphore signal services	309 services



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Inverness 156A – Renewal of clamp lock body

Inverness 156A is a critical set of switches used to regulate services and units in and out of Inverness Station and Inverness Yards/Depots. Recent reliability issues led to multiple components being continually adjusted. Despite these interventions, reliability remained a concern. The decision was made to renew the full clamp lock assembly to remove the reliability risk. Delivered internally by Inverness S&T team.



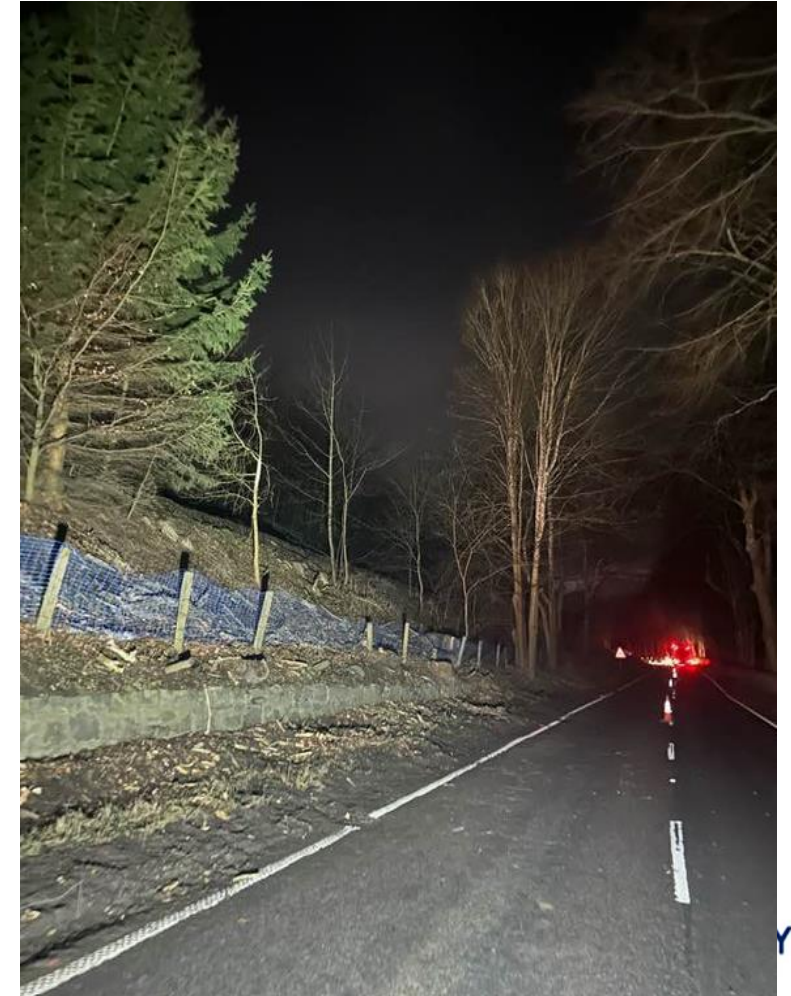
Off Track Headlines

Boundary inspections	979 miles
Boundary repairs	28.4 miles
Level Crossing lining/painting	2.45 miles
Access point maintenance/repairs	1,709 locations
Inspections of DDD trees	1,048 trees
Drainage system inspections	499 miles
Vegetation chemical spraying	34,256 m ²



Dangerous Tree Removal – Inverurie (ANI1, 20m1649y)

Prior to weather events, all known hazardous trees are surveyed to ensure that their condition has not deteriorated. If health of tree or surrounding land has worsened, then they are removed .



Brora AOCL+B level crossing, WCK – line refresh

Off Track teams are responsible for a large amount of Level Crossings. At such a critical interface with road users, it is imperative that the surface is regularly maintained to ensure user safety and minimise user error or misuse. Working with local supplier the Off Track team purchased the equipment, sourced training and now deliver the re-lining in house maximising efficiencies and keeping money in the railway for further re-investment.



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Hot Weather preparations Perth DU – Numbers since Nov'24 (ongoing)

5,336T of ballast dropped

47.11miles of ballast regulated

8.29miles of rail stressed

514 wet beds removed

2,280 IBJs inspected (173 refurbed)

237 adjustment switches inspected

309 adjustment switches lubricated

24,828 pairs of fishplates lubricated

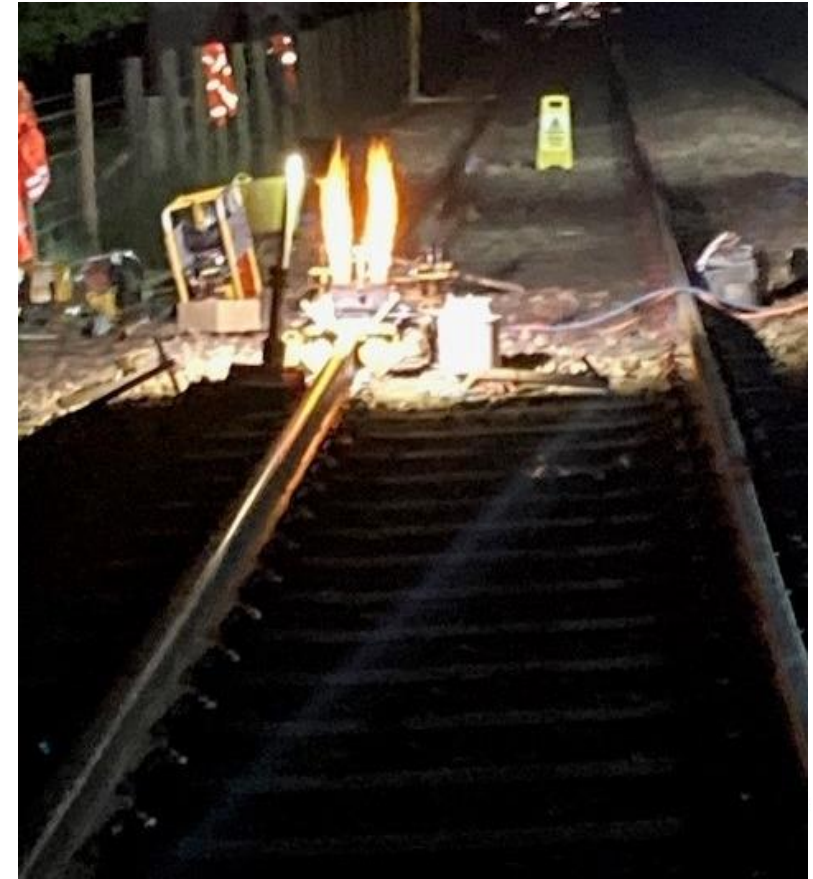
6,746 joint closure surveys

256,500m² of vegetation removed for Level Crossing, Signal Sighting, Mechanical Signal Wire Runs



Stressing – Hot Weather Preparations

To minimise risks of track buckles, rail breaks or weld failures, CWR should be installed where no thermal stresses exist within the rail. British Rail determined CWR is, most often, in a stress-free state between 21°C and 27°C. However, maintenance takes place at night where rail temperatures are considerably lower. Consequently, when installed, rail length is adjusted using hydraulic tensors to compensate. Implementing mandated stressing procedures ensure compressive and tensile forces, caused by thermal movement, are controlled. Effective CRT management means that the requirement for heat related ESRs is greatly reduced.



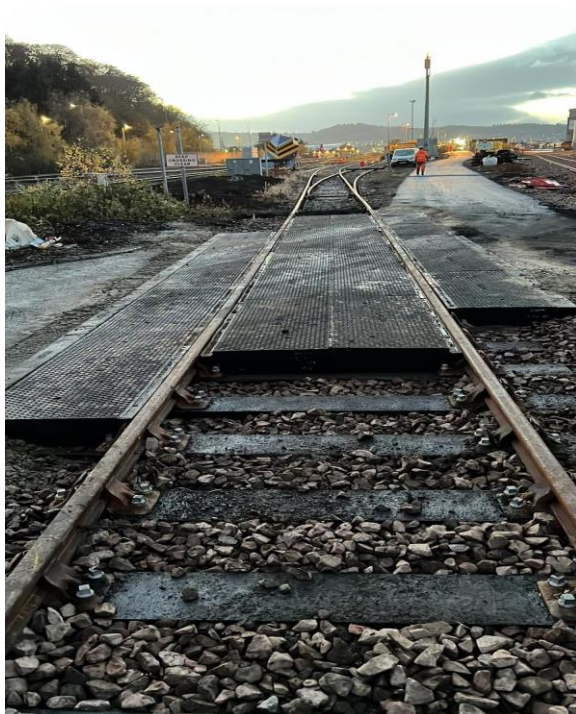
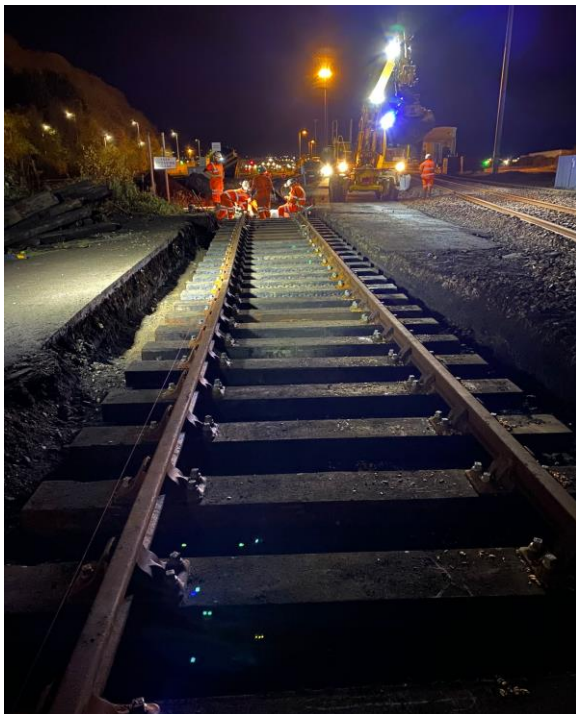
CUSTOMER INTERFACE



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Inverness Station – Right Time Departures

The finishing touches to a new connection from the Inverness WH Malcolm's yard into the Inverness Freight yard was completed by Inverness and Dingwall Track teams. This work removed the need for the Tesco Freight Train to shunt onto the mainline whilst loading containers at Millburn Junction, reducing Signaller workload and increasing the safety and efficiency of loading manoeuvres. This also reduced the risk of services being delayed by shunting moves. The track panel which was removed contained 85lb rail from 1929.



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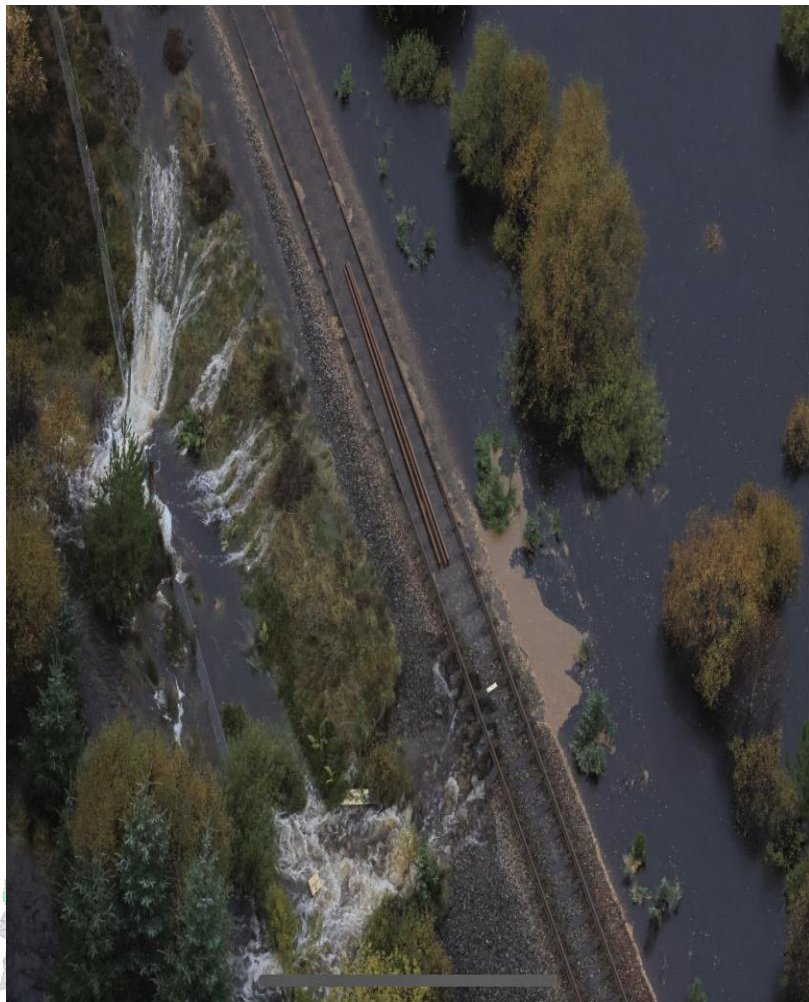
Extreme Weather



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T2023/206110 – Bi-Directional – KYL Rogie

Working with Structures and AMCO drove the completion of work during a recent closure, installing a 1.5m culvert to manage and control water on the nearby flood plain. Completion allowed for the removal of a longstanding 20mph speed restriction.



Down Line – Gynack Burn – HGL2 Kingussie

Deteriorating asset condition of longitudinal timbers at Kingussie resulted in a long standing 20mph TSR whilst enhanced access was arranged to rectify. Close work with several work parties and planning teams allowed for the renewal of bearers.



Down Line – Gynack Burn – HGL2 Kingussie

Works completed during recent closure, renewing split and life expired longitudinal timbers with new FFU (fibre-reinforced foamed urethane) sleepers. Synthetic sleeper with 50-year life expectancy, and enhanced ability to withstand river forces during adverse weather.



Weather Impact



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June 2025 Renewals



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Wick Line Closure – Maintenance Delivered Renewals

The CP7 Track Renewals programme places a strong emphasis on upgrading rural and remote lines, including Wick Line. Track and structures renewal works were undertaken between Dingwall and Georgemas 09/06 to 30/06. Renewing aging infrastructure on a line that play a vital role in serving rural communities and promoting tourism. TSM Helmsdale utilised this opportunity to renew 2,195yards (1.25mile) of rail across numerous sites. This has removed dipped joints, side worn curves and 85lb profile rail. The Fishplates have also been converted to Finlube oil and hardlock nuts which provides an added benefit during hot weather preparations on an annual basis



Far North –Wick Line Renewals Campaign WCK – Nigg Cat 16 Scarify, Rerail, Resleeper 2188y



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Thank You



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