



CONTROL OUR WORK AREAS

Temporary Works design, maintenance and inspection



WHAT HAPPENED?

A sheet piled cofferdam was installed within 1.5m of a live railway line to facilitate gas pipeline strengthening works. Timbers, which had been installed as part of the approved design, moved following a period of heavy rain allowing the trackside ballast to settle. This resulted in 7mm of track movement.

CONSEQUENCE / POTENTIAL CONSEQUENCE

The installed track monitoring system worked as intended to identify the movement, allowing a speed restriction to be put in place whilst remedial works were undertaken.

If this movement had not been identified, there could have been even greater disruption to the rail network, adding to the delay costs already incurred during the speed restriction period. There was also potential for the gas infrastructure to have been affected.

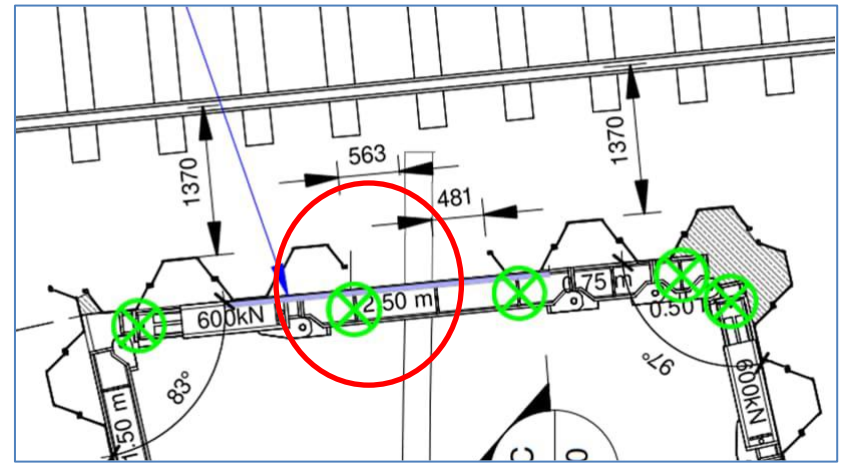


LET'S TALK

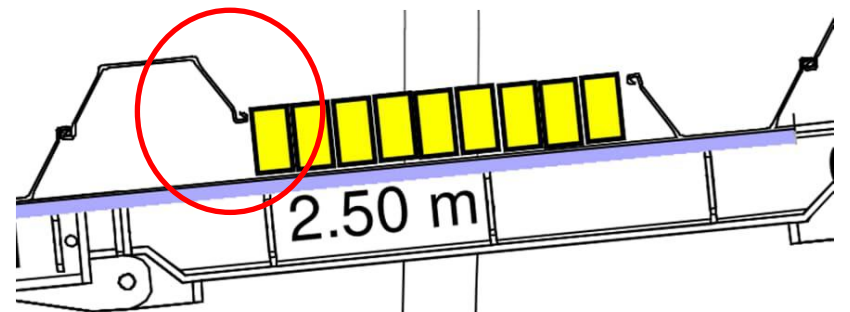
Despite the Temporary Works design undergoing all the necessary checks by Murphy, the client and third parties, potential improvements still existed which would have prevented the timber and track ballast movement.

When conditions changed on site, the frequency of maintenance and Temporary Works Inspections for the cofferdam were not properly considered.

How are Temporary Works managed on your site?



Area highlighted in red allowed timbers and track ballast to move following heavy rain. This risk was not identified during the design or construction process.



Timbers showing movement following heavy rain

KEY LEARNING / ACTION:

1. Consider during construction that design checks may not have identified and addressed all risks.
2. Ensure the frequency of maintenance and Temporary Works Inspection aligns with the risk – the minimum statutory requirements may not be sufficient, especially in poor weather.
3. Ensure that all gaps in sheet pile / trench sheet walls are filled with suitable material to prevent ground loss.
4. Ensure the requirements for controlling the water level within cofferdams / excavations are fully understood by the construction team.