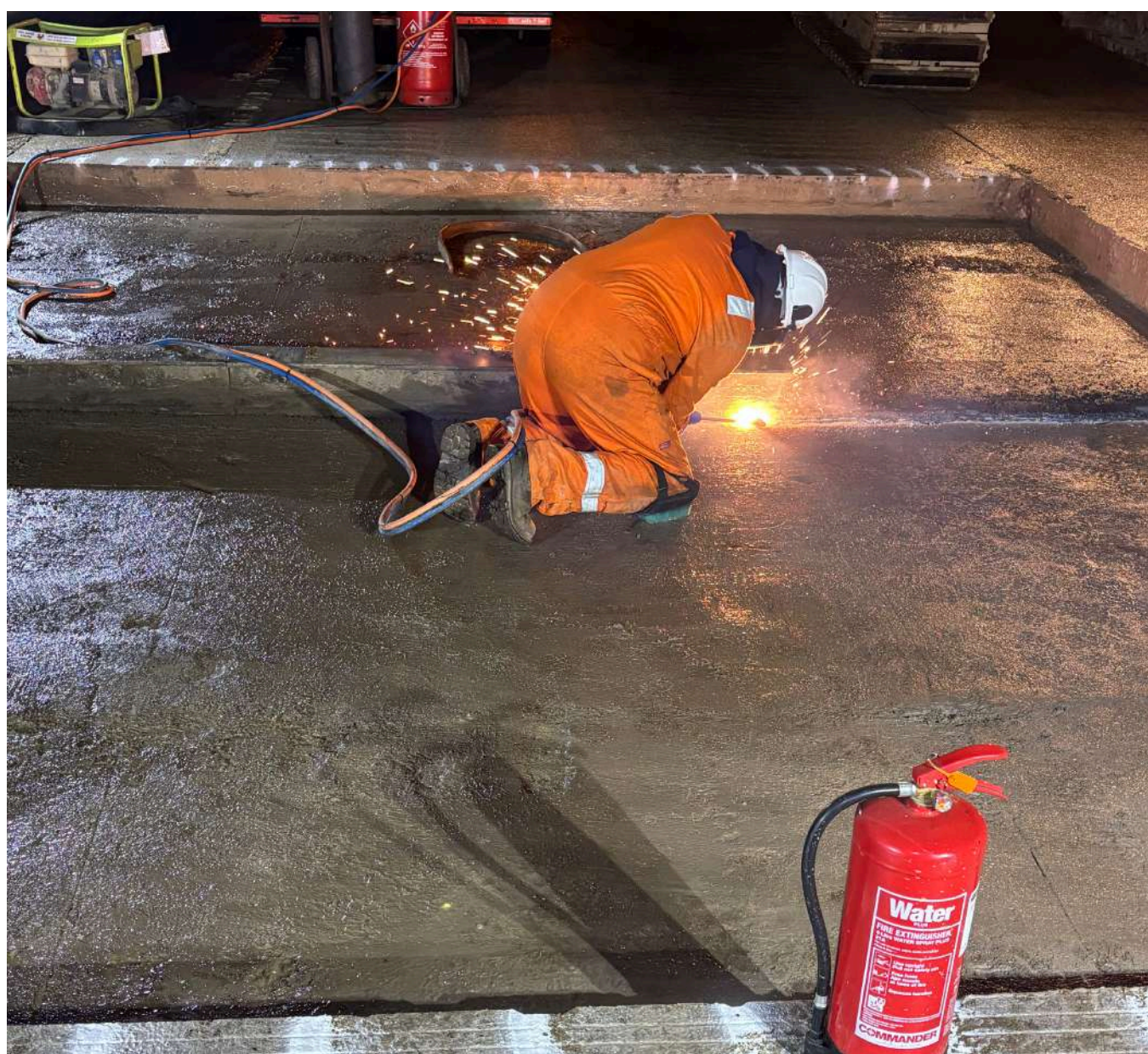




LMS | HIGHWAYS

## LMS HIGHWAYS DELIVERS FLANGE BEAM REPLACEMENT ON THE A35 DEVON.

**LMS Highways Replaces Steel Flange Beam Located on the A35 – One of Only Two Beam Replacement of its Kind on the UK Highways Network.**



### **The Challenge: Why the Work Was Needed**

The A35 in Devon is a major trunk road connection Honiton to Dorset and Hampshire, spanning roughly 96 miles towards Southampton and is maintained by Balfour Beatty and South West Highways through a joint venture named SWH/BBISJV. They are responsible for its operation and maintenance until late 2026 when the contract ends.

The A35 is constructed mostly using CRCP – Continuously reinforced concrete pavement, often a popular choice for a highly trafficked road due to being extremely heavy duty and offering a service life of around 20-40 years, or even longer with the proper maintenance. Along the A35 are several flange beams, these are a structural steel beam

with projecting flanges that enhance its strength and efficiency. These beams serve as transitional joints between CRCP and traditional concrete bays.

Until recently, when LMS Highways working on another Balfour Beatty project replaced the first flange beam on the UK highways network, this type of repair had long been considered “impossible” by many designers, fabricators, and contractors across the industry. After decades of service the beams become heavily corroded and reach a state of significant disrepair, where a full replacement is the only viable solution.

## Delivering Solutions: Scope of Work

Having successfully delivered a full 9-metre-long steel flange beam replacement for Balfour Beatty only months prior on the A50, they were keen for LMS Highways to start delivering this service throughout the other roads they manage under the Design, Build, Finance and Operate (DBFO) contract.

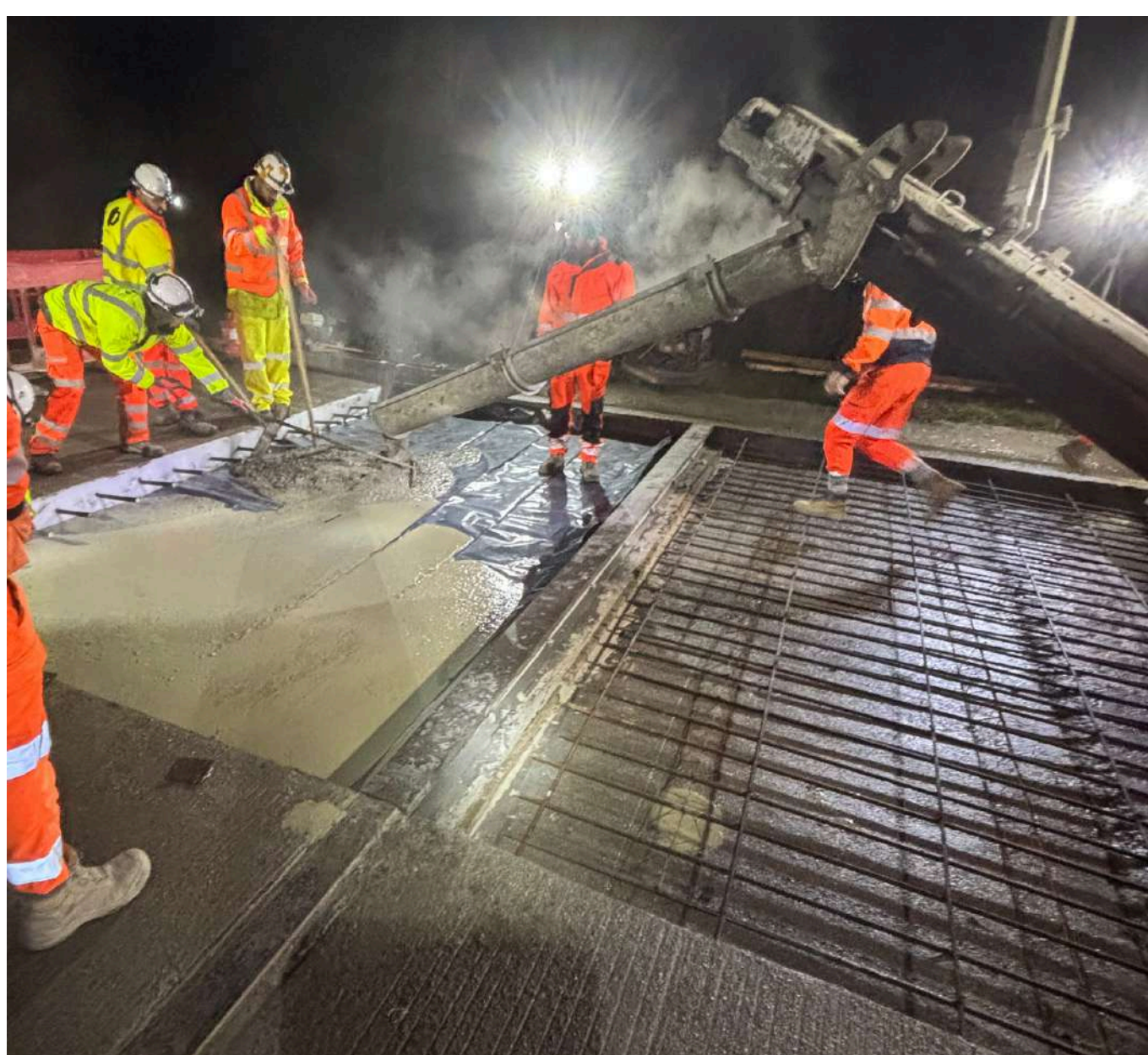
Taking place in late January 2026, a full two-night, weekend closure on the A35 had been scheduled to accommodate the works and associated concrete repairs. With our extensive prior planning, preparation and experience allowed the beam replacement to be completed within a single night shift, with the existing damaged flange beam being removed and the new 5-meter-long beam installed within just 1 hour.



The replacement utilised an 'I' beam design, chosen for its excellent strength-to-weight ratio and ability to withstand substantial loads. The surrounding concrete work was installed using our award winning, rapid-set, low-carbon concrete mix Premcrete Highways FC Cement. This chosen concrete mix cures within an impressive 4 hours, allowing us to reopen the road the following day, reducing closure costs and minimise disruption for commuters.

Repairing CRCP requires precision and accuracy, after removing the damaged sections of concrete, new steel starter bars are installed at 150mm centres just slightly offset from where the existing ones are. The dowel bars are then resined into place and steel mesh/ reinforcing bars are attached at both ends running continuously along the length of the bay, ensuring the continuous reinforcement isn't broken or disrupted.

The finished repair offers an expected service life of around 20-40 years, or longer with the proper maintenance.



## Choosing Expertise: Why LMS Highways Was Selected

Over the past 10 years LMS Highways has worked with Balfour Beatty on several of their DBFO maintained roads, delivering concrete repair projects across the UK. LMS Highways first visited the A35 in July 2025, delivering around 170m<sup>3</sup> (420 tonnes) of CRCP repairs.

This long-standing working relationship and our proven expertise was the reason LMS Highways were chosen for this complex and high-risk project. LMS Highways are able to provide intricate, time critical repairs and rapid concrete bay replacements whilst delivering to an accelerated

program which significantly reduces road closure times and minimises disruption for road users – ensuring safety, efficiency and reliability on every project.

Key factors making an accelerated program possible:

- Meticulous prior planning: Ensuring a comprehensive understanding of project requirements and constraints.
- Skilled Workforce: All staff and subcontractors working for LMS Highways are highly trained and meticulously chosen.
- Bespoke Equipment: We utilise bespoke plant and machinery designed for optimal performance.
- Innovative Materials: Our award winning, rapid-set, low-carbon concrete mix Premcrete Highways FC Cement, which cures within an impressive 4 hours.

“The project was an great success, all parties involved – from the fabricators and concrete suppliers to the subcontractors and the LMS team, arrived on site, well-prepared, and ready to deliver at their best. Everyone’s experience was evident throughout, requiring minimal direction and working seamlessly together at every stage. The whole project ran like clockwork from start to finish and was a genuinely enjoyable experience.

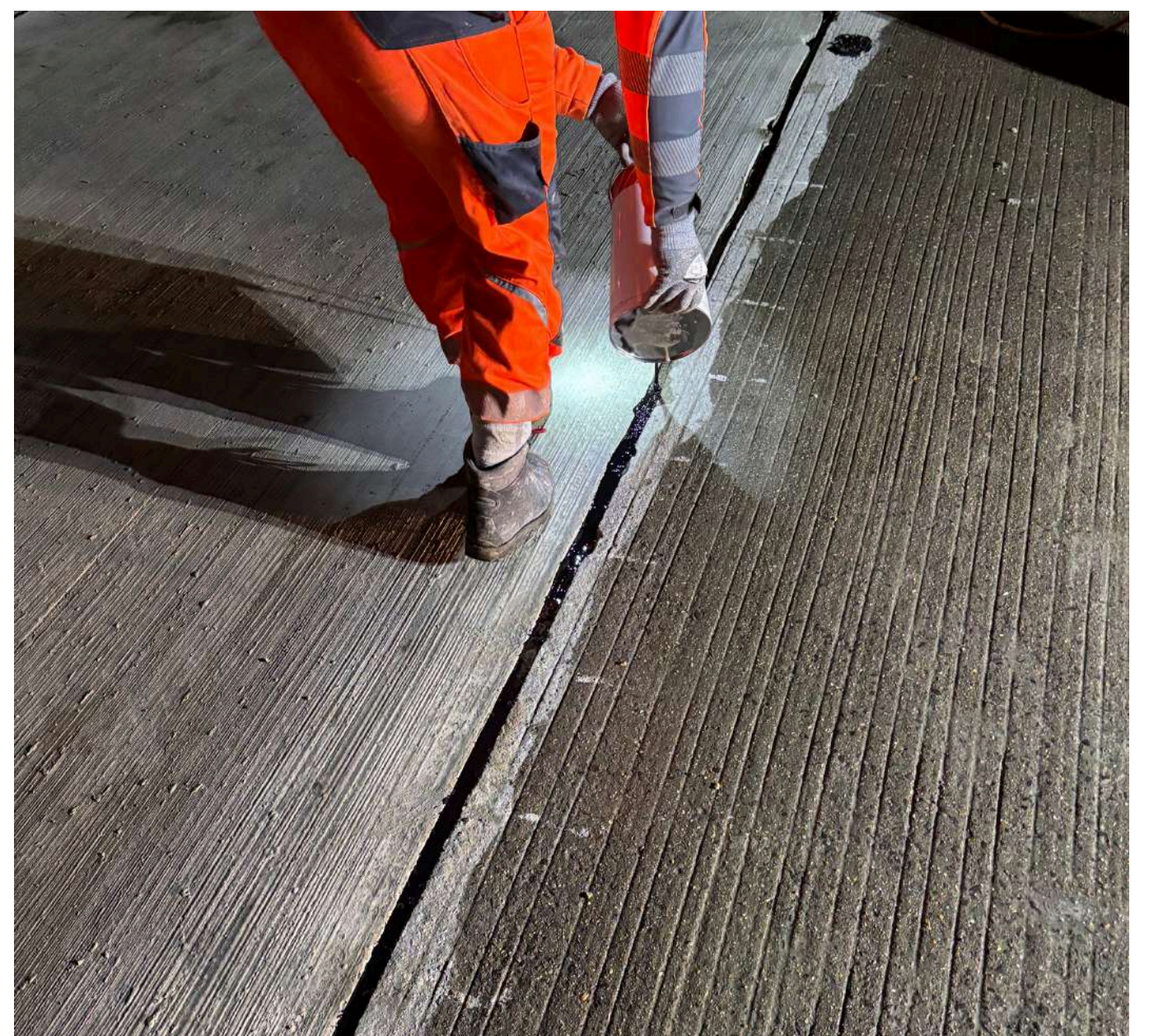
After weeks of careful planning, seeing the project come to life so smoothly was incredibly rewarding. Both the client and I are extremely pleased with the results, the finished beam and surrounding concrete performs exceptionally well, delivering a smooth riding, high-quality outcome we can all be proud of.” – **Paul Burton, Contracts Manager for LMS Highways**

### Results That Matter: Project Outcome

LMS Highways successfully replaced the damaged steel flange beam within the carriageway – one of only two replacements of its kind on the UK highways network. The entire operation, from getting onto site, to site clearance, was completed safely and efficiently within just one 10-hour shift. Our repair work was completed under full night time road closures, ensuring the safety of everyone on site and to reduce disruption.

On the night of the works,

- The damaged flange beam was removed in just 15 minutes.
- The new beam was lifted into position and drilled into the existing substrate through pre-drilled holes placed at 600mm centres throughout the beam. It’s then brought to the correct level using a combination of sting lines and carefully adjusting each screw thread until achieving the perfect level. This meticulous installation was completed within an 45 minutes and resulted in seamless transition between the the flange beam and concrete surface.
- The adjacent rapid set concrete repairs were prepped, poured and cured with less than 4 hours, thanks to our award winning, rapid-set, low-carbon concrete mix Premcrete Highways FC Cement.



This project showcased LMS Highways’ seamless collaboration, precise planning and efficient execution – setting a new industry benchmark for innovation and delivery in highways maintenance.

“The replacement of the WFB went very well. It was quick, precise and very a well-planned execution. To be able to lift the traffic management a day early was an overwhelming achievement. Site was left clean, debris free and the reporting and photographic evidence was second to none. Well done all round from the A30/A35.” – **Claire Dean, Route Manager for Balfour Beatty**