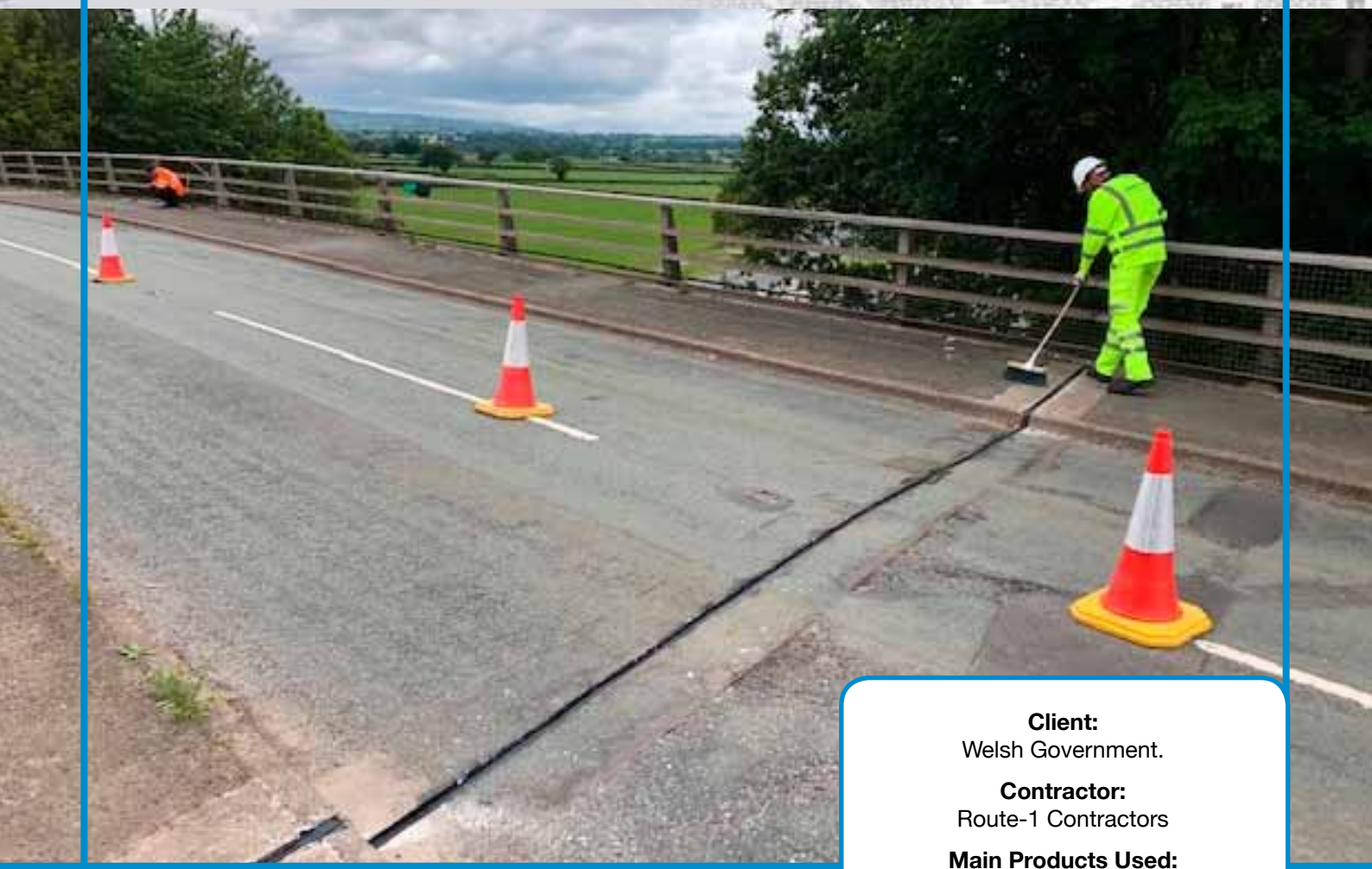
NCC Movement Joint Systems



Client:
Welsh Government.

Contractor:
Route-1 Contractors

Main Products Used:
Emseal BEJS System

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Bretton Lane Bridge A55,
NWTRA, Wales

Case Study

The Bretton Lane Bridge over the A55 in North Wales had expansion joints across the carriageways in each direction of the road, located directly above the main bridge bearings. The steel mechanical bridge joints bedded into the structure itself, were still in good condition, but the central compression joint seals had failed allowing water and de-icing salt ingress. Repairs had been attempted several times, but these soon failed and leaked, therefore the engineers now wanted a more durable watertight solution, although closing the road to do this was deemed impossible!

NCC developed a bespoke solution with Route-1 Contractors to use the Emseal BEJS System as a 'permanent' temporary replacement of the central movement section, as the steel mechanical joint edges forming the joint arrises were still sound. BEJS can handle harsh environmental conditions and has greater movement capability, better low temperature flexibility and higher temperature stability than other joint technologies. In just a single installation and following bespoke CAD details, BEJS provides a durable watertight seal, with a joint movement capability over 100%, including 3-D movement in shear, plus it requires no invasive anchoring as it is bonded in position.

Additional advantages for Bretton Lane Bridge were that the Emseal BEJS System was supplied prefabricated to an agreed installation plan, which ensured continuity of seal through changes in plane from decks to pavement kerbs. The installation is also fast, easy and could be staged to allow partial traffic flow, by replacing one carriageway at a time with traffic management for a single day, as it is driveable within hours of installation.

EMSEAL