



A21 Quarry Road Hill Bridge

VolkerLaser, contracted by National Highways, recently undertook the principal contractor role to deliver essential bearing replacement works to the A21 Quarry Road Hill Bridge abutments in Tonbridge. The work involved removing and replacing elastomeric bearings and the installation of new guided bearing to guarantee the bridge's safety and longevity.

To safely manage traffic, National Highways contracted HW Martin to install temporary traffic management systems, minimising disruption for road users. Once in place, the vehicle restraint system (VRS) was removed and lateral fixity installed to stabilise the structure during bearing replacement. A scaffold was then erected to provide secure access to the bridge.

With the bridge stabilised and access in place, the team began strengthening works by installing 150no 800mm dowel bars—a temporary solution later adopted as permanent works.

Using hydro-demolition, the team removed old jack locations, dowel bars, and plinths in two phases, before installing new jacking cobsles, including one for a shear key. Jacks and plates were then installed, accounting for a significant deck inclination. Through skilled workmanship and proper materials, the bridge was raised by 2–3mm, enabling access to the worn bearings.

A second round of hydro-demolition cleared old concrete from the bearing locations.



The team then cast new cobsles and plinths, setting the elastomeric bearings with high-strength bedding mortar.

Finally, the bridge was de-jacked and lowered onto its new bearings, followed by the removal of temporary works and full reinstatement—completing the core bearing replacement and restoring the bridge's integrity.

During the technically complex Early Contractor Involvement (ECI) phase, VolkerLaser managed the temporary works design, including steel lateral fixity, scaffold access, and jacking systems, as well as the in-house approval in principle (AIP) process in line with CG300. The team also delivered the CAT III check of the permanent works in collaboration with National Highways and Jacobs.

The project was completed on schedule under an accelerated programme to minimise disruption on the A21.

