

Swift fill for motorway voids

Geopolymer material more commonly used to address subsidence beneath properties or correct defects under airfields has been installed at a motorway junction in Cambridgeshire to fill underground voids in an embankment.

Nearly 11,000kg of the material was injected into the ground on slip roads at the Girton interchange where the M11 meets the A14 to fill voids believed to have been caused by the erosion of soils as a result of heavy rainfall.

If left unchecked the deterioration may have undermined both the embankment and carriageway.

Small holes were drilled into the carriageway at 1.5m centres – and closer together in the worst affected areas – before two components of a geopolymer material were injected into the ground. When they meet, the grout expands to fill to void.



Conventional repair would likely have involved closing the entire motorway to dig out earth before rebuilding the road. Last year, voids found beneath another section of the Girton interchange were dug out and filled with 1200t of earth in a contract that took over two months.

But this latest remediation, carried out in October, involved keeping traffic running in one lane during the day.

↑ Holes are drilled and grout is injected into the carriageway at Girton on the M11



Work was completed in three weeks.

“This method of repair is quicker and offers a lot less disruption to the public,” says specialist ground engineering contractor Geobear engineering manager Daniel Hadfield.

Highways England project manager Karl Brooks adds: “We were keen to complete this work before the colder winter months set in, which could have caused further deterioration.”