



When defects appeared within the highway verge above Keldheads Flue in North Yorkshire, investigations uncovered a forgotten piece of industrial heritage hidden beneath the road.

Originally constructed to serve the local mining industry, the centuries-old drystone masonry flue had later been repurposed as part of the highway drainage network. Its existence was not identified within highway records until the appearance of surface defects prompted further investigation.

Structural inspections by North Yorkshire Council revealed a partially collapsed masonry arch that had suffered centuries of deterioration, deformation and overloading from modern traffic far beyond anything it was originally designed to withstand. With the structure presenting a risk to highway users, conventional engineering solutions pointed towards demolition or replacement.

Instead, North Yorkshire Council challenged the traditional approach, developing an innovative solution using pneumatically installed Leca Lightweight Aggregate (LWA) to stabilise the structure, preserve an important piece of local industrial heritage and minimise environmental impact.

FACTS

Material: [LECA LWA \(10-20mm\)](#)

Interesting Fact: Keldheads Flue remained undiscovered in highway records until defects appeared in the road surface. What began as a routine highway inspection uncovered a centuries-old mining structure hidden beneath the carriageway.

Delivery Method: Pneumatic Delivery

Main Contractor: CR Reynolds Ltd

Client and Designer: North Yorkshire Council