

CASE STUDY

Type 3 Rural Access Road

'Asset Management principles applied to a busy rural road'

Scheme: Forge Mill Lane, Cheshire East
Authority: Cheshire East Council
Client: Ringway Jacobs
Date: November 2016
In-Situ Process: 240mm HBM
Surface: 45mm Asphalt
Carbon Saving: 119 Tonnes



Background

Forge Mill Lane is a Category 3 road (0.5 – 2.5 msa) in the heart of rural Cheshire and is located approximately 4km West of Sandbach. Following initial information received from Cheshire East Highways, SPL initiated site evaluation and assessment.

Extensive historic patch repairs were evident indicating structural issues in the carriageway which was breaking up allowing a degree of water ingress through surface cracking.

Blocked gullies and a lack of drainage in places was also contributing to the impact of surface water within the carriageway.

Design & Testing

The initial proposal was for a 200mm thick recycled HBM with a 45mm overlay of asphalt in line with TRL 611 given an assumption of CBR values of between 8 and 14%.

Following commercial engagement through Ringway Jacobs, SPL commenced with testing the road materials. Works include the removal of sample aggregate for trial mixes as well as LWD testing, analysis of particle size and moistures.

A review of the collated information and analysis of completed Trial Logs was undertaken, including 7 and 28 day crush test results and CBR values taken from LWD readings. This review highlighted some lower CBR's than initially assumed and so the depth of the recycling was increased to 240mm, again in line with design guide TRL 611.

Delivery

The recycling took place over 7 days and covered 7771 m² with 4300 Tonnes of the existing carriageway re-engineered on site in line with design intent to provide a 20 Year Design Life. The recycled layer was capped with a bitumen emulsion in order to retain moisture during hydration and covered with a light protective grit. Following SPL's handover, the ironworks were re-instated prior to surfacing with the specified 45mm asphalt.

