



Warm mix asphalt with reduced carbon emissions; A350, Westbury, Wiltshire



“My approach to warm temperature asphalt is, why wouldn't you. This asphalt provides sustainability benefits, improves site safety and as the A350 Westbury site demonstrates, gives the opportunity to adopt a more efficient way of working in delivering schemes.”

Diane Ware - Principal technical officer - Highways England.

The challenge

The A350 Westbury road condition was poor, resulting from the underlying ground conditions that are prevalent in this part of Wiltshire. The road reconstruction would require a 24/7 road closure, diverting HGV traffic onto the Highways England network, which was already at capacity, and other traffic onto lengthy diversions on local roads. The scheme was originally planned to commence on 16th September and completion on 11th October.

It was to be undertaken in sections, with planned areas to be laid with two layers of 60mm AC 20 HDM Binder, with a 200mm geogrid in between and 50mm surface course of 10mm Ultilayer S. Each reconstruction section was to take 1.5 days sections including ancillary works. The total scheme was costed at £470k.

Our solution

Wiltshire and Tarmac Contracting collaboratively reviewed with programme using warm temperature asphalt and it became evident that warm temperature asphalt would provide very significant efficiency savings. The use of warm temperature asphalt throughout all construction layers enabled the scheme to be undertaken in a more efficient method of working. The installation of the geogrid could be carried out quicker due to the lower temperature of the asphalt below, enabling the upper binder course to be installed in the

same shift. This also allowed the team to complete ancillary works on other sections during the shift, providing a 0.5 day saving on each programmed 1.5 day section. The earlier finishes during the contract period allowed access for residents to their houses and the town centre.

Results and benefits

The scheme was completed seven days earlier than programmed, providing a saving on the overall cost of £70k, principally from traffic management, whilst allowing for an additional 25% more work to be completed. The early completion reduced the diversion period and disruption for through traffic and the local community. Public appreciation was expressed in a complimentary letter published in the Wiltshire Times. The emphasis on sustainability may have helped Wiltshire Council to be named the most climate-friendly council in England and Wales, by Friends of the Earth when assessing local authorities' energy, transport and recycling plans.



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