

CASE STUDY

WHERE? A143 Bungay Norfolk, UK

WHEN? July 2003

WHO WAS THE CLIENT? Asphalt SAMi Layer Installation



OVERVIEW:

Over the 15 sections selected for SAMi treatment the surface was swept by mechanical sweeper, and a bond coat of hot 160/220 pen bitumen was sprayed by calibrated distributor at 0.6 l/m², over which a non woven paving grade geotextile was laid. Adjacent panels were butt-jointed, as overlaps could potentially have formed a ridge in the final surface. A surface dressing was then applied on the fabric consisting of 6mm dry granite chippings laid onto polymer modified emulsion sprayed at 1.6 l/m². The process was completed under Stop and Go traffic management. To complete the process, the whole site of approximately 30,000m² was surface dressed with polymer modified bitumen sprayed at 1.4 l/m² and 10mm granite chippings.

WHAT WERE THE CHALLENGES?:

The A143 Bungay Bypass was constructed in the early 1980's. The original HRA surface was overlaid in 1995 with 25mm thickness of 10mm SMA. In 2003, although the road had retained its shape, several severe cracks were present and the road surface appeared 'tired' and 'brittle'. Norfolk County Council Department of Planning and Transportation Laboratory was looking to trial a cost effective solution to retard the formation of reflection cracks in the overlay by allowing controlled horizontal flexibility, as well as sealing underlying layers against water penetration and prolonging the life overall of the road construction.





THE SOLUTION:

Fifteen sections of the carriageway, totalling 10,800m², where the cracking was most evident were selected for treatment with a SAMI. This consisted of a paving grade fabric laid onto bitumen over which a 6mm surface dressing was applied. Later the entire site including the sections of SAMI was surface dressed with 10mm chippings.

END RESULT:

Normally, Norfolk County Council would have repaired existing cracks in the pavement prior to Surface Dressing. By laying the SAMI material, Norfolk engineers considered that such repairs could be omitted from the design, which resulted in a substantial cost saving to the construction. Mr Bob Noakes, Group Manager of the Norfolk Laboratory commented "the key to the success of Geosynthetics is good quality installation".

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