

Hampshire County Council Partners in Innovation (PII)

Demonstration Project 3

Recycled Surface Dressing Sweepings

Background

This series of leaflets describes a number of projects demonstrating the technical, environmental and cost benefits that arise from the use of recycled and secondary aggregates in highway works in Hampshire. Working in partnership together, Hampshire County Council, Raynesway Construction Southern and Foster Yeoman adopted sustainable policies for highway maintenance works. A Partners in Innovation project, carried out by TRL and funded by the Department of Trade and Industry, enabled these



practices to be captured in a number of demonstration projects. The material diverted from landfill as a result of the partnership is assisting Hampshire County Council to meet their Public Service Agreement (PSA) target to divert an additional 40,000 tonnes of material from landfill per annum by 2005.

Activity:	Reuse of surplus surface dressing chippings
Location:	Various sites across the county
Application:	Routine highway maintenance
Material:	Recycled surface dressing chippings
Amount used:	4,000 tonnes
Date:	2004 ongoing
Client:	Hampshire County Council
Contractor:	Road Maintenance Services Ltd
Specifications:	Specification for Highway Works British Standard for Chipping Grading BS EN 13043-2002 TRL Road Note 39, Design Guide for Road Surface Dressing

Summary

In surface dressing operations on highways, there are always some surplus unused materials. After the surface dressing has been laid, further surplus material is generated as sweepings of loose material from the road surface. In Hampshire there are a number of remote sites where unused surface dressing chippings have been stockpiled for some years. These sites are now receiving post surface dressing sweepings as well as the unused material. The surface dressing sweepings would previously have been sent to landfill or used on farmers' tracks. In 2003 these stockpiles were estimated to be in excess of 4,000 tonnes.

Hampshire County Council and their surface dressing contractor, Road Maintenance Services, developed techniques to enable the surplus chippings to be reused in further surface dressing works. This saved the import of further high quality primary aggregates. The material came in a range of sizes including 6mm, 10mm and 14mm. It was required to be screened before it would be suitable for use. A dry screening process was used to remove the majority of contaminants, and the screened material was then lightly coated with bitumen to remove the high dust content of the resulting material.

In the 2004 season (May to August), these recycled coated chippings were used at 33 sites across Hampshire. In all, 1613 tonnes of 10mm material and 1554 tonnes of 6mm material were laid using either a 10/6mm raked in dressing or 10/6mm double dressing specification. To date, all sites treated using the recycled chippings are performing well. Monitoring is continuing every 6 months. Following the overall success of the trials, preparations are underway for a similar programme in 2005.

Economic Benefits

- Cost of recycled surface dressing chippings: £66,479
- Value of equivalent primary aggregate chippings: £94,530
- Savings using recycled surface dressing chippings: £28,051



The cost savings illustrated here largely arose because of the long haulage distance for the equivalent primary material and the surface dressing sweepings having no value.

Environmental benefits

- The use of the locally sourced recycled surface dressing sweepings saves on the environmental impacts of haulage of equivalent primary aggregates.
- The reuse of the surface dressing sweepings prevents their disposal to landfill and avoids the use of primary aggregates.

Benefits to Local Authorities

The use of recycled aggregates in this project had double benefits for Hampshire County Council. It contributed to targets under the Public Service Agreement for diversion of materials from landfill and also led to cost savings compared to the use of primary aggregates. Recycling had direct tangible benefits for the local authority as well as broader environmental and technical benefits.