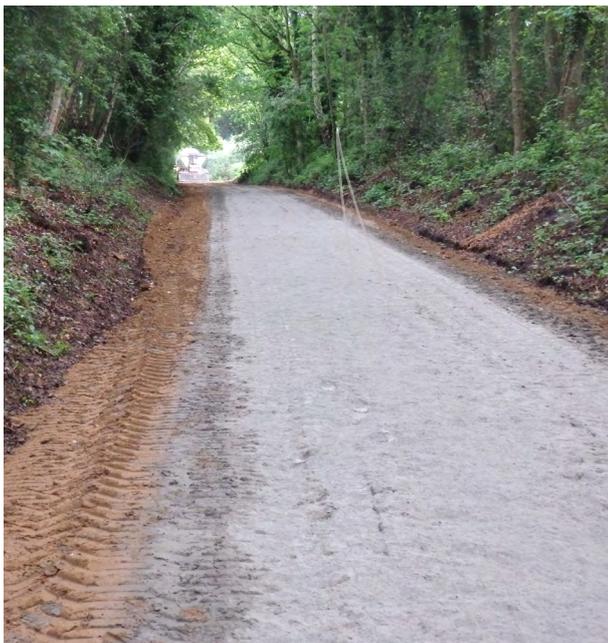


CASE STUDY

Cycle Route Improvement

‘cyclists and pedestrians benefit from re-engineered section of Sustrans National Cycle Route No.1’

Scheme: Marriott’s Way, Norwich
Authority: Norfolk County Council
Client: Norfolk County Council
Design: Norfolk Partnership Laboratory
Date: June 2016
Area: 2075 m²
In-Situ Process: 150mm HBM
Surface: Emulsion seal & grit for non-vehicular traffic
CO2 Saving over Traditional Recon: 20 tonnes



The Marriott’s Way is England’s longest disused railway trail at 26 miles. Parts of the trail have been used for walking, cycling and horse riding since the 1970s.

The route is entirely in public ownership; with the majority of the route owned and managed by Norfolk County Council, alongside Norwich City Council and Broadland District Council.

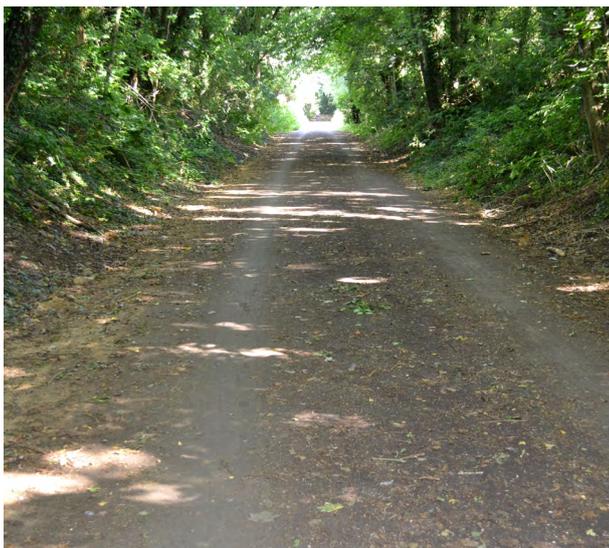
Around 110,000 people walk, cycle or ride on the Marriott’s Way annually and it is part of Sustrans National Cycle Route No. 1 (Dover to Shetland). The whole length of the Marriott’s Way has been designated as a County Wildlife Site.

The surface needs to be appropriate for all users:

- Cyclists
- Walkers and runners
- Horse riders

The Marriotts way project is to contribute to the objectives of the wider Transport for Norwich Programme which are to:

- boost economic growth by enabling residents to reach job opportunities, city centre facilities and linking major development sites to the cycle network
- provide cycling infrastructure at an early stage of new development to shape travel behaviour from the outset
- tackle health problems in parts of the County with high levels of obesity by providing cycling infrastructure
- Increase the level of commuter cycling within the Thorpe Marriott to Norwich City Geographical Area
- broaden the demographic appeal of cycling
- reduce the rate of accidents involving cyclists and pedestrians
- cut carbon emissions from journeys to and from and within the city



The proposal of re-engineering the existing materials within Marriots Way, on site, not only provides a solution in line with Sustrans' Design Guidance (sustrans.org.uk) – that is, providing quality materials and construction leading to a positive impact on usage and future maintenance; but also significantly reduces the impact of construction on the surrounding environment through fewer vehicular movements and a shorter programme over alternative options.

In resolving the surface issues experienced by users of the route, particularly in wet winter months, the existing material was tested for Grading and Moisture Content. LWD testing was also undertaken to measure the un-bound material's soil bearing capacity and compaction quality. Samples were taken for trial mixes with blended cement (CEM 2).

The overall depth of recycling was at 150mm and the addition of 5% Cem2 was suitable for the bulk of the route, however approximately 150 linear metres at Pendlesham Rise was found to be very fine silt and a variety of quantities of 6F4 course aggregate was trialled.

The most cost effective solution for this area was a 50% 6F2 addition to the existing material prior to mixing with the CEM 2, in order to achieve the required strength.

The reconstructed surface material was finally covered with an emulsion in order to seal the surface and allowing the mixed material to cure slowly. The final treatment was a protective grit, which despite the initial dark appearance has blended in over a short period of time to a more "natural" appearance in colour with suitably enhanced performance for it's users.