

Harbury Cutting
Harbury, Warwickshire
J Murphy & Sons

BIG Biodiversity Challenge Award category: Medium Scale Permanent

Project overview

Harbury Cutting Project (infrastructure) was undertaken by J Murphy & Sons on behalf of Network Rail in January 2015, a major landslide saw the movement of 326,000 tonnes of rock and soil along 160 linear metres of railway cutting, resulting in the closure of the line between Leamington Spa and Banbury. Following emergency meetings with Network Rail, Murphy devised a strategic plan to remove the landslide and re-build the entire slope.

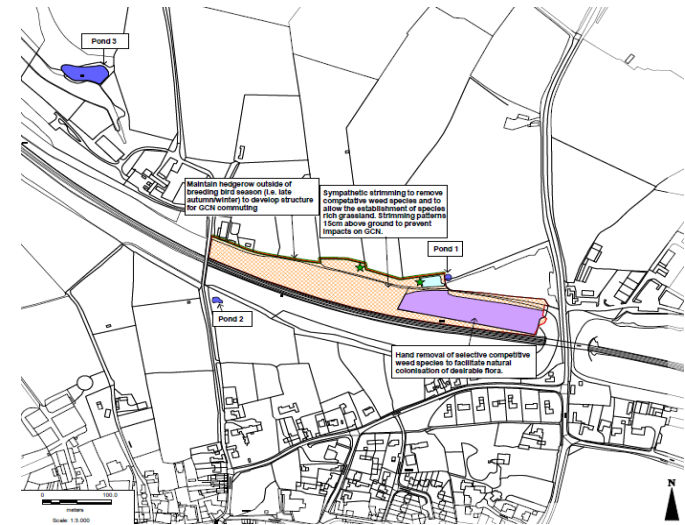
Murphy removed 326,000 tonnes of earth from the slip area and landscaped the cutting to create two slopes on a 1:2 gradient, new 30m and 4m horizontal berms, a 1:3 slope and counterfort drains. The major works were completed within 11 months with a total cost of £11m. Resources included 30 Site Operatives, 10 Onsite Staff members and 3 Senior Managers.

Were there any specific reasons that led to this project?

As part of the Assent application Murphy and Natural England worked together to develop a Habitat Management Plan to ensure successful establishment and maintenance of the newly reinstated habitats following completion of the earthworks, and in doing so, seek to achieve favourable conservation status of the SSSI.

What were the biodiversity conditions on site, prior to the enhancement?

The cutting falls within Harbury Railway Cutting SSSI and was previously identified as unfavourable and recovering status due to mature scrub and the poor amount of light available beneath the dominant tree canopies.



Post Management and Maintenance Plan

What were the biodiversity measures taken?

Murphy's worksite covered up to 2.6ha of Harbury Railway Cutting, as part of the enabling works it required a full blanket of de-vegetation to allow the landscaping phase of the project to take place. The cutting was previously covered in woodlands and mature thick scrub giving the SSSI unfavourable conditions for the local butterfly.

To restore a range of butterflies, invertebrate communities and lowland calcareous grassland, Murphy reseeded the 2.6ha of railway cutting. The reseeded area contained 16 different types of rich wildflower species including Cardamon, Carlina vulgarise, Viola riviniana, Geranium dissect and Clinopodium vulgar. By re-seeding the cutting, this has given the area a floristically rich meadow with a high net gain in local biodiversity.

In relation to long term management of the cutting NR have agreed with Natural England appropriate annual management regime to be adopted to encourage the wildflower meadow to establish and not be overrun by invasive plants, grasses, brambles, weeds (such as dock and thistle) or dense shrubs.



Re-grading Railway Cutting

How would you best describe the project?

Enhancement

Further information

RMB Hydroseeding Specialist were contracted by Murphy to carrying out re-seeding phase of the project. RMB used a Homogenous Slurry containing the wildflower seed mix. Prior to the commencement of work areas that were planned to be hydro seeded were free of weed/debris and prepared to a non-compacted or non-smear finish.

Up to three operatives attended the site to carry out the hydro seeding work (spraying, operating the hydroseeder control and managing the extension hose). The slurry was sprayed direct from the machine through the discharge gun onto the area surface of a rate of 6-35g per m² covering a total of 26,000 m². The long term benefits in relation to biodiversity are huge due to sheer size of the area that was reinstated with rich species of wildflower; a wildflower meadow is a complete ecosystem all on its own providing food for a wide range of wildlife.

By removing the woodland area and landscaping the cutting for engineering purposes, this had a positive impact on the SSSI with the potential of upgrading the sites conservation status to a favourable designated site.

What was your personal motivation for carrying out the enhancement?

Due to the nature of the works (Emergency Landslip) and sensitivity of the location, it was Murphy's motive to liaise with Network Rail and Natural England to come up with a, collaborative and efficient strategy to enhance bio-diversity post construction. Leaving a positive environmental legacy is a value in which Murphy's pride themselves upon.



Harbury Cutting Meadow