

M1 JUNCTION 19 IMPROVEMENT SCHEME LEICESTERSHIRE

SKANSKA UK PLC

BIG Biodiversity Challenge Award category: Large Scale Permanent

Project overview

Junction 19 of the M1 provides a strategic link to all points of the UK, via the M1, M6 and A14, for over 142,000 road users every day.

Prior to construction works commencing the existing junction suffered from congestion, a high number of road traffic accidents, delays in journeys, conflicts between local and long distance traffic, and poor conditions for vulnerable road users.

Skanska commenced construction works on the £191 million Highways England project at the start of 2014. The works involved the construction of six new bridges, twenty-one new gantries, realignment and widening of existing highways, new drainage and significant landscaping works.

The resultant junction has created free flow links to the major turning points of the junction, resulting in a safer, quicker experience for all the key stakeholders.

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

The junction is in a rural setting and the construction footprint is bounded by grass verge, beyond which were agricultural fields, hedges, wooded areas and ditch systems.

Pre-works phase 1 ecological surveys identified the surrounding land was suitable habitat for a number of European, national and locally important species of wildlife which had the potential to be adversely affected by the project.



Aerial view of the junction pre-construction and the design to which the project was built to.

Were there any specific conditions that led to you carrying out this work?

A key objective of the project was to have zero environmental harm during construction and zero net loss in biodiversity as a consequence of the scheme; the latter is a strategic aim of our client.

Skanska's, and the projects, aim was to go above and beyond regulatory requirements to achieve a net biodiversity gain. Key to achieving our aims was Skanska's involvement of key environmental stakeholders

(Environment Agency, Natural England, Leicestershire County Council, landscape architects and the client) during the design process to limit the impact of the works and to introduce new habitat to achieve our aim.

The project was also an opportunity to demonstrate how we could incorporate Skanska's four key core values, **including** 'To Care for Life', in addition to our overarching purpose by 'Building for a Better Society'.

What were the biodiversity measures taken?

To facilitate the construction works a programme of clearance removed approximately 4000m³ of vegetation. We undertook the following measures prior to this activity to mitigate for the impact of this process and enhance biodiversity;

- Installation of over 100 bird boxes and 24 bat boxes;
- Installation of over 2km of bat screen prior to the removal of significant length of hedge lines at known bat transect roots;
- Creation of a number hibernacula, using vegetation arisings from the clearance, to translocate any reptiles encountered during the life of the project. The remaining arisings were used as biomass fuel;
- Planning the works to avoid disturbance of badger setts. A small number were temporarily closed but re-opened once works were complete.

We then looked at how we could enhance habitats and include them in our final design. Measures included;

- The creation of new habits by planting on land the area of 35 football pitches; refer to further information.
- Reshaped eight bends of the River Avon to provide refuge to a known number of otters between the A14 and M1. We have also utilised construction materials to create a number of artificial otter



Otter holt habitat improvements included creation of new artificial holt and an otter ledge over the River Avon; both constructed from recycled site materials

- holt and an otter ledge. The ledge, in conjunction with a newly installed fence line above the river, on the highway verge, has improved connectivity between otter territories north and south of the A14.
- As part of our commitment to the local biodiversity action plan we worked with Leicestershire County Council to implement measures to preserve a locally import species of invertebrate, the Necklace Ground Beetle. We carefully scraped the topsoil off a section of the M1 embankment which was known to contain larvae of the species, carefully stockpiled the

- material to avoid damage and placed the soil around the largest attenuation pond

What were the biodiversity measures taken?

- Great Crested Newts were prevalent in an area of site where we were realigning a local road. Utilising a section of the old road footprint we went above and beyond the licence requirements to create a newt pond area and utilised waste construction material to create hibernacula that the species can use for refuge.
- Site staff were also encouraged to create their own wildlife habitat at home by being involved in the Bee Cause initiative and were given free wildflower seed by Skanska.

How would you best describe the project?

The ecological works were both enhancement and mitigation

Further information

Skanska utilised as much space as possibly available on site, to create new habitat. Whether specific for protected species or the creation of new species rich grasslands (17.5hectares), wetlands (1hectare) and tree plantations (12hectares) to attract other species of wildlife. The works included the improvement works to several off site plantation areas managed by the local farmers boarding our works.

Interim ecological surveys were undertaken to monitoring the effect of the construction works and habitat creation. Otters were noted to be using the new holts provided, great crested newts were already present in the new pond during the first season it was available, and bats and birds were utilising over 70% of the newly installed nest boxes.



Newly created great crested newt habitat, on a disused section of old road, with hibernacula created from recycled materials.

The measures taken, as a consequence of the consideration for biodiversity enhancement, has achieved our, and Highways England, goal of net biodiversity gain.

They have also contributed to an expected excellent rating in the CEEQUAL assessment of the project

By working with Highways England, who will be the organisation maintaining the areas, we have created habitat that can be readily accessible and easily maintained throughout the years to come.



What was your personal motivation for carrying out the enhancement?

To go beyond licence requirements to drive and achieve an enhancement to local biodiversity. This has been achieved by utilising construction materials and as much space as possible to create rich habitat.

To make a difference with respect to how construction processes are managed to limit the impact on wildlife and to educate staff on key issues which they can take forward to the next project.