

Woodford County High School
Woodford, London, UK
Kier Construction London

BIG Biodiversity Challenge Award category: Small Scale permanent award

Project overview

Woodford County High School is situated within the Woodford Green Conservation area. The proposed works involve the provision of a new three storey education building adjacent to the existing Sports Hall building, two new hard courts, refurbishment of the two existing hard courts and refurbishment of an area within the existing building. Construction of the new build commenced in March 2016 with all of the works being completed by October 2017.

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

Prior to commencement on site the area towards the rear of the new build contained fallen decaying trees, undergrowth and brambles. To allow the lower block of the new-build to be constructed these all had to be carefully relocated with accordance to the project's biodiversity plan to another location within the school's grounds.

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

The enabling works required to carry out the new build works required that some of the undergrowth and fallen decaying tree's be removed – whilst protecting those trees with tree protection orders. This meant that the amount of permanent vegetation had to be increased for post construction to add to the biodiversity on site. This act was to offset biodiversity around the site -both during construction and post-completion. The project is due to receive a BREEAM score of Outstanding which gave a push for these works to take place.



Meadow area with pond and vegetation to the land surrounding lower ground floor.

What were the biodiversity measures taken?

With the site being located within an environmentally sensitive area, there was a great opportunity to add to the local biodiversity.

A concise biodiversity plan was created which gave clear instruction on how to proceed with existing items and notes of where there may be opportunities to add to the biodiversity.

Part of the area of lower block construction meant that an area of retention in the form of sheet piling had to be installed. To hide the steel plates, and to also add to the local area of vegetation, a trellis fencing living wall was installed. This was carried out by the Kier site manager and Kier site carpenter with the materials being donated by Kier material suppliers. Due to the site falling into the London Borough of Redbridge – their action plan was read to understand which species and varieties of plant were needed in the Borough. This concluded that the living wall was to have Boston Ivy introduced to it, 3No plants per Linear metre to grow up the trellis and create a living wall.

A pond has been introduced into the area to create a new form of habitat to add to the biodiversity at the rear of the site. The pond contains oxygenating plants that keep the water healthy and clear and have already proven to be popular to a pair of visiting ducks. To gain required levels in this area some muck away was essential but a large amount was able to be retained in this area.

Around the perimeter of the lower block a new habitat in the form of a wild meadow has been formed to boost the local biodiversity and now that the flowers have sprouted there are numerous pollinators visiting the area.



20 metres of trellis fencing living wall along sheet piling.

How would you best describe the project?

The project has seized the opportunities available to enhance the local biodiversity of the immediate area and that of the larger area of the borough, through increasing the amount of pollinators on site and adding to the number of new species of both plants and animals.

Further information

The new meadow was created with existing soils that have been shifted to create a variant in levels allowing a new water run off system that adds to the hydration of the plants and species. The species used are perfect for the shaded areas which makes up some meadow are – these include Galium Mollugo, Silene Dioica, Iris Pseudacorus and nearly 20 others. The trellis living wall was created by securing trellis fencing to steel sheet piles, this operation required high powered shot firing tools to enable secure fixings – the tools for this operation were donated by a Kier tool supplier for the task. Overtime the Ivy and other plants will take to the trellis and add to the already vast amount of biodiversity present on the project. The notable increase in biodiversity includes bees, ducks, various pollinators, birds bathing and drinking from the newly formed pond and birds roosting and visiting the newly installed bird boxes which were to the school donated by woods forever.

The site team believe that their objectives have been met, especially upon seeing the array of new inhabitants the area has. By taking part in the challenge, the project and site team now have a raised awareness of biodiversity and what can be gained within the construction phase. Through research of the area's biodiversity action plan and conversations with Kier's environmental team the site team have had an overall increase in knowledge of environmental management.

The appendix below contains further photos of the project



2 of the resident ducks that have taken a liking to the newly formed pond.



Bees are one of the many pollinators that are now present among the meadow



Various species of wild flower in the meadow



Newly installed bird box has had some interest from some small birds