

**SEWAGE REQUISITION AT MET OFFICE
EXETER, DEVON
KIER UTILITIES/SOUTH WEST WATER/MET OFFICE**

BIG Biodiversity Challenge Award Category: Small Scale

Project overview

Kier were commissioned to deliver a new sewer connection between a housing development and an existing South West Water asset. This involved excavating and laying 350m of sewer through the MET Office's land in Exeter which provided the opportunity to design a sustainable plan of biodiversity enhancement using construction waste.

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

An ecological assessment of the site identified important habitats such as ponds, flower beds, a small wildflower meadow, amenity grass, trees and a small number of existing enhancements consisting of bird and bat boxes. Site surveys, including eDNA testing of the ponds, found great crested newts, common amphibians, reptiles, nesting birds, and pollinators were likely to use the site. The sewer connection was designed to avoid as many of the valuable habitats as possible (including opting to directional drill rather than open cut) and the enhancements focussed on improving the conditions once works were completed.

What were the reasons behind this project ?

The scheme was tendered and issued to the Kier management team to deliver in its entirety with full control over installation methods and level of reinstatement. After early consultation with the MET Office and understanding their keen outlook on biodiversity was it agreed to look at ways in which to enhance their opportunity for biodiversity net gain that would be managed by the estates department long term. All team members wanted to contribute to the enhancements, including subcontractors, leaving behind a legacy of sustainable ecological value to be enjoyed by wildlife and site visitors.



Kier Operative Constructing Bee Boxes out of site waste materials



Bee Boxes & Reptile Basking Area installed

What were the biodiversity measures taken?

The main enhancements at the MET office included:

Two boxes for pollinators, specifically bees, were built by the site team using timber waste from site and erected within an area already planted as a wildflower meadow. The boxes will provide shelter and food storage for local bees, hopefully increasing the pollination within the site.

Basking areas for reptiles were made with stones diverted from landfill on a neighbouring construction project. The Kier team organised the transfer of varied sized stones and assembled them at the MET office creating cracks and crevices that reptiles would use for shelter and potentially hibernation on site. The stones would then heat from sunlight exposure providing spots for basking. The basking areas were built within the wildlife meadow area adjacent to hedges which is an excellent mosaic of reptile habitat ensuring the best chance of being used.

The existing wildflower meadow habitat was extended into the local road verges around the site and the rest of the MET office car park increasing connectivity for pollinators, amphibians and reptiles using the site. Although the road verges will be managed to allow vehicle visibility, the management has been designed to be of minimal disturbance to the wildlife now being encouraged onto site.

Habitats such as scrub which were cleared as part of the project were reinstated under guidance of ecologists. A species rich mix including buddleia and mountain ash which are excellent for pollinators were planted around site especially close to existing bee hives.

All of the above have been adopted by the MET Office maintenance team and will be added to their current Biodiversity Benchmark submission on the annual visit; they felt that the several new areas of habitat would go a long way to ensuring their award and environmentally friendly reputation is maintained



Area of verge sown with wildflower & plants



Part of site during construction of sewer

Further information

The ecological enhancements at the MET office have already seen pollinators, attracted by the boxes and new food supply, move into the area. Kathy Gray, Environmental Advisor at MET Office gave this quote about the project;

"The Met Office Biodiversity Working Group is very pleased with the biodiversity enhancement work undertaken by Kier, the construction company, after it installed sewer works at our Exeter head office during 2017. The insect hibernaculum has solitary bees in residence (likely to be mason bees) ... We anticipate that these enhancements will contribute to the flourishing biodiversity at our Exeter site for which we hold the Wildlife Trusts' Biodiversity Benchmark and would like to thank Kier for the effort that it put into this work."

All the actions taken on site has been a positive team effort for all involved. The project, although small, has used waste materials to create important habitat for species that are constantly under pressure from habitat loss and fragmentation in recent years. It has also given ownership and an appetite within the kier team and subcontractors to commit to more enhancement work on future projects.

Project Team

- Kier Utilities team; Daniel Hutchinson, Adrian Parker, Jamie Edmonds, Grace Burdge
- Met Office Environmental Advisor; Kathy Gray

What was the motivation for carrying out the enhancement?

The MET office sewer connection was a straight forward project with a small budget that could have been completed doing the minimum for ecology. But knowing that a big difference could be made with simple measures and some forward thinking meant the project has made a long lasting ecological gain. Species diversity has increased and food availability has meant the site can support more invertebrates. Given that maintenance of the site would be guaranteed for the foreseeable future it was a fantastic opportunity to enrich the level of biodiversity and work time for all those that contributed.



Site after a few months of establishment



Close up of bee boxes made from waste timber from construction works on site