Ash Vale Bat House
Ash Vale, Surrey, England
Network Rail

BIG Biodiversity Challenge Award category: Small Scale Permanent

Project overview

The work involved a signal box and relay room demolition on Farnham Resignalling project, which was .part of the wider Sussex and Wessex signalling framework. This framework aimed to modernize and maintain safety-critical railway signalling systems, whilst also delivering efficiency savings.

This infrastructure project sought to re-control the area from three signal boxes (including Ash Vale signal box) to a new panel at Woking Area signalling centre. Following re-control the signal boxes are no longer required and therefore are decommissioned and typically demolished.
Ash vale is a suburban area to the south of London.

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

The area is known to be suitable for bats; located close to the Basingstoke Canal, a number of waterbodies and woodland. The buildings and area were surveyed in 2015. Noctules, Myotis species and all three species were recorded using the area for foraging. No bats were recorded using the buildings.

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

At Network Rail we are committed to protecting the environment where we work and where possible enhancing its value. We are also committed to minimising waste to landfill and carbon reduction on all of our projects. At Network Rail there are targets relating to both biodiversity and waste minimisation.

Through environmental management on the project it was identified as a suitable area for bats and surveys were undertaken. An opportunity to retain one building rather than demolish it and convert it into suitable habitat for bats fitted well with the sustainability targets of our organisation.

View of retained relay room next to railway. The signal box was located the other side of the signal from the relay room.

What were the biodiversity measures taken?

Farnham re-signalling is the first project to use internal guidance on how to convert a signal box to a bat house. This standard and easily replicable methodology has been reviewed by both Natural England and the Bat Conservation Trust. The project required Ash vale signal box and associated relay room to be demolished, but the project opted to retain the relay room and re-use materials from the signal box to create new summer and winter roosting opportunities for bats. The relay room was chosen because it was more structurally sound out of the two buildings.

The guidance was used to create a site specific plan for the relay room, based on the types of species recorded in the area. The enhancements reused materials from the demolished signal box to create the different roosting opportunities within the building. The work was done in February 2016.

Installations included new bat access bricks, internal wooden panelling for bats to roost behind (a gap has been left underneath to enable ongoing monitoring checks), breeze block wall with gaps left for bats to roost in. A hibernation bat box was suspended from the ceiling and soil was laid on the floor to improve the humidity and temperature control. A new door was installed with signage restricting access to the building. Materials reused on site were the wooden planks and breeze blocks.

Surrey Bat group have expressed how valuable the location of this new bat house is for the bat population in the area and the enhancement has featured in their newsletter.

View into the enhanced relay room from the main door. To the right is the breeze block wall with gaps for bats to roost in. Front and to the left is the wooden panelling with space underneath to enable monitoring. Two bat boxes included in the building, one suspended from the concrete beam and another mounted on the wall. Soil on the floor improves temperature and humidity.

How would you best describe the project?

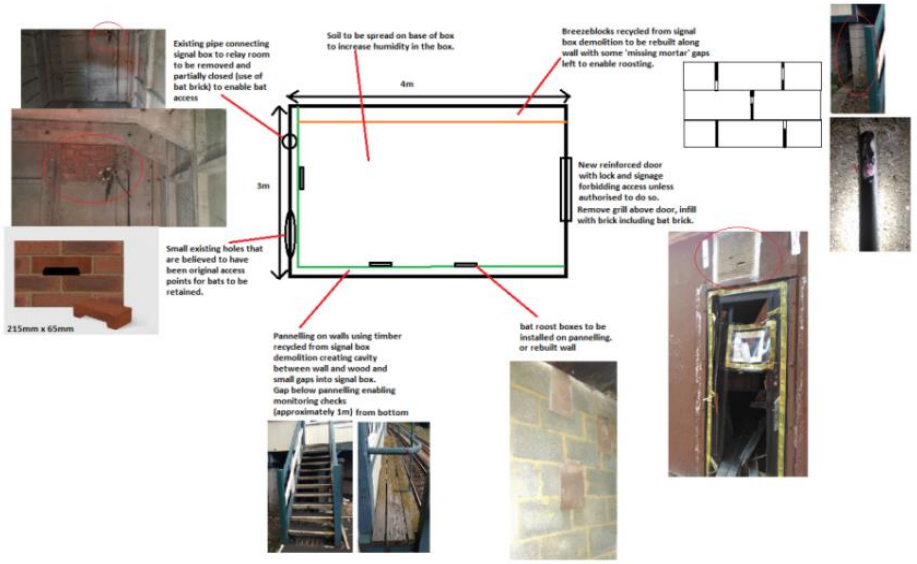
An enhancement

Further information

The relay room was stripped, of existing internal material, including asbestos panelling. The entrance door, which was wood and had been vandalised, was replaced with a stronger door and lock. Retaining access to the structure was important for enabling ongoing monitoring.

As this is the first conversion done, monitoring use is really important for helping to inform future projects. Through positive engagement with local stakeholders, the new bat house will be monitored by New Leaf Ecology on behalf of Surrey Bat Group, with access arranged by Network Rail. The first visit is scheduled for October 2016.

A tip for similar schemes is that a simple plan of the structure marked up with the enhancements (as shown opposite) is really useful as it can be held on site as a reference point for those making the instalments.



Plan of the relay room marked up with enhancements

What was your personal motivation for carrying out the enhancement?

Signalling upgrades across the country will mean a loss of many signal boxes. Signal boxes can offer suitable roosting opportunities for many bat species. As the Network Rail , IP Signalling, ecologist I recognised that across these projects there was the opportunity to not only enhance biodiversity by maintaining and creating more roosting habitat along the rail network, but also to reduce waste and costs.

Through the guidance document and now this project a precedent has been set that structures can be kept and put to good use. Already since this installation, other projects have expressed wishes to do similar on their projects. Bats are vital parts of our ecosystems and it is vital we protect them.