Spalding Associates (Environmental) Ltd

Maintaining access to a multi species bat roost at the centre of a new housing development

Spalding Associates carried out surveys to establish the levels of use of a group of derelict buildings by roosting bats and developed a mitigation scheme for the proposed redevelopment of the site.

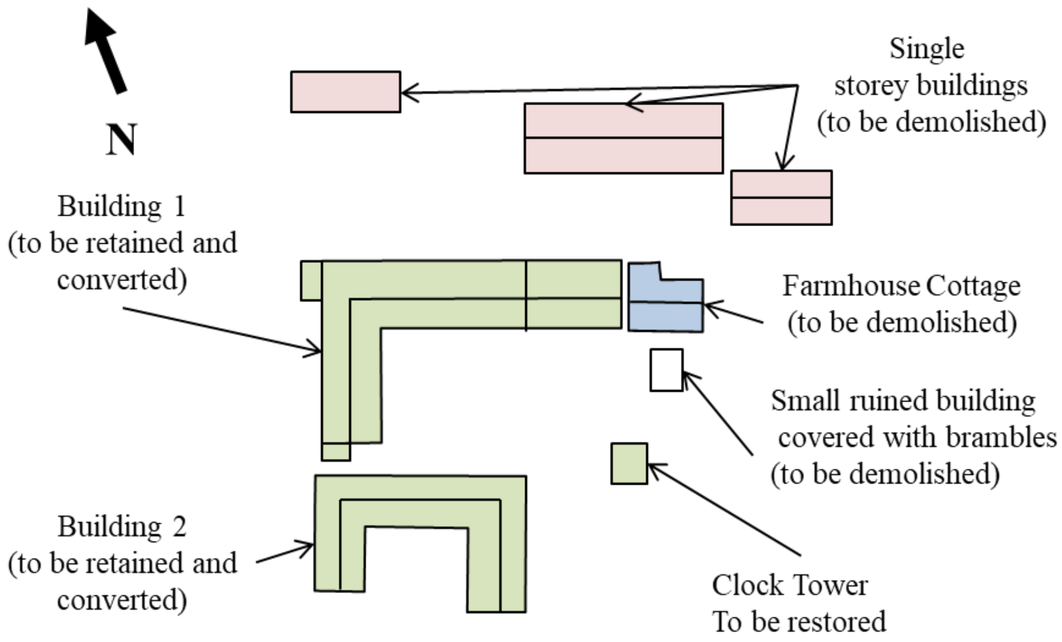

Figure 1. Buildings currently onsite

Photo 1. Larger of the two stone buildings to be retained

The proposal is to demolish some buildings, convert others, restore the clock tower and build a number of new apartments and houses to the south and west of the existing buildings, see figures 2 and 3.

Figure 2. Site as existing

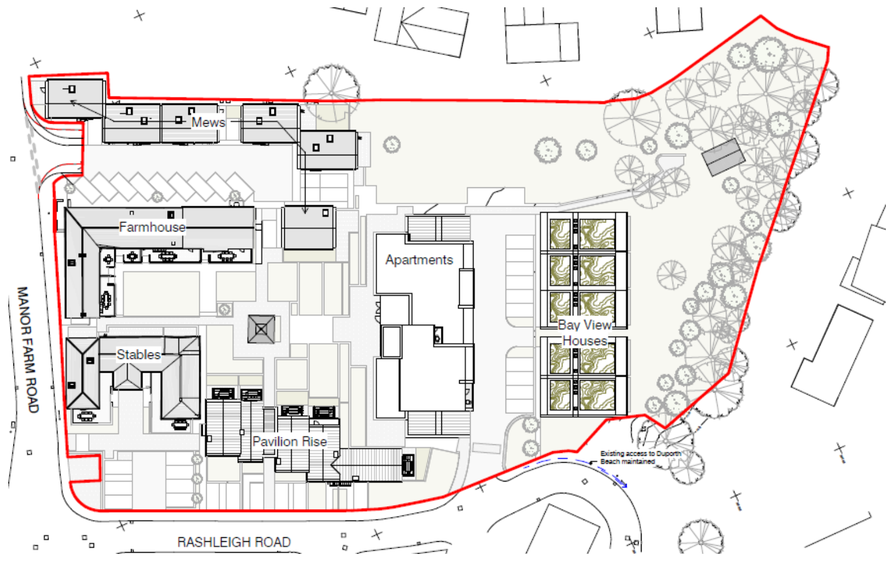

Figure 3. Proposed site plan

The buildings onsite contain small maternity colonies of light sensitive Lesser Horseshoe and Brown Long-eared bats and small numbers of three other species with most of the bats roosting in Building 1.

The mitigation is to retain and enhance the roosts in Building 1. However to maintain the roosts viability a “dark corridor” needs to be maintained through the site, see figures 4 and 5.

Figure 4. 3D image showing dark corridor, shown in yellow

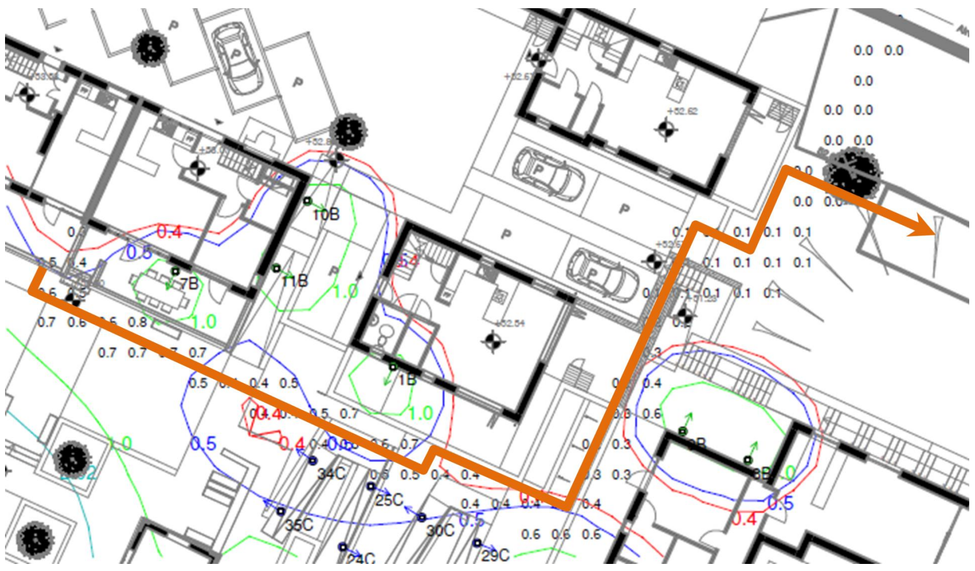

Figure 5. Orange line showing the route of the dark corridor and lux levels achieved; red line = 0.4 lux, dark blue line = 0.5 lux, green line = 1.0 lux and light blue line = 2.02 lux

To achieve this a line of vegetation will be created along this corridor, for the bats to follow, and the light levels within this corridor will be kept below 1 lux, for the majority staying below 0.5 lux, see figure 5.

At these lux levels Lesser Horseshoes should be able to continue navigating across the site and using the roosts via the dark corridor.

This plan was achieved by the developer, a lighting engineer and the ecologist working together to create a lighting plan. This involved the careful selection and positioning of luminaires and removal of unnecessary lighting fixtures. Construction is due to commence in April 2018.

Simon Barnard BSc (Hons) MSc CEcol MCIEEM
Senior Ecologist and Director Email: sbarnard@spaldingassociates.co.uk

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