Forest of Dean
DISTRICT COUNCIL

Building a new Lesser Horseshoe Bat Night Roost

Case Study - *How we did it*

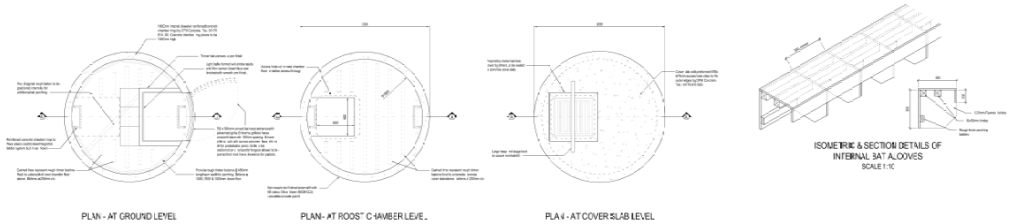

Lesser Horseshoe Bat

Background A major education led regeneration programme is underway in Cinderford, Gloucestershire. Programme implementation requires the building of two new replacement Lesser Horseshoe Bat Day Roosts and two Night Roosts. The focus of this case study is about the practical experience of designing and building two bat night roosts (A case study in relation to the day roost is also available). We hope by providing this information freely it will be of assistance for similar projects in the future. For further information contact details are provided at the end of the case study or visit the regeneration pages on the Council website (www.fdean.gov.uk).

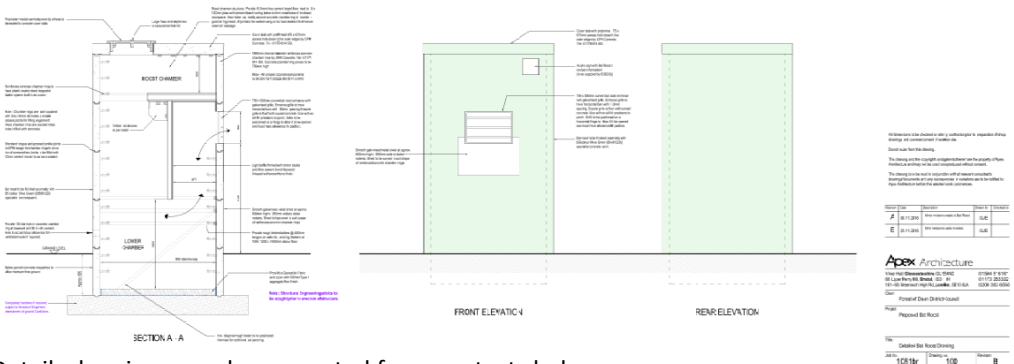
Introduction Planning permission for a new mixed use development required the building of two Lesser Horseshoe Bat (LHB) night roosts. The purpose of the night roosts were to extend feeding ranges and provide additional bat colony resilience by providing additional occasional shelter/feeding perches.

Design and Siting Radio tracking data from an existing main roost site, habitat suitability assessments together with future Forestry Plans were used to select locations which were considered likely to be the most useful to the bats and reduced chance of substantial disturbance. **The 'Lesser Horseshoe Conservation Handbook'** (2008) Schofield, H. provides excellent background to LHB ecology, roost requirements and roost design features. The handbook illustrates a 'shed' like night roost design however bearing in mind the open access nature of the site, preference for low maintenance and a permanent structure it was decided an alternative design was needed in this case. The handbook provided good guidance of the requirements and features for a night roost.

In addition to the ecological requirements we were keen that that the structures should be as simple as possible, easily replicable and minimise on site construction time by prefabrication.



Our final design was based on pre-cast concrete sewer rings, with an internal baffle and upper chamber. An idea being that these could be prefabricated off site and transported and easily assembled on site.



Details drawings may be requested from contacts below

Construction The compacted hardcore base construction of the two sites was undertaken over two days in February 2017 with the construction of the two night roosts taking about a week later that month. Planting around the roost was completed by the end of March 2017. The total cost of construction and landscaping of the two roosts was in the region of £13,500.

Monitoring Static bat recorders (loggers) were placed inside the night roosts for 17 consecutive nights in July 2018. Of the 6700 sound files recorded in the period half were identified as bat passes. Whilst the recorders will have undoubtedly recorded bat passes nearby, but outside of the roost, the level of recording clearly indicates the structures were being regularly used.

Key things we might look at differently next time…..

Water tightness

We soon found that the manhole cover on the top (for future access) was not water tight and needed sealing. In hindsight some form of fabricated hatch cover may well be better.

Prefabrication

The contractor chose not to do any internal fabrication off site which led to a longer on site construction time as they wanted to avoid damage in transit. It remains an option for future projects.

Appearance

Landscaping with native climbing and thorned plants has been undertaken and does require some annual maintenance and securing to the structure. Vertical timber cladding was considered as a measure to 'soften' the impact of the structure, but not considered necessary for these locations.

Internal features for other species

The focus for the roosts was for Lesser Horseshoe Bats, however a greater range of features could have been added for crevice favouring bat species.

Costs

There was a certain amount of developmental and risk cost within the overall budget; as a result of trying something new. Overall it is considered costs could potentially be reduced dependant on access and practical experience.

Main Contractors

Apex Architecture
www.apexarchitecture.com

ERNEST HEAL Est. 1929
CONSTRUCTION & Sons Ltd

AEWC Ltd
Animal Ecology & Wildlife Consultants

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