

DAYTIME BAT AND NESTING BIRD SURVEY OF POWER HALL AT THE SCIENCE AND INDUSTRY MUSEUM, LIVERPOOL ROAD, MANCHESTER

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CONTENTS

INTRODUCTION

2

METHODOLOGY

3

RESULTS

4

SUMMARY AND RECOMMENDATIONS

9

REFERENCES

10

1.0 INTRODUCTION

- 1.1 Rachel Hacking Ecology Limited was commissioned in 2019 by the Science Museum Group to undertake a daytime bat and nesting bird survey of Power Hall at the Science and Industry Museum, Manchester. The building will undergo re-roofing due to recent water damage. A survey for protected species is required prior to the work commencing.
- 1.2 Power Hall is located on the site of the Science and Industry Museum, off Liverpool Road in Manchester (O.S. grid reference: SJ 83149 97818 – see Figure 1). Power Hall is brick-built and is a double-height building with a double-ridged roof. The site is surrounded by similar commercial and industrial buildings set on hardstanding. No potential bat foraging and commuting habitat exists connected to the building. The River Irwell is located a short distance to the west of the site offering potential bat foraging and commuting opportunities.
- 1.3 The re-roofing works to the property is intrusive and therefore consideration should be given to roosting bats and other protected and notable species, which could potentially utilise the building.
- 1.4 All bat species are protected under The Conservation of Habitats and Species Regulations 2017 and The Wildlife and Countryside Act 1981 (as amended).
- 1.5 All bird species are protected whilst at the nest under The Wildlife and Countryside Act 1981 (as amended).

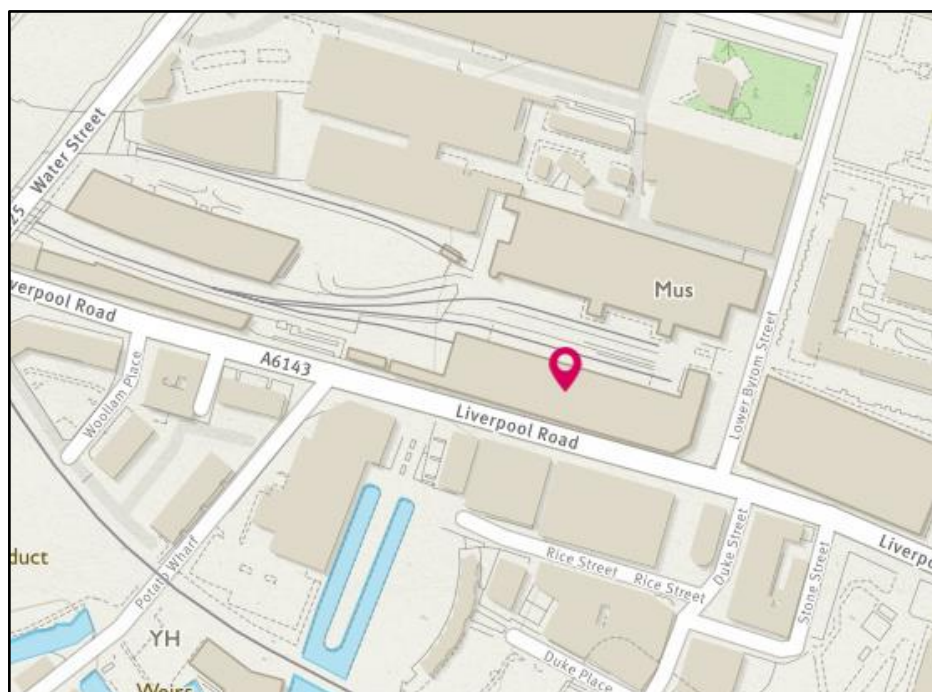


Figure 1 showing the Power Hall location

2.0 METHODOLOGY

- 2.1 A daytime bat and nesting bird survey at the Power Hall within the Science and Industry Museum was undertaken to search for, and to assess the potential for, a bat roost within the site.
- 2.2 An external survey was carried out, which included, for example, looking for gaps between any soffit boards and walls, gaps between window frames and the walls, and looking for bat droppings on the walls and window ledges.
- 2.3 The building was also searched internally for evidence of a bat roost, which included looking for the following signs:
 - live or dead bats
 - bat droppings
 - bat entry/exit points
 - bat urine staining
 - grease marks on any timbers
 - feeding remains such as insect wings
 - areas clear of cobwebs.
- 2.4 A pair of close-focussing binoculars, a high-powered torch and an endoscope were used to search for evidence of bats externally and internally.
- 2.5 In addition to the bat survey, a survey for evidence of nesting birds was also undertaken.

Personnel and Timing

- 2.6 Joe Walters (Ecologist) and Alex Cropper (Assistant Ecologist) carried out the daytime bat and nesting bird survey on the 21st August 2019. Both surveyors are fully trained and experienced in bat and bird surveys. The weather on the day of the survey was sunny and dry.

Survey Constraints

- 2.7 Daytime bat and nesting bird surveys can be conducted at any time of the year. The whole property could be surveyed internally and externally, therefore there were no constraints to the survey.

3.0 RESULTS

External Survey

- 3.1 The Power Hall is a large, linear, double-height building. It is constructed from brick with many floor to ceiling windows and double-height metal shutter doors, due to its previous use as a railway yard.
- 3.2 The external brickwork is in reasonable condition (see Photograph 1 and front cover of this report). Small amounts of damage are present across the buildings masonry; however, no potential bat entry points were identified as a result. The mortar is largely present and intact. However, small areas of mortar have receded. These areas are shallow and do not provide potential access to suitable bat roosting cavities.



Photograph 1 showing the exterior of Power Hall

- 3.3 The coping stones along the peripheries of the roof are in good condition and well-sealed with mortar. The metal window frames are in reasonable condition and well-sealed to the surrounding masonry, except in one area, which is on the ground floor (see Photograph 2). The folding metal cargo doors are mostly well-sealed, except for the top of the doors (see Photograph 3).



Photograph 2 showing the gap in one of the floor to ceiling windows



Photograph 3 showing the gaps above the folding metal cargo doors

- 3.4 The roof of the Power Hall is double-ridged and tiled, with skylights throughout (see Photograph 4). The tiles and ridge tiles are all intact and in place, leaving no potential access points for bats or cavities. Lead flashing is present on the western elevation of the building, where the Power Hall is attached to a two-storey building. The flashing is not flush in this area (see Photograph 5). No bargeboards or soffits are present on the building.



Photograph 4 showing the roof of the property



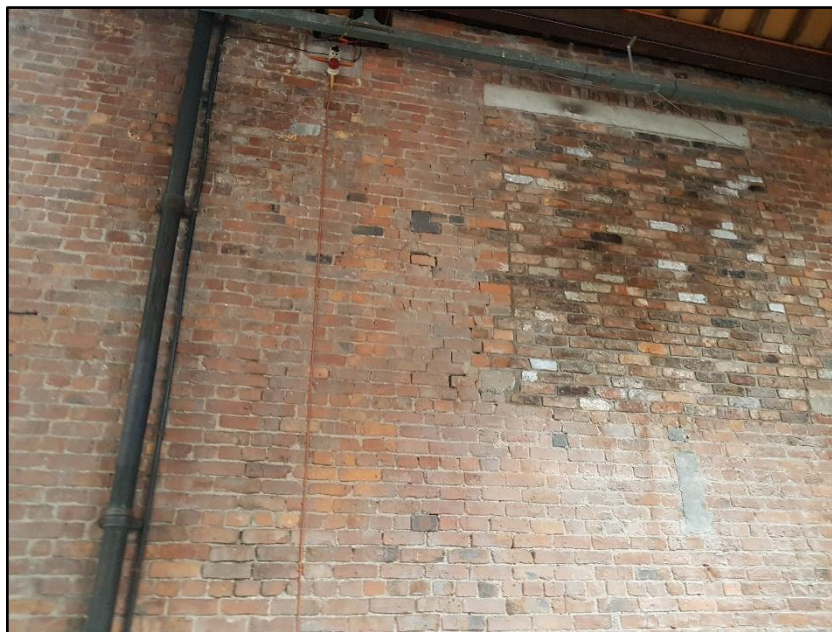
Photograph 5 showing the loose flashing at the western elevation

Internal Survey

- 3.5 Internally, the building is open to the roof (see Photograph 6). The space is well-lit by the windows and skylights throughout. The internal brickwork is mostly in good condition with some areas of worn mortar that provide shallow gaps (see Photograph 7). These gaps are considered to be too shallow to support roosting bats and no evidence of bat use was found associated with them.



Photograph 6 showing the internal space open to the roof



Photograph 7 showing the internal brick work with some worn mortar

- 3.6 The metal support pillars are in good condition. The large wooden roof beams feature some crevices (see Photograph 8). These do not provide potential habitat for roosting bats as the crevices are only shallow and too small for bats to enter. The roof is lined with wooden boards, which show some evidence of water damage. No bats or evidence of bat activity was found throughout the building.



Photograph 8 showing the underside of the Power Hall roof

- 3.7 Evidence of prior bird roosting is present in the form of old bird droppings on the beams. No vacant or active bird nests, or other evidence of nesting activity, were located during the survey.

Surrounding Land

- 3.8 The warehouse is situated in an area of hardstanding amongst similar industrial and commercial buildings, offering negligible bat foraging and commuting habitat.

4.0 SUMMARY AND RECOMMENDATIONS

- 4.1 No evidence of bat activity was found at the Power Hall at the Science and Industry Museum, Manchester. The building is in good material condition despite the leaking roof and is well-sealed with very few potential access points for bats. No roof voids are present. No evidence of bat activity was found internally or externally. Given the results of the survey, the Power Hall is considered to offer **negligible bat roost suitability**.
- 4.2 It is the opinion of the author of this report that the re-roofing works can proceed without the need for further survey work (e.g. bat activity surveys) or bat mitigation due to the negligible potential of the building to support bats.
- 4.3 It should be noted that bat absence is very difficult to prove definitively due to their mobility and size, and single or small numbers of bats are able to roost in extremely small spaces, such as in gaps between panels. The maintenance work should be undertaken with care, for example with roof tiles lifted rather than dragged.
- 4.4 **If during the maintenance works a bat (or an accumulation of bat droppings) is discovered at any time, work is to temporarily cease whilst an experienced bat ecologist is contacted for guidance and assistance.** This can be Rachel Hacking Ecology (0161 465 8971) who undertook the initial survey, any licensed bat worker, or the Bat Conservation Trust (BCT) helpline (0845 1300 228).
- 4.5 No evidence of other protected species, such as nesting birds, was found within the building or on the external features.

REFERENCES

Collins, J. (ed.). (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition*. Bat Conservation Trust. London.

Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature.