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Ty Maen Farm

On behalf of Mrs G. Lewis.

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Ecological Management Plan and Method Statement

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1 INTRODUCTION

- 1.1.1 This Ecological Management Plan and Method Statement sets out habitat enhancement measures in relation to the proposed conservation of an L-shaped stone agricultural barn and part conversion into residential carer accommodation for a disabled child's carers, located at Ty Maen Farm, Pentre, Chirk near Werxham (the Site). This document also details ecological management practices to be adopted with the aim of developing and maintaining wildlife habitats to provide a net gain for local biodiversity.
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2 ECOLOGICAL BASELINE – PRE-DEVELOPMENT

- 2.1.1 The barn which is the subject of this Ecological Management Plan and Method Statement is located across a small private courtyard from the existing residential house at Ty Maen Farm. The barn is set with an agricultural landscape and located within an oxbow of the River Dee. Sheep grazed fields form the immediate surrounding land along with agricultural buildings and small wooded copse. Within the wider landscape the River Dee and tributaries and extensive areas of woodland habitat (including Gelli Wood, Darland Wood and Halton Wood) comprise the dominant habitat features. The Site and the surrounding habitat can be considered as being of potential value for a number of species including several bat species.
- 2.1.2 Bat surveys on the barn, undertaken by Avian Ecology in 2014, have established that the barn supports a roost and is used by small numbers of common pipistrelle and brown long-eared bats. The barn would also appear to be used on occasional basis as a night roost by lesser horseshoe bats.
- 2.1.3 Further detailed descriptions of the barn, habitats and bat species utilising the Site can be found in the Update Bat Survey Report (Avian Ecology, October 2014).
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3 ECOLOGICAL MITIGATION & ENHANCEMENT MEASURES

Habitats

- 3.1.1 All mature trees within and immediately adjacent to the Site will be protected during the construction phase of the development.
- 3.1.2 Pollution prevention measures in accordance with the Natural Resources Wales (NRW) recommendation will be implemented

Birds

- 3.1.3 Building demolition, site clearance activities and ground preparation works will be undertaken outside of the breeding bird season (March – September inclusive). Where this cannot be avoided a pre-site clearance survey for nesting birds will be undertaken by a suitably competent ecologist prior to the commencement of clearance activities.
- 3.1.4 Only once the appointed ecologist is satisfied that clearance works will not result in an offence with regards to nesting birds, works may proceed.

Bats

- 3.1.5 Bat roost provision will be made in accordance with the NRW derogation licence; EPS Licence No. 60278 (or any subsequent amendment) and following the methodology detailed within the approved supporting Bat Mitigation Method Statements.

Bat Roost Provision - Bat Boxes

- 3.1.6 Two Schwegler 1FW Bat Hibernation Box will be fixed to maturing deciduous trees located in the farm complex and within approximately 30m to 60m from the barn. Alternatively the bat boxes could be installed within the open metal barns immediately east of the stone barn providing a suitable fixing is available. The bat boxes will be a minimum of 4m above ground level. The bat boxes will remain on site permanently to provide a protected environment, particularly through the cold winter months when bats are hibernating. The hibernation boxes will also be used as a receptor roost if bats are encountered during development.

Bat Roost Provision – Incorporated into Barn Conversion

- 3.1.7 The barn conversion will incorporate a designated section of the roof structure to retain bat roost opportunities on Site. The slates throughout the barn, once replaced will be underlined; this will ensure that the building is fully weather proofed. This lining will be located behind the roof timbers and will have a rough texture to enable the bats to cling to the material. The areas of the barn designated for bats will be enhanced by installing rough timber planks placed along the ridge beam to 0.5 metre down on both slopes of the roof. These boards will be fixed onto the inside of the roof by using 25mm thick roofing lathes at either side of each board, which will create roosting chambers for bat species. Landing boards will be installed just down slope from the ridge boards to allow the bats easy access to the boards. These boards will be made from untreated rough sawn timber to allow the bats to perch.
- 3.1.8 Brown long-eared and lesser horseshoe bats, in particular, are sensitive to artificial light and avoid it. The bat access will utilise the existing egress point which adopts the open archway. To further reduce bat disturbance, security / greeting lighting will be aligned so as not to shine directly on any roost access, known flight path or foraging area, and will only face

downwards. Lights will be on a short timer and triggered only by large objects i.e. will not turn on at the passing of bats.

Badgers

- 3.1.9 All ground excavations during the construction phase will be covered overnight or fitted with a means of escape suitable for badgers that may become trapped. All construction materials will also be stored in secured compounds or raised off the ground.

Amphibians and Reptiles

- 3.1.10 No waterbodies other than an oxbow of the River Dee are present within 500m of the Site. It is not anticipated that amphibians or reptiles would be present within or immediately adjacent to the Site due to the lack of suitable waterbodies or high quality terrestrial habitat within proximity to the Site. No specific mitigation measures are proposed.
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4 ECOLOGICAL MANAGEMENT

Habitats (Hedgerow & Tree Management)

- 4.1.1 All hedgerows and mature trees within the landownership will be retained (where they are deemed to be safe) in order to maintain habitat connectivity and preserve foraging and commuting routes for bats.
- 4.1.2 Apart from necessary works for health and safety reasons or minor pruning as part of planned management, no tree works including felling shall take place without prior agreement from the Wrexham Borough Council.

Bats

Post Construction Monitoring

- 4.1.3 Post construction monitoring (comprising external / internal inspections and dusk emergence / dawn re-entry surveys) will be undertaken between the months of June and August commencing in the first full summer following completion of the barn conversion (currently proposed for 2016 and 2017). Post construction monitoring will provide the basis to evaluation of pre and post development species and numbers of bats utilising the mitigation roost. The evaluation will inform whether amendments to the mitigation roost are required to further enhance the structure for bats.
- 4.1.4 The current owner or and subsequent owner of the barn will be responsible for funding post construction monitoring for the period of two years (up to and including 2017) in accordance with the granting of an EPS licence. After which the local bat group will be invited to voluntarily monitor the roost. The owner (or any subsequent owner) will further be responsible for the funding of any amendments that may be required to the mitigation roost as a result post construction monitoring.

Bat Roost Provision – Incorporated into Barn Conversion

- 4.1.5 The bat roost provision (incorporated as part of the barn conversion) is to be permanent and of a dedicated design, with maintenance requirements anticipated to be low. Warning signs will be installed on any access hatch indicating the presence of a bat roost and that access is not permitted without a licence from NRW. Information will be conveyed to any future owner of the barn and provision placed in the deeds of the property relating to the future protection of the roost.
- 4.1.6 Where works to the bat loft are required, for example, the replacement of any roof tiles, Wrexham Borough Council and NRW must be informed prior to works commencing. If required, an EPS derogation licence must be sought and working methods approved before any work commence. In addition, wherever possible a timely survey by an experienced bat worker should be sought.
- 4.1.7 Any pest control measures for pests such as wasps, bees, hornets, cluster flies and rodents all of which may unintentionally affect bats and their roosts will only be undertaken after advice has been sought from Wrexham Borough Council and NRW.

Bat Roost Provision - Bat Boxes

- 4.1.8 The two roost boxes will be checked as part of the two year initial monitoring period.
 - 4.1.9 As these boxes could be occupied at any time of year, only licensed NRW bat workers may open the boxes to undertake checks. The likelihood of future maintenance of these boxes is considered to be low; however, bird nests may require occasional removal to maintain their function, in such instances, the local bat group should be contacted for assistance.
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5 ECOLOGICAL MONITORING

- 5.1.1 The development of the biodiversity interest of the Site will be monitored over time by a suitably experienced ecologist. A walkover survey will be undertaken on years 3 and 5. This will involve an inspection of any hedgerow, trees and any other ecological features to ensure that they are being managed in a manner suitable for the maintenance of wildlife interest. Bird and bat (by a suitably experienced and licenced ecologist) boxes will also be checked. The results of these monitoring surveys will be used to inform future changes in management and the need or otherwise to replace missing bat/bird boxes. The management plan will be amended if necessary based on the monitoring recommendations.
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6 MANAGEMENT & RESPONSIBILITIES

- 6.1.1 The implementation of this Ecological Management Plan and Method Statement will be the responsibility of the Owner or any subsequent owner of the barn.
 - 6.1.2 The Owner shall be responsible for the cost of carrying out any surveys, monitoring, investigations or other such activities connected with the implementation of the mitigation measures in order to meet the obligations of the NRW derogation licence; EPS Licence No. 60278 (or any subsequent approved amendment).
 - 6.1.3 The two years post construction monitoring will be undertaken by Avian Ecology Limited or a similar suitably qualified ecology (SQE) consultancy.
 - 6.1.4 After two years post construction monitoring, the local bat group will be given the option of studying the barn. The bat group will need to agree visits with the Owner prior accessing the Site and the Owner will retain the right to refuse access or cease monitoring at any point (beyond the initial two year monitoring period).
 - 6.1.5 Any modification to the proposed mitigation strategy will require the agreement of Wrexham Borough Council and NRW. Any amendment will require an approved modification to the EPS licence.
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7 INDICATIVE MONITORING AND MANAGEMENT SCHEDULE

- 7.1.1 The following programme shows an indicative schedule (covering a minimum 5 year period) of activities associated with this Ecological Management Plan and Method Statement. The programme will commence no later than the first full summer season following completion of the barn conversion.

Management Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Year 1												
Year 1 monitoring – External and internal inspection of bat roost within the barn with emergence and re-entry surveys (to be undertaken by Avian Ecology Limited or a similar SQE consultancy).						✓	✓	✓				
Remedial action, if required.									✓	✓		
Year 2												
Year 2 monitoring – External and internal inspection of bat roost within the barn with emergence and re-entry surveys (to be undertaken by Avian Ecology Limited or a similar SQE consultancy).						✓	✓	✓				
Remedial action, if required.									✓	✓		
Year 3												
Visual inspection - External condition of barn and bat roost boxes (to be undertaken by the Owner).				✓								
The option of monitoring to be undertaken by local bat group.						✓	✓	✓				
Year 4												
Visual inspection - External condition of barn and bat roost boxes (to be undertaken by the Owner).				✓								
The option of monitoring to be undertaken by local bat group.						✓	✓	✓				
Year 5												
Visual inspection - External condition of barn and bat roost boxes (to be undertaken by the Owner).				✓								
The option of monitoring to be undertaken by local bat group.						✓	✓	✓				

- 7.1.2 A report will be issued to Wrexham Borough Council and NRW following the second year of post construction monitoring. This will present the finding of the monitoring undertaken and detail remedial actions undertaken or recommended in order to maintain the Favourable Conservation Status (FSC).