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BAT CONSERVATION & MANAGEMENT PLAN

At

The Oaks
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Wrexham Industrial Estate
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NGR: SJ 38806 49238

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1 INTRODUCTION

1.1 Author and qualifications

This report is written and compiled by Tom Kenwright BSc MSc ACIEEM, Senior Ecologist for United Environmental Services (UES) Ltd. Tom is licensed by Natural Resources Wales (NRW) to disturb all species of bat and to take and handle all species other than greater *Rhinolophus ferrumequinum* or lesser horseshoe *Rhinolophus hipposideros* under licence number S094176/1.

This report has been verified by Toby Hart BSc MCIEEM PIEMA, UES Managing Director. Toby is licensed by NRW to disturb all species of bat and to take and handle all species other than greater or lesser horseshoe under licence number S092789/1.

1.2 Proposed development and previous survey information

1.2.1 Proposed development and bat surveys undertaken

A planning application has been submitted (reference P/2025/0430) for the creation of a Green Eco-Heritage Zone and the construction of a single B8 warehouse unit with integral offices, new vehicular access, car and HGV parking, servicing and storage, landscaping, heritage and ecology mitigation and ancillary development.

To inform the planning application the following suite of bat surveys was undertaken of the site by UES:

- Bat scoping survey of buildings – April 2023 (report reference UES03918/19).
- Ground level tree assessment (GLTA) for bats – April 2023 (report reference UES03918/20).
- Bat activity survey – April to October 2023 (report reference UES03918/21).
- Bat presence / absence surveys of buildings – August to September 2023 (report reference UES03918/36).
- Bat hibernation survey of buildings – December 2023 to March 2024 (report reference UES03918/37).
- Aerial assessment and bat presence / absence surveys of trees – August to September 2023 (report reference UES03918/38).

1.2.2 Summary of bat survey results

<u>Bat scoping and presence / absence surveys of building</u>

As part of the bat scoping survey, all buildings and structures on site were assessed for their suitability to support roosting bats, the results of which are summarised in the table below:

Table 1 – Summary of bat roosting potential of buildings

Negligible bat roosting suitability	Low bat roosting suitability	Moderate bat roosting suitability	Confirmed to contain bat roost
Buildings 10, 11, 12, 17, 18, 19, 21, 28, 29, 33, 34, 35, 36, 37, 38, 39 and 40	Buildings 1, 2, 4, 5, 6, 7, 9, 15, 22, 23, 24, 25, 26, 27, 30, 31 and 32	Buildings 13, 16 and 20	Buildings 3 and 8

Building 14 appears on historical site plans, but could not be located during the survey, potentially as it is now longer present or due to its small size and the density of surrounding scrub.

Building 25 lies within a different land parcel, which has subsequently been removed from the scope of the planning application.

During the bat scoping survey and the subsequent bat presence / absence surveys, a minimum of three species of bat were found roosting across the following nine roosts, all of which are considered to be day roosts used on an occasional basis by a single or very low number of bats:

- Roost 1 – Building 3 – 1x *Myotis sp.*
- Roost 2 – Building 8 – 1x *Pipistrelle sp.*
- Roost 3 – Building 8 – 1x *Pipistrelle sp.*
- Roost 4 – Building 9 – 1x *Pipistrelle sp.*
- Roost 5 – Building 20 – 1x soprano pipistrelle *Pipistrellus pygmaeus*
- Roost 6 – Building 13 – 1x common pipistrelle *Pipistrellus pipistrellus*
- Roost 7 – Building 16 – 1x unknown species
- Roost 8 – Building 20 – 1x common pipistrelle
- Roost 9 – Building 13 – 1x common pipistrelle

Hibernation survey of buildings

In addition, 20 of the buildings on site were assessed as having some potential to be used by hibernating bats as they are unheated, have areas with cool and constant temperatures during the winter, and contain either sheltered cavities that could be used by crevice-dwelling species or sheltered rooms / larger open spaces that could be used by hibernating horseshoe bats. In most cases, the hibernation potential is very limited to a single feature or area.

Subsequent hibernation surveys found a minimum of four species of bat to be active within the buildings on site during the survey period: common pipistrelle, soprano pipistrelle, brown long-eared (BLE) *Plecotus auritus* and an unidentified myotis *Myotis sp.* Although bat activity was recorded within the buildings during the survey, it was inconsistent and very low level. No bats were found to be hibernating within any of the buildings during the building inspections and all bat activity is considered to be from foraging or commuting bats, passing over or through the buildings during periods of warmer weather.

Ground level, aerial assessment and presence / absence surveys of trees

The GLTA covered all trees with the potential to be impacted by the proposed development and assessed 37 trees and the 4 groups of trees as having low potential to support roosting bats and 28 trees as having moderate potential.

Following the GLTA, all 28 trees assessed as having moderate potential to support roosting bats were subject to further aerial tree inspections where accessible, ensuring that all moderate potential trees were subject to at least two endoscope inspections of all PRFs during the bat survey season of May to August inclusive.

The close assessment of PRFs during the aerial inspection allowed for an updated roosting assessment and trees were recategorized accordingly.

During the ground-level and aerial tree inspections, five trees (T10, T21, T26, T32, and T54) were found to contain features that could not be fully inspected via endoscope (e.g. due to the shape or depth of the cavity) or were considered unsafe to climb. As such, these trees were subject to further bat presence / absence surveys.

No evidence of roosting bats was observed during any of the bat surveys undertaken of trees.

Following the completion of all aerial assessments and bat presence / absence surveys, trees within the survey area were categorised as follows:

Table 2 – Summary of bat roosting potential of trees

Bat roosting potential	Tree number
Negligible	T7, T9, T14 and all other unnumbered trees within the survey area.
Low	T1, T2, T3, T4, T5, T6, T8, T10, T11, T12, T15, T16, T18, T19, T20, T22, T23, T25, T27, T29, T30, T31, T33, T34, T35, T36, T38, T39, T40, T41 T44, T48, T49, T50, T51, T52, T55, T56, T57, T58, T59, T60, T61, T62, T63, T64, T65, G1, G2, G3, G4
Moderate	T13, T17, T21, T24, T26, T28, T32, T37, T42, T43, T45, T46, T47, T53, T54

Bat activity survey

The bat activity surveys found a total of seven species to be using the wider site, including common pipistrelle, soprano pipistrelle, BLE), noctule *Nyctalus noctula*, lesser horseshoe, Leisler's *Nyctalus leisleri* and unspecified *Myotis* bats.

Common pipistrelles were the most abundant species during the surveys, accounting for approximately 46% of all recordings. Soprano pipistrelle bats accounted for 42% of all transect survey recordings whilst noctule, BLE, lesser horseshoe, Myotis and Leisler's bats were recorded to a lesser extent.

Overall, moderate levels of bat activity were recorded during the surveys, with bats exhibiting foraging and commuting behaviours. Bat activity was recorded across the entire site but was

generally concentrated along the strip of woodland at the southern site boundary, around tree lines, and along paths and rides within the dense scrub that dominates the site. The woodland and tree lines associated with the ponds on site also provided hotspots of activity.

1.2.3 Updated survey information

Due to delays with the submission of a planning application following the completion of ecological surveys, an updated walkover survey was undertaken by UES in May 2025. The purpose of the survey was to identify any changes in the location, type and quality of habitats on site and the potential for changes in the use of the site by invasive, protected or otherwise notable species, including bats.

A detailed inspection and assessment of the potential for buildings and trees to support roosting bats was not undertaken as part of the updated walkover survey. This is due to the lack of potential adverse impacts from the proposed development on roosting bats, as no buildings and only a small number of trees are due to be adversely impacted by the works, coupled with negative results of the previous bat surveys of trees.

The site was not found to have changed significantly since the previous ecology surveys were undertaken and is considered to be of the same suitability for foraging, commuting and roosting bats.

Given the very limited scope for the works to impact bat roosting features and that there has been no significant change in the habitats on site, it is considered that there is no requirement or benefit in undertaking updated bat surveys and the conclusions and recommendations of the aforementioned UES bat survey reports remain valid.

1.3 Report objectives

This report has been prepared in order to provide the information requested within proposed conditions 3 and 4 of the NRW consultation comments provided on the 14th July 2025 (reference CAS-282028-F0S5).

The proposed conditions read as follows:

'Condition 3: No phase of development, including site clearance, shall commence until a Bat Conservation Plan has been submitted to and approved in writing by the Local Planning Authority. The Conservation Plan should build upon the principles outlined in the ecology report (Bat Activity Survey, The Oaks, Wrexham Industrial Estate, Reference UES03918/21, dated 04/12/2024, by United Environmental Services Ltd) and include, but not necessarily be limited to:

- *Build upon the principles outlined in the bat report (Bat Activity Survey, The Oaks, Wrexham Industrial Estate, Reference UES03918/21 dated 04/12/2024, by United Environmental Services Ltd)*
- *Further details concerning mitigation and compensation measures including scaled architectural plans;*
- *Details of habitat to be retained / created (including flight lines);*

- *Details of timing, phasing and duration of construction activities and conservation measures;*

- *A timetable for implementation of conservation works demonstrating how works are aligned to the construction and phasing of the development;*

- *Persons responsible for implementing the works;*

- *Post-construction monitoring and record dissemination for a period of no less than 25 years.*

- *Information on how long-term site security and maintenance of bat mitigation will be delivered;*

The Conservation Plan shall be carried out in accordance with the approved details.

Justification: To ensure that bats are protected by the development.'

'Condition 4: No phase of development, including site clearance, shall commence until a bat Management and Maintenance Plan has been submitted to and approved in writing by the Local Planning Authority. The Management and Maintenance Plan should build upon the principles outlined in the ecology report (Bat Activity Survey, The Oaks, Wrexham Industrial Estate, Reference UES03918/21 dated 04/12/2024, by United Environmental Services Ltd) and include, but not necessarily be limited to:

- *The submission of a long-term site management and maintenance plan (not less than 25 years) that includes:*

    - *details of habitats and ecological features present or to be created, both in written form and shown on appropriate drawings, including planting plans;*
    - *defined aims and objectives for the bat compensation roost (including defined key performance indicators for long term monitoring of the building and the relevant species);*
    - *details of the desired condition for each habitat and criteria to determine when habitats have achieved this;*
    - *details of short and long-term habitat management prescriptions to both achieve and maintain the desired condition;*
    - *details of monitoring methodologies and record dissemination for a period of not less than 25 years;*
    - *scheduling and timings of monitoring, management and maintenance activities;*
    - *current and any proposed changes to the freehold tenure of the compensation area (tenure of the ecology area to be approved by the Local Planning Authority);*
    - *persons or bodies responsible for undertaking management and surveillance together with required skills and competencies;*
    - *licensing requirements;*
    - *details of reporting, review and update of the plan (informed by monitoring) at specific intervals as agreed.*

The Plan shall be carried out in accordance with the approved details. Justification: To ensure that bats are protected by the development.'

Since the consultation comments, a detailed Landscape & Ecology Management Plan (LEMP) has been prepared and submitted as part of the application by UES (report reference UES03918/32). This LEMP provides some information required for the proposed conditions and should be read in conjunction with this report.

This report should also be read in conjunction with Appendices 1-3.

2 IMPACT ASSESSMENT

Bats in buildings

The development proposals have been informed by a comprehensive suite of ecological surveys, with the location and design chosen to minimise impacts on high-value habitats and protected or otherwise notable species recorded on site.

All existing buildings and structures will be retained and will be unaffected by the proposed works. Accordingly, there will be no direct impact on the nine confirmed bat roosts identified within these buildings, nor on any additional structures that may be used by roosting bats on an occasional or transient basis but were not detected during the presence/absence surveys.

External lighting will be confined to the immediate vicinity of the proposed industrial unit, including the access road, parking areas, and service yard. As all retained buildings are located a substantial distance from the construction footprint, and no lighting is proposed in their proximity, it is considered that the installation of new lighting will not result in any adverse impacts on confirmed bat roosts or other structures with potential for occasional, transient or future bat use.

Bats in trees

All trees and shrubs with the potential to be affected by the proposed development were subject to detailed ecological assessment to determine their suitability for roosting bats and any evidence of current use. This included all vegetation identified for potential removal as part of proposed grassland restoration works with the wider Eco-Heritage Park.

In parallel with the building assessments, the development proposals have been shaped by the survey findings to minimise impacts on high-value habitats and protected or otherwise notable species, including bats and trees with bat roosting potential.

To facilitate construction, only five trees with bat roosting potential (T8, T10, T11, T12, and T25) are proposed for removal. Each of these was assessed as having low suitability for roosting bats, with potential roost features (PRFs) limited to those capable of supporting individual or very low numbers of bats on an occasional / transient basis. None of these PRFs are suitable for roosts of high conservation significance such as maternity or hibernation.

Additional tree removal will be required to deliver the proposed ecological enhancement measures across the wider site, including targeted scrub and woodland thinning and removal to facilitate the restoration of wildflower grassland. The landscaping and enhancement strategy has been designed to retain trees with bat roosting potential wherever feasible. All trees assessed as having moderate bat roosting potential will be retained, and only one tree with low roosting potential is to be removed to facilitate these enhancement works.

Commuting and foraging bats

Bat activity surveys recorded bat activity across the site, with the highest levels concentrated along the River Clywedog in the south and south-east, as well as along paths and rides within the dense scrub that dominates the site. Additional hotspots of activity were identified around woodland edges and tree lines associated with ponds.

The proposed development has been carefully designed to avoid impacts on the most ecologically valuable habitats for bats. Works will primarily affect areas of dense scrub, small patches of neutral grassland, and scattered trees. All ponds, excluding one dry, scrubbed-over historical pond will be retained, along with all areas of woodland.

While the scrub and small areas of grassland habitats to be removed do offer foraging and commuting opportunities, the limited scale of development relative to the overall site, combined with the retention of higher-quality habitats, ensures that sufficient bat foraging resources will remain. The location of the development within the north-eastern corner of the site, adjacent to existing roads and industrial infrastructure, avoids severance of key commuting corridors to the north, south, and east.

Importantly, the riparian corridors along the southern and south-western boundaries will be fully retained, preserving a high-quality commuting route that maintains connectivity with off-site habitats to the west.

External lighting will be restricted to the immediate vicinity of the proposed industrial unit, including the access road, parking areas, and service yard. Given the location of the development area well away from the highest quality habitats, and the overall size of the retained and enhanced areas of habitat, any light spill will be limited to newly created habitats within or adjacent to the development footprint. This is not considered to represent a significant impact, particularly considering the retention of extensive areas of moderate and high-quality foraging habitat and commuting corridors within the wider site. Furthermore, external lighting will be designed to be sensitive to nocturnal wildlife where possible, incorporating directional fittings and timing controls to minimise the potential impact to the lowest practicable level.

3 MITIGATION MEASURES

Bats in buildings

As there will be no adverse impacts to any buildings on site, there is no need / potential to implement any mitigation measures with regards to bat roosts in buildings.

Bats in trees

To facilitate construction, only five trees with bat roosting potential (T8, T10, T11, T12, and T25) are proposed for removal. Each of these was assessed as having low suitability for roosting bats, with PRFs limited to those capable of supporting individual or very low numbers of bats on an occasional basis, being unsuitable for roosts of high conservation significance such as maternity or hibernation. None of these trees were found to support roosting bats during survey, and as such, a European Protected Species (EPS) Mitigation Licence is not required for their felling.

Bats use tree roosts in a very transient way, and their remains some, albeit limited potential for bats to use the trees in the future and at the time of the felling and arboricultural works.

In accordance with Bat Conservation Trust (BCT) guidelines, precautionary measures will be implemented for all trees assessed as having low roosting suitability. These measures will include either soft felling techniques or pre-commencement inspections.

Soft felling will involve sectional removal of the tree, with any segments containing PRFs carefully lowered to the ground. These sections will be placed with PRFs facing upwards and left undisturbed overnight, before being removed from site no sooner than 24 hours later. Alternatively, PRFs may be inspected immediately prior to felling or pruning using an endoscope to confirm bat absence. In the unlikely event that a bat is encountered, works within the vicinity of the tree will cease immediately and a licence will be sought from Natural Resources Wales to allow the removal of the roost.

Given the low suitability of these trees and their unsuitability to support maternity or hibernation roosts, no seasonal timing restrictions are required for their removal.

The proposed ecological enhancement and restoration measures will follow the principles outlined in the landscaping plan (Appendix 2), but will remain partly adaptive and informed by the outcomes of early-stage works. All works will be undertaken under ecological supervision, allowing for minor deviations where site conditions warrant. Retention of trees with bat roosting potential will be prioritised wherever feasible, however should the removal of any such trees become necessary, the mitigation measures set out in Table 3 will be implemented in full.

Table 3 – Summary of bat roosting potential and mitigation measures required in the event of felling

Bat roosting potential	Tree number	Mitigation measures required
Negligible	T7, T9, T14 and all other unnumbered trees within the survey area.	Fell without restriction.
Low	T1, T2, T3, T4, T5, T6, T8, T10, T11, T12, T15, T16, T18, T19, T20, T22, T23,	

	T25, T27, T29, T30, T31, T33, T64, T65	Soft felling techniques or pre-commencement inspection.
Moderate	T13, T17, T24, T28,	Soft felling techniques or pre-commencement inspection.
Moderate	T21, T26, T32,	Soft-felling techniques only. Trees are not suitable for pre-commencement inspection as the PRFs cannot be fully inspected with an endoscope or the trees are unsafe to climb.

Additional ecological enhancement and ongoing habitat management will be undertaken across the wider site, including areas of woodland located in the southern and western sections. Trees within these areas have not been subject to bat roosting assessments due to the absence of anticipated adverse impacts from the proposed development.

These areas of woodland and scrub will broadly be retained in their current condition, however selective thinning and coppicing will be implemented to ensure that the woodland's canopy and understory layers do not become overcrowded at the detriment of the ground flora layer. The requirement for selective thinning or coppicing will be dependent on changing conditions within the woodland and will be informed by ongoing monitoring surveys and based upon the advice of the ecological cooperative (see Section 5.2).

Prior to any tree removal outside of the previously surveyed area, the project ecologist will confirm that no PRFs are present. Where PRFs are identified, the associated trees will be retained and, where feasible, alternative specimens will be selected for removal. In the unlikely event that a tree with bat roosting potential must be felled or undergo arboricultural works, such as the removal of a diseased or hazardous specimen, it will be subject to further bat surveys to inform appropriate mitigation measures. These surveys will be undertaken in accordance with industry standard guidelines relevant at the time.

External lighting

Any external lighting installed will be designed to be sensitive to nocturnal wildlife, incorporating directional fittings and timing controls where possible to minimise the potential impact to the lowest practicable level.

4 COMPENSATION & ENHANCEMENT MEASURES

4.1 Habitat creation and enhancement

The proposed development will result in the loss of areas of suitable foraging and commuting habitat for bats, predominantly areas of dense scrub and a small number of scattered trees. Despite this, the layout for the site has been designed to incorporate significant habitat retention, including the retention of habitats at the site boundaries, which will continue to act as ecological corridors and commuting routes for bats. No bat roosts have been observed on site during the detailed suite of ecology surveys that have been undertaken and all buildings to be retained. Only a small number of trees with bat roosting potential will be removed to facilitate the proposals.

The measures set out below detail how the loss of habitats will be compensated for so that bats are provided with long-term foraging and commuting habitat. Full details of the proposed habitat creation and management are detailed within the LEMP prepared for the site by UES.

Two principal areas within the site will be subject to targeted habitat enhancement and ongoing management: the proposed Industrial Unit Compound (proposed construction area) and the Eco-Heritage Park (the wider site). The Eco Heritage Park comprises two distinct zones:

- The Restoration Area, where enhancement works will focus on the creation of a structurally diverse mosaic of habitats through the phased removal of encroaching scrub and the restoration of species-rich grassland.

- The Wider Eco-Heritage Park, which will largely be retained in its current condition, with subtle ecological enhancements and long-term management implemented to support habitat resilience and biodiversity value.

The enhancement works within the Eco-Heritage Park will be delivered through a 15-year phased programme, comprising six phases at three-year intervals (see Appendix 1 – Phasing Plan). This approach enables adaptive management, allowing lessons learned from earlier phases to inform subsequent interventions. It also minimises ecological disruption by staggering the otherwise large-scale removal of scrub, thereby reducing immediate impacts on species currently utilising these habitats and allowing time for newly created habitats to establish and function as ecological replacements. Landscaping plans have been created by Mdlandscape and are provided at Appendix 2, showing the proposed completed enhancement measures at the end of Phase 6 in Year 15.

Examples of habitat creation and management measures that are to be implemented on site that will benefit bats include:

- Native species tree and species-rich hedgerow planting
- Restoration of large areas of wildflower grassland
- Creation and long-term management of a mosaic of habitats, including grassland, scrub, ponds and ephemeral communities
- Retention, enhancement and long-term management of all areas of woodland
- Retention, enhancement and long-term management of the two existing ponds on site still holding water
- Creation of five new ponds

The LEMP includes details of long-term habitat management and monitoring proposals and includes how these proposed measures will be implemented and secured in the long-term.

4.2 Building enhancements

While the retained buildings offer some opportunities to enhance the roosting opportunities on site, extensive modifications such as structural alterations, roof void creation, or internal partitioning are not considered appropriate. This is due to the deteriorating condition of the buildings and their historical significance as part of the former munitions factory. To avoid compromising their structural or visual integrity, proposed enhancements will focus on the installation of durable bat boxes within sheltered internal areas, providing immediate roosting opportunities in a low-impact manner.

Given the absence of existing roosts and the larger internal dimensions of the structures, Buildings 1, 2, 4, and 30 have been identified as the most suitable for enhancement. Each will be fitted with two Schwegler 1FF bat boxes, mounted at heights of 3–5m on internal walls in dark locations, away from direct light and draughts. These boxes are designed to support crevice-dwelling species and may also offer potential for hibernation use, depending on internal microclimatic conditions.

This approach will deliver a meaningful increase in roosting provision across the site, targeting buildings that currently offer limited natural crevice-type roosting features. The use of purpose-built boxes introduces alternative roosting opportunities, including those suitable for larger numbers of bats and seasonal use such as hibernation, thereby diversifying the ecological value of the retained structures.

To safeguard these newly created roosting opportunities from disturbance, each of the selected buildings will be fitted with wrought iron grate or door across the primary access points (e.g. open doorways or large window apertures). These barriers will be designed to prevent unauthorised public access while maintaining free movement for bats. Grates will be constructed from horizontal metal bars spaced 13cm apart to allow unhindered bat entry and exit. Doors will be built into the grates, allowing human access via a padlock, in addition to continued bat access. This measure will significantly reduce the risk of human interference, vandalism, or accidental disturbance, thereby supporting the long-term viability of the enhanced roosting features.

Installation of at boxes will be undertaken by a suitably qualified ecologist or under ecological supervision. Once occupied, bat boxes may only be accessed or disturbed by a licensed bat ecologist in accordance with relevant legislation.

Buildings 3, 8, 9, 13, 16, and 20 are known to support existing bat roosts and will be retained in their current condition. No modifications are proposed to these structures in order to avoid disturbance or modification of the existing roosts.

4.3 Bat boxes

To compensate for the loss of roosting habitat associated with the removal of five trees assessed as having low bat roosting potential, five bat boxes will be installed across the site. In addition to these and the eight bat boxes that will be installed within retained buildings, and a further suite of seven bat boxes will be provided to deliver a net enhancement in roosting opportunities for bats.

The following durable woodcrete models will be affixed to trees within the site:

- Schwegler 2F bat box

- Schwegler 1FF bat box
- Schwegler 2FN bat box
- Schwegler 1FS large colony bat box

These boxes are designed to support a range of bat species known to use the site and will provide immediate roosting opportunities. Should any of the specified models be unavailable due to supply constraints, alternative bat box types may be used, subject to prior agreement with the project ecologist to ensure equivalent roosting functionality. Preference will be given to woodcrete or woodstone designs due to their proven durability and longevity.

Installation of bat boxes will be undertaken by a suitably qualified ecologist or under ecological supervision. Boxes will be positioned on trees distributed across the site, including within retained woodland areas. Indicative locations are shown in Appendix 3; however, final placement will be determined by the project ecologist at the time of installation, based on prevailing site conditions.

Bat boxes will be mounted at heights between 3 and 6 metres, ideally on a southerly aspect, and positioned to ensure clear flight access with no obstruction from surrounding branches. Once occupied, bat boxes may only be accessed or disturbed by a licensed bat ecologist in accordance with relevant legislation.

5 MONITORING AND MANAGEMENT

5.1 Monitoring surveys

Buildings 3, 8, 9, 13, 16, and 20 are known to support bat day roosts and will be retained in their current condition and unaffected by the development proposals. Given the absence of potential impacts, ongoing monitoring of these roosts is not considered necessary or proportionate.

Bat boxes in buildings

Following the installation of bat boxes and the restriction of public access to Buildings 1, 2, 4, and 30, a monitoring programme will be implemented to assess uptake and seasonal use of the newly created roosting features.

An initial monitoring inspection will be undertaken three years after installation (to allow time for the boxes to 'bed in' and be occupied by bats). Two different inspections will be undertaken in year 3:

- **Winter Inspection (December–February):**
  Conducted during the peak hibernation period to assess potential overwintering use.

- **Summer Inspection (June–August):**
  Timed to coincide with peak bat activity, targeting signs of day roosting or transient use.

Following this, a summer inspection will be undertaken every five years and will cover a minimum 25-year period. Following the completion of the 25-year monitoring period, a monitoring review will be undertaken, during which the results and effectiveness of habitat creation and monitoring surveys will be reviewed to determine the need to continue the monitoring surveys. This decision to stop, continue and / or alter methodology of any further monitoring surveys will be discussed and agreed with NRW.

Each inspection will be carried out by a suitably licensed ecologist or accredited agent, using ladders to facilitate access. Monitoring inspections will include checks for evidence of use by bats such as droppings, staining, or presence of individuals within all eight boxes. The condition of each box will also be assessed, and any found to be missing or damaged to the extent that they no longer function will be replaced.

This level of monitoring is considered proportionate and appropriate, as the bat boxes represent a roost creation and enhancement measure, rather than mitigation for impacts to existing roosts. No known roosts have been affected by the development, and the buildings themselves are being retained in their current condition. Whilst additional checks may be undertaken between scheduled inspections to gather supplementary data on a voluntary basis, these are not mandatory and will be conducted at the discretion of the project ecologist.

Responsibility for commissioning and funding ecological monitoring surveys lies with the landowner/developer (FI-REM), who will ensure that inspections are undertaken in accordance with the agreed schedule.

Bat boxes affixed to trees

Bat boxes installed on trees across the site will be subject to occasional monitoring, with formal inspections scheduled in year three and then every five years. Monitoring surveys will cover a minimum 25-year period. Following the completion of the 25-year monitoring period, a monitoring review will be undertaken, during which the results and effectiveness of habitat creation and monitoring surveys will be reviewed to determine the need to continue the monitoring surveys. This decision to stop, continue and / or alter methodology of any further monitoring surveys will be discussed and agreed with NRW.

The inspections will be undertaken during the peak bat activity period (June–August inclusive). This frequency of proposed monitoring reflects the sporadic and opportunistic nature of bat use in tree-mounted boxes, which may remain unoccupied for extended periods and are typically, although not exclusively, used by individual bats rather than established colonies.

While additional checks may be undertaken between scheduled inspections to gather supplementary data on a voluntary basis, these are not considered necessary or proportionate given the low likelihood of consistent occupancy.

Each monitoring check will be undertaken by a suitability licenced ecologist or their accredited agent and will involve checks for the presence or evidence of roosting bats within all 12 boxes using a ladder to facilitate access. The condition of each box will be reviewed as part of each monitoring check and replacement boxes will be provided for any that are missing or damaged to an extent that they no longer provide potential roosting opportunities.

Responsibility for commissioning and funding ecological monitoring surveys lies with the landowner/developer (FI-REM), who will ensure that inspections are undertaken in accordance with the agreed schedule.

Record dissemination

All records of protected or otherwise notable species generated from monitoring surveys (or any other activity on site e.g. habitat enhancement works) will be submitted to Cofnod before the end of the calendar year within which the records were generated.

5.2 Habitat creation, ongoing management and responsibilities

Responsibility

The responsibility for the initial habitat creation works lies with the landowner/developer (FI-REM) and the contractors appointed to carry out those works at the time of the development. They will be responsible for ensuring that the habitat creation works are carried out in accordance with this document and the LEMP.

Subsequent management of the habitats on site will also be the responsibility of the landowner/developer. An ecology cooperative has been established that will involve FI-REM, United Environmental Services (as an ecological consultant), North Wales Wildlife Trust and Enfys Ecology Ltd. Butterfly Conservation and Amphibian and Reptile Conservation are also part of the cooperative as advisors. Furthermore, whilst Wrexham Borough Council's Ecologist and NRW aren't members of the cooperative, their expertise and advice will be sought from the cooperative when needed.

Through the cooperative, Enfys Ecology and the North Wales Wildlife Trust will be appointed as the management company responsible for undertaking the ongoing habitat management works as detailed within this document, and the LEMP. They must ensure that the ongoing measures detailed within both documents are implemented.

Habitat monitoring

As part of the long-term management plan, annual site inspections will be undertaken of the created and retained ecology areas by Enfys Ecology, North Wales Wildlife Trust and / or the project ecologist. Following this, annual meetings will be held and will include all members of the ecology cooperative. The purpose of the meeting will be to discuss any issues, particularly in relation to failed habitat establishment and management, and to determine whether any remedial works are necessary to restore the habitats to a satisfactory standard, or to implement further enhancement measures. This meeting will be held from late summer to winter, so that the habitats can be assessed when in flower (e.g. wildflower meadows) and to allow for the required remedial works to be arranged.

In addition, a detailed botanical assessment will be undertaken of the newly created / restored grasslands in the third year following grassland seeding by a suitably qualified ecologist. This will allow for a review of the success of the ongoing grassland restoration methodology and management, and to allow for remedial changes to be implemented based on an informed assessment of the conditions on site.

5.3 Timetable of works

Propose works specifically relating to bats are detailed in Table 4 below. The LEMP report prepared for the site includes a management plan that details the timings for both initial and long-term habitat creation, enhancement and management requirements.

Table 4 – Timetable of works relating to bats

ACTIVITY	COMMENTS	TIMINGS
Mitigation measures		
Pre-commencement inspection or implementation of soft felling techniques	Of any trees identified as having potential to support roosting bat.	During / immediately prior to felling – No timing restriction
Habitat establishment and enhancements – see LEMP for further details		
Installation of bat boxes on trees	To be overseen by an appropriately experienced ecologist.	Prior to occupation
Installation of bat boxes in trees and installation of grates and access doors	Within Buildings 1, 2, 4, and 30. To be overseen by an appropriately experienced ecologist.	
Monitoring and auditing		
Year 3 winter monitoring of bat boxes within buildings	To be undertaken by a licenced ecologist. All records of bats and any other protected or otherwise notable species generated from monitoring surveys (or any other activity	Year 3 (December – February inclusive)
Year 3 summer monitoring of bat boxes within		Year 3 (June – August inclusive)

buildings and on trees	on site e.g. habitat enhancement works) will be submitted to Cofnod before the end of the calendar year within which the records were generated.	
Ongoing summer monitoring of bat boxes within buildings and on trees		Every 5 years from years 5 to 25 inclusive, following which a monitoring survey will be undertaken. June – August inclusive

6 CONCLUSION

The proposed development will retain and enhance approximately 81.6% of the site, encompassing high-quality habitat for foraging and commuting bats. Although the loss of dense scrub within the working area will reduce foraging habitat availability, this impact is mitigated by the preservation and enhancement of other suitable habitats and ecological features within the wider site.

The mitigation measures detailed in this document will reduce the risk of harm to bats to the lowest practicable levels. The proposed compensatory habitat creation, enhancement and long-term management measures will ensure that suitable bat foraging and commuting habitats in place for the long-term. The proposals involve the retention of all known bat roosts, and the provision of a suite of bat boxes will provide in an enhancement in the diversity and availability of roosting opportunities on site.

No fragmentation, isolation, or long-term adverse impacts on local bat populations are anticipated as a result of the development. To the contrary, it is expected that the proposed development will improve the overall habitat quality of the site for bats, and the development provides a mechanism to secure long-term management and monitoring.

APPENDICES

Appendix 1 – Phasing plan

15 Year Habitat Managment Plan

Site: The Oaks, Wrexham Industrial Estate
NGR: (SJ) 38653 49314
Author: Harry Fox
Date: 02/12/2025

north

REDWITHER ROAD

OAK ROAD

Power Station

Works

Tank

Drain

33.8m

The Oaks

Pond

Redwither Brook

FB

Pumping Station

Clywedog)

CR

Co Const. P Const & ED Bdy

APON CLYWEDOG / RIVER CLYWEDOG

see continuation

LANDSCAPE MASTERPLAN

0 10 20 30 40 50 60 70 80 90 100

SCALE 1:1250 (A1)
SCALE 1:2500 (A3)
METRES

Location Plan



Legend

- EXISTING TREES TO BE RETAINED
- EXISTING TREES - ROOT PROTECTION AREA
- EXISTING AREAS OF SCRUB HABITAT TO BE RETAINED
- EXISTING WATER FEATURE TO BE REMOVED
- TREE WITH NEGLIGIBLE BAT ROOST POTENTIAL
- TREE WITH LOW BAT ROOST POTENTIAL
- TREE WITH MODERATE BAT ROOST POTENTIAL

DEVELOPMENT SITE

- PROPOSED UNIT BUILDING
- PROPOSED NATIVE SPECIES STANDARD DECIDUOUS TREE
- PROPOSED NATIVE SPECIES SHRUB PLANTING
- PROPOSED ORNAMENTAL SHRUB AND HERBACEOUS PLANTING
- PROPOSED NATIVE MIXED SPECIES HEDGING
- PROPOSED NATIVE SPECIES WILDFLOWER AND GRASS MIX
- PROPOSED NATIVE GRASS MIX
- PROPOSED SHORT AMENITY GRASS MIX
- PROPOSED SWALE / ATTENUATION
- PROPOSED FOOTPATHS
- PROPOSED SITE ROADS AND PARKING

NATURE RESERVE

- EXISTING PUBLIC RIGHT OF WAY
- PROPOSED PERMISSIVE FOOTPATH
- EXISTING AREAS OF SPECIES RICH GRASSLAND
- EXISTING AREAS OF EPHEMERAL / SHORT PERENNIAL VEGETATION
- EXISTING WATER FEATURE RETAINED
- AREA TO BE RESTORED TO SPECIES RICH GRASSLAND
- AREAS TO BE CREATED AS DISTURBED GROUND
- PROPOSED POND - ALLOWED TO COLONISE NATURALLY (1m DEEP)
- PROPOSED POND - TO BE PLANTED WITH NATIVE SPECIES MARGINAL PLANTING (1.8m and 2.5m DEEP)

- Phase 1
- Phase 2
- Phase 3
- Phase 4
- Phase 5
- Phase 6

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Project	THE OAKS, OAK ROAD WREXHAM INDUSTRIAL ESTATE	**Dwg No** 311/LAND/L/104	**Revision** P05.1
Title	LANDSCAPE MASTERPLAN PROPOSED SITE AND NATURE RESERVE YEAR FIFTEEN	**Scale** 1:1250 @ A1 / 1:2500 @ A3	**Date** 1/12/2025

Revision	Date	Details	Drawn	Checked	Reviewed
P01	07/02/2025	PRE-APPLICATION CONSULTATION	MC	XXXX	MD
P02	19/05/2025	PLANNING APPLICATION	MC	XX	MD
P03	22/08/2025	PLANNING APPLICATION & LEMP	MC	XX	MD
P04	04/09/2025	PLANNING APPLICATION	MC	XX	MD
P05.1	1/12/2025	PLANNING APPLICATION	MC	XX	MD

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Appendix 2 – 15-year landscaping plan

north

REDWITHER ROAD

OAK ROAD

Power Station

Works

Tank

Drain

33.0m

The Oaks

Redwither Brook

FB

Pumping Station

Pond

Clywedog

AFON CLYWEDOG / RIVER CLYWEDOG

CR

Co Const, P Const & ED Bdy

see continuation

LANDSCAPE MASTERPLAN

0 10 20 30 40 50 60 70 80 90 100

SCALE 1:1250 (A1)
SCALE 1:2500 (A3) METRES

The masterplan indicates the proposed removal of scrub and restoration of grass and wildflower habitat that could be gradually achieved over a ten year period.

A phased approach to the habitat restoration would minimise disturbance to local fauna and allow wildlife to relocate as scrub is cleared.

The approach to habitat restoration is detailed in the Landscape and Ecological Management Plan.

Trees of good form and condition and trees with bat roost features that are encountered during the scrub clearance works will be retained where appropriate to provide longevity to the tree population and for biodiversity and habitat benefit. This will also retain visual and habitat links to the woodland and scrub habitat to the perimeter of the site.

Notes

1. Dimensions are given in metres and millimetres as stated on the drawing.
2. Centre of site is located at approximately grid reference SJ 38740 49238.
3. Drawing must be reproduced in colour.

Location Plan



Legend

- EXISTING TREES TO BE RETAINED
- EXISTING TREES - ROOT PROTECTION AREA
- EXISTING AREAS OF SCRUB HABITAT TO BE RETAINED
- EXISTING WATER FEATURE TO BE REMOVED
- TREE WITH NEGLIGIBLE BAT ROOST POTENTIAL
- TREE WITH LOW BAT ROOST POTENTIAL
- TREE WITH MODERATE BAT ROOST POTENTIAL

DEVELOPMENT SITE

- PROPOSED UNIT/BUILDING
- PROPOSED NATIVE SPECIES STANDARD DECIDUOUS TREE
- PROPOSED NATIVE SPECIES SHRUB PLANTING
- PROPOSED ORNAMENTAL SHRUB AND HERBACEOUS PLANTING
- PROPOSED NATIVE MIXED SPECIES HEDGING
- PROPOSED NATIVE SPECIES WILDFLOWER AND GRASS MIX
- PROPOSED NATIVE GRASS MIX
- PROPOSED SHORT AMENITY GRASS MIX
- PROPOSED SWALE / ATTENUATION
- PROPOSED FOOTPATHS
- PROPOSED SITE ROADS AND PARKING

NATURE RESERVE

- EXISTING PUBLIC RIGHT OF WAY
- PROPOSED PERMISSIVE FOOTPATH
- EXISTING AREAS OF SPECIES RICH GRASSLAND
- EXISTING AREAS OF EPHEMERAL / SHORT PERENNIAL VEGETATION
- EXISTING WATER FEATURE RETAINED
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- AREAS TO BE CREATED AS DISTURBED GROUND
- PROPOSED POND - ALLOWED TO COLONISE NATURALLY (1m DEEP)
- PROPOSED POND - TO BE PLANTED WITH NATIVE SPECIES MARGINAL PLANTING (1.5m and 2.5m DEEP)

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Appendix 3 – Ecological enhancements plan

Ecological Enhancement Plan

Site: The Oaks, Wrexham Industrial Estate
NGR: (SJ) 38653 49314
Author: Harry Fox
Date: 02/12/2025

north

REDWITHER ROAD

OAK ROAD

Power Station

Works

Tank

Drain

33.8m

The Oaks

Pond

Redwither Brook

FB

Pumping Station

Clywedog)

CR

Co Const, P Const & ED Bdy

APON CLYWEDOG / RIVER CLYWEDOG

see continuation

LANDSCAPE MASTERPLAN

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SCALE 1:1250 (A1)
SCALE 1:2500 (A3)
METRES

Location Plan



Legend

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- PROPOSED NATIVE MIXED SPECIES HEDGING
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- PROPOSED SWALE / ATTENUATION
- PROPOSED FOOTPATHS
- PROPOSED SITE ROADS AND PARKING
- NATURE RESERVE
- EXISTING PUBLIC RIGHT OF WAY
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- AREAS TO BE CREATED AS DISTURBED GROUND
- PROPOSED POND - ALLOWED TO COLONISE NATURALLY (1m DEEP)
- PROPOSED POND - TO BE PLANTED WITH NATIVE SPECIES MARGINAL PLANTING (1.8m and 2.5m DEEP)

- Brash piles
- Hibernacula
- Schwegler 1B (26mm entrance hole)
- Schwegler 1B (32mm entrance hole)
- Schwegler 2H open-fronted nest box
- Tawny owl nest box
- Schwegler Startling nest box
- Schwegler 1FF bat box
- Schwegler 1FS large colony bat box
- Schwegler 2F bat box
- Schwegler 2FN bat box

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