

United Environmental Services Ltd

1 Booths Park,
Chelford Road,
Knutsford,
Cheshire
WA16 8QZ

www.ues.org.uk

enquiries@ues.org.uk

01565 757788



LANDSCAPE & ECOLOGICAL MANAGEMENT PLAN

At

Bridgeway Centre

Bridge Road
Wrexham Industrial Estate
Wrexham
LL13 9QS

NGR: SJ 37879 49483

Prepared for:	Borris Byrne, FI Real Estate Management
Written by:	Tom Kenwright, UES Senior Ecologist
Approved by:	Toby Hart, UES Managing Director

A handwritten signature in black ink, appearing to read 'Toby Hart', is positioned below the 'Approved by:' line.

Date:	11 th October 2024
Updated (V2):	27 th November 2024
UES reference:	UES03012/17



CONTENTS

1	INTRODUCTION	3
1.1	Author and qualifications	3
1.2	Proposed development and previous survey information	3
1.3	Objectives and scope	3
1.4	Structure of the report.....	3
2	BASELINE ECOLOGICAL INFORMATION	5
2.1	Habitats	5
2.2	Amphibians.....	5
2.3	Badgers and hedgehogs.....	6
2.4	Bats	6
2.5	Breeding birds	6
2.6	Invasive species	7
2.7	Trees and Hedgerows	7
2.8	Watercourses	7
2.9	Woodland	8
3	LANDSCAPING AND HABITAT MANAGEMENT	9
3.1	Habitat establishment and management.....	9
3.2	Responsibilities, monitoring and remedial measures	15
3.3	Management schedule	16
4	CONCLUSION.....	18
	APPENDICES.....	19
	Appendix 1 – Ecological Enhancements Plan.....	19

1 INTRODUCTION

1.1 Author and qualifications

This report is compiled and written by Tom Kenwright BSc MSc ACIEEM, UES Senior Ecologist. Tom holds a level 5 Botanical Society for Britain and Ireland (BSBI) Field Identification Skills Certificate (FISC).

It has been verified by Toby Hart BSc MCIEEM PIEMA, UES Managing Director.

1.2 Proposed development and previous survey information

The proposed development is to create a new contemporary styled employment / business park comprising a number of blocks split into smaller units, designed for occupation by a wide range of businesses and enterprises across Use Classes B1, B2 and B8. Existing retail, service, food and drink units fronting Coed Aben Road will be retained / refurbished as part of the proposals. A hybrid planning application has been made (P/2022/0065) to Wrexham Borough Council.

A Preliminary Ecological Appraisal (PEA), including a walkover survey was undertaken of the site by UES in June 2020 (see report reference UES03012/01). An updated walkover survey was undertaken by UES in October 2024 (see report reference UES03012/17).

A suite of bat scoping and bat presence / absence surveys have also been undertaken of the buildings on site, conducted by UES across 2020-2024.

1.3 Objectives and scope

UES has been commissioned to produce a Landscape and Ecological Management Plan (LEMP) in order to address how the final site landscaping plans will be implemented, maintained and managed, and which organisations are responsible for these requirements. The LEMP aims to:

- Ensure that retained and created habitats are established and managed appropriately throughout their lifetime.
- Provide habitats and features on site which promote protected or otherwise notable species and enhance the overall biodiversity and ecology of the site.
- Ensure that management responsibilities are appropriately delegated and that specific measures are scheduled.

As this report is in support of a hybrid application, this document should be updated and submitted as part of any reserved matters application.

1.4 Structure of the report

This report sets out the baseline ecological information before detailing how the objectives of this LEMP will be achieved during and after the development.



It should be read in conjunction with Appendix 1, as well as the updated PEA report produced by UES (reference UES03012/17).

2 BASELINE ECOLOGICAL INFORMATION

2.1 Habitats

A PEA was undertaken by UES of the proposed development site in June 2020 and a further updated PEA was undertaken in October 2024. The following principal habitat types were characterised on site or immediately adjacent to the site:

- A1.1.1 Broadleaved woodland – semi-natural
- A1.1.2 Broadleaved woodland - plantation
- A2.1 Scrub – dense / continuous
- A2.2 Scrub – scattered
- A3.1 Broadleaved scattered trees
- B2.2 Semi-improved neutral grassland
- B6 Poor semi-improved grassland
- C3.1 Tall ruderal
- G2 Running water
- J1.2 Amenity grassland
- J1.3 Ephemeral / short perennial vegetation
- J1.4 Introduced shrub
- J2.1.2 Intact hedge – species-poor
- J2.3.2 Hedge with trees – species-poor
- J2.4 Fence
- J3.6 Buildings
- J5 Hardstanding

Further information on the characteristics of these habitats is available in the updated PEA report (reference UES03012/17). The results of the ecological assessment highlighted the following ecological receptors as potential constraints on site:

- Amphibians
- Badgers *Meles meles* and hedgehogs *Erinaceus europaeus*
- Bats
- Breeding birds
- Invasive species
- Trees and hedgerows
- Watercourses
- Woodland

2.2 Amphibians

Great crested newts (GCNs) *Triturus cristatus* are not considered to be present on site given the lack of suitable breeding opportunities in the immediate surrounding area, the presence of barriers to movement along some of the site boundaries, and the predominantly low quality of the habitats on site.

Reasonable avoidance measures detailed within the PEA report will be implemented during the construction phase of the development, to reduce the risk of harm to amphibians to the lowest practicable level.

The landscaping scheme for the site has been designed to incorporate the retention and creation of terrestrial foraging and sheltered commuting habitat in the form of retained woodland, scrub and grassland, wildflower grassland creation, and native species-rich hedgerow planting. In addition, a log pile and a purpose-built hibernaculum will be created to provide an enhancement in the availability of sheltering and hibernating opportunities.

Any gully pots installed on site and will either be set back, covered with a mesh to prevent amphibians from falling in, or will be fitted with a means of escape such as an amphibian ladder.

2.3 Badgers and hedgehogs

No evidence of hedgehog or badger activity has been observed during any of the ecological surveys undertaken of the site, however both species are known to be present within the local area and the site contains some areas of suitable habitat. As such, reasonable avoidance measures detailed within the PEA report will be implemented on site during the construction phase of the development, to reduce the risk of harm to these species to the lowest practicable level.

Where considered necessary, hedgehog highways will be incorporated into boundary features to allow continued use of the site by hedgehog and to ensure commuting routes aren't blocked.

2.4 Bats

Following an initial bat scoping survey, most of the buildings on site were assessed as having negligible potential to support roosting bats or were assessed as having low potential and no roosting bats were observed during subsequent presence / absence surveys. As such, all but two buildings on site have been demolished under demolition consent. Parts of the remaining two buildings also been demolished, however the parts that were previously found to contain bat roosts have been retained and are due to be demolished under recently approved demolition consent. Due to the presence of historic bat roosts, the remaining parts of these buildings are to be demolished under a non-licenced method statement (report reference UES03012/14).

A ground level tree assessment of all trees within the development boundary was undertaken as part of the 2024 updated PEA walkover survey. The two trees on site found to contain bat roosting features are currently due to be retained as part of the development proposals. The PEA report contains details of necessary soft felling techniques and further surveys that will need to be implemented if the proposals change and either of these trees are due to be felled or subject to arboricultural works.

This LEMP provides details of bat boxes that are to be provided to compensate for the loss of potential roosting features within buildings and to act as an ecological enhancement.

2.5 Breeding birds

There are a number of habitats on site, such as buildings, woodland, hedgerows, dense scrub, and mature trees which could support breeding birds. Vegetation removal and building demolition works could result in the direct loss of nests, any individuals within the nests and of available nesting territories if conducted during the breeding season.

Site clearance, tree felling, arboricultural works, vegetation removal and demolition works are to take place outside of the breeding bird season and should not be undertaken from March to August inclusive. If this is not possible, a targeted breeding bird nest scoping survey should be conducted immediately prior to the start on site and an ecological clerk of works appointed to oversee works if considered necessary.

This LEMP provides details of bird boxes that are to be provided to compensate for the loss of potential nesting opportunities on site and to act as an ecological enhancement.

2.6 Invasive species

Two stands of small-leaved cotoneaster *Cotoneaster microphyllus* are present within the introduced planting on site and numerous scattered plants of giant hogweed *Heracleum mantegazzianum* are present within the western section of the site.

These invasive species are listed under Schedule 9 of the Wildlife and Countryside Act 1981 or Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019, making it is an offence to plant or otherwise cause or allow these species to grow or spread in the wild, including as a result of development works.

The giant hogweed and the small-leaved cotoneaster will need to be subject to control measures prior to the start of works on site and eradicated as part of the development in order to ensure that they do not spread across the site or onto adjacent areas. It is essential that a competent and qualified person carries out any herbicide treatment and any removed material or infected soil is disposed of appropriately. An invasive species method statement should be prepared to detail the control, eradication and biosecurity measures.

2.7 Trees and Hedgerows

There are numerous trees and four hedgerows on the site, all of which are all species-poor and are managed for amenity purposes.

The proposed development has been designed to incorporate the retention of trees where possible and compensatory replacement planting for any removal is detailed within this LEMP.

2.8 Watercourses

An unnamed watercourse is present within the offsite woodland that borders part of the north-western site boundary. At its closest point, the watercourse lies at least 10m from the proposed working area and so a natural buffer zone will automatically be implemented. As such, it is considered that the risk of adverse impacts through pollution are limited.

Whilst the risk of adverse impacts is considered to be limited, industry standard pollution prevention measures should still be implemented to ensure that the risk of input into the watercourse is reduced to the lowest practicable level.



2.9 Woodland

Small stands of plantation woodland are present within the southern section of the site, a very small area of which has recently been removed.

Retained areas of onsite woodland and offsite woodland to the north-west should be adequately protected during the construction activities on site. Areas of retained woodland should be fenced off to protect the root systems of the trees within, and no contractors should access the woodlands unless authorised to do so or for reasons related to working within the woodland (e.g. protecting it from construction activities). No materials should be stored adjacent to the woodland and no temporary or permanent external lighting should be directed onto the woodlands.

3 LANDSCAPING AND HABITAT MANAGEMENT

Each habitat retained or created on site will require a certain level of establishment, maintenance and monitoring to ensure that they are providing the ecosystem function required of them. Section 3.1 details the habitats being retained or created, and specific management measures for each habitat. The management responsibilities and mechanisms to ensure compliance are explained in Section 3.2, and finally the management measures are summarised in the management schedule in Section 3.3.

3.1 Habitat establishment and management

3.1.1 Broadleaved woodland

Where possible, the development layout has been designed to incorporate the retention of existing woodland habitats. These areas of woodland will require little management in the future, unless specifically addressing problems or damage to individual specimens. Branches should be removed only when they pose a risk to the health and safety of people or a property. All pruning should be undertaken outside of the breeding bird season and should be avoided from March to August inclusive. If any specialist works are required, an approved arboriculturist should be appointed.

3.1.2 Scattered broad-leaved trees

The landscaping proposals for the site include heavy standard tree planting across the site. Proposed trees are all native species that will provide an ecosystem service to a range of faunal species. The current proposed landscape plan includes the planting of 48 trees, comprising a mixture of the following:

- Field maple *Acer campestre*
- Silver birch *Betula pendula*
- Pedunculate oak *Quercus robur*
- Crab apple *Malus sylvestris*
- Bird cherry *Prunus avium 'Plena'*
- Rowan *Sorbus aucuparia*

The newly planted and retained trees on site will provide nesting habitat for birds, and once fully mature may develop fissures and crevices which could be used by roosting bats. Furthermore, they will provide a food source for birds, bats and other mammals in the form of fruit, seeds and invertebrates attracted to the trees, in addition to providing a range of opportunities for invertebrates.

The planting and initial establishment of the proposed trees should be as detailed within the Planting Schedule, Specification and Implementation Plan that has been prepared for the site by Md Landscape (drawing reference 197/LAND/L/400 Revision P04, 25/11/2024).

Once established, newly planted trees and retained trees on site will require little management in the future, unless specifically addressing problems or damage to individual specimens. Branches should be removed only when they pose a risk to the health and safety of people or a property. All pruning should be undertaken outside of the breeding bird season and should be avoided from March to August inclusive. If any specialist works are required, an approved arboriculturist should be appointed.



3.1.3 Hedgerows

Approximately 250m of new species-rich hedgerow will be planted on site, split into two sections of hedgerow, located within the northern and south-eastern sections.

A mix of the following seven native woody species will be planted within the hedgerow:

- Guelder rose *Viburnum opulus*
- Hazel *Corylus avellana*
- Hawthorn *Crataegus monogyna*
- Holly *Ilex aquifolium*
- Field maple *Acer campestre*
- Dog rose *Rosa canina*
- Elder *Sambucus nigra*

The mix of species has been chosen to maximise the biodiversity value of the hedgerows by increasing structural and botanical diversity and increasing the range of foraging opportunities for a variety of taxa. The variety of native species proposed will ensure foraging opportunities are provided for a wide variety of invertebrates (larval stages, leaf miners, nectar feeders and pollinators) birds and small mammals (from the fruit and nut bearing species) and for bats, birds and other mammals from the invertebrates that will be attracted to the hedge. The hedgerows will provide nesting opportunities for birds and the hedgerow planting (in addition to the other habitats being created) along the southern section of the site will ensure an ecological corridor of connectivity remains east to west across the site.

In addition to the native species-rich hedgerows, approximately 58m of yew hedgerows will be planted within the centre of the site, adjacent to proposed industrial units. Whilst these hedgerows are predominantly being planted for their amenity value, a native species has been chosen to increase species-richness and botanical diversity across the site and to provide opportunities for invertebrates, which will have a knock-on beneficial impact on other taxa. Furthermore, depending on the levels of operational disturbance, there is the potential for these hedgerows to be used by nesting birds.

The planting and initial establishment of the proposed hedgerows should be undertaken as detailed within the Planting Schedule, Specification and Implementation Plan that has been prepared for the site by Md Landscape (drawing reference 197/LAND/L/400 Revision P04, 25/11/2024).

The native species-rich hedgerows will be maintained to encourage thickening growth and to reach the desired height of 3m gradually, by increasing the cutting height of the hedge by small amounts each year. Incremental height increase is the key to the hedge management cycle, sympathetically allowing a hedgerow to progress slowly through its natural growth cycle without putting it under damaging stress. It also promotes a dense healthy hedgerow. Using this approach, a hedgerow may take many tens of years to complete a full cycle of growth, and at all times during this remain dense, healthy and functional. The hedgerow will be maintained in accordance with the Hedgelink - Hedgerow Management Cycle, stages 1-10, with the aim to keep the hedgerow healthy at all times by allowing it to cycle between points 3 and 8. Side trimming of hedgerows in an 'A' profile to promote healthy hedgerow base should be undertaken in January or February. Hedgerows will be cut along one side annually, alternating between the two sides of the hedgerow each year, so that each side of the hedgerow being cut every two years. All hedgerow cuttings to be collected and removed.



The yew hedgerows can be maintained as deemed necessary by the landowner / tenant / appointed management company as they deem necessary, however trimming / cutting will be avoided during the nesting bird season and will not be undertaken from March to August inclusive. If this isn't possible and works need to take place during this period, a pre-commencement inspection is to be undertaken immediately prior to the works by a suitability qualified ecologist.

3.1.4 Swales and attenuation basin

The development proposals incorporate the creation of numerous swales and an attenuation pond. Whilst these features are partly being created to manage surface water, their establishment and ongoing management will be partly driven by ecology and they will provide an ecological benefit. The swales are expected to be dry for most of the year, however the attenuation pond may hold standing water in the winter or immediately following periods of heavy rainfall. It is expected that these features will predominantly contain the same vegetative community as the grassland within which they are located. As such they will be subject to the same management regime as the surrounding grassland, as detailed below in section 3.1.5. Given the likely waterlogged conditions for short periods of time, these areas may become colonised by and support additional species that are more tolerant of impeded drainage, e.g. rushes *Juncus spp.*, further increasing the botanical diversity of the site.

If the attenuation pond is found to be holding water for significant proportions of the year. This management plan will be revisited and revised accordingly to detail suitable ongoing management measures to maximise the biodiversity value of the newly formed aquatic habitat.

3.1.5 Wildflower grassland

The swales and attenuation basins detailed above will be sown with wildflower grassland seed mixes. The sides and basin of the swales and attenuation ponds will be sown with Emorsgate EM8 Meadow mixture for loamy soil (or equivalent) and the upper parts of the swale and attenuation basins, and the immediate surrounding areas will be sown with Emorsgate EM5 Meadow mixture for loamy soils.

The initial sowing and ground works should be carried out by a suitably experienced contractor and may take place in spring (March to April) or autumn (September to October). The sowing and associated ground preparation works will be undertaken as detailed within the Planting Schedule, Specification and Implementation Plan that has been prepared for the site by Md Landscape (drawing reference 197/LAND/L/400 Revision P04, 25/11/2024).

Most of the sown meadow species are perennial and are slow to establish. A flush of annual weeds, arising from the soil seed bank is anticipated soon after sowing. These weeds can look unsightly, but they will offer shelter to the sown seedlings and provide habitat and will die off by the end of the growing season. Annual weeds should not be cut until early August, arisings removed and composted. This will reveal the young meadow, which can then be kept short by grazing or mowing through to the end of March of the following year. Dig out any residual perennial weeds such as docks.

For all areas of wildflower grassland on site, the ongoing management regime will be to take a 'hay cut': cut in August using a scythe, petrol strimmer or tractor mower to around 50mm. Following cutting, the arisings will be left in place to dry and shed seed for 1-7 days before

being removed from site. If deemed necessary for aesthetic reasons, these areas of grassland can then be subject to regular mowing until the end of February.

The wildflower grasslands created on site will provide pollen and nectar resources for an array of invertebrates, which will present potential foraging opportunities for amphibians, birds, bats and other mammals.

3.1.6 Amenity grassland

The areas of amenity grassland that are being created / retained on site can be established and managed by the landowner / tenant / appointed management company as they deem necessary. This habitat type is of limited value to wildlife and will be managed for aesthetical rather than ecological purposes. Despite this, these areas will still provide some foraging opportunities for amphibians, invertebrates, birds, bats and other mammals.

3.1.7 Introduced shrub and rain gardens

The areas of proposed introduced shrub and rain garden planting can be established and generally managed by the landowner / tenant / appointed management company as deemed necessary. This habitat type is of limited value to wildlife and will be managed for aesthetical rather than ecological purposes. Despite these, these areas will still provide some foraging opportunities for invertebrates, birds, bats and other mammals, and may provide nesting opportunities for breeding birds. As such, any cutting or pruning of dense vegetation should be avoided during the nesting bird season and should be avoided from March to August inclusive.

3.1.8 Bat boxes

A total of five bat boxes will be installed onto suitably mature trees on site, including 2x Schwegler 2F box and 3x Schwegler 1FF bat boxes. One of these boxes is being provided to compensate for the loss of potential roosting opportunities within buildings on site, known to have supported historic roosts (see the Non-Licensed Bat Method Statement prepared for the site by UES, report reference UES03012/14).

These models of bat boxes are durable and provide suitable roosting opportunities for the majority of UK bat species and will provide enhanced roosting opportunities on the site. The bat boxes should be fitted to trees at a height of between three and six metres, on a southerly aspect, with no clutter around the entrance by surrounding branches. Proposed bat box locations are shown on the Ecological Enhancements plan at Appendix 1.

The use of similar alternative models is acceptable if required (e.g. if suggested models are out of stock), although 'Woodcrete' construction will be prioritised due to the increased product longevity and will be used where possible. The use of alternative boxes should be discussed with UES prior to purchase and installation, to ensure they are suitable and that they will provide roosting opportunities for the target species.

Any external lighting installed must be directed away from the bat boxes in order to minimise disturbance and increase the likelihood of occupancy. If this is not possible, UES should be contacted to discuss alternative locations for bat boxes due to be impacted by external lighting.

Once bats have inhabited a bat box, they may only be disturbed by a licenced bat ecologist.



3.1.9 Bird boxes

The retained and newly planted trees and hedgerow will provide potential nesting opportunities for birds, particularly when the trees reach a maturity where fissures and cavities develop. However, to provide an additional and immediate ecological enhancement, a suite of bird boxes will be affixed to retained trees on site.

A total of five bird boxes will be installed onto suitably mature trees on site, including 3x Schwegler 1B bird nest boxes (2x 26mm and 1x 32mm entrance holes) and 2x Schwegler 2H open-fronted nest box. These bird boxes are durable and can attract a wide range of species. The boxes will be positioned at a minimum height of three metres. Unless there are trees which shade the box during the day, the boxes should be oriented between north and east, thus avoiding strong sunlight and the wettest winds. Proposed bird box locations are shown on the Ecological Enhancements plan at Appendix 1.

The use of similar alternative models is acceptable if required (e.g. if suggested models are out of stock), although 'Woodcrete' construction will be prioritised due to the increased product longevity and will be used where possible. The use of alternative boxes should be discussed with UES prior to purchase and installation, to ensure they are suitable and that they will provide nesting opportunities for the target species

3.1.10 Amphibian hibernaculum and log pile

As an additional ecological enhancement, two log piles will be created, located adjacent to the proposed attenuation basin in the northern section of the site and in the western section of the site. The proposed log pile locations are shown on the Ecological Enhancements plan at Appendix 1.

The log piles will be created using wood and brash from the trees and scrub that are removed on site. These log piles will include a mix of different size logs to provide structural diversity and micro niches that favour different groups of species e.g. larger cavities for hedgehogs and smaller cavities for invertebrates. These log piles have the potential to provide sheltering, foraging and hibernating opportunities for amphibians, reptiles, small mammals and invertebrates

An amphibian hibernaculum will also be created adjacent to the proposed attenuation basin in the northern section of the site. It will be created by excavating a pit in the ground (500mm depth, 2000mm length, and 1000mm width). Ideally, this pit will then be filled using materials already present on site, including hay, brash, cut timber / logs and brick / rock hard-core, or the materials can be sourced from elsewhere if necessary. The pit will be piled up to a height of approximately 1000mm above ground level. The hibernaculum will then be loosely capped with topsoil and turfed over, ensuring that access is still available through to the lower layers at the margins. The following diagram provides a visual representation of the hibernaculum, with the only additional requirement to the diagram being that a pit is first excavated.

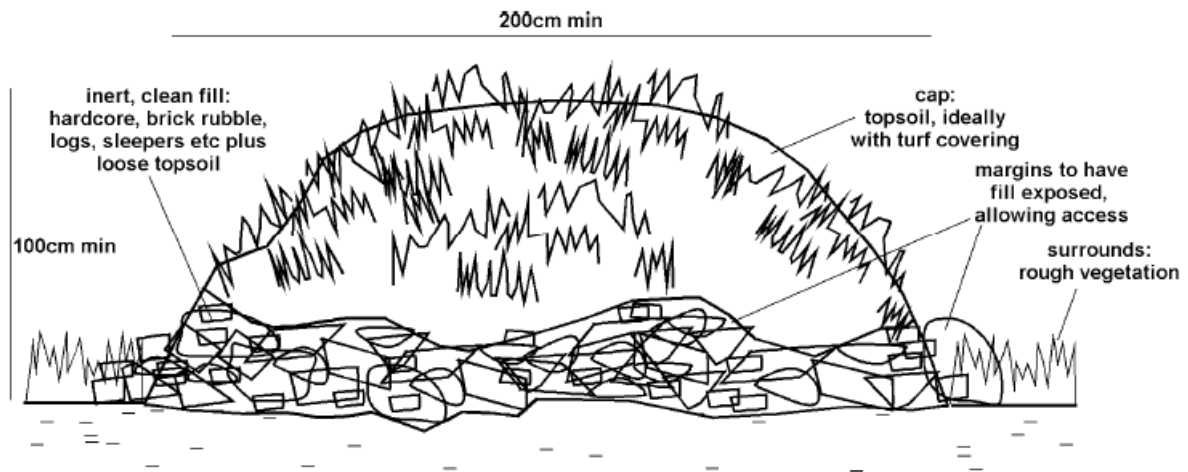


Figure 1 – Hibernacula design.

3.1.11 Hedgehog highways

Details of proposed fence retention and construction are not available to UES at the time of writing this report. As such, at this stage, hedgehog highways are due to be incorporated into any retained or newly installed fences that could otherwise block the movement of hedgehogs and sever commuting routes between foraging, sheltering and hibernating sites.

The hedgehog highways will involve 13cm x 13cm holes cut into the base of the fences and their proposed locations are shown on the Ecological Enhancements Plan at Appendix 1. As an alternative, proposed fences / boundary features in the locations of hedgehog highways indicated on the Ecological Enhancements Plan can instead be designed to naturally incorporate similar sized hole e.g. using wide-spaced fencing or hedgerows, or by omitting a boundary feature that would prevent hedgehog movement.

3.1.12 Offsite compensation and enhancements

In addition to the onsite habitat creation and enhancement measures, part of a block of woodland located within the Wrexham Industrial Estate and under the Developer's ownership will be subject to a 30-year management and monitoring plan. The entire woodland block is to be used as an ecological enhancement area for both this and another proposed development within the Wrexham Industrial Estate.

A separate Habitat Management and Monitoring Plan document specifically relating to this offsite woodland area has been prepared (see report reference UES03012/21). The inclusion of this offsite woodland as an ecological enhancement area presents an opportunity to secure the long-term management, monitoring and maintenance of this woodland and its value for wildlife within the local area.



3.2 Responsibilities, monitoring and remedial measures

3.2.1 Initial habitat creation responsibilities

The responsibility for the initial habitat creation works lies with the developer 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 LEMP and the Planting Schedule, Specification and Implementation Plan that has been prepared for the site by Md Landscape (drawing reference 197/LAND/L/400 Revision P04, 25/11/2024).

3.2.2 Ongoing habitat management responsibilities

Subsequent management of the habitats on site will be the responsibility of the owners / appointed management company of the site. They must ensure that the ongoing measures detailed within this LEMP are implemented. The management schedule detailed below in Section 3.3 forms a management plan that must be implemented for a period of at least 25-years following the start of habitat establishment works.

3.2.3 Monitoring and remedial measures responsibilities

The owners / management company appointed will also be responsible for monitoring the establishment of habitats as well as monitoring them for any changes affecting their quality or function.

The site will be subject to an annual inspection by a suitability qualified ecologist. This visit must take place during the growing season (May to August inclusive). During or immediately following the visit, the ecologist will provide a short summary report and will liaise with the appointed contact from the management company to inform of any issues or deviations from the approved management plan. Following this, remedial works may be necessary to restore the habitats to a satisfactory standard. Necessary changes to the management plan may be identified by the ecologist.

3.3 Management schedule

The below table summarises the management requirements and responsibilities detailed in the previous sections and forms a management plan that should be implemented for a period of at least 25-years following the start of habitat establishment works. This table should be read in conjunction with the previous sections, which include more detail which should not be overlooked.

All initial works are to be undertaken at the appropriate time of year as indicated in the table below and are to be completed within 2 years of the commencement of construction works, unless specified otherwise or if this is not possible e.g. requiring construction works in specific areas to be completed first.

The 25-year ongoing management will commence immediately following the start of initial habitat creation works.

Table 1 – Management schedule

ACTIVITY	DESCRIPTION	TIMINGS
<i>Initial works – carried out by appointed contractors</i>		
Initial arboricultural works		During the development - September to February. If not possible, then a bird nest scoping survey should be carried out immediately prior to the works.
Tree planting	Including use of stakes, spirals or guards and treatment of vegetation at base of trees.	During the development, although planting between October and April is preferred.
Hedgerow planting		During the development, although planting between October and April is preferred.
Sowing of EM5 and EM8 wildflower seed mixes	Including preparatory ground works.	March-April or September-October.
Excavation of attenuation pond and swales		Prior to the completion of works and operational phase of development.
Installation of bird and bat boxes	As detailed in section 3.1.8 and 3.1.9.	Prior to the completion of works and operational phase of development.
Creation of amphibian hibernaculum and log pile	As detailed in section 3.1.10.	As soon as sufficient material is available during the development and prior to the completion of works and operational phase of development.



Creation of hedgehog highways (where necessary)	As detailed in section 3.1.11.	Prior to the completion of works and operational phase of development.
<i>Ongoing management – carried out by the site's owners / management company</i>		
Arboricultural works / tree pruning	To address specific health and safety risks.	September to February. If not possible, then a bird nest scoping survey should be carried out immediately prior to the works.
Mowing of amenity grassland	In accordance with the site's management programme.	No time restrictions.
Cutting of yew hedgerows	In accordance with the site's management programme.	September to February. If not possible, then a bird nest scoping survey should be carried out immediately prior to the works.
Cutting of species-rich hedgerows	To establish dense, bushy growth. Pruning should aim to achieve a height of around 3m and will involve an annual rotational cut, so that each side is cut on alternate year.	Cutting in January – February.
Mowing of wildflower grassland areas.	Removal of litter or debris from mowing area and checking for sheltering wildlife underneath. Arisings are to be removed following each cut. See section 3.1.5 for full details.	Hay cut in August annually. Can be subject to ongoing cutting from September to late February as required.
Inspection by ecologist.	To assess the establishment and condition of habitats, and to determine whether any remedial actions are required to restore habitats.	May to August annually.



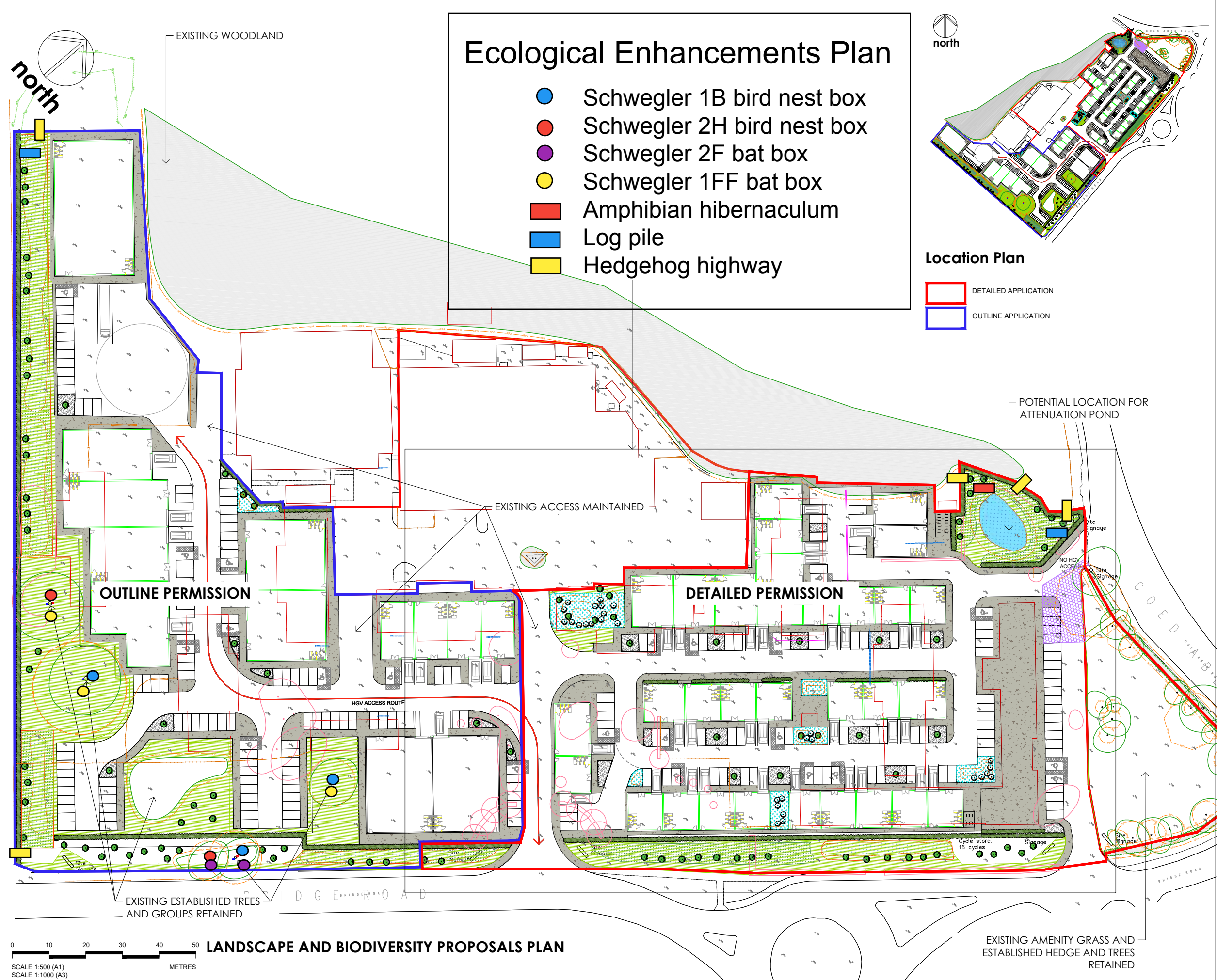
4 CONCLUSION

Once implemented, the landscaping and ecological measures will provide a biologically diverse landscape. The bottom-up approach to improving the biodiversity on site will ensure that the habitats on site can support a range of invertebrate species and provide other food sources, which will then in turn benefit fauna further up the food chain.



APPENDICES

Appendix 1 – Ecological Enhancements Plan



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 37822 49380.
3. Drawing must be reproduced in colour.
4. Consideration has been given to the inclusion of SuDS features at the site.
5. A minimum 10m buffer zone of native species hedgerow, mixed species tree and scrub planting and wildflower and grasses is to be created to the south and west of the outline application site and to the east of the detailed application site.

Location Plan

DETAILED APPLICATION

OUTLINE APPLICATION

Legend

EXISTING BUILDING

EXISTING TREES TO BE RETAINED

EXISTING TREES - ROOT PROTECTION AREA

EXISTING TREE TO BE REMOVED

EXISTING HEDGING TO BE RETAINED

EXISTING FENCE

EXISTING SITE LEVELS

PROPOSED SITE LEVELS

PROPOSED UNIT/BUILDING

PROPOSED NATIVE SPECIES STANDARD DECIDUOUS TREE

PROPOSED ORNAMENTAL SHRUB PLANTING

PROPOSED NATIVE MIXED SPECIES HEDGING

PROPOSED RAIN GARDEN WITH HERBACEOUS PERENNIALS, SHRUBS AND GRASSES

PROPOSED NATIVE SPECIES WILDFLOWER AND GRASSES MIX

PROPOSED AMENITY SHORT GRASS MIX

PROPOSED SWALE LOCATION WITH NATIVE SPECIES WILDFLOWER AND GRASSES MIX

PROPOSED FOOTPATHS

PROPOSED VEHICULAR ACCESS AREAS AND PARKING

PROPOSED PERMANENT GROUND PROTECTION TO RPA OF TREES

TREE MOUNTED BIRD BOXES

TREE MOUNTED BAT BOXES

Drawing references	
197/LAND/L/100	LANDSCAPE AND BIODIVERSITY PROPOSALS PLAN
197/LAND/L/200	PROPOSED PLANTING PLAN
197/LAND/L/400	PLANTING SCHEDULE, SPECIFICATION AND IMPLEMENTATION PLAN
197/LAND/L/500	LANDSCAPE MAINTENANCE AND MANAGEMENT PLAN

mdlandscape

6 Kinderton Close | High Legh | Knutsford
Cheshire | WA16 6LZ | 07710 498231

Revision	Date	Details	Drawn	Checked	Reviewed
P01	18.06.2024	FOR INFORMATION	MD	XX	XX
P02	06/11/2024	FOR INFORMATION	MD	XX	XX
P03	19/11/2024	FOR INFORMATION	MD	XX	XX
P04	25/11/2024	FOR INFORMATION	MD	XX	XX