PRELIMINARY ECOLOGICAL APPRAISAL AND GREEN INFRASTRUCTURE STATEMENT

FORMER BEFESA SALT SLAGS SITE, FENN'S BANK, WREXHAM

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This report has been prepared by Sambrook Associates Ltd on behalf of Axis in connection with the development at Former Befesa Salt Slags Site, Fenn's Bank, Wrexham and takes into account their particular instructions and requirements. It is not intended for, and should not be relied on, by any third party and no responsibility is undertaken to any third party.

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1 INTRODUCTION

1.1 Background Information

1.1.1 Sambrook Associates Ltd was instructed by Axis to undertake a Preliminary Ecological Appraisal (PEA) in relation to the proposed development of at Former Befesa Salt Slags Site, Fenn's Bank, Wrexham.

1.1.2 As part of the Appraisal, a site walk-over of the Site and a desktop study were undertaken in 2025 and this report provides the results of these. A Green Infrastructure Statement (GIS) is included in this report. This Appraisal is based upon the Proposed Site Plan and Proposed Landscape Design drawings produced by Axis.

1.1.3 The aim of the appraisal is to provide sufficient ecological information to inform the planning application. The objectives of the study were to:

- Provide baseline information on the current ecological features both on-site and in the immediate surrounding area (up to 30m where accessible);
- Identify the presence or potential presence of any protected species or habitats and provide an appraisal of potential effects that the proposed development may have on these;
- Identify the proximity of any sites designated for nature conservation interest and provide an appraisal of potential effects that the proposed development may have on these; and
- Provide recommendations for further survey work and / or mitigation measures if required and present opportunities for biodiversity net benefit.

1.1.4 In consideration of the nature and location of the proposed work all key sites, habitats and species are considered in this report.

1.2 Site Description

1.2.1 The Site is located to the north of an existing industrial park (Mereside Industrial Park) to the west of Whitchurch, but on the Welsh side of the England/Wales border. The site is surrounded by fields and other industrial units.

1.2.2 The proposed development is hereby referred to as 'the Site' and comprises the land within the red-line boundary. The walk-over survey covered an area greater than this (where access permitted) for mobile species such as great crested newts, badgers, water vole and otter and to look at how nearby habitats may influence the use of the site by bats.

2 LEGISLATION AND PLANNING POLICY

2.1.1 Many sites, animals and plants are protected by European and/or UK legislation either because of their decline across Europe and the UK or due to the persecution they have placed upon them by negligent or illegal acts such as baiting or trade. Legislation is also in place to prevent the spread of introduced or non-native invasive species and harmful weeds. When undertaking an appraisal of a proposed development, such legislation is taken into account as follows.

- **European:** Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive'); and Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (codified version of Directive 79/409/EEC as amended) (the 'Birds Directive').

- **UK (England & Wales):** The Environment (Wales) Act 2016, The Environment Act 2021, The Conservation of Habitats and Species Regulations 2017, as amended (the 'Habitat Regulations') which transposes the Habitats Directive in UK law. Since 1st January 2021, the UK is no longer a member of Europe but since the Habitats Directives are embedded into UK statute, The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 was published and still applies in England and Wales; The Wildlife and Countryside Act 1981 (as amended); the Countryside and Rights of Way Act (CRoW) 2000; the Protection of Badgers Act 1992; the Natural Environment and Rural Communities Act (NERC) (2006) and the Environmental Protection Act (EPA) 1990.

2.1.2 Species such as bats, great crested newts, otter, water vole, reptiles, birds and badgers are all protected to varying degrees under this legislation.

2.1.3 The Environment (Wales) Act 2016 introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty). This duty applies to public authorities in the exercise of their functions in relation to Wales and will help maximise contributions to achieving the well-being goals. The Nature Recovery Action Plan supports this legislative requirement to reverse the decline in biodiversity, address the underlying causes of biodiversity loss by putting nature at the heart of decision-making and increasing the resilience of ecosystems by taking specific action focused around the 6 objectives for habitats and species.

2.1.4 In addition to legislation, there are also national and local planning policies pertaining to the protection of biodiversity. Planning Policy Wales (PPW) Edition 12 (February 2024) requires the planning system to have a key role in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. Development plan strategies, policies and development proposals must consider the need to:

- support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;

- ensure statutorily and non-statutorily designated sites are properly protected and managed;
- safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat;
- secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks;
- provide measurable biodiversity net benefit which is secured through the production and implementation of a Green Infrastructure Statement which comprises a commitment to biodiversity gain through the creation and long term management of valuable habitats.

2.1.5 Chapter 6 of PPW 12 specifically requires (as per Annex to Heads of Planning Letter Dated 11 October 2023: Addressing the Nature Emergency through the Planning System: Updated National Planning Policy for Chapter 6 of Planning Policy Wales):

- Green Infrastructure: stronger emphasis on taking a proactive approach to green infrastructure covering cross boundary considerations, identifying key outputs of green infrastructure assessments, the submission of proportionate green infrastructure statements with planning applications and signposting Building with Nature standards.
- Net Benefit for Biodiversity and the Step-wise Approach: further clarity is provided on securing net benefit for biodiversity through the application of the step-wise approach, including the acknowledgement of off-site compensation measures as a last resort, and, the need to consider enhancement and long-term management at each step. The use of the green infrastructure statement as a means of demonstrating the stepwise approach is made explicit. A simplified diagram of the policy approach has been developed (which will be further refined in the consolidated version of PPW12). The importance of strategic collaboration to identify and capture larger scale opportunities for securing a net benefit for biodiversity is recognised.
- Protection for Sites of Special Scientific Interest: strengthened approach to the protection of SSSIs, with increased clarity on the position for site management and exemptions for minor development necessary to maintain a 'living landscape'. Other development is considered unacceptable as a matter of principle. Exceptionally, a planned approach may be appropriate where necessary safeguards can be secured through a development plan.
- Trees and Woodlands: closer alignment with the stepwise approach, along with promoting new planting as part of development based on securing the right tree in the right place.

2.1.6 To accompany the PPW, Technical Advice Note 5 (TAN5) demonstrates how local authorities, developers and stakeholders can deliver sustainable development that does not result in losses to biodiversity and takes the opportunity to protect and enhance it. Wrexham County Borough Council also have their own guidance and local policy to promote ecological resilience in their decision making.

2.1.7 Under the NERC Act, local authorities (and other public bodies) have a duty to conserve biodiversity. The Act confers responsibility on the local authority to take the protection of priority habitats and species (as listed in Section 41) into consideration when making a planning decision. Habitats listed in this section include eutrophic standing waters, rivers, lowland meadows and lowland mixed deciduous woodland. Species listed in this section include great crested newt *Triturus cristatus*, sky lark *Alauda arvensis*, hedgehog *Erinaceus europaeus*, otter *Lutra lutra*, soprano pipistrelle *Pipistrellus pygmaeus* and red squirrel *Sciurus vulgaris.* Full habitats and species' lists can be found at the Natural History Museum website, nhm.ac.uk or jncc.defra.gov.uk.

2.1.8 The RSPB's Birds of Conservation Concern 5 (Eaton *et al*.) is also taken into consideration when undertaking this appraisal.

3 METHODOLOGY

3.1 Introduction

3.1.1 To inform this Ecological Appraisal, a site walk-over survey was conducted on 30 April 2025 which comprised recording of habitats within the Site. The survey also included potential for protected and notable species, and invasive species such as Japanese knotweed *Fallopia japonica* and Himalayan balsam *Impatiens glandulifera*. In addition to this, a desk-top study was also undertaken.

3.2 Desk-top Study

3.2.1 The desktop study involved publicly available data searches for statutory and non-statutory sites, legally protected species and other features of interest within a 500m radius of the site. The centre of the site (Ordnance Survey Grid Reference SJ50613912) was used for the data search.

3.2.2 The following sources were searched for information about the Site:

- Defra's 'MAGIC' website;
- Google Earth;
- Bing Maps; and
- Local Council website.

3.3 Walk-over Survey

3.3.1 The purpose of the survey was to determine:

- the habitats present;
- legally protected species potentially present;
- the presence of invasive plant and animals;
- any potential constraints to development; and
- any requirement for additional ecological surveys.

3.3.2 The weather was dry and warm with an average temperature of 23°C.

3.3.3 The Site and immediately adjacent areas (up to 30m) were searched for evidence of protected species that may occur in this area such as bats, birds, great crested newts *Triturus cristatus*, badgers *Meles meles*, reptiles, otters *Lutra lutra*, and water vole *Arvicola amphibious* and any invasive plants or animals.

3.3.4 Photographs are included within this report. Plant names follow the third edition of the New Flora of the British Isles (Stace, 2010). The common name of the plant is stated first and is followed by the Latin name, on the first occasion that it is used. Only the common name is used subsequently.

3.4 Limitations

3.4.1 No significant limitations were encountered during the survey.

4 RESULTS

4.1 Introduction

4.1.1 This section provides a commentary on the data collected during the desk-top study and survey undertaken in 2025.

4.2 Desk-top Study

4.2.1 There are a number of designated sites within 500m of the proposed development site. These are:

- Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses (Wales & England) SAC
- Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses (Wales) SSSI
- Midland Meres & Mosses Phase 2 (Wales & England) Ramsar
- Fenn's, Whixall and Bettisfield Mosses (Wales & England) NNR

4.2.2 The site falls within three Natural England Impact Risk Zones for Sites of Special Scientific Interest. The development type also falls within the development categories that would require consultation with the local planning authorities to determine if a proposed development is likely to affect a terrestrial Site of Special Scientific Interest and when to consult Natural England.

4.2.3 The Council planning portal did not reveal any pertinent information and there do not appear to be any current adjacent developments that would likely cause any cumulative effects with the proposed Site.

4.2.4 There are a number of ponds within 250m of the Site.

4.3 Walk-over Survey

4.3.1 The area within the red line boundary comprises numerous habitats such as grassland, trees, and boundary hedgerows as well as hardstanding. The proposed development falls entirely within existing hardstanding with the exception of some minor drainage works. However, a brief description of habitats within the wider holding (and within the red line boundary) is made below.

4.3.2 There are no priority or irreplaceable habitats within the proposed development site.

4.3.3 Hardstanding comprises the entire development area. Beyond this, the wider land holdings comprise mainly grassland which is species rich in places. For the purposes of describing the site, there are three theoretical compartments; northern, central (all of the development site; hardstanding) and southern.

4.3.4 Northern parcel: There is a mosaic of tussocky grassland dominated by cocksfoot *Dactylis glomerata* which is mainly in the northern part of the of the holdings. In this northern parcel are also numerous trees which are both sporadic within the grassland and also aligned with the access road and peripheries of the hardstanding. There is a wet marshy grassland/rush area in the southern part of the northern parcel; rushes Juncus sp. are prominent. There is little depth to the

water in this location and only very shallow (less than 5cm depth) coverage of water was present. This area was dry by May and continues to be dry. Tree lines dominate the eastern boundary, a mainly hawthorn *Crataegus monogyna* hedgerow is present along the western boundary and a mix of trees and scrub are present along the southern boundary. Other ground cover consists of hardstanding and a single storey office building (approx. 25% of the total area of the northern parcel).

4.3.5 Central parcel: this is the entire development area and comprises hardstanding with buildings and narrow grassland verges around the peripheries. Boundaries comprise a mix of fencing, hedgerow, treelines and areas devoid of significant vegetation so are open to the surrounding area, save for some fencing.

4.3.6 The southern parcel comprises a mix of dry grassland and marshy grassland. There is an operational lagoon within this parcel which is steep sided and lacks any vegetation. This lagoon scored 'poor' on the Habitat Suitability Index (HSI) assessment. To the boundaries are trees and fencing.

4.3.7 No evidence of non-native invasive or harmful weeds such as Japanese knotweed or Himalayan balsam was identified during the survey.

4.3.8 The office building in the northern parcel and the main warehouse and ancillary buildings within the central parcel were inspected to identify suitable potential roosting features for **bats** but none of the buildings were found to support any suitable features. None of the trees to the immediate boundaries exhibited potential for bat roosting but the site boundaries provide excellent foraging and commuting opportunities and these are well connected to the nearby designated sites and wider landscape where there are ample foraging and roosting opportunities. It is likely the industrial park is a site that bats would pass through in order to seek better roosting and foraging grounds in the adjacent and wider environment.

4.3.9 The boundary hedgerow and trees provide **nesting bird** opportunities. Pigeons were observed in the main warehouse building and it is likely this species nest here during the nesting bird season.

4.3.10 The site boundaries support suitable terrestrial habitat for **great crested newts.** There are records of GCN locally and it is possible they use the terrestrial habitats on the site. The operational lagoon is highly unlikely to support great crested newts due to the lack of suitable vegetation, and it is understood to contain contaminants. The wet area in the northern parcel appears to be only wet throughout winter and early spring. It exhibited signs of drying out in April and was dry from May and throughout the summer. It would therefore not support GCN breeding. No evidence of individuals, eggs or spawn were observed.

4.3.11 The red line boundaries support suitable terrestrial habitat for **badgers** and **hedgehogs** but no signs of either species in the form of setts, tracks, latrines or foraging was identified during the survey. Nevertheless, they may well traverse the site on a transient or regular basis, if they are present in the wider area.

4.3.12 The boundary hedgerows and open grassland in the wider red line boundary supports suitable terrestrial habitat for **reptiles** in the form of foraging, basking and sheltering opportunities.

4.3.13 The site does not support suitable habitat for **otter** or **water vole** and there do not appear to be any suitable features adjacent to the site that may support them. They are likely to be present in the wider landscape. Water vole are not considered further in this report.

4.3.14 No other species are considered pertinent to this appraisal.

4.3.15 Photographs of the site are provided in Table 4.1 below.

Table 4.1: Photographs of the Site and Wider Landholdings

Central Area eastern Elevation	Central Area eastern Elevation
	
Central Area Northern Elevation	Central Area eastern Elevation
	
Central Area South Eastern Corner	Central Area Southern Elevation

	
Central Area Northern Elevation	Central Area Southern Elevation
	
Central Area Western Corner	Central Area northern corner
	
Central Area Main Building	Central Area Main Building

	
Northern Parcel Grassland	Northern Parcel Hardstanding (car park)
	
Northern Parcel Hardstanding	Northern Parcel Wet Area
	
Northern Parcel Office Building	Northern Parcel southwest corner

	
Southern Parcel	Southern Parcel
	

4.4 Appraisal of Potential Effects

4.4.1 The proposal comprises:

- Internal re-workings of the main building in central area.
- Retention of ancillary buildings, hardstanding and green habitats in all areas.
- Infilling of the operational lagoon (not part of this application)
- Installation of SUDS, combined with provision of wildlife aquatic habitats
- Creation of a biodiversity focused landscaping scheme

4.4.2 There will be no direct effects on **designated sites.** Indirect effects, namely airborne pollution, are addressed in the Air Quality Assessment Addendum – Planning - UF00174-0030-0003SMN.

4.4.3 **Habitats:** the proposed works will not result in the loss of green habitats since the development will sit entirely within the existing concrete apron in the Central Area. Boundary habitats will be retained and protected during the course of the works. The SUDS Scheme will require works in

the wet area in the Northern Parcel but this will lead to the betterment of this area for amphibians, resulting in a 'formed' pond which would hold water all year long. This should result in availability of breeding habitat for GCN and other amphibians.

4.4.4 As a minimum, good site management should be implemented based upon the Considerate Constructors Scheme, Code of Considerate Practice. Key principals of good management to protect habitats include:

- Being organised, clean and tidy; always net skips to prevent materials and rubbish from blowing around the site and onto adjacent habitats.
- Identifying, managing and promoting environmental issues.
- Seeking sustainable solutions, and minimising waste, carbon footprint and resources.
- Minimising the impact of vibration, and air, light and noise pollution.
- Protecting the ecology, the landscape, wildlife, vegetation and water courses.

4.4.5 Overall, the site offers opportunities for protected and notable species, such as foraging and nesting birds, foraging bats, GCN (terrestrial only), reptiles, hedgehog and badgers.

4.4.6 There are no potential roosting features for **bats** within the site or to the immediate site boundaries. Foraging habitat around the boundaries of the site is currently good and will remain so in the long term. Commuting opportunities which are focused on the boundaries of the site will also remain post development.

4.4.7 Inappropriate lighting that illuminates the boundaries would likely result in effects on foraging and commuting bats. This is because bats favour dark routes and some species will avoid lit areas which could cut off commuting routes between roosts and valuable foraging areas. It is pertinent to ensure that during construction and throughout the operational phase, lighting must not cause significant illumination of these boundaries. The development lighting scheme has been designed based upon the current guidance jointly issued by the Institution of Lighting Professionals and Bat Conservation Trust; Guidance Note 08/18: Bats and Artificial Lighting in the UK. This should limit light spillage and retain dark corridors to the boundaries.

4.4.8 Survey work for bats is not considered necessary.

4.4.9 **Great crested newts:** The likelihood of great crested newts and other amphibians being present and affected by the proposed works is unlikely since the proposed development area does not supports habitats that would offer shelter or resting places for GCN; therefore there will be no loss of amphibian suitable habitat. Nevertheless, given the proposed development site is adjacent to habitats that are suitable for GCN and other amphibians, a Reasonable Avoidance Measures strategy is proposed as per the below to ensure works are undertaken to reduce the likelihood of harm to GCN and other amphibians and to prevent the Site becoming more attractive to amphibians during the course of the works. The RAMs would also benefit reptiles, badgers and other small mammals (if present).

4.4.10 Survey work for great crested newts is not considered necessary. Furthermore, the lagoon is unsafe to survey and the wet area was so shallow that neither conventional surveys or eDNA surveys were possible. It was possible to observe the shallow water and no GCN or other amphibians were observed. There was no evidence of eggs or spawn in the grassland and rush vegetation that dominates this wet area.

4.4.11 **Reptiles:** the site boundaries provide suitable habitat for sheltering, hibernating and basking and it is possible common reptiles such as common lizard, are present in close proximity to the site. Boundary habitats will be retained. The proposed development area is not suitable for reptiles and so there will be no loss of habitat for this species group. The RAMs below will ensure the protection of reptiles during the construction period.

4.4.12 No active **bird** nests were identified in the vegetation, but it is possible birds may nest in the features to the site boundaries at some point between the survey and start of proposed works. It is advised that the disturbance and/or destruction of breeding birds and their nests is illegal under the Wildlife and Countryside Act 1981 (as amended). Although vegetation (suitable for nesting) removal is not proposed, it is pertinent to note, in the case of trimming/flailing that may be required during the nesting season (March to August inclusive), a nesting bird survey is to be undertaken by a competent ecologist of all vegetation that requires work. If nests are identified, the nests must remain intact and undisturbed until young have fledged. If any incidental nests are built between the survey and the outset of works, and the nest is likely to undergo any disturbance, an ecologist should be contacted for advice. Any vegetation required to be removed outside of the nesting bird season does not require a nesting bird check, unless site operatives suspect there may be a nest present.

4.4.13 It is possible that **badgers, otters** and **hedgehogs** pass through the Site on occasion, and it is important not to cut off valuable habitat by the erection of impenetrable boundary features such as solid wooden fences and walls without gaps. Providing an open site and natural boundary markers such as hedgerows and tree lines, or post and rail fencing, allow mammals open access to areas that they use.

4.4.14 **Reasonable Avoidance Measures Strategy for Amphibians, Reptiles and Mammals**

- Any minor excavations will be backfilled or covered overnight or a means of escape fitted such as a ramp (e.g. scaffold board) at 45° angle to prevent animals becoming trapped. If left open overnight, the surfaces are to be smoothed to prevent animals from exploiting any cracks, gaps or voids in the excavated banks.
- Similarly, any pipes or culverts in storage or in situ will be capped to prevent animals taking refuge within them.
- Any excavated materials requiring storage should be stored on pallets raised off the ground, or otherwise compacted/modified to prevent plant growth and cracks that could be exploited by animals. Any materials stored on the ground are to be checked for GCN presence by an ecologist prior to re-use elsewhere on site.

- All on-site debris and stored materials are to be dismantled and removed carefully as amphibians or reptiles may be present, if a suspected great crested newt is found, a photograph is to be taken and sent to the retained ecologist for advice.
- Any materials arising from the development are to be removed from site as soon as possible and must not be stored on site to prevent amphibians and reptiles from using the materials for shelter.
- If amphibians, reptiles or any other animal is discovered at any point, works must stop immediately, and the retained ecologist is to be contacted for further advice.

4.4.15 To address the impacts identified above, compensation and enhancement will be implemented to ensure that the development provides for a net benefit for biodiversity in the long term.

4.4.16 **Enhancement:** Bird and bat boxes will be installed, trees and hedgerows planted and a dedicated amphibian area has been identified.

4.4.17 The proposed scheme includes the installation of bat and bird boxes which will provide a net gain in roosting and nesting opportunities. The following boxes are proposed:

- 5no. wooden bird nest boxes or similar (suitable for passerines) are to be installed on suitable trees to the boundaries, at least two metres off the ground to reduce risk of predators and human interference and in a location that remains dark at night.
- 3no. Beaumaris Woodstone bat box or similar to be installed on suitable trees to the boundaries, at least 3 metres off the ground and out of direct sunlight and artificial lighting.

4.4.18 The proposed scheme is shown on the Landscape Design Plan. The Plan comprises:

- the existing grassland in the Northern parcel around the wet area (which will become a new SUDS/wildlife pond) and in the southern area around the existing lagoon (which will be infilled and a new wildlife pond will be created) will be sown with Emorsgate EM8 wet grassland seedmix (or similar).
- Grass verges around the Central area (main development area) will be sown with Emorsgate EM2 seed mix (or similar).
- Grassland will be managed sensitively to encourage diversity and allow a tall structure to provide shelter to amphibians:
    - The grassland will be managed through cutting but should not be cut or grazed in spring or early summer. One or two cuts are to be undertaken (reducing sward height to approximately 150mm) late in the season, between August and September, subject to weather conditions. The late cuts will allow the seeds of the later flowering species to fall prior to the cut. An optional earlier cut (light mowing) can be made in early February, if necessary, to manage re-growth.

  - Cutting should commence in slow and directional manner, allowing fauna such as great crested newts, other amphibians, invertebrates, birds and small mammals to safely vacate the area temporarily.
  - The management will take a flexible approach and the exact cutting dates will be dependent upon weather conditions. A phased (rotational) cutting regime is recommended (i.e. ideally the entire area should not be cut at the same time) in order to allow for more structured grassland.
  - Cuttings will remain on-site for two days following the cut and then baled and removed from site.
- 5no. wooden bird nest boxes or similar (suitable for passerines) are to be installed on suitable trees to the boundaries, at least two metres off the ground to reduce risk of predators and human interference and in a location that remains dark at night.

- 3no. Beaumaris Woodstone bat box or similar to be installed on suitable trees to the boundaries, at least 3 metres off the ground and out of direct sunlight and artificial lighting.

- Dedicated amphibian areas will be created in the two wet areas of the wider landholdings. The northern wet area will be modified in combination with the SUDS design. The southern lagoon will be infilled/reprofiled to create a wildlife pond. This will comprise:

    - a new attenuation basin which is part of an amphibian friendly water management regime in the transiently wet area of the Northern Parcel. The current wet area is to be reprofiled to a depth of 1.6m with an invert base area of 882m², 1 in 3 side slopes and a total surface area of 1460m². This will be planted with damp and water tolerant native species and provide foraging opportunities and shelter for amphibians and reptiles.

    - The lagoon in the Southern Parcel will be infilled and then a new pond created which will be more natural with variable depths, including shelves and bank gradients. This will be planted with damp and water tolerant native species and provide foraging opportunities and shelter for amphibians and reptiles.

    - two new amphibian hibernacula will be created, one next to each pond (see location on Landscape Design Plan) as per the specification provided in Natural England's Great Crested Newt Mitigation Guidelines (2001). These will also benefit reptiles.

- New 303m long native hedgerow (and infilling where hedgerow is gappy) along the northern/western boundary of the whole landholding. The hedgerow will comprise:

    - Hawthorn *Crataegus monogyna* (35%)
    - Holly *Ilex aquifolium* (15%)
    - Dog Rose *Rosa canina* (10%)
    - Guelder rose *Viburnum opulus* (10%)

  - Hazel *Corylus avellana* (15%)
  - Field maple *Acer campestre* (15%)

- Planting of 31 standard trees comprising:
  - Sessile Oak *Quercus petraea*
  - Field maple *Acer campestre*
  - Sweet chestnut *Castanea sativa*
  - Alder *Alnus glutinosa*
  - Wild cherry *Prunus avium*
  - Downy birch *Betula pubescens*
- Retention of boundary habitats on a low maintenance regime:
  - the boundary hedgerow will be cut on a 2-3 year rotational basis to allow a varied structure for the benefit of wildlife. No cutting or trimming is to be undertaken during the breeding bird season (01st March to 31st August inclusive).
- Any stems, branches and hedge cuttings removed during habitat management or other work operations should be kept in habitat piles, placed along the edge of hedgerows, in order to provide valuable invertebrate habitat and shelter for other species including small mammals. These should be placed in the same locations each year.

4.4.19 A Green Infrastructure Statement is provided in Section 5 to detail the habitat biodiversity net benefit proposed.

4.4.20 **Site contractors, directors, owners, other personnel and their agents are reminded that many species and habitats are protected by law, and to kill, injure or harm such species and their habitats is a criminal offence. Custodial sentences and/or large financial penalties are expected if you break the law. Protected species and habitats commonly found on development sites include (but not limited to):**

- **bats including their roosts in buildings and trees;**
- **birds including their nests;**
- **great crested newts and reptiles including their areas of shelter such as hedgerows, ponds and natural and artificial habitats such as log and rubble piles; and**
- **badgers including their setts which can be damaged or destroyed up to 25m from the sett entrance.**

5 GREEN INFRASTRUCTURE STATEMENT

5.1 Proposed Biodiversity Net Benefit

5.1.1 The proposed development includes a soft landscaping scheme which will be created with a biodiversity focus. The Landscape Design Plan (Axis) shows the location of the biodiversity enhancements that will be undertaken and the below table describes how these habitats will be managed in the long term.

5.1.2 The habitats will be managed as per the specification below.

Habitat Creation Specification & Management Plan	
Notes	This GIS is provided in good faith. Above ground and buried services have not been surveyed in the production of this GIS. It is advisable that the site owner undertakes the necessary services/utilities surveys to ensure this planting scheme does not conflict with unknown infrastructure currently and in the future – it is advisable to consider a 5 metre clearance of any buried or above ground services to allow for future growth. Sambrook Associates Ltd accepts no liability in the implementation of this biodiversity statement – the burden of responsibility to ensure this statement is devoid of risk lies with the site owner. Any designs, specifications, advice, suggestions, or comments written or verbal relating to work of any kind are provided for consideration only and under no circumstances are to be interpreted as provision of design, management or supervision under the Construction (Design and Management) Regulations 2015.
Standards	All plants are to be sourced from recognised UK suppliers and be of native provenance. All planting work is to be carried out in accordance with the relevant British Standards, Codes of Practice and Legislation and all operatives are to be appropriately trained, certified and qualified to undertake the tasks required.
Proposed Planting Specification	
Trees	Sessile Oak *Quercus petraea* Field maple *Acer campestre* Sweet chestnut *Castanea sativa* Alder *Alnus glutinosa* Wild cherry *Prunus avium* Downy birch *Betula pubescens* Girth/Dia: 8-10cm girth, Root Zone: RB.
Ground Preparation	Within the existing grass verge, tree pits of at least 75cm diameter greater than the roost system and no deeper than the container shall be excavated and the sides well scarified to prevent smearing. Pits to at least 5 metres apart.

Sowing/Planting	The root system of the tree should be wetted prior to planting. The tree should be planted at the correct depth taking into account the position of the root flare and the finished level - the rootball or root stem transition should be level with the existing host soil or surface. The base of the rootball should typically sit on subsoil, for larger rootballs the subsoil will sit around the lower portion of the rootball. Tree pits should be backfilled with 1 part excavated topsoil and 2 parts tree planting compost. At each stage the fill should be firmed in to eliminate all air pockets under and around the root system, but with care being taken not to excessively compact the soil. The final layer should not be consolidated. Apply a general-purpose slow release fertiliser (at the rate of 75gm/m2) and Tree Planting and Mulching Compost at the rate of (20litres/m2) are to be incorporated into the top 150mm of topsoil during final cultivations. All trees are to be double staked with 75mm dia. stakes with rubbers and spacers and with 1.2m deer protection guards. Stakes should be driven at least 300mm into the ground before planting the tree, taking care to avoid underground services and cables etc. and should typically be one third the height of the tree stem above ground. Staked trees shall be secured to stakes with suitable proprietary rubber tree ties and spacers.
Year 1 Management	Top up mulch to ensure a 50mm layer around tree bases is maintained. Replace any dead, dying, damaged stock with same species of similar size. Adjust ties and stakes as and when required; the need for this must be checked annually.
Year 2-5 Management	Top up mulch to ensure a 50mm layer around tree/hedgerow bases is maintained. Replace any dead, dying, damaged stock with same species of similar size. Adjust ties and stakes as and when required; the need for this must be checked annually.
Year 6 Management	Adjust ties and stakes as and when required; the need for this must be checked annually. Remove deer guards if considered appropriate.
Year 7-30 Management	Adjust ties and stakes as and when required; the need for this must be checked annually. Remove ties and stakes if considered appropriate.
Hedgerow	Length: 303m Hawthorn *Crataegus monogyna* (35%) Holly *Ilex aquifolium* (15%) Dog Rose *Rosa canina* (10%) Guelder rose *Viburnum opulus* (10%) Hazel *Corylus avellana* (15%) Field maple *Acer campestre* (15%)
Ground Preparation	Bare rooted stock to be dipped in water retaining polymer and notch planted randomly in a triple staggered row at a rate of 7 plants per linear metre. Whips should be 40-60cm in height as this is the most viable size for establishing a new hedgerow.

	All plants to be healthy, hardened-off and with good fibrous root systems and to comply with the requirements of BS3936 Specification for Nursery Stock. All planting to be undertaken in accordance with BS4428 Code of Practice for General Landscape Operations: • All plants to be protected from wind exposure at all times. All plants to be soaked in water for several hours prior to planting and to be well watered in. • No planting to be carried out during poor weather conditions, i.e. when ground is frozen, waterlogged, or during droughts, hot sunshine or persistent dry or cold winds. All plant material to receive enough water to ensure healthy establishment. • Time of year for planting: November to March, inclusive. • Watering and weed control: Provide as necessary.
Sowing/Planting	Create a planting bed to a depth of 0.75m and fill with subsoil (450mm) and topsoil (300mm). This will be a sufficient depth the support the hedgerow plants. Topsoil to be the top layer which should be raked to produce a fine tilth. Planting slots shall be made using a planting spade. Plant notches should be T-, H- or L- shaped, or straight notches, using spades of a design suitable for this purpose. The planting notches must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is exactly level with the ground surface. The notch must then be closed and the soil will be well firmed round the roots in line with the guidelines as set out in BS 4428 (1989). All hedge planting stock will be protected from rabbit damage using approved proprietary 0.9m clear plastic spiral guards, supported with 0.9m 12/14lb canes as advised by the manufacturer. Composted bark mulch will be spread to a depth of 75mm along the hedgerow base. All plants shall be watered in at the end of each day of planting.
Year 1 Management	Top up mulch to ensure a 50mm layer around tree/hedgerow bases is maintained. Replace any dead, dying, damaged stock with same species of similar size. Adjust sheaths and stakes as and when required; the need for this must be checked annually.
Year 2-5 Management	Top up mulch to ensure a 50mm layer around tree/hedgerow bases is maintained. Replace any dead, dying, damaged stock with same species of similar size. Adjust protective sheaths and stakes as and when required; the need for this must be checked annually. From Year 3, check for the need to prune to encourage a good shape.
Year 6 Management	Replace any dead, dying, damaged stock with same species of similar size. Remove protective sheaths and stakes as and when required (usually year 6 but may be extended where replacement planting has occurred); the need for this must be checked annually. Strim hedgerows every 3rd year, maintaining a minimum height of 1.5m and 1m width.
Year 7-30 Management	Replace any dead, dying, damaged stock with same species of similar size. Remove protective sheaths and stakes as and when required (usually year 6 but may be extended where replacement planting has occurred); the need for this must be checked annually. Strim hedgerows every 3rd year, maintaining a minimum height of 1.5m and 1m width.
Grassland	Mixes: Emorsgate EM8 or similar, Emorsgate EM2 or similar Sowing rate as per manufacturer's instructions

Ground Preparation	To prepare a seed bed first remove concrete and hard debris, then remove weeds using repeated cultivation. Then plough or dig to bury the surface vegetation, harrow or rake to produce a medium tilth, and roll or tread to produce a level firm surface. If required, add a low nutrient top soil or subsoil to produce a planting bed of approx. 0.5m depth.
Sowing/Planting	Seed to be sown in the autumn (September to October) or spring (March-April) providing there is sufficient warmth and moisture. The seed must be surface sown and is to be applied by machine or preferably broadcast by hand. Do not incorporate or cover the seed, but firm in with a roll, or by treading, to give good soil/seed contact. During the establishment phase, in very dry conditions, the seed beds may need irrigation. The need for this will be assessed by the ground maintenance team prior to first occupation.
Year 1 Management	The wildflower and grass species in this mix are perennial; they will be slow to germinate and grow and will not usually flower in their first growing season. There will often be a flush of annual weeds from the soil in the first growing season. This annual weed growth is easily controlled by repeated mowing. Mow newly sown flowering verges regularly (every 7 -10 days during growing season) throughout the first year of establishment. Cut to a height of 40-60mm, removing cuttings if dense. This will gradually develop a good sward structure, help maintain balance between faster growing grasses and slower developing wildflowers, and control annual weeds. Dig out any residual perennial weeds such as docks.
Year 2-5 Management	The grassland will be managed through cutting and should not be cut or grazed in spring or early summer. One or two cuts are to be undertaken (reducing sward height to approximately 150mm) late in the season, between August and September, subject to weather conditions. The late cuts will allow the seeds of the later flowering species to fall prior to the cut. An optional earlier cut (light mowing) can be made in early February, if necessary, to manage re-growth. Cutting should commence in slow and directional manner, allowing fauna such as great crested newts, other amphibians, invertebrates, birds and small mammals to safely vacate the area temporarily. The management will take a flexible approach and the exact cutting dates will be dependent upon weather conditions. A phased (rotational) cutting regime is recommended (i.e. ideally the entire area should not be cut at the same time) in order to allow for more structured grassland. Cuttings will remain on-site for two days following the cut and then baled and removed from site.
Year 6 Management	As per Year 2.
Year 7-30 Management	As per Year 2.
Ponds	Northern Parcel Pond: Construction methods and design as per Drainage Strategy (Waterco, September 2025). Operation and Maintenance Requirements are set out in the Drainage Strategy but repeated below for completeness. Southern Parcel Pond: will be created in line with Freshwater Habitats Trust; Million Ponds Project: Pond Creation Toolkit Sheet 4. The pond will be approx. 200m² surface area, approx. 2m depth at its deepest point and lined with puddled clay.

	Ponds will be created using excavators under the supervision of a Natural Resources Wales GCN licensed ecologist. The most appropriate model/size of excavator will be determined by the Contractor
Planting	The ponds are to be planted with both aquatic and marginal native species. This will provide suitable wetland habitat for amphibians, egg-laying material for GCN, and increased oxygenation of the ponds Species including: Deep water aquatic: • Common water-crowfoot *Ranunculus aquatilis* • Curled pondweed *Potamogeton crispus* Floating aquatic: • Broad-leaved pondweed *Potamogeton natans* Marginal plants: • Amphibious bistort *Persicaria amphibia* • Brooklime *Veronica beccabunga* • Water forget-me-not *Myosotis scorpioides* • Water mint *Mentha aquatica* • Flowering-rush *Butomus umbellatus* Plants to be sourced from verified suppliers, free from contamination, screened for INNS and, where possible, of local provenance. The ponds will be surrounded by a belt of wet grassland. Locally sourced, commercially available plants and seed of native provenance will be used for establishment of pond margin habitats.
Management Years 1 – 5 – Southern Parcel Pond	Management as per Freshwater Habitats Trust; Million Ponds Project: Pond Creation Toolkit Sheet 4. Management to ensure aquatic and marginal plants have established and that ponds are retaining water. Management and monitoring to ensure no INNS have established. Marginal and aquatic vegetation will be managed to ensure it does not completely engulf the open water, managed to no more than 60% emergent cover and 80% total aquatic cover. If clearance is required, only one-third or less of marginal areas will be cleared annually on a rotational basis, leaving sections of unaffected habitat surrounding the water body. Clearance will be undertaken between September and January (ideally September to November), by handpulling, raking/forking, or digging up with a spade/hoe where safe to do so, or through use of a small one tonne mini digger (if deemed appropriate) under the supervision of a suitably qualified ecologist. Arisings will remain in-situ until they have naturally dried and will be searched for any amphibians before they are removed from the site and disposed of appropriately. Dead, dying, diseased plant inspections will be undertaken annually for the first 5 years. Supplementary planting will be required if the original planting has not succeeded (or colonisation has not occurred). If sufficient vegetation has not established to achieve the objective percentage

	of aquatic cover (50-70%), three years after construction of the ponds, appropriate aquatic species shall be planted. All waterbodies on-site shall be monitored for undesirable species, and where necessary control measures shall be implemented. If identified, undesirable species shall be removed by hand weeding. Weeding should take place between the months of September and January, by hand pulling, raking/forking or digging up with a spade/hoe where safe to do so or use of a small one tonne mini digger under the supervision of a suitably qualified ecologist.
Management Years 6 – 30+ – Southern Parcel Pond	The approach to the management of this pond and marginal vegetation will remain similar to that of the initial five-year management period. The main threats to the longevity of the ponds include drought and over-silting/choking from vegetation growth. The cutting regime will be continued, every two years following the initial 5-year period, to maintain no more than 60% emergent cover and 80% total aquatic cover. If clearance is required only one-third or less of marginal areas will be cleared on a rotational basis during autumn, leaving sections of unaffected habitat surrounding the water body. Clearance will be undertaken between September and January, inclusive (ideally September – November), by hand-pulling, raking/forking, or digging up with a hoe where safe to do so. Arisings will remain insitu until they have naturally dried before they are removed from the site and disposed of appropriately. All waterbodies on-site shall be monitored for undesirable species, and where necessary control measures shall be implemented. If identified, undesirable species shall be removed by hand weeding. Weeding should take place between the months of September and January, by hand pulling, raking/forking or digging up with a spade/hoe where safe to do so, or use of a small one tonne mini digger (if appropriate) under the supervision of a suitably qualified ecologist. Silt levels will be monitored and if significant siltation is considered to be present, the pond will be de-silted. Under a watching brief of a NRW GCN licensed ecologist, the pond will be dredged of silt and leafy debris following Natural England's advice note on conservation of ponds with GCN (Natural England, 2009). This will require the pond to be dredged during winter (November to January), outside of the active period for GCN, and avoiding areas where GCN may hibernate close to the pond margin.

Management Years 1 – 30+ years – Northern Parcel Pond

waterco

Ponds and Wetlands Maintenance Schedule

Operation and Maintenance Requirements for Ponds and Wetlands

Maintenance Schedule	Required Action	Typical Frequency
Regular maintenance	Remove litter and debris	Monthly (or as required)
	Cut the grass – public areas	Monthly (during growing season), or as required
	Inspect marginal and bankside vegetation and remove nuisance plants (for first 3 years)	Monthly (at start, then as required)
	Inspect inlets, outlets, banksides, structures, pipework etc for evidence of blockage, and / or physical damage.	Monthly
	Inspect water body for signs of poor water quality	Monthly (May – October)
	Inspect silt accumulation rates in any forebay and in main body of the pond and establish appropriate removal frequencies; undertake contamination testing once some build-up has occurred, to inform management and disposal options.	Half yearly
	Check any mechanical devices e.g. penstocks	Half yearly
	Hand cut submerged and emergent aquatic plants (at minimum of 0.1m above pond base; include max 25% of pond surface)	Annually
	Remove 25% of bank vegetation from water's edge to a minimum of 1m above water level	Annually
	Remove sediment from any forebay	Every 1 – 5 years, or as required
	Remove sediment and planting from one quadrant of the main body of ponds without sediment forebays	Every 5 years, or as required
Occasional maintenance	Remove sediment from the main body of big ponds when pool volume is reduced by 20%	With effective pre-treatment, this will only be required rarely, e.g. 25-50 years
Remedial actions	Repair erosion or other damage	As required
	Replant where necessary	As required
	Aerate pond when signs of eutrophication are detected	As required
	Realign rip-rap or repair other damage	As required
	Repair/rehabilitate of Inlets, outlets and overflows	As required

Ref. Table 23.1 CIRIA C753 'The SuDS Manual'

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6 CONCLUSION & RECOMMENDATIONS

6.1.1 The site has been the subject of a Preliminary Ecological Appraisal in 2025 which concludes that the main development area is of no ecological value. The vegetated boundaries of the wider landholdings provide the most valuable ecological resource but these will be retained.

6.1.2 The avoid effects on retained habitats the following is recommended.

- **Recommendation:** good site management is implemented based upon the Considerate Constructors Scheme, Code of Considerate Practice.
- **Recommendation:** barrier Heras fencing is installed at the outset of site works to protect boundary features.

6.1.3 The following requirements are made in respect of bats.

- **Recommendation:** a bat sensitive lighting scheme should be implemented based on the current guidance jointly issued by the Institution of Lighting Professionals and Bat Conservation Trust; Guidance Note 08/18: Bats and Artificial Lighting in the UK.
- **Recommendation:** 3no. Beaumaris Woodstone bat box or similar to be installed on suitable trees to the boundaries, at least 3 metres off the ground and out of direct sunlight and artificial lighting.

6.1.4 The following recommendations are made in respect of great crested newts, other amphibian, reptiles & mammals.

- **Recommendation:** the RAMs strategy in Section 4 is implemented at the outset of the proposed construction work.
- **Recommendation:** the dedicated amphibian conservation area will be implemented.
- **Recommendation:** if a GCN or reptile is found during the course of construction, work must stop immediately, a clean bucket or other protective covering placed over the animal (allowing a small gap to allow the animal to escape, but detract from susceptibility to predators), and the retained ecologist contacted for advice. A derogation licence from Natural Resources Wales in respect of great crested newts may be required before works can continue.
- **Recommendation:** to prevent valuable foraging resources being cut off, boundary markers should remain penetrable to mammals. Natural features such as hedgerows or fence or walls with gaps allowing access are recommended.

6.1.5 The following recommendations are made in respect of birds.

- **Recommendation:** to prevent impacts on nesting birds, any work that may affect vegetation shall occur outside of the nesting bird season i.e. not during the months of March through to August inclusive. If vegetation removal is required during this time, the vegetation shall

first be checked by a competent Ecologist and only if no nests are found can vegetation be removed. If nests are found, they will remain in-situ and undisturbed until the young have fledged.

- **Recommendation:** 5no. wooden bird nest boxes or similar (suitable for passerines) are installed on the mature trees.

6.1.6 To provide a biodiversity net benefit, there is the following requirement.

- **Requirement:** the ecological landscaping scheme is to be implemented as per the specification provided in Section 5 above.

6.1.7 Taking into consideration these recommendations, long term negative effects on biodiversity are not anticipated and the proposed development actually gives rise to biodiversity enhancement opportunities within the landholdings, improving biodiversity at a local level.

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