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PRELIMINARY ECOLOGICAL APPRAISAL

At

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EXECUTIVE SUMMARY

United Environmental Services Ltd (UES) was commissioned by FI Real Estate Management Ltd to carry out a baseline ecological survey of a parcel of land at the Bridgeway Centre, Wrexham. A desk study and preliminary ecological appraisal (PEA) survey were undertaken on 24th June 2020, including searches using the Multi Agency Geographic Information Centre (MAGIC).

The PEA provides an assessment of potential ecological impacts associated with the development of the land parcel. The development proposals include the demolition of eight existing commercial units and construction of 10 commercial units within the same site boundary with associated landscaping and car parking.

The land parcel has an area of approximately 3.5ha. The main habitats on site include buildings, amenity grassland and hardstanding. There are also small areas of introduced shrub, species poor hedgerows, plantation woodland, dense scrub and poor semi-improved. An unnamed brook and plantation woodland are located immediately adjacent to the western site boundary.

The results of the survey combined with the results of the desk study have highlighted the requirement for further work in relation to the following habitats and species:

- **Amphibians** – reasonable avoidance measures (RAMs) to be implemented during the construction phase of the development.

- **Bats** – further presence / absence surveys required to assess whether bats are using the site for roosting purposes.

- **Breeding birds –** site clearance and vegetation removal works are to take place outside of the breeding bird season and should not be undertaken from March to August inclusive. If not possible, a targeted nest survey is to be undertaken or an ecological clerk of works appointed to oversee the works.

- **Hedgerows and trees –** to be retained where possible, or replaced as part of a detailed landscaping scheme. Generic issues relating to root protection areas.

- **Invasive species –** Giant hogweed *Heracleum mantegazzianum* and *Cotoneaster* to be eradicated prior to the commencement of works.

- **Watercourse** – specific procedures and control measures to be implemented to ensure that there is no risk of input into the watercourse, including the retention of a 5m buffer zone. The measures should be set out by the contractors prior to commencement and agreed with the LPA and other statutory consultees.

- **Woodland** - Approximately 0.2ha of woodland will be lost as part of the proposed development. The onsite woodland will be replaced two-fold in terms of area in an appropriate location. The new woodland should be situated in an area which connects isolated habitats. A detailed woodland management plan should be prepared for the newly created woodland and agreed with the local planning authority.

Mitigation measures, as detailed in section 4, should be adhered to, which may in some cases negate the need for further survey work.

The development also presents an opportunity to improve the habitats on site for wildlife, such as bats and birds. The inclusion of nest boxes and bat boxes will provide suitable nesting and roosting features in the long term.

This report should be read with appendices 1 to 5, which include results of the desk study, GIS phase 1 habitat mapping, photographs of site and relevant statutory guidance.

1 INTRODUCTION

1.1 Author, surveyors, qualifications and scope of study area

This report is written by Emily Clark BSc PGdip ACIEEM, UES Ecologist. Emily holds a level 4 Botanical Society for Britain and Ireland (BSBI) field identification skills certificate (FISC), which certifies him as competent to undertake botanical and habitat surveys up to National Vegetation Classification (NVC) level.

The report provides an assessment of the potential ecological impacts associated with the proposed development of a parcel of land at the Bridgeway Centre, Wrexham.

The zone of influence considered within the scope of the survey includes all land within the red line boundary. Where relevant, other ecological resources, receptors and important habitats which are spatially separate from the site are considered.

1.2 Survey objectives

UES was commissioned in June 2020 to conduct a PEA of the proposed development site. This was completed in order to:

- Establish baseline conditions and determine the importance of ecological features present or potentially present within the survey area
- Identify key ecological constraints to the project
- Make recommendations for design options to avoid significant effects on important ecological resources at an early stage of development planning
- Identify potential requirement for further surveys for nationally or internationally protected species which may be present on site
- Identify potential requirement for mitigation or compensation, including measures that may be required based on further surveys

1.3 Proposed development

The proposals include the demolition of eight existing commercial units and construction of 10 commercial units within the same site boundary with associated landscaping and car parking.

1.4 Structure of the report

This report is a baseline appraisal that forms the basis for further ecological surveys and Environmental Impact Assessments (EIA) if required. In the majority of cases the preliminary ecological assessment will not provide all the ecological data required by the Local Planning Authority to determine an application, especially in the event that protected habitat or species issues are present or likely.

This report should be read with appendices 1 to 5, which include results of the desk study, GIS phase 1 habitat mapping, photographs of site and relevant statutory guidance.

2 METHODOLOGY

This PEA comprises a desk study and a field survey. The desk study is conducted in order to collate ecological information on species and / or habitats of interest that may be present. The field survey is conducted in order to assess the habitats and their importance, both on site and in the context of their wider surroundings.

2.1 Desk study

The following resources were used to inform the desk study:

- National – Using the UK government's MAGIC website, statutorily protected sites were scoped to a distance of 10km from the application site.

- Local – UES has not been commissioned to undertake an environmental records search at this point.

2.2 Field survey

An ecological walkover survey was carried out on 24th June 2020 by Emily Clark. The purpose of the survey was to identify, record and map dominant habitats types within the development area and highlight any further species surveys that may be required based on the quality of those habitats. When conducting the surveys particular focus was concentrated on the following species and habitat features:

- Amphibians
- Reptiles
- Badger
- Bats
- Hazel dormouse
- Birds
- Trees
- Hedgerows
- Plant communities
- Invasive species
- Otter
- Water vole
- White-clawed crayfish

The habitats were assessed by using the phase 1 habitat survey technique, which is a system for environmental audit widely used within the environmental consultancy field. The survey was undertaken in accordance with the methodology in the 'Handbook for phase 1 habitat survey - A technique for environmental audit' (JNCC, 2010) as recommended by Natural England, and in the "Guidelines for Preliminary Ecological Appraisal" (CIEEM, 2017).

The survey area encompasses all of the land within the development footprint and the land to a distance of 30m outside it where accessible. In line with recognised guidelines, ponds were also scoped to a distance of 500m (250m radius from the survey area).

The phase 1 habitat survey methodology was extended to record any signs of habitats suitable to support protected / invasive species and any incidental observations of other noteworthy species.

2.3 Survey limitations

No limitations were encountered during this survey.

3 RESULTS

3.1 Desk study

A desk study was conducted for the proposed development site and surrounding area. Statutorily protected sites were scoped to a distance of 10km. Further results of the desk study can be found at Appendix 1 – Desk study.

3.1.1 Protected sites

There are no statutorily protected sites within 2km of site.

There are eighteen statutorily protected sites (designated for ecological reasons) within 2 – 10km of site:

- Afon Dyfrdwy (River Dee) SSSI[1]
- Chwarel Singret SSSI
- Cloy Brook Pastures SSSI
- Coedwig Ffosil Brymbo Fossil Forest SSSI
- Dee Cliffs, Farndon SSSI
- Gatewen Marsh SSSI
- Johnstown Newt Sites SAC[2]
- Llay Bog SSSI
- Marford Quarry SSSI
- Midland Meres and Mosses Phase 2 Ramsar
- Old Pulford Brook Meadows SSSI
- River Dee SSSI
- River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC
- Shell Brook Pastures SSSI
- Sontley Marsh SSSI
- Stryt Las A'r Hafod SSSI
- Vicarage Moss SSSI
- Well Rough and Long Plantation SSSI

3.2 Baseline conditions – Habitats

The results of the PEA are also shown on the accompanying map at Appendix 2 – Phase 1 habitat plan. Habitats are colour-coded in accordance with the phase 1 standard.

The local area predominantly consists of arable fields intersected by drainage channels. The following principle habitat types were characterised on site:

- A1.1.2 Broad-leaved woodland - plantation
- A2.1 Scrub – dense/continuous
- A2.2 Scrub – scattered
- A3.1 Broadleaved scattered trees
- B6 Poor semi-improved grassland
- C3.1 Ruderal tall herb and fern
- G2 Running water
- J1.2 Amenity grassland
- J1.3 Ephemeral/short perennial
- 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

[1] SSSI – Site of Special Scientific Interest
[2] SAC – Special Area of Conservation

3.2.1 A1.1.2 Broad-leaved woodland - plantation

There is a small copse of plantation woodland within the south western section of the site (Appendix 4, Photographs, Photograph 9). Trees are semi-mature to mature and spaced close together, resulting in high competition for light. Tree species present include, ash *Fraxinus excelsior,* hawthorn *Crataegus monogyna*, pedunculate oak *Quercus robur* and sycamore *Acer pseudoplatanus*

The understory has a scattered shrubs present, including, bramble *Rubus fruticosus agg,* dog rose *Rosa canina*, elder *Sambucus nigra*, hawthorn saplings and sycamore saplings. The ground flora is dominated by bramble and stinging nettle *Urtica dioica*, but there is a small amount of other species is present, including: broad buckler fern *Dryopteris dilatate,* enchanter's nightshade *Circaea lutetiana,* herb Robert *Geranium robertianum* and wood avens *Geum urbanum.*

There is an area of woodland offsite, located immediately adjacent to the north western site boundary. This area of woodland has a small unnamed brook running through it and has a greater diversity of trees species. Species in addition to those mentioned above include crack willow *Salix fragilis,* silver birch *Betula pendula* and willow *Salix species*.

3.2.2 A2.1 Scrub – dense/continuous

On site there are two small areas of dense scrub present which are dominated by bramble and hawthorn. One is located along the northern site boundary while the other is located along the south western site boundary.

3.2.3 A2.2 Scrub – scattered

There is a small section of scattered scrub along the northern boundary of the fenced compound, located within the south western section of the site. Species present include: bramble, blackthorn *Prunus spinosa* saplings, broad-leaved dock *Rumex obtusifolius*, colt foot *Tussilago farfara,* common hogweed *Heracleum sphondylium*, creeping thistle *Cirsium arvense*, giant hogweed, hawthorn saplings, large bindweed *Calystegia sepium*, scentless mayweed *Tripleurospermum inodorum* and stinging nettle.

3.2.4 A3.1 Broadleaved scattered trees

There are a number of trees scattered within the northern section of the site, most of which are confined to the site boundaries. The trees located within the amenity grassland are young-semi-mature, ornamental, and regularly maintained. The remining trees, along the north western site boundary are semi-mature and do not appear to be regularly managed.

Trees are mapped on the accompanying phase 1 habitat plan at Appendix 2. Trees within the amenity grassland include cherry *Prunus sp*, hawthorn, rowan *Sorbus aucuparia*, silver birch and sycamore.

Trees along the north western site boundary include hawthorn, crack willow, oak and willow species.

3.2.5 B6 Poor semi-improved grassland

There is a small section of grassland within the southern section of the site which has experienced lower intensity mowing and has a longer sward than the other areas of grassland on site. As such, it can be considered to be poor semi-improved grassland. The species are quite similar to those found in the amenity grassland areas, but there is a greater density of species here and there are more patches which are succeeding into scrub.

Species present include: birdsfoot trefoil *Lotus corniculatus*, creeping cinquefoil *Potentilla reptans*, cocksfoot *Dactylis glomerate*, common hogweed, common sorrel *Rumex acetosa,* common knapweed *Centaurea nigra,* creeping buttercup *Ranunculus repens*, crested dogs tail *Cynosurus cristatus*, false oat grass *Arrhenatherum elatius,* meadow buttercup *Ranunculus acris*, oxeye daisy *Leucanthemum vulgare*, red fescue *Festuca rubra*, ribwort plantain *Plantago lanceolata*, perennial rye grass *Lolium perenne*, timothy grass *Phleum pratense*, yarrow *Achillea millefolium* and Yorkshire fog *Holcus lanatus.*

3.2.6 C3.1 Ruderal tall herb and fern

There are two areas of tall ruderal within the site boundary. One is located along the south western site boundary within the fenced compound, the other is located within the north western section of the site. Species present include: bittersweet *Solanum dulcamara*, bramble, bristly oxtongue *Helminthotheca echioides,* buddleja davidii, cherry laurel *Prunus laurocerasus* saplings, clematis sp, colts foot, common centaury *Centaurium erythraea*, common hogweed, creeping thistle, cleavers *Galium aparine*, elder, false oat grass, field forget-me-not *Myosotis arvensis*, field horsetail *Equisetum arvense,,* field maple *Acer campestre* saplings, garlic mustard *Alliaria petiolata*, goats beard *Aruncus dioicus*, greater willowherb *Epilobium hirsutum,* hawthorn saplings, hedge woundwort *Stachys sylvatica*, nipplewort *Lapsana communis*, oxeye daisy, perennial prickly sow thistle *Sonchus arvensis,* purple toadflax *Linaria purpurea,* rosebay willowherb *Chamerion angustifolium*, spear thistle *Cirsium vulgare*, stinging nettle and Yorkshire fog.

3.2.7 G2 Running water

An unnamed brook flows south to north immediately adjacent to the north western site boundary. The brook is shallow, approximately 10cm deep, with a moderate flow rate. No submerged vegetation is present, and the banks are relatively shallow. The brook flows through the woodland so is densely shaded and vegetation is sparse.

3.2.7 J1.2 Amenity grassland

There are several large areas of grassland within the eastern section of the site which is short and regularly mown. There are smaller areas of grassland around the buildings which are also regularly mown (Photograph 1).

The grassland is dominated by grasses with forbs scattered throughout. The most frequent species within the grassland are annual meadow grass *Poa annua* perennial rye grass, and red fescue. Other species present include: birds foot trefoil *Lotus corniculatus,* black medic *Medicago lupulina*, bristly oxtongue cocksfoot, creeping buttercup, common daisy *Bellis perennis*, common dandelion *Taraxacum officinale agg*, common catsear *Hypochaeris radicata,* common chickweed *Stellaria media,* creeping cinquefoil, common ragwort *Jacobaea*

vulgaris, common storksbill *Erodium cicutarium,* creeping thistle, germander speedwell *Veronica chamaedrys,* herb Robert, field forget-me-not, field speedwell *Veronica persica,* prickly sowthistle, ribwort plantain, Selfheal *Prunella vulgaris*, scarlet pimpernel *Anagallis arvensis,* sweet vernal grass *Anthoxanthum odoratum*, yarrow, white clover and willowherb *Epilobium sp.*

3.2.8 J1.3 Ephemeral/short perennial

Within in the fenced compound in the western section of site, where there is gravel, ephemeral / short perennial species have colonised (Photograph 10 and 11). Species present include: bristly oxtongue, broad leaved plantatin *Plantago major,* Canadian fleabane *Erigeron canadensis,* common catsear, common figwort *Scrophularia nodosa*, common hogweed, common poppy *Papaver rhoeas,* common ragwort, coltfoot, giant hogweed, herb robert, purple toadflax, prickly perennial sow thistle, rosebay willowherb, scented mayweed, *Matricaria chamomilla*, spear thistle, stinging nettle and sun spurge *Euphorbia helioscopia*.

3.2.9 J1.4 Introduced shrub

There are small areas of introduced shrub planted in borders around the buildings and within the amenity grassland (Photograph 8). Species present include: bittersweet, black medic, common bent *Agrostis capillaris*, common hogweed, common fleabane *Pulicaria dysenterica*, common ragwort, creeping thistle, Dawin's barberry *Berberis darwinii*, elder, European smoke tree *Cotinus coggygria*, field rose *Rosa arvensis,* field maple, hawthorn saplings, ivy *Hedera helix*, oak sapling, oxeye daisy, red dead nettle *Lamium purpureum*, Rose *Rosa sp.,* rosebay willowherb, rowan, silver birch saplings, small leaved *Cotoneaster microphyllus*, spear thistle and *Viburnum davidii.*

3.2.10 J2.1.2 Intact hedge – species-poor

There are four hedges on site, including those that are located along the site boundaries. Hedge 2 is considered to be an intact species-poor hedge.

Hedge 2 is an amenity trimmed hedge located on the eastern site boundary in the north-east section of the site (Photograph 4). It measures approximately 2m high and 1m wide. The dominant species within the hedge is garden privet *Ligustrum ovalifolium*.

3.2.11 J2.3.2 Hedge with trees – species-poor

There are four hedges on site, including those that are located along the site boundaries. Hedge 1, 3 and 4 are considered to be a species-poor hedge with trees.

Hedge 1 is an amenity trimmed hedge with trees located on the northern site boundary (Photograph 1). The hedge measures 2m high and 1m wide. The most abundant species is hawthorn but bramble, oak saplings, holly, blackthorn and rose are present occasionally. There are trees scattered at intervals between 5m – 15m. All trees are young – semi-mature and well maintained, species present include cherry, rowan, silver birch, sycamore and hawthorn.

Hedge 3 and 4 are amenity hedges located adjacent the road leading into the Bridgeway centre, on the eastern site boundary (Photograph 7). The hedges are almost identical and are

approximately 0.5m in height and 1m wide. The hedges are dominated by yew *Taxus baccata* that is regularly managed. All trees within the hedge are semi-mature field maple *Acer campestre.*

3.2.12 J2.4 Fence

The southern and western site boundaries are demarcated by metal palisade fencing. There is also metal palisade fencing that demarcates the compound within the south western section of site.

3.2.13 J3.6 Buildings

There are 10 buildings located within the site boundary. All buildings are a similar construction and design. The buildings are all single storey and constructed of brick and mortar. Several sections of most buildings are also constructed of breeze block and corrugated metal. All buildings have flat roofs that are lined with 1F bitumen roofing felt.

A bat scoping survey has been undertaken and all buildings were inspected externally for any cracks or cavities that would provide potential roosting features for bats or would allow bat or bird access into the buildings. Further information can be found in UES' bat scoping survey report (reference: UES03012/02).

3.2.14 J5 Hardstanding

The are areas of hardstanding within the site boundary, the majority are areas of tarmacked roads and car parking spaces. There is also an area of tarmac and gravel within the fenced compound within the south west section of the site.

3.3 Baseline conditions – Protected species or resources

As part of the PEA, specific observations of wildlife were also recorded. Wildlife observations focused on protected species, invasive species or species of conservation concern. Habitats with potential to support protected species were noted with a view to follow up surveys if required.

3.3.1 Amphibians

There is a single mapped pond within 250m of the proposed development site, which is located 205m north of the site boundary. This pond could not be accessed during the walkover survey as it is on third party land, but from aerial photographs the ponds appears to have dried out. It is well connected to the site.

The terrestrial habitats within the development footprint are broadly suitable for GCNs. The areas of woodland edge, rough grassland and scrub habitats will provide some sheltered and foraging opportunities for GCNs. However, the majority of the site comprises hardstanding, intensively mown amenity grassland and intensively managed hedgerows which are unsuitable for GCNs.

Furthermore, the areas of suitable habitat are small and relatively isolated from higher quality habitat nearby. The areas of woodland, rough grassland, ponds and hedgerows to the south east of site will provide better quality sheltered and foraging opportunities for GCNs.

There is a small unnamed brook located immediately adjacent to the northern site boundary, within the woodland. The brook is unsuitable for use by GCNs due to its moderate flow rate.

3.3.2 Reptiles

The site contains areas of woodland edge, rough grassland and scrub habitats. Whilst these habitats are broadly suitable to support reptiles, the majority of site comprises sub-optimal amenity grassland, hardstanding and buildings.

Furthermore, the small area of suitable habitat is relatively isolated from nearby areas of suitable habitat due to the presence of hardstanding and roads. Therefore, reptiles are unlikely to be present on site during the proposed works and are therefore unlikely to be impacted.

3.3.3 Badger

The site contains areas of woodland edge and scrub habitats. Whilst these habitats are broadly suitable to support badgers *Meles meles*, the majority of site comprises sub-optimal amenity grassland, hardstanding, and buildings.

All land within 30m of the site boundary was accessed and no setts or badger field signs were recorded.

Furthermore, habitats within the immediate vicinity are generally unsuitable for badgers with large areas of hardstanding, amenity grassland and buildings present. The areas of woodland, rough grassland and hedgerows located 615m south east of site will provide better quality sett making and foraging opportunities for badgers.

3.3.4 Bats

The ten buildings on site were subject to a bat scoping survey at the same time as this PEA survey. Four buildings have been assessed as having low potential to support roosting bats and will require further bat presence / absence surveys to determine whether bats are using the building for roosting purposes.

All other buildings on site are considered to offer negligible bat roosting potential and do not require any further surveys. Further information and building descriptions are available in the bat scoping report (reference: UES03012/02).

There are several large mature trees present within the site boundary, all of which were subject to a full ground level tree assessment as part of the walkover survey. All other trees onsite are considered to offer negligible potential for roosting bats.

3.3.5 Hazel dormouse

The habitats on site are relatively unsuitable for hazel dormice *Muscardinus avellanarius*. The woodland does not have a dense canopy or understorey, and the hedgerows are species-poor and lack key species such as hazel *Corylus avellana* and honeysuckle *Lonicera periclymenum*. Furthermore, the woodland on site is small in size and relatively isolated, reducing its suitability for hazel dormice.

3.3.6 Birds

Although a targeted bird survey was not conducted during the site visit, the following bird species were recorded whilst on site: blackbird *Turdus merula*, blue tit *Cyanistes caeruleus*, chaffinch *Fringilla coelebs,* chiff chaff *Phylloscopus collybita*, goldfinch *Carduelis carduelis*, magpie *Pica*, robin *Erithacus rubecula*, woodpigeon *Columba palumbus* and wren *Troglodytes.*

Buzzard *Buteo buteo* and herring gull *Larus argentatus* gull were also recorded flying over the site.

The habitats on site are broadly unsuitable for overwintering waders, with no ephemeral scrapes or areas of standing water. Furthermore, no such birds were present on site during the walkover survey and the surrounding habitats are unsuitable.

Areas of woodland, hedgerows, trees and dense scrub and shrubs all provide suitable nesting opportunities for breeding birds in the summer.

3.3.7 Trees

There are no tree species on site which are afforded statutory protection, however individual trees may be subject to a Tree Preservation Order (TPO).

3.3.8 Hedgerows

There are four species-poor hedgerows on site. It is unlikely that these hedgerows will qualify as “important” for ecological reasons under the Hedgerow Regulations, but they may qualify on historical grounds.

3.3.9 Plant communities

No plant communities or individual species were recorded on site which are afforded statutory protection in their own right.

3.3.10 Invasive species

In three locations, *Cotoneaster* is planted within the introduced shrubs (see Appendix 2 – Phase 1 habitat plan, target notes 2 – 6, Photograph 8). Giant hogweed is also present on the northern site boundary, within the fenced compound (target notes 7 and 8, Photograph 12).

3.3.11 Otter, water vole and white-clawed crayfish

The unnamed brook, located within the woodland adjacent to the western site boundary, is generally unsuitable for otter *Lutra,* water vole *Arvicola amphibius* and white-clawed crayfish *Austropotamobius pallipes*. The brook is shallow in depth, lacks fish and vegetated banks. Furthermore, no evidence for otter, water vole or white-clawed crayfish was found during the survey and the habitats onsite are unsuitable.

4 EVALUATION AND RECOMMENDATIONS

This section provides a brief assessment of the likely impacts associated with the proposed development on the receptors identified during the walkover survey and desk study. It also includes any mitigation and compensation measures which may be required for the proposed development to proceed.

4.1 Habitats

4.1.1 Designated sites

The sites identified during the desk study were cross-referenced with the survey area relevant to this report. There are no statutorily protected sites within 2km of the site boundary. Furthermore, no statutorily protected sites within 10km are aquatically linked to the site.

Therefore, it is considered unlikely that the proposed development will have any direct or indirect impact on this or any other local designated sites.

4.1.2 Hedgerows

There are four hedgerows on the site, all of which are managed for amenity purposes.

Construction impacts

Construction activities too close to the root protection areas (RPAs) of the hedgerows could cause permanent damage. Site clearance and setting out may also involve the direct loss of hedgerows on site.

Mitigation

A BS5837 arboricultural survey should be undertaken to catalogue the location and species of the hedgerows on site. Any works close to the hedgerows should be mindful of their root protection areas (RPAs).

Compensation

If any hedgerows are to be removed, they should be replaced accordingly as part of a detailed landscaping scheme, with only native species to be planted.

Operational impacts

No operational impacts are envisaged.

4.1.3 Trees

There are a number of trees on the site, which vary in condition and maturity.

Construction impacts

Site clearance and setting out may involve the direct loss of trees on site as an ecological resource or may result in damage to any trees which are to be retained.

Mitigation

A BS5837 arboricultural survey should be undertaken to catalogue the location and species of the trees on site. Trees, in particular those forming a linear feature across the site, should be retained where possible. Root protection areas (RPAs) should be established and implemented around the trees which are to be retained. These areas should be adequately protected by appropriately designed protective barriers and ground protection throughout the entire development process.

Compensation

If any trees are to be removed, they should be replaced accordingly as part of a detailed landscaping scheme, with only native species to be planted.

Operational impacts

No operational impacts are envisaged.

4.1.4 Woodland

There is a small copse of woodland in the south west of site. There is also a copse of woodland located immediately adjacent to the north western site boundary.

Construction impacts

Approximately 0.2ha of woodland will be lost as part of the proposed development. The offsite woodland could be permanently damaged, altered and / or disturbed by the construction activities.

Mitigation

The offsite woodland should be adequately protected during the construction activities on site. It should be fenced off to protect the root systems of the trees within, and no contractors should access the woodland 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 woodland.

Compensation

The onsite woodland will be replaced two-fold in terms of area in an appropriate location. The new woodland should be situated in an area which connects isolated habitats. A detailed woodland management plan should be prepared for the newly created woodland and agreed with the local planning authority.

Operational impacts

The site is already used by the general public, therefore, it is not considered the amount of people using the woodland will increase significantly. Furthermore, the newly created

woodland will be adequately fenced off from the general public. No operational impacts are envisaged.

4.1.5 Watercourse

An unnamed brook is located adjacent to the north western site boundary.

Construction impacts

Construction works adjacent to the unnamed brook could result in disturbance and / or pollution to the watercourse.

Mitigation

Specific procedures and control measures will need to be implemented to ensure that there is no risk of input into the watercourse. These measures should be set out by the contractors prior to the commencement of works and will need to be agreed with the Local Planning Authority (LPA) and other statutory consultees. These measures should conform to best practice guidance and include the cleaning of all machinery and equipment before use on site to prevent contamination of the watercourse with foreign abiotic and biotic materials.

A buffer zone of 5m should also be retained along the length of the watercourse to protect it from disturbance. The buffer zone should be adequately fenced off and no vegetation clearance or other construction activities should take place within it.

Operational impacts

No operational impacts are envisaged.

4.2 Species

4.2.1 Amphibians

Although the presence of GCNs on site is considered unlikely any works to suitable habitat (woodland, scrub, poor semi-improved grassland) should still be completed under RAMs to ensure that other common amphibian species are not affected by the works.

Construction impacts

Potential impacts include direct harm, injury and / or death to individuals.

Mitigation

The following RAMs should be implemented on site during the construction phase of the development:

- The rough grassland and scrub is to be mown / cleared to have a sward length below 10cm. The sward length is to be reduced gradually in order to give any amphibians present time to move off site of their own accord. The mown / cleared area will then be maintained with a short sward until the works on site have been completed.

- Any potential hibernacula will be removed from the working area by a suitably experienced ecologist, and placed in a suitable area close to site. Hibernacula could include piles of rubble, bricks, loose soil, debris, brash piles etc.

- No excavations are to be left open overnight. If this is not feasible a plank should be left within the excavation at a 45 degree angle to allow amphibians to escape. Any open excavations should be checked for amphibians in the morning prior to start of works on site.

- Materials will be stored on pallets off the ground in order to reduce the risk of amphibians sheltering underneath them.

- The hedgerows and trees along the site boundaries should remain, where feasible, to continue to provide shelter and connectivity across site for amphibians and other fauna.

- UES will remain on-call throughout the development and if any newts are encountered, work on site is to stop immediately and ecological advice is to be sought. UES can be contacted directly on **01565 757788**.

Operational impacts

No operational impacts are envisaged.

4.2.4 Bats

Four buildings on site have low potential to support roosting bats, as detailed in UES' bat scoping survey report that has been prepared for the site (UES03012/02).

Construction impacts

If bats are roosting within the buildings during building demolition works, they are at risk of direct harm and disturbance and the roosts will be lost permanently. Inappropriate landscaping could also result in the severing of commuting corridors used by bats as well as the loss of foraging habitats.

Mitigation

A bat presence / absence survey should be undertaken of the four buildings on site with low potential for roosting bats (Building 1, 2, 4, and 7). This survey should be undertaken by an appropriately licenced ecologist during the peak bat survey season, May to August inclusive. In addition, if the presence of bats is established during the survey, further roost characterisation surveys may be required to assess the type and importance of roosts in order to inform the planning process.

The survey results will need to be submitted as part of the planning application, and will inform further mitigation or compensation measures, if required. It should be noted that these further measures may include an application for a European Protected Species (EPS) mitigation licence from Natural Resources Wales (NRW).

Enhancements

The provision of bat boxes as part of the development proposals would increase the roosting opportunities for bats on site but would also increase the ecological value of the site bat boxes that could be used on site include:

- Schwegler 1FF box (affixed to trees or buildings)
- Schwegler 2F box (affixed to trees or buildings)
- Schwegler 1FW hibernation box (affixed to trees)

Bat boxes affixed to trees should be fitted at a height of between 5 and 6m metres on a southerly aspect.

The bat boxes affixed to, or installed into the external walls of buildings should be installed just below the eaves / roof height. No detailed lighting proposals are as yet available to UES; however, care must be taken when installing any new lighting to ensure that light spillage onto the bat boxes is minimised. This may require the use of cowling or relocation of the bat box or lighting.

It should be noted that once bat inhabits a bat box, they may only be disturbed by a licensed bat worker.

Operational impacts

To be assessed following the further surveys.

4.2.6 Birds

There are a number of habitats on site, such as buildings, woodland, hedgerows, dense scrub, and mature trees which could support breeding birds.

Construction impacts

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.

Mitigation

Site clearance, vegetation removal (including enabling works) 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 prior to the start on site or an ecological clerk of works appointed.

Compensation and enhancement

Consideration should be given to providing replacement habitat for foraging and nesting birds by incorporating tree, shrub or scrub planting as part of the landscaping proposals.

Landscaping can also be used to promote biodiversity through the appropriate design of habitats and creating habitat mosaics, which promote natural linkages and hence the dispersal

of target species. Principles and landscaping ideas beneficial to wildlife and relevant to this site include:

- Planting and management of hedgerows
- Planting of berry and nut bearing shrub species to encourage winter birds
- Planting and management of shrubs which develop a mosaic of structures to support breeding birds
- Use of nectar bearing flowers to encourage invertebrates (such as bees, flies, beetles, and butterflies)

Species are to be native, of local provenance or to have a proven benefit to biodiversity. Further information can be found at Appendix 5 – Landscape design for birds.

Compensation for the loss of nesting habitat and the enhancing of the nesting habitat on site can also be provided through the provision of bird nest boxes. At the time of writing this report no detailed plans are available, but bird boxes that could be used on site include:

- Schwegler 1B nest box (affixed to trees)
- Schwegler 1SP sparrow terrace (affixed to building below the eaves)
- Schwegler 2H robin nest box (affixed to trees)
- Schwegler 3S starling nest box (affixed to trees or buildings)
- Schwegler 1MR Avianex box (affixed to trees or buildings)
- Manthorpe swift nest brick (incorporated into the external walls of buildings)

The bird boxes should be sited 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.

Operational impacts

Inappropriate management of the habitats on site could degrade them and render them unsuitable for wildlife.

Mitigation

It is important to implement good horticultural practice in any landscaping scheme, including the use of peat-free composts, mulches, and soil conditioners. The use of pesticides (herbicides, insecticides, fungicides, and slug pellets) should be discouraged to prevent fatal effects on the food chain. Any pesticides used should be non-residual.

Excessive removal or pruning of trees and hedgerows should be avoided to maximise the growth and plant matter available to wildlife. Pruning should be left until late winter to leave seeds and berries for wintering wildlife and to ensure no impact on breeding and nesting birds.

4.2.7 Invasive species

Several stands of cotoneaster are present within the introduced planting on site and there are two stands of giant hogweed within the fenced compound.

Cotoneaster is listed under Schedule 9 of the Wildlife and Countryside Act 1981 and giant hogweed is listed under Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019

It is an offence to plant or otherwise cause these species to grow in the wild.

Construction impacts

Site clearance and setting out could result in the disturbance and dispersal of *Cotoneaster* and giant hogweed on and off site.

Mitigation

Invasive species will need to be eradicated prior to the start of works on site 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.

Operational impacts

If *Cotoneaster* and giant hogweed are eradicated prior to the start of works on site, no further operational impacts are envisaged. However, complete eradication is an ongoing process, and if it is not treated as such, it can return and continue to spread. This could become more acute with increased activity on site.

5 CONCLUSION

The proposed development site has an area of approximately 3.5ha. The site comprises buildings, amenity grassland, hardstanding and introduced shrub. There are small areas of woodland, dense scrub and poor semi-improved grassland located to the south of the site. An unnamed brook and plantation woodland is located immediately adjacent to the western site boundary.

The preliminary ecological appraisal has highlighted potential issues with the following ecological receptors on or adjacent to site: amphibians, watercourse, hedgerows, trees and woodland, invasive species, breeding birds and bats. Provided these issues are addressed in accordance with the recommendations detailed in this report, the development may proceed without adversely impacting the aforementioned ecological receptors.

The development also presents an opportunity to enhance the habitats available to wildlife on site. The provisioning of bat and bird nest boxes on site will provide improved roosting and nesting opportunities into the long-term future of the site.

6 REFERENCES

CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal* (Second Edition).

DEFRA (2019). *MAGIC* [online]. Available at: http://magic.defra.gov.uk/.

JNCC (2010). *Handbook for Phase 1 habitat survey: A technique for environmental audit*.

Welsh Government (2018). Planning Policy Wales, edition 10

APPENDICES

Appendix 1 – Desk study

MAGiC

Statutorily protected sites within 2km

Legend

- National Nature Reserves (Wales)
- Ramsar Sites (Wales)
- Sites of Special Scientific Interest (Wales)
- Special Areas of Conservation (Wales)
- Special Protection Areas (Wales)
- Biosphere Reserves (Wales)

Projection = OSGB36
xmin = 332300
ymin = 347200
xmax = 342700
ymax = 352100

0 0.4 0.8
km

MAGiC

Statutorily protected sites within 10km

Legend

- Local Nature Reserves (England)
- National Nature Reserves (England)
- National Nature Reserves (Wales)
- Ramsar Sites (England)
- Proposed Ramsar Sites (England)
- Ramsar Sites (Wales)

Sites of Special Scientific Interest Units (England)

- Favourable Condition
- Unfavourable Recovering
- Unfavourable no change
- Unfavourable Declining
- Part Destroyed
- Destroyed
- Not Assessed

- Sites of Special Scientific Interest (England)
- Sites of Special Scientific Interest (Wales)
- Special Areas of Conservation (England)
- Possible Special Areas of Conservation (England)
- Special Areas of Conservation (Wales)
- Special Protection Areas (England)
- Potential Special Protection Areas (England)
- Special Protection Areas (Wales)
- Biosphere Reserves (England)
- Biosphere Reserves (Wales)

Projection = OSGB36
xmin = 311000
ymin = 339200
xmax = 360400
ymax = 362300

0 1.5 3 km

Appendix 2 – Phase 1 habitat plan

Target note 1 - Oak tree with low bat roosting potential

Target note 2 - *Cotoneaster*

Target note 3 - *Cotoneaster*

Target note 4 - *Cotoneaster*

Target note 5 **-** *Cotoneaster*

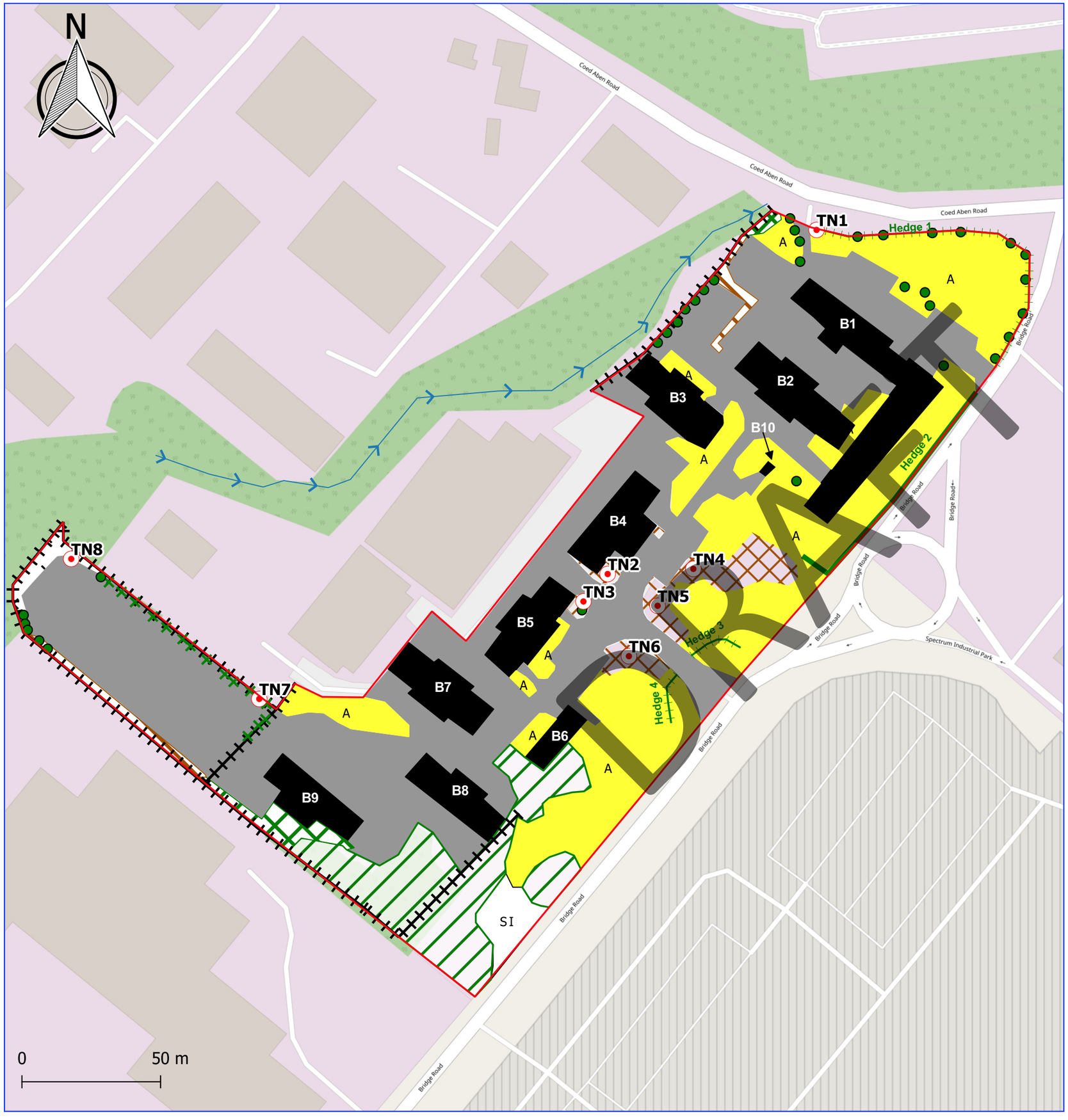
Target note 6 **-** *Cotoneaster*

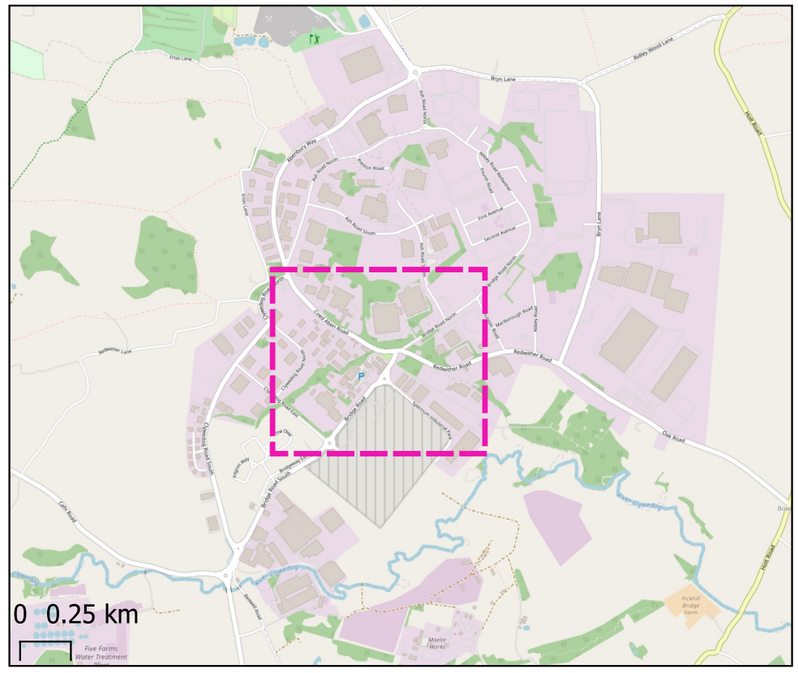
Target note 7 **-** Giant hogweed

Target note 8 **-** Giant hogweed

Preliminary Ecological Appraisal

Site: Birdgeway Centre, Wrexham
NGR: SJ 337766 349382
Author: Emily Clark
Date: 16/07/2020
Page: 1/3



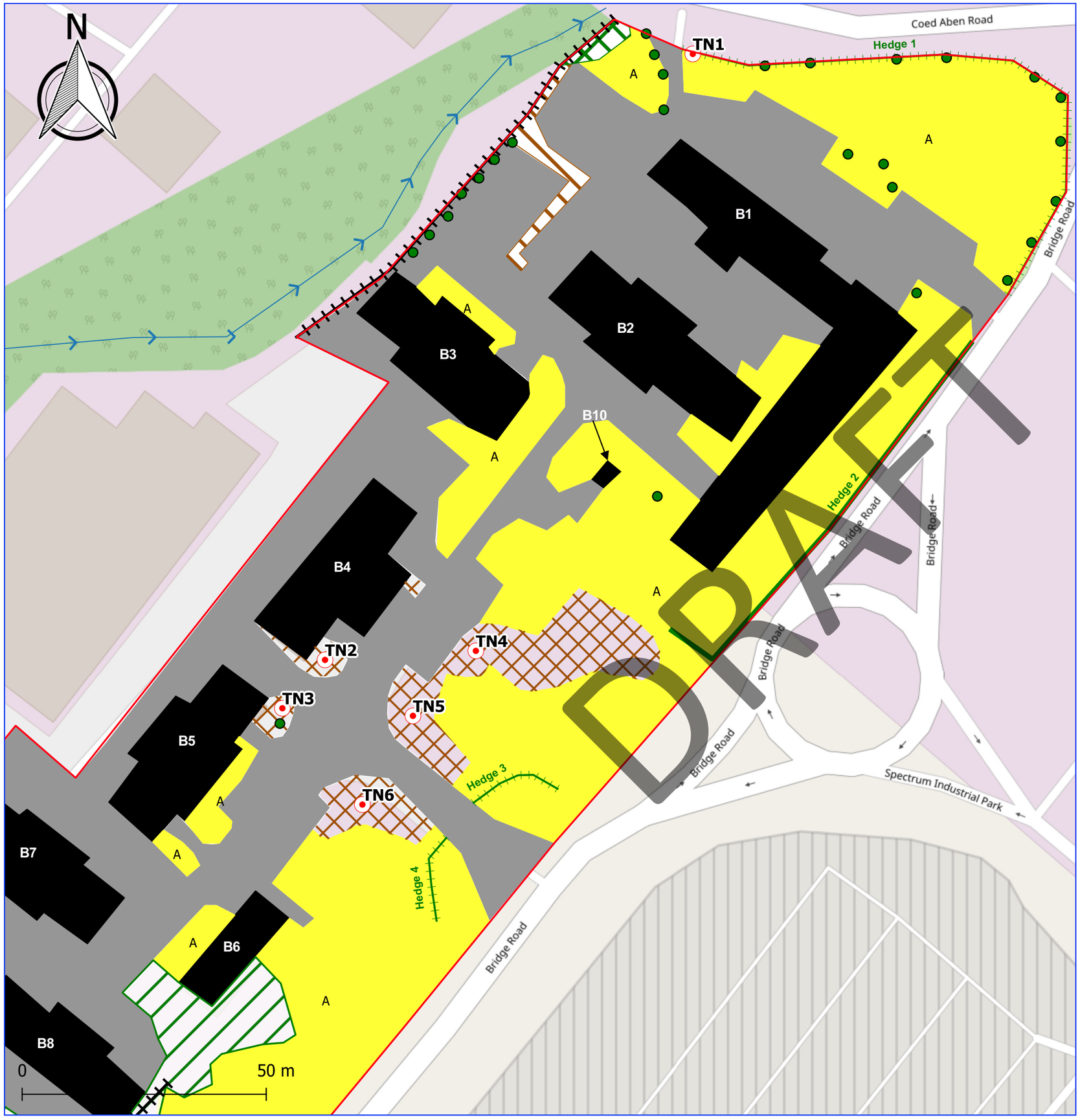


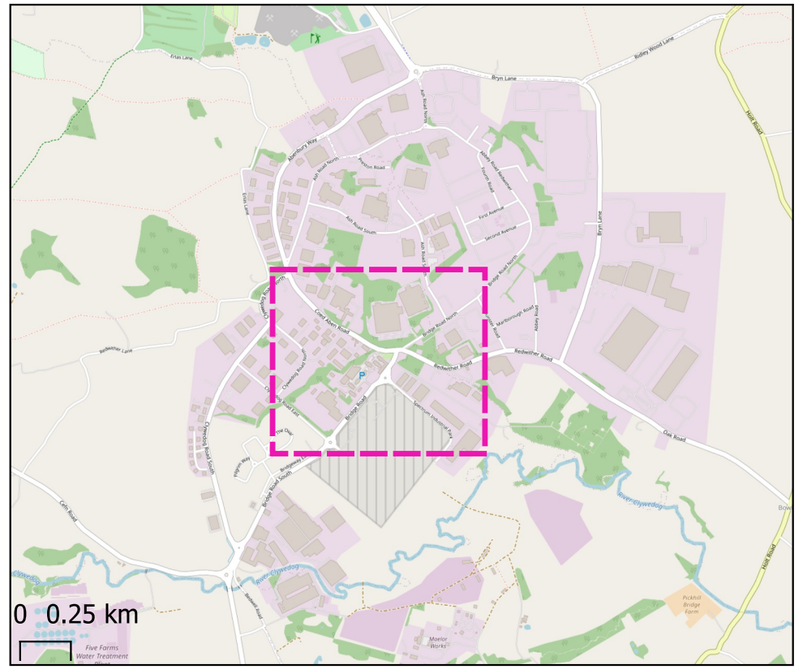
KEY:

- Red line boundary
- A1.1.2 - Broadleaved woodland - plantation
- A2.1 - Scrub - dense/continuous
- A2.2 - Scrub - scattered
- A3.1 Broadleaved scattered trees
- SI B6 - Poor semi-improved grassland
- C3.1 - Ruderal tall herb and fern
- G2 - Running water
- A J1.2 - Amenity grassland
- J1.3 - Ephemeral/short perennial
- J1.4 - Introduced shrub
- J2.1.2 - Intact hedge - species-poor
- J2.3.2 - Hedge with trees - species-poor
- J2.4 - Fence
- B# J3.6 - Buildings
- J5 - Hardstanding
- Target notes

Preliminary Ecological Appraisal

Site: Birdgeway Centre, Wrexham
NGR: SJ 337766 349382
Author: Emily Clark
Date: 16/07/2020
Page: 2/3





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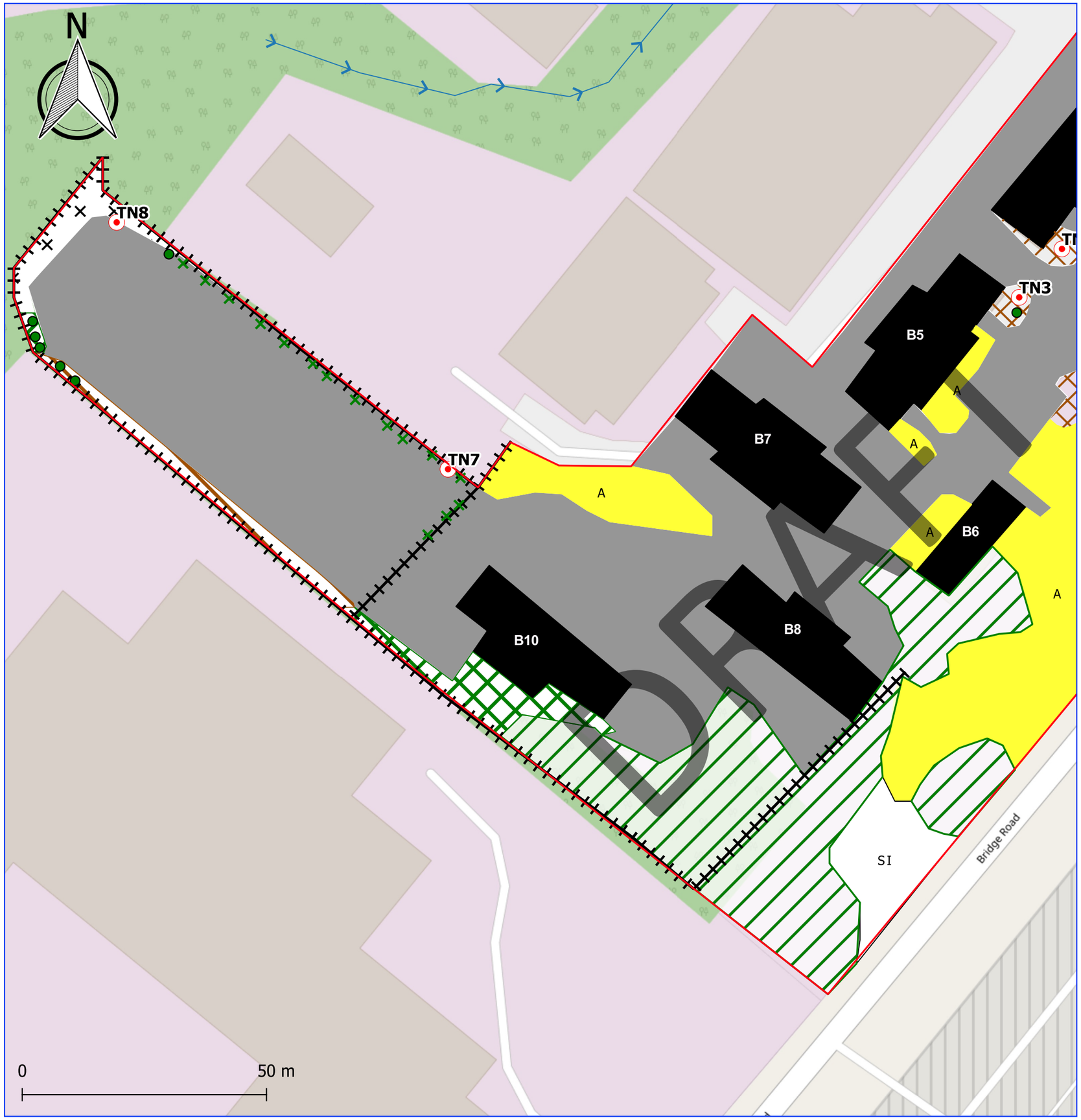
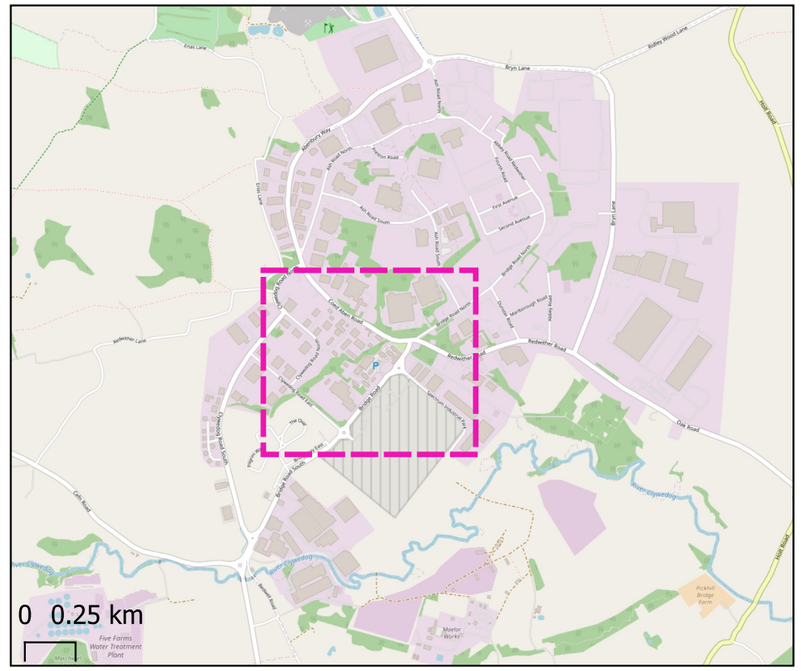
- J1.4 - Introduced shrub
- J2.1.2 - Intact hedge - species-poor
- J2.3.2 - Hedge with trees - species-poor
- J2.4 - Fence
- B# J3.6 - Buildings
- J5 - Hardstanding
- Target notes

Preliminary Ecological Appraisal

Site: Birdgeway Centre, Wrexham
NGR: SJ 337766 349382
Author: Emily Clark
Date: 16/07/2020
Page: 3/3





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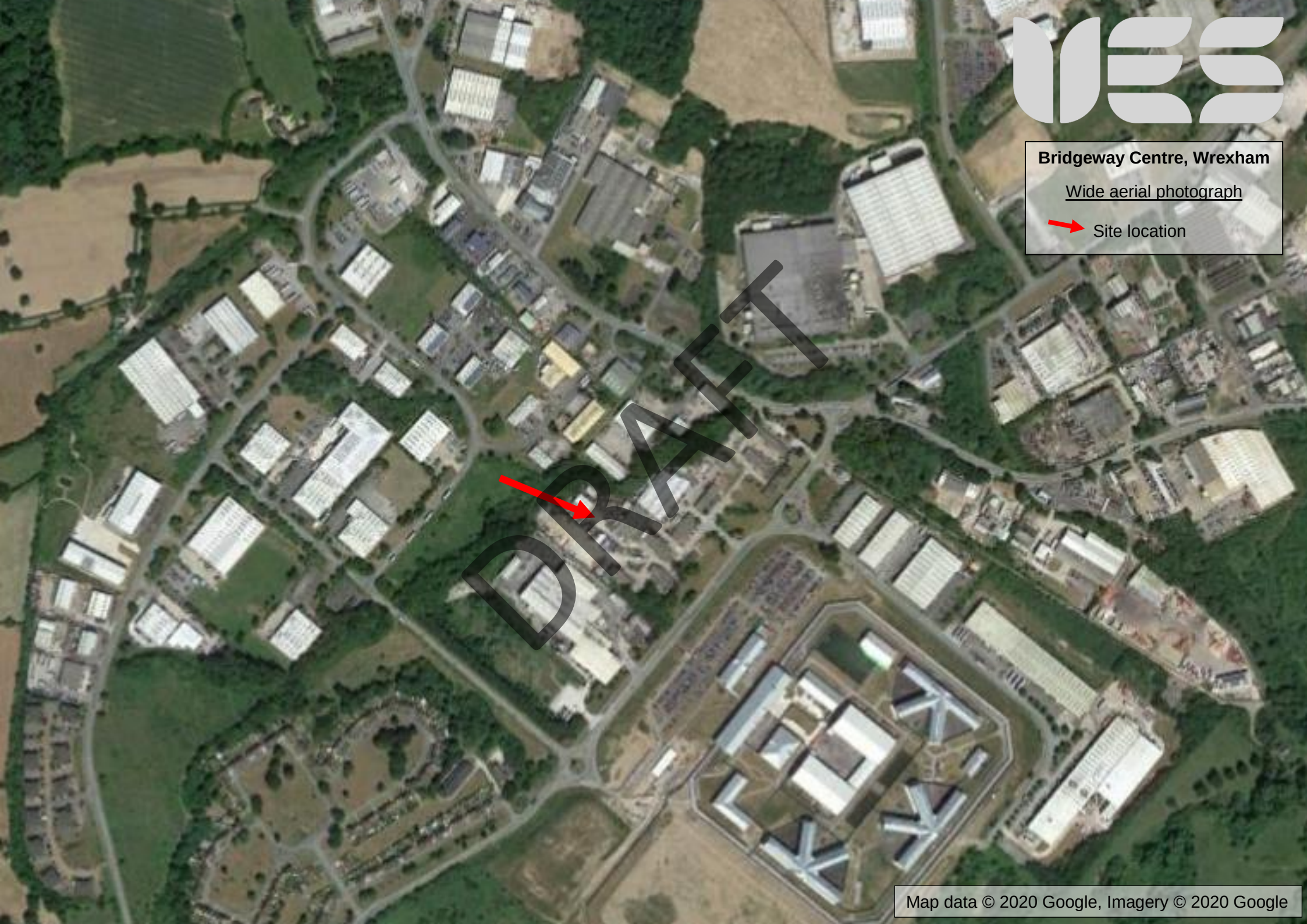
- A3.1 Broadleaved scattered trees
- SI B6 - Poor semi-improved grassland
- C3.1 - Ruderal tall herb and fern
- G2 - Running water

Habitats

- A J1.2 - Amenity grassland
- J1.3 - Ephemeral/short perennial
- J1.4 - Introduced shrub
- J2.4 - Fence
- B# J3.6 - Buildings
- J5 - Hardstanding
- Target notes

Appendix 3 – Aerial photographs


Bridgeway Centre, Wrexham
Close aerial photograph
Development boundary
DRAFT
Map data © 2020 Google, Imagery © 2020 Google


Bridgeway Centre, Wrexham
Wide aerial photograph
Site location
DRAFT
Map data © 2020 Google, Imagery © 2020 Google

Appendix 4 – Photographs

Photograph 1 – Building 1, adjacent eastern site boundary.


Photograph 2 – Oak with bat roosting potential along northern site boundary.

Photograph 3 – Looking south east across northern section of site.


Photograph 4 – Tall ruderal and scrub along north western site boundary.

Photograph 5 – Scattered trees along north western site boundary.

Photograph 6 – Hedge 4.

Photograph 7 – Example planting area with *Cotoneaster*.

Photograph 8 – Poor semi-improved grassland and woodland in the southern section of the site.

Photograph 9 – Fenced compound located within the south western section of site.

Photograph 10 – Ephemeral short perennial habitat

Photograph 11 – Giant hogweed within fenced compound.

Photograph 12 – Scattered scrub along northern site boundary of fenced compound.

Appendix 5 – Landscape design for birds

SPECIES	F	SIZE				LOCATION			SOIL MOISTURE	BENEFITS TO WILDLIFE
		T	S	M	L	H	W	Su/Sh		
TREES										
Alder*	D				Y			Su	M	Seed food for birds
Beech*	D			Y	Y	Y		Su	D	Seed food for birds
Birch*	D		Y	Y	Y			Su	D	Seed food for birds
Bird cherry *	D			Y	Y			Su	D	Food for birds, flowers attract insects
Crab apple*	D		Y	Y	Y			Su	D	Food for birds, flowers attract insects
English oak*	D				Y			Su	D	Food for birds, insects and mammals, nesting sites
European larch*	D				Y			Su	M	Seed food for birds
Holly*	E		Y	Y	Y	Y		Su	D	Fruits eaten by birds, food plant of holly blue butterfly
Juniper*	E							Su	D	Shelter and nest sites, fruits eaten by thrushes
Lime*	D				Y	Y		Su	D	Seed food for birds
Rowan*	D			Y	Y			Su	D	Fruits eaten by birds
Scot's pine*	E				Y			Su	D	Seed food for birds
Swedish whitebeam	D		Y	Y	Y			Su	D	Food for birds, flowers attract insects
Wild cherry*	D			Y	Y			Su	D	Food for birds, flowers attract insects
Yew*	E		Y	Y	Y	Y		Su	D	Food for birds, nesting sites
SHRUBS										
Barberry	B	Y	Y	Y	Y	Y		Su	D	Good shelter and nest cover for birds, berries may provide food
Blackthorn*	D			Y	Y	Y		Su	M	Attracts insects, food for birds, nesting sites
Buckthorn*	D			Y	Y	Y		Su/Sh	D	Food plant of brimstone butterfly, fruits eaten by birds
Butterfly bush	E	Y	Y	Y	Y	Y		Su	D	Attracts insects
Californian lilac	E			Y	Y	Y	Y	Su	D	Flowers attractive to various insects
Cotoneaster	B	Y	Y	Y	Y	Y	Y	Su	D	Flowers attractive to insects, fruits eaten by birds
Dogwood*	D			Y	Y	Y		Su	D	Food for birds, winter stem colour
Elder*	D		Y	Y	Y	Y		Su	D	Food for birds
Escallonia	E			Y	Y	Y		Su	M	Flowers attractive to various insects, tolerant of salt - good in coastal areas
Field maple*	D		Y	Y	Y	Y		Su	D	Good source of insect food for birds
Firethorn	E	Y	Y	Y	Y	Y	Y	Su	D	Berries popular with many bird species
Flowering current	D		Y	Y	Y			Su	D	Early flowers attractive to insects
Forsythia	D		Y	Y	Y	Y	Y	Su	D	Early flowers attractive to insects
Garria	E	Y	Y	Y	Y		Y	Su	D	Winter catkins, early cover for nesting birds
Goat willow*	D	Y	Y	Y	Y			Su	D	Catkins attractive to bees, good source of insect food for birds
Gorse*	E			Y	Y	Y		Su	D	Early flowers attractive to insects, good protection for birds
Rhytismatales	E			Y	Y	Y		Su	D	Good cover, tolerant of salt - good in coastal areas
Guelder-rose*	D			Y	Y	Y		Su	D	Food for birds & insects
Hawthorn*	D		Y	Y	Y	Y		Su	D	Flowers attractive to insects, fruits eaten by birds, good shelter and nesting site
Hazel*	D	Y		Y	Y	Y		Su	D	Food for birds, insects and mammals, nesting sites

Laurel-leaved vibumum	E		Y	Y	Y			Su	D	Early flowers good for insects, good cover for birds
Lavender	E	Y	Y	Y	Y	Y		Su	D	Flowers attract many insects, seeds popular with finches
Lilac	D		Y	Y	Y			Su	D	Flowers attractive to insects
Oregon grape	E		Y	Y	Y			Su/Sh	M	Early flowers good for insects
Pheasant berry	E			Y	Y			Su	D	Berries popular with many bird species
Privet*	E		Y	Y	Y	Y		Su	D	Flowers attract butterflies, produces berries
Rose	D	Y	Y	Y	Y	Y	Y	Su	D	Fruits of some varieties attractive to birds
Rosemary	E	Y	Y	Y	Y	Y		Su	D	Flower attract many insects
Shad bush	D		Y	Y				Su	M	Flowers attract insects, early forming berries good for thrushes
Snowberry	D			Y	Y	Y		Su/Sh	D	Flowers attractive to bees, fruits attractive to birds, dense stems provide cover
Spindle*	D		Y	Y	Y			Su	D	Berries eaten by birds, but poisonous to mammals
Tamarix	D			Y	Y	Y		Su	D	Flowers attractive to various insects, tolerant of salt - good in coastal areas
CLIMBERS & RAMBLERS										
Bramble*	D		Y	Y	Y	Y	Y	Su/Sh	D	Food for birds, insects and mammals, nesting sites
Clematis	D	Y	Y	Y	Y			Su	D	Nesting sites
Honeysuckle*	D	Y	Y	Y	Y	Y	Y	Su/Sh	D	Attractive to insects, good nesting site, food for birds
Ivy*	E	Y	Y	Y	Y	Y	Y	Su/Sh	D	Attractive to insects, good nesting site, food for birds
Rose	D	Y	Y	Y	Y	Y	Y	Su	D	Fruits of some varieties attractive to birds
Winter jasmin	E	Y	Y	Y	Y	Y	Y	Su	D	Early flowers attractive to insects
Wisteria	D	Y	Y	Y	Y		Y	Su	D	Attractive to insects, good nesting site

KEY			
*****	Native (NB: some varieties are cultivars or non-native)	**Location**	H = may be used as a hedge plant
F	D = Deciduous		W = may be used as a wall shrub
Foliage type	E = Evergreen		Su = Sunny borders
	B = Both		Sh = Shade tolerant
Size	T = Terraces & balconies		Su/Sh = Grows in partial shade
Suitable for garden sizes	S = Small garden (</= 6m x 4m)	**Soil mositure**	D = Well drained
	M = Medium gardens (</= 12m x 6m)		M = Moist
	L = Large gardens (> 12m x 6m)		W = Wet soil

Appendix 6 – Planning and statutory context

STATUTORY AND PLANNING CONTEXT

Ecological assessments

Ecological assessments play an important part within the planning context; they include an initial assessment which highlights any specific interests of a site. From the initial site assessment, the surveyor assesses the suitability of habitats within the site to support protected species and makes recommendations for further survey works if required. The following paragraphs provide a brief interpretation of the legislative protection that is relevant to the findings of this report.

Habitats

Section 7 of the Environment Act (Wales) places a duty on Welsh Ministers to publish, review and revise lists of types of habitats and species in Wales which they consider are of key significance to sustain and improve biodiversity. The Welsh Ministers must also take all reasonable steps to maintain and enhance the habitats published in these lists, and encourage others to take such steps.

Amphibians

<u>Great crested newts</u>

Great crested newts (GCN) *Triturus cristatus* and their habitat (aquatic and terrestrial) are afforded full protection by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture GCN
- Deliberately, intentionally or recklessly disturb GCN in such a way to be likely to significantly affect:
    - their ability to survive, breed, reproduce, rear or nurture their young
    - their ability to hibernate or migrate
    - their local distribution or abundance
- Deliberately, intentionally or recklessly take or destroy the eggs of GCN
- Damage or destroy breeding sites or resting places of GCN
- Intentionally or recklessly disturb sheltering GCN, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead GCN, any part of GCN or anything derived from GCN

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

GCN are also protected by the Protection of Animals Act 1911, which prohibits cruelty and mistreatment. Releasing a GCN in such a way as to cause undue suffering may be an offence under the Abandonment of Animals Act 1960.

In addition to the above, there are various statutory provisions relating to the transport of animals, designed to ensure their welfare. GCN are also listed under Section 7 of the Environment (Wales) Act 2016.

It is important to identify the presence of GCN individuals and also to identify suitable habitat on sites so that legal obligations regarding this species can be observed. If a survey identifies the presence of GCN on the site, an assessment of the population size class is required. This can then inform a mitigation scheme, which would need to be developed in liaison with the local Natural Resources Wales (NRW) team, and which minimises direct threats to newts and compensates for any loss of habitat. A licence issued by NRW is required for the legal implementation of a mitigation scheme.

An NRW mitigation licence application requires a Mitigation Method Statement and a Reasoned Statement of Application. The Mitigation Method Statement contains details of the proposed mitigation works. The Reasoned Statement needs to provide a rational and reasoned justification as to why the proposed development meets the requirements of the Conservation (National Habitats & c.) regulations 1994, namely Regulations 44(2)(e), (f) or (g), and 44(3)(a).

Other amphibians

More common British amphibians, such as common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Triturus vulgaris* and palmate newt *Triturus helveticus* are protected only by Section 9(5) of the Wildlife and Countryside Act 1981 (as amended). This section prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy.

The above named species are also listed as UK Species of Conservation Concern. Due to general declines in most British amphibian species in recent years, many local authorities require amphibian surveys as a planning condition, or as part of environmental information submitted as part of a planning application, even where the presence of GCN is ruled out.

Natterjack toad *Bufo calamita* and pool frog *Pelophylax lessonae* are also offered the same level of protection as GCN, through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017.

Natterjack and common toad are also listed under Section 7 of the Environment (Wales) Act 2016.

Water bodies that support all five (more common) species of British amphibians in high numbers, may be afforded protection in local plans, as Sites of Importance for Nature Conservation (SINC), or a similar equivalent, for sites of local importance. A site may require statutory protection as a Site of Special Scientific Interest (SSSI).

Reptiles

Common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix natrix* and adder *Vipera berus* are protected under the Wildlife and Countryside Act 1981 (as amended). They are listed as a Schedule 5 species therefore part of Section 9(1) and section 9(5) apply. The Countryside and Rights of Way Act 2000 also strengthens their protection. It is offence to:

- Intentionally or recklessly kill or injure any of the species listed above
- Sell, offer, advertise or transport for sale a live or dead animal of the species listed above

If a proposed development is likely to have an impact on these reptiles the local statutory nature conservation organisation must be consulted.

Sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* receive full protection under the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species Regulations 2017. Read together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture any sand lizards or smooth snakes
- Deliberately, intentionally or recklessly disturb sand lizards or smooth snakes in such a way to be likely to significantly affect:
    - their ability to survive, breed, reproduce, rear or nurture their young
    - their ability to hibernate or migrate
    - their local distribution or abundance
- Deliberately, intentionally or recklessly take or destroy the eggs of such an animal
- Damage or destroy breeding sites or resting places of such animals
- Intentionally or recklessly disturb sheltering sand lizards or smooth snakes, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead sand lizards or smooth snakes, any part of such an animal or anything derived from such an animal

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

All reptile species (except for smooth snake) are also listed under Section 7 of the Environment (Wales) Act 2016.

Badger

European badgers *Meles meles* and their habitat are protected under The Protection of Badgers Act 1992 and are also included on Schedule 6 of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention. The legislation affords badgers protection against deliberate harm or injury making it an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat a badger (or attempt to do so)
- To interfere with a sett by damaging or destroying it
- To obstruct access to, or entrance of, a badger sett
- To disturb a badger whilst it is occupying a sett

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Works that disturb badgers whilst they are occupying a sett are illegal without a licence. Disturbance can occur even without direct interference or damage to the sett in question. In general, the following activities are likely to require a licence:

- Use of heavy machinery or significant earth moving within 30m of a sett
- Use of lighter machinery (usually any wheeled vehicles) within 20m of a sett
- Any digging, chain saw use or scrub clearance within 10m of a sett

Hazel dormouse

Hazel dormice *Muscardinus avellanarius* are offered full protection through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture dormice
- Deliberately, intentionally or recklessly disturb dormice in such a way to be likely to significantly affect:
    - their ability to survive, breed, reproduce, rear or nurture their young
    - their ability to hibernate or migrate
    - their local distribution or abundance
- Damage or destroy breeding sites or resting places of dormice
- Intentionally or recklessly disturb sheltering dormice, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead dormouse, any part of a dormouse or anything derived from a dormouse

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Dormice are also listed under Section 7 of the Environment (Wales) Act 2016.

Bats

In the United Kingdom, all species of bat and their roosts are afforded full protection under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (known as the "Habitats Regulations"). The Wildlife and Countryside Act is the domestic implementation of the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) and was amended by the Countryside and Rights of Way Act 2000. This makes it an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture a bat
- Deliberately, intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection (even if the bat is not present at the time)
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead bat, any part of a bat or anything derived from a bat

Under UK law, a bat roost is *any structure or place which any wild [bat] … uses for shelter or protection*. As bats often reuse the same roosts, legal opinion is that a roost is protected whether or not the bats are present at the time of the activity taking place.

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

If an activity is likely to result in any of the above offences, a licence can be applied for to derogate from the protection afforded. These licences must provide appropriate mitigation and are issued by NRW.

The Environment (Wales) Act 2016 also lists the following bat species as species of principle importance under Section 7:

- Barbastelle *Barbastella barbastellus*
- Bechstein's bat *Myotis bechsteinii*
- Noctule *Nyctalus noctula*
- Common pipistrelle *Pipistrellus pipistrellus*
- Soprano pipistrelle *Pipistrellus pygmaeus*
- Brown long-eared bat *Plecotus auritus*
- Greater horseshoe *Rhinolophus ferrumequinum*
- Lesser horseshoe *Rhinolophus hipposideros*

Birds

All wild birds, their nests and young are protected throughout England and Wales by the Wildlife & Countryside Act 1981 (as amended). It is illegal to kill, injure or take any wild bird, or damage or destroy the nest or eggs of breeding birds. The legislation applies to all bird species, common and rare.

In addition to the protection afforded to all wild birds, more vulnerable species listed on Schedule 1 of the Act receive enhanced protection when breeding. Schedule 1 species, including their dependent young, are protected from intentional or reckless disturbance whilst at or near the nest, in addition to the protection afforded the more common species.

The Environment (Wales) Act 2016 offers further protection to the nests of some species that regularly re-use their nests, even when the nests are not in use.

The leading governmental and non-governmental conservation organisations in the UK have reviewed the population status' of 244 UK bird species. "Birds of Conservation Concern 4: the Red List for Birds" is the most recent publication summarising their findings. Three lists, Red, Amber and Green, have been produced based on the most up-to-date evidence available and criteria include conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance. These lists are a valuable resource when considering conservation priorities.

Trees

Trees may be protected on an individual or group level through a Tree Preservation Order (TPO). In order to carry out works to trees with a TPO, prior written consent must be obtained from the Local Planning Authority. Trees may also be protected through a condition of planning consent or designated conservation areas.

Hedgerows

The Hedgerow Regulations are made under Section 97 of the Environment Act 1995 and came into operation on 1st of June 1997. They aim to protect important hedgerows in the countryside by controlling their removal through a system of notification to the Local Planning Authority.

A hedgerow can only be considered for classification as "important" if it, or the hedgerow of which the section belongs to is over 20m in length (or which meets a hedgerow at either end) and has existed for 30 years or more.

Plants

Schedule 8 of the Wildlife & Countryside Act 1981 (as amended) lists a number of plant species which are protected under Section 13 of the same legislation. As such, it is an offence to:

- Intentionally or recklessly pick, uproot or destroy a plant, or any seeds or spores attached to it, which is listed on Schedule 8
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead wild plant on Schedule 8, any part of the plant or anything derived from the plant

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

The Conservation of Habitats and Species Regulations 2017 extends European legislative protection to a further subset of plants. It is therefore an offence to pick, collect, cut, uproot, destroy or trade any plant listed in Schedule 4 of these Regulations, unless the appropriate licence is first obtained.

A large number of species of vascular plants, lichens, algae, fungi, mosses, stoneworts and liverworts are also protected through planning policy as species of principal importance, as required under Section 7 of the Environment Act (Wales) 2016.

Invasive Plant Species

A number of invasive, non-native plant species are listed under Schedule 9 (Part II) of the Wildlife and Countryside Act 1981 (as amended). The most commonly encountered listed species in ecological surveys are Japanese knotweed *Fallopia japonica*, Montbretia *Crocosmia x crocosmiiflora* and variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum*. Section 14(2) of this Act makes it an offence to *plant or otherwise cause to grow in the wild* any plant listed on Schedule 9 (Part II). These provisions are necessary to prevent the establishment of non-native species which may be detrimental to our native wildlife.

A number of invasive, non-native plants species are listed under Schedule 2 (Part II) of the Invasive Alien Species (Enforcement and Permitting) Order 2019. The most commonly encountered listed species in ecological surveys are Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*. Section 3 of this Act make it an offence to *plant* or *otherwise causes to grow in the wild* any plant which is listed on Schedule 2 (Part II). These provisions are necessary to prevent the establishment of non-native species which may be detrimental to our native wildlife.

Soil or plant material contaminated with non-native and invasive plants can cause ecological damage and may be classified as controlled waste. It is an offence to keep, treat or dispose of waste that could harm the environment or human health. If there is any doubt, contact the local authority or Environment Agency.

Japanese knotweed has an extensive root system and new plants can regenerate rapidly from the smallest fragments of rhizomes. Material containing this species is classed as “controlled waste” under the Environmental Protection Act (Duty of Care) Regulations 1991. The disposal of such waste requires all involved parties to follow a strict code of practice and maintain adequate records regarding their conduct.

Otter

European otter *Lutra lutra* are offered full protection through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture otters
- Deliberately, intentionally or recklessly disturb otters in such a way to be likely to significantly affect:
    - their ability to survive, breed, reproduce, rear or nurture their young
    - their ability to migrate
    - their local distribution or abundance
- Damage or destroy breeding sites or resting places of otters
- Intentionally or recklessly disturb sheltering otters, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead otter, any part of an otter or anything derived from otter

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Otters are also listed under Section 7 of the Environment (Wales) Act 2016.

Water vole

Water voles *Arvicola amphibius* are protected by the provisions of Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- Intentionally kill, injure or take water vole
- Possess or control live or dead water vole or any part of a water vole
- Intentionally or recklessly damage destroy or obstruct access to any structure or place which a water vole uses for shelter or protection, or disturb water vole using such a place
- Sell, offer, advertise or transport live or dead water voles for sale

Licences are available from NRW to allow activities that would otherwise be an offence, including:

- Scientific or educational purposes
- For the purposes of ringing or marking
- Conserving wild animals or introducing them into particular areas
- Preserving public health or public safety
- Preventing the spread of disease
- Preventing serious damage to any form of property or to fisheries

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Water voles are also listed under Section 7 of the Environment (Wales) Act 2016.

White-clawed crayfish

White-clawed crayfish *Austropotomobius pallipes* are protected under the Wildlife and Countryside Act 1981 (as amended). They are listed as a Schedule 5 species therefore part of Section 9(1) and section 9(5) apply. The Countryside and Rights of Way Act 2000 also strengthens their protection. It is offence to:

- Intentionally or recklessly kill or injure white-clawed crayfish
- Sell, offer, advertise or transport for sale a live or dead white-clawed crayfish

If a proposed development is likely to have an impact on white-clawed crayfish then the local statutory nature conservation organisation must be consulted.

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.
Their inclusion on the EC Habitats Directive allows areas to be designated as Special Areas of Conservation (SAC) for the presence of white-clawed crayfish. Such a designation brings legal protection under the Conservation of Habitats Regulations 2017, this includes how the site is managed and what development can occur on and in proximity to these sites.

White-clawed crayfish are also listed under Section 7 of the Environment (Wales) Act 2016.

Planning Policy

National planning guidance is issued in the form of Planning Policy Wales (PPW - 2018). The most relevant sections are included in Chapter 6: Distinctive and Natural Places. This chapter details the policies on issues such as the protection of trees, woodlands, species, and designated sites. The document is free and available to view online.