

ECOLOGICAL IMPACT ASSESSMENT

SITE 2, IMAGE BUSINESS PARK

ACORNFIELD ROAD, KNOWSLEY

carried out by



commissioned by

HALE ARCHITECTURE

On behalf of

SEYBOURNE ESTATES

OCTOBER 2021



ECOLOGICAL IMPACT ASSESSMENT

SITE 2, IMAGE BUSINESS PARK, ACORNFIELD ROAD, KNOWSLEY

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EXECUTIVE SUMMARY

- Clarkson and Woods Ltd. was commissioned by Hale Architecture on behalf of Seybourne Estates to carry out an update ecological survey of Site 2 (formerly Plot A) at Image Business Park, Acornfield Road, Knowsley Industrial Park, Liverpool.
- An 'Extended' Phase 1 Habitat Survey of the site was undertaken. The site was in the final stages of clearance following demolition of the previous unit at the time of the survey. Main habitats were hardstanding, recently cleared bare ground, young broadleaved woodland, amenity grassland, rough, tussocky grassland, areas of scrub and some remaining ornamental shrubs. Two brick-lined pits and a concrete basin (previously the footprint of a demolished building) containing open standing water were also present.
- The rough, tussocky grassland and scrub habitats offered foraging and sheltering potential to a range of wildlife including reptiles, amphibians and hedgehogs, as well as providing areas which could be utilised by nesting birds. The woodland to the north of the Site was assessed as providing commuting and foraging habitat for bats, as well as nesting habitat for birds.
- eDNA surveys of the brick-lined pits in 2018 confirmed great crested newt presence, however this has been assumed to be due to individual newts falling into the pits and being unable to escape due to the sheer sides, rather than them offering a suitable breeding location for the species. The brick-lined pits were subject to an eDNA survey in 2021, which was subsequently returned as negative for the species. Toadpoles were recorded within the pits during the survey.
- Development proposals for the site include the removal of most remaining amenity and rough, tussocky grassland, as well as areas of ruderal vegetation, scrub and shrubs. Construction plans involve the development of a large warehouse unit, which will be situated within the northern part of the site, with associated parking, docking and turning space on areas of hardstanding to the south. Some areas of soft landscaping are proposed along the site boundaries, however the details of these are not yet confirmed. It is expected that these will remain in line with landscaping approved on the adjacent Site to the east (Plot B).
- A walkover survey for badgers will be undertaken one month prior to the commencement of works. A RAMS will be produced for the Site, which will cover the removal of the brick-lined pits to avoid risk of injury to amphibians, and a toolbox talk will be delivered at the outset of works to key personnel. All scrub and shrubs will be removed outside the nesting bird season (or be subject to a pre-works check by an experienced ecologist where this is not possible).
- A tree protection plan and arboricultural method statement should be drawn up for the Site to ensure the protection of the retained area of the woodland strip throughout construction.



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- A soft landscaping plan will be developed and implemented, ideally incorporating areas of native grass and wild flower seeding, tree, hedgerow and shrub planting.
 - Recommended enhancements include the installation of bird and bat boxes, and creation of brash piles within the woodland strip.



1 INTRODUCTION

- 1.1.1 Clarkson and Woods Ltd. was commissioned by Seybourne Estates to carry out ecological surveys of Site 2 at Image Business Park, Acornfield Road, Knowsley Industrial Estate, Liverpool, L33 7UF.
- 1.1.2 This report discusses the likely effects of the Proposed Development on the ecology of the Site using information collected during an Extended Phase 1 Habitats Survey carried out by Clarkson and Woods Ltd on 6th May 2021. Unless the client indicates to the contrary, information on the presence of species will be passed to the county biological records centre in order to augment their records for the area.
- 1.1.3 An initial Phase 1 survey of the Site was undertaken in 2018 by Clarkson and Woods Ltd. prior to the demolition of the industrial buildings on Site. The results of this survey and subsequent Phase 2 surveys to support demolition consent are reported within the Pre-demolition Ecology Survey report (Plot A Image Business Park, Acornfield Road. Clarkson & Woods Ltd., June 2018). The building was subsequently demolished in 2020-2021.

1.2 Report Aims

- 1.2.1 The aims of this report are:
- To identify and describe all potentially significant ecological effects associated with demolition of the buildings;
 - To outline mitigation measures that are needed to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects;
 - To identify appropriate enhancement measures

1.3 Site Description Summary

- 1.3.1 The Site is situated on the north-eastern corner of Knowsley Industrial Park, an extensive industrial area approximately 2 km east of Kirkby, Liverpool. The Site previously contained numerous large warehouses and industrial buildings, all of which have been demolished since the initial ecological survey carried out in 2018.
- 1.3.2 The Site now contains extensive areas of hardstanding and bare soil which are interspersed with patches of tussocky grassland and introduced shrubs. The northern perimeter of the Site is bounded by an area of semi-natural mixed woodland. The Site also contains two brick pits filled with water, as well as a concrete basin which covers the footprint of a previous building also holding standing water.
- 1.3.3 The site is approximately 1.36 hectares (ha) in size, and the approximate centre of the site was at OS Grid Ref. SJ437989, as shown in Figures 1 and 2.

1.4 Development Proposals

- 1.4.1 Planned works on Site comprise the construction of a single large warehouse covering approximately half the plot with associated hardstanding areas for parking, access and turning space to the south. The woodland along the northern boundary of the Site will be retained, and areas of soft landscaping will be incorporated along both the eastern and western boundaries in order to supplement retained areas of grassland. There are currently no detailed plans for the soft landscaping and this report may therefore require updating once they are available. The latest development plans are outlined in Figure 4.
- 1.4.2 Any significant changes to the proposed development plans should be issued to Clarkson and Woods Ltd. for review. Ecological impacts and mitigation opportunities may be affected by these changes.

1.5 Quality Assurance

- 1.5.1 All ecologists employed by Clarkson and Woods are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow the Institute's Code of Professional Conduct¹ when undertaking ecological work.

¹ CIEEM (2013). *Code of Professional Conduct*. www.cieem.net/professional-conduct.

- 1.5.2 The competence of all field surveyors has been assessed by Clarkson and Woods with respect to the CIEEM Competencies for Species Survey (CSS)².
- 1.5.3 This report has been prepared in accordance with the relevant British Standard: BS42020: 2013 – *Biodiversity: Code of Practice for Planning and Development*³. It has been prepared by an experienced ecologist who is a member of CIEEM. The report has also been subject to a two stage quality assurance review by appropriately experienced ecologists who are full members of CIEEM.

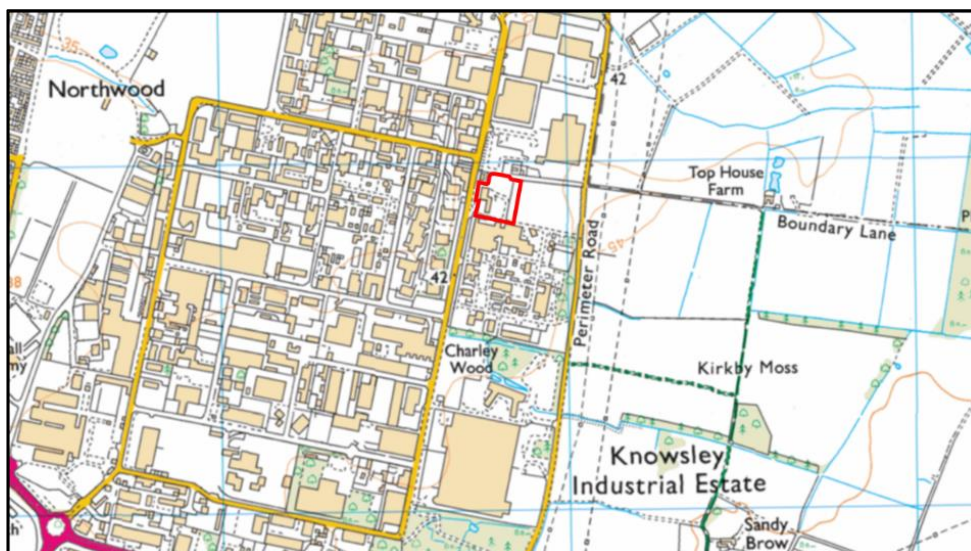


Figure 1: Ordnance Survey Map Showing Location of Site (© 2021 Bing Maps)



Figure 2: Aerial photograph of Site boundary (©2021 Google)

² CIEEM (2013). *Competencies for Species Survey (CSS)*. www.cieem.net/competencies-for-species-survey-css

³ The British Standards Institution (2013). *BS42020: 2013 – Biodiversity: Code of Practice for Planning and Development*. BSI Standards Ltd.



2 BASELINE CONDITIONS

2.1 Introduction

- 2.1.1 This section sets out the results of the Desk Study and ecological field surveys along with an evaluation of their relative importance in order to inform the Impact Assessment. The methodologies associated with the baseline assessment are summarised with each ecological feature's subheading below.
- 2.1.2 Details of the legislative protection afforded to those protected species which have been identified as occurring or potentially occurring on the Site are given in Appendix A. Species of Conservation Concern are defined as those appearing in any of the following; Priority Habitats and Species under Section 41 of the Natural Environment and Rural Communities Act (2006); red or amber-listed birds within the British Trust for Ornithology's Birds of Conservation Concern (2015); and any specific local conservation priority species such as those listed in Red Data Books.

2.2 Evaluation Methodology

- 2.2.1 Each recorded ecological feature, whether it is a species, a habitat or a site designated for nature conservation, is described in turn in this section to provide the pre-development baseline conditions on Site. Subsequently, an evaluation of each feature's 'ecological importance' is made. The evaluation of ecological importance is informed by the criteria provided within the CIEEM Guidelines for Ecological Impact Assessment (2018)⁴.
- 2.2.2 With due consideration to the criteria, each feature is classified on a geographical scale of ascending importance as follows; Negligible, Site, Local, District, County, National and International. The chosen geographic level of importance is considered that which best represents the scale at which the loss of the Site's area or population of the feature would have the greatest impact. Where sufficient survey information not available to determine the importance of a species or habitat present on the Site, the importance of the receptor is marked as 'uncertain' and based upon the professional judgement of the author together with available relevant desk study information.
- 2.2.3 Once importance has been determined for each feature, those of Local importance or above will be considered to be Important Ecological Features (IEFs). Non-IEFs will typically not be considered further within the impact assessment. However, where a feature does not qualify as an IEF but is afforded specific legal protection or coverage under a particular legislation or planning policy it will also be assessed in order to ensure the scheme's legal and policy compliance.

2.3 Desk Study

Methodology

- 2.3.1 Statutory designated sites for nature conservation were identified using the Natural England/DEFRA web-based MAGIC map database (www.MAGIC.gov.uk). International-level sites such as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) within 5km from the Site were searched for. National-level sites such as National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSIs) within 2km of the Site were searched for.
- 2.3.2 The Merseyside Biobank (MB) and Lancashire Environmental Records Network (LERN) were consulted for records of protected species and species of conservation concern within 2km of the Site in 2018. Given the small size of the Site and the context of the development within the local area, i.e. within an industrial estate subject to recent development, it was not considered necessary to update the desk study at this time and is not considered to be a significant limitation to this assessment.
- 2.3.3 Clarkson and Woods' own database of ecological records derived from past survey work was also consulted for further locally-relevant data.

⁴ CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management. www.cieem.net



- 2.3.4 The Natural England/DEFRA web-based MAGIC map database was also consulted for records of European Protected Species (EPS) licences issued for mitigation projects concerning EPS within 2km of the Site.
- 2.3.5 The Knowsley Local Plan (Core Strategy January 2016) was consulted for details of planning policies relevant to designated sites, protected species and habitats, and general ecological and environmental protection.
- 2.3.6 Ordnance Survey maps (1:25,000) and aerial images of the Site were examined online (bing.com/maps and maps.google.co.uk) to allow a better understanding of the context of the Site and its connections to potentially important habitats, known species records and protected sites.
- 2.3.7 The data presented within this report constitutes a summary of the data obtained from the local records centre. Should additional detail be required on any of the records described within this report Clarkson and Woods Ltd. should be contacted.

Limitations

- 2.3.8 The data searches from MB and LERN were obtained prior to the original ecological survey in 2018 and were not updated for this report, therefore the data within these records may be slightly out of date, although this is not considered to be a significant limitation given the small size of the site and context of the proposed development within the local landscape.
- 2.3.9 It should be noted that the data obtained from within the search area will not constitute a complete record of habitats and species present within the search area. It is therefore possible that protected species may occur within the vicinity of the proposed development site that have not been identified within the desk study.

Desk Study Findings

Designated Sites

2.4 Data Search – Designated Sites

International Designations within 5km of the Site

- 2.4.1 There are no internationally designated sites within 5 km.

National Designations within 2km of the Site

- 2.4.2 There are no nationally designated sites within 2 km.

Local Designations within 1km of the Site

- 2.4.3 There is one Local Nature Reserve (LNR) within 1km; Acornfield Plantation, the edge of which is approximately 885 m south of the Site. This is 11.6 hectares of mature broadleaf woodland with a unique basin mire, acid and neutral unimproved grassland and ponds, and 46 locally rare species of plants. The nature reserve also supports breeding water voles and great crested newts.
- 2.4.4 There is one Local Wildlife Site (LWS) within 1 km; Charley Wood, the edge of which is approximately 379 m to the south of the Site. This is 7.7 hectares of broadleaf woodland on acid peat soil, with large glades and unimproved acid and neutral grassland. Invertebrate interest is high but un-surveyed.
- 2.4.5 Urban trees, urban grassland and urban green infrastructure are listed on the North Merseyside Action Plan and are considered relevant to the Site.

2.5 Habitat Survey

Habitat Survey Methodology

- 2.5.1 A habitat survey was carried out based on standard field methodology set out in the *Handbook for Phase 1 Habitat Survey* (2010 edition)⁵. The ecological survey was undertaken by Rebecca Sandey, StuCIEEM.

⁵ Nature Conservancy Council. (1990 - 2010 edition). *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*, Joint Nature Conservation Committee



Rebecca has over 2 years' experience undertaking ecological surveys, holds a BSc in a relevant degree and has been assessed under the Clarkson and Woods QA processes as competent to complete the survey.

- 2.5.2 Botanical names follow Stace (1997)⁶ for higher plants and Edwards (1999)⁷ for bryophytes.
- 2.5.3 The results of the ecological survey are included in map form on Figure 3. Habitats are mapped following the codes and conventions described within the Phase 1 Habitat Survey Handbook and Target Notes (Table 1) are used to describe habitats not readily conforming to recognised types and evidence of or potential for protected species and species of conservation concern. Photographs of the Site are provided below.

Habitat Assessment Limitations

- 2.5.4 No specific limitations to the habitat assessment were encountered during the survey.

Hardstanding

Field Survey Results

- 2.5.5 Large areas of the site were comprised of concrete and tarmac hardstanding, covering the building footprints from previously existing structures, as well as paths and roads. Much of the hardstanding was unable to support vegetation growth, however some short pioneer species, shrubs and grasses were noted in areas where the integrity of the concrete surface had broken down (Photograph 1).

Evaluation

- 2.5.6 Overall this habitat as little intrinsic value for wildlife and is considered to be of **Negligible** value.

Bare Ground

Field Survey Results

- 2.5.7 At the time of the survey, areas of amenity grassland and ornamental shrub were in the process of being cleared. This resulted in large areas of bare ground and exposed soil across the Site, void of any vegetation. Whilst there may be scope for pioneer species and primary vegetation to re-grow and recover in these areas before the commencement of construction work, the bare ground habitat present was unsuitable to support any notable levels of biodiversity at the time of survey.
- 2.5.8 Several soil and rubble heaps were also observed, formed from debris of previous demolition and clearance works. However, these features were noted to be temporary (Photograph 2).

Evaluation

- 2.5.9 Bare ground is considered to be of **Negligible** value.

Semi-natural Broad-leaved Woodland

Desk Study Information

- 2.5.10 A Local Habitat Action Plan for Lowland mixed broad-leaf woodland is provided by Merseyside Biodiversity, which opposes the loss of habitat through development, or ensures the appropriate mitigation where loss is unavoidable.

Field Survey Results

- 2.5.11 As previously recorded, the northern margin of the Site comprised a strip of young, broad-leaved woodland, which was classified as semi-natural since there was no obvious evidence of planting (e.g. straight lines, tree guards etc). Although it may be surmised that the strip was planted in the early landscaping of the industrial park – equally it may have originally been an unmanaged margin or tree line from which the woodland has largely self-seeded. The strip of woodland was approximately 13 m wide, and was dominated by ash *Fraxinus excelsior* with sycamore *Acer pseudoplatanus*, cherry *Prunus* sp., silver birch *Betula pendula*, aspen *Populus tremula*, willow *Salix* sp and Scots pine *Pinus sylvestris*. There was no obvious or recent management of the woodland, with trees growing relatively close together. The understorey comprised scattered elder

⁶ Stace, C. (1997). *New Flora of the British Isles Second Edition*. Cambridge University Press

⁷ Edwards, S.R. (1999). *English Names for British Bryophytes*. BBS, Cardiff



Sambucus nigra, hawthorn *Crataegus monogyna* and field maple *Acer campestre*. The ground flora at the time of the survey included occasional-to-frequent green alkanet *Pentaglottis sempervirens*, garlic mustard *Alliaria petiolate*, cleavers *Galium aparine*, red campion *Silene dioica* and common nettle *Urtica dioica*. Bramble *Rubus fruticosus* was scattered throughout.

Evaluation

- 2.5.12 It is likely that this woodland provides foraging, sheltering and commuting habitat for a range of wildlife in the vicinity, as well as being included within the North Merseyside Biodiversity Action Plan as a habitat of conservation priority, and was therefore assessed as offering **Local** potential as a habitat.

Amenity Grassland

Field Survey Results

- 2.5.13 There were several areas of amenity grassland surrounding and interspersed between the hardstanding across Site, with a sward length ranging from 5 to 20cm. These areas showed evidence of previous management, but had not been recently mown. Grasses were dominated by rough-stemmed meadow-grass *Poa trivialis*, with frequent patches of red fescue *Festuca rubra* and Yorkshire fog *Holcus lanatus*. Herbs were frequent and included ragwort *Senecio jacobaea*, common mouse-ear *Cerastium fontanum*, daisy *Bellis perennis*, dandelion *Taraxacum officinale*, broad-leaved dock *Rumex obtusifolium*, creeping buttercup *Ranunculus repens*, meadow buttercup *Ranunculus acris*, ribwort plantain *Plantago lanceolata* and yarrow *Achillea millefolium*.
- 2.5.14 During the eDNA survey in June 2021, bee orchids *Ophrys apifera* were noted flowering within the south-eastern section of grassland.

Evaluation

- 2.5.15 This habitat was assessed as likely to provide **Site** importance to wildlife due to the potential for foraging by a range of species.

Tussocky Grassland

Field Survey Results

- 2.5.16 In the northwest of the Site, an area of grassland was identified as rough and tussocky in nature, potentially as a result of reduced management and infrequent mowing. Numerous cherry tree saplings, were also present within this area; with the lack of grassland management indicating that these trees were self-seeded.

Evaluation

- 2.5.17 This habitat was assessed as likely to provide **Site** importance to wildlife due to the potential for providing foraging and sheltering habitat to a range of species.

Open Standing Water

Field Survey Results

- 2.5.18 There were two brick-lined pits adjacent to each other along the southern Site boundary which were filled with water (Photograph 4). Each pit measured approximately 2 m x 2 m, and the water level was approximately 0.75 m below the top of the brickwork which was at ground level. It is not known how deep the water was since the water was dark green, but drainage pipes were present in the brickwork near to the water level. The two pits were later found to be connected via a brick-sized channel approx. 0.5m from the base. As well as the two brick-lined pits, a large concrete basin formed from the footprint of what was identified as the previously present Building 30 also contained standing water (Photograph 5). No aquatic vegetation was present in any of the three water bodies.

Evaluation

- 2.5.19 Their potential for supporting amphibians is covered in the appropriate section below, however they are likely to provide no more than **Site** importance to wildlife.



Dense Scrub

Field Survey Results

- 2.5.20 Within the northeast of the Site, an area of scrub habitat with ruderals was identified. This area was dominated by bracken *Pteridium* sp. and bramble, with other species present including broad-leaved dock, green alkanet, hogweed *Heracleum mantegazzianum*, cow parsley *Anthriscus sylvestris* and vetch *Vicia* sp. This area of scrub also contained some small patches of tussocky grassland, with stands of young aspen and other young trees at the bottom of the area.

Evaluation

- 2.5.21 Scrub and ruderal habitat on Site was considered to offer **Site** importance to a range of wildlife due to the potential for providing foraging and sheltering habitat for a range of species.

Introduced Shrubs

Field Survey Results

- 2.5.22 Patchy areas of ornamental shrubs located on the borders of hardstanding were present, which included fruiting shrubs, buddleia and the remains of small ornamental conifer bushes. These shrubs were interspersed with ivy *Hedera helix*, white clover *Trifolium repens*, ragwort and dandelion. Growth of perennial and climbing plant species alongside the ornamental shrubs is indicative of the reduced management of vegetation on Site during the building works.

Evaluation

- 2.5.23 This habitat is likely to offer **Site** importance to invertebrates and bird species as it offers low foraging potential.



Figure 3: Extended Phase 1 Habitat Plan



Figure 4: Proposed Site Plan (Hale on behalf of Seybourne, 2021)



Table 1: Target Notes

No.	Description
TN1	Semi-natural broadleaved woodland dominated by early mature ash, with occasional cherry, silver birch, willow, sycamore, aspen and Scot's pine. Trees growing quite close together indicating lack of management and possible self-seeding from original boundary tree planting. Understorey sparse, occasional elder present. Ground flora included frequent bramble, nettle and garlic mustard, with green alkanet, cleavers and red campion.
TN2	Several piles of soil / rubble were observed on Site during the survey. It can be assumed that these features are only temporary, as part of the ongoing construction process, and so would not serve as suitable terrestrial habitat for amphibians or reptiles.
TN3	Remnant concrete footprint of Building 30 containing standing water (<5cm depth). No aquatic vegetation observed. The sheer concrete edges of the basin make it unlikely that any amphibians would be able to easily climb out of the basin, and so this feature was deemed unsuitable habitat for semi-aquatic species.
TN4	Two 2m x 2m brick-lined pits adjacent to each other, fed by pipes in brickwork at water level. Water very dark and green, not possible to see depth. No aquatic vegetation observed. Top of brickwork at ground level so amphibians and other wildlife could easily drop in. Water level approx. 0.75 m below ground level. Safety netting over the top with large mesh size.
TN5	Rough, tussocky grassland that has developed due to lack of management, which may provide habitat for widespread reptiles or amphibians within their terrestrial life stage.

2.6 Protected Species Survey and Species of Conservation Concern

- 2.6.1 Bats, red squirrel, song thrush, urban birds, common lizard and great crested newt are listed as priority species within the North Merseyside Biodiversity Action Plan, and are considered potentially relevant to the Site.

Badgers

Methodology

- 2.6.2 A search was made for badger *Meles meles* setts, and any sett entrances found were checked for signs of use by badgers or other mammals. Setts were classified into the following categories; Main, Subsidiary, Annexe or Outlying⁸. Sett entrances found were counted and mapped to record tunnel direction and their relative level of usage.
- 2.6.3 Field signs such as 'snuffle holes' (holes dug by badgers when searching for invertebrates), pathways through vegetation, 'latrines' (small pits in which badgers deposit their faeces) and 'day nests' (nests of bedding material made by badgers for sleeping above ground) were also mapped, if found.

Limitations

- 2.6.4 Badgers may dig new holes and create new setts in a very short space of time and, as such, it cannot be guaranteed that all the entrances were located.

⁸ Lewns, P., Clarkson, T. & Lewns, D. (2019). *Badger Survey and Mitigation Guidelines (The Mammal Society Mitigation Guidance Series)*. Eds. Fiona Mathews and Paul Chanin. The Mammal Society, London. (as yet unpublished)



Desk Study Information

- 2.6.5 There were no records of badger within 2 km of the site.
- 2.6.6 A two-entrance outlier badger sett (one partially-used and one disused entrance) was excluded under licence in winter 2020 (Tom Clarkson Class Licence ref: CL35/0015) prior the adjacent development of plot Imagination 01 Acornfield Road. Subsequent to the completion of the development of the adjacent plot, the entrances were re-opened in May 2021. The nearest of these entrances lies approximately 20m northwest of the Site boundary.

Field Survey Results

- 2.6.7 Despite historic records of badger presence in the area, there were no signs of active badgers within the Site. Following the development of the adjacent Site, much of the grassland that may have previously provided suitable foraging habitat suitable for the species has now been cleared as part of the works. Remaining grassland and the woodland margins of the Site continue to offer suitable habitat for the species, although no setts or signs of activity were detected. No signs of activity were noted when the sett was re-opened.

Evaluation

- 2.6.8 Badgers were considered to be of **Site** importance due to their historical presence within the adjacent plot to the east, however it is unlikely that the species is currently present within the Site due to recent disturbance and general lack of habitat within the proposed built footprint.

Bats

- 2.6.9 The assessment of the suitability of the site for foraging and roosting bats was based on current guidance set out by the Bat Conservation Trust⁹.
- 2.6.10 *Trees*: an inspection of trees on site was carried out from the ground, using binoculars, to record any signs of use of the tree by bat species. Features such as frost cracks, rot cavities, flush cuts, split or decaying limbs (including hazard beams), loose bark and dense plates of ivy were inspected and recorded. Any signs of staining (from urine or fur rubbing) and scratch marks below potential access points were noted, and a search was made for droppings underneath these features.
- 2.6.11 *Habitat*: the habitats within the site were appraised for their suitability for use by foraging and commuting bats. In particular, the connectivity of the habitats on site to those lying beyond was taken into account. Vegetated linear features are typically important for many species to navigate around the landscape, while the presence of woodland, scrub, gardens, grassland and wetland features increases a site's foraging resource value to bats. The potential for noise or lighting disturbance which may affect commuting links was also recorded.

Limitations

- 2.6.12 Not all features in trees suitable for use by bats are visible from the ground and there can be no external evidence of use of features by bats; consequently it is only possible to make a best effort when carrying out such a survey.

Desk Study Information

- 2.6.13 BM returned multiple records of common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula*, brown long-eared *Plecotus auritus*, *Myotis* sp. and Daubenton's bat *Myotis daubentonii*. LERN returned several records of common pipistrelle, Daubenton's and noctule. Many of these records were from recent detector surveys, with several older roost records although none related to the Site or immediate surrounds. The nearest records were from 2009, approximately 620 m to the south of the Site.

⁹ Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.



- 2.6.14 Prior to demolition, the previous buildings on Site were assessed as offering negligible to low potential for roosting bats. Further survey of Building 33 was undertaken in 2018, wherein no bats were recorded to be roosting within the building.
- 2.6.15 Transect surveys undertaken by Clarkson & Woods in 2018 of plot Imagination 01, immediately adjacent to the east of the Site, recorded common pipistrelle, pipistrelle sp. and noctule, while static detector surveys further identified a *Myotis* species. Activity was predominately in proximity to the woodland edges. The eastern woodland boundary of plot Imagination 01 was found to be an important commuting corridor connecting woodland to the south of the Site with the surrounding habitat north and east of the Site. It was previously noted the Site (i.e. Site 2) may have been subject to artificial lighting at night at the time of the surveys, however, given that the previous structure has now been demolished, it is possible that the Site has been marginally enhanced for foraging / commuting bats due to removal of external mounted building lighting.

Field Survey Results

- 2.6.16 None of the trees in the woodland or scattered within the Site had any features suitable for roosting bats. The trees were relatively young and generally considered unlikely to develop potential roosting features in the near future. Buildings that had previously existed on Site had been removed as part of demolition works, and therefore no built structures with the capacity to accommodate roosting bats were present within the Site.
- 2.6.17 The woodland and amenity and rough, tussocky grasslands provide potential foraging habitat for local populations of bats, although parts of the Site may be illuminated to some extent at night (Image Business Park is in use throughout the day and night), which may deter some species of bat, although other species are known to forage around streetlights. Linear features, such the woodland along the northern Site boundary, are likely to provide commuting habitat for populations of bats roosting elsewhere.

Evaluation

- 2.6.18 Roosting bats were considered to be of **Negligible** importance within the Site, while foraging bats were considered to be of **Site** importance.

Dormouse

Methodology

- 2.6.19 Any hedgerows, scrub and woodlands were assessed during the walkover for their suitability to support dormice *Muscardinus avellanarius*. Particular consideration was paid to the abundance of food sources within them, density for nesting and overnight shelter and the strength of connectivity to other suitable habitats leading off site. In addition, any direct sightings, nests or feeding signs during the site visit were also recorded. Where hazel *Corylus avellana* was recorded on site, a search for gnawed hazelnuts was conducted.

Desk Study Information

- 2.6.20 There were no records of dormouse within 2km of the site.

Field Survey Results

- 2.6.21 The strip of woodland is likely to be sub-optimal for dormouse due to the lack of variety in age class of trees and lack of dense scrub (few potential nest sites), low diversity of food sources, poorly structured understorey and lack of connectivity to a wider hedgerow network or larger areas of woodland. Furthermore, dormice are rare in Lancashire and it is therefore considered unlikely that the species is present on Site, which offers **Negligible** value for them.

Evaluation

- 2.6.22 Dormice were considered to be of **Negligible** importance and are not considered further within this assessment.



Great Crested Newts and Toads

Methods

- 2.6.23 All waterbodies within 250m of the Site were identified using Ordnance Survey maps and aerial imagery. Waterbodies within the site ownership and on publically accessible land were assessed during the field survey for their suitability to support amphibian species where access was possible.
- 2.6.24 Great crested newt eDNA surveys of waterbodies within 250m of the Site were undertaken within the optimal survey window to determine presence / likely absence of great crested newts. Surveys were carried out following best practice as outlined in the Defra Project WC1067 and samples were submitted for analysis to ADAS. The survey was carried out on the 14th June 2021 by Charlie Durigan BSc MSc ACIEEM (GCN personal survey licence 2017-28064-CLS-CLS), who has been assessed under the Clarkson & Woods' QA process as competent to complete the survey.
- 2.6.25 Terrestrial habitats were also assessed for their suitability for foraging and sheltering amphibians. These species requires habitats such as grassland, scrub, woodland and hedgerows for dispersal and hibernation. Further hibernation features include buried rubble and logs, or mammal burrows.

Desk Study Information

- 2.6.26 BM returned several records of great crested newt (GCN) *Triturus cristatus* in Acornfield Plantation, approximately 930 m to the south of the Site, the most recent record dating from 2014. Common toad *Bufo bufo* was also recorded in Acornfield Plantation and to the east of the Site. Froglife's Toad Crossing map showed there were no toad road crossings within 2km of the Site.
- 2.6.27 Two adjacent brick-lined pits were identified located near the southern site boundary. The Ordnance Survey and aerial maps showed there were no other waterbodies within 250m. The nearest waterbodies were a series of similar brick pits in Site 3, to the south of the Site, approximately 280m away from the Site.
- 2.6.28 The pits on Site were sampled and tested for GCN eDNA in 2018, with the analysis returning a positive result of one pit and a negative result of the other. Two accessible pits within Site 3, which were holding sufficient water to survey, were also subject to GCN eDNA surveys in 2018 and in 2021, and were found to be negative for GCN on both occasions.

Field Survey Results

- 2.6.29 The brick-lined pits were approximately 2m x 2m, with drainage pipes in the wall just above the surface of the water. The top of the wall of the pits was at ground level and was covered with netting with a large (>100x100mm) mesh size. The water level was approximately 0.75m below ground level during the Phase 1 survey, and approx. 1.5m below ground level during the GCN eDNA survey in 2021. Neither pit had any visible aquatic vegetation, although had bramble growing down the northwest corner. It was estimated that the water depth was less than 0.5m during the eDNA survey. The pits have been formerly used for chemical waste processing / storage.
- 2.6.30 Toadpoles were observed within the pits during the 2021 eDNA survey and, although some of the adults may be able to climb out using the bramble, it is assumed that many of these are likely to remain trapped. It is considered likely that other amphibians accessing the pits would also be trapped if they fell in due to the steep sides and nature of the pits acting like a pitfall, although it may be possible for small widespread newts to use the .
- 2.6.31 Another shallow (<10cm deep) body of standing water was also observed on Site, within a shallow concrete basin. This structure was identified as the footprint of what was previously Building 30, following demolition. The basin had seemingly been collecting rainwater to a shallow level since winter 2020/21 and no aquatic vegetation was observed. The surrounding terrestrial habitat was highly disturbed and offered no shelter for amphibians. This waterbody was not subject to a Habitat Suitability Index assessment as it was deemed unsuitable it was deemed very unlikely to support amphibians and not subject to GCN eDNA survey either due to the fact it was essentially a large puddle and not deep enough to sample.
- 2.6.32 The pits were subject to an updated GCN eDNA survey in 2021, with analysis returning a negative result. They were sampled as a single waterbody on this occasion, as they were found to be connected by a brick-sized channel near to their base. The concrete basin to the north of the brick-lined pits was not tested for GCN eDNA as it was found to hold insufficient water (<10cm) for sample collection. It had also only been present since the demolition of the buildings on Site.



- 2.6.33 Whilst eDNA tests confirm presence or absence of great crested newts, they do not provide information on numbers / population estimates or whether the waterbody is used for breeding. Given that only one of the two adjacent pits was returned as positive in 2018 and both were negative in 2021, and given the nature of the pits (i.e. un-vegetated with vertical walls that were considered to act as large pitfall traps), they are not considered to offer suitability for breeding by GCN and the historic positive result was considered likely the outcome of an individual animal exploring the terrestrial habitat and becoming trapped.
- 2.6.34 The remaining grassland provided sub-optimal terrestrial habitat for great crested newts, due to high levels of disturbance, as well as large areas of bare ground and hardstanding acting as a barrier between the aquatic and terrestrial habitat available. The woodland strip provides good quality terrestrial habitat, as does the large area of rough, tussocky grassland within the northwest of the Site.

Evaluation

- 2.6.35 Although their presence is considered unlikely due to the unsuitability of the aquatic habitats and the highly disturbed nature of the remaining terrestrial habitats, GCN and toads were considered to be of **Local** importance.

Reptiles

Methods

- 2.6.36 Features on site were assessed for their potential to provide suitable habitats for use by reptile species. These include rough, tussocky grassland, scrub, disturbed land or refugia such as wood piles, rubble or compost heaps. Where present, suitable existing refugia were inspected for sheltering reptiles, and the ground was scanned whilst walking to look for basking species.

Limitations

- 2.6.37 The survey was undertaken during a period of poor weather conditions, with heavy rain and cold temperatures, limiting the likelihood of discovering active reptiles.

Desk Study Information

- 2.6.38 BM returned several records of common lizard *Zootoca vivipara*, in Kraft Meadow which lies within the Knowsley Industrial Estate approximately 2km southwest of the Site, however the most recent record dated from 1996.

Field Survey Results

- 2.6.39 The areas of tussocky grassland located in the northwest of the Site, and ruderal scrub in the northeast were identified as suitable potential habitat for widespread reptiles, such as slow-worm *Anguis fragilis*. The rough grassland and variable vegetation structure may provide both sheltered areas and opportunities for basking. However, the high levels of disruption associated with ongoing construction both within and immediately adjacent to the Site make it unlikely that reptiles were present on Site.
- 2.6.40 No reptiles were recorded during the survey.

Evaluation

- 2.6.41 Reptiles were considered to be of **Site** importance, if present.

Birds

Methodology

- 2.6.42 Any vegetation was surveyed for signs of use by nesting birds and any birds seen or heard during the survey were noted. The Site's potential to support bird species of particular conservation concern (i.e. Schedule 1, NERC S41 and Red List species) was assessed, taking into consideration the bird species assemblage observed during the survey, the habitats present on and around the site, the context of the site in the wider landscape and the results of the desk study.

Limitations

- 2.6.43 The survey was undertaken during a period of poor weather conditions, with heavy rain, which is likely to have limited any bird activity on Site.



Desk Study Information

- 2.6.44 BM and LERN returned numerous records of birds within 2km, although none appeared to relate to the Site or immediate surrounds. Species that may be relevant to the Site's habitats included barn owl *Tyto alba*, lesser redpoll *Acanthis cabaret*, kestrel *Falco tinnunculus* and song thrush *Turdus philomelos*.
- 2.6.45 Species recorded during the 2018 Phase 1 survey included, Black-headed gull *Chroicocephalus ridibundus*, blackbird *Turdus merulus*, blue tit *Cyanistes caeruleus*, carrion crow *Corvus corone*, chaffinch *Phylloscopus collybita*, common gull *Larus canus*, great tit *Parus major*, herring gull *Larus argentatus*, long-tailed tit *Aegithalos caudatus*, magpie *Pica pica* and robin *Erithacus rubecula*.

Field Survey Results

- 2.6.46 Only two bird species were observed whilst surveying the Site in 2021: carrion crow and lesser black-backed gull *Larus fuscus*.
- 2.6.47 The areas of woodland and scrub were considered to offer suitable nesting habitat for widespread and urban bird species.

Evaluation

- 2.6.48 Birds were assessed as being of **Site** importance.

Other Protected Species and Species of Conservation Concern

Methods

- 2.6.49 Casual ad hoc records were made of occurrence or signs of any other protected species or SoCC on Site. The habitats present were also assessed for their suitability to support such species.

Limitations

- 2.6.50 The survey was undertaken during a period of poor weather conditions, which may have limited species present during the survey.

Desk Study Information

- 2.6.51 BM returned multiple records of red squirrel approximately 1.7 km to the east of the site, mainly associated with several large parcels of woodland in this area.
- 2.6.52 BM returned multiple records of hedgehog *Erinaceus europaeus* within 2 km, although only a few of these records were recent (last 10 years).
- 2.6.53 BM returned numerous records of invertebrates within 2 km, the majority of which were dragonfly records from Acornfield Plantation.
- 2.6.54 BM returned numerous records of flowering plants within 2 km, which included large numbers of records of invasive species Japanese knotweed *Fallopia japonica* and Himalayan balsam *Impatiens glandiflora*. None of the records related to the site or immediate surrounds.

Field Survey Results

- 2.6.55 The strip of woodland is likely to be sub-optimal for red squirrels, due to the relatively small area, low foraging value (occasional Scot's pine) and lack of connectivity to larger areas of conifer woodland.
- 2.6.56 The site has potential to support hedgehogs if populations occur in the area. No evidence of hedgehogs was found during the walkover, but the combination of the woodland habitat and tussocky grassland could support foraging hedgehogs.
- 2.6.57 Areas of suitable habitat present on Site, such as woodland, grassland and scrub, offered suitable habitat for widespread invertebrate species. However, the Site is considered unlikely to support a notable or rare community of invertebrates due to the unremarkable nature of the habitats on Site.
- 2.6.58 No other protected species or species of conservation concern (SoCC) were recorded during the field survey.

Evaluation

- 2.6.59 Other protected species or SoCC were considered to be of **Site** importance, if present.

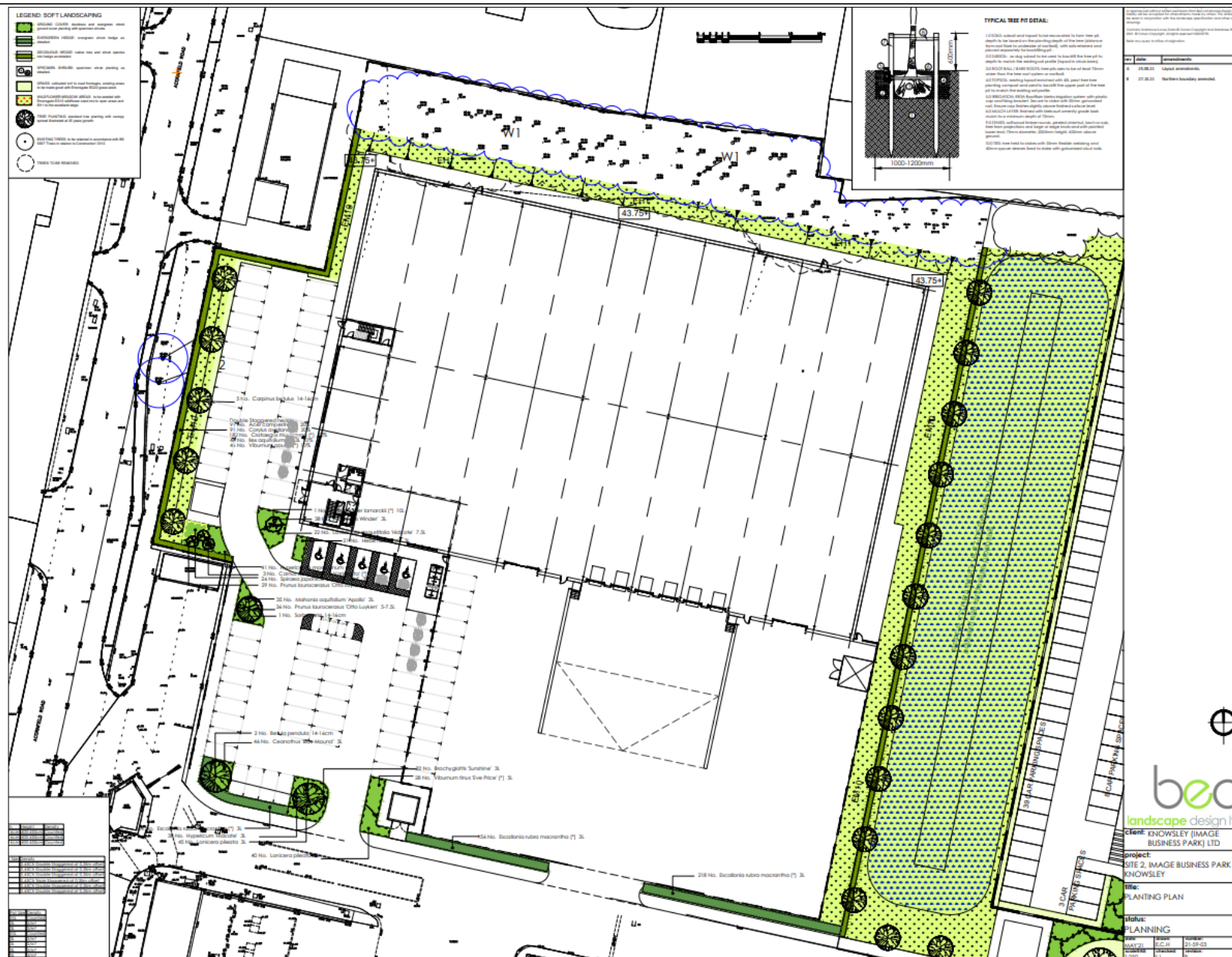


2.7 Summary of Ecological Importance

2.7.1 Table 2 below gives all the identified ecological features on Site and their individual assessment of importance. Those coloured green are considered to be Important Ecological Features and will form the basis of the Assessment of Effects in Section 5. Those coloured yellow will be included on the basis of their specific legal protection or applicable planning policies.

Table 2: Ecological Importance

Feature	Importance
Designated Sites	
Acornfield Plantation LNR	Local
Charley Wood LWS	Local
Habitats	
Hardstanding	Negligible
Bare Ground	Negligible
Semi-natural Broadleaved Woodland	Local
Amenity Grassland	Site
Tussocky Grassland	Site
Open Standing Water	Site
Ruderal / Scrub	Site
Introduced Shrubs	Site
Species	
Badgers	Site
Roosting Bats	Negligible
Foraging / Commuting Bats	Site
Dormouse	Negligible
Great Crested Newt / Toad	Site / Local
Reptiles	Site, if present
Birds	Site
Other SoCC	Site



Site 2, Image Business Park, Acornfield Road, Knowsley



3 ASSESSMENT OF EFFECTS

3.1 Methodology

- 3.1.1 Continuing from the valuation of Important Ecological Features (IEFs), this section lists each IEF in turn together with a characterisation of any potential impacts upon them likely to arise from the proposals. This takes into consideration any measures inherent to the designed scheme which seek to avoid such impacts altogether. Next, any agreed mitigation measures chosen to reduce likely impacts are then set out, along with the mechanism(s) through which these would be secured.
- 3.1.2 Residual effects, being those effects which would likely still arise despite any avoidance measures or agreed mitigation efforts, are subsequently discussed. Residual effects are determined to be either significant or not significant and any significant residual effects are given a geographical scale at which they might be felt. This assessment methodology is in accordance with that set out in the CIEEM Guidelines for Ecological Impact Assessment, 2018.
- 3.1.3 Where residual effects are identified compensatory measures may be proposed to make up for the loss or permanent damage to an IEF, as far as possible. Monitoring or management schemes which may be necessary to ensure the long-term achievement of all intended mitigation and compensation are discussed.
- 3.1.4 Ecological enhancement measures that will be incorporated into the development are given in line with the National Planning Policy Framework.

3.2 Summary of Development Proposals

- 3.2.1 The proposed development will comprise the construction of a single industrial unit with associated parking and loading bays within an existing industrial site. The development will occupy the footprint of a previous industrial unit, demolished in 2020-2021, hardstanding and surrounding grassland and pioneer habitats, taking up c.0.9ha of the c.1.1ha Site.
- 3.2.2 The soft landscaping will seek to provide continuity with the adjacent plot to the east of the Site through the retention and protection of approx. 0.11ha of the c.0.16ha area of broadleaved woodland to the north, seeded wildflower grassland around the periphery of the Site, and tree, hedgerow and shrub planting to the south and west¹⁰. Figure 5 refers.

3.3 Designated Sites

- 3.3.1 The proposed development is a relatively small-scale development that will be situated on land previously occupied by a similar industrial structure. It is therefore considered unlikely that the proposed development will have any significant impacts, either directly or indirectly, on the designated sites identified during the desk study.

3.4 Habitats

- 3.4.1 The Site was dominated by hardstanding with habitats present on Site generally of limited value to wildlife, isolated and small in their extent. The semi-natural broadleaved woodland within the north of the Site occupies c.0.1ha and likely offers the greatest value habitat to wildlife.

Potential Impacts

- 3.4.2 The proposed development will result in the loss of the areas of scattered scrub, amenity grassland, rough grassland and introduced shrubs. The combined area of this habitat to be lost covers <0.2ha. It is understood that the woodland to the north and semi-mature trees adjacent to the north-western Site boundaries will be largely retained and protected throughout works, however 25 Category B trees will be removed to facilitate the development¹¹, resulting in the loss of c.0.05ha of broadleaved woodland.

¹⁰ BEA Landscape Architects, May 2021. Planting Plan – Site 2, Image Business Park, Knowsley.

¹¹ BEA Landscape Architects, May 2021. Tree Retention & Removal – Site 2, Image Business Park, Knowsley.



Mitigation, Compensation, Enhancement and Monitoring

- 3.4.3 A Landscape and Ecological Management Plan (LEMP) will be prepared for the operational site that will cover how retained habitats and newly planted areas should be managed so as to maximise their biodiversity value and achieve the objectives of ecological mitigation and compensation. The LEMP should also set out any measures necessary to ensure protected species are appropriately accommodated within the operational site.
- 3.4.4 A tree protection plan¹² and arboricultural method statement (not available at time of writing) detailing protocols and good practice guidelines to ensure protection of the retained woodland, including protection of tree root protection zones, have been set out for the Site to ensure the area is adequately protected during works.

Residual Effects

- 3.4.5 Given the industrial nature of the Site and surrounding area, existing habitats and above measures, a minor negative impact on habitats is anticipated as a result of the works, primarily due to the loss of rough grassland and scrub.

3.5 Protected Species and Species of Conservation Concern

Badgers

- 3.5.1 Badgers are known to have been present within the woodland 20m to the northeast of the Site, although likely in low numbers. The Site provides limited suitable foraging habitat for the species.

Potential Impacts

- 3.5.2 No setts are currently present on Site. However, badgers can excavate setts in a short space of time and therefore the proposed development may result in the damage / destruction of a sett should any be dug prior to the commencement of construction works. This may also result in the disturbance or killing / injuring of an animal.

Mitigation, Compensation, Enhancement and Monitoring

- 3.5.3 As badgers can dig new setts in a short amount of time, a pre-construction badger survey will be conducted by a suitably experienced ecologist in order to determine if any setts have been excavated within 2 months of construction. If sett entrances are found, these will need adequate no-works buffers during the construction period or, if within the construction area, will need closure under licence from Natural England within the licensable period (July – November).
- 3.5.4 Retaining and enhancing the boundary habitat will ensure that this species can return to the Site following the proposed development.

Residual Effects

- 3.5.5 There is not likely to be a significant residual effect for badgers following the development, which will ensure they are still able to move around the periphery of the Site.

Foraging / Commuting Bats

- 3.5.6 Generally low levels of bat activity were recorded within the Site in 2018, although the woodland edge in the north of the Site was considered to offer suitable habitat for foraging / commuting bats. Update surveys were not considered necessary in 2021 given that Site conditions were mostly sub-optimal for bats. The woodland habitat, of greatest value for bats, is largely being retained.

Potential Impacts

- 3.5.7 The proposed development will result in the loss of all grassland and scrub habitat likely used by foraging bats across the Site, but will retain much of the northern woodland strip. There is potential for the degradation to

¹² BEA Landscape Architects, May 2021. Tree Protection Plan – Site 2, Image Business Park, Knowsley.



the quality of the woodland habitat from impacts during the construction phase and an increase in light spill during the operational phase of the development, although this is unlikely to exceed pre-demolition levels.

Mitigation, Compensation, Enhancement and Monitoring

- 3.5.8 The retained woodland strip will be protected throughout construction (see Section 3.4), although it is recommended that a buffer of at least 2m be provided between the woodland and the new construction, which would comprise rough, unmanaged grassland to support invertebrate species to allow bats to forage. This would also ensure that the habitats remain contiguous with the adjacent plot.
- 3.5.9 It is recommended that a sensitive lighting strategy be implemented, which would minimise impacts on nocturnal species. This will be based on best practice guidelines¹³ and will adhere to the following principles:
- The design will use only the minimum number of lamps/ column required;
 - Column height will be carefully considered to ensure minimal light spill is achieved;
 - All lamps will be fitted with UV filters or lack UV elements when manufactured;
 - Narrow spectrum light sources will be used where possible to lower the range of wildlife species affected;
 - Low level illuminated and louvered bollard (to retain darkness above) will be used where appropriate;
 - Where outside security lighting is required, they will be set on motion-sensors and timers to decrease the light pollution impacts. These lights will also be directed away from the woodland edge, hooded / cowled where necessary, and be of the lowest intensity / brightness necessary for their purpose; and
 - No upward lighting will be used.
- 3.5.10 As an enhancement, it is recommended that five bat roost boxes be affixed to retained trees or the newly constructed building, such as the Vivara Pro Woodstone Bat Box or similar. These can be attached to either a wall or a tree and must be sited at a height of at least 3m. Boxes should ideally be clustered in small groups to provide varying ambient temperatures. Further details will be provided within the LEMP, which will also detail ongoing maintenance.

Residual Effects

- 3.5.11 There is not likely to be a significant residual effect for commuting / foraging bats following the development, which will ensure the key habitat feature (i.e. the broadleaved woodland) is retained and protected.

Great Crested Newt / Toad

- 3.5.12 The habitats on Site were generally sub-optimal for amphibian species, including great crested newt and toads. Update GCN eDNA surveys confirmed absence of GCN within any waterbodies both on and off-site within >250m. Due to the unsuitability of the pits for breeding GCN, it is considered that the previous positive result from 2018 was likely attributable to the migratory movements of an individual only, with other ponds with known GCN presence located 450m south. Breeding toad were, however, recorded within the pits on-Site in 2021.

Potential Impacts

- 3.5.13 The development will result in the loss of a small extent of potential terrestrial habitat for amphibians and breeding habitat for common toad only. It is considered highly unlikely that clearance of the Site would result in killing / injury of individual GCN due to confirmed absence in 2021.

Mitigation, Compensation, Enhancement and Monitoring

- 3.5.14 A toolbox talk is recommended at the outset of works to ensure that contractors are aware of the legal protection afforded to both GCN and common toad. The toolbox talk will also discuss the precautionary approach to the removal of the brick-lined pits, which will be detailed within a Risk Avoidance Method Statement (RAMS).

¹³ Bat Conservation Trust & Institute of Lighting Professionals (2018). Guidance Note 08/18; Bats and Artificial Lighting in the UK. Bats and the Built Environment Series.



- 3.5.15 The RAMS would also include detail of a precautionary approach to the clearance of vegetation onsite that may offer suitability for sheltering amphibians via a phased approach using hand tools, with any arisings immediately removed from the Site. The talk would also detail the appropriate course of action to take in the highly unlikely event that a great crested newt is discovered during works, i.e. halting works and potentially obtaining a mitigation licence.
- 3.5.16 The inclusion of wildflower grassland around the periphery of the Site, and retention of the broadleaved woodland to the north, will likely maintain a future potential corridor for amphibians should they move around the Site.
- 3.5.17 The removal of woody vegetation / scrub from within the Site should be piled adjacent / within the woodland strip to provide suitable features for sheltering amphibians.

Residual Effects

- 3.5.18 Negligible residual impacts are anticipated on GCN as a result of the development proposals, while minor negative residual impacts are anticipated on toad due to the loss of sub-optimal breeding habitat.

Birds

- 3.5.19 The Site offers suitable habitat for nesting and foraging widespread bird species.

Potential Impacts

- 3.5.20 The development will result in the loss of vegetation that may be used by birds, including trees, scrub, introduced shrub, rough grass and amenity grassland.
- 3.5.21 The broadleaved woodland will be retained and protected throughout the construction phase of the development.

Mitigation, Compensation, Enhancement and Monitoring

- 3.5.22 It is recommended that the removal of suitable nesting habitat, such as scrub and shrubs, occur outside of nesting bird season, which runs from March – August, inclusive. Where this is not possible, habitat clearance will be preceded by a nesting bird check by a qualified and experienced ECoW. Where active nests are found they will need to be protected by a suitable buffer, as advised by the ECoW, during construction works until all chicks have fledged, as confirmed by an ecologist.
- 3.5.23 A tree protection plan and arboricultural method statement will detail protocol and good practice guidelines to ensure the protection of the retained woodland throughout construction.
- 3.5.24 New wildflower grassland will partly compensate for the loss of sub-optimal foraging and nesting habitat.
- 3.5.25 As an enhancement, it is recommended that five nest boxes for birds be affixed to retained trees or the newly constructed building, targeting species such as starlings (Vivara Pro woodstone Starling Nest Box or similar) and urban birds (Vivara Pro Barcelona Woodstone Open Nest Box or similar). These must be installed high up (at least 4m) and avoiding the southern elevation. Further details will be provided within the LEMP, which will also detail ongoing maintenance.
- 3.5.26 The LEMP produced for the Site will also ensure the retained and newly created habitats establish and continue to provide features for birds.

Residual Effects

- 3.5.27 Negligible residual impacts on birds are anticipated as a result of the development proposals.

3.6 Recommended Further Works

- 3.6.1 Table 3 below summarises the recommended further work, which should be carried out prior to site clearance and construction activities taking place.



Table 3: Summary of Recommended Further Works

Habitats / Species	Scope of work	Timescale
Habitats	Tree protection plan and arboricultural method statement	Prior to Site clearance and construction activities commencing
	Completion of a LEMP	Prior to occupation
Badgers	Update walkover survey to ensure continued absence of the species from the Site	Within two months prior to Site clearance and construction activities commencing
GCN	Risk Avoidance Method Statement	Prior to Site clearance and removal of brick-lined pits
	Toolbox Talk	To be provided to contractors at outset of works
Birds	Site clearance outside of nesting season	September – February inclusive

4 CONCLUSIONS

- 4.1.1 The proposed development will result in minor adverse impacts upon few ecological features of **Site to Local** importance. Avoidance and mitigation measures have been proposed to ensure that these adverse impacts are reduced as far as possible, which include a Tree Protection Plan, RAMS for GCN / Toad, and a LEMP. Landscaping will include native and species-rich planting, including grassland margins.
- 4.1.2 A walkover survey for badgers is recommended within two months prior to the outset of Site clearance and construction activities to ensure their continued absence from the Site, and a toolbox talk is recommended to be provided at the outset of works with regard to great crested newts and toad. The removal of suitable nesting bird habitat will be timed to avoid the nesting season and the provision of bird and bat boxes is recommended as an enhancement for the Site, which is in line with the NPPF.
- 4.1.3 Assuming the successful implementation of the measures described above the proposed development can be considered in line with planning policies CS8 and CS11 due to the provision of green infrastructure.



APPENDIX A: WILDLIFE LEGISLATION & SPECIES INFORMATION

BADGERS

Badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended) against damage or destruction of a sett, or disturbance, death or injury to the badgers. The Act defines a sett as "any structure or place which displays signs indicating current use by a badger". The definition of current use is subject to considerable debate. Natural England have produced guidance on the definition of current use. (*Badgers and Development – A guide to best practice and development* . Natural England 2011). Given the ambiguity surrounding the definition in all circumstances we would recommend an assessment of current use is always undertaken by a qualified ecologist. Natural Resources Wales (NRW) have a slightly different definition of current use. Please see the NRW website for further information. Penalties for offences against badgers or their setts include fines of up to £5,000 and/or up to six months in prison.

Disturbance of badgers could be caused by any digging activity or scrub clearance within 30 metres of an occupied sett and therefore every case needs to be assessed individually. Felling of trees close to a badger sett may also cause disturbance in some situations. Some activities such as pile driving may cause disturbance at even greater distances, and should be discussed with Natural England or NRW.

Licences are issued by Natural England (or NRW in Wales) to allow the disturbance of badgers, and the destruction of their setts in certain circumstances, in relation to development. Full planning permission must be obtained before a licence application will be considered. Although licences can be applied for at any time of year, disturbance of badgers or exclusion of badgers from a sett can only take place between 1 July and 30 November, to avoid the breeding season when dependant young may be underground. This restriction may be relaxed in some cases where a sett is seasonal and badgers can be shown to be absent from a sett at that time of year.

This report contains information of a confidential nature relating to the location of badger setts. Public access to this data should be restricted to those who have a legitimate need to assess the information and to know the exact situation of the setts rather than simply that badgers are present.

BATS

All 17 species of bat known to breed in England and Wales, and their roost sites, are protected under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations'. This makes it an offence to deliberately kill or injure a bat, or to deliberately disturb a bat such that its ability to hibernate, breed or rear young, or such that the species' distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place. Intentional or reckless disturbance of bats in their resting places, and damage to or obstruction of resting places are also offences under the Wildlife and Countryside Act 1981 (as amended). Under UK law a bat roost is "any structure or place which any wild [bat]...uses for shelter or protection". As bats tend to reuse the same roosts, legal opinion is that the roost is protected whether or not the bats are present at the time. Penalties for offences against bats or their roosts include fines of up to £5,000 and/or up to six months in prison.

As a result, development works which are likely to involve the loss of or alteration to roost sites, or which could result in killing of or injury to bats, need to take place under licence. Works which could disturb bats may also be licensable, though this needs to be assessed on a case by case basis, as bats' sensitivity to disturbance varies depending on normal background levels, and the definition of disturbance offences under the Habitats Regulations is complex. In practice this means that works involving modification or loss of roosts (typically in buildings, trees or underground sites) or significant disturbance to bats in roosts are likely to be licensable.

Licences can be obtained from Natural England or the Welsh Government to permit works that would otherwise be illegal, provided it can be demonstrated that the proposed works are needed to protect public health or safety, or for other reasons of overriding public interest including social and economic reasons. It is also necessary to demonstrate that there is no satisfactory alternative to the proposed works, and that the conservation status of bats in the area will be maintained. Appropriate mitigation and post-construction monitoring are therefore a requirement of all licences.

AMPHIBIANS

Great Britain supports seven native amphibian species. The four most widespread species; smooth and palmate newts, common frog, and common toad, receive partial protection under the Wildlife and Countryside Act 1981 (as amended) which prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy. The great crested newt, pool frog and natterjack toad are also fully protected in England and Wales under the Conservation of Habitats and Species Regulations 2017. Penalties for offences against amphibian species include fines of up to £5,000 and/or up to six months in prison.

Four amphibian species (great crested newt, pool frog, common toad, natterjack toad) are listed as priority species under the UK Biodiversity Action Plan, and are therefore considered to be Species of Principal Importance in England and Wales (excluding the pool frog, which does not occur in Wales) under the Natural Environment and Rural Communities (NERC) Act 2006. All public bodies including local and regional authorities have a duty under this legislation to have regard for the conservation of biodiversity.



GREAT CRESTED NEWTS

Great crested newts are protected in England and Wales under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations'. This makes it an offence to deliberately kill or injure a great crested newt, or to deliberately disturb a great crested newt such that its ability to hibernate, breed or rear young, or such that the species' distribution, were significantly affected. It is also an offence to damage or destroy any breeding site or resting place for great crested newts. Intentional or reckless disturbance of great crested newts in places of shelter (ponds or terrestrial refuges), and damage to or obstruction of places of shelter are also offences under the Wildlife and Countryside Act 1981 (as amended). Penalties for offences against great crested newts include fines of up to £5,000 and/or up to six months in prison.

As a result, development works which are likely to involve the loss of ponds or terrestrial habitat, or which could result in killing of or injury to great crested newts, need to take place under licence. Works which could disturb great crested newts may also be licensable, though this is rarely the case unless loss of great crested newt habitat is also proposed, and should be assessed on a case by case basis. In practice this means that works involving any removal of or significant modification to ponds or terrestrial habitats (typically rough grassland, scrub, hedgerow bases and woodland) supporting great crested newts are likely to be licensable.

Licences can be obtained from Natural England or the Welsh Government to permit works that would otherwise be illegal, provided it can be demonstrated that the proposed works are needed to protect public health or safety, or for other reasons of overriding public interest including social and economic reasons. It is also necessary to demonstrate that there is no satisfactory alternative to the proposed works, and that the conservation status of great crested newts in the area will be maintained. Appropriate mitigation and post-construction monitoring are therefore a requirement of all licences.

BIRDS

All British birds, their nests and eggs (with certain exceptions) are protected under the Wildlife & Countryside Act 1981 (as amended) which makes it an offence to: intentionally kill, injure or take a wild bird; intentionally take, damage or destroy nests which are in use or being built; intentionally take or destroy birds' eggs; or possess live or dead wild birds or eggs. A number of species receive additional protection through inclusion on Schedule 1 of the Wildlife and Countryside Act; for these it is also an offence to intentionally or recklessly disturb birds while nest building, or at a nest containing eggs or young, or to disturb the dependant young of such a bird. Penalties for offences against bird species include fines of up to £5,000 and/or up to six months in prison.

General licences for control of some bird species are issued by Natural England and Natural Resources Wales in order to prevent damage or disease, or to preserve public health or public safety, but it is not possible to obtain a licence for control of birds or removal of eggs/nests for development purposes. Consequently if nesting birds are present on a development site when works are programmed to start it is usually necessary to delay works, at least in the areas supporting nests, until any chicks have fledged and left the nest. It is usually possible, once chicks have hatched, for an experienced ecologist to predict approximately when they are likely to fledge, in order to inform programming of works on site.

PLANNING POLICY IN RELATION TO BIODIVERSITY

The National Planning Policy Framework (NPPF), was published in March 2012 and revised in July 2021. Additional guidance can be found online at <http://planningguidance.planningportal.gov.uk/blog/guidance/>. The NPPF simplifies and collates a number of previous planning documents and outlines the government's objective towards biodiversity.

The NPPF identifies ways in which the planning system should contribute to and enhance the natural and local environment, including:

- (a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- (b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- (d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- (e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- (f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate, protecting and enhancing valued landscapes, geological conservation interests and soils;

It also emphasises the importance of conserving biodiversity and areas covered by landscape designations:

Great weight should be given to conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty. The conservation of wildlife and cultural heritage are important considerations in all these areas, and should be given great weight in National Parks and the Broads.



When determining planning applications, the NPPF states that local planning authorities should aim to conserve and enhance biodiversity by applying principles including:

- (a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- (b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- (c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁶ and a suitable compensation strategy exists; and
- (d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

The following should be given the same protection as habitats sites:

- (a) potential Special Protection Areas and possible Special Areas of Conservation;
- (b) listed or proposed Ramsar sites⁷; and
- (c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

There is a general presumption in favour of sustainable development within the NPPF. It is noted in Paragraph 177 that this presumption does not apply where the plan or project is likely to have a significant effect on a habitat site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

The Natural Environment and Rural Communities Act (2006) states that a public authority must, "in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity; Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat". DEFRA issued further guidance on implementation of this act in the document; Guidance for Local Authorities on Implementing the Biodiversity Duty (May 2007), which notes that "Conserving biodiversity includes restoring and enhancing species populations and habitats, as well as protecting them".

ECOLOGICAL ENHANCEMENTS

The Natural Environment and Rural Communities Act (2006) states that a public authority must, "in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity; Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat". DEFRA issued further guidance on implementation of this act in the document; Guidance for Local Authorities on Implementing the Biodiversity Duty (May 2007), which notes that "Conserving biodiversity can include restoring or enhancing a population or habitat".

In England, the National Planning Policy Framework (NPPF), issued in July 2021, states that the planning system should contribute to *"minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures"*. It also states that *"opportunities to incorporate biodiversity in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity"*.

UK BIODIVERSITY ACTION PLANS

The UK Biodiversity Action Plan (UK BAP) 2011 is a policy first published in 1994 to protect biodiversity and stems from the 1992 Rio Biodiversity Earth Summit. The policy is continuously revised to combine new and existing conservation initiatives to conserve and enhance species and habitats, promote public awareness and contribute to international conservation efforts. Each plan details the status, threats and unique conservation strategies for the species or habitat concerned, to encourage spread and promote population numbers.

Species or habitats identified as priorities under the UK Biodiversity Action Plan receive some status in the planning process through their identification as Species/Habitats of Principal Importance in England and Wales, under the Natural Environment and Rural Communities (NERC) Act 2006 (as amended).

Current planning guidance in England, the National Planning Policy Framework, does not specifically refer to Species or Habitats of Principal Importance, though it includes guidance for conservation of biodiversity in general. Supplementary guidance is available online at <http://planningguidance.planningportal.gov.uk/blog/guidance/> and this guidance indicates that it is 'useful to consider' the potential effects of a development on the habitats or species on the Natural Environment and Rural Communities Act 2006 section 41 list.

APPENDIX B: PHOTOGRAPHS OF SITE FEATURES



Photograph 1: Disturbed concrete hardstanding providing footholds for small pioneer species



Photographs 2 & 3: Industrial debris piled in soil/rubble heaps on bare ground and hardstanding following recent demolition



Photograph 4: Tussocky grassland habitat containing numerous cherry tree saplings



Photograph 5: Brick-lined pits present within the south of the Site



Photograph 6: Concrete basin filled with standing rain water in footprint of Building 30

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