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Preliminary Ecological Appraisal and Ground Level Roost Assessment

Survey site:

Southdean Road, Huyton, Liverpool, L14 8UW

Client:

Breck Homes Limited

Survey date:

30th June 2025

Project:

This report is prepared to inform a planning application with the Knowsley Metropolitan Borough Council. The proposal is described as: 'Residential development with associated gardens and roads'

PEA survey methodology and legislation can be found in the Arbtech Supplement: **PEA Methodology and Legislation - 2024.**

PRA survey methodology and legislation can be found in the Arbtech Supplement: **PRA Methodology and Legislation - 2024.**

Site Location and Context

The survey site is centred on National Grid Reference SJ 42665 92689 and has an area of approximately 2.790 ha.

The site comprises of sealed surfaces, other broadleaved woodland, other neutral grassland, willow and bramble scrub, and scattered trees with slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils. It is situated within the town of Huyton, Liverpool with residential dwellings and associated roads in all directions. Aerial imagery shows priority woodland, woodpasture and parkland and numerous ponds ~1.95km northeast. Further the River Alt is located ~0.18km northeast behind a primary school. The wider landscape comprises more extensive residential areas to the west, south and east, and further greenspaces with woodland parcels interspersed within.

This report should be read in conjunction to the Arboricultural Impact Assessment (Tree Solutions, 2025).

Survey Details

The site survey was undertaken by Katie Whitfield BSc (Hons) MSc, Graduate Ecologist

Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
30/06/2025	27	84	10	0	None

Executive Summary

- A Biodiversity Net Gain Report (BNG) will be required to demonstrate a net gain for biodiversity on site.
- Precautionary working methods will be required for birds, reptiles, badgers and hedgehogs. This includes an ECoW to supervise vegetation clearance for reptiles, badgers and hedgehogs.
- A low impact lighting strategy will be adopted for the site post-development to minimize disturbance to commuting bats.
- Enhancements are outlined in the relevant tables below

Survey limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

A biological records data search has been purchased and will be inputted into the report once obtained from Merseyside BioBank.

Ecological Survey Factor **Conclusion, Impact or Recommendations**	**Detailed using desk study and site survey (carried out under good weather conditions). Any specific limitations noted within relevant section. This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.**
Habitats and plants (see habitat map in appendix 1, location plan in appendix 2, proposal plan in appendix 3 and photos in appendix 4). **Botanical species are described with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).**	
Summary of Survey Findings **(***UKHab codes used)*	The site does not contain any habitats listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). However, the site also contains a large number of individual trees which are of good quality and could be of value to local wildlife populations (as detailed in subsequent sections of this table). Other habitats within the site are common and widespread and have low ecological value. Notable habitats are present within 2km. **On-site habitat descriptions** **u1e** - Built linear features A steel corrugate fence is found throughout the site, however, access gaps are located throughout, including a open gate to the north allowing access to terrestrial species. Condition assessment **N/A.** **u1b** – Developed land/sealed surface Areas of concrete surfacing are interspersed within the site, particularly to the south where a large area is located which previously formed a playground. Access paths are also found to the north, east and west. Condition assessment is **N/A.** **u1f** – Sparsely vegetated urban land A parcel of sparsely vegetated land is found to centrally within the site. Vegetation cover is ~50% and includes occasional common nettles, bramble sp., lowbush blueberry, common hawthorn saplings and European mountain ash saplings. There are ~21 scattered trees within this habitat parcel. A section of this habitat parcel has been damaged from a previous fire. Condition assessment is as follows: A. Appearance and composition closely matches its UKHabs description. B. Cover of trees and scrub is>25%. C. There is an absence of invasive non-native plant species. Species indicative of suboptimal condition make up >50% of parcel. D. Vegetation cover is between 5 and 50%. Habitat condition assessed as **POOR**.

	g3c – Other neutral grassland [scattered trees 32] There are two sections of other neutral grassland. The first section (G1) is found to the south and southwest of the site within the site which was previously used as a playground. G1 is unmanaged with swards >30cm for ~60%, >10cm for ~10% and <7cm for 20% of the habitat parcel. There are several patches of dead grass interspersed within as well as a large amount of litter. Further, areas of bare ground are evident due to human footfall. Species assemblage Includes **dominant** red fescue (*Festuca rubra*), abundant creeping bent (*Agrostis stolonifera*), Italian ryegrass (*Lolium multiflorum*), cocks-foot (*Dactylis glomerata*), **frequent** white clover (*Trifolium repens*), bramble sp. (*Rubus* spp.), field horsetail (*Equisetum arvense*), tiny vetch (*Vicia hirsuta*), **occasional** selfheal (*Prunella vulgaris*), sorrel dock (*Rumex acetosa*), creeping thistle (*Cirsium arvense*), dandelion agg. (*Taraxacum* agg.), drooping sedge (*Carex pendula*), common ragwort (*Jacobaea vulgaris*), and **rare** sand sedge (*Carex arenaria*) and yellow goats beard (*Tragopogon pratensis*). The second habitat parcel (G2) is found to the north and northwest of the site, situated within a field which is utilised by local residents to walk dogs in. Although there is occasional human footfall, there are trodden paths interspersed within the habitat, causing areas of bare ground for ~10% of the habitat parcel, but allowing the remaining grassland to have tall swards of >30cm for ~70% and <10cm for 30% of the area. Species assemblage is similar to G1 but also includes **abundant** Yorkshire fog (*Holcus lanatus*) and **frequent** goose grey (*Potentilla anserina*). In total ~85 scattered trees are found within G1 and G2. Condition assessment for both G1 and G2 is as follows: A. Indicator species are not present in a consistently high proportion. B. Sward height is varied. C. Bare ground is evident for ~10% of habitat parcel. D. Cover of bracken is <20% and cover of scrub is ~10%. E. Physical damage is evident for ~10% of area. No invasive non-native plant species present. D. There are ~7-8 species per m2. Habitat condition assessed as **POOR**. **h3d** – Bramble scrub [Scattered trees 32] Parcels of bramble scrub are interspersed throughout the site, comprising of **dominant** Bramble sp. (*Rubus* spp.) with **occasional** dog rose sapling (*Rosa canina*), common ivy (*Hedera helix*) and rugosa rose (*Rosa rugosa*). within. Parcels of scrub are particularly dense to the northeast and centrally of the site. There are ~11no. scattered trees within the habitat parcel. Condition assessment is **N/A**. **h3j** – Willow scrub A pocket of willow scrub is found in the western corner of the site, comprising **dominant** goat willow (*Salix caprea*) and occasional silver birch (*Betula pendula*) saplings. Condition assessment is as follows: A. A single species comprises >75% of cover (goat willow).

	B. All shrubs are saplings or young shrubs. C. There is an absence of invasive non-native plant species. D. There is no developed edge within. E. No clearings, glades or rides are present. Habitat condition assessed as **POOR**. **w1g** - Other broadleaved woodland There are two areas of other broadleaved woodland found to the west and south of the site which have naturally colonised. The first parcel to the south (W1) has a canopy cover comprising of **dominant** white poplar (*Populus alba*) and **occasional** silver birch (*Betula pendula*), common hawthorn (*Crataegus monogyna*) and goat willow (*Salix caprea*) all of which has a Diameter at Breast Height (DBH) between 7.cm and 29.9cm. Of the trees present ~50% are mature, ~30% are semi-mature and ~20% are young. Numerous white aspen (*Populus alba*), common hawthorn (*Crataegus monogyna*), dog rose (*Rosa canina*) and goat willow (*Salix caprea*) saplings are interspersed throughout indicative of natural tree regeneration. The understorey layer includes **dominant** common ivy (*Hedera helix*)**, frequent** bramble sp. (*Rubus* spp.), and **occasional** rugosa rose (*Rosa rugosa*). Condition assessment for W1 is as follows: A. There are two age classes present (young and intermediate). (2 points) B. No significant browsing damage evident. (3 points) C. No invasive species are present. (3 points) D. Five or more native tree or shrub species found across woodland parcel. (3 points) E. >80% of canopy trees and >80% of understorey shrubs are native (3 points) F. ~10% of woodland has areas of temporary open space, (3 point) G. Seedlings, saplings and young trees are all present. (3 points) H. Tree mortality is <10% (3 points) I. Recognisable NVC plant community present. (2 points) J. Two storeys across habitat parcel. (2 points) K. No veteran trees present. (1 point) L. <25% of woodland has standing deadwood, large dead branches/stems and stumps. (1 points) M. Nutrient enrichment observed. (3 points) Habitat condition is assessed as **MODERATE** (31 points) The second parcel of woodland to the west (W2) has a canopy cover comprising of **dominant** *prunus* sp., and **occasional** goat willow (*Salix caprea*) with ~15% of DBH >60cm, ~30% of DBH between 30cm and 59.9cm and ~55% of DBH between 7.5cm and 29.9cm. Of these trees ~20% are mature, ~30% are semi-mature and ~50% are young. Numerous goat willow saplings are interspersed within. One of the trees has been burnt near the base of the stem. The understorey layer includes **dominant** common nettles (*Urtica dioica*) and **frequent** herb robert *(Geranium robertianum)*. Condition assessment is as follows:

	A. There are two age classes present (young and intermediate). (2 points) B. No significant browsing damage evident. (3 points) C. No invasive species are present. (3 points) D. Three to four native tree or shrub species found across woodland parcel. (2 points) E. >80% of canopy trees and >80% of understorey shrubs are native (3 points) F. ~10% of woodland has areas of temporary open space, (3 point) G. Seedlings, saplings and young trees are all present. (3 points) H. Tree mortality is <10% (3 points) I. Recognisable NVC plant community present. (2 points) J. Two storeys across habitat parcel. (2 points) K. No veteran trees present. (1 point) L. <25% of woodland has standing deadwood, large dead branches/stems and stumps. (1 points) M. Nutrient enrichment observed (nettles) (3 points) Habitat condition is assessed as **MODERATE** (30 points) <u>Scattered trees 32</u> There are ~96 trees interspersed through the site, with **dominant** goat willow (*Salix caprea*), **frequent** common birch (*Betula pendula*), **occasional** common oak (*Quercus robur*), common hawthorn (*Crataegus monogyna*), and **rare** common sycamore (*Acer pseudoplatanus*), European mountain ash (*Sorbus aucuparia*), wild cherry (*Prunus avium*), dogwood (*Cornus sanguinea*) and Bebb's willow (*Salix × bebbiana*).There are 80no. trees that are small in size with Diameter at Breast Height (DBH) between 7.cm to 29.9cm as well as 12no. medium sized trees of DBH between 30cm to 59.9cm and 4no. large sized trees of DBH >60cm. Natural ecological niches are found in the form of common ivy and peeling bark. Condition assessment is as follows: A. >70% of trees are native species. B. Tree canopy is predominantly continuous (individual trees automatically pass this criterion) C. >50% of trees are mature D. >90% of trees are free of damage, albeit 5no. trees which have been burnt. E. Natural ecological niches are present in the form of ivy and peeling bark. F. More than 20% of the tree canopy area is oversailing vegetation beneath. Habitat condition assessed as **GOOD**. **Local notable habitats** Multiple patches of lowland mixed deciduous woodland (LMDW) are present within 2km of site, particularly to the northeast, the closest patch is ~0.30km northeast. LMDW is classed as a priority habitat under Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006. Woodland, and scattered trees found within the site likely provide an ecological stepping stone to these areas of priority woodland in the local vicinity. There are further priority sites within 2km, including woodpasture

<table>
<tr><td></td><td>and parkland (~0.95km northeast), lowland meadows (~0.47km east), mosaic habitat (~0.83km east) and traditional orchard (~1.15km east).</td></tr>
<tr><td>Foreseen Impacts</td><td>On-site habitats
The proposed development will result in the loss of other broadleaved woodland, other neutral grassland, bramble scrub, and scattered trees. This will result in a net loss in biodiversity at the site.

Notable habitats
No impacts to any notable habitats are anticipated due to the distance of the proposed development from such habitats as well as the urban location of the site with surrounding physical barriers.</td></tr>
<tr><td>Recommendations</td><td>On-site habitats
Any retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012).

To compensate for the proposed habitat losses at the site, the following habitat creation measures should be incorporated:
• Native tree and shrub planting.
• Planting of species rich grasslands.
Notable habitats
None required.

Biodiversity net gain
The Environment Act (2021) requires all developments (excluding exemptions) to deliver a 10% net gain in biodiversity. Therefore, the planning application must be accompanied by biodiversity net gain calculations to ensure the proposed development delivers a 10% net gain.</td></tr>
<tr><td colspan="2">Locality and Designated Sites</td></tr>
<tr><td>Summary of Survey Findings</td><td>On-site designations
The site is not subject to any designation.

Statutory designated sites (within 2km)
There is 1 statutory sites within 2km of the site, as detailed below:
<table>
<tr><th>Name</th><th>Distance</th><th>Reason for designation</th></tr>
<tr><td>Croxteth LNR</td><td>~1.75km northwest</td><td>The reserve has woodland, rough grassland and pasture, several ponds and is bounded by the River Alt. A variety of birds breed in the woodland and the ponds are good for plants such as water dropwort and dragonflies</td></tr>
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.
The site lies within the impact risk zone for Mersey Estuary, Mersey narrows and Sefton coast SSSIs</td></tr>
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Statutory designated sites (within 10km)
There are 2 national network sites (SAC, SPA, Ramsar) located within 10km, as detailed below:

Name	Distance	Reason for designation
Mersey Estuary SPA	~8.6km southeast	The Mersey Estuary supports overwintering golden plover (Pluvialis apricaria), redshank (Tringa totanus), shelduck (Tadorna tadorna), teal (Anas crecca), pintail (Anas acuta), dunlin (Calidris alpina alpina) and black-tailed godwit (Limosa limosa islandica). The site also supports on passage redshank, as well as an internationally important waterbird assemblage.
Mersey Estuary RAMSAR.	~8.6km southeast	Internationally important numbers of waterfowl feed and roost on the site in winter and nationally important numbers occur during passage periods.

Biological records data from Merseyside BioBank returned the following local wildlife sites within 2km of the site:

- Grassland West of Seth Powell Way ~0.69 km east
  - A neutral grassland with high plant diversity consisting of unimproved neutral grassland. The regionally important species Burnet Rose (Rosa pimpinellifolia) is present in addition to 21 locally rare plant species such as Corncockle, Early Hair-grass, Horseradish, Dogwood and Spotted orchid hybrid.
- Knowsley Park ~1.25km northeast
  - A large ancient parkland and estate on a mix of acidic and neutral soils with sandstone exposures along the brooks. Much coniferous planting has taken place although several of the woodlands contain plants indicative of ancient semi-natural woodland. Other habitats include dams with open water, acidic grassland, remnant heath and mire. The Park also has populations of bats and other protected species.
- Little Wood ~1.56km north
  - A small area of predominantly broadleaf woodland with much species diversity and an interesting invertebrate fauna. English bluebell and Cyperus sedge are present in addition to 11 locally rare species such as large bitter-cress, wood avens and feverfew.
- River Alt and adjacent sites through Croxteth ~1.6km northwest
  - Extensive broadleaved and mixed plantation woodlands are dominated by Beech, Pedunculate Oak, Sycamore and Corsican and Scots Pine. The structural quality of some is the best in the city, showing a range of age classes of canopy specimens and a relatively diverse understorey. The ground flora sometimes lacks diversity, but rides, clearings and woodland edges support a huge variety of plants, including Bluebell, Common Dog Violet, Dog's Mercury, Lords and Ladies, Ramsons, Scaly Male Fern, Wood Anemone, Wood Sage, Wood Sorrel and Wood Speedwell. A large number of ponds exist within the woodlands and in more open areas. These are variable in quality and show a number of successional stages, providing a variety of habitats from open water

	to swamp and marshy grassland. Together, they support the greatest diversity of wetland plants in the city, including locally and regionally notable species such as Common Club-rush , Cyperus Sedge, Nodding Bur-marigold, Tubular Water-dropwort and Water-purslane. The ponds support a number of regular breeding dragonfly species and some local rarities, including the only records of Black Darter in the city. • The roughs ~ 2km north ○ A mature broadleaf woodland with associated ponds and stream.
Foreseen Impacts	**On-site designations** No impacts foreseen. **Statutory and non-statutory designated sites** No impacts to designated sites are anticipated due to the distance of the proposed development from such sites (where known) as well as the urban location of the site with surrounding physical barriers. The site lies within the impact risk zone for Mersey Estuary, Mersey narrows and Sefton coast SSSIs. The proposed development type is not listed as a possible high risk for this designation.
Recommendations	**On-site designations** None required. **Statutory and non-statutory designated sites** None required.
Invasive / Non-native species	
Summary of Survey Findings	No problematic invasive and non-native species recorded on site.
Foreseen Impacts	Sparsely vegetated land, other broadleaved woodland, other neutral grassland, bramble and willow scrub, and scattered trees will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to the presence of more extensive habitat locally to the northeast such as lowland mixed deciduous woodland and woodpasture and parkland.
Recommendations	No further surveys but remain vigilant.
Invertebrates	
Summary of Survey Findings	The habitats present on-site, including sparsely vegetated land other broadleaved woodland, other neutral grassland, bramble and willow scrub, and scattered trees, likely provide common invertebrates with opportunities to forage and shelter. The site contains no further notable habitats which may provide niches for specialised or protected invertebrates.

Foreseen Impacts	Other broadleaved woodland, other neutral grassland, bramble scrub, and scattered trees will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations due to more extensive habitat to the northeast in the form of lowland mixed deciduous woodland and wood pasture and parkland. The following data on invertebrates was returned from Merseyside BioBank: • 18 records of Alder leaf beetle closest being 3 records located ~0.58km west • 1 record of common blue damselfly located ~1.5km north • 7 records of common darter closest being ~1.46km northwest • 4 records of migrant hawker closest being ~1.98km north • 5 records of southern hawker closest being ~1.59km north • 2 records of buff-tailed mining bee closest being ~0.66km east • 8 records of small scabious mining bee closest being ~0.66km east • 3 records of buff ermine located ~0.86km west • 1 record of shoulder-striped wainscot located ~0.85km • 1 record of marsh pond snail located ~1.5km north
Recommendations	No further surveys. **Suggested biodiversity enhancements** The incorporation of bee bricks (e.g. Ibstock BeeHabitat or similar alternative brand) into the fabric of the new dwellings would provide sheltering opportunities for pollinators. These should be installed 0.5m above ground level on a south-facing elevation with no obscuring vegetation. The site could be further enhanced via the provision of native wildflowers or wildflower turf, which would provide foraging opportunities for invertebrates. Invertebrate hotels could also be installed adjacent to the proposed wildflowers to increase habitat suitability.
Bats	
Summary of Survey Findings	**EPSL data and local records** A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the site has been completed. Displaced bats from licensed sites <2km away from the survey site will find alternative habitat either within the mitigation measures implemented as part of the licence or will relocate to other known roosts sites in close proximity to the licensed site. There are two EPSLs present within a 2km radius of the site as detailed below:

EPSL reference	Bat species affected	Distance from site	Impacts allowed by licence
EPSM2010-2694	Common pipistrelle	~1.8km southwest	Destruction of a resting place
2018-38343-EPS-MIT	Common pipistrelle	~1.9km east	Destruction of a resting place

There are no Special Areas of Conservation designated for bats within 10km of the site.

	The following data on bats within 2km of site was obtained from Merseyside BioBank: • Common pipistrelle – 41 records, the closest being ~0.3km east of site. • Daubenton's Bat – 2 records from 2014, the closest being ~ 2.3 km northeast of the site. • Myotis Bat Species – 2 records from 2014, the closest being ~ 2.3km northeast of the site. • Nathusius's Pipistrelle – 3 records, the closest being ~2.2km northwest of the site. • Natterer's Bat – 1 record from 2015 ~ 2km northeast of the site. • Noctule – 4 historical records, the closest being ~ 2km northeast of the site. • Nyctalus bat species – 1 record from 2014 ~ 2.3km northeast of the site. • Soprano Pipistrelle – 24 historical records ~ 2km northeast of the site. • Whiskered Bat – 1 record from 2014 ~2.3 km northeast of site. • Whiskered / Brandt's Bat – 1 record from 2014 ~2.3km northeast of site. **Foraging and commuting habitat** Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of sparsely vegetated land, other broadleaved woodland, other neutral grassland, bramble and willow scrub, and scattered trees. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations. Most notably, the woodland and scattered trees on site create an ecological stepping stone to more notable habitat such as lowland mixed deciduous woodland and woodpasture and parkland to the northeast. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites. As such bats are likely to utilise the site for commuting and foraging purposes. **Roosting habitat** All of the trees within the site were subject to a ground level assessment, to determine their value for roosting bats. Overall, none of the trees within the site had any features that could provide any suitability for roosting bats. The trees were generally in good condition, with no knot holes, splits or other holes present within any of the trees that could be utilized by roosting bats. Furthermore, the trees were all observed to be young or semi mature, and therefore have small diameter trunks and branches. The trees that have ivy present are not considered suitable for roosting bats as the ivy is not dense enough and sits flush to the trunks not allowing for crevices suitable for roosting. Given the above, all of the trees within the site were classified as **NONE** and of negligible value to roosting bats.
Foreseen Impacts	**Roosting habitat [Trees]** No features were identified on any of these trees and as such there are unlikely to be any impact to bats as a result of their felling. **Foraging and commuting habitat** The proposed development will result in the loss of sparsely vegetated land, other broadleaved woodland, other neutral grassland, bramble and willow scrub, and scattered trees. Given the presence of more extensive areas of foraging and

	commuting habitat in the locality (including lowland mixed deciduous woodland and woodpasture and parkland to the northeast) this is likely to be inconsequential for bats. **Artificial lighting** The proposed development may lead to an increase in the amount of current lighting of surrounding habitats without mitigation. This may disturb commuting bats.
Recommendations	**Roosting habitat [Trees]** In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice. **Foraging and commuting habitat** No further surveys are required. **Artificial lighting** A low impact lighting strategy will be adopted for the site during post-development which outlines the areas of the site that will be retained as dark corridors. Parameters can be found on the Bat Conservation Trust website: https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting **Suggested biodiversity enhancements** The installation of six bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be incorporated into the fabric of the new dwellings. They will be suitable for pipistrelles (which have been identified locally through EPSL data). Suitable bat boxes include: • Habibat Bat Box • Ibstock Enclosed Bat Box or similar alternative brand. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.
Birds	
Summary of Survey Findings	**Nesting birds** No bird nests were identified within the woodland, scrub, or scattered trees on-site, however a bird nest was found on the ground to the south of the site within other broadleaved woodland. Further, due to the extensive number of trees on site with some difficult to access due to scrub, birds' nests could have been missed. This is backed up by the significant number of blackbirds found centrally within scrub and scattered trees. **The following data on birds within 2km of the site was obtained from Merseyside BioBank:**

	• Five historical records of barn owls, the closest being ~1.5km south of the site. • One historical record from 1998 of a Marsh Harrier ~2.5km northeast. • Seven historical records of Skylarks the closest being ~0.57km northeast of site. • Seven records of spotted flycatchers ~ 1.5km south of the site. • Two records of Yellowhammers ~ 1.7km northwest of the site. • Ten records of song thrush, the closest being ~0.6km northeast. • Ten records of dunnock, the closest being ~0.6km northeast. • Thirty-one records of House sparrows, the closest being ~0.8km southwest. **Barn owls** The site does not appear to provide any suitable nesting sites for barn owls. **Overwintering birds** The site may provide some foraging and refuge opportunities for overwintering birds. However, due to the small size of woodland and scattered trees it is unlikely that the site would support a significant assemblage of protected and/or notable birds. Further, there is more extensive habitat in the form of lowland mixed deciduous woodland and woodpasture and parkland in the locality as well as the Mersey Estuary which is known to support large numbers of wildfowl and waders. As such it is likely that overwintering birds would utilise the site for transient periods in low numbers, with more extensive populations in the wider landscape.
Foreseen Impacts	**Nesting birds** The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests. **Barn owls** None foreseen. **Overwintering birds** None foreseen.
Recommendations	**Nesting birds** Any tree or scrub removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by a qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged. Precautions should be taken with machinery and noise levels when working close to any retained nests so as not to disturb any nearby nesting birds during construction works. At least a 3-5m buffer should be created between any machinery and active nests until the young have fledged.

	Barn owls None required. **Overwintering birds** None required. **Suggested biodiversity enhancements** The installation of a minimum of six bird boxes proposed dwellings will provide additional nesting habitat for birds e.g. • Schwegler No 17 Swift Nest Box • Schwegler 1SP Sparrow Terrace • Woodstone Nest Box Or a similar alternative brand. Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.
Reptiles	
Summary of Survey Findings	**EPSL data** A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. Further, no records of reptiles were retrieved through data from Merseyside BioBank. **Habitat suitability** Habitats recorded on site are assessed to provide foraging, commuting, basking and refuge opportunities for reptiles. The woodland, scattered trees, scrub, and other neutral grassland provide elevated value for reptiles as these habitats provide a suitable structure for refuge, whilst also providing foraging and commuting opportunities. Further the sparsely vegetated land and sealed surfaces, whilst less optimal, may offer suitable basking opportunities when adjacent to suitable refugia. However, it is important to note that the site is surrounded by buildings and hardstanding of limited value to reptiles. These landscape features are suboptimal due to an absence of notable habitat structure and diversity, which significantly limits refuge, foraging, and commuting opportunities and as such limits connectivity to further suitable reptile habitat in the wider landscape. The presence of reptiles on site cannot be discounted, albeit likely limited to low numbers within trees and scrub. **Wider landscape** The lowland mixed deciduous woodland and woodpasture and parkland found to the northeast may represent important resources for local reptile populations. These habitats provide optimal foraging, commuting, and refuge opportunities for reptiles and are well connected to further suitable habitat in the wider landscape. The presence of reptiles utilising these habitats cannot be discounted, however, there is no suitable connectivity from the site to these habitats due to hardstanding and buildings found between both areas.

Foreseen Impacts	Sparsely vegetated land, other broadleaved woodland, other neutral grassland, bramble and willow scrub, and scattered trees will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.
Recommendations	A precautionary working method will be implemented for widespread reptiles during construction, including the following measures: • A suitably qualified ecologist will be present on site to act as an ecological clerk of works (ECoW), to undertake pre-commencement checks and supervise phased clearance of vegetation on site. Once cleared, the development works can commence in the absence of the ECoW. • A toolbox talk will be provided via the ECoW to contractors immediately prior to vegetation clearance to highlight the possible presence of reptiles. • Vegetation will be maintained at a short sward (5cm) to discourage reptiles following the first cut. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any reptiles are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a reptile is identified, works must cease and advise must be sought from a suitably qualified ecologist. **Suggested biodiversity enhancements** The site could be enhanced for reptiles post-development with the inclusion of log piles (created from felled materials) and planting of areas of native shrubs, to provide sheltering opportunities.
Amphibians	
Summary of Survey Findings	**EPSL and survey data** A review of the MAGIC database returned no granted EPSL records for great crested newts within 2km of the site. Further, no positive class survey licence return or DLL historic survey data (2017 – 2019) were present within 2km of the site. **The following data of amphibians within 2km of the site was obtained from Merseyside BioBank:** • 34 records of common frog the closest being ~ 0.16km west of the site. • 7 records of common toad ~ 1.5km northwest of the site. • 16 records of smooth newt the closest being ~ 0.16km west of the site. Two historical records of greater crested newts from 1938 are found ~ 2km northwest of the site.

	Aquatic habitat suitability (including ponds within 500m) Great crested newts (GCN) exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001). No ponds are present on site or within 500m of the site. **Terrestrial habitat suitability** Habitats recorded on site have been evaluated for their potential to support foraging, commuting, sheltering, and breeding opportunities for amphibians. The woodland, scattered trees, scrub, and areas of neutral grassland offer relatively high value for amphibians by providing suitable cover for shelter, along with opportunities for commuting and foraging. However, it should be noted that the site is bordered by buildings and hardstanding, which offer limited value to amphibians. These surrounding features are suboptimal due to a lack of habitat complexity, thereby significantly restricting opportunities for shelter, foraging, and dispersal, and reducing connectivity to more suitable amphibian habitat in the wider landscape. While the presence of amphibians on site cannot be entirely ruled out, it is likely to be confined to low numbers within the scrub and wooded areas.
Foreseen Impacts	Given the lack of suitably connected breeding ponds within 500m of the site, the presence of GCN on-site is considered unlikely and therefore impacts to GCN as a result of the proposed development are deemed to be acceptably low. However, common amphibians may be present within areas such as the woodland or scrub on site and as such may be injured or killed by site clearance, if present.
Recommendations	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures: • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advise must be sought from a suitably qualified ecologist.
Badger	

Summary of Survey Findings	**The following records of badgers within 2km of the site was obtained from Merseyside BioBank:** • 1 record from 2001 of a cub found dead on road between Stocksbridge Village and Knowsley Park ~ 2km northeast. No badger setts were noted on site or within a 30m radius of the site however areas of dense bramble may have hidden evidence on site. The site provides foraging habitat on suit in the form of scrub as well as providing opportunities for sett excavation within the woodland and scrub. No evidence of badgers (such as mammal paths, latrines, or scratching posts) was found during the survey. However, it cannot be discounted that badgers may utilise the site due to the habitat within having ecological value to badgers.
Foreseen Impacts	No works will be undertaken within 30m of a known badger sett. Sparsely vegetated land, broadleaved woodland, other neutral grassland, willow and bramble scrub and scattered trees will be removed during construction. The loss of such habitats is likely to be inconsequential to local badger populations owing to the presence of more extensive habitat locally such as to the northeast where priority woodland and woodpasture and parkland is found. However, construction activities could result in the death or injury of badgers, if present.
Recommendations	Owing to the nature of the proposed development and the low potential for impacts to bat roosts, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A suitably qualified ecologist will be present on site to act as an ecological clerk of works (ECoW), to undertake pre-commencement checks and supervise the clearance of vegetation on site. Once cleared, the development works can commence in the absence of the ECoW. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that a badger sett is identified, works must cease and advise must be sought from a suitably qualified ecologist. **Suggested biodiversity enhancements** Planting fruit bearing trees and species-rich grassland to increase foraging opportunities for badgers.
Riparian animals	
Summary of Survey Findings	A review of the MAGIC database returned no granted EPSL records for otters or water voles within 2km of the site. There are no water courses on or connected to the site. There are also no riparian habitats present on site or within an influencing distance.

	The following data on water voles was returned from Merseyside BioBank: • 25 records of water voles the closest being ~ 0.9km east of site, consisting of 3 latrines, 4 burrows, 1 feeding pile and 2 pathways in the vegetation. **Otters** The River Alt is found ~0.18km northeast of the site which provides suitable foraging and commuting opportunities. This watercourse is not connected to a wider range of resources and as such is only suitable to support a low number of otters. No otter holts were found on or within 30m of the site. Further the river is found behind a primary school which likely limits access onto the site. The site itself also offers no riparian vegetation for foraging and as such it is deemed unlikely that otters will migrate onto site. **Water voles** Rivers are suboptimal habitat for water voles, primarily due to fast waterflow, albeit some foraging opportunities upon grassland banks. Further no ponds are suitably connected to the site which limits refuge opportunities, as well as no riparian vegetation within the site itself which reduces foraging opportunities. As such it is deemed unlikely that water voles will migrate onto site from more suitable habitat within the wider landscape.
Foreseen Impacts	No impacts are anticipated on riparian animals as a result of the proposed development.
Recommendations	None required.
Hazel dormouse	
Summary of Survey Findings	**EPSL data** A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. Further no records of hazel dormice were retrieved through data from Merseyside BioBank. **Habitat suitability** The site lies outside of the know current range for hazel dormice and there are no suitable habitats within the development area. As such it is considered likely that hazel dormice are absent from site.
Foreseen Impacts	No impacts are anticipated on hazel dormice as a result of the proposed development.
Recommendations	None foreseen.
Other e.g. hedgehog	
Summary of Survey Findings	**The following data of hedgehogs within 2km of the site was obtained from Merseyside BioBank:** • 171 records of hedgehogs between 1950 and 2023 the closest record being ~680m southwest of site, which was found alive in 2019.

	The areas of sparsely vegetated land, other broadleaved woodland, neutral grassland, bramble and willow scrub, and scattered trees provide suitable foraging, commuting, and refuge opportunities for hedgehogs. Although the site is primarily surrounded by urban development, including roads and buildings, hedgehogs are known to navigate and utilise urban environments—often using private gardens as commuting corridors. While there is considerable artificial lighting in the surrounding area, the absence of artificial lighting within the site itself reduces potential disturbance, making it likely that hedgehogs will utilise the site.
Foreseen Impacts	The removal of broadleaved woodland, neutral grassland, bramble scrub, and scattered trees during construction may reduce commuting, foraging, and refuge opportunities for hedgehogs. However, this impact is likely to be limited due to the availability of extensive habitat to the northeast and remaining gardens in the area that can still be used. Nonetheless, there is a risk of death or injury to any hedgehogs present during construction activities.
Recommendations	Similar to the badgers, a precautionary working method will be implemented during construction, including the following measures: • A suitably qualified ecologist will be present on site to act as an ecological clerk of works (ECoW), to undertake pre-commencement checks and supervise the clearance of vegetation. Once cleared, the development works can commence in the absence of the ECoW. • A toolbox talk will be provided via the ECoW to contractors immediately prior to vegetation clearance to highlight the possible presence of reptiles. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. **Suggested biodiversity enhancements** The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: • Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. • Creation of brash piles or installation of hedgehog houses in shady areas. • Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.

Appendix 1: Survey/Habitat map

Appendix 2: Location map

Appendix 3: Proposed plan

Appendix 4: Habitat Photos

Built linear features	
Photograph	**Description**
	Figure 1: Steel corrugated fence to the north/northeast.
Developed land; sealed surface	
Photograph	**Description**

	Figure 2: Sealed surfaces which was historically used as a playground.
Other neutral grassland	
Photograph	**Description**

Figure 3: G1 to the east of the site.

	Figure 4: G1 to the north of the site with a trodden pathway within.
Other broadleaved woodland	
Photograph	**Description**

Figure 5: W1 to the south of site.

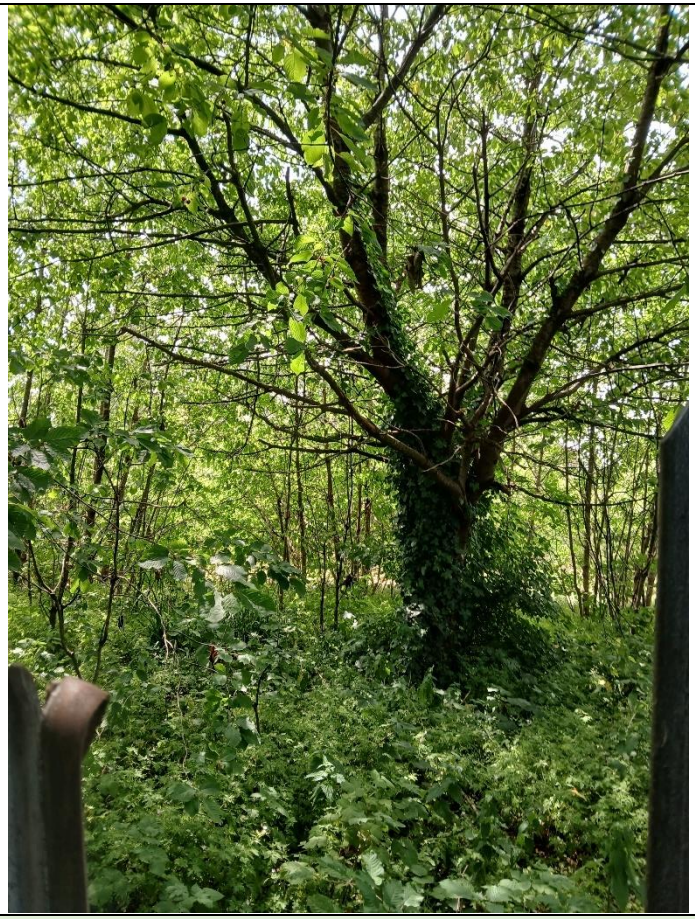	Figure 6: W2 to the west of site.
Bramble/willow scrub	
Photograph	**Description**

Figure 7: Dense bramble scrub to the east of site.

	Figure 8: Willow scrub to the west of site.
Scattered trees	
Photograph	**Description**

Figure 9: Scattered trees interspersed throughout the site.

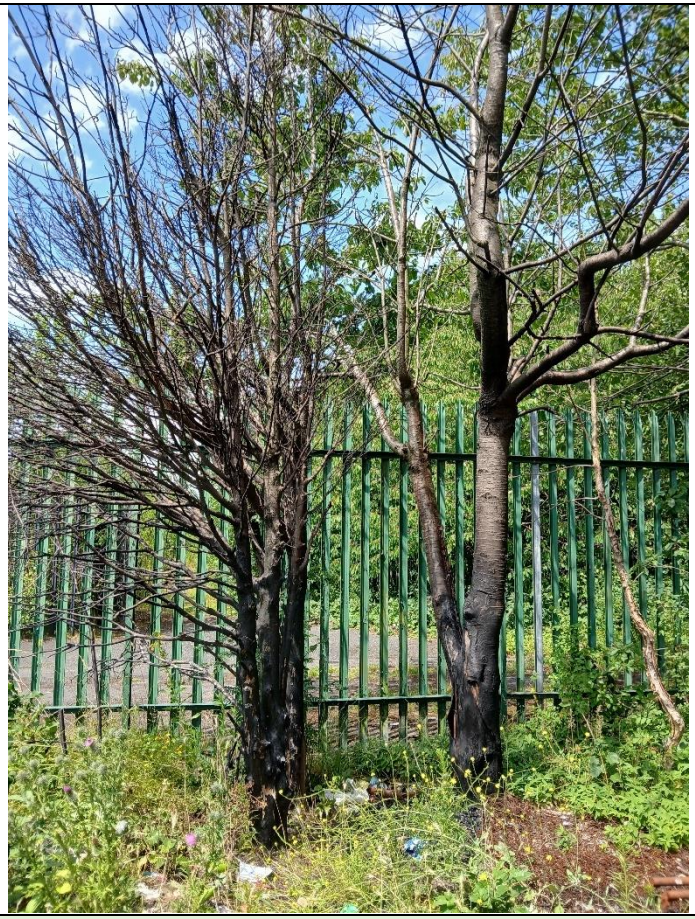	Figure 10: Burnt trees to the north.
Target note	
Photograph	**Description**

Figure 11: Fallen birds nest within W1 to the south of site.

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