

Preliminary Ecological Appraisal and Roost Assessment

Survey site:

Land off Archway Road, Huyton, Metropolitan Borough of Knowsley, Merseyside

Client:

Genr8 Kajima Regeneration (Huyton) Limited

Survey date:

19th March 2025

Project:

This report is prepared to inform a planning application with the Liverpool City Council. The proposal is described as:

Main 7 acre site:

- *The demolition of the existing muni tower, annex and computer centre, as well as enabling works to the whole site*
- *Phase 1 sees a new council HQ, 130 bed hotel and affordable 75 unit residential block built, as well as some of the public realm.*
- *The outline application for later phases allows for a maximum of 500 residential units and/or commercial development.*

Lathom Road, Lansdowne way & old market:

- *Demolition of existing, and replacement with a 150 space surface level car park, to incl. EV charging and cycle spaces, and public realm.*

Cavendish:

- *Retain existing building, refurbish the interior, make some façade upgrades and punch some new windows through.*

PEA survey methodology and legislation can be found in the Arbtech Supplement: [PEA Methodology and Legislation - 2025.](#)

PRA survey methodology and legislation can be found in the Arbtech Supplement: [PRA Methodology and Legislation - 2025.](#)

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion.

Site Location and Context					
The survey site is centred on National Grid Reference SJ 44183 90863 and has an area of approximately 2.8ha. The site comprises multiple buildings (B1-5), associated hardstanding and landscaping including grassland, ornamental shrubs, tree lines and hedgerows. The site is adjacent to Huyton Village Shopping Centre to the south, within the urban town of Huyton. The surrounding landscape is comprised of urban development including tarmacked roads subject to heavy traffic, urban buildings and residential dwellings with associated vegetated gardens. There are amenity green spaces including that associated with Lord Derby Academy situated ~400m east and Bowring Park and Golf Course situated ~800m west. There are train tracks situated ~80m south which likely enhance the area for a variety of species, including bats, amphibians and reptiles by aiding in dispersal to areas of optimal habitat within the wider landscape.					
Survey Details					
The site survey was undertaken by Amber Williams BSc, MSc, MPhil, Graduate Ecologist (Accredited on Natural England Bat Licence Number: 2024-12491-CL18-BAT.)					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
19/03/2025	4	70	20	4	None
Executive Summary					
1. A Biodiversity Net Gain (BNG) assessment will be required to comply with the Environment Act (2021) and local planning policy. 2. One bat emergence/re-entry survey is required on B3 during the active bat season (May – September) to confirm presence/likely-absence of bats roosting in or on the building. 3. A Ground Level Tree Assessment will be required for all trees impacted by the proposed development. 4. Precautionary working measures will be followed to ensure that nesting birds and hedgehogs are not harmed by the works. 5. In the unlikely event that a protected animal is found during construction, all works must stop and a suitably qualified ecologist must be contacted.					
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. A biological records data search has not been undertaken. However, given the location of the site, the nature of the habitats present and the assessed suitability of the site for protected or notable species, it is not anticipated that the purchase of biological records data will add any significant weight or alter the conclusions and recommendations outlined in this report. The PEA survey was completed outside of the optimal survey period (April to October) limiting the identification of ground flora species, however, an adequate judgement could be made from the vegetation visible.					

Full access into the interior of B3 could not be obtained, as such evidence of roosting bats such as live animals, droppings or foraging remains may have been missed. This limitation is not a significant constraint to the assessment because the surveys recommended to account for its low suitability will likewise identify any further roosts associated with the loft void, though access to the loft ahead of surveys should be attained

Ecological Survey Factor	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.																																																
Conclusion, Impact or Recommendations																																																	
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 contains native hedgerow which is listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). The site also contains scattered and lines of 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. Further notable habitats are present within 2km. On-site habitat descriptions <u>u1b – Developed land/sealed surface</u> The majority of the site is tarmacked or paved hardstanding utilised for parking or footpaths (Fig.1). <u>u1b – 32 – Scattered trees</u> There are 94 trees scattered across the site (Fig.2), detailed below: <table><tr><th>Tree ID</th><th>Species</th><th>Location</th><th>Size (DBH)</th></tr><tr><td>T1</td><td>Beech</td><td>Southeast of B1</td><td>~38cm (medium)</td></tr><tr><td>T2</td><td>Beech</td><td>Southeast of B2</td><td>~35cm (medium)</td></tr><tr><td>T3</td><td>Beech</td><td>Southeast of B3</td><td>~35cm (medium)</td></tr><tr><td>T4</td><td>Horse chestnut</td><td>South of B1</td><td>~70cm (large)</td></tr><tr><td>T5</td><td>Horse chestnut</td><td>South of B1</td><td>~70cm (large)</td></tr><tr><td>T6</td><td>Beech</td><td>South of B1</td><td>~74cm (large)</td></tr><tr><td>T7</td><td>Ash</td><td>Southwest of B5</td><td>~33cm (medium)</td></tr><tr><td>T8</td><td>Rowan</td><td>West of B4</td><td>~33cm (medium)</td></tr><tr><td>T9</td><td>Cherry</td><td>East of T8</td><td>~33cm (medium)</td></tr><tr><td>T10</td><td>Cherry</td><td>East of T8</td><td>~33cm (medium)</td></tr><tr><td>T11</td><td>Cherry</td><td>East of T8</td><td>~31cm (medium)</td></tr></table>	Tree ID	Species	Location	Size (DBH)	T1	Beech	Southeast of B1	~38cm (medium)	T2	Beech	Southeast of B2	~35cm (medium)	T3	Beech	Southeast of B3	~35cm (medium)	T4	Horse chestnut	South of B1	~70cm (large)	T5	Horse chestnut	South of B1	~70cm (large)	T6	Beech	South of B1	~74cm (large)	T7	Ash	Southwest of B5	~33cm (medium)	T8	Rowan	West of B4	~33cm (medium)	T9	Cherry	East of T8	~33cm (medium)	T10	Cherry	East of T8	~33cm (medium)	T11	Cherry	East of T8	~31cm (medium)
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		T12	Cherry	East of T8	~32cm (medium)	
		T13	Cherry	East of T8	~20cm (small)	
		T14	Cherry	East of T8	~37cm (medium)	
		T15	Cherry	East of T8	~37cm (medium)	
		T16	Rowan	South of T15	~27cm (small)	
		T17	Norway Maple	South of T15	~35cm (medium)	
		T18	Cherry	South of T15	~35cm (medium)	
		T19	Silver birch	South of B5	~22cm (small)	
		T20	Silver birch	South of B5	~27cm (small)	
		T21	Maple	South of B5	~21cm (small)	
		T22	Silver birch	South of B5	~34cm (medium)	
		T23	Cherry	South of B5	~27cm (small)	
		T24	Whitebeam	South of B5	~20cm (small)	
		T25	Whitebeam	South of B5	~20cm (small)	
		T26	Silver birch	North of B5	~32cm (medium)	
		T27	Silver birch	North of B5	~39cm (medium)	
		T28	Whitebeam	North of B5	~19cm (small)	
		T29	Whitebeam	North of B5	~19cm (small)	
		T30	Whitebeam	North of B5	~19cm (small)	
		T31	Whitebeam	North of B5	~16cm (small)	
		T32	Whitebeam	North of B5	~28cm (small)	
		T33	Whitebeam	North of B5	~23cm (small)	
		T34	Ash	Western site boundary	~15cm (small)	
		T35	Lime	Western site boundary	~60cm (medium)	
		T36	Sycamore	Western site boundary	~22cm (small)	
		T37	Poplar	Western site boundary	~49cm (large)	
		T38	Poplar	Western site boundary	~35cm (medium)	

		T39	Lime	Western site boundary	~52cm (large)
		T40	Sycamore	Western site boundary	~22cm (small)
		T41	Poplar	Western site boundary	~81cm (large)
		T42	Rowan	Western site boundary	~21cm (small)
		T43	Holly	Western site boundary	~16cm (small)
		T44	Sycamore	Western site boundary	~22cm (small)
		T45	Norway Maple	Western site boundary	~35cm (medium)
		T46	Norway Maple	Western site boundary	~35cm (medium)
		T47	Rowan	Western site boundary	~28cm (small)
		T48	Sycamore	Western site boundary	~50cm (medium)
		T49	Oak	Western site boundary	~90cm (large)
		T50	Sweet chestnut	Western site boundary	~33cm (medium)
		T51	Beech	Western site boundary	~75cm (medium)
		T52	Norway Maple	Western site boundary	~15cm (small)
		T53	Whitebeam	Within native hedgerow	~25cm (small)
		T54	Rowan	South of T53	~15cm (small)
		T55	Rowan	South of T53	~15cm (small)
		T56	Cockspur thorn	East of T55	~29cm (small)
		T57	Ash	North of T56	~10cm (small)
		T58	Ash	North of T56	~18cm (small)

		T59	Lime	Northwestern site boundary	~27cm (small)
		T60	Norway Maple	Northwestern site boundary	~27cm (small)
		T61	Norway Maple	Northwestern site boundary	~27cm (small)
		T62	Norway Maple	Northwestern site boundary	~23cm (small)
		T63	Norway Maple	Northwestern site boundary	~29cm (small)
		T64	Norway Maple	Northwestern site boundary	~31cm (medium)
		T65	Norway Maple	Northwestern site boundary	~20cm (small)
		T66	Norway Maple	Northwestern site boundary	~20cm (small)
		T67	Norway Maple	Northwestern site boundary	~22cm (small)
		T68	Whitebeam	Northwestern site boundary	~29cm (small)
		T69	Beech	Northern site boundary	~45cm (medium)
		T70	Beech	Northern site boundary	~43cm (medium)
		T71	Oak	South of T70	~72cm (large)
		T72	Cider gum	West of B4	~16cm (small)
		T73	Rowan	West of B4	~15cm (small)
		T74	Rowan	West of B4	~15cm (small)
		T75	Callery pear	West of B4	~15cm (small)
		T76	Whitebeam	Northern site boundary	~17cm (small)
		T77	Whitebeam	Northern site boundary	~13cm (small)
		T78	White poplar	South of T77	~76cm (large)
		T79	Silver birch	East of B4	~22cm (small)

T80	Lime	East of B4	~68cm (large)
T81	Norway Maple	Northern site boundary	~29cm (small)
T82	Norway Maple	Northern site boundary	~38cm (medium)
T83	Norway Maple	West of B2	~31cm (medium)
T84	Norway Maple	West of B2	~34cm (medium)
T85	Hornbeam	West of B2	~75cm (medium)
T86	Common pear	West of B2	~14cm (small)
T87	Lime	Southwest of B2	~30cm (medium)
T88	Lime	South of B2	~30cm (medium)
T89	Lime	South of B2	~31cm (medium)
T90	Norway Maple	Southwest of B3	~35cm (medium)
T91	Silver birch	South of B3	~42cm (medium)
T92	Rowan	West of B2	~20cm (small)
T93	Alder	Northern site boundary	~15cm (small)
T94	Alder	Northern site boundary	~15cm (small)

This habitat was subject to a condition assessment using the Individual trees habitat type condition sheet. The results are detailed below:

A. <70% of the trees are native species.

B. The tree canopy is continuous.

C. Majority of the trees on site are mature.

D. There is evidence of superficial bark damage and deadwood on a small number of trees.

E. Knot holes and ivy were present on a number of trees.

F. <20% of the tree canopy area is oversailing vegetation beneath.

It is considered that the individual scattered trees are classified as being in **moderate** condition.

u1b – 33 - Line of trees

There are several scattered lines of trees throughout the site. These were primarily ornamental with limited connectivity with offsite habitats, which were largely urban (Fig.4). Species present include birch (D), beech (D), hornbeam, (A), poplar (A), lime

	(A), Norway maple (F), alder (O), ash (R). This habitat was subject to a condition assessment using the Line of trees habitat type habitat condition sheet. The results are detailed below: A. More than 70% of the trees are native. B. Tree canopy is not continuous with gaps making up >10% of total area. C. There are no veteran trees present. D. There is no undisturbed naturally vegetated strip of at least 6m on both sides. E. At least 95% of the trees are in a healthy condition. It is considered that the tree line is classified as being in poor condition. <u>u1 – 847 – Built-up areas and gardens - introduced shrubs</u> Scattered around the site, focused at the base of the scattered and lines of trees are parcels of introduced shrubs (Fig.4). Species present include cherry laurel (D), Jerusalem sage (D), thorny olive (D), rockspray cotoneaster (A), cabbage tree (F), boxleaf honeysuckle (F), lilyturf sp. (O), common yew (O), winter heath (R). <u>u1b5 – Buildings</u> There were five buildings on site (Fig.5); the former market (B1), cavendish walk (B2), Kwik tan building (B3), Muni tower and annex (B4), and the computer centre (B5). These buildings are described in further detail in the bat section below. <u>g4 – Modified grassland</u> There are numerous parcels of modified grassland on site, the largest being situated directly west of B4 (Fig.6). The grass appears to be regularly managed due to the short uniform sward height of <15cm and is primarily used as an amenity area. There were areas of bare ground within this habitat parcel which are likely a result of the volume of human foot traffic. The bare ground accounted for ~10% of the entire habitat parcel. Species present include cocks foot grass (D), red fescue (D), white clover (D), common yarrow (A), spring dabra (A), perennial rye grass (A), creeping bent (A), willowherb (A), common daisy (F), common chickweed (F), ribwort plantain (F), common nettle (O), thistle (O), daffodil (R), thorny olive (R). This habitat was subject to a condition assessment using the Grassland habitat type: Grassland – Modified grassland habitat condition sheet. The results are detailed below: A. There are less than 6-8 vascular plant species per m². B. Sward height is uniform <15cm. C. Presence of scrub accounts for <20% of total area. D. Physical damage is evident in >5% E. Cover of bare ground is ~10% F. Cover of bracken is <20% G. There is an absence of invasive non-native species.
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	It is considered that the modified grassland is classified as poor condition. <u>h2a – Native Hedgerow</u> Bordering the northern site boundary and scattered throughout the site is native hedgerow comprising of beech (D), common yew (D), hawthorn (A), ivy (F), gorse (O) (Fig.7). The hedge measured ~ 1.5m H x 1m W and appeared to be subject to frequent management. This habitat was subject to a condition assessment using the Hedgerow habitat type: Native hedgerow habitat condition sheet. The results are detailed below: - A1. >1.5m average height. - A2. <1.5m average width. - B1. Gap between ground and base of canopy <0.5m for >90% of length. - B2. Gaps make up >10% of total length; with canopy gaps >5m. - C1. <1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length. - C2. Plant species indicative of nutrient enrichment of soils dominate <20% cover. - D1. >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species. - D2. <90% of the hedgerow and undisturbed ground is free of damage caused by human activities. It is considered that the native hedgerow is classified as moderate condition. <u>h3d – Bramble scrub</u> Situated to the western site boundary is an area of bramble scrub measuring ~0.02ha comprising of bramble (D) and ivy (D). The parcel showed evidence of being historically managed. Local notable habitats There are several Priority habitats situated within 2km of the site boundary. These are as follows: - Deciduous Woodland - ~560m southwest. - Lowland Meadows - ~1.6km northwest. - Due to the surrounding urban infrastructure, there is no direct connectivity between the site and nearby notable habitats.
<i>Foreseen Impacts</i>	On-site habitats The proposed development will result in the loss of areas of modified grassland, introduced shrub, native hedgerow, lines of trees and 16 scattered trees. This could 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.

<i>Recommendations</i>	On-site habitats 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). 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 a biodiversity net gain calculation to ensure the proposed development delivers a 10% net gain.
Locality and Designated Sites	
<i>Summary of Survey Findings</i>	On-site designations The site is not subject to any designation. Statutory designated sites (within 2km) There are no known statutory sites within 2km of the site. The site lies within the impact risk zone for Mersey Estuary Site of Special Scientific Interest (SSSI) Special Protected Area (SPA) (RAMSAR) situated ~8.1km southwest. The proposed development is not listed as posing a risk to this designation. Statutory designated sites (within 10km) There is one national network sites (SAC, SPA, Ramsar) located within 10km, as detailed below: - Mersey Estuary Special Protected Area (SPA) (RAMSAR) - ~8.1km southwest - <i>The Mersey Estuary is an internationally important site for wildfowl and consists of large areas of intertidal sand and mudflats. The site also includes an area of reclaimed marshland, salt-marshes, brackish marshes and boulder clay cliffs with freshwater seepages. The Manchester Ship Canal forms part of the southern boundary of the site and separates a series of pools from the main estuary. These pools together with Hale Marsh are important roosting sites for wildfowl and waders at high tide. Throughout the winter the estuary supports large numbers of wildfowl and waders. The birds feed on the rich invertebrate fauna of the intertidal sediments as well as plants and seeds from the salt-marsh and adjacent agricultural land. The estuary is also a valuable staging post for migrating birds in spring and autumn.</i> Non-statutory designated sites (within 2km) - Huyton Lane Werland Local Wildlife Site (LWS) - ~470m northeast. - Ten Acre Pits (LWS) - ~700m southwest.
<i>Foreseen Impacts</i>	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 proposal is not listed as being a risk to the designation situated ~8.1km southwest. No direct impacts to any designated sites will occur as a result of the proposed development. However, due to the proximity of the site to Mersey Estuary and the nature of the proposed development could result in increased recreational pressure to nearby areas.
<i>Recommendations</i>	On-site designations None required. Statutory and non-statutory designated sites The Local Planning Authority (LPA) may be required to undertake a Habitat Regulations Assessment (HRA) to determine whether there could be any effect on nearby European sites as a result of the proposed development.
Invasive / Non-native species	
<i>Summary of Survey Findings</i>	Wall cotoneaster was identified on the site towards the northern boundary within the introduced shrub which is listed as an invasive, non-native species under Schedule 9 of the Wildlife and Countryside Act 1981.
<i>Foreseen Impacts</i>	Construction could result in the spread of cotoneaster.
<i>Recommendations</i>	Any plants present on Schedule 9 of the Wildlife and Countryside Act 1981 are prohibited from release into the wild due to their capacity to cause ecological, environmental or socio-economic harm. Where Schedule 9 species are grown in private gardens, larger scale gardens, estates and amenity areas reasonable measures will be taken to confine them to the cultivated area so as to prevent their spreading to the wider environment and beyond the landowner's control. As such it is recommended that cotoneaster is be dug up, including roots, and disposed of in line with appropriate controlled waste measures, or controlled during construction works to prevent the spread off-site. When designing the planting scheme for new garden areas, the planting of any Schedule 9 invasive species of any other non-native plants likely to escape into any semi natural habitat on site or adjacent, must be avoided.
Invertebrates	
<i>Summary of Survey Findings</i>	Due to the suburban context of the site and small extent and type of habitats recorded, the site is not considered suitable to support a protected and/or notable assemblage of invertebrates. The habitats present on-site, including grassland, scattered trees, tree lines and shrubs, likely provide common invertebrates with opportunities to forage and shelter.
<i>Foreseen Impacts</i>	Areas of modified grassland, introduced shrub, native hedgerow, lines of trees and 16 scattered will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally.

Recommendations	No further surveys. Suggested biodiversity enhancements The site could be further enhanced via the provision of native wildflowers or wildflower turf, which would provide foraging opportunities for invertebrates.														
Bats															
Summary of Survey Findings	EPSL data 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 2 EPSLs within a 2km radius of site as detailed below: <table><tr><th>EPSL reference</th><th>Bat species affected</th><th>Distance from site</th><th>Impacts allowed by licence</th></tr><tr><td>2018-38343-EPS-MIT</td><td>Common pipistrelle</td><td>~1.9km northeast</td><td>Destruction of a resting place</td></tr><tr><td>2017-28690-EPS-MIT-1</td><td>Brown long eared bat and common pipistrelle</td><td>~1.9km northeast</td><td>Destruction of a resting place</td></tr></table> There are no Special Areas of Conservation designated for bats within 10km of the site. Foraging and commuting habitat Habitats recorded on site are assessed to provide moderate value foraging and commuting opportunities for bats in the form of modified grassland, native hedgerows, tree lines and scattered trees across the site. 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 hedgerows and tree lines will act as linear landscape elements for bats to commute across the site. There are train tracks situated ~80m south which will aid in commuting and foraging of local bat populations whilst travelling between roost sites. However, there is limited linear habitat which extends off site and connects the site to this feature. Roosting habitat Buildings to be impacted by the proposed development are assessed for their suitability to support roosting bats below. There are a total of five buildings on site; the former market (B1), Cavendish walk (B2), the Kwik tan building (B3), Muni tower and annex (B4) and the computer centre (B5). No evidence of roosting bats was identified on or within any of the buildings surveyed.			EPSL reference	Bat species affected	Distance from site	Impacts allowed by licence	2018-38343-EPS-MIT	Common pipistrelle	~1.9km northeast	Destruction of a resting place	2017-28690-EPS-MIT-1	Brown long eared bat and common pipistrelle	~1.9km northeast	Destruction of a resting place
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B1 Building description		Photographs													

<i>Summary</i> B1 is a stone built multi-storey building utilised for car parking and recreational use. There was no damage or gaps to the stonework which could be utilised by roosting bats. The roof structure was flat. There were no loft voids within the internal space. Instead, the interior comprised of multiple rooms with vaulted ceilings. There were no crevices within the interior suitable for crevice dwelling bats and no suitable areas for void dwelling species to roost against or within. There were window shutters which were slightly ajar on the eastern elevation near where a bird's nest was identified, however as no evidence of bats was identified, nor where any suitable areas for roosting bats within the structure, it is considered that bats would not utilise this feature as an access point. Further, there is a high degree of daylight permitting through windows within several areas of the internal which further reduces the buildings suitability for bats. B1 is subject to demolition. B1 provides negligible habitat value for roosting bats.	 B1 – Eastern elevation  Internal of B1
<i>B2 Building description</i>	<i>Photographs</i>

Summary

B2 is a two storey stone built structure, occupied by shops on the first floor and an empty office block on the second floor. There is metal flashing at the eaves on all elevations of which there is a slight gap behind. The interior of B2 has no loft void and instead has corrugated metal ceilings supported by metal beams. There is a high degree of daylight permitting into the internal space as the result of windows on all elevations. The roof comprises of a flat parapet roof with no areas of lifted panelling or gaps that could allow access for roosting bats into the interior of the structure. B2 is subject to internal works including the installation of new windows.

B2 is **negligible** for roosting bats.



B2 – Eastern elevation



Interior of B2



B2 roof

B3 Building description

Photographs

Summary

B3 is single storey brick-built structure with a hipped roof structure with gabled dormers on the northern and southern elevation. The roof has cement tiles and a short bell tower like vent at the centre. The soffits are wooden and tightly sealed to the structure. There is a section of soffits at the southwestern aspect of the building with holes in it that could be utilised by roosting bats. There was a high volume of pigeons perched on the eastern aspect of the roof structure during the survey. The building is occupied by shops and has rolling shutters on the eastern elevation.

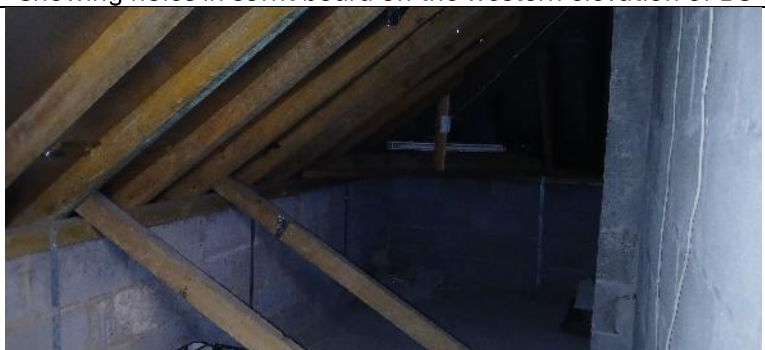
B3 has **low habitat value** for roosting bats.



B3 – Northern elevation

Feature	Materials	Condition/description/suitability	Photograph(s)
Walls	Brick built	The walls of B3 are in good condition. There are no areas of damage to the mortar or gaps present on the walls of B3 which could be exploited by roosting bats.	

Roof	Cement	The roof structure of B3 is hipped with cement tiles. The majority of these tiles are tightly sealed with no gaps beneath. There is one lifted tile on the eastern elevation. This feature is suitable for crevice dwelling bat species to roost beneath in addition to potentially permitting access into the internal space. At the centre of the hipped structure is a bell tower-like vent which has lifted lead flashing at the eaves. This feature is suitable for crevice dwelling species.	 B3 – Western elevation showing tiles tightly sealed  B3 – Eastern elevation showing majority of tiles tightly sealed  B3 – Showing lifted tile present on eastern elevation
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			 Showing lifted lead flashing at tower vent
Soffit boards	Wooden	The soffits of B3 were tightly sealed against the building on all elevations with no gaps between the soffit board and the brickwork. On the western elevation there were purpose-built holes cut into the underside of the soffit boards. These are suitable for crevice or void dwelling species to gain access. It was not possible to determine whether these holes allow access to the perimeter of the building via the soffit boards.	 Showing holes in soffit board on the western elevation of B3
Internal voids	Timber rafters and ridge beam.	Internal space measures ~8m L x 4m W x 2m H with the following internal conditions recorded; 15.4°C and 40.1% relative humidity. There were no visible areas of daylight permitting into the void. The roof was lined with foil insulation which had no visible areas of damage or tearing. No evidence of roosting bats including live animals, foraging remains or droppings were identified within the void.	 B3 - Interior

B4 Building description	Photographs
<i>Summary</i> B4 (Muni tower) is a brick-built multi storey office block utilised by the council. There are multiple windows on all elevations. There are no loft voids within B4 and instead there are suspended ceiling tiles throughout. B4 (Muni tower) has a flat roof with a parapet balcony. At the second storey of B4, the structure forms an L-shape and adjoins to the annex via the southern elevation. B4 (annex) is a two-storey brick-built structure with a gabled metal sheeting roof with solar panels. There are windows on both the northern and southern elevation. The interior void of B4 (annex) is partially boarded with areas of exposed mineral wool insulation. The roof is lined with wooden boards which showed no signs of damage. There were no areas of daylight permitting into the interior void of B4 (annex). The roof of B4 (annex) was in good condition with no apparent areas of damage, lifted sheeting or other gaps which could be utilised by roosting bats or permit access into the interior void. B4 is negligible for roosting bats.	 B4 (Muni tower) – Western elevation  B4 (Muni tower) – Interior  B4 (Muni tower) – roof

	 B4 (annex) – Northern elevation  B4 (annex) – Interior void  B4 (annex) – roof
<i>B5 Building description</i>	<i>Photographs</i>

Summary

B5, the computer centre, is a square shaped single storey office block with a flat metal sheeting roof. The lower half of the walls are brick-built, and the upper half is reinforced with metal sheets. The flashing at the eaves of B5 were tightly sealed with no apparent gaps or areas of damage which could allow ingress for roosting bats. There was no loft void within B5 and instead the interior comprised of suspended ceiling tiles.

B5 is **negligible** for roosting bats.



B5 – Southwestern elevation



B5 – Interior



B5 – roof

Foreseen Impacts

Roosting habitat [Buildings]
B3

	The proposed development will result in the demolition of this building. This could result in the destruction of any bat roosts present and could cause disturbance, death or injury to bats. B1-2, B4-5 Bats are very unlikely to be roosting within B1-2, B4-5 and as such, there are not anticipated to be any impacts on bats in this location as a result of the proposed development. The gap behind the flashing on B2 is not considered suitable to support roosting bats. Additionally, this feature is not associated with the windows in any capacity. As such the feature is not anticipated to be affected by proposals and as such no further survey is required. Roosting habitat [Trees] If any on-site trees are subject to removal, any bat roosts potentially within them will be destroyed. Bats could be injured or killed as a result of this. Foraging and commuting habitat The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. However, the proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.
<i>Recommendations</i>	Roosting habitat [Buildings] B3 One bat emergence/re-entry survey is required on B3 during the active bat season (May – September) to confirm presence/likely-absence of bats roosting in or on the building. These survey visits should be completed during the optimal survey period mid-May to August inclusive. Should any bats be observed emerging from the structure during this survey, an additional two surveys will be required to characterize the roost present to inform the licence. The survey visits should be at least three weeks apart. Three surveyors equipped with infrared cameras are required to provide full coverage of the building's elevations to look for emerging/re-entering bats. Lighting mitigation may be required based on the outcome of the night bat survey(s). If any bat roosts are confirmed from this survey schedule, a bat mitigation licence would be required to demolish the buildings as it would involve the destruction of roosts. This is applied for with the help of a class 2 licensed bat ecologist after planning permission is granted, but before commencement of works. B1-2, B4-5 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. Roosting habitat [Trees]

	A Ground Level Tree Assessment will be required for all trees impacted by the proposed development. If any suitable roosting features are identified on these trees, then a close-up inspection of any features that could be used by roosting bats will be undertaken to determine the presence or likely absence of roosting bats. This may require a qualified climbing team or a Mobile Elevated Work Platform (MEWP) to access the features. 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-2 Suggested biodiversity enhancements The installation of five bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be incorporated into the fabric of the new structures. 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	
<i>Summary of Survey Findings</i>	Buildings Evidence of nesting birds was identified within B1 (Fig.8). There was a high volume of pigeons perching on the roof of B3. Additionally, the gaps in the soffit boards on the western elevation of B3 and the flat roof of B2 and B4 were considered suitable to support nesting species such as gulls and pigeons. B5 was not deemed suitable to support nesting birds due to it being single storey with a sloped roof structure and no areas of damage or gaps to the structure which could be exploited by nesting birds. Trees and vegetation No bird nests were identified within the scattered trees, tree lines or shrubbery on-site, however they all offer nesting opportunities and nest-building resources for birds. Barn owls The site does not appear to provide any suitable nesting sites for barn owls. Overwintering birds

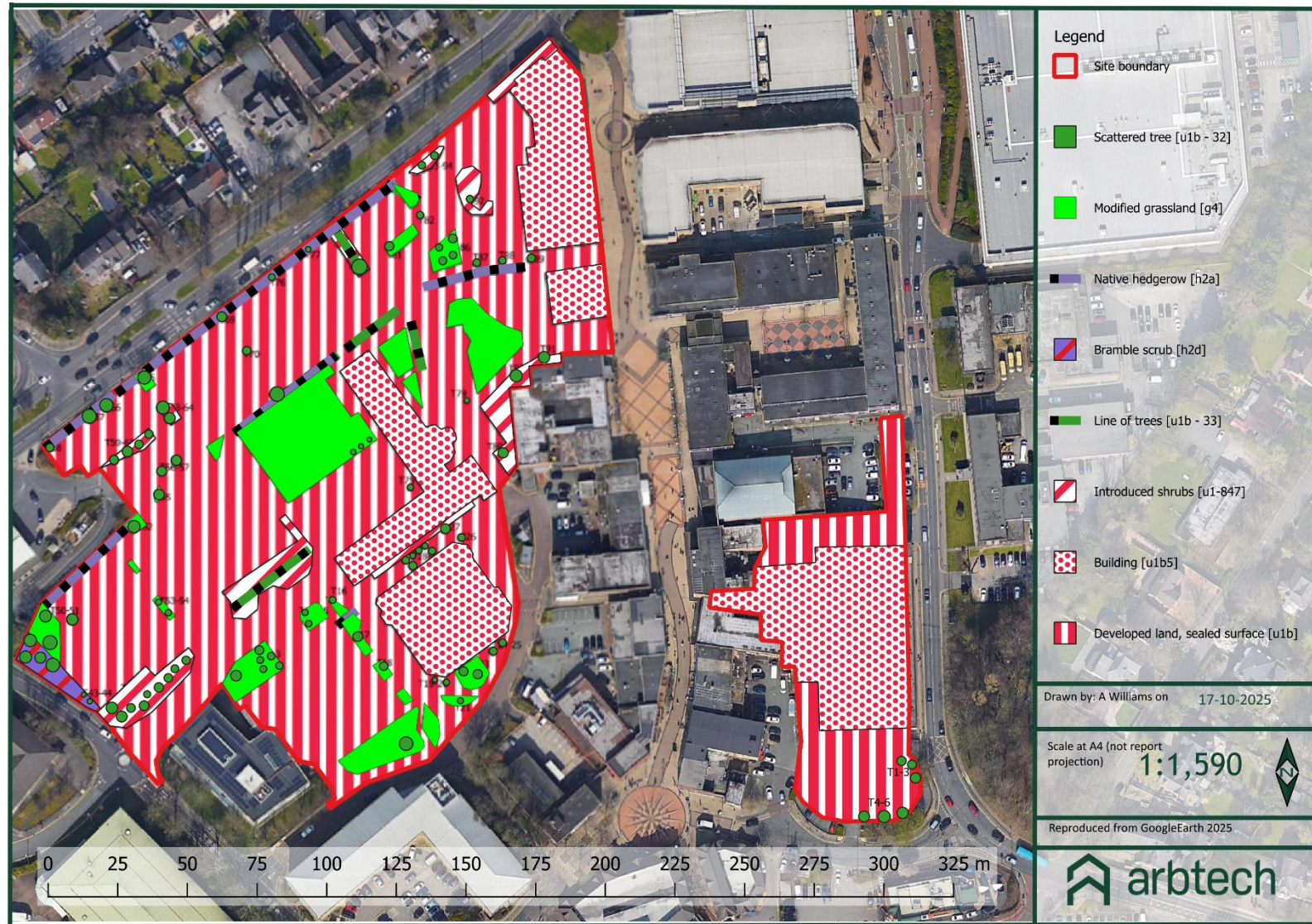
	Due to the small size of the site and the extent and type of the habitats recorded, the site not considered suitable to support a significant assemblage of protected and/or notable birds.
<i>Foreseen Impacts</i>	Buildings/trees The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests. Barn owls None foreseen. Overwintering birds None foreseen.
<i>Recommendations</i>	Buildings/trees Any building or tree/shrub 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 four bird boxes on mature trees around the site boundaries or on newly constructed buildings will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings) Schwegler 1SP Sparrow Terrace (buildings) Schwegler 1B Nest Boxes (trees) Schwegler 2H Robin Boxes (trees) Woodstone Nest Box (buildings or trees) Or a similar alternative brand.

	Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole. 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	
<i>Summary of Survey Findings</i>	EPSL data A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. Habitat suitability There is no suitable habitat present on site for reptiles due to a lack of habitats such as scrub and rank grassland which would offer refuge for these species. Further, the site is surrounded by urban development (i.e. roads and buildings) which is considered sub-optimal for reptile migration and therefore reptiles are considered unlikely to migrate from any nearby suitable habitats to the development site. As such it is likely that reptiles are absent from the development site. Wider landscape The wider landscape is comprised mainly of urban infrastructure with limited scattered green spaces. The train line situated ~80m south of the site may facilitate dispersal of this faunal group to suitable habitat in the further landscape. However, it is not considered likely that reptiles will migrate from this linear landscape element onto the site due to the intermittent tarmacked roads with heavy traffic and lack of optimal habitat in proximity to the site.
<i>Foreseen Impacts</i>	No impacts are anticipated on reptiles as a result of the proposed development. The site does not form a connective pathway or stepping stone between areas of suitable reptile habitat in the wider landscape and the development is unlikely to lead to reptile habitat fragmentation.
<i>Recommendations</i>	None required.
Amphibians	
<i>Summary of Survey Findings</i>	EPSL and survey data A review of the MAGIC database returned no granted EPSL records for great crested newts within 2km of the site. However, the MAGIC database did return evidence indicating the presence of great crested newts resulting from historic pond surveys undertaken in 2017. These records are located ~1.6km southwest. Great crested newts 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 <i>et al.</i> 2001). As such, the great crested newt metapopulation known to be present 1.6km southwest are not suitably connected to the site particularly given the lack of ponds in the space between the known record and the site. Aquatic habitat suitability (including ponds within 500m)

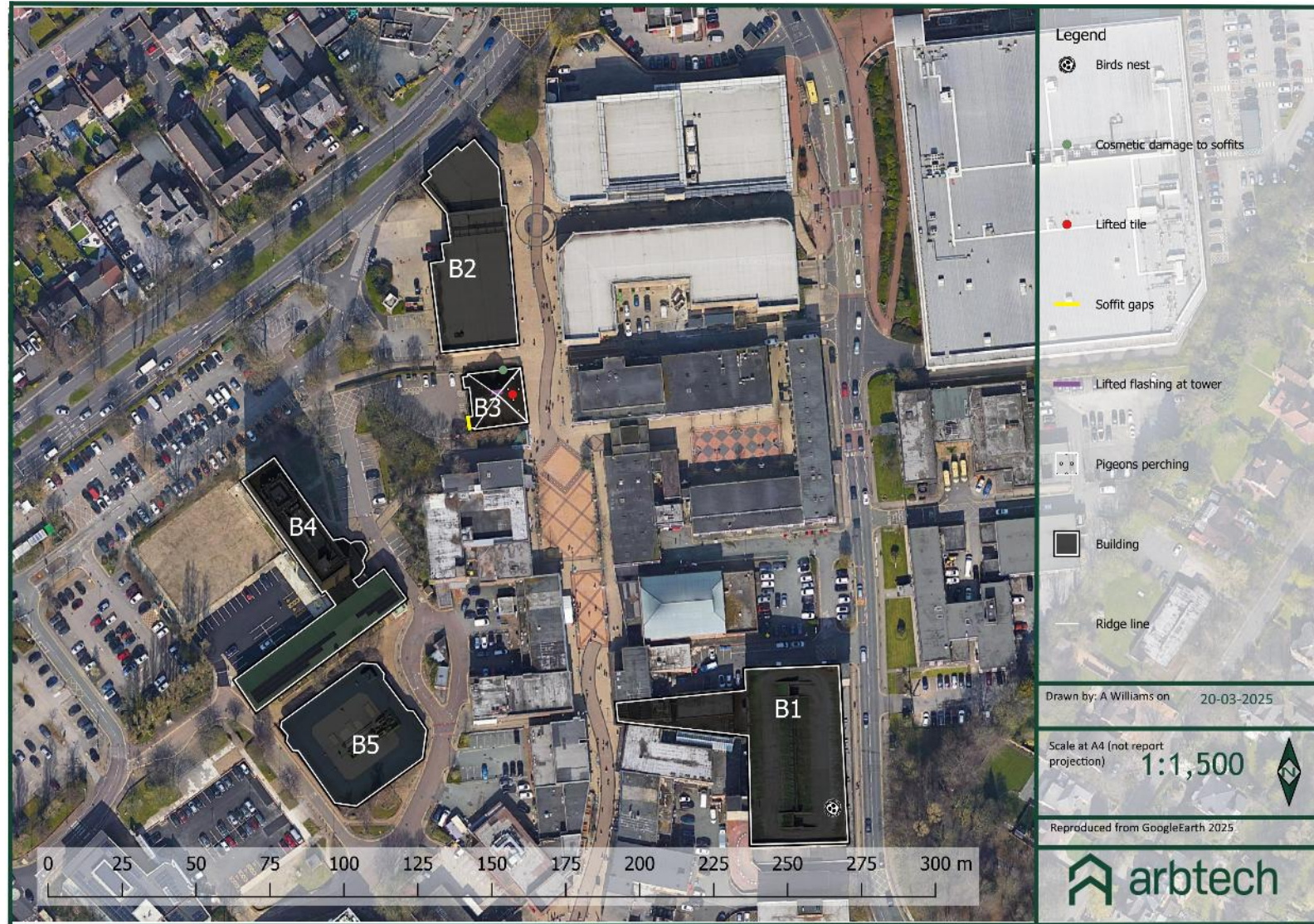
	Great crested newts (GCN) exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton <i>et al.</i> 2001). No ponds are present on site or within 500m of the site. Terrestrial habitat suitability The site provides limited suitable terrestrial habitat for amphibians given the lack of optimal habitat (i.e. scrub, rank grassland). The areas of hard standing and amenity grass offer sub-optimal habitat for terrestrial amphibians. The hedgerows may offer refuge for these species, however given the urban nature of the surrounding landscape (i.e. dominated by roads and hard standing which are sub-optimal for amphibians) it is unlikely that amphibians will migrate on to site. Further, there is limited suitable terrestrial habitat across the wider landscape reducing the likelihood of amphibians being present on site and across the surrounding areas. The train tracks situated ~80m south may facilitate dispersal for common amphibians into the wider landscape. However, given the suboptimal habitat present on site it is unlikely that this faunal group would commute onto site.
<i>Foreseen Impacts</i>	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 amphibians as a result of the proposed development are deemed to be acceptably low.
<i>Recommendations</i>	None required.
Badger	
<i>Summary of Survey Findings</i>	No badger setts were noted on site or within a 30m radius of the site. The site is considered unsuitable for badgers given the lack of suitable sett excavation areas/ground. Further, there is limited suitable badger foraging habitat on site given the lack of fruiting trees/scrub. The site is also surrounded by urban development (i.e. roads and buildings), which is sub-optimal habitat therefore reducing the likelihood of badgers being present within the surrounding area of the site.
<i>Foreseen Impacts</i>	No impacts are anticipated on badgers as a result of the proposed development.
<i>Recommendations</i>	None required.
Riparian animals	
<i>Summary of Survey Findings</i>	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.
<i>Foreseen Impacts</i>	No impacts are anticipated on riparian animals as a result of the proposed development.
<i>Recommendations</i>	None required.
Hazel dormouse	

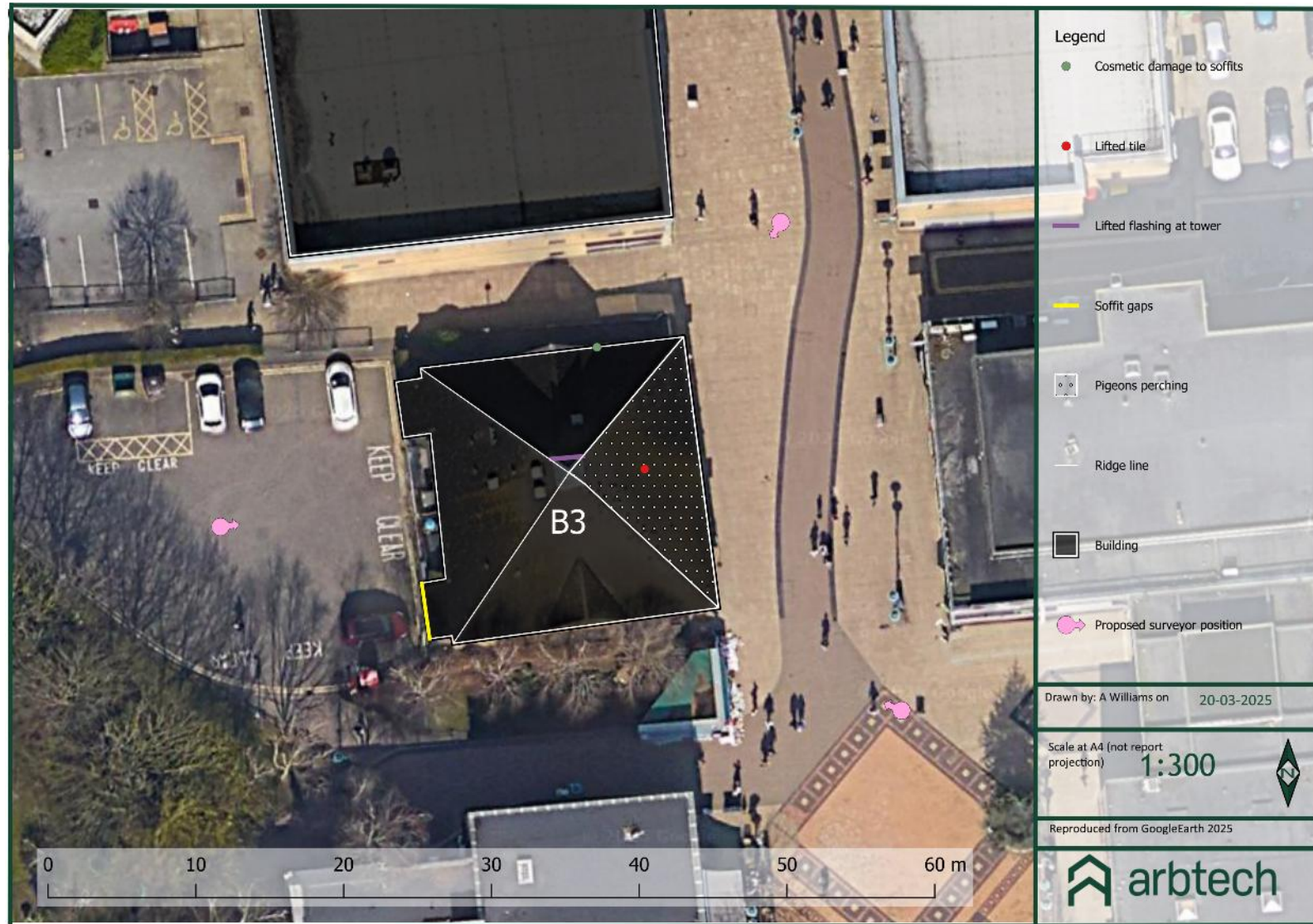
<i>Summary of Survey Findings</i>	EPSL data A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. Habitat suitability The site lies outside of the know current range for hazel dormice and there are no suitable habitats within the development area. As such it is considered likely that hazel dormice are absent from site.
<i>Foreseen Impacts</i>	No impacts are anticipated on hazel dormice as a result of the proposed development.
<i>Recommendations</i>	None foreseen.
Other e.g. hedgehog	
<i>Summary of Survey Findings</i>	The hedgerows, shrubbery, grassland and line of trees on site provide areas for commuting foraging and refuge within the site, with train tracks situated ~80m south which will facilitate dispersal for hedgehogs into the wider landscape.
<i>Foreseen Impacts</i>	Areas of modified grassland, introduced shrub, native hedgerow, lines of trees and 16 scattered trees will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.
<i>Recommendations</i>	A precautionary working method will be implemented during construction, including the following measures: • 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 hedgehogs could use. • Shrubby to be cleared in stages – first to a height no less than 40cm to allow a close inspection of the stumps/canes for hedgehogs. Any hedgehogs found should be gently moved to an area of retained habitat. If a hedgehog is found with dependent young work should stop until the hoglets are independent. • 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.

Appendix 1a: Habitat map



Appendix 1b: PRA map





Appendix 2: Location map



Appendix 3: Proposed plan



Appendix 4: Habitat Photos

Developed, sealed surface	
Photograph	Description
	Figure 1: Developed, sealed surface
Scattered trees	
Photograph	Description
	Figure 2: An example of the scattered trees on site
Line of trees	
Photograph	Description

		Figure 3: An example of the tree lines on site
Introduced shrubs		
Photograph		Description
		Figure 4: An example of the introduced shrubs on site
Buildings		
Photograph		Description
		Figure 5: An example of the buildings on site
Modified grassland		

Photograph		Description
		Figure 6: Modified grassland
Native hedgerows		
Photograph		Description
		Figure 7: An example of the native hedgerow on site
Bird		
Photograph		Description
		Figure 8: Birds' nest identified within B1

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