HIFLEX HOUSE TELFORD ROAD SALISBURY

ECOLOGICAL IMPACT ASSESSMENT (EcIA)

Store Property Investments Ltd

ACD ENVIRONMENTAL

Ecology
Archaeology
Arboriculture
Landscape Architecture

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QUALITY ASSURANCE

1.1. This report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing (2nd Edition, December 2017).

1.2. The facts stated in this report are true to the best of our knowledge and belief, and any opinions expressed are held genuinely and in accordance with the accepted standards of the profession. ACD Environmental Ltd is a CIEEM Registered Practice.

Client:	Store Property Investments Ltd
Site/job:	Hiflex House, Telford Road, Salisbury
Author:	Anouska Laramy
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1 EXECUTIVE SUMMARY

Purpose of report	To assess the ecological impacts of a proposed modification and partial demolition of buildings at Hiflex House, Telford Road, Salisbury, clearly identifying any 'significant effects' on important ecological features (including designated sites or protected species) and detailing any mitigation and/or compensation measures required, and how these could be secured.
Description of proposed development	Wiltshire Council granted full planning permission (PL/2021/08333) for the demolition of two outbuildings and modification/extension to the existing main industrial building and an extension to the existing car park. This EcIA report has been updated to support a new planning application which covers a reduced footprint, for the demolition of the two-storey office element of the existing industrial unit, over-cladding of the north elevation of the retained building, and construction of a new building capable of being sub-divided to provide new E(g) / B2 industrial and B8 Storage / Distribution accommodation, including associated external areas. The new planning application retains the main industrial unit as it is and replaces the office part of the building with more industrial units.
Brief description of the Site	The revised red line boundary comprises the office section of the industrial building, a hardstanding/parking area, shrub planting, amenity grassland, and scattered trees. It does not include the wider study area in the south, that were surveyed as part of the original (consented) planning application, such as the boxing club, species-rich grassland, and the southern boundary, which includes broadleaved woodland and backs onto the River Nadder, which is a tributary of the River Avon.
Designated nature conservation sites	The Application Site is within an Impact Risk Zone for two SSSIs. There are eleven statutory designated sites within 5km of the Application Site. This includes one Special Area of Conservation (SAC), eight Sites of Special Scientific Interest (SSSI) and two Local Nature Reserves (LNRs). There are also 8 non-statutory designated sites within 2km of the Application Site. These include one Wiltshire Wildlife Trust (WWT) site and seven Local Wildlife Sites (LWSs). The Application Site is geographically isolated from most of the statutory and non-statutory designated sites either by distance or barriers such as roads, industrial buildings and housing. As it is not housing, it is unlikely that the development will result in any increase in visitor pressure on local designated sites.
Key habitats	The most valuable habitats comprise mature trees on the north boundary of the Application Site.

Key species	To support the original planning application, bat emergence surveys of the office building were carried out on 13th June 2021, 19th August 2021, and 23rd September 2021. On the surveys of 13th and 21st September, a single common pipistrelle bat emerged from two separate locations, close to each other, from areas of weatherboarding/cladding over ground floor windows within the courtyard area. To support new planning application, a single updated bat emergence survey was carried out on the office building on 21st June 2023. During the survey, a single common pipistrelle bat was considered likely to have emerged from a gap under some weatherboarding above a window in the courtyard area, close to the other emergence locations. Based on the survey data, the Application Site supports a common pipistrelle *Pipistrellus pipistrellus* day roost.
Key impacts	The proposed works will result in the loss of a common pipistrelle day roost.
Mitigation	The office building containing the bat roost will be demolished under a licence from Natural England and the this will detail mitigation including supervision during demolition and the installation of an integrated bat box within the new building extension. Any mature trees scheduled for removal should be subjected to a pre-felling inspection for bat roosts. Any vegetation scheduled for removal during the nesting bird season should be inspected for nesting birds prior to removal.
Compensation	Three bat boxes will be placed on the main existing building to compensate for roosting features that will be lost. Two will be mounted onto retained mature trees. Compensatory tree planting will form part of the landscaping scheme.
Enhancements	Sparrow nest boxes will be placed onto the main building, bat boxes and starling nest boxes on the boundary trees, a hedgehog box within the southwestern boundary and wildlife-beneficial landscaping, including native trees, will be planted either side of the main entrance on the west of the Application Site.
Conclusions	The proposed development will compensate and mitigate for any losses within the Application Site. A European Protected Species (EPS) bat mitigation licence will be obtained prior to any works, to comply with the relevant legislation.

2 INTRODUCTION

2.1. This report provides an assessment of the ecological effects of the proposed redevelopment of a commercial unit within an industrial estate comprising Hiflex House, Telford Road, Salisbury, hereafter referred to as the Application Site (see Image 1). The principal author of this report is Anouska Laramy.

Background

2.2. The Application Site is approximately 2.4ha and is located on an industrial estate on the outskirts of the city of Salisbury, comprising the building known as Hiflex House, its associated buildings and hardstanding with scattered trees and both amenity and species rich grassland pockets. The Application Site is surrounded by industrial buildings but with woodland and the River Nadder directly to the south. There is farmland beyond to the south-east and a railway to the north and Salisbury beyond to the east. The Application Site location and approximate red line are shown in **Image 1**.

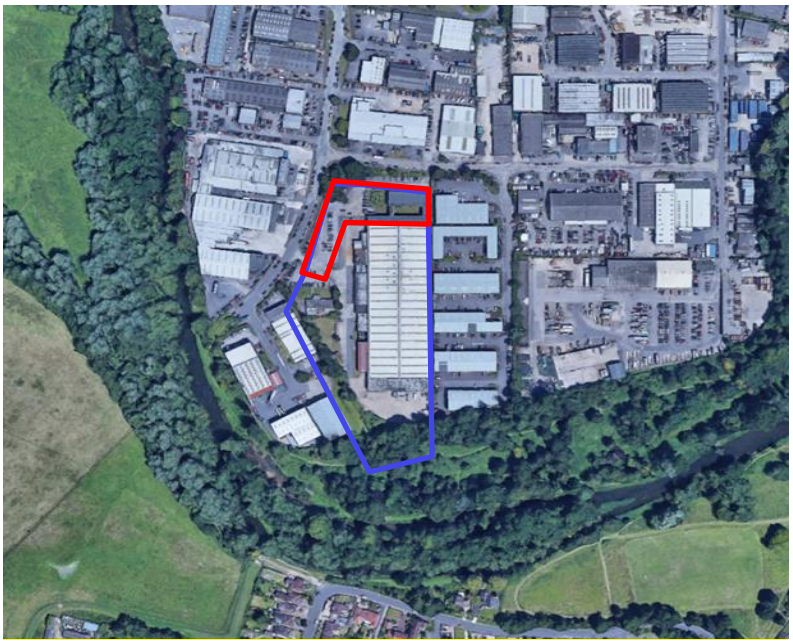


Image 1: The Application Site with approximate red line boundary and blue line (study area).

2.3. The Application Site will be subject to a revised planning application, which this report will accompany, for the demolition of the two-storey office element of the existing industrial unit, over-cladding of the north elevation of the retained building, and construction of a new building capable of being sub-divided to provide new E(g) / B2 industrial and B8 Storage / Distribution accommodation, including associated external areas.

Competence

2.4. This report has been written by Anouska Laramy and Hayley Roberts, ACD Environmental Ltd. Hayley is an Ecologist and has undertaken many extended Phase 1 Habitat Surveys and protected species surveys. Hayley holds licences for bats and great crested newts *Triturus cristatus* and barn owls *Tyto alba*. Hayley is a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Anouska is a Graduate Ecologist and has undertaken many extended Phase 1 Habitat surveys and assisted with protected species surveys. Anouska is a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

2.5. A Technical Review of this report has been undertaken in line with ACD Environmental Ltd.'s Quality Assurance procedures. The Technical Review was undertaken by Lisa Durrant. Lisa has ten years' experience working for commercial consultancy and specialises in European Protected Species (EPS) legislation and mitigation, holding licences for bats, hazel dormice *Muscardinus avellanarius*, great crested newts and barn owls. Lisa has significant experience of EcIA and is a Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

Purpose of the report

2.6. The purpose of this Ecological Impact Assessment (EcIA) is as follows:

- To identify and describe all potentially significant ecological effects associated with the proposed development
- To set out the mitigation measures required to ensure compliance with nature conservation legislation and relevant planning policy, and to address any potentially significant ecological effects
- To identify how mitigation measures will/could be secured
- To identify any significant residual ecological effects and set out any compensation measures proposed to address these
- To identify appropriate enhancement measures in order to achieve Biodiversity Net Gain
- To set out the requirements for post-construction monitoring

3 PLANNING POLICY AND LEGISLATION

Legislation

3.1. The following pieces of legislation are of specific relevance to this assessment:

- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[1]. This piece of legislation is of relevance because the Application Site supports common pipistrelle *Pipistrellus pipistrellus* bat roosts, a European Protected Species (EPS).

- Wildlife and Countryside Act 1981[2] (as amended, including by the Countryside and Rights of Way Act 2000). This piece of legislation is relevant because the Application Site is within the zone of influence of a Site of Special Scientific Interest (SSSI), which is protected in England under this Act.

- Natural Environment and Rural Communities (NERC) Act 2006[3]. Section 41 includes lists of habitats and species recognised as of 'principal importance' for the conservation of biodiversity. Section 40 of the NERC Act 2006 requires all public bodies to have regard for biodiversity conservation when carrying out their function. This is commonly referred to as the 'biodiversity duty'.

3.2. The following pieces of legislation have been considered, but are not considered to be of specific relevance in this case:

- Protection of Badgers Act 1992 (no badger setts are present within the Application Site or sufficiently close to be affected)

- Hedgerows Regulations 1997 (there are no hedgerows within the Application Site or sufficiently close to be affected / the Regulations do not apply to the hedgerows in this context).

[1] Great Britain. *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019* No.579 [online]. Available from: https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents
[2] Great Britain. *Wildlife and Countryside Act 1981* [online]. Available from: http://www.legislation.gov.uk/ukpga/1981/69/contents
[3] Great Britain. *Natural Environment and Rural Communities Act 2006* [online]. Available from: http://www.legislation.gov.uk/ukpga/2006/16/contents

Planning policy

National Planning Policy Framework 2021[4]

3.3. Paragraph 180 of the NPPF states that when determining planning applications, local planning authorities should apply the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused

- Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest

- Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists

- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Wiltshire Core Strategy 2015 - 2026[5]

3.4. Policy 50 Biodiversity and Geodiversity states the following:

[4] Great Britain. *National Planning Policy Framework (2021)*. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2
[5] Wiltshire Council (2015). *Wiltshire Core Strategy 2015-2026*. Adopted January 2015.

"Protection

Development proposals must demonstrate how they protect features of nature conservation and geological value as part of the design rationale. There is an expectation that such features shall be retained, buffered and managed favourably in order to maintain their ecological value, connectivity and functionality in the long-term. Where it has been demonstrated that such features cannot be retained, removal or damage will only be acceptable in circumstances where the anticipated ecological impacts have been mitigated as far as possible and appropriate compensatory measures can be secured to ensure no net loss of the local biodiversity resource, and secure the integrity of local ecological networks and provision of ecosystem services.

All development proposals shall incorporate appropriate measures to avoid and reduce disturbance of sensitive species and habitats throughout the lifetime of the development.

Any development potentially disturbing a Natura 2000 site must provide avoidance measures in accordance with the strategic plans and guidance set out in paragraphs 6.75-6.77[6] *where possible, otherwise bespoke measures must be provided to demonstrate that the proposals would have no effect on the Natura 2000 network. Any development that would have an adverse effect on the integrity of a European nature conservation site will not be in accordance with the Core Strategy.*

Biodiversity Enhancement

All development should seek opportunities to enhance biodiversity. Major development in particular must include measures to deliver biodiversity gains through opportunities to retore, enhance and create valuable habitats, ecological networks and ecosystem services. Such enhancement measures will contribute to the objectives and targets of the Biodiversity Action Plan (BAP) or River Basin/ Catchment Management Plan, particularly through landscape scale projects, and be relevant to the local landscape character.

[6] Wiltshire Council (2015). *Wiltshire Core Strategy 2015-2026*. Adopted January 2015.

Local Sites

Sustainable development will avoid direct and indirect impacts on local sites through sensitive site location and layout, and by maintaining sufficient buffers and ecological connectivity with the wider environment. Damage or disturbance to local sites will generally be unacceptable, other than in exceptional circumstances where it has been demonstrated that such impacts:

i. cannot reasonably be avoided

ii. are reduced as far as possible

iii. are outweighed by other planning considerations in the public interest

iv. where appropriate compensation measures can be secured through planning obligations or agreements.

Development proposals affecting local sites must make a reasonable contribution to their favourable management in the long-term."

4 METHODOLOGY

Scope of assessment

4.1. The EcIA focuses on 'important ecological features', i.e. those which are considered to be of relevance to the decision-making process and could be affected by the proposed development. Important ecological features include protected species, habitats/species of 'principal importance' for biodiversity conservation (i.e. Section 41 habitats/species[7]), birds of conservation concern[8], invasive non-native plant species[9], and habitats and species identified as priorities for conservation in the Wiltshire Biodiversity Action Plan (BAP[10]).

Zone of influence

4.2. The 'zone of influence' (ZOI) is the area over which important ecological features (on-site or off-site) may be affected as a result of the proposed development and associated activities. The ZOI can vary for different ecological features, depending on their sensitivity to environmental change.

4.3. The ZOI for statutory designated sites has been informed by Natural England's Sites of Special Scientific Interest (SSSIs) Impact Risk Zones[11] (IRZs). IRZs define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts. This has been determined as part of the desk study, as discussed below. In this case it is clear that the Application Site is within the IRZ for two SSSIs.

Desk Study

4.4. The following information was requested from Swindon and Wiltshire Biological Record Centre for a search area of 2km around the Application Site boundaries;

[7] Section 41 (41) of the Natural Environment and Rural Communities (NERC) Act, which came into force on 1st October 2006, requires the Secretary of State to publish a list of habitats and species which are of principle importance for the conservation of biodiversity in England.
[8] Red list species are those that are globally threatened, whose population or range has declined rapidly in recent years (i.e. by more than 50% in 25 years), or which have declined historically and not recovered. Amber list species are those whose population or range has declined moderately in recent years (by more than 25% but less than 50% in 25 years), those whose population has declined historically but recovered recently, rare species (<300 breeding pairs or <900 wintering individuals), those with internationally important populations in the UK, those with localised populations, and those with an unfavourable conservation status in Europe. Species that meet none of these criteria are Green-listed.
[9] Invasive non-native plants (Section 14) on Schedule 9 of the Wildlife & Countryside Act 1981 (as amended).
[10] Link2Nature (2008) *Wiltshire Biodiversity Action Plan.* Available at: Wiltshire Biodiversity Action Plan (BAP) 2008 (link2nature.org.uk)
[11] Natural England (June 2019). Natural England's Impact Risk Zones for Sites of Special Scientific Interest (For use by Local Planning Authorities to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites and determine when to consult Natural England).

- Non statutory designated sites;
- Notable species; and
- Invasive species.

4.5. The data was requested on 10th June 2021 and received on 21st June 2021.

4.6. The MAGIC website[12] was used to carry out a 5km data search for SSSIs, Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) with an IRZ that falls within the Application Site, in November 2021.

Field surveys

4.7. A summary of ecological field surveys is provided in Table 1. Descriptions of full survey methods are provided in Appendix 4.

Table 1: Field surveys

Survey	Surveyor/s	Survey date/s	Study Area	Relevant guidelines
Extended Phase 1 Habitat Survey	Lisa Durrant MCIEEM and Lily Gilbert MCIEEM	9th June 2021	Red line boundary	JNCC (2010)
Bat emergence surveys	Lisa Durrant, Lily Gilbert, Jennifer Lackie, Rebecca Brown, Hayley	13th June 2021 19th August 2021 23rd September 2021	Office building and boxing club building	BCT (2016)

[12] *Multi Agency Geographic Information for the Countryside* [online]. Available at: https://magic.defra.gov.uk/

	Roberts and Siobhan Pryke			
Updated bat emergence survey	Lisa Durrant Jane Cole	21st June 2023	Office building	BCT (2016)

Limitations

4.8. There were no limitations for the extended Phase 1 Habitat Surveys or the bat emergence surveys.

Assessment methodology

4.9. The habitats and species evaluations and likely effects are made with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment[13].

4.10. The importance of ecological features has been assessed by carrying out a suite of specialist surveys (Table 1) to determine whether protected species/habitats, and/or species/habitats of conservation concern are present in the Application Site or its ZOI, then comparing their status at the international/national/county/regional/local scale, through the use of available contextual information, to establish the importance of those features in a geographical context.

4.11. The overall effect of the proposed development on a given feature has been predicted, considering the baseline data collected through desk study and field survey, and the various impacts expected to occur. An assessment has then been made as to whether the effect on each important ecological feature is likely to be significant or not.

4.12. Significance is the weight that should be attached to effects when decisions are made. For the purpose of EcIA, a likely significant effect is an effect that either supports or undermines biodiversity conservation objectives for important ecological features (which could be species populations/groups of species, habitats, or a designated site), or for biodiversity in general. Effects have been considered significant at a wide range of scales, from national to local.

[13] CIEEM (2019). Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal, Version 1.1. updated September 2019. Chartered Institute of Ecology and Environmental Management, Winchester.

4.13. A sequential process has been adopted to avoid/mitigate, and if required, compensate for significant negative ecological effects. This is referred to as the 'Mitigation Hierarchy'. Avoidance includes measures to change the design of the proposed development to avoid an impact occurring. Mitigation includes measures to avoid or reduce the negative impacts of the proposed development. Compensation addresses significant negative residual effects (those likely to occur after avoidance and mitigation have been considered). It is this objective of compensation, and not its location, that distinguishes compensation from 'mitigation'.

4.14. In EcIA, it is only essential to assess and report significant residual effects that remain after mitigation measures have been taken into account. However, the potential significant effects without mitigation as well as the residual significant effects following mitigation have been presented where the mitigation proposed is experimental, unproven or controversial and/or to demonstrate the importance of securing the measures proposed through planning conditions or obligations.

Valuation

4.15. The value of important ecological features (sites, habitats and species) is assigned according to their scale of importance using the following terms:

- International importance – ecological features of international importance such as SPAs and SACs, and/or sites that support internationally-important populations of species.

- National importance – ecological features of national importance such as SSSIs, features which meet the criteria for designation as a SSSI, and/or sites that support nationally-important populations of certain species.

- Regional importance – ecological features of regional importance, such as a species population that is of importance at a scale greater than the County, but does not meet the criteria for National Importance

- County importance – ecological features of county-scale importance, including features that have been designated as local wildlife sites, or meet the criteria for designation as a local wildlife site, and/or county-important populations of species

- Local importance – ecological features of local importance, including habitats or species populations listed as being of nature conservation importance (e.g. S41, local BAP, or listed in local planning policy) which are not considered to

be of County importance by virtue of the quality, size/number, rarity, the extent to which they are threatened throughout their range, or to their rate of decline.

Precautionary principle

4.16. The evaluation of significant effects is based on the results of the ecological surveys carried out in the Application Site and other available evidence. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect is assumed. Where uncertainty exists, it has been duly acknowledged.

5 BASELINE ECOLOGICAL CONDITIONS

Context

5.1. The Application Site is located on an industrial estate on the outskirts of the city of Salisbury. The Application Site is surrounded by industrial buildings but with woodland and the River Nadder directly to the south. There is farmland beyond to the south-east and a railway to the north and Salisbury City beyond to the east.

Designated Sites

5.2. Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) within 5km of Application Site are shown in Table 2.

Table 2: Statutory designated sites within 2km of the Application Site

Name of designated sites	Approximate distance and direction from Application Site	Reason for designation	Scale of importance
River Avon (SAC) and (SSSI)	The River Avon runs at a distance of 59m to the west of the site, 104m to the south of the site and 308m to the east of the site.	Designated for its annex 1 habitat of water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. The River Avon includes chalk sections which are rare and restricted to southern and eastern England. The River Avon is an important site for several Annex 2 species including Desmoulins's whorl snail *Vertigo moulinsiana*, sea lamprey *Petromyzon marinus*, brook lamprey *Lampetra planeri*, Atlantic salmon *Salmo salar* and bullhead *Cottus gobio*.	International and National respectively

Name of designated sites	Approximate distance and direction from Application Site	Reason for designation	Scale of importance
West Harnham Chalk Pit (SSSI)	845m south	A disused quarry that is designated for its chalk rock and is of great stratigraphic importance. Sea urchin *Offaster pilula* fossil is abundant.	National
East Harnham Meadows (SSSI)	2km to the southeast of the site	Designated for its botanical richness and habitats with wet grazed meadows supporting many herbs, grasses and sedges and orchids (Orchidaceae spp.) The grassland type is drier to the northwest. The habitat becomes swampy to the northeast.	National
Camp Down (SSSI)	3.8km to the north of the site	Designated for its botanically rich chalk grassland with orchids, particularly the fragrant orchid *Gymnadenia conopsea*. Supports the chalkhill blue butterfly *Polyommatus coridon* and dark green fritillary *Speyeria aglaja.*	National
Britford Water Meadows (SSSI)	3.8km to the southeast of the site	Designated for its managed water meadows system. The site is important feeding ground for resident and migratory birds (wintering and breeding).	National
Odstock Down (SSSI)	3.9km to the south of the site	Designated for its diverse flora on chalk grassland. It is an important site for two nationally restricted plant species; the bastard-toadflax *Thesium humifusum* and the burnt orchid *Orchis ustulata*. Supports the small blue butterfly *Cupido minimus.*	National

Name of designated sites	Approximate distance and direction from Application Site	Reason for designation	Scale of importance
Cockey Down (SSSI)	4km to the northeast of the site	Designated for is botanically diverse chalk grassland. Supports a variety of orchids and the nationally scarce field fleawort (*Senecio integrifolius*). Bastard-toadflax is present in small numbers. The site supports grey partridge *Perdix perdix*, badger *Meles meles* and common lizard *Zootoca vivipara*. The site also supports the large robber fly *Asilus crabroniformis*.	National
Homington and Coombe Bissett Downs (SSSI)	4.2km to the southwest of the site	Designated for its diverse botanically rich chalk grassland which includes the nationally restricted dwarf sedge *Carex humilis* which is characteristic of southwest Wiltshire chalk. Supports the nationally restricted Adonis blue *Polyommatus bellargus* butterfly.	National
Avon Valley (LNR)	1.7km to the northeast of the site	Designated for its river valley habitats with marshy vegetation, willow wood, grassland and reedbeds.	Local
Bemerton Heath and Barnard's Folly (LNR)	1.9km to the northwest of the site	Designated for its mixed woodland habitat that support a variety of species including pipistrelle bats *Pipistrellus* sp., lesser spotted woodpecker *Dryobates minor*, spotted flycatcher *Muscicapa striata* and	Local

Name of designated sites	Approximate distance and direction from Application Site	Reason for designation	Scale of importance
		European hedgehog *Erinaceaus europaeus.*	

5.3. No impacts are anticipated to occur on any statutory designated sites due to spatial separation from the Application Site effectively providing a buffer, with no impacts anticipated from visitor pressure due to the non-residential nature of the proposed development.

5.4. Local (non-statutory) wildlife sites within 1km of the Application Site are shown in Table 3.

Table 3: Local wildlife sites within 1km of the Application Site

Name of Local Wildlife Site	Approximate distance and direction from the Application Site	Nature Conservation Interest	Scale of importance
Nadder Island (Wiltshire Wildlife Trust)	132m south of the site	A crescent-shaped island on the River Nadder owned by Wiltshire Wildlife Trust. Important for breeding and wintering birds that are well protected by the island habitat. Species the site supports includes water rail (*Rallus aquaticus*), kingfisher (*Alcedo atthis*) and Cetti's warbler (*Cettia cetti*).	County
Middle Street Meadow SU12 081 (LWS)	195m southeast of the site	Designated for its long grasses and pond area that supports an aquatic wildlife habitat.	County

Bemerton Meadow West SU13 047 (LWS)	327m northwest of the site	Designated for its water meadow habitat which is adjacent to the River Nadder.	County
Fitzgerald Farm Meadows SU13 041 (LWS)	518m northwest of the site	Designated for its water meadow habitat that is adjacent to three other water meadows supporting wildlife connectivity.	County
Bemerton Mainland Meadow SU13 053 (LWS)	524m northeast of the site	One of eight adjourning water meadows, designated for supporting a variety of wildlife and creating habitat connectivity to the River Nadder and adjacent water meadows.	County
Harnham Water Meadow SU12 003 (LWS)	560m to the southeast of the site	A water meadow that is actively managed for conservation purposes supporting wildlife that relies on the habitat that the water meadow provides.	County
Island Meadow SU13 040 (LWS)	663m to the northwest of the site	This water meadow is adjourned with eight other meadows creating wildlife habitat for species that are supported by water meadows as	County

		well as habitat connectivity.	
Harnham Slope SU12 064 (LWS)	784km to the northwest of the site	A woodland habitat that extends towards a chalk pit. The site is very biodiverse and supports a number of bird, bat and butterfly species as well as supporting a badger (*Meles meles*) sett to the west of the site.	County

5.5. All non-statutory sites are located a significant distance away and so are geographically isolated from the Application Site either by distance or features such as main roads/industrial buildings/housing, due to this isolation all non-statutory sites have been scoped out and will not be mentioned further on within this report.

Habitats

5.6. Habitats are listed in order of importance. All the features described are shown on the Phase 1 Habitat Map in Appendix 1.

Hedgerows and Trees

5.7. At the western extent of the northern boundary was a group of mature sycamore *Acer pseudoplatanus* trees. It is understood that some trees have been removed on site, due to them being of a dangerous nature. The western boundary supported a mixed hedgerow with trees supporting silver birch *Betula pendula*, dog rose *Rosa canina*, sycamore, cherry laurel *Prunus laurocerasus*, buddleia *Buddleja davidii* and bramble *Rubus fruticosus* agg.

5.8. Matre trees and shrubs were present along the northern boundary, adjacent to Telford Road.

5.9. The western treeline (outside the red line boundary) directly adjoins an offsite woodland to the south of the Application Site and therefore forms a part of a wider landscape feature and green corridor. Given this the tree line is considered to be of **Local importance**.

Species-rich Grassland

5.10. A small patch of grassland, covering approximately 0.05ha, is located to the south of the boxing club building. This grassland is now outside the red line boundary and not affected by the proposed development. This section of grassland appeared to be subject to regular management, however, was identified as being species rich and was found to support two species of orchid comprising bee orchid and pyramidal orchid *Anacamptis pyramidalis*. Other species identified in this section of grassland included bulbous buttercup *Ranunculus bulbosus*, common field speedwell *Veronica persica*, ground ivy *Glechoma hederacea,* yarrow *Achillea millefolium*, dropwort *Filipendula vulgaris* and black medic *Medicago lupulina* and ribwort plantain *Plantago lanceolata* along with common grasses comprising Yorkshire fog *Holcus lanatus* and cocksfoot *Dactylis glomerata*.

5.11. This patch of species-rich grassland contained indicators of both calcareous and neutral soils and is likely to be a remnant section of calcareous grassland which has been modified by its management over time. This is consistent with species-rich calcareous grasslands known in the wider Salisbury area.

5.12. Given the species-rich nature of this grassland within a heavily urban setting in addition to the presence of slow growing orchids, it is considered to be of **local value.**

Invertebrates

5.13. There have been many invertebrate species recorded within 2km of the Application Site; species recorded include stag beetle *Lucanus cervus* and butterflies such as the grizzled skipper *Pyrgus malvae*, white-letter hairstreak *Satyrium w-album* and small heath *Coenonympha pamphilus*. These species are all species of Principle Importance under the NERC Act and are all a UK BAP species.[14] Stag beetles and the white-letter hairstreak are both Priority Species within the local Wiltshire BAP.[15]

5.14. There are historical records of the stag beetle in 1954 and 1983, however a more recent record occurred in 2020. The record occurred approximately 1.9 km southeast from the centre of the Application Site. Stag beetles rely on rotting deadwood associated with woodland and there are many barriers of unsuitable urban habitat between the recorded site and the Application Site, preventing stag beetle from colonising the area. Stag beetles are likely **absent** from the

[14] Great Britain. *Natural Environment and Rural Communities Act 2006* [online]. Available from: http://www.legislation.gov.uk/ukpga/2006/16/contents
[15] Link2Nature (2008) *Wiltshire Biodiversity Action Plan.* Available at: Wiltshire Biodiversity Action Plan (BAP) 2008 (link2nature.org.uk)

Application Site.

5.15. There are three records of grizzled skipper butterflies within 2km of the Application Site. The most recent record occurred approximately 338m southeast of the Application Site within Middle Street Meadow. Grazed skippers prefer short chalk grazed grassland habitats not typical of the longer grassland currently at Middle Street Meadow. There is a small possibility that the grizzled skipper could pass through the Application Site.

5.16. The small heath butterfly has also been recorded within Middle Street Meadow, although the most recent record occurred in 2011. The small heath butterfly is likely to be associated with the woodland rides south of the Application Site and are likely **absent** from within the Application Site itself.

5.17. A single record of a white-letter hairstreak butterfly was recorded in 2014 1.9 km southeast of the Application Site. The butterfly is associated with woodland scrub and there are significant barriers between the Application Site and the place in which the butterfly was recorded. White-letter hairstreaks are likely **absent** from the Application Site.

5.18. The species rich grassland is likely to support a diverse community of insect species.

Fish

5.19. There are no waterbodies to support fish within the Application Site itself. The River Nadder is not affected by the proposed scheme. However, pollution prevention measures should be strictly adhered to during construction, to prevent any risk of pollution entering the River Nadder, which is within close proximity to the southern boundary of the site.

Great crested newts

5.20. There are no records of great crested newts within the Application Site and there are only two ponds within 500m, however there are many waterbodies associated with the River Nadder.

5.21. The ponds are all separated by the River Nadder itself, the flowing waters will act as a barrier for any newts breeding within the ponds and therefore are prevented from accessing the Application Site.

5.22. Within the Application Site itself there is little suitable terrestrial habitat, great crested newts are likely **absent** from the Application Site.

Other amphibians

5.23. There have been few recent records of other amphibians recorded within 2km of the Application Site.

5.24. Records that have been submitted include the common frog *Rana temporaria* and common toad *Bufo bufo*, the most recent record was of a common toad in 2015, 722m south of the Application Site.

5.25. Amphibians are likely **absent** from the Application Site due to the lack of suitable habitat within the Application Site.

Reptiles

5.26. Slow worm *Anguis fragillis*, common lizard *Zootoca vivipara* and grass snake *Natrix helvetica* all species of Principle Importance under the NERC Act 2006[16] have all been recorded within 2km of the Application Site, however there are few recent records of any of these three species.

5.27. The most recent reptile record is of a grass snake in Middle Street Meadow in 2019.

5.28. There is very little suitable habitat within the Application Site for reptiles, therefore they are likely absent.

Birds

5.29. There have been many species of birds recorded within 2km of the Application Site some of the more relevant species to the Application Site include house sparrow *Passer domesticus*, starling *Sturnus vulgaris* and song thrush *Turdus philomelos*.

5.30. All three of these species are on the red list for Birds of Conservation Concern.[17] A list of bird species within the UK that categorises birds into green, amber or red according to conservation concerns. Red is of most conservation concern and green is of least conservation concern.

5.31. House sparrows are known to nest in crevices of buildings and the trees and scrub could support all three of the bird species noted above for breeding and foraging opportunities. The species rich grassland could also provide opportunities for foraging.

5.32. The Application Site is likely to support the species above for breeding or foraging and the

[16] Great Britain. *Natural Environment and Rural Communities Act 2006* [online]. Available from: http://www.legislation.gov.uk/ukpga/2006/16/contents
[17] Great Britain. (2015) *Birds of Conservation Concern 4.* Available at: birds-of-conservation-concern-4-leaflet.pdf (bto.org)

Application Site is of **site value** for these species.

Bats

5.33. At least fifteen species of bat have been recorded within the Application Site including greater horseshoe bats *Rhinolophus ferrumequinum*, lesser horseshoe bats *R. hipposideros*, barbastelle *Barbestelle barbastellus*, serotine *Eptesicus serotinus*, Bechstein's bat *Myotis bechsteinii*, Brandt's bat *M. brandtii*, Daubentons bat *M. daubentonii*, whiskered bat *M. mystacinus*, Natterer's bat *M. nattereri*, Leisler's bat *Nyctalus leisleri*, noctule *N. noctula*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, Nathusius' pipistrelle *P. nathusii* and brown long-eared bat *Plecotus auritus*.

5.34. There have been no granted European Protected Species Licences for bats within 2km of the Application Site.

Roosting

5.35. The boxing club building (outside the red line boundary) had at least three potential roosting features located around the outside of the building. The office building had five potential roosting features including gaps in the soffits and the main factory building has some holes in the brickwork.

5.36. The buildings were initially assessed as having moderate potential for roosting bats and two emergence surveys were recommended in line with the Bat Conservation Trusts (BCT) guidelines for professional ecologists[18].

5.37. During the first survey on 13th June a single common pipistrelle emerged from underneath the weather boarding within the courtyard area (**see photograph 1**), as a bat was observed emerging from one of the buildings, a third emergence survey was recommended. The three emergence surveys were conducted between 13th June and 26th September 2021.

5.38. On the third emergence survey on the 23rd September 2021, a common pipistrelle emerged from a similar location as on the first initial survey but slightly lower down above the ground floor window (**see photograph 1**).

5.39. Bat activity was generally low throughout the surveys with mostly common and soprano pipistrelle bats foraging along the eastern edge of the office building and the occasional passing noctule.

[18] Bat Conservation Trust. (2016) *Bat Surveys for Professional Ecologists. Good Practise Guidelines.* Available at: Bat Survey Guidelines 2015

5.40. On the updated bat emergence survey on 21st June 2023, a common pipistrelle bat was considered likely to have emerged from a gap under some weatherboarding above a window in the courtyard area, close to the other emergence locations.

5.41. Several sycamore trees on the northern boundary of the Application Site had potential roosting features including raised bark and rot holes. It is understood that Some trees have been removed on site due to them being of a dangerous nature. If any trees with bat roosting potential need to be removed, they should be subject to pre-felling inspections for bats.

5.42. The Application Site is considered to be of **local** value for roosting bats.



Photograph 1: The office building showing where the common pipistrelle bat emerged from, the yellow star indicates the emergence on 13th June and the blue star indicates the emergence on the 23rd September.



Photograph 2: Gap under weatherboarding above windowsill. Red circle shows where a single common pipistrelle bat is likely to have emerged on the updated survey of 21st June 2023.

Foraging

5.43. Due to the close proximately of woodland to the south and the River Nadder, bats are likely to be navigating and foraging onsite and may be using the boundary vegetation.

5.44. The use of the Application Site is not going to change and therefor it is unlikely that the development would have any negative impacts on navigating/ foraging bats. However, if any additional lighting is to be implemented, then it is recommended that a sensitive lighting scheme should be designed to ensure that woodland buffers are retained along the Application Site boundaries, particularly the woodland boundary to the south.

5.45. The Application Site and its boundaries are of **local value** to foraging and commuting bats.

Water vole

5.46. There are many records of water vole *Arvicola amphibius* within 2km of the Application Site mostly associated with Lower Bemerton and the River Nadder 327m northwest of the Application Site. Water vole is also associated with the River Avon System.

5.47. Water voles are likely to be **absent** to the Application Site due to the absence of waterbodies with the Application Site itself.

Otters

5.48. There have been many records of otter *Lutra lutra* within 2km of the Application Site and most of these have been associated with the River Avon Systems, however there have been some historic records within the River Nadder.

5.49. As with water vole, otters are likely **absent** from the Application Site due to the absence of water courses within the site itself.

Badgers

5.50. There are eleven records of badger *Meles meles* within 2km of the Application Site.

5.51. No signs of badger activity or setts were present during the extended Phase 1 Habitat survey on 9th June 2021.

5.52. The Application Site does provide foraging opportunities within the species rich grassland, tree lines and connecting habitats and it is likely that the Application Site forms part of the overall territory for at least one social group of badgers.

5.53. The Application Site is considered to be of **local** Importance to badgers.

Other mammals

Hedgehog

5.54. There are many records of European hedgehog *Erinaceus europaeus* within 2km of the Application Site.

5.55. There are foraging opportunities for hedgehogs within the wider study area, in the form of grassland habitat, hedgerows, and scrub, but limited opportunities within the red line boundary.

5.56. The Application Site is considered to be of Local value for hedgehogs.

6 SCHEME DESIGN

6.1. The revised scheme design comprises the demolition of the two-storey office element of the existing industrial unit, over-cladding of the north elevation of the retained building, and construction of a new building capable of being sub-divided to provide new E(g) / B2 industrial and B8 Storage / Distribution accommodation, including associated external areas (Image 2).

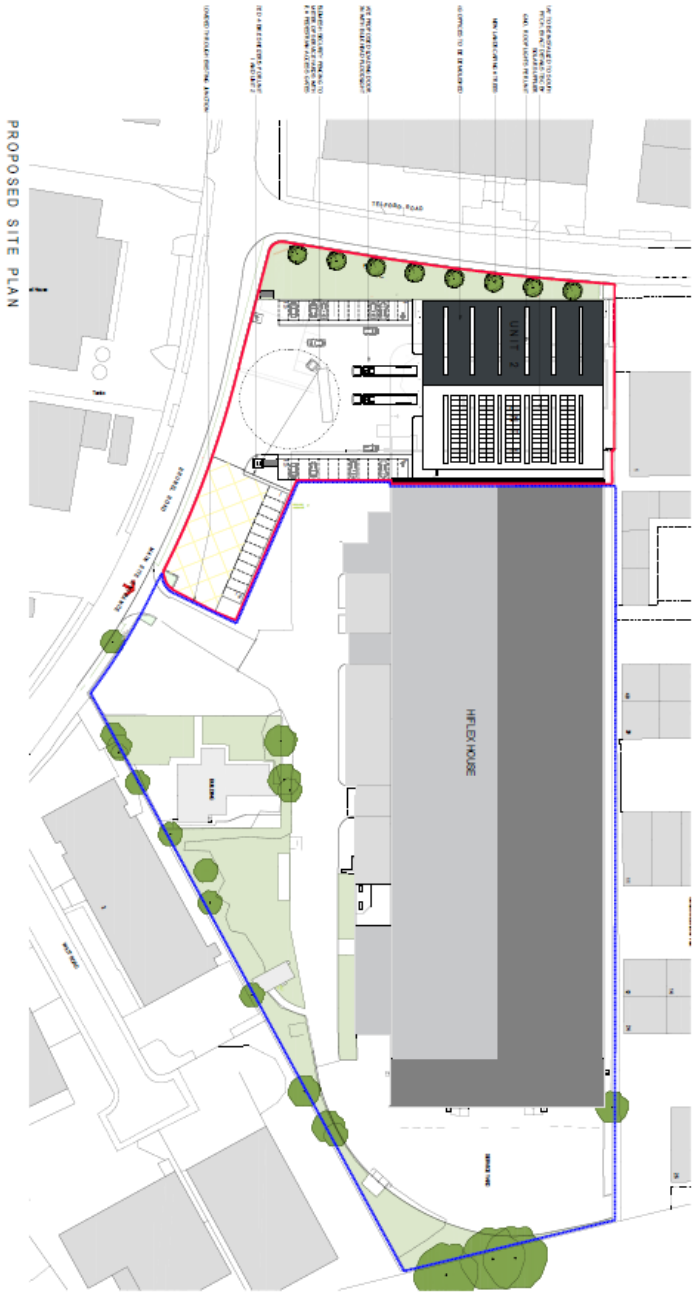


Image 2: Proposed scheme.

7 ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

7.1. In accordance with CIEEM guidelines, the following important ecological features have been identified with the potential to be affected by the proposed development and carried forward for further assessment:

Table 4: Important ecological features brought forward for impact assessment

Statutory sites	None
Local Wildlife sites	None
Habitats	None
Species and species groups	Birds, bats, badger, hedgehog.

7.2. The following ecological features have been scoped out of the ecological impact assessment, owning to the conclusion that no significant effects are predicted:

Table 5: Ecological features scoped out of the impact assessment

Statutory sites	All statutory sites have been scoped out of this impact assessment.
Non-statutory sites	All non-statutory sites have been scoped out of this impact assessment.
Habitats	Hedgerows and trees. Species-rich grassland.
Species and species groups	Fish, great crested newts, other amphibians, reptiles, water vole, otter.

7.3. Although the Application Site is within an IRZ for two SSSIs within the wider area, the use of the factory will not significantly change and therefore is unlikely to have a negative impact upon the SSSI as a result of this development. If there are to be any significant changes to the factory which fall within the criteria set out below then Natural England will need to be consulted.

7.4. Natural England's SSSI IRZs have identified specific criteria that indicate the potential to impact SSSIs within the wider area. Natural England should be consulted for further advice regarding these criteria if they are relevant to the development:

- *Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.*
- *Wind and solar energy, Minerals, Oil and gas – Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil and gas exploration/extraction.*
- *Rural non-residential – Large non-residential developments outside existing settlements/areas where net additional gross internal floorspace is > 1,000 m^2 or footprint exceeds 0.2 ha.*
- *Residential – Residential development of 50/ Any residential development of 10 or more houses outside existing settlements/ urban areas.*
- *Air pollution – Any development that could cause AIR POLLUTION or DUST either in its construction or operation (incl: industrial/ commercial processes/ livestock and poultry units, slurry lagoons and digestate stores, manure stores).*
- *Combustion – All general combustion processes, incl: energy from waste incineration, other incineration, landfill and gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.*
- *Waste – Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.*
- *Composting – Any composting proposal incl: open window composting, in-vessel composting, anaerobic digestion, other waste management.*

- *Discharges – Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream.*

- *Water supply – Large infrastructure such as warehousing / industry where net additional gross internal floor space is > 1000m^2 or any development needing its own water supply.*

7.5. Most of the statutory and non-statutory sites are located a significant distance away and so are geographically isolated from the Application Site either by distance or features such as main roads/industrial buildings/housing. The River Avon is only 70m from the Application Site but it is separated by other industrial buildings.

7.6. The development may result in more car parking and visitors to the Application Site, however, as it is a factory building which is already in existence and is non-residential, it is unlikely that this would impact on an increase in visitor pressures on nearby designated sites.

7.7. If any additional vegetation is scheduled for removal, ideally it should be done outside the bird nesting season. If any vegetation removal is required during the main bird nesting season (March – August) then the works should be pre-empted by a nesting inspection and/or supervised by a suitably qualified ecologist.

7.8. For the reasons stated in the above paragraphs all statutory and non-statutory sites as well as hedgerows will be scoped out of this impact assessment.

Birds

Potential impacts at the construction phase

7.9. Removal of any hedgerows, trees or vegetation during bird breeding season could destroy, kill or injure nests, eggs and young birds, particularly if the works are to be completed during the main bird breeding season (March – August).

Potential impacts at the operational phase

7.10. Removal of any trees or scrub could result in loss of suitable nesting sites for breeding birds a well as suitable foraging opportunities.

Mitigation

7.11. Trees that are to be removed during the bird nesting season (March – August) should be removed under the supervision of a suitably qualified ecologist. Where possible trees will be retained.

Residual effects

7.12. With the inclusion of the mitigation measures above, overall residual effects at the construction and operational phase will be negligible.

Bats

Potential impacts at the construction phase

7.13. Roosting bats they may be killed or injured during the demolition of the buildings and a bat roost destroyed.

7.14. If any mature trees with potential bat roosting features are scheduled for removal, they should be subjected to pre-felling inspections for bat roosts.

Potential impacts at the operational phase

7.15. Any additional lighting could impact upon foraging bats and deter bats from the area, this is particularly important on woodland buffers on the southern boundary and within the small urban woodland to the northwest of the Application Site.

7.16. The demolition of the office building and the boxing club building could result in less roosting sites for bats.

Mitigation

7.17. A European Protected Species Licence will be required for the demolition of the office building, which will include a detailed method statement. Due to the small size and status of the roost, a low impact licence will likely be sufficient in this instance.

7.18. A soft demolition will take place on the office building to remove and features of interest by hand. A soft demolition will also occur on the boxing club building and a licenced ecologist should be present to ensure that if in the incidence a bat is found within the building, appropriate measures will be taken. The licence will also detail mitigation in the form of roost replacement using integrated bat boxes where possible.

7.19. If mature trees with bat roosting features are scheduled for removal, an endoscope survey will be required with possible emergence surveys if the trees cannot be thoroughly assessed with an endoscope, to confirm the presence/ absence of roosting bats.

7.20. If any new additional lighting is to be implemented within the design scheme, then a sensitive lighting strategy should be implemented, this should follow the principles of mitigation as outlined within the Bat Conservation Trust and Institution of Lighting Professionals Guidance Note and will include the following recommendations:

- Light should not be directed towards any bat boxes either integrated into the building or within bat boxes within the trees;
- Where required, lights can be fitted with hoods baffles or louvres to reduce back-spill;
- Only luminaires with an upward light ratio of 0% will be used, and low-level bollard lighting will be used where feasible to retain darkness above the luminaire;
- All external luminaires used on site will lack UV elements and will be warm-white coloured (ideally <2700 Kelvin) to reduce blue-light components;
- LED luminaires will be used die to their sharp cut-off, lower intensity, good colour retention and dimming capability and;
- Where security lighting is installed, this should be motion activated.

Residual effects

7.21. With the inclusion of the mitigation measures above, overall effects during construction and operational phase will be **negligible**.

Badger and Hedgehog

7.22. Although it is not anticipated that there will be any direct impacts on badger or hedgehog during the course of the proposed development, the following good practice measures will be adhered to throughout the construction phase:

- Heras fencing should be installed within the site boundaries to prevent badgers and hedgehogs from entering the Application Site during construction;
- Trenches will be covered at the end of each working day and any temporarily exposed pipes will be capped to prevent badgers or hedgehogs gaining access during the night;

- Any trenches or deep pits which must be left open overnight will be provided with a means of escape should an animal enter. This would simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface;

- Any trenches/pits will be inspected each morning to ensure no animals have become trapped overnight. Should a badger become trapped it may attempt to dig itself into the side of a trench and form a temporary sett. Should a trapped badger be encountered, the advice of an ecologist must be sought immediately. If necessary, the ecologist will contact a local wildlife rehabilitator to move the badger to safety or provide treatment if required.

- The storage of topsoil or other 'soft' building material within the construction site will be given careful consideration. Badgers may readily adopt such mounds as setts. To avoid this, mounds will be kept to a minimum and any essential mounds will be subject to daily inspections;

- The storage of any chemical within the construction site will be contained in such a way that they cannot be consumed or knocked over by any wildlife;

- Food and litter should not be left within the working area overnight to minimise the potential for any roaming mammals to be attracted to the construction site.

7.23. If any badger setts or potential badger setts are found onsite, works must stop and ACD Environmental Ltd contacted in the first instance.

7.24. With the inclusion of the mitigation measures above the overall residual effects during the construction phase will be **negligible.**

Table 6: Impact summary table

Feature	Scale of importance	Impact (before mitigation)	Type of impact (construction or operational)	Effect (without mitigation)	Mitigation	Residual effect	Means of securing mitigation
Birds	Local	Death or injury of nests, eggs and young birds during the breeding season	Construction	Moderate	Trees to be retained or cut out of the bird nesting season which runs from March - August	Negligible	EcIA
Bats	Local	Death or injury of bats during the demolition of buildings	Construction	Moderate	A European Protected Species Licence will be obtained and a soft demolition will take place	Negligible	EcIA
Bats	Local	Bats may be deterred from the area if any bright lighting is installed	Operational	Moderate	A lighting strategy should be implemented to include low lighting levels and diverting any lighting away from trees and bat boxes.	Negligible	EcIA
Hedgehogs and badgers	Local	Badgers or hedgehogs may become trapped in trenches or pits	Construction	Moderate	Heras fencing to cover the area, trenches should be kept covered overnight and if they need to be left uncovered an escape ramp should be inserted.	Negligible	EcIA

8 COMPENSATION

8.1. To compensate for the loss bat roosting opportunities on the office building, three bat boxes will be integrated into the building and prior to construction two bat boxes will be places on mature trees close by. Bat boxes will include:

- Improved roost maternity bat box; and
- Eco crevice/cavity bat boxes

8.2. The maternity box will provide enhancement as well as compensation for bat species due to the higher number of bats that the box allows.

8.3. Bat boxes should be inserted at heights of 3-6m preferably on the higher end and should be placed on a south or west facing aspect.

9 BIODIVERSITY NET GAIN

9.1. To deliver biodiversity net gain, the following enhancements are recommended to be delivered as a commitment to the planning application:

- A total of two Eco plate house sparrow boxes will be placed onto the factory building on a northern or eastern aspect under the eaves of the factory roof.
- Two bat bark boxes will be placed onto mature trees on the Application Site boundary and bat boxes will be integrated into the new building.
- Two Woodstone starling nest boxes will be placed on matures trees on the outskirts of the urban woodland on the northwest corner of the Application Site.
- One HH7 Hogilo hedgehog box will be placed within the tree and shrub areas to the south of the Application Site boundary.

10 CONCLUSIONS

10.1. The revised planning application comprises the demolition of the two-storey office element of the existing industrial unit, over-cladding of the north elevation of the retained building, and construction of a new building capable of being sub-divided to provide new E(g) / B2 industrial and B8 Storage / Distribution accommodation, including associated external areas.

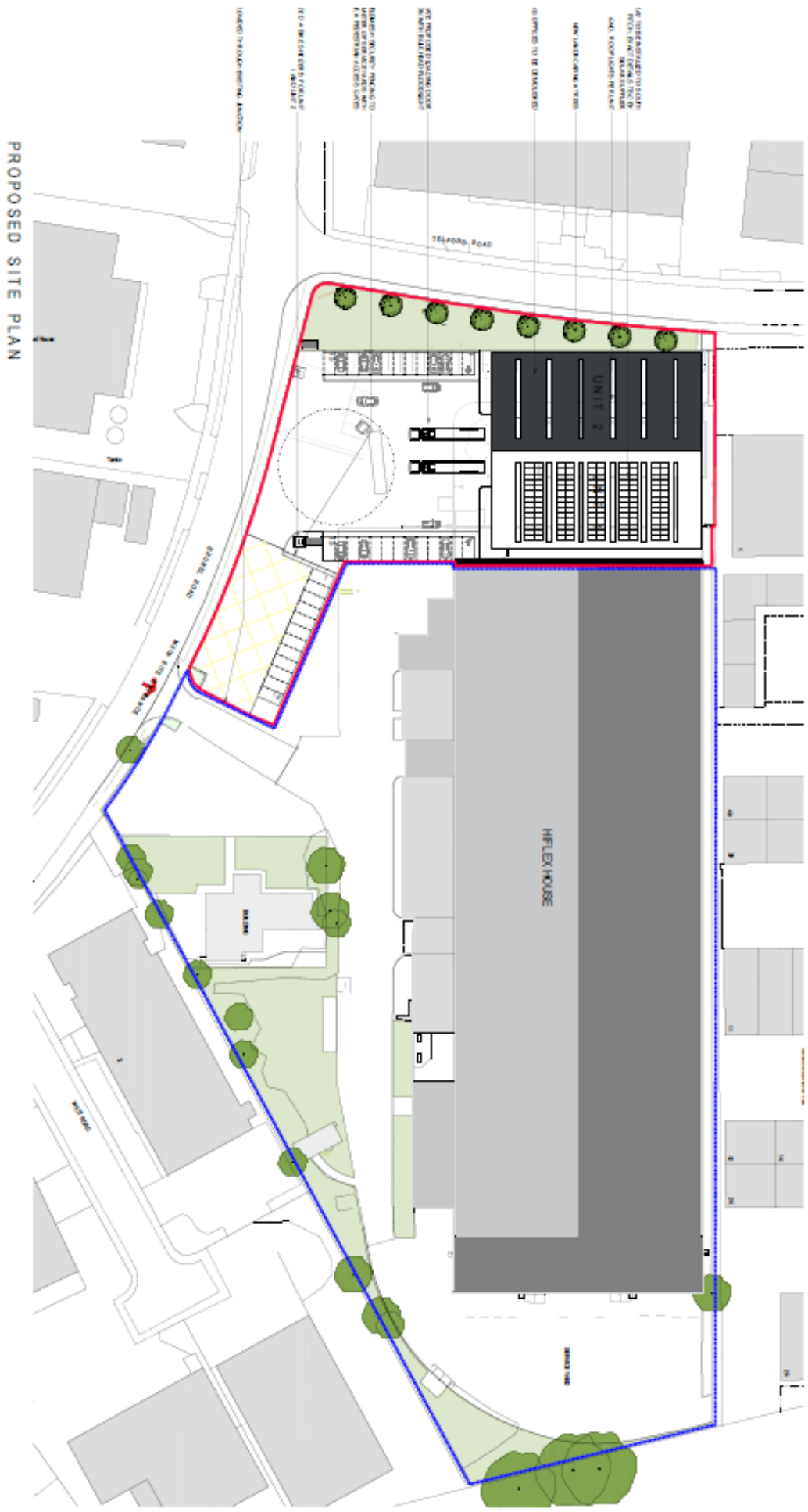
10.2. The office building (which is due to be demolished) supports three common pipistrelle day roosts. A European Protected Species Licence Application will need to be submitted to Natural England. Mitigation and compensation will be required in the form of bat boxes integrated into the building and installed on mature trees.

10.3. To ensure that the development complies with local and national planning policy, the proposed scheme will include a range of bird nesting and bat roosting boxes, in addition to new landscape planting including native trees and shrubs.

APPENDIX 1: PHASE 1 HABITAT MAP



APPENDIX 2: PROPOSED SCHEME



APPENDIX 3: SITE PHOTOGRAPHS



Photograph 2: The factory building and car parking area



Photograph 3: The office building



Photograph 4: The boxing club building (outside red line)



Photograph 5: Amenity grassland and parking area



Photograph 6: Species rich grassland with orchids (outside red line)



Photograph 7: Mature Norway maple trees on northern boundary



Photograph 8: Western boundary hedgerow (outside red line)



Photograph 9: Southern boundary woodland (outside red line)

APPENDIX 4: FIELD SURVEY METHODOLOGY

Extended Phase 1 Habitat Survey

10.4. The Phase 1 Habitat Map is shown in **Appendix 1.**

10.5. The Phase 1 Habitat Survey methodology[19] was used to classify the Application Site into habitat types, as listed in the Phase 1 Manual. Where appropriate, dominant species codes within habitat types were recorded. Descriptive target notes were used for particular areas of interest.

10.6. Incidental records of fauna were made during the Phase 1 Habitat survey and the habitats identified were evaluated for their potential to support legally protected species and species of Principal Importance.

Limitations

10.7. There were no limitations associated with the Extended Phase 1 Habitat Survey.

Hedgerow survey

10.8. The Phase 1 Survey included an assessment of hedgerows against criteria for 'important hedgerows' under the Hedgerows Regulations 1997[20]. The Hedgerow Regulations 1997 includes criteria for determining 'Important' hedgerows, which are contained within Schedule 8. There are a number of characteristics that can classify a hedgerow as important under the broad headings of archaeology and history and wildlife and landscape. Only the wildlife and landscape criteria formed part of the assessment. These criteria incorporate the following considerations: whether the hedgerow is intact/defunct, number of woodland species contained in Schedule 2 and woody species in Schedule 3; associated features (e.g. hedgerow connection points and associated area of woodland, parallel hedgerow, pond, ditch and/or wall); and presence of protected species (in which case the hedgerow is considered 'important' by default).

Limitations

10.9. There were no limitations associated with the Hedgerow survey.

[19] JNCC, (2010), *Handbook for Phase 1 habitat survey - a technique for environmental audit.* JNCC, Peterborough.
[20] Great Britain. *Hedgerow Regulations 1997* [online]. Available from: http://www.legislation.gov.uk/uksi/1997/1160/contents/made

Badger field signs survey

10.10. Badger evidence was searched for on the Extended Phase 1 Habitat Survey on 24th May 2021 by ACD Environmental. Badger field signs surveys comprised walking the perimeter and interior boundaries of the Site, searching for evidence of badgers, in accordance with Harris et al[21] (1989) and Scottish Natural Heritage[22] (2018).

10.11. Where badger setts were found, they were described using the following criteria:

- Number of well-used holes - one or more of the features: well-worn entrance; freshly excavated soil; bedding material
- Number of partially-used holes - leaves or twigs in entrance and/or mosses and other plants growing in or around entrance)
- Number of disused holes - partially or completely blocked, with considerable amount of excavation required for reoccupation

10.12. Where feasible, badger setts were classified into the following:

- Main sett - continuously used, breeding and over-wintering sett for a social group of badgers. Only one main sett will exist in each social groups territory, and will be relatively centrally located within the group's range
- Annexe sett - annexe of the main sett, linked by well-used paths to the main sett (but not connected underground). Not continuously used
- Subsidiary sett - distant from the main sett. Several entrances, but with no well-used paths connecting to the main sett, and only used seasonally
- Outlier sett - distant from the main sett. Small, with only one of two entrances only. Used for short periods sporadically, with no obvious, well-used paths connecting to other setts

Limitations

10.13. There were no limitations associated with the badger field signs survey.

Preliminary Bat Roost Assessment

[21] Harris, S., Cresswell, P., and Jefferies, D. (1989). *Surveying Badgers*. Mammal Society.
[22] Scottish Badgers (2018). *Surveying for Badgers: Good Practice Guidelines*. Version 1.

10.14. A Preliminary Roost Assessment (PRA) was carried out[23]. This is an external and internal inspection survey, the purpose of which is to search for bats/evidence of bats and assess the likelihood of bats being present and the need for further survey and/or mitigation.

10.15. A systematic search was made of the building and the ground, especially below potential access points where present. Such features include windows sills, window panes, walls, tiles, weather boarding, lead flashing, eaves, behind surfacing materials and under tiles, and other cracks and crevices that provide protection from the elements. Such features are known to be used by roosting bats.

10.16. The internal inspection included searching for the following evidence of roosting bats:

- Roosting bats within crevices or free-hanging
- Bat corpses e.g. on the floor, in uncovered water (header) tanks or other containers in roof voids
- Bat droppings beneath roosting features
- Feeding remains e.g. moth/butterfly *Lepidoptera* spp. wings and beetle *Coleoptera* spp. wing casings
- Scratch marks and characteristic staining from urine and/or fur oil beneath roosting features e.g. on roofing timbers and walls within roof voids
- 'Clean' gaps associated with bat roosts
- Bat-fly *Nycteribiid* spp. pupal cases
- Droppings, corpses, feeding remains and/or bat-fly pupal cases beneath roof insulation, which indicates use by bats before the insulation was installed
- Clean swept floors, which may indicate evidence has been removed

10.17. The internal inspection included searching for the following features:

- Gaps within the structure of the roof e.g. mortise joints and junctions between roof timbers and between timbers and walls, and between the roof lining and roof covering
- Gaps within the structure of walls and potential access points to cavity or rubble-filled walls
- Gaps around the structure chimneys or within disused chimneys

[23] Collins J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.

- Suitable locations for free-hanging bats and/or night/feeding perches e.g. timber beams
- Gaps between lintels above windows or doors
- Light gaps in the roof indicating access points to the outside
- Cool areas suitable for torpor or hibernation e.g. cellars.

10.18. The following equipment was used for the bat survey:

- Binoculars
- Powerful torch to illuminate dark corners from the ground
- Collection pots and labels for corpses and droppings and;
- Personal protective equipment (e.g. boots, gloves, helmet, mobile telephone).

10.19. In addition to the buildings, the trees were also searched for bats/evidence of bats and assessed for their potential to support roosting bats. The evidence of roosting bats searched for is detailed above with regard to buildings (e.g. bat droppings and feeding remains). The features of bats were searched for on the trees with reference to the three broad categories of Potential Roost Features (PRFs) and sub-categories of PRFs from the Bat Tree Habitat Key[24]. These are as follows:

- Disease and decay PRFs:
    - Woodpecker and squirrel holes;
    - Knot holes;
    - Pruning-cuts;
    - Tear outs;
    - Compression forks;
    - Wounds;
    - Cankers; and
    - Butt rots.

[24] Bat Tree Habitat Key 2018. *Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-care and Ecology professionals*. Exeter: Pelagic Publishing.

- Association PRFs:
    - Fluting; and
    - Ivy.
- Damage PRFs:
    - Hazard beams;
    - Frost cracks;
    - Subsidence/shearing and helical splits;
    - Lightning strikes;
    - Desiccation fissures;
    - Transverse snaps;
    - Welds; and
    - Lifting bark.

Limitations

10.20. There were no limitations to the Preliminary Roost Assessment.

DNA analysis of bat droppings

10.21. There were no bat droppings found within the Application Site.

Bat surveys

10.22. The BCT Guidelines[25] define levels of survey effort and different survey approaches dependant on the value of the site for bats. Table 8.3 provides guidelines on the number of emergence surveys recommended to achieve a reasonable survey effort in relation to habitat suitability. This should be considered in conjunction with the potential impacts of the proposals and proportionality.

[25] Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.

10.23. Barataud (2015) identified that the results of a quantitative survey carried out with automated equipment cannot be compared with the results obtained using handheld equipment. In addition, it can be safe to assume that the presence of human surveyors with torches within the Application Site could have an impact on the behaviour of bats. In addition, transect surveys are only a snapshot of time, the surveyor can only be in one location at any given time (so could miss activity elsewhere), and the subjectivity of the surveyor could limit consistency. Although bats can sometimes be counted and bat behaviour can be observed during transect surveys, this is subjective, particularly as light falls, and in cluttered habitats. Therefore, static automated passive monitor surveys were chosen as the primary method (the main objective being to obtain a representative overview of the species assemblages exploiting habitats likely to be impacts in the Application Site).

Limitations

10.24. The Guidelines state that "*a survey visit should aim to cover all habitats represented in the survey area that could be impacted by the proposed activities*", implying that habitats that are not considered likely to be affected by a proposed development do not necessarily require the same level of survey effort.

10.25. Furthermore, the Guidelines state that "*Aims and objectives should be revisited throughout a project because each stage of surveying informs the next; bat surveys are an iterative process, which should not usually be fixed from the outset*".

10.26. On the above basis, the survey effort was considered to be proportionate to the likely impacts, in combination with transect surveys.

<u>Bat emergence surveys</u>

10.27. The buildings were classified as having moderate potential to support roosting bats due to potential rooting features within the buildings. The bat survey Guidelines recommend that two emergence/ re-entry surveys are carried out on buildings with moderate potential. Two surveys were carried on the boxing club building, factory building and office building with a total of six surveyors focusing on all potential roosting features. A further third survey was carried out on the office building due to an emergence occurring during the first survey, two surveyors were present on the third survey of the office building focusing on all potential roosting features within the building.

10.28. The first two surveys were conducted on 13th July 2021 and 19th August 2021, these surveys were conducted in accordance with the BCTs Bat Survey Guidelines for Professional Ecologists for buildings assessed with moderate potential to support roosting bats and to observe any potentially interesting behaviour that would not necessarily be deduced from static passive monitoring data. The third survey on the office building was also in adherence to the BCTs Bat Survey Guidelines in the instance that a bat was found emerging during the initial surveys.

10.29. Bat calls were recorded using Anabat Scout bat detectors, fitted with GPS receivers. The survey began 15 minutes before sunset and ended 1.5 hours after sunset.

10.30. The third survey of the Three emergence surveys were carried out with six surveyors for the first two surveys and two surveyors for the last survey. The surveyors monitored all possible roosting features on the office building, the boxing club building and the factory building.

Table 8: Bat emergence survey results

Date/time of survey	Weather Conditions (temp, cloud cover, wind)	Bats Observed
13th July 2021 @ 21:00-22:50	19°C-18°C, 95%, 0	Emergence of 1 common pipistrelle from office building.
19th August 2021 @ 20.00-22.00	17°C-16°C, 20%, 0	No emergences. Low number of common bat species foraging on site.
23rd September 2021 @ 18.40-20:40	18°C -16°C, 10%, 1	Emergence of 1 common pipistrelle from office building .
21st June 2023 @ 21:00-23:00	18◦C – 15◦C, 50%, 0.	Likely emergence of 1 common pipistrelle from office building.

10.31. Passive data was recorded in WAV/zero crossing format and analysed by experienced ecologists using the software programme Analook Insight.

Limitations

10.32. There were no limitations to the bat emergence surveys.

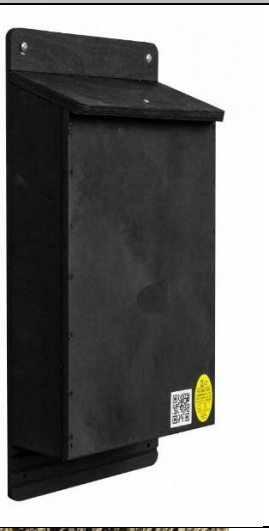
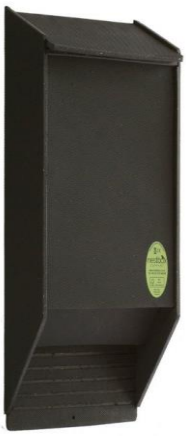
General limitations with bat detector surveys

10.33. It is generally not possible to distinguish between multiple passes by a single bat or several bats passing only once each. It is also not possible to use activity-based data on echolocation calls to estimate relative abundance (i.e. the number of bats present). Consequently, it is not possible to estimate the relative population numbers of any bat species that may exploit a site for foraging and/or commuting, or how much of said habitat would be required to support a population. Therefore, activity-based data is limited to only being able to provide an overview of the species likely to be present, and possible differences between sampling locations, either on the same night, and/or over periods of time.

10.34. Activity-based data cannot distinguish the sex, age, or breeding condition of bats present. It is therefore not possible to determine whether a site is used by breeding females, or individual males. This is potentially important, because some experts have theories which suggest that male bat populations of some species are based around poorer-quality habitats, whereas female populations tend to use higher-quality habitats (Davidson-Watts, 2017, pers. comm).

10.35. Analysis of ultrasonic data, even when using experienced ecologists, is subject to interpretation. It is generally accepted that it is possible to distinguish the calls of the majority of the UK bat species, particularly those with distinctive ultrasonic signatures. However, calls of the five species of the genus Myotis should be treated with caution, because the species can be difficult to separate out from one another. Where a Myotis calls is recorded, professional judgement is used (including call parameters, number of calls, location and habitat type) to consider whether the call could be attributed to rare species, as opposed to more common species.

Appendix 5: Artificial habitats

Bats	
Improved roost maternity box	
Bark Box large twin cavity	
Eco crevice cavity bat box	
Birds	
Woodstone starling nest box	

Sparrow terrace nest box	
Hedgehogs	
Hogilo HH7 Hedgehog box	

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