ECOLOGICAL IMPACT ASSESSMENT REPORT

at

Land adjacent to Forge Lane
Dewsbury
West Yorkshire
WF12 9HW

Client:
Hebble Homes Ltd.

Client Address:
Hebble Homes Ltd.
Ewood
Langbar Road
Ilkley
West Yorkshire
LS29 0AR

JCA Ref:
22374/JF

Date of Report:
12/02/2025

JCA Limited
Arboricultural & Ecological Consultants

Quality Assurance

Version	Desktop Survey Completed:		Site Surveyed:		Report Completed:		Reviewed:	
	Date	Name	Date	Name	Date	Name	Date	Name
001	22/10/24	James Foster	08/10/24	James Foster	31/01/25	James Foster	04/02/25	Alex Donovan
							06/02/25	Adam West

This report has been prepared and provided in accordance with the *British Standard 42020: Biodiversity – Code of practice for planning and development 2018* and the *CIEEM's Code of Professional Conduct.*

Risk Assessment Completed	
Bio-security Procedure Completed	
Lone Worker Procedure Completed	

Summary

JCA Limited has been commissioned by **Hebble Homes Ltd.** to undertake an **Ecological Impact Assessment** (**EcIA**) of a site located at **Land adjacent to Forge Lane, Dewsbury**. The site is located at Ordnance Survey (OS) National Grid Reference **SE 23748 19735** with nearby postcode **WF12 9HW**

A desk study and field survey were undertaken in order to assess the potential of the site to support protected habitats and species and species of conservation concern. Recommendations for further survey, avoidance, mitigation, and enhancement – where appropriate - have been made and are summarised in **Table 1** on the following page and are detailed in full in **Chapter 7** of this report.

Additionally, the site was assessed to determine the baseline biodiversity value of the Site and to assess if there are sufficient biodiversity enhancement opportunities available within the Site boundary to compensate for any residual biodiversity losses as a result of the Proposed Development.

To fulfil the brief, the Statutory Biodiversity Metric (February 2024) was used to calculate the baseline biodiversity value of all existing habitats on-site. The metric was then used to provide a comparative measure of any habitat creation and enhancements associated with the Client's Proposed Development. The resulting balance determines the extent of Biodiversity Units (BU) generated through the proposed habitats post development.

The site has an on-site baseline value of 35.51 BU, and the off-site area has a baseline value of 1.51 BU. It was identified that the Proposed Development would have a total net loss of -8.88 habitat BU, equivalent to a net gain of -25.02%. The Proposed Development does not satisfy Trading Rules, as a deficit for medium distinctiveness habitats was generated.

This executive summary is intended as a summary of the assessment of the Site based on information received by the client at the time of production. This executive summary should be read in conjunction with the full Report.

Table 1: summary of ecological receptors at the site and recommended mitigation.

Receptor	Potential Risk to Project if No Action Taken	Cause of Impact Description of Effect	Further Survey Required	Mitigation Required
Designated sites				
Statutorily protected	None	None	No	None
Non-statutorily protected	None	None	No	None
S41 habitat	Moderate	Deciduous woodland priority habitat is located on-site and is anticipated to be adversely affected by the proposed development.	No	A **Construction and Environment Management Plan (CEMP)** is recommended relating to the priority woodland on-site.
Other habitats	None	None	No	None
Protected species				
Flora (WCA Sch 8, CHSR Sch 5)	None	None	No	None
Invertebrates	Low	Removal of habitat containing flowering plants and other food sources for invertebrates.	No	Native grass and wildflower planting is recommended to compensate for any loss. A **Biodiversity Enhancement Plan (BEP)** is recommended**.**
White-clawed crayfish	Moderate	The Calder and Hebble Navigation is located adjacent to site and is anticipated to be adversely affected by the proposed development.	No	A **Construction and Environment Management Plan (CEMP)** is recommended relating to The Calder and Hebble Navigation adjacent to site.
Fish	Moderate	The Calder and Hebble Navigation is located adjacent to site and is anticipated to be adversely affected by the proposed development.	No	A **Construction and Environment Management Plan (CEMP)** is recommended relating to The Calder and Hebble Navigation adjacent to site.
Amphibians	Moderate	Potential breach of legislation from killing, injury, or disturbance during works.	Yes – A Habitat Suitability Index survey (HSI) is recommended to identify the ponds on the site and assess their suitability to support great crested newts	Dependent on results of survey. A precautionary approach should be adopted to include an **Ecological Clerk of Works (ECoW)** being present during any removal of vegetation and brash piles.

Reptiles	High	Potential breach of legislation from killing, injury, or disturbance during works.	Yes - Reptile absence/presence surveys are recommended. Surveys must take place between April and June, or September in suitable weather conditions.	Dependent on results of survey. A precautionary approach should be adopted to include an **Ecological Clerk of Works (ECoW)** being present during any removal of vegetation and brash piles.
Birds	High	Potential breach of legislation from destruction of nests or disturbance of nesting birds	Dependent on timing of works – nesting bird survey if works occur within the nesting bird season (1st Feb-31st Aug).	A preconstruction site walkover is required prior to any vegetation removal or building commencing during the nesting bird season. If removal occurs outside of the breeding bird period and nesting birds are found, the removal must cease immediately, and a suitably competent ecologist contacted. It is also advised that a precautionary approach is adopted to include an **ECoW** being present prior to works commencing. The ECoW would give a toolbox talk to on-site contractors in order to relate applicable legislation, what signs to look for, and what to do should bird nests be encountered on-site. Any active nests must remain in situ, surrounded by a buffer of undisturbed vegetation, until any young have fledged.
Bats	Moderate	Tree 1 due to be demolished has High potential for roosting bats. The overall site has moderate potential for commuting and foraging bats. Any disturbance to bats or bat roosts would result in a breach of legislation.	Three separate dusk emergence survey visits in suitable weather conditions are required on Tree 1 and must take place between May and September, with at least two surveys between May and August and at least 3 weeks apart.	Dependent on the results of the surveys. If a roost is confirmed, a Mitigation Licence would need to be applied for from Natural England. A precautionary approach to felling should be adopted, and any felled trees should be left where they fall for a minimum of 24 hours to allow any bats to vacate.

		Inappropriate, obtrusive lighting from the development would affect the ability of bats to forage and commute on-site.		For artificial lighting within the development, guidance from Institute of Lighting Professionals (08/23) should be followed.
	High	Potential to disturb any foraging or commuting which may be utilising the site.	Yes – a survey during the winter months is recommended.	Dependent on the results of the surveys. Any excavation of the site should be covered overnight, or if not possible, a safe exit route provided for to leave the site, such as an artificial ramp to aid their exit, open pipes must be capped.
Otters	Moderate	Potential to disturb or harm otters which may be utilising the Calder and Hebble Navigation site.	Yes - Two otter surveys are recommended. It is recommended to undertake the surveys between April-June and the second between July-September.	Dependent on the results of the surveys. A **Construction and Environment Management Plan** (CEMP) is recommended relating to The Calder and Hebble Navigation adjacent to site.
Water voles	Moderate	Potential to disturb or harm water voles which may be utilising the Calder and Hebble Navigation site.	Yes - Two water vole surveys are recommended. The first survey is to be undertaken between April-June and the second between July-September.	Dependent on the results of the surveys. A **Construction and Environment Management Plan** (CEMP) is recommended relating to The Calder and Hebble Navigation adjacent to site.
Other Species e.g. S41 species	Moderate	Potential to disturb any foraging, commuting, breeding, resting or hibernating hedgehogs which may be utilising the site.	No	A precautionary approach should be adopted to include an **Ecological Clerk of Works (ECoW)** being present. Scrub to be removed should be hand searched by a suitably qualified and experienced ecologist prior to removal, to ensure no hedgehogs are resting or hibernating in the vegetation. Any excavation of the site should be covered overnight, or if not possible, a safe exit route provided for hedgehogs to leave the site,

				such as an artificial ramp to aid their exit. Any open pipes must be capped.
Invasive Species (WCA Sch 9) Injurious Weeds (Weeds Act, 1959)				
Himalayan Balsam was found on-site.	High	The spread of Schedule 9 species (WCA) due to inappropriate management and handling, resulting in the unwanted spread to the wider environment and therefore an offence would be committed.	No	Method statement for the safe management and removal of the Schedule 9 species. Consultation with specialist contractor regarding eradication of this species.
Key: S41 habitat/species – habitats and species listed as priority for conservation importance under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. WCA Sch – Wildlife and Countryside Act 1981 (as amended) Schedule CHSR Sch – Conservation of Habitats and Species Regulations 2017 Schedule				

Contents

1. Introduction

1.1 Background

1.1.1 In September 2024, JCA Limited was instructed by **Hebble Homes Ltd** to undertake an Ecological Impact Assessment (EcIA) of a site located at **Land adjacent to Forge Lane, Dewsbury** hereafter referred to as 'the site'. The purpose of the survey is to establish a baseline of ecological information and assess whether the proposed works, hereafter referred to as 'the scheme', have the potential to adversely affect any protected or notable habitats or species.

1.2 Terms of Reference

1.2.1 The following reports and plans have been used and should be read in conjunction with this report:

- Indicative Landscape Proposals – Project Name: Forge Lane, Dewsbury. Drawing number: 2776(1)013 A.

1.3 Scheme Description and Location

1.3.1 The site is located at Ordnance Survey (OS) National Grid Reference **SE 23748 19735,** with nearby postcode **WF12 9HW**. The site is situated in an urban area and is bordered to the north by scrub, woodland and the Calder and Hebble Navigation. To the east by residential properties. To the south by scrub and woodland with Lees Hall Road and residential properties. To the west by industrial and residential properties.

1.3.2 The off-site area is adjacent to the site to the north. It is located at (OS) National Grid Reference **SE 23793 19787,** with nearby postcode **WF12 9HW**. The off-site area is bordered to the north by the Calder and Hebble Navigation, to the east by residential properties, to the south by the proposed development and the west by industrial and residential properties.

1.3.3 The scheme is the pre application for erection of two industrial units, with associated access and parking.

1.4 Previous Studies

1.4.1 An Ecological Impact Assessment was undertaken by Naturally Wild Consultants Ltd. (Ref: PP-20-01) in March 2020. The habitats on-site were identified to have the potential to support the following species.

- Reptiles
- Nesting birds
- Commuting and foraging bats
- Invasive species: unconfirmed Japanese knotweed presence on-site.

1.5 Aims and Objectives

1.5.1 The purpose of the survey is to establish a baseline of ecological information and assess whether the proposed development activities have the potential to adversely affect any protected or notable habitats or species. The following tasks have been undertaken:

- Desktop study – a review of environmental records for the surrounding area to obtain existing information on statutory and non-statutory designated sites of nature conservation interest, and the presence of protected and notable habitats and species within the site and its environs.
- Field surveys – a UKHab Habitat survey involving a site visit to record habitat types and dominant vegetation, including any invasive species. During this survey evidence of protected or notable fauna and habitats or habitat capable of supporting protected or notable fauna was recorded.
- Ecological report – an assessment of the potential ecological constraints to the proposed works at the site and recommendations for, avoidance, mitigation, and enhancement where appropriate. Locations of any features constituting ecological constraints or of other ecological interest and vegetation recorded on and around the development are included in an accompanying UKHab Baseline Habitat Map (**Appendix 1**). This report and the maps are supported by photographs (**Appendix 7**) and information regarding current legislation (**Appendix 10**).
- Biodiversity Metric Baseline Assessment – condition scoring the habitats on-site and assigning each habitat a numerical value to determine the level of overall residual biodiversity gains or losses associated with the Proposed Development. This calculation is done in an excel worksheet (see accompanying spreadsheet: Statutory Biodiversity Calculation Tool).
- Assess if there are sufficient biodiversity enhancement and/or creation opportunities available within the Site boundary to compensate for any residual biodiversity losses as a result of the Proposed Development.

2. Methodology

2.1 Desktop Study

2.1.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites and European Protected Species (EPS) licensing applications within a 2km radius of the site. The baseline conditions are based on a review of existing available information including:

- MAGIC (Multi-Agency Geographical Information for the Countryside) website (to identify statutory designated sites and EPS licences).
- Ordnance Survey mapping (to identify potentially notable habitats including ponds).
- Aerial photography (to identify potentially notable habitats).
- Data search for records of protected/notable species on and within 2km of the site within the last ten years (exempting bat roosts, of which all records are included) obtained from West Yorkshire Ecological Services (WYES), the local environmental records centre for West Yorkshire, along with information for non-statutory wildlife sites.

2.1.2 The records were checked against species listed as priority species under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, the Kirklees Local Biodiversity Action Plan (KBAP), and the West Yorkshire Biodiversity Action Plan (WYBAP) to assess national and regional habitat and species status.

2.2 Field Survey

2.2.1 A UKHab survey of the site was conducted on 08/10/2024. All areas of the site were investigated and areas around the site where access permitted.

2.2.2 The vegetation and habitat types within the site were noted during the survey in accordance with the categories specified for a Vegetation and Habitat Survey (The UK Habitat Classification, Habitat Definitions Version 2.01, UKHab, 2023). Dominant and abundant plant species were recorded for each habitat present.

2.2.3 The site was inspected for evidence of, and its potential to support, protected or notable species, especially those listed under Schedules 2 and 5 of the Conservation of Habitats and Species Regulations (CHSR) 2017 (retained under UK law by CHSR (Amendment) (EU Exit) 2019), the Wildlife & Countryside Act (WCA) 1981 (as amended), including those given a higher level of legal protection under the NERC Act 2006 and Countryside & Rights of Way (CRoW) Act 2000, and those listed on the Local Biodiversity Action Plan. The following species were considered:

- Invertebrates (including white-clawed crayfish *Austropotamobius pallipes*).
- Great crested newt *Triturus cristatus* freshwater habitat potential within 500m of the site.
- Reptile habitat within the site.
- Nesting and foraging habitat for birds within the site.
- Bat roost potential and foraging habitat within the site.

- Otters *Lutra lutra* and suitable habitat within 30m of the site, where accessible.
- Water vole *Arvicola amphibius* habitat within 20m of the site, where accessible.
- Other notable species.
- Invasive species.

2.3 Survey Constraints

2.3.1 To determine presence or likely absence of protected species usually requires multiple visits at suitable times of the year. As a result, the survey undertaken focused on assessing the potential of the site to support species of note, which are considered to be of principal importance for the conservation of biodiversity with reference to the National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2024), especially those given protection under UK wildlife legislation.

2.3.2 The optimum time of year for completing the UKHab habitat survey is between April and September, as many plant species have a seasonal expression in spring and summer only. The survey was undertaken on 08/10/24, which is just outside the optimum time. However, the flora species were still in leaf or in flower allowing for accurate identification, therefore, the timing of the survey is not considered a constraint.

2.3.3 The weather on the day of the survey was wet, cloudy with a calm wind, scattered showers and sunny intervals (see Table 2). The days leading up to the survey had similar conditions. The weather could be considered a constraint to the survey due to the deterioration of possible field signs such as droppings tracks and hair. However, field signs were identified on-site, the weather, therefore, is not considered to be a constraint on the survey.

Table 2: Weather Conditions during the surveys.

Temperature (°C)	Humidity (%)	Wind Speed (mph)	Cloud Cover (%)	Precipitation
15	94	6 Southeast	75	Light rain

2.3.4 The site is heavily vegetated with areas of very dense bramble scrub on the north and east of the site, this restricted access to certain areas of the site, which were therefore were not possible to survey. This is considered a constraint as these areas could potentially contain field signs, badger setts, possible roosting areas for bats or invasive species. A re-visit during the winter months, to survey this area once vegetation has died back is recommended.

2.3.5 The details of this report will remain valid for a period of 18 months. If works have not commenced within this period or land use on-site changes, it is recommended that a new review of the ecological conditions is undertaken.

3. Biodiversity Accounting Assessment

3.1 Background

3.1.1 Biodiversity is complex and so it is impossible to measure in its entirety. Therefore metrics, which incorporate measures of different biodiversity attributes, are used to provide surrogate measures of overall biodiversity. This report uses the 'Statutory Biodiversity Metric', which was designed by Defra (2024) to define the biodiversity impacts and compensation requirements associated with development proposals. The metric works by providing a comparative measure of each habitat on-site in biodiversity units (BU) by multiplying its area (hectares), distinctiveness (habitat type) and current condition (quality). The relative impacts (habitat loss) of the development, taking into account any additional on-site habitat creation or enhancement, can then be calculated to determine if a measurable biodiversity net gain will be achieved on-site. If a measurable net gain is unable to be achieved on-site, then the process of biodiversity offsetting must be undertaken.

3.1.2 Biodiversity offsets are conservation activities designed to deliver biodiversity benefits in compensation for residual losses, in a measurable way. Biodiversity offsetting is distinguished from other forms of compensation by the requirement for measurable outcomes. This is achieved by quantifying net biodiversity impacts caused by development; using the same metric to assess direct and indirect negative impacts to habitats and the value of any on-site compensation, to set the framework of off-site compensation (offset) requirements and the biodiversity net gain generated by these offsets. Biodiversity offsetting ensures that off-site compensation proposed is both proportionate to the development concerned and that a measurable net gain for biodiversity can be achieved.

3.1.3 Biodiversity offsetting, like other forms of compensation, is the last step of the mitigation hierarchy (first avoid, then reduce, and finally, compensate) and is applied as a last resort to otherwise policy-compliant development proposals. 'Offsetting' – i.e. creating or restoring new wildlife habitat in a measurable way and in a different place to where it was lost.

3.1.4 In addition to providing a mechanism for quantifiable compensation and net gain, biodiversity offsets provide reliable biodiversity outcomes as they are long-term (30 years), monitored and enforceable with adaptable management plans for optimised success.

3.2 Biodiversity Net Gain Principles

3.2.1 Biodiversity Net Gain: Good Practice Principles for Development published by CIEEM et. al (2016) states that delivering biodiversity net gain goes beyond

balancing relative gains and losses. It also involves doing everything to avoid biodiversity losses in the first instance. The application of the Defra metric detailed in this report supports developments to adopt this approach by:

a) Providing a habitat balance sheet which can be used to identify those habitats with the greatest value and subsequently those with the greatest impacts if lost;

b) Supporting and incentivising the mitigation hierarchy by quantifying the benefits of avoiding and mitigating impacts on high value features;

c) Promoting the value of biodiversity enhancements and demonstrating the potential for additionality on retained habitats;

d) Providing a balance of losses, enhancements or on-site compensation to determine if a measure net gain contribution can be achieved;

e) Providing transparent, robust and credible evidence to help inform the best possible site options for biodiversity; and,

f) Ensuring that any residual off-site compensation required (e.g. through biodiversity offsetting) is proportionate to the impacts and can secure a measurable net gain contribution for biodiversity overall.

3.3 Biodiversity Offsetting Standards

3.3.1 Good practice standards for biodiversity offsetting are set out by the Business and Biodiversity Offsets Programme (BBOP, 2012). These standards inform the approach for selection and development of suitable Offset Sites and projects. Of these standards, the following provide the most relevant UK framework for the preliminary offset site search:

- The proposed offset site should be identified as suitable for the creation and/or enhancement of a target habitat within the vicinity of where the impact occurs;

- The site must be available and managed for a minimum specified term (typically 30 years).

- The landowner must agree to an enforceable delivery mechanism to secure the long-term management.

- The site must be available for monitoring to ensure appropriate management is being undertaken and to report biodiversity progress back to the local planning authority.

3.3.2 Further standards, with regards to offset site surveys and ensuring that appropriate target habitats and units can be achieved, will form part of the detailed site search that will precede the preliminary site search.

3.3.3 In addition to biodiversity net gains achieved on-site, off-site enhancements can also achieve positive outcomes for nature in the local area.

3.4 National Policy and Guidance

3.4.1 Specific habitats and species of relevance to the Site receive legal protection in the United Kingdom under various pieces of policy and legislation, including:

- The Environment Act 2021 mandates that all planning applications will be required to demonstrate how a development will enhance biodiversity and protect habitats from February 2024. This is to be achieved through a measurable 10% Biodiversity Net Gain (BNG), in association with development through the use of the most up to date Defra Metric (currently Statutory Biodiversity Metric);

- National Planning Policy Framework (NPPF, as revised 2024) sets out how planning policies and decisions should contribute to and enhance the natural and local environment through amongst other things, ensuring BNG through development and protect ecological important sites and networks;

- The Conservation of Habitats and Species Regulations 2017 (as amended) (retained in UK law by CHSR (Amendment) (EU Exit) 2019) details the regulations for the protection of European Protected Habitat and Species. Such European Protected Species (EPS) of animals (Schedule 2) and plants (Schedule 5) include all species of bats, great crested newt *Triturus cristatus*, dormouse *Muscardinus avellanarius*, and European otter *Lutra lutra*, amongst others;

- The Wildlife and Countryside Act (WCA) 1981 (as amended) covers the legislation for endangered species in England and the framework for the designation of Sites of Special Scientific Interest (SSSIs);

- The Countryside and Rights of Way (CRoW) Act 2000 reinforces the wildlife legislation listed in the WCA and places a duty of government departments to consider biodiversity, and provides governmental department powers for the protection and maintenance of SSSIs;

- The Natural Environment and Rural Communities Act (NERC) 2006 places a duty upon local authorities to promote and enhance biodiversity in all their functions. Specifically, habitats and species of principal importance to the conservation of biodiversity in regards to the planning process;

- The Management of Hedgerows (England) Regulations 2024 provides protection by prohibiting the destruction or damage to important countryside

hedges

3.4.2 Where relevant, this appraisal takes account of the legislative protection afforded to specific habitats and species.

3.5 Regional Policy and Guidance

3.2.1 Kirklees Biodiversity Action Plan (KBAP)

The Kirklees BAP concentrates on species and habitats that had national action plans produced or are of local conservation concern.

The habitats listed within the Kirklees Metropolitan Council BAP are:

- Arable field margins
- Blanket bog
- Hedgerow
- Inland rock outcrop and scree habitats
- Lowland dry acid grassland
- Lowland heathland
- Hay meadows
- Lowland mixed deciduous woodland
- Open mosaic habitats on previously developed land
- Other semi-natural grassland
- Ponds
- Reedbeds
- Rivers and riverine
- Scrub
- Traditional orchards
- Upland flushes, fens and swamps
- Upland heathland
- Upland mixed ashwoods
- Upland oak woodland
- Wet woodland
- Wood-pasture and parkland

The species listed within the Kirklees Metropolitan Council BAP are:

- Common bullfinch *Pyrrhula pyrrhula subsp. Pileata*
- Common grasshopper warbler *Locustella naevia*
- Linnet *Linaria cannabina*
- Starling *Sturnus vulgaris*
- Corn bunting *Miliaria calandra*

- Curlew *Numenius Arquata*
- Tree sparrow *Passer montanus*
- Turtle dove *Streptopelia turtur*
- Red grouse *Lagopus lagopus*
- Reed bunting *Emberiza schoeniclus*
- Ring ouzel *Turdus torquatus*
- Skylark *Alauda arvensis*
- Song thrush *Turdus philomelos*
- Spotted flycatcher *Muscicapa striata*
- Tree pipit *Anthus trivialis*
- Twite *Carduelis flavirostris*
- Grey partridge *Perdix perdix*
- Hawfinch *Coccothraustes coccothraustes*
- Dunnock *Prunella modularis*
- House sparrow *Passer domesticus*
- Lapwing *Vanellus vanellus*
- Willow tit *Parus montanus*
- Wood warbler *Phylloscopus sibilatrix*
- Yellow wagtail *Motacilla flava*
- Yellowhammer *Emberiza citronella*
- Atlantic salmon *Salmo salar*
- European eel *Anguilla Anguilla*
- Common lizard *Lacerta vivipara*
- Common toad *Bufo bufo*
- Great crested newt *Triturus cristatus*
- Brown hare *Lepus europaeus*
- Brown long-eared bat *Plecotus auratus*
- Mountain hare *Lepus timidus*
- Noctule *Nyctalus noctule*
- Otter *Lutra lutra*
- Soprano pipistrelle *Pipistrellus pygmaeus*
- Water vole *Arvicola amphibius*
- Hedgehog Erinaceus europaeus
- Northern wood ant *Formica lugubris*

3.6 Local Policy and Guidance

3.6.1 Kirklees Local Plan 2013 - 2031 (Kirklees Council, 2019), adopted February 2019.

Kirklees Local Plan 2013 - 2031 sets out the council's policies and proposals for land use within the district to 2031. Policy LP30 – Biodiversity and Geodiversity of the Plan is therefore relevant to the Proposed Development.

Policy LP30: Biodiversity and Geodiversity states that proposals the council will support proposals that seek to protect and enhance the biodiversity and

geodiversity of Kirklees, including the range of international, national and locally designated wildlife and geological sites, Habitats and Species of Principal Importance and the Kirklees Wildlife Habitat Network. that protect and enhance features of ecological and geological interest and provide net gains in biodiversity will be supported.

Proposals will be required to:

i. result in no significant loss or harm to biodiversity in Kirklees through avoidance, adequate mitigation or, as a last resort, compensatory measures secured through the establishment of a legally binding agreement;

ii. minimise impact on biodiversity and provide net biodiversity gains through good design by incorporating biodiversity enhancements and habitat creation where opportunities exist;

iii. safeguard and enhance the function and connectivity of the Kirklees Wildlife Habitat Network at a local and wider landscape-scale unless the loss of the site and its functional role within the network can be fully maintained or compensated for in the long term;

iv. establish additional ecological links to the Kirklees Wildlife Habitat Network where opportunities exist; and

v. incorporate biodiversity enhancement measures to reflect the priority habitats and species identified for the relevant Kirklees Biodiversity Opportunity Zone.

3.7 Baseline Data

3.7.1 Biodiversity accounting of existing and post-development habitats and linear features on-site was carried out using the Statutory Biodiversity Metric Calculation Tool, following guidance set out in the metric user guide (Defra 2024).

3.7.2 A baseline analysis of the existing habitats on-site was carried out from the information gathered during the site's ecological assessment visit carried out by James Foster (Assistant Ecologist, JCA Ltd) on 08/10/24.

3.7.3 To undertake the Statutory Biodiversity Metric calculations, the following information was recorded for each habitat parcel and/or linear feature:

- Habitat type;
- Area/Length (ha/km);
- Habitat condition;
- Strategic significance; and

- Whether that habitat will be lost, retained, enhanced, succeeded and/or created, and at what scale.

3.7.4 The habitat map for the site was digitised and interpreted using QGIS Version 3.32.3-Lima to calculate habitat area.

3.8 Impact Assessment

3.2.2 The existing baseline habitat plan for the site was overlain with the Proposed Site Layout Plans of the Proposed Development (Dwg No: 2776(1)013 A) using GIS software to provide an area (ha) of temporary and permanent habitat loss.

3.8.1 The area of any retained/enhanced or created habitats proposed as part of the development was also mapped to provide an area (ha) (or length (km) for linear features) of the on-site compensation proposals being provided. An estimate of future condition, time until establishment and the likelihood of success was then calculated using landscaping data provided by the client and professional judgement

3.9 Habitat Creation and Enhancement

3.9.1 The area of any retained/enhanced or created habitats proposed on-site as part of the Proposed Development was mapped using the Indicative Landscape Proposals of the Proposed development, to provide an area (ha) (or length (km) for linear features) estimate of on-site compensation provided. This includes areas of developed land, which are assigned a null value, notably, areas of buildings and/or roads.

3.9.2 Condition and strategic significance for each habitat or linear feature were projected using available ecological data or professional opinion about the likely value.

3.10 Residual Effects

3.10.1 The residual effects of the Proposed Development scheme were calculated using the Statutory Biodiversity Metric Calculation Tool. This subtracts the pre-development baseline values from that of the post-development values to determine the change in overall habitat value for the site, taking into account any habitat trading.

3.10.2 Habitat trading is where the loss of a habitat must be compensated for through the creation or restoration of areas of equivalent or greater distinctiveness value. Guidance by Defra is that the loss of high distinctiveness areas, such as Habitats of Principal Importance (HPI, NERC Act, S41), require compensation

in a like-for like manner (creation or restoration of habitat of the same habitat classification as that impacted). Within the Biodiversity Metric 'trading up' (where compensation through creation of a higher distinctiveness habitat) can occur, however, 'trading down' (compensation through creation of lower distinctiveness habitats) is not permitted. Therefore, if present, despite gains in lower distinctiveness habitats, these will not reduce the net gain requirement for the development. This also applies to the different habitat features i.e. habitats, hedgerows and rivers and streams. Hedgerow creation gains will not reduce net gain requirements for either rivers and streams or habitats.

3.10.3 Where the resulting biodiversity balance is negative, a residual net loss of biodiversity is recorded. Where the balance is positive a residual net gain of biodiversity is recorded.

4. Baseline Ecological Conditions

4.1 Statutory Designated Sites

4.1.1 The MAGIC website revealed no internationally designated sites within 2km of the site.

4.1.2 The MAGIC website revealed two nationally designated site within 2km of the site, detailed in Table 2 below. The site also falls into the Special Site of Scientific Interest (SSSI) Impact Risk Zone.

Table 3: Nationally designated sites within 2km of the site, identified on MAGIC.

Site Name & Designation	Distance (m) from Site	Reasons for Designation
Sparrow Wood LNR	770 Northeast	Woodland habitat that supports a variety of woodland wildlife.
Lower Spen Wildlife Area LNR	1275m Northwest	Woodland, scrub, meadow and wetland habitats that support a wide range of invertebrates and nesting birds.
Key: LNR – Local Nature Reserve		

4.2 Non-statutory Designated Sites

4.2.1 Records received from WYES revealed three non-statutory designated sites within 2km of the site, detailed in Table 4 below.

4.2.2 The site is included within the Local Wildlife Habitat Network.

Table 4: Non-statutory designated sites within 2km of the site, returned from WYES.

Site Name	Distance (m) from Site	Reasons for Designation
Sparrow Wood LWS	770 Northeast	Woodland habitat that support a variety of woodland wildlife.
Lower Spen Wildlife Area LWS	1275 Northwest	Woodland, scrub, meadow and wetland habitats that support a wide range of invertebrates and nesting birds.
Jordon Wood and Oliver Wood LWS	1580 Southwest	Ancient replanted woodland with freshwater habitats that supports English bluebells and breeding toads.
Key: LWS – Local Wildlife Site		

4.3 Habitats

4.3.1 The MAGIC website revealed deciduous woodland priority habitats on the site.

4.3.2 g3c – Other neutral grassland: 10 – Scattered scrub, 32 – Scattered trees, 81 – Ruderal or ephemeral, 202 – Young trees – self-set, 521 – Unmanaged.

Other neutral grassland is present in several patches on the west of the site. The grassland is not managed and there are areas of scattered scrub from the adjacent, woodland and bramble scrub habitats. There are several small, scattered trees, young self-set trees and tall ruderal species (see **Appendix 1** and **Appendix 7 photos 1 - 3**). Species identified include yarrow *Achillea millefolium,* common bent *Agrostis capillaris,* false oat-grass *Arrhenatherum elatius,* mugwort *Artemisia vulgaris,* silver birch *Betula pendula,* buddleja *Buddleja davidii,* hairy bittercress *Cardamine hirsute,* rosebay willowherb *Chamerion angustifolium,* Diel's cotoneaster *Cotoneaster dielsianus,* hawthorn *Crataegus monogyna,* cock's-foot *Dactylus glomerata,* foxglove *Digitalis purpurea,* fringed willowherb *Epilobium ciliatum,* hairy willowherb *Epilobium hirsutum,* shining cranesbill *Geranium lucidum,* dove's-foot crane's-bill *Geranium molle,* common hogweed *Heracleum sphondylium,* ribwort plantain *Plantago lanceolata,* common plantain *Plantago major,* wild cherry *Prunus avium,* bracken *Pteridium aquilinum,* meadow buttercup *Ranunculus acris,* creeping buttercup *Ranunculus repens,* dog rose *Rosa canina,* bramble *Rubus fruticosus,* broad-leaved dock *Rumex obtusifolius,* autumn hawkbit *Scorzoneroides autumnalis,* stonecrop species *Sedum* sp., ragwort *Senecio jacobaea,* tansy *Tanacetum vulgare,* hare's-foot clover *Trifolium arvense,* lesser trefoil *Trifolium dubium,* red clover *Trifolium pratense,* white clover *Trifolium repens* and stinging nettle *Urtica dioica.*

4.3.3 w1g – Other woodland; broadleaved: 10 – Scattered scrub, 30 – Semi-natural woodland, 81 – Ruderal or ephemeral, 202 – Young trees – self-set, 521 – Unmanaged, 524 – Invasive non-native species.

Other woodland; broadleaved dominates the majority of the site and contains a dense understorey of bramble scrub, especially on the east of the site which was only partly accessible. The woodland is mostly composed of native species but non-native species such as sycamore are present. There is abundant Himalayan balsam present (especially on the east of the site), tall ruderal species and young-self set trees (see **Appendix 1** and **Appendix 7 photos 4 - 7**). Species identified here include sycamore *Acer pseudoplatanus,* Hart's tongue fern *Asplenium scolopendrium,* hedge bindweed *Calystegia sepium,* hairy bittercress *Cardamine hirsute,* hazel *Corylus avellana,* hawthorn *Crataegus monogyna,* broom *Cytisus scoparius,* fringed willowherb *Epilobium ciliatum,* hairy willowherb *Epilobium hirsutum,* ash *Fraxinus excelsior,* wood avens *Geum urbanum,* ivy *Hedera helix,* common hogweed *Heracleum sphondylium,* holly *Ilex aquifolium,* iris species *Iris* sp., perennial ryegrass *Lolium perenne,* common mallow *Malva sylvestris,* wild cherry *Prunus avium,* blackthorn *Prunus spinosa,* bracken *Pteridium aquilinum,* oak *Quercus robur,* meadow buttercup *Ranunculus acris,* creeping buttercup *Ranunculus repens,* bramble *Rubus fruticosus,* broad-leaved dock *Rumex obtusifolius,* white willow *Salix alba,* goat willow *Salix caprea,* ragwort *Senecio jacobaea,* bittersweet *Solanum dulcamara,* rowan *Sorbus aucuparia* and stinging nettle *Urtica dioica.*

4.3.4 h3d – Bramble scrub: 81 – Ruderal or ephemeral, 202 – Young trees – self-set, 521 – Unmanaged

There is an area of bramble scrub on the north of the site. Bramble is the most dominate species. The scrub is unmanaged and also contains tall ruderal species and self-set young trees (see **Appendix 1** and **Appendix 7 photos 8).** Species identified include sycamore *Acer pseudoplatanus,* silver birch *Betula pendula,* hawthorn *Crataegus monogyna,* cock's-foot *Dactylus glomerata,* fringed willowherb *Epilobium ciliatum,* hairy willowherb *Epilobium hirsutum,* ash *Fraxinus excelsior,* common hogweed *Heracleum sphondylium,* blackthorn *Prunus spinosa,* creeping buttercup *Ranunculus repens,* dog rose *Rosa canina,* bramble *Rubus fruticosus,* white willow *Salix alba* and stinging nettle *Urtica dioica.*

4.3.5 u1b – Developed land; sealed surface

There are areas of developed land; sealed surface on the northeast and centre of the site composed of tarmac access and parking from the previous development that was demolished (see **Appendix 1** and **Appendix 7 photos 9**).

4.4 Protected and Notable Species

4.4.1 European Protected Species (EPS) Licence Applications

The MAGIC website revealed one EPS licence application within 2km of the site:

- a licence granted on 04/02/2019 and ending on 31/03/2024 to allow for the destruction of a resting site used by common pipistrelle. Licence reference: 2019-38940-EPS-MIT.

4.4.2 Flora

The following records were received from WYES:

Table 5: Flora Records Received from WYES.

Scientific name	Common name	Designation	Latest Date	Number of records	Distance from site (m)
Alisma lanceolatum	Narrow-leaved water-plantain	KBAP	2014	3	104
Luronium natans	Floating water-plantain	WCA S41 WYBAP	2014	2	1669

Key:
WCA: Schedule 8 of the Wildlife & Countryside Act 1981 (as amended)
S41: Section 41 of the NERC Act 2006
WYBAP: West Yorkshire Biodiversity Action Plan
KBAP: Kirklees Biodiversity Action Plan

No protected or notable floral species were identified during the survey and the flora species identified were common and widespread. Flora, therefore, will not be mentioned further in this report.

4.4.3 Invertebrates (including white-clawed crayfish)

No records of protected or notable invertebrate species within 2km of the site were returned by WYES. No protected or notable invertebrates were identified on-site; however, the weather on the day of the survey was unsuitable for invertebrate activity. There is potentially suitable habitat to support notable invertebrate species. The other neutral grassland, other woodland; broadleaved and bramble scrub all have the potential to support notable foraging invertebrate species. Additionally, ragwort was identified on the site which is the sole food plant of cinnabar moth caterpillars, which are designated as a NERC S41 species. Other flowering species on-site may support other notable pollinating insect species.

No records of white-clawed crayfish within 2km of the site were returned by WYES. There is no potentially suitable habitat for white-clawed crayfish on-site, however there is potentially suitable habitat adjacent to the site to support white-clawed crayfish. The Calderdale and Hebble Navigation is located to the north of the site and could potentially support white-clawed crayfish.

4.4.4 Fish

The following fish records were returned from WYES:

Table 6: Fish records received from WYES.

Scientific name	Common name	Designation	Latest Date	Number of records	Distance from site (m)
Anguilla anguilla	European eel	S41 WYBAP KBAP	2015	1	1196
Salmo trutta	Brown trout	S41 WYBAP KBAP	2015	2	1196

Key:
S41: Section 41 of the NERC Act 2006
WYBAP: West Yorkshire Biodiversity Action Plan
KBAP: Kirklees Biodiversity Action Plan

Three records of two protected of notable fish species within 2km of the site were returned by WYES. There is no potentially suitable habitat for fish on-site, however there is potentially suitable habitat adjacent to the site to notable fish species. The Calderdale and Hebble Navigation is located to the north of the site and could potentially support notable fish species.

4.4.5 Amphibians

No records of amphibian species within 2km of the site were returned by WYES. No amphibians were identified on the site. There is potentially suitable habitat on-site to support amphibians. The woodlands and bramble scrub on-site has the potential to support hibernating amphibians. There is no potentially suitable habitat for breeding

amphibians with suitable habitat connectivity to the site within 500m. The closest water body is the Calderdale and Hebble Navigation, which has limited potential to support amphibian species due to high fish and waterfowl pressure.

4.4.6 Reptiles

No records of reptiles within 2km of the site were returned by WYES. There is potentially suitable habitat on-site to support reptiles. The grassland, woodlands and bramble scrub on-site has the potential to support foraging and hibernating reptiles and the edges of these habitats and clearings within them offer basking opportunities.

4.4.7 Birds

The following bird records were returned by WYES:

Table 7: Bird Records Received from WYES.

Scientific name	Common name	Designation	Latest Date	Number of records	Distance from site (m)
Carduelis carduelis	Goldfinch	KBAP	2016	1	465
Passer domesticus	House sparrow	S41 KBAP WYBAP	2017	6	281
Prunella modularis	Dunnock	S41 WYBAP	2018	5	465
Pyrrhula pyrrhula	Bullfinch	S41 KBAP WYBAP	2017	2	465
Turdus philomelos	Song thrush	S41 KBAP WYBAP	2016	3	465

Key:
S41: Section 41 of the NERC Act 2006
KBAP: Kirklees Biodiversity Action Plan
WYBAP: West Yorkshire Biodiversity Action Plan

17 records of five notable bird species within 2km of the site were returned by WYES. No notable or protected bird species were identified on the site. There is potentially suitable habitat on the site to support nesting birds The grassland, woodlands, bramble scrub and scattered trees on-site has the potential to support a wide range of nesting birds.

4.4.8 Bats

The following bat records were returned by WYES:

Table 8: Bat Records Received from WYES.

Scientific name	Common name	Designation	Latest Date	Number of records	Distance from site (m)
Eptesicus serotinus	Serotine	EPS WCA	2016	1	465

		KBAP			
Myotis sp.	Unidentified *Myotis* bat	EPS WCA	2016	3	465
Nyctalus leisleri	Leiser's bat	EPS WCA KBAP WYBAP	2016	4	156
Nyctalus noctula	Noctule	EPS WCA S41 KBAP WYBAP	2016	6	156
Pipistrellus nathusii	Nathusius's pipistrelle	EPS WCA	2016	1	465
Pipistrellus pipistrellus	Common pipistrelle	EPS WCA KBAP WYBAP	2018	16	465
Pipistrellus pygmaeus	Soprano pipistrelle	EPS WCA S41 KBAP WYBAP	2016	3	465
Plecotus auritus	Brown long-eared bat	EPS WCA S41 KBAP WYBAP	2016	2	465

Key:
EPS: European Protected Species: Species listed under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
WCA: Schedule 5 and 6 of the Wildlife & Countryside Act 1981 (as amended)
S41: Section 41 of the NERC Act 2006
KBAP: Kirklees Biodiversity Action Plan
WYBAP: West Yorkshire Biodiversity Action Plan

The following bat roost records were received from WYES:

Table 9: Bat Roost Records Received from WYES.

Scientific Name	Common Name	Roost type	Date	Distance from Site (m)
Myotis daubentonii	Daubenton's bat	Maternity: over 10 individuals	2019	419
Myotis daubentonii	Daubenton's bat	Maternity: over 10 individuals	2019	419
Myotis daubentonii	Daubenton's bat	Bachelor	2005	645
Nyctalus leisleri	Leisler's bat	Unspecified	2005	410
Nyctalus leisleri	Leisler's bat	Unspecified	2014	835
Nyctalus leisleri	Leisler's bat	Maternity	2007	1441
Nyctalus leisleri	Leisler's bat	Maternity	2007	1441
Nyctalus leisleri	Leisler's bat	Maternity: 30 individuals	1999	1927

Pipistrellus pipistrellus	Common pipistrelle	Unspecified: 4 individuals	2012	1916
Pipistrellus pipistrellus	Common pipistrelle	Unspecified: 3 individuals	2016	156
Pipistrellus pipistrellus	Common pipistrelle	Unspecified: 1 individual	2016	165
Pipistrellus pipistrellus	Common pipistrelle	Unspecified: 1 individual	2016	164
Pipistrellus pipistrellus	Common pipistrelle	Unspecified	2023	991
Pipistrellus pipistrellus	Common pipistrelle	Unspecified: 1 individual	2010	961
Pipistrellus pipistrellus	Common pipistrelle	Unspecified: 2 individuals	2010	963
Pipistrellus pipistrellus	Common pipistrelle	Unspecified: 1 individual	2010	963
Pipistrellus pipistrellus	Common pipistrelle	Unspecified	2998	1025
Pipistrellus pipistrellus	Common pipistrelle	Unspecified: 35 individuals	2014	835
Pipistrellus pipistrellus	Common pipistrelle	Unspecified: 3 individuals	2011	1381
Pipistrellus pipistrellus	Common pipistrelle	Unspecified	2011	1171
Pipistrellus sp.	Unidentified pipistrelle bat	Unspecified	2006	821
Pipistrellus sp.	Unidentified pipistrelle bat	Maternity: 33 individuals	2000	901
Pipistrellus sp.	Unidentified pipistrelle bat	Unspecified	2007	1951
Pipistrellus pygmaeus	Soprano pipistrelle	Unspecified: 1 individual	2010	961
Pipistrellus pygmaeus	Soprano pipistrelle	Unspecified: 2 individuals	2010	963
Pipistrellus pygmaeus	Soprano pipistrelle	Unspecified: 2 individuals	2010	963
Plecotus auritus	Brown long-eared bat	Possible: 1 individual	2008	963
Vespertilionidae	Unidentified bat	Possible	2001	1775
Vespertilionidae	Unidentified bat	Maternity	1994	1421
Vespertilionidae	Unidentified bat	Possible: 1 individual	2005	167
Vespertilionidae	Unidentified bat	Unspecified: 40 individuals	2004	1307
Vespertilionidae	Unidentified bat	Unspecified	2012	435

Vespertilionidae	Unidentified bat	Unspecified	2005	821
Vespertilionidae	Unidentified bat	Possible: 1 individual	2004	1443
Vespertilionidae	Unidentified bat	Unspecified	2004	1571
Vespertilionidae	Unidentified bat	Maternity	2007	1660
Vespertilionidae	Unidentified bat	Maternity	2007	1660
Vespertilionidae	Unidentified bat	Unspecified: 315 individuals	2004	1830
Vespertilionidae	Unidentified bat	Unspecified	2003	1921
Vespertilionidae	Unidentified bat	Unspecified	2003	1997

36 field records of seven confirmed species and 40 roost records of five confirmed species, within 2km of the site were returned by WYES. There is potentially suitable habitat on-site to support commuting, foraging and roosting bats. The grassland, woodland, bramble scrub and scattered trees on-site have the potential to support commuting and foraging bats and Tree 1 (see **Appendix 1 Target Note** and **Appendix 7 photo 12**) contains potential roosting features in the form of a cavity from an old woodpecker hole, and was judged to have the potential to support a large number of bats.

4.4.9

Records of within of the site were returned by WYES and the site falls inside the area of increased probability of activity. There is potentially suitable habitat on-site to support The other neutral grassland offers foraging opportunities. The woodland and bramble scrub offers additional foraging opportunities and potentially suitable habitat for creation. are also a highly mobile species and could be utilising the site for dispersal.

4.4.10 Otters

No records of otter *Lutra lutra* an EPS, WCA, S41, WYBAP and KBAP designated species within 2km were returned by WYES. There is potentially suitable habitat for otters on and adjacent to the site. The Calderdale and Hebble Navigation is located to the north of the site and has the potential to support commuting and foraging otters and the woodland and scrub habitat adjacent to the Calderdale and Hebble Navigation has the potential to support breeding otter holts.

4.4.11 Water Voles

No records of water voles within 2km of the site were returned by WYES. No field signs of water vole or water vole burrows were identified during the survey. There is limited potentially suitable habitat on the site to support water vole. However, the Calderdale and Hebble Navigation has the potential to support commuting water voles and the habitats adjacent to the Calderdale and Hebble Navigation have the potential for water vole burrows.

4.4.12 Beaver

No records of beaver within 2km of the site were returned by WYES. No field signs of beaver were identified during the survey. There is no potentially suitable habitat on or adjacent to the site to support beaver. Beaver, therefore, will not be mentioned further in this report.

4.4.13 Other Notable Species

One record of hedgehog, a WCA (as amended), S41, KBAP, and WYBAP designated species within 2km of the site were returned by WYES. The record was made in 2016 and is located 465m from the site There is potentially suitable habitat on-site to support hedgehogs. The grassland habitat offers foraging opportunities. The woodland and bramble scrub offers additional foraging opportunities and potentially suitable habitat for breeding, resting and hibernating hedgehogs. Hedgehogs are also a mobile species and could be utilising the site for dispersal.

4.4.14 Invasive Species

The following records were received from WYES:

Table 10: Invasive Non-native Species Records Received from WYES.

Scientific name	Common name	Latest Date	Number of records	Distance from site (m)
Cotoneaster simonsii	Himalayan cotoneaster	2021	1	1712
Fallopia japonica	Japanese knotweed	2017	12	652
Heracleum mantegazzianum	Giant hogweed	2016	5	1095
Hydrocotyle ranunculoides	Floating Pennywort	2014	2	1262
Impatiens glandulifera	Himalayan balsam	2017	9	652

29 records of five Schedule 9 WCA (as amended) invasive non-native species, within 2km of the site were returned by WYES. Himalayan balsam was identified as a dominant species in the woodland to the east of the site and scattered elsewhere on the site (**see Appendix 1 and Appendix 7 photo 10 & 11**).

4.4.15 Summary

Table 11 below summarises all important or legally protected ecological features identified within their respective zones of influence, along with their geographic context of importance and/or protection status:

Table 11: Summary of important ecological features and their geographic/legal context.

Ecological Feature	Geographic Context of Importance and/or Protection Status
SAC, SPA	International – none present within 2km
LNR	National – two present within 2km

LWS / LGS	County – three present within 2km of the site.
Invertebrates	White-clawed crayfish is a Protected Species (The Wildlife and Countryside Act 1981 (as amended). Cinnabar moth and other notable species are included in the Species of principle important under the NERC act (S41).
Fish	Brown trout and other species are included in the Species of principle important under the NERC act (S41).
Great crested newt	Protected Species (The Wildlife and Countryside Act 1981 (as amended); The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
Reptiles	Protected Species (The Wildlife and Countryside Act 1981 (as amended); sand lizard and smooth snake receive additional protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
Birds	Protected Species (The Wildlife and Countryside Act 1981 (as amended); The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
Bats	Protected Species (The Wildlife and Countryside Act 1981 (as amended); The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
Otters	Protected Species (The Wildlife and Countryside Act 1981 (as amended); The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
Water voles	Protected Species (The Wildlife and Countryside Act 1981 (as amended).
Hedgehogs	Wild Mammals Protection Act (1996); Species of principle important under the NERC act (S41); (The Wildlife and Countryside Act 1981 (as amended).

4.5 Biodiversity Metric Calculation

4.5.1 The assessment was carried out by JCA Ltd using the ecological data gathered during the site's ecological assessment survey carried out on 08/10/24.

4.6 Irreplaceable Habitats

4.6.1 No irreplaceable habitats were identified on or off-site.

4.7 Habitat Degradation

4.7.1 Historical imagery reveals that no habitat degradation has taken place on or off-site.

4.8 Exiting On-site Value

4.8.1 The existing biodiversity value for each habitat, together with the cumulative value of all habitats is provided in Table 12. Existing on-site habitats can be found in **Appendix 2.**

Table 12: Baseline habitats on-site as categorised by the Statutory Biodiversity Metric Calculation Tool.

Biodiversity Metric Reference Number	Habitat Type	Total Area on-site (Ha)	Distinctiveness	Condition	Strategic Significance	Ecological Baseline Habitat Unit
1	Other neutral grassland	0.213	Medium	Poor	Formally identified in local strategy	0.98
2	Other neutral grassland	0.0125	Medium	Poor	Formally identified in local strategy	0.06
3	Bramble scrub	0.018	Medium	N/A	Formally identified in local strategy	0.08
4	Developed land; sealed surface	0.048	V.Low	N/A	Area/compensation not in local strategy/ no local strategy	0.00
5	Developed land; sealed surface	0.698	V.Low	N/A	Formally identified in local strategy	0.00
6	Other woodland; broadleaved	0.0415	Medium	Moderate	Location ecologically desirable but not in local strategy	0.37
7	Other woodland; broadleaved	2.5635	Medium	Moderate	Formally identified in local strategy	23.58
8	Other woodland; broadleaved	1.1021	Medium	Moderate	Formally identified in local strategy	10.14
9	Urban tree	0.0326	Medium	Moderate	Formally identified in local strategy	0.30
	Total (area excl. trees)	**4.70**	**–**	**–**	**–**	**35.51**

4.8.2 The other neutral grassland (Ref: 1 & 2) on-site has been judged to be of 'Poor' condition as the habitat failed the following relevant condition assessment criteria.

- Criteria A: The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**
- Criteria F (for non-acid grassland only): There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type. **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**

4.8.3 The other woodland; broadleaved (Ref: 6 - 8) on-site has been judged to be of 'Moderate' condition as the habitat scored low scores of 1 or 2 on the following relevant condition assessment criteria.

- Criteria C: Invasive plant species. Score: 1.

- Criteria I: Vegetation and ground flora. Score: 1.
- Criteria J: Woodland vertical structure. Score: 2.
- Criteria K: Veteran trees. Score: 1.
- Criteria L: Amount of deadwood. Score: 2.

4.8.4 The urban trees on-site (Ref: 9) have been judged to be of 'Moderate' condition as the habitat failed the following relevant condition assessment criteria.

- Criteria C: The tree is mature (or more than 50% within the block are mature).
- Criteria E: Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.

4.8.5 The other habitats on-site do not have relevant condition assessment criteria and are automatically assigned a value by the Statutory Biodiversity Metric Calculation Tool.

4.8.6 The majority of the habitats on-site are included within the Local Wildlife Habitat Network and are therefore listed as "Formally identified in local strategy" within the strategic significance section.

4.8.7 The other woodland: broadleaved on-site (Ref: 6) is adjacent to the Local Wildlife Habitat Network and is composed as the same habitat and condition as the habitat included within the Local Wildlife Habitat Network. The habitat is therefore listed as 'Location ecologically desirable but not in local strategy' within the strategic significance section

4.8.8 The other habitats on-site (Ref: 4 & 5) may be included within the Local Wildlife Habitat Network, but they are null value hardstanding habitats with no biodiversity value associated with them and are therefore listed as 'Area/compensation not in local strategy/ no local strategy' within the strategic significance section.

4.8.9 To ensure a 10% net gain in biodiversity is achieved as part of the Proposed Development the following measures can be employed:

- Habitat retention; and/or
- Habitat enhancement; and/or
- Habitat creation.

4.9 Existing Off-site Value

4.9.1 The existing biodiversity value for each habitat, together with the cumulative value of all habitats is provided in Table 13. Existing off-site habitats can be found in **Appendix 3.**

Table 13: Baseline habitats off-site as categorised by the Statutory Biodiversity Metric Calculation Tool.

Biodiversity Metric Reference Number	Habitat Type	Total Area on-site (Ha)	Distinctiveness	Condition	Strategic Significance	Ecological Baseline Habitat Unit
1	Other neutral grassland	0.0179	Medium	Poor	Formally identified in local strategy	0.08
2	Developed land; sealed surface	0.0057	V.Low	N/A	Formally identified in local strategy	0.00
3	Other woodland; broadleaved	0.1518	Medium	Moderate	Formally identified in local strategy	1.40
4	Other woodland; broadleaved	0.0039	Medium	Moderate	Location ecologically desirable but not in local strategy	0.03
	Total (area excl. trees)	**0.18**	**–**	**–**	**–**	**1.51**

4.9.2 The other neutral grassland (Ref: 1) off-site has been judged to be of 'Poor' condition as the habitat failed the following relevant condition assessment criteria.

- Criteria A: The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**
- Criteria F (for non-acid grassland only): There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type. **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**

4.9.3 The other woodland; broadleaved (Ref: 3 & 4) off-site has been judged to be of 'Moderate' condition as the scored low scores of 1 or 2 on the following relevant condition assessment criteria.

- Criteria C: Invasive plant species. Score: 1.
- Criteria I: Vegetation and ground flora. Score: 1.
- Criteria J: Woodland vertical structure. Score: 2.

- Criteria K: Veteran trees. Score: 1.
- Criteria L: Amount of deadwood. Score: 2.

4.9.4 The majority of the habitats off-site are included within the Local Wildlife Habitat Network and are therefore listed as "Formally identified in local strategy" within the strategic significance section.

4.9.5 The other woodland; broadleaved off-site (Ref: 3) is adjacent to the Local Wildlife Habitat Network and is composed as the same habitat and condition as the habitat included within the Local Wildlife Habitat Network. The habitat is therefore listed as 'Location ecologically desirable but not in local strategy' within the strategic significance section.

4.9.6 The other habitats off-site (Ref: 2) may be included within the Local Wildlife Habitat Network, but they are null value hardstanding habitats with no biodiversity value associated with them and are therefore listed as 'Area/compensation not in local strategy/ no local strategy' within the strategic significance section.

4.9.7 The off-site area is within the same LPA as the site and all the baseline, created and enhanced habitats off-site have been listed as 'Compensation inside LPA boundary or NCA of impact site' under the spatial risk category.

5. Proposed Development Impact Assessment

5.1 Description of the Proposed Development

5.1.1 The Proposed Development involves the pre application for erection of two industrial units, with associated access and parking.

5.1.2 The Proposed Development will see the loss of the majority of on-site habitats. The remaining undeveloped areas of woodland and grassland habitats will be enhanced.

5.1.3 The results of the metric calculation indicates that a total of 24.95 BU will be lost as a result of the development, with 0.00 BU retained and 10.56 BU enhanced (Table 14).

Table 14: Summary of baseline habitat biodiversity value through retention and enhancement.

Biodiversity Metric Reference Number	Statutory Biodiversity Metric Habitat Type	Retained		Enhanced		Lost	
		Area (ha)	Unit	Area (ha)	Unit	Area (ha)	Unit
1	Other neutral grassland	0.00	0.00	0.00	0.00	0.21	0.98
2	Other neutral grassland	0.00	0.00	0.0125	0.06	0.00	0.00
3	Bramble scrub	0.00	0.00	0.00	0.00	0.02	0.08
4	Developed land, sealed surface	0.00	0.00	0.00	0.00	0.05	0.00
5	Developed land, sealed surface	0.4943	0.00	0.00	0.00	0.20	0.00
6	Other woodland; broadleaved	0.00	0.00	0.0415	0.37	0.00	0.00
7	Other woodland, broadleaved	0.00	0.00	0.00	0.00	2.56	23.58
8	Other woodland, broadleaved	0.00	0.00	1.1021	10.14	0.00	0.00
9	Urban tree	0.00	0.00	0.00	0.00	0.03	0.30
	Total (area excl. trees)	**0.49**	**0.00**	**1.16**	**10.56**	**3.05**	**24.95**

5.2 Habitats to be Retained

5.2.1 Any development should apply the Mitigation Hierarchy (British Standards Institution (BSI), 2013; shown below in Figure 1).

5.2.2 Development proposals should first seek to avoid impacts by retaining habitats. Second, development proposals should look to minimise the impact by producing plans that are designed to limit habitat disturbance, damage, and

loss, thereby mitigating against any unavoidable impacts. Third, proposals should look to restore any damaged or degraded habitats. Then, only as a last resort should proposals compensate for unavoidable residual impacts to damaged or lost habitats that remain after avoidance and mitigation measures.

Figure 1: The mitigation hierarchy (BSI, 2013)

5.2.3 The Proposed Development will not see the retention of the habitats on-site (excluding null value habitats). The undeveloped areas will be enhanced.

5.3 On-site Habitats to be Enhanced

5.3.1 The Proposed Development will see the enhancement of the undeveloped habitats on-site, delivering a total of 14.31 BU

5.3.2 The undeveloped areas of 'Poor' condition other neutral grassland (Baseline Ref: 2) on-site will be enhanced into 'Good' condition other neutral grassland. The enhancement of this habitat will deliver 0.12 BU.

5.3.3 The undeveloped areas of 'Moderate' condition other woodland; broadleaved (Baseline Ref: 6) on-site will be enhanced into 'Good' condition other woodland; broadleaved. The enhancement of this habitat will deliver 0.49 BU.

5.3.4 The undeveloped areas of 'Moderate' condition other woodland; broadleaved (Baseline Ref: 8) on-site will be enhanced into 'Good' condition other woodland; broadleaved. The enhancement of this habitat will deliver 13.69 BU.

5.3.5 The majority of habitats to be enhanced on-site are included within the Local Wildlife Habitat Network and are therefore listed as "Formally identified in local strategy" within the strategic significance section.

5.3.6 The other habitats to be enhanced on-site are adjacent to the Local Wildlife Habitat Network and are composed of the same habitat and condition as the habitat included within the Local Wildlife Habitat Network. The habitat is

therefore listed as 'Location ecologically desirable but not in local strategy' within the strategic significance section.

5.4 Off-site Habitats to be Enhanced

5.4.1 The Proposed Development will see the enhancement of the habitats off-site, delivering a total of 1.93 BU.

5.4.2 The areas of 'Moderate' condition other woodland; broadleaved (Off-site Baseline Ref: 3) off-site will be enhanced into 'Good' condition other woodland; broadleaved. The enhancement of this habitat will deliver 1.89 BU.

5.4.3 The areas of 'Moderate' condition other woodland; broadleaved (Off-site Baseline Ref: 4) off-site will be enhanced into 'Good' condition other woodland; broadleaved. The enhancement of this habitat will deliver 0.05 BU.

5.4.4 The majority of habitats (Off-site Baseline Ref: 3) to be enhanced off-site are included within the Local Wildlife Habitat Network and are therefore listed as "Formally identified in local strategy" within the strategic significance section.

5.4.5 The other habitats (Off-site Baseline Ref: 4) to be enhanced off-site are adjacent to the Local Wildlife Habitat Network and are composed of the same habitat and condition as the habitat included within the Local Wildlife Habitat Network. The habitat is therefore listed as 'Location ecologically desirable but not in local strategy' within the strategic significance section

5.5 Habitats to be Lost On-site

5.5.1 The Proposed Development will see the loss of the following habitats on-site:

- Other neutral grassland, 'Medium Distinctiveness', 'Poor' condition.
- Other woodland; broadleaved, 'Medium Distinctiveness', 'Moderate' condition.
- Urban trees, 'Medium distinctiveness', 'Moderate' condition.
- Developed land; sealed surface, 'Very Low Distinctiveness'.

5.6 Habitats to be Lost Off-site

5.5.2 The Proposed Development will see the loss of the following habitats off-site to make way for habitat creation:

- Other neutral grassland, 'Medium Distinctiveness', 'Poor' condition.

5.7 Proposed On-site Habitat Creation

5.6.1 It is proposed that the following habitats be created on-site as part of the Proposed Development:

- Other neutral grassland, 'Medium Distinctiveness', 'Good' condition.
- Mixed scrub, 'Medium Distinctiveness', 'Moderate' condition.
- Ponds (non-priority habitat), 'Medium Distinctiveness', 'Moderate' condition.
- Reedbeds, 'High Distinctiveness', 'Moderate' condition.
- Other woodland; broadleaved, 'Medium Distinctiveness', 'Moderate' condition.
- 34 small urban trees, 'Medium Distinctiveness', 'Moderate' condition.
- Developed land sealed surface, 'Very Low Distinctiveness'.

5.6.2 The proposed habitats on-site can be found within **Appendix 4.**

5.6.3 Table 15 below summarises the value of all habitats that are to be created as part of the Proposed Development. In total, 11.77 BU for habitats are to be created within the Proposed Development.

Table 15: Summary value of on-site habitat proposals.

Biodiversity Metric Reference Number	Statutory Biodiversity Metric Target Habitat Type	Total Area on-site (Ha)	Distinctiveness	Target Condition	Strategic Significance	Biodiversity Unit Value
1	Other neutral grassland	0.0096	Medium	Good	Location ecologically desirable but not in local strategy	0.09
2	Other neutral grassland	0.5507	Medium	Good	Formally identified in local strategy	5.32
3	Mixed scrub	0.0206	Medium	Moderate	Formally identified in local strategy	0.16
4	Ponds (non-priority habitat)	0.196	Medium	Moderate	Formally identified in local strategy	1.62
5	Developed land; sealed surface	1.5669	V.Low	N/A	Area/compensation not in local strategy/ no local strategy	0.00
6	Reedbeds	0.1747	High	Moderate	Formally identified in local strategy	1.26
7	Other woodland; broadleaved	0.0384	Medium	Moderate	Location ecologically desirable but not in local strategy	0.20
8	Other woodland; broadleaved	0.4893	Medium	Moderate	Formally identified in local strategy	2.64
9	Urban tree	0.1384	Medium	Moderate	Formally identified in local strategy	0.49
	Total (area excl. trees)	**3.05**	**–**	**–**	**–**	**11.77**

5.6.4 The other neutral grassland to be created on-site (Ref: 1 & 2) has been given a target condition of 'Good'. In order to achieve this at least five of the six following condition assessment criteria must be passed (including criteria A and F).

- Criteria A: The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**

- Criteria B: Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.

- Criteria C: Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.

- Criteria D: Cover of bracken Pteridium aquilinum is less than 20% and cover of scrub (including bramble *Rubus fruticosus agg.*) is less than 5%.

- Criteria E: Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.

- Criteria F (for non-acid grassland only): There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type. **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**

5.6.5 The mixed scrub habitat to be created on-site (Ref: 3) has been given a target condition of 'Moderate'. In order to achieve this at least three of the five following condition assessment criteria must be passed.

- Criteria A: The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). At least 80% of scrub is native, there are at least three native woody species, and no single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).

- Criteria B: Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.

- Criteria C: There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of suboptimal condition make up less than 5% of ground cover.

- Criteria D: The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.

- Criteria E: There are clearings, glades or rides present within the scrub, providing sheltered edges.

5.6.6 The ponds (non-priority habitat) to be created on-site (Ref: 4) have been given a target condition of 'Moderate'. In order to achieve this at least five of the seven (for woodland ponds) and at least six of the nine (for non-woodland ponds) of the following condition assessment criteria must be passed.

- Criteria A: The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.

- Criteria B: There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.

- Criteria C: Less than 10% of the water surface is covered with duckweed Lemna spp. or filamentous algae.

- Criteria D: The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.

- Criteria E: Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework.

- Criteria F: There is an absence of listed non-native plant and animal species.

- Criteria G: The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.

- **Additional Criteria - must be assessed for all non-woodland ponds**: Criteria H: Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3 m deep.

- Criteria I: The pond surface is no more than 50% shaded by adjacent trees and scrub.

5.6.7 The reedbeds to be created on-site (Ref: 6) have been given a target condition of 'Moderate'. In order to achieve this at least four of the seven following condition assessment criteria must be passed.

- Criteria A: The water table is at, or near the surface throughout the year - this could be open water or saturation of soil at the surface. There is no artificial drainage, unless specifically to maintain water levels as specified above. **Note - this criterion is essential for achieving Good condition.**

- Criteria B: The parcel represents a good example of its specific habitat type - the appearance and composition of the vegetation closely matches its UKHab description, with vascular and non-vascular characteristic indicator species consistently present.

- Criteria C: The water supplies (groundwater, surface water and or rainwater) to the wetland are of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.

- Criteria D: Cover of scrub and scattered trees are less than 10%.

- Criteria E: Cover of bare ground is less than 5%.

- Criteria F: There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of suboptimal condition4 make up less than 5% of ground cover.

- **Additional Criterion - must be assessed for Reedbed habitats only:** Criteria I: The reedbed has a diverse structure with between 60% and 80% reeds *Phragmites australis*. Other areas may include open water (at least 10%), species-rich fen and or wet woodland.

5.6.8 The other woodland; broadleaved to be created on-site (Ref: 7 & 8) has been given a target condition of 'Moderate'. A score of at least 26 of possible 39 of the following relevant condition assessment criteria must be achieved.

- Criteria A: Age distribution of trees

- Criteria B: Wild, domestic and feral herbivore damage

- Criteria C: Invasive plant species

- Criteria D: Number of native tree species

- Criteria E: Cover of native tree and shrub species

- Criteria F: Open space within woodland

- Criteria G: Woodland regeneration

- Criteria H: Tree health
- Criteria I: Vegetation and ground flora
- Criteria J: Woodland vertical structure
- Criteria K: Veteran trees
- Criteria L: Amount of deadwood
- Criteria M: Woodland disturbance

5.6.9 The urban trees to be planted on-site (Ref: 9) have been given a target condition of 'Moderate'. In order to achieve this at least three of the six following condition assessment criteria must be passed.

- Criteria A: The tree is a native species (or at least 70% within the block are native species).
- Criteria B: The tree canopy is predominantly continuous, with gaps in canopy cover making gup <10% of total area and no individual gap being >5m wide.
- Criteria C: The tree is mature (or more than 50% within the block are mature).
- Criteria D: There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide, or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.
- Criteria E: Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy, or loose bark.
- Criteria F: More than 20% of the tree canopy area is oversailing vegetation beneath.

5.6.10 The majority of the habitats to be created on-site are included within the Local Wildlife Habitat Network and are therefore listed as "Formally identified in local strategy" within the strategic significance section.

5.6.11 The other neutral grassland (Ref: 1) and other woodland: broadleaved on-site (Ref: 7) is adjacent to the Local Wildlife Habitat Network and is composed as the same habitat and condition as the habitat included within the Local Wildlife Habitat Network. The habitat is therefore listed as 'Location ecologically desirable but not in local strategy' within the strategic significance section

5.6.12 The other habitats on-site (Ref: 5) may be included within the Local Wildlife Habitat Network, but they are null value hardstanding habitats with no

biodiversity value associated with them and are therefore listed as 'Area/compensation not in local strategy/ no local strategy' within the strategic significance section.

5.8 Proposed Off-site Habitat Creation

5.7.1 It is proposed that the following habitats be created off-site as part of the Proposed Development:

- Other woodland; broadleaved, 'Medium Distinctiveness', 'Moderate' condition.

5.7.2 The proposed habitats off-site can be found within **Appendix 5.**

5.7.3 Table 16 below summarises the value of all habitats that are to be created as part of the Proposed Development. In total, 0.13 BU for habitats are to be created within the Proposed Development.

Table 16: Summary value of off-site habitat proposals.

Biodiversity Metric Reference Number	Statutory Biodiversity Metric Target Habitat Type	Total Area on-site (Ha)	Distinctiveness	Target Condition	Strategic Significance	Biodiversity Unit Value
1	Other woodland; broadleaved	0.0236	Medium	Moderate	Formally identified in local strategy	0.13

5.7.4 The other woodland; broadleaved to be created off-site (Ref: 7 & 8) has been given a target condition of 'Moderate'. A score of at least 26 of possible 39 of the relevant condition assessment criteria must be achieved. **See section 5.6.8.**

5.7.5 The habitats to be created off-site are included within the Local Wildlife Habitat Network and are therefore listed as "Formally identified in local strategy" within the strategic significance section.

5.9 Proposed Development Summary of Net Impacts

5.8.1 Tables 17 and 18 below summarise the on and off-site habitat BU value of the Proposed Development together with the unit value of any biodiversity impacts or on-site habitat creation/enhancement proposals.

5.8.2 This shows that on balance, the Proposed Development would result in a combined net loss of -8.88 habitat BU, equivalent to a net gain of -25.02%. A deficit of -12.44 habitat BU has been generated, which would need to be compensated for to reach a minimum 10% net gain.

5.8.3 The Proposed Development does not satisfy the Trading Rules as unit deficits have been generated across distinctive units. A deficit of -16.44 BU (Table 19)

have been generated because of the loss of medium distinctiveness woodland and forest habitats. These habitats must be replaced either by any higher distinctiveness habitat type, or by medium distinctiveness habitat types from within the same broad habitat group.

Table 17: Summary of Biodiversity Metric results for habitats on-site

	Biodiversity Units (BU)
Existing Site habitat biodiversity value	35.51
Value of gross habitat biodiversity loss	24.95
Value of retained and proposed on-site habitat creation and enhancement	26.08
On-site net change	-9.43
On-site percentage change	-26.56%

Table 18: Summary of Biodiversity Metric results for habitats off-site

	Biodiversity Units (BU)
Existing Site habitat biodiversity value	1.51
Value of gross habitat biodiversity loss	0.08
Value of retained and proposed off-site habitat creation and enhancement	2.06
Off-site net change	+0.55
Off-site percentage change	+36.08%

Table 19: Summary of Combined Biodiversity Metric results for habitats.

	Biodiversity Units (BU)
Combined unit change	-8.88
Combined percentage change	-25.02%

6. Assessment of Effects

6.1 Statutory Designated Sites

6.1.1 The MAGIC website revealed no internationally designated sites within 2km of the site.

6.1.2 The MAGIC website revealed two nationally designated site within 2km of the site. The closest is Sparrow wood LNR, which is located 770m northeast of the site. Due to the distance from the site and the lack of potentially suitable habitat connectivity between the site and the LNR, any adverse effects to the LNR are not anticipated.

6.1.3 The MAGIC website revealed that the site does lie within the Special Site of Special Scientific Interest (SSSI) Impact Risk Zone. However, due to the nature of the development any adverse effects to the SSSI are not anticipated.

6.2 Non-statutory Designated Sites

6.2.1 Records received from WYES revealed three non-statutory designated sites within 2km of the site. The closest is Sparrow wood LWS, which is located 770m northeast of the site. Due to the distance from the site and the lack of potentially suitable habitat connectivity between the site and the LWS, any adverse effects to the LWS are not anticipated.

6.2.2 The site is included within the Local Wildlife Habitat Network and is anticipated to be adversely effected by the proposed development. Further recommendations are therefore provided in **Section 7.1.2.**

6.3 Habitats

6.3.1 g3c – Other neutral grassland: 10 – Scattered scrub, 32 – Scattered trees, 81 – Ruderal or ephemeral, 202 – Young self-set trees, 521 – Unmanaged.

The other neutral grassland habitat is due to be lost under the current scheme and replaced in small areas.

6.3.2 w1g – Other woodland, broadleaved: 10 – Scattered scrub, 30 – Semi-natural, 202 – Young self-set trees.

The other woodland; broadleaved habitat will be partially lost under the current scheme.

6.3.3 h3d – Bramble scrub: 81 – Ruderal or ephemeral, 202 – Young self-set trees, 521 – Unmanaged.

The bramble scrub habitat is to be lost under the current scheme and replaced in areas by mixed scrub.

6.3.4 u1b – Developed land; sealed surface

All areas of developed land sealed surface on the site will be lost to make way for habitat creation and the current scheme.

6.4 Protected and Notable Species

6.4.1 Invertebrates (including white-clawed crayfish)

No records of protected or notable invertebrate species were returned by WYES. The other neutral grassland, other broadleaved woodland and bramble scrub all have the potential to support notable foraging invertebrate species. Ragwort was identified on the site which is the sole food plant of cinnabar moth caterpillars. Other flowering species on-site may support other notable pollinating insect species. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and bramble scrub are to be removed. This could adversely affect notable invertebrate species. Further recommendations are therefore provided in **Section 7.1.3**.

No records of white-clawed crayfish were returned by WYES. There is no potentially suitable habitat for white-clawed crayfish on-site, however there is potentially suitable habitat adjacent to the site to support white-clawed crayfish. The Calderdale and Hebble Navigation is located to the north of the site and could potentially support white-clawed crayfish. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and bramble scrub are to be removed. This could adversely affect white-clawed crayfish through indirect impacts, such as inconsiderate construction practises causing pollution to the Calderdale and Hebble Navigation. Further recommendations are therefore provided in **Section 7.1.2**.

6.4.2 Fish

Three records of two protected of notable fish species within 2km of the site were returned by WYES. There is no potentially suitable habitat for fish on-site, however there is potentially suitable habitat adjacent to the site to notable fish species. The Calderdale and Hebble Navigation is located to the north of the site and could potentially support notable fish species. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and bramble scrub are to be removed. This could adversely affect notable fish species through indirect impacts, such as inconsiderate construction practises causing pollution to the Calderdale and Hebble Navigation. Further recommendations are therefore provided in **Section 7.1.4**.

6.4.3 Amphibians

No records of amphibian species were returned by WYES. No amphibians were identified on the site. There is potentially suitable habitat on-site to support amphibians. The grassland, woodlands and scrub on-site have the potential to support hibernating amphibians. There is no potentially suitable habitat for breeding amphibians with suitable habitat connectivity to the site within 500m. The closest water body is the Calderdale and Hebble Navigation, which has limited potential to support amphibian species due to high fish and waterfowl pressure. The Ecological Impact Assessment undertaken by Naturally Wild Consultants Ltd. (Ref: PP-20-01) in March 2020 identified three ponds on the site. These were not able to be identified during the survey as they may have dried out or not been accessed due to dense bramble scrub inn the understorey of the woodland on the east of the site. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and bramble scrub are to be removed. This could adversely affect amphibian species. Further recommendations are therefore provided in **Section 7.1.5**.

6.4.4 Reptiles

No records of reptiles within 2km of the site were returned by WYES. The grassland, woodlands and scrub on-site have the potential to support foraging and hibernating reptiles and the edges of these habitats and clearings within them offer basking opportunities. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and scrub are to be removed. This could adversely affect reptile species. Further recommendations are therefore provided in **Section 7.1.6**.

6.4.5 Birds

17 records of five notable bird species (excluding records of Schedule 1 WCA (as amended) designated species) were returned by WYES. No notable or protected bird species were identified on the site. There is potentially suitable habitat on the site to support nesting birds The grassland, woodlands, scrub and scattered trees on-site have the potential to support a wide range of nesting birds. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and scrub are to be removed. This could adversely affect nesting birds. Further recommendations are therefore provided in **Section 7.1.7**.

6.4.6 Bats

36 field records of seven confirmed species and 40 roost records of five confirmed species, within 2km of the site were returned by WYES. There is potentially suitable habitat on-site to support commuting, foraging and roosting bats. The grassland, woodland, bramble scrub and scattered trees on-site have the potential to support commuting and foraging bats and has been judged to be of 'Moderate' potential to support commuting and roosting bats. Tree 1 contains potential roosting features in the form of a cavity from an old woodpecker hole and was judged to be of PRF-M

potential, meaning it has high potential to support a maternity colony. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and scrub are to be removed. This could adversely affect commuting, foraging and roosting bats. Further recommendations are therefore provided in **Section 7.1.8.**

6.4.7

Records of were returned by WYES, and the site falls inside the area of increased probability of activity. There is potentially suitable habitat on-site to support The grassland offers foraging opportunities, and the woodland and scrub offer additional foraging opportunities and potentially suitable habitat for creation. are also a highly mobile species and could be utilising the site for dispersal. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and scrub are to be removed. This could adversely affect Further recommendations are therefore provided in **Section 7.1.9.**

6.4.8 Otters

No records of otter were returned by WYES. There is potentially suitable habitat for otters on and adjacent to the site. The Calderdale and Hebble Navigation is located to the north of the site and has the potential to support commuting and foraging otters and the woodland and scrub habitat adjacent to the Calderdale and Hebble Navigation has the potential to support breeding otters. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and scrub are to be removed. This could adversely affect otters. Further recommendations are therefore provided in **Section 7.1.10.**

6.4.9 Water voles

No records of water voles were returned by WYES. No field signs of water vole or water vole burrows were identified during the survey. The Calderdale and Hebble Navigation has the potential to support commuting water voles and the habitats adjacent to the Calderdale and Hebble Navigation have the potential for water vole burrows. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and scrub are to be removed. This could adversely affect water voles. Further recommendations are therefore provided in **Section 7.1.11.**

6.4.10 Other Notable Species

One record of hedgehog was returned by WYES. The grassland habitat offers foraging opportunities, the woodland and scrub offers additional foraging opportunities and potentially suitable habitat for breeding, resting and hibernating hedgehogs. Hedgehogs are also a mobile species and could be utilising the site for dispersal. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and scrub are to be removed. This could adversely affect hedgehogs. Further recommendations are therefore provided in **Section 7.1.12.**

6.4.11 Invasive species

29 records of invasive non-native species were returned by WYES. Himalayan balsam was identified as a dominant species in the woodland to the east of the site and scattered elsewhere on the site. Under current proposals large areas of other neutral grassland, other woodland; broadleaved and scrub are to be removed. There is a legal requirement to ensure the safe removal and disposal of these species, and such removal will be a benefit to the site. Further recommendations are therefore provided in **Section 7.1.13**.

7. Recommendations

7.1.1 Biodiversity Net Gain

It was identified that the Proposed Development would have a net loss of -8.88 habitat BU, equivalent to a net loss of -25.02%. The Proposed Development does not satisfy Trading Rules, as a deficit of -16.44 BU for medium distinctiveness woodland and forest habitats was generated. As such, the client should seek to undertake one or a combination of the following recommendations to achieve an overall biodiversity net gain in habitat BU and hedgerow BU, whilst meeting the Trading Rules:

- Incorporate further on-site habitat creation/enhancement to compensate for the loss of medium distinctiveness habitat to achieve a minimum of 10% net gain whilst satisfying the Trading Rules.

- If further on-site habitat creation/enhancement is not possible, then further off-site habitat creation/enhancement will be required. This can be achieved by the purchase of additional land designated as a compensatory biodiversity offset site.

- If neither on-site nor off-site compensation is possible, statutory biodiversity credits will need to be purchased as a last resort. Mitigation via statutory credits would require the purchase of 30.37 BU worth of Tier A2 credits.

Further details of the Statutory Biodiversity Metric calculations and associated condition assessments can be found within the Statutory Biodiversity Metric Calculator Tool excel spreadsheet and the Statutory Biodiversity Metric Habitat Condition Assessment Sheets accompanying this report.

Should the Proposed Development be subject to future change, the conclusions and recommendations in this report will need to be revised. This is to be undertaken via the recalculation of the impact assessment element through the most up-to-date biodiversity metric.

7.1.2. Local Wildlife Habitat Network, The Calder and Hebble Navigation and Priority Woodland

Construction and Environment Management Plan (CEMP) is recommended relating to the priority woodland and Local Wildlife Habitat Network on-site and the Calder and Hebble Navigation adjacent to the site. To ensure that these habitats and the protected species potentially utilising them such as, white-clawed crayfish, fish, otters and water vole is required to ensure the priority woodland and Local Wildlife Habitat Network on-site and the Calder and Hebble Navigation adjacent to the site are not adversely impacted during the works.

A **Biodiversity Enhancement Plan (BEP)** should be designed pre-construction to be implemented post construction during the landscaping phase of the development. The biodiversity enhancement plan will provide opportunities for local wildlife and aim to retain or enhance priority habitats, to ensure the development does not have a significant detrimental impact on local or national wildlife populations.

7.1.3. Invertebrates

Native scrub and wildflower planting (such as ragwort) is recommended to mitigate for the loss of habitat and floral variety which will affect many generalist invertebrate species on-site and species which may forage on invertebrates such as bats and birds. This should be included in a Biodiversity Enhancement Plan.

7.1.4. Fish

A CEMP is recommended in relation to any fish within the Calder and Hebble Navigation adjacent to site.

7.1.5. Amphibians

A Habitat Suitability Index survey (HSI) is recommended to identify the ponds on the site and assess their suitability to support great crested newts. This should take place during winter months when the vegetation has died back, and the pond on-site can be accessed.

It is advised that a precautionary approach is adopted to include **an Ecological Clerk of Works** (**ECoW**) being present prior to works commencing. The **ECoW** would give a toolbox talk to on-site contractors in order to relate applicable legislation, what signs to look for, and what to do should amphibians be encountered on-site. Should an amphibian be found during site clearance, the advising ecologist would move it to a place of safety. If a great crested newt is found during site works, all work must halt immediately and advise from a suitably competent and licensed and ecologist must be sought.

7.1.6. Reptiles

Reptile absence/presence surveys are recommended. Surveys must take place between April and June, or September in suitable weather conditions. The survey consists of eight site visits, one to set out artificial refugia and seven surveys to check the refugia.

It is advised that a precautionary approach is adopted to include an **ECoW** being present prior to works commencing. The **ECoW** would give a toolbox talk to on-site contractors in order to relate applicable legislation, what signs to look for, and what to do should reptiles be encountered on-site. Should a reptile be found during site clearance, the advising ecologist would move it to a place of safety.

7.1.7. Birds

The vegetation on-site provides high nesting potential for breeding bird species. In the UK, the key breeding period for birds is from 1st February until 31st August (depending on species and behaviour). A preconstruction-site walkover no more than 24 hours prior to any vegetation removal is required, and if removal occurs outside of the breeding bird period and birds are found, the removal must cease immediately, and a suitably competent ecologist contacted.

It is also advised that a precautionary approach is adopted to include an **ECoW** being present prior to works commencing. The **ECoW** would give a toolbox talk to on-site contractors in order to relate applicable legislation, what signs to look for, and what to do should bird nests be encountered on-site. Any active nests must remain *in situ*, surrounded by a buffer of undisturbed vegetation, until any young have fledged.

7.1.8. Bats

The site offers 'Moderate' potential for commuting and foraging bats. A bat activity survey is recommended, which requires data to be collected by static bat detectors for a minimum of five consecutive nights per month (April to October) and a one night walkover survey per season (spring – April/May, summer – June/July/August, autumn September/October) in appropriate (or best available) weather conditions for bats.

Tree 1 contains a potential roosting feature and was judged to be of PRF-M. Three separate dusk emergence survey visits in suitable weather conditions are required and must take place between May and September, with at least two surveys between May and August and at least three weeks between surveys.

The scheme has the potential to disturb foraging and commuting bats through increased light levels during the construction phase. All lighting must consider wildlife and be in accordance with the ILP Guidance GN01 and GN09 (2023). A key point is the avoidance of internal and external light spill. Where possible, lighting should be timed, or on sensors and avoid the hours between sunset and sunrise, when bats are out foraging.

Lighting Scheme: The development will likely increase lighting levels. All lighting must consider wildlife and be in accordance with the ILP Guidance GN01 and GN09. A key point is the avoidance of internal and external light spill. Where possible, lighting should be timed, or on sensors and avoid the hours between sunset and sunrise, when bats are out foraging.

Artificial light is known to deter bats from entering lit areas. The development must incorporate a wildlife sensitive lighting scheme. In particular, obtrusive light is to be prevented from reaching potential foraging and commuting routes, both from new exterior and interior lights. Guidance published by the Institution of Lighting Professionals (2023) is to be followed when designing the lighting scheme for the development.

It is important to avoid:

- Uniform levels of luminance across the site.
- Metal halide and florescent lighting.
- Upward tilting lighting that increases skyline luminance.

Instead, the following should be installed:

- Dark buffer zones.
- Screening in the form of vegetation, fences and structures.
- Appropriately designated darkened areas.
- Luminaries absent of UV elements.
- LED luminaries with a sharp cut-off, low intensity and good rendition.
- A warm white spectrum (<2700 kelvin) to reduce blue light.
- Peak luminaire wavelength at a minimum of 550nm.
- Downward directional luminaires with upward light ratios of 0%.
- Lower light columns to limit light spill.
- Recessed internal light fixtures.
- Window glazing treatments or automated blind systems.

7.1.9.

The site hold potential for activity surveys are recommended. surveys can take place throughout the year, but tall vegetation can obscure field signs during the summer. To permit migration and safe passage of through the site, any excavations created during the development stage must be covered at night or appropriate escape routes implemented. Planks are to be placed at a 45-degree angle for to escape safely. Any open pipes must also be capped. A preconstruction walkover to check the site for is recommended.

7.1.10. Otters

Two otter surveys are required to ascertain the presence/absence of otter adjacent to the site. There is no constraint to the timing of this survey, but it is recommended to be undertaken between April-June and the second between July-September.

7.1.11. Water voles

Two water vole surveys are required to ascertain the presence/absence of water vole adjacent to the site. The first survey is to be undertaken between April-June and the second between July-September.

7.1.12. Other Notable Species

The areas of scrub on-site provides ideal nesting habitat for hedgehogs, which are legally protected during hibernation and while raising their young. Vegetation clearance must be carried out under the supervision of an **ECoW**. The **ECoW** will hand

search any area where hedgehogs might be present before they are cleared. They will be relocated to a shelter within suitable habitat.

Any excavations created during the development stage must be covered at night or appropriate escape routes implemented to prevent hedgehogs or any other species becoming trapped. Planks or similar are to be placed at a 45-degree angle for hedgehogs to escape safely. Any open pipes must also be capped if left open overnight. Any open pipes must also be capped.

7.1.13. Invasive species

An Invasive Species Method Statement for the safe management and removal of the Himalayan balsam present on-site is to be conducted.

7.1.14. Summary of Impacts

In the absence of any mitigation measures, the proposed development would be anticipated to have adverse significant impacts at the Local level. However, with the implementation of the mitigation and precautionary measures as specified above, the proposed development is not anticipated to result in any significant adverse residual effects to important ecological features.

Table 20 below summarises the assessment of effects, including any mitigation and subsequent residual effects.

Table 20 Summary of important ecological features and their geographic/legal context.

Receptor	Likely Significant Effect and/or Legal Implication	Avoidance and Mitigation Measures	Residual Impacts After Mitigation
Statutory designated sites	No significant effects	N/A	No significant effects
Non-statutory designated sites	No significant effects	N/A	No significant effects
Priority Habitats	Moderate adverse impact at the local level.	Construction works should adhere to the Construction and Environmental Management Plan.	No significant effects
Invertebrates	Moderate adverse impact at the local level.	Planting of native grasses and flowering species post development.	No significant effects
Fish	Low adverse impact at the local level.	Construction works should adhere to the Construction and Environmental Management Plan.	No significant effects
Amphibians	Potential breach of legislation from killing and injury of amphibians.	Precautionary working methods under ecological supervision.	No significant effects
Reptiles	Potential breach of legislation from killing and injury of reptiles.	A reptile survey is recommended to determine absence/presence of reptiles on the site. Precautionary working methods under ecological supervision.	Dependent on the results of the survey.
Birds	Potential breach of legislation from destruction of nests or disturbance of nesting birds	A nesting bird survey is recommended to determine if active nests are present on the site.	Dependent on the results of the survey.

		Precautionary working methods under ecological supervision.	
Bats	Moderate adverse impact at the local level.	Three dusk emergence surveys on Tree 1 to determine if a roost is present. A bat activity survey is recommended to determine if the proposed development will have an adverse impact on local bat population commuting and foraging areas. Works to be carried out via appropriate lighting schemes as per Institute of Lighting Professionals' guidance (ILP, 08/23).	Dependent on the results of the surveys.
	Potential harm to individuals during works.	A survey is recommended. Cover any excavations or pipes at night to prevent any individuals getting stuck.	Dependent on the results of the survey.
Otters	Potential harm to individuals during works.	Two otter surveys are required to determine absence/presence. . Precautionary working methods under ecological supervision.	Dependent on the results of the survey.
Water voles	Potential harm to individuals during works.	Two water vole surveys are required to determine absence/presence. . Precautionary working methods under ecological supervision.	Dependent on the results of the survey.
Other Notable Species	Potential breach of legislation from killing and injury of individual hedgehogs.	Precautionary working methods under ecological supervision. Cover any excavations or pipes at night to prevent any individuals getting trapped.	No significant effects
Invasive Species	Potential breach of legislation through the spread of invasive species.	Eradication and safe disposal of invasive species by a specialist contractor.	No significant effects

8. References

Naturally Wild Consultants Ltd. *Ecological Impact Assessment* (Ref: PP-20-01) 2020

Guidelines for surveys and report writing:

British Standards Institute (BSI), (2013) *BS 42020:2013, Biodiversity - Code of practice for planning and development*. London.

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Websites:

Advice on protected species is consolidated at:
Environmental management: Wildlife and habitat conservation - GOV.UK (2016) *Gov.uk*. Available at: https://www.gov.uk/topic/environmental-management/wildlife-habitat-conservation

Magic Map Application (2016) *Magic.defra.gov.uk*. Available at: http://magic.defra.gov.uk/MagicMap.aspx

The RSPB (2016). Available at: http://www.rspb.org.uk/

Surveys and mitigation plans: protected species - Detailed guidance (2015) *Gov.uk*. Available at: https://www.gov.uk/guidance/surveys-and-mitigation-plans-protected-species

Within this detailed guidance on surveys and mitigation information is available on the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts

Wildlife licences: when you need to apply - Detailed guidance (2014) *Gov.uk*. Available at: https://www.gov.uk/guidance/wildlife-licences

Within this detailed guidance on licensing information is available on licences for the following protected species:

- Bats
- Natterjack toads
- Otters
- Reptiles
- Water voles
- White-clawed crayfish
- Wild birds
- Hazel dormice
- Great crested newts

As well as:

- Non-native Bumblebee species
- Deer
- Freshwater fish
- Invertebrates
- Mink, coypu, muskrat and grey squir
- Plants

Species Specific Information:

Bats:

Bat Conservation Trust, (2007) Bats, Development & Planning in England. London.

Bat Conservation Trust and Institute of Lighting Professionals (2023) Guidance Note 08/23: Bats and artificial lighting in the UK. ILP, Rugby

Collins, J. (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines. 4th edition. Bat Conservation Trust, London.

Mitchell-Jones, A.J. & McLeish, A.P. (2012) The Bat Workers' Manual. Pelagic Publishing, Exeter.

Bats: surveys and mitigation for development projects, https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects Accessed 2018-06-21

Dormice:

Bright, P., Morris, P. and Mitchell-Jones, A. (1996) The dormouse conservation handbook. Peterborough: English Nature.

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Langton, T., Beckett, C. and Foster, J. (2001) Great Crested Newt Conservation Handbook. Halesworth: Froglife. pdf

Advice note 4 (revised) - Amphibian Disease Precautions, A Guide for UK Fieldworkers, Amphibian and Reptile Conservation trust, 2017. Accessed 2018-06-21

Otters: *Natural England, (2007) Species Information Note SIN006, Otter: European protected species.*

Reptiles and Amphibians:

Baker, J., Beebee, T., Buckley, J., Gent, T. and Orchard, D. (2011) Amphibian Habitat Management Handbook. 1st ed. Bournemouth: Amphibian and Reptile Conservation.

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Water Vole Conservation and Management: Lessons From Four Case Studies, Jemma Louise Gaskin, 2016

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Strachan, R. and Holmes-Ling, P (2003), Restoring water voles and other biodiversity to the wider countryside. Wildlife Conservation Research Unit, Oxford.

Strachan, R., Moorehouse, T. and Gelling, M. (2011), Water Vole Conservation Handbook, 3rd Edn, WILDCRU

White-clawed Crayfish:

Peay, S. (2002) Guidance on Habitat for White-clawed Crayfish and its Restoration. Kendal: English Nature

Relevant Legislation:

Wildlife and Countryside Act 1981

- http://jncc.defra.gov.uk/page-3614
- https://www.legislation.gov.uk/ukpga/1981/69/contents

The Conservation of Habitats and Regulations 2017.

- https://www.legislation.gov.uk/uksi/2017/1012/contents/made

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

- https://www.legislation.gov.uk/uksi/2019/579/contents/made

Countryside and Rights of Way Act 2000

- https://www.legislation.gov.uk/ukpga/2000/37/contents

The Management of Hedgerows (England) Regulations 2024

- https://www.legislation.gov.uk/ukdsi/2024/9780348260472/regulation/6