



The Ecology Co-op

ENVIRONMENTAL CONSULTANTS

Unit 4, Langham Stables, Langham Lane, Lodsworth, West Sussex, GU28 9BU.

Biodiversity Impact Calculation

Site Name

Hall Farm Grainstore, Bentworth

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Client

Andrew Heaton

Author

Rozel Hopkins

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The Ecology Co-operation Ltd

Registered Office: Unit 4, Langham Stables, Langham Lane, Lodsworth, West Sussex, GU28 9BU

Company number: 8905527





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About the Author

This report has been prepared by Rozel Hopkins, a Consultant Ecologist at The Ecology Co-op, with 4 years experience. She has a Level 1 bat survey license and a Level 1 great crested newt survey licence and as a Qualifying member of the Chartered Institute for Ecology and Environmental Management (CIEEM) is bound by their code of professional conduct.

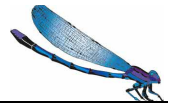
About the Reviewer

This report has been reviewed by Kate Priestman, who is a Principal Ecologist with over twenty years' experience. Kate has undertaken survey work and reporting, and prepared European Protected Species licences for numerous schemes. As a Full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and a Chartered Environmentalist (CEnv), she is bound by CIEEM's code of professional conduct.



Report Summary

Purpose	The Ecology Co-operation was commissioned by Andrew Heaton to undertake a Biodiversity Impact Calculation of a proposal to construct a new grain store, cattle barn and shed using the Statutory Biodiversity Metric to quantify net change in biodiversity.
Summary of Losses and Gains	<p>The proposed development scheme at this site will result in the loss of:</p> <ul style="list-style-type: none"> 0.36ha of c1c cereal crops 0.01km of h2a5 (11) species-rich hedgerow with trees in poor condition. <p>The proposed development scheme at this site will retain:</p> <ul style="list-style-type: none"> 0.05km of h2a5 (11) species-rich hedgerow with trees in poor condition 1 (0.063ha) x medium rural tree in moderate condition. <p>Post-intervention, the following habitats will be created:</p> <ul style="list-style-type: none"> 0.27ha of u1b developed land; sealed surface 0.09ha of g4 modified grassland in moderate condition. <p>In addition, three off-site areas have been highlighted to achieve the unit deficit required:</p> <ul style="list-style-type: none"> C1 – 0.09ha of c1c5 winter stubble C2 – 0.06ha of c1c5 winter stubble C3 – area for hedgerow unit creation with no relevant baseline. <p>The winter stubble in C1 and C2 shall be lost under the proposed habitat management, with the following habitat creation proposed:</p> <ul style="list-style-type: none"> C1 – 0.09ha of w1g other woodland; broadleaved in moderate condition C2 – 0.06ha of w1g other woodland; broadleaved in moderate condition C3 – 0.01km of h2a5 (11) species-rich hedgerow with trees in moderate condition.
Final Metric Results	<p>The Biodiversity Impact Calculation has demonstrated that the proposed scheme will result in a likely net gain of 0.1 habitat units (+11.60%). The linear feature calculation for the proposed scheme indicates a likely net gain of 0.46 hedgerow units (+110.91%).</p> <p>The current scheme does satisfy the trading rules of the Statutory Biodiversity Metric.</p>
Does the scheme meet net gain requirements?	The current scheme does meet the 10% mandatory net gain value set out within the Environment Act 2021 and achieves the net gain in biodiversity through development goals detailed by East Hampshire District Council.



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1 INTRODUCTION

1.1 Purpose of the Report

There is a movement in planning policy and legislation towards a requirement for all new developments to demonstrate ‘net gains’ in biodiversity following the release of an updated National Planning Policy Framework¹ by the Department of Housing, Communities and Local Government. A mandatory value of 10% net gain for all developments has now also been outlined within the Environment Act 2021².

This document includes a baseline ‘Biodiversity Impact Calculation’ (BIC) for the proposed development at Hall Farm Grainstore. The calculation utilises the Statutory Biodiversity Metric and assigns ‘biodiversity units’ to the pre-existing habitats contained within a proposed development site and those that are predicted to be lost, restored and/or created once the development has been constructed. This allows an objective comparison to be made between the existing biodiversity value of a given site and the predicted biodiversity value post development, with the net change in biodiversity value subsequently quantified.

The purpose of this document is to present the findings of the BIC based on the most up-to date existing habitat survey information and the most current outline plans for the proposed development of the site. Biodiversity Impact Calculations provide an evidence base for discussions between the ecological consultant, developer and the local planning authority regarding on-site avoidance, on-site mitigation and off-site compensation requirements.

This report will be used in relation to a proposal for the construction of a new grain store, cattle barn and shed. Given the likelihood of proposed changes in the design scheme, some of the recommendations will potentially be subject to change and are only indicative at this stage. The results of the BIC are deemed accurate for the most recent layout plan. In accordance with the biodiversity net gain.

This report was commissioned and produced at the request of Andrew Heaton.

1.2 Background

The site measures 0.36ha in area and comprises an area of cropland with a section of hedgerow along the western boundary.

The site was subject to an Ecological Appraisal³ in January 2024, which included an initial site walkover on 16th September 2022 and a dormouse hazelnut and nest search on 5th January 2023. No evidence of dormice *Muscardinus avellanarius* was found during the search, but precautionary mitigation has been recommended for badgers *Meles meles*, dormice, hedgehogs *Erinaceus europaeus* and breeding birds.

¹ HM Government (2023). National Planning Policy Framework. Department for Communities and Local Government. Available online at: https://assets.publishing.service.gov.uk/media/65819679fc07f3000d8d4495/NPPF_December_2023.pdf

² HM Government (2021). Environment Act 2021. Available online at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

³ The Ecology Co-op (2024). *Ecological Assessment – Hall Farm Grainstore, Bentworth*.



Habitats (UKHAB) within the site and along the site boundaries are shown in (Figure 1), these comprise of:

- c1c – cereal crops
- h2a5 (11) – species rich-native hedgerow with trees.



Figure 1. UKHAB map showing existing habitats within the site. The site boundary is indicated with a red line. Produced using QGIS software, version 3.28.5 – Firenze.

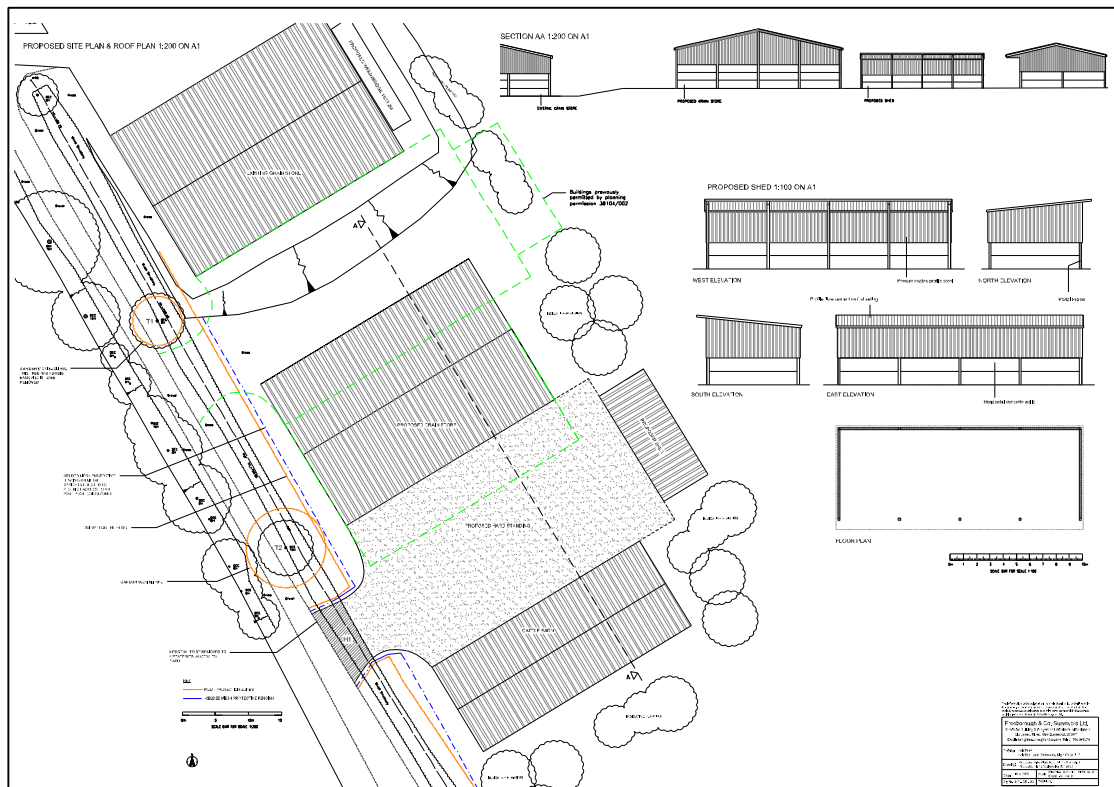


Figure 2. Proposed scheme layout for the development at Hall Farm Grainstore, reproduced from Freeborough & Co. Surveyors Ltd, dated November 2023 (drawing no. HF-CB-03).

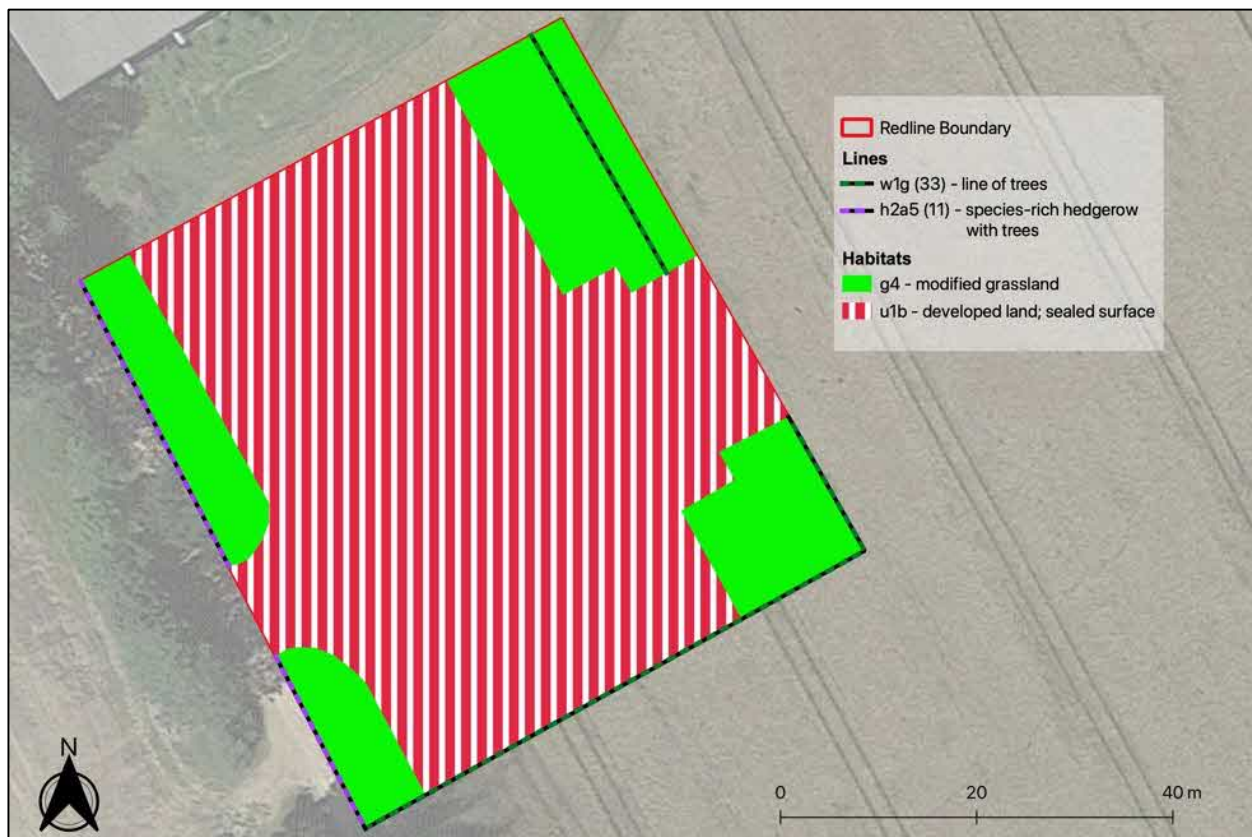


Figure 3. UKHAB map showing proposed habitats within the site, based on the plans in Figure 2. The site boundary is indicated with a red line. Produced using QGIS software, version 3.28.5 – Firenze.

1.3 Policy and Legislation

NPPF (2023)

The NPPF sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regards to the operation of the planning system.

Paragraph 180d, states that planning policies and decisions should contribute to and enhance the local environment by:

“minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.”

Paragraph 185b, states that to protect and enhance biodiversity and geodiversity, plans should;

“promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

Paragraph 186d, states that when determining planning applications, authorities should apply the following principle:

“development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be



integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate

Environment Act (2021)

The Environment Act sets a target of halting the decline in species through the inclusion of a legally binding 2030 species abundance target. Aiming to restore natural habitats and enhance biodiversity, the Act requires new developments to improve or create habitats for nature (through mechanisms such as mandatory Biodiversity Net Gain), and tackle deforestation. Going forwards, UK businesses will need to look closely at their supply chains as amongst other measures they will be prohibited from using commodities associated with wide-scale deforestation. Woodland protection measures are also strengthened through the Act.

Local Policy

Policy CP21 (Biodiversity) of the current East Hampshire Local Plan: Joint Core Strategy from East Hampshire District Council⁴ notes that it will support development proposals must:

*“[...] maintain, **enhance** and protect **the District’s biodiversity** and its surrounding environment. New development will be required to:*

***ensure wildlife enhancements are incorporated into the design to achieve a net gain in biodiversity by designing in wildlife [...]**”*

In addition, the Council provided a position statement in November 2023⁵ outlined the legislative framework surrounding biodiversity net gain in the District, encouraging developers to consider BNG in projects as early as possible and recommending BNG seeks to “*bolster the local ecological network by providing habitat that is relevant to the area and which will complement the existing habitat mix*”.

1.4 Methodology

This Biodiversity Impact Calculation uses the Statutory Biodiversity Metric calculation tool published by Natural England⁶. This is used to calculate ‘habitat units’ and ‘hedgerow units’ by multiplying the area (ha) or lengths (km), ‘distinctiveness’ (habitat type), ‘condition’ (quality), and strategic significance (location in relation to the authority’s local strategy) of each habitat parcel.

The calculation provides a negative value to the biodiversity units where habitat is being directly lost to development. Where habitats are enhanced or created on-site, or off-site, the calculation gives a positive value but adds risk factors that account for uncertainty - difficulty in creating new habitats and time delays while they establish; habitats that are more difficult to restore or that will take a long time to reach a set target condition will score lower and therefore make a smaller positive contribution.

Where on-site gains are equal to or larger than the losses, the project is deemed to have neutral biodiversity

⁴ East Hampshire District Council (2014). East Hampshire District Local Plan: Joint Core Strategy. Available online at: <https://cdn.easthants.gov.uk/public/documents/DP01%20East%20Hampshire%20District%20Local%20Plan%20Joint%20Core%20Strategy%20COMPLETE.pdf>

⁵ East Hampshire District Council (2023). *Biodiversity Net Gain (BNG) Position Statement*, Available online at: <https://www.easthants.gov.uk/planning-services/planning-policy/planning-policy-guidance-documents/guidance-documents>

⁶ Natural England (2023) *The Statutory Biodiversity Metric – Calculation Tool*. Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>



impact or biodiversity 'net gain' respectively.

Where on-site gains do not outweigh on-site losses and a biodiversity 'net loss' is calculated, this becomes an 'offset requirement'. Offsets can be provided by further habitat creation or enhancement in-situ or elsewhere and are assessed using the same metric to balance the predicted gains against the losses to ensure no net loss will be achieved. It follows that a biodiversity net gain can still be achieved by providing higher biodiversity gains through the offset than the net loss resulting from the development.

Note that the metric does not allow for 'trading down'; one of the key principles in measuring biodiversity net losses or gains is that habitats of high ecological importance cannot be offset by the creation of larger areas of habitats with lower value. The Statutory Biodiversity Metric calculation tool includes a 'trading down correction' that deducts the number of biodiversity units that are not accounted for through the creation of equivalent high distinctive habitats than that lost. For example, the loss of a small area of lowland meadow priority habitat (high distinctiveness) will not be offset by a larger area of modified grassland (medium distinctiveness) and will only be offset by an equivalent area of habitat of the same distinctiveness or higher.

1.5 Data Sources

This calculation uses the most up to date survey information, using botanical data gathered during the site visit in 16th September 2022 and updated habitat mapping and specific condition assessments which were undertaken on 31st January 2024. The areas of each habitat category were measured using The UK Hab App⁷ and GIS mapping tools (QGIS). Condition assessments were made in accordance with the Statutory Biodiversity Metric condition assessments document⁸ and the Statutory Biodiversity Metric: draft user guide⁹. Applying the precautionary principle, a presumption for the higher condition was used where there was any uncertainty in the condition of existing habitats.

To predict habitat/hedgerow units supported after by the site after completion of the development, the aerial imagery was overlaid by the proposed scheme layout (see Figure 2). This allowed direct losses of habitats to be measured where the built environment overlaps with pre-existing habitat, with gardens and amenity areas treated separately. The habitats that are 'created' after development are assumed to achieve the highest level of condition as appropriate; a separate landscape and enhancement plan should be produced to ensure this condition is achieved.

The Statutory Biodiversity Metric calculation tool uses a separate calculator spreadsheet for linear features. This works under the same principles as above but replaces areas of habitat with linear length of a feature. It should be noted that because linear features often have higher ecological importance, linear habitats are assigned higher distinctiveness and must be offset with other linear features. The hedgerow units generated for linear features are not equivalent or interchangeable with biodiversity calculations for areas of habitat.

⁷<https://ecountability.co.uk/ukhabsurvey-app/>

⁸ Natural England (2023) *Statutory Biodiversity Metric Condition Assessments* Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

⁹ Natural England (2023). *Statutory Biodiversity Metric draft user guide*. Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>



1.6 Results

1.6.1 Existing Habitats Assessment

A summary of habitats and condition assessments is provided in Table 1. Full results of condition assessments for habitats which require it (using the Statutory Biodiversity Metric condition assessment document) are provided in Appendix 1.

Overall, the on-site calculated baseline is 0.87 habitat units and 0.47 hedgerow units.

No irreplaceable habitats are present upon the development site.

Table 1. Existing habitat conditions for Hall Farm Grainstore.

Habitats		Condition Assessments
UK Habitat (UKHAB) Classification System	Location/Reference (habitat parcels split if multiple areas with different condition assessments)	Condition
Cereal crops (c1c)	Entirety of the site area	N/A
Hedgerow – species-rich hedgerow with trees (h2a5 (11))	Western boundary of the site - west	Poor
Rural tree	Within the western boundary's hedgerow	Moderate

1.6.2 Habitat Losses and Gains

The proposed development scheme at this site will result in the loss of:

0.36ha of c1c cereal crops

0.01km of h2a5 (11) species-rich hedgerow with trees in poor condition.

The proposed development scheme at this site will retain:

0.05km of h2a5 (11) species-rich- hedgerow with trees in poor condition

1 (0.063ha) x medium rural tree in moderate condition.

Post-intervention, the following habitats will be created:

0.27ha of u1b developed land; sealed surface

0.09ha of g4 modified grassland in moderate condition.

This results in an on-site net change of -0.41 habitat units (-46.88%) and 0.36 hedgerow units (87.57%), as seen in Table 2. In addition, the trading rules are not satisfied for hedgerow units on-site. Therefore, off-site habitat creation has been sought to meet the remaining unit demand. These comprise of areas within the client's landholding.



Table 2. On-site results of the Biodiversity Impact Calculation for the proposed development at Hall Farm Grainstore

On-site baseline	Habitat units	0.87	
	Hedgerow units	0.41	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.46	
	Hedgerow units	0.78	
	Watercourse units	0.00	
On-site net change (units & percentage)	Habitat units	-0.41	-46.88%
	Hedgerow units	0.36	87.57%
	Watercourse units	0.00	0.00%

Three off-site areas have been highlighted to achieve the units required (shown in Figure 5a and Figure 6):

- C1 – 0.09ha of c1c5 winter stubble
- C2 – 0.06ha of c1c5 winter stubble
- C3 – area for hedgerow unit creation with no relevant baseline.

C1 and C2 are located approximately 360m south of the development site, whereas C3 is located 1km to the east, within the site’s existing hedgerow network.

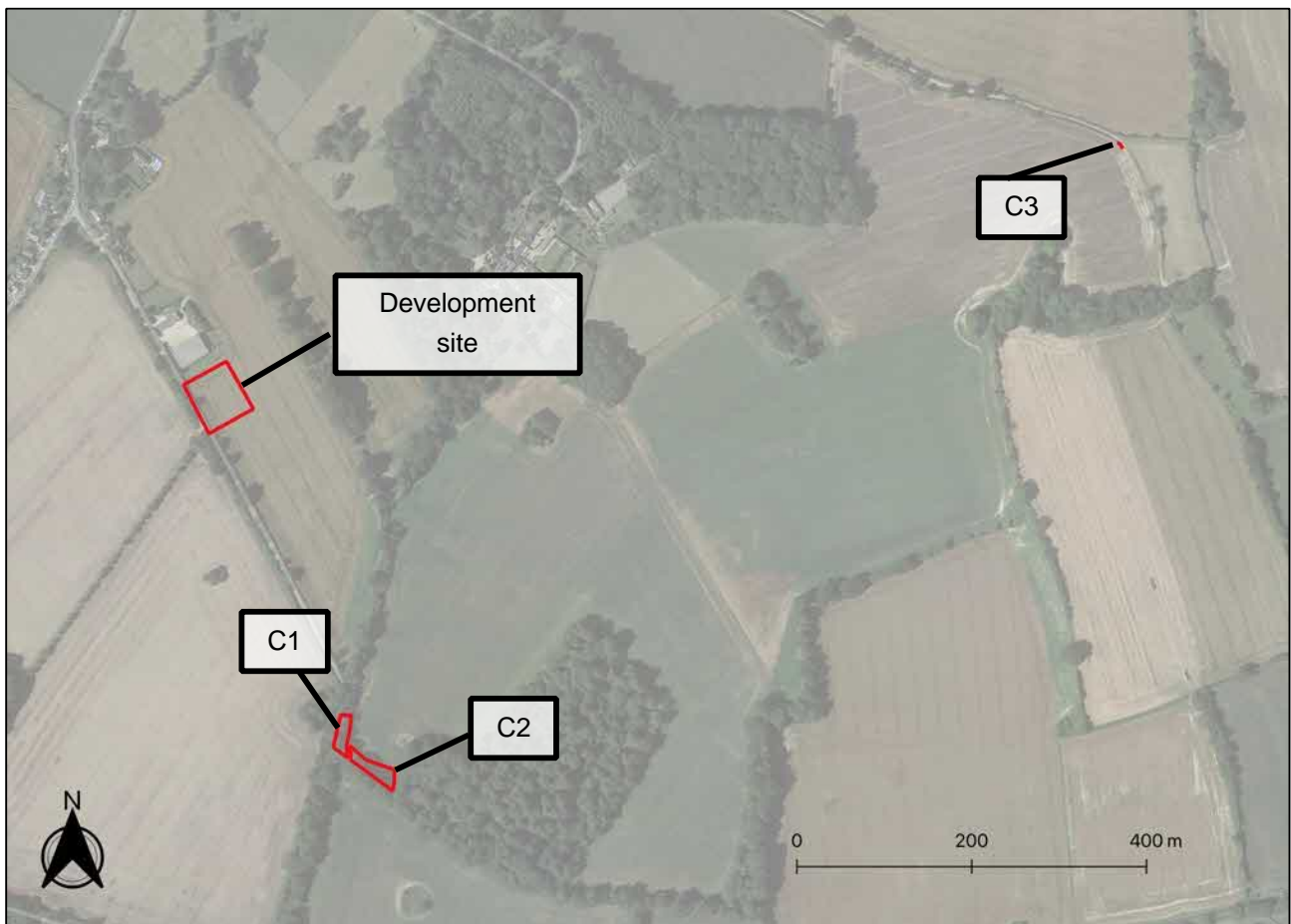
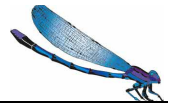


Figure 4. Map showing development site and three proposed offsetting sites (C1, C2 and C3). Produced using QGIS software, version 3.28.5 – Firenze.



The winter stubble in C1 and C2 shall be lost under the proposed habitat management, with the following habitat creation proposed:

C1 – 0.09ha of w1g other woodland; broadleaved in moderate condition

C2 – 0.06ha of w1g other woodland; broadleaved in moderate condition

C3 – 0.01km of h2a5 (11) species rich-hedgerow with trees in moderate condition.

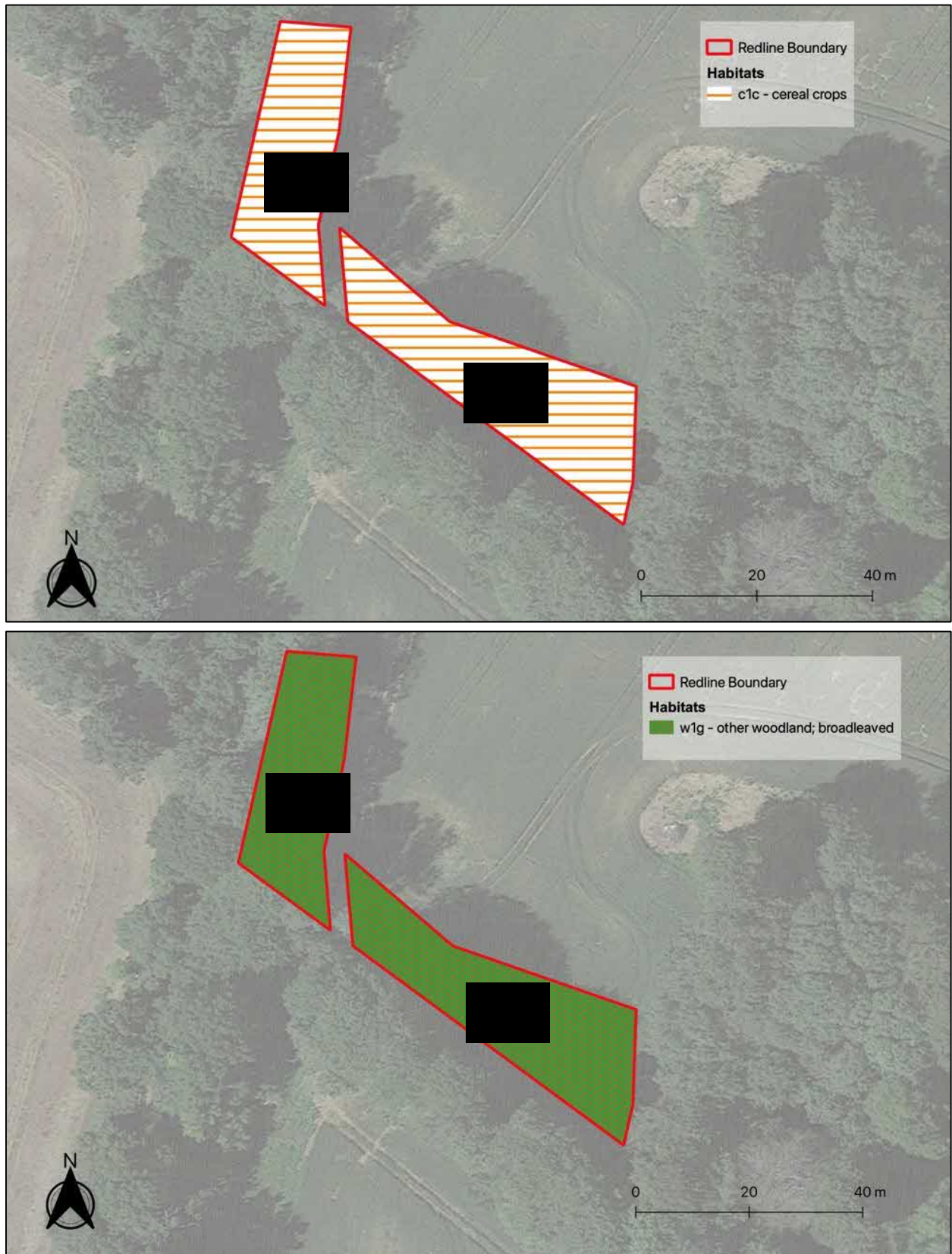


Figure 5a (top) & b (bottom). UKHAB maps showing the off-site habitat unit creation elsewhere in the client's landholding in areas C1 and C2. a shows the habitat baseline and b shows the proposed habitat creation. Produced using QGIS software, version 3.28.5 – Firenze.



Photograph 1. View west over C1 and C2. Photo taken on 31st January 2024.



Figure 6. UKHAB map showing the off-site hedgerow unit creation elsewhere in the client's landholding in C3. Produced using QGIS software, version 3.28.5 – Firenze.



The overall results of the calculations, comprising both the on-site and off-site habitat creation, are presented in Table 3. Please refer to the Statutory Biodiversity Metric calculation tool supplied with this document (submitted separately) for full details of the calculation.

Table 3. Headline results of the Biodiversity Impact Calculation for the proposed development at Hall Farm Grainstore.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.10
	Hedgerow units	0.46
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	11.60%
	Hedgerow units	110.91%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

1.7 Conclusions

The Statutory Biodiversity Metric calculation has demonstrated that the proposed scheme will result in a likely net gain of **0.1 habitat units (+11.60%)**

The linear feature calculation for the proposed scheme results in a likely gain of **0.46 hedgerow units (+110.91%)**.

The current scheme does satisfy the trading rules within the Statutory Biodiversity Metric.

All on-site and off-site habitat creation and management shall need to be detailed post-planning in a Biodiversity Gain Plan and a Habitat Management and Monitoring Plan (HMMP).

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.



APPENDIX 1 – Habitat Condition Assessment Sheets

CONDITION ASSESSMENT SHEET FOR USE WITH STATUTORY BIODIVERSITY METRIC (SBM)- AREA BASED HABITATS														
Date	31/01/24			SBM survey reference (if condition assessment of this polygon relates to a wider habitat survey)				Hall Farm Grainstore						
Weather conditions	Overcast and rainy													
Surveyor name(s)	Rozel Hopkins			Unique polygon reference(s)				West						
Site name or location	Hall Farm Grainstore, Bentworth			SBM habitat type				Species-rich hedgerow with trees						
Onsite or offsite?	Onsite			Condition sheet used				Hedgerow						
Reason for assessment (if not baseline condition survey)	Baseline condition survey													
Limitations (if applicable)	Winter – shrubs were not in full leaf so photos from site visit in September 2022 were used to supplement the findings.													
Habitat description														
<p>A species-rich hedgerow lines comprising of blackthorn <i>Prunus spinosa</i>, bracken <i>Pteridium aquilinum</i>, bramble <i>Rubus fruticosus</i> agg., hazel <i>Corylus avellana</i>, sycamore <i>Acer pseudoplatanus</i>, a rose <i>Rosa</i> species, hawthorn <i>Crataegus mongyna</i>, elder <i>Sambucus nigra</i>, black bryony <i>Dioscorea communis</i> and field maple <i>Acer campestre</i>. Two trees are located within the section of hedgerow in the site – a semi-mature ash <i>Fraxinus excelsior</i> and a semi-mature oak <i>Quercus</i> species.</p>														
<p>Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria.</p> <p>For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criteria assessed.</p>														
Criterion	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2				TOTAL
Result	F	F	P	F	P	F	P	F	F	P				4/10
Photo ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?	N/A			Condition (Good/Moderate/Poor):				Poor						