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Report prepared for: G C Planning Partnership Ltd

For the Site of: Land at Drivers End Lane, Codicote, Hitchin SG4 8TR

Version:	Written by:	Checked by:	Final:
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Final	Heather Stuckey 20/11/2024	Martin O'Connor 20/11/2024	Heather Stuckey 02/12/2024

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Ecological reports are limited in shelf life, usually 12 months for baseline surveys and for BNG as and when plans change. Information is believed to be accurate at the time of the survey; recommendations are made without bias based on good practice guidelines within the industry. However, species presence and ecological parameters can change over time.

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Contents

0.0 Non-Technical Summary	3
0.1 Background	3
0.2 Results and Findings	3
0.3 Impact Assessment and Recommendations	4
1.0 Introduction	5
1.1 Aim	5
1.2 Site Information	5
1.3 Study Area	5
1.4 Suitably Qualified Ecologist	5
2.0 Methods	6
2.2 Limitations	6
3.0 Site Context	7
3.1 MAGiC	7
3.2 Strategic Significance	8
4.0 Baseline Units	9
5.0 Post-Development Units	11
6.0 Results	14
6.1 Discussion	14
6.1.1 Mitigation Hierarchy	14
7.0 Conclusion	16
7.1 Recommendations	16
8.0 References	19

Biodiversity Net Gain (BNG)/Biological Impact Assessment (BIA)

0.0 Non-Technical Summary

0.1 Background

The client commissioned Cherryfield Ecology to undertake a Biodiversity Net gain (BNG)/Biodiversity Impact Assessment (BIA) for the site of Land at Drivers End Lane, Codicote, Hitchin SG4 8TR, to determine the biological impact of the proposed development.

Biodiversity Net Gain (BNG) is an approach to development that leaves biodiversity in a better state than it was before. The process relies on the mitigation hierarchy, which sets out that everything possible must be done to firstly avoid, secondly, minimise and thirdly restore and rehabilitate losses of biodiversity on site.

This report uses the Statutory Biodiversity Metric (DEFRA 2024), to quantify the biodiversity baseline for the site and calculate the post-development biodiversity unit for the proposed scheme following the best practice guidelines as set down by CIRIA (2019).

0.2 Results and Findings

- A summary of the change in Biodiversity Net Gain on site is given in Table 1.

Table 1: Change in Biodiversity Net Gain (BNG) on site

BIA Units	Total Net Unit Change	Total Net % change
Habitat Units	+0.17	+15.23%
Hedgerow Units	+0.12	+468.62%
River Units	n/a	n/a

0.3 Impact Assessment and Recommendations

A 10% increase for each unit type present is required to meet the minimum statutory requirement.

The proposed development will result in a **+15.23% net gain** in Habitat Units and a **+468.62% net gain** in Hedgerow Units on site and, therefore, meets this requirement with all trading rules satisfied.

1.0 Introduction

1.1 Aim

The client, G C Planning Partnership Ltd, has commissioned Cherryfield Ecology to undertake a BNG/BIA for the site of Land at Drivers End Lane, Codicote, Hitchin SG4 8TR.

The aim of this report is to determine the Biodiversity Net Gain for the proposed scheme and, where necessary, make recommendations for increasing net gain in order to comply with the statutory requirements.

1.2 Site Information

The site consists of modified grassland and small trees. The proposed development includes for the construction of a new residential dwelling and associated driveway.

1.3 Study Area

The site is 0.29 Ha in size. The national grid coordinates for the center of the site are TL 22053 19862.

1.4 Suitably Qualified Ecologist

This report has been completed by Heather Stuckey and checked by Martin O'Connor. Heather and Martin both meet the criteria for a suitably qualified Ecologist as defined in BS 8683:2021

2.0 Methods

Biodiversity Net Gain is assessed through the use of biodiversity calculators to assess the biodiversity value of habitats pre- and post-development based on habitat type, distinctiveness and condition.

A biodiversity index is derived for the baseline and the proposed development and net gain is achieved where an increase in value is delivered either on-site (or through offsite compensation), where lower value habitat is replaced with one of higher value.

This report uses the Statutory Biodiversity Metric (DEFRA 2024), to quantify the biodiversity baseline for the site and calculate the post-development biodiversity unit for the proposed scheme following the best practice guidelines as set down by CIRIA (2019).

2.2 Limitations

It is important to note that a scheme-wide biodiversity net gain or no net loss cannot be achieved for the scheme as a whole if there are negative impacts on irreplaceable habitats.

Any compensation offered to address impacts on irreplaceable habitats should be agreed directly with Natural England (NE). The baseline habitat which is identified for such compensation and the biodiversity units resulting from this compensation should also be excluded from biodiversity unit calculations.

Following Defra guidance, impacts on irreplaceable habitats and their compensation have been excluded from this biodiversity unit calculation.

Biodiversity Impact Assessment only deals with habitat and as such this report does not cover any of the requirements of the proposed development arising from potential impacts on protected species and designated sites.

3.0 Site Context

3.1 MAGiC

The following statutory sites and Natural England Protected Species (NEPS) have been located within the 2km search area (Figure 1).

Table 2: MAGiC search results

Receptor	Distance and Direction to Nearest (m/km)	Description
Statutory sites	~1.1km	Knebworth Woods SSSI
Granted protected species licenses	~1.2km south	Brown Long-Eared - 14/12/2017 - 07/12/2022 - License No. 2017-32287
	~1.4km north-east	Brown Long-Eared, Common Pipistrelle - 10/04/2020 - 30/09/2023 - License No. 2020-45457
Priority habitat	~1km north & ~1.1km north-west	Good quality semi-improved grassland
	~1.8km north-west	Lowland Dry Acid Grassland
	~1.7km north	Lowland Meadows
	Several areas found within the search area. The closest point is located ~1.1km east	Ancient and Semi-Natural Woodland
	Several areas found within the search area. The closest point is located ~786m west	Ancient Replanted Woodland
	~918m north-west	Graffridge/Winter Woods - Ancient Replanted Woodland & Ancient and Semi-Natural Woodland
	Small areas found throughout the search area. The closest point is located ~378m west.	Deciduous Woodland
	There are 5 small areas found within the search	Traditional Orchards

	area. The closest is located ~350m south	
	~600m north-east	Woodpasture and Parkland

MAGiC

SG4 8TR

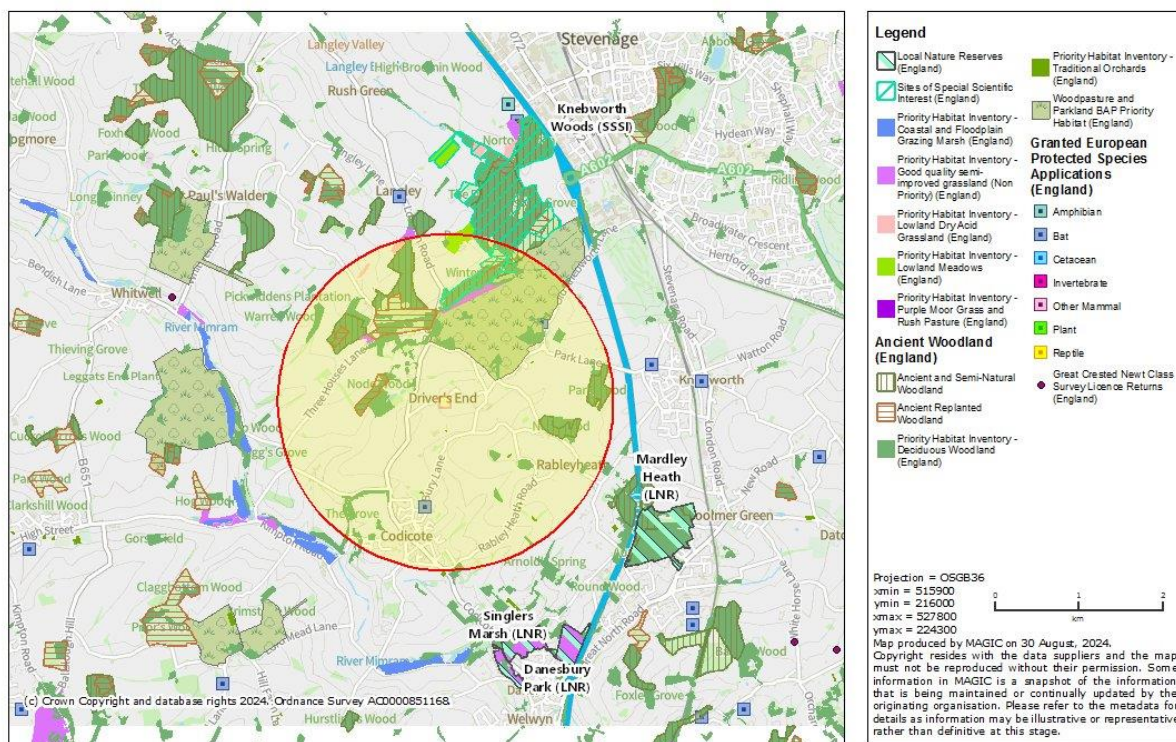


Figure 1: MAGiC

3.2 Strategic Significance

There is no LRNS for the area, however, based on the Herts Ecological Network Mapping (Herc, 2024), the site is in an area of low strategic significance, with no notable habitats present.

4.0 Baseline Units

The UK Hab survey map used to assess the baseline is provided in Figure 2. Please refer to the Ecological Appraisal (Cherryfield Ecology, 2024) for full site details.

The following table summarises the condition assessments for all habitat and linear features on-site as assessed during the ecological assessment. There are no watercourse features present.

Table 3: Biodiversity Net Gain Condition Assessment Results. Please see separate Excel sheet for full condition assessments.

Habitat	Condition Score
Modified Grassland	Poor
Urban Tree (Medium Silver Birch)	Good
Urban Tree (Small Trees)	Moderate
Non-Native & Ornamental Hedgerow	Set Score



Figure 2: Baseline Habitats Site Plan

Table 4: Baseline Habitat Units.

UKHab Category	Area (Ha)	Habitats Units Delivered
Modified Grassland	0.293	0.59
Urban Tree (Medium Silver Birch)	0.0163	0.20
Urban Tree (Small Trees)	0.0448	0.36
Total Biodiversity Units		1.14

Table 5: Baseline Linear Units

UKHab Category	Length (km)	Linear Units Delivered
Non-Native & Ornamental Hedgerow	0.025	0.03
Total Linear Units		0.03

5.0 Post-Development Units

Proposed site plans “6 Drivers End Lane, Codicote Hitchin Rev B” were provided by the Client and used to calculate the Biodiversity Units post-development.

The landscaping immediately adjacent to the new residential dwelling has not been finalized, therefore, this area has been designated as 50% developed land; sealed surface and 50% vegetated garden.

It has been assumed that with appropriate management the proposed habitats on site can achieve the following conditions.

Table 6: Assumed Condition of Habitats Post-Development. Please see the separate Excel sheet for full condition assessments.

Habitat	Condition Score
Developed Land; Sealed Surface	Set Score
Vegetated Garden	Set Score
Other Neutral Grassland (Enhanced)	Moderate
Urban Tree (Medium Silver Birch) (Retained)	Good
Urban Tree (Small Trees) (Retained)	Moderate
Non-Native & Ornamental Hedgerow (Retained)	Set Score
Native Hedgerow	Moderate

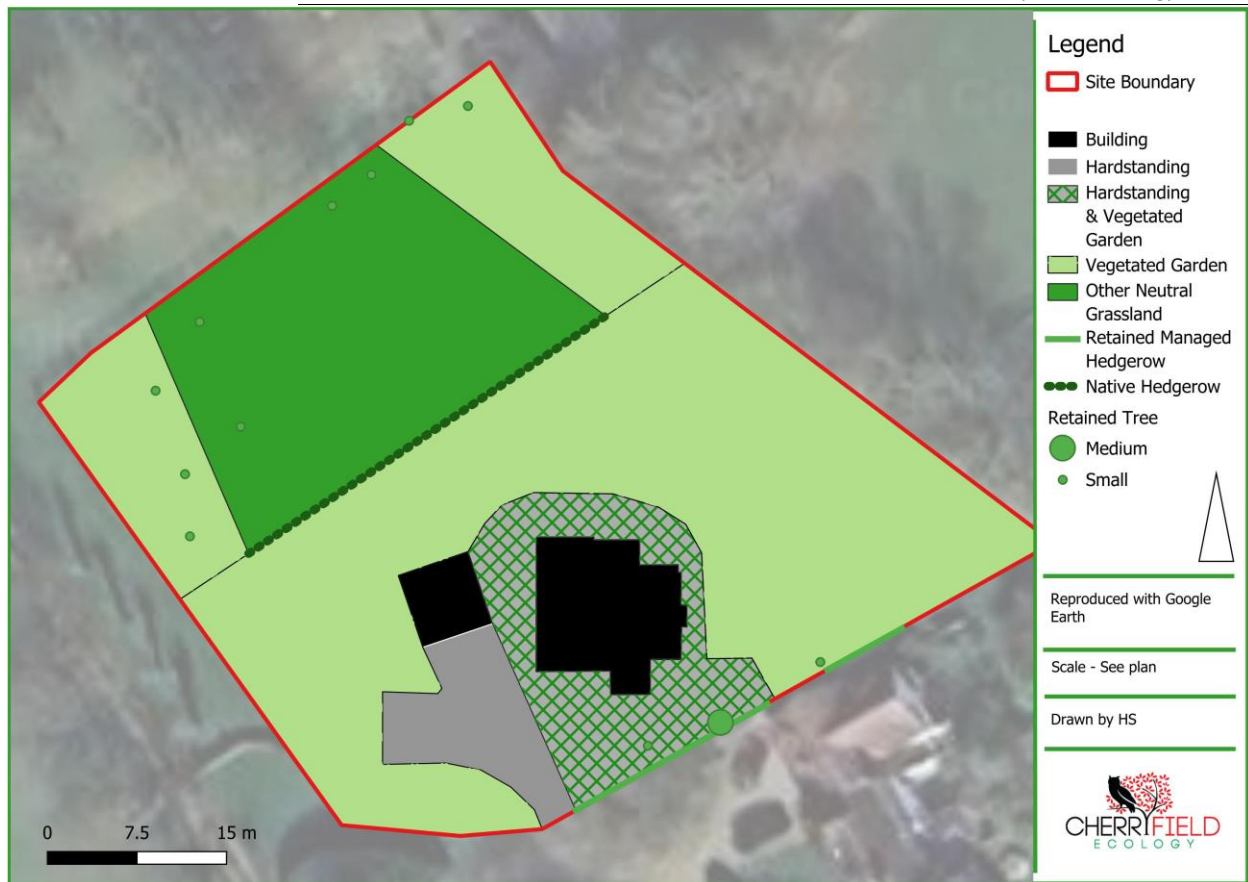


Figure 3: Proposed Habitats Site Plan

The Habitat Units and Linear Units for the site post-development have been calculated using georeferenced GIS software (Table 7 and Table 8).

Table 7: Summary of Habitat Units Post-Development

UKHab Category	Area (ha)	Habitats Units Delivered
Developed Land; Sealed Surface	0.0435	0.00
Vegetated Garden	0.1815	0.35
Other Neutral Grassland (Enhanced)	0.066	0.41
Urban Tree (Medium Silver Birch) (Retained)	0.0163	0.20
Urban Tree (Small Trees) (Retained)	0.0448	0.36
Total Biodiversity Units		1.31

Table 8: Summary of Linear Units Post-Development

UKHab Category	Length (Km)	Habitats Units Delivered
Non-Native & Ornamental Hedgerow (Retained)	0.025	0.03
Native Hedgerow	0.035	0.12
Total Biodiversity Units		0.14

6.0 Results

The change in broad habitat types on site for the proposed development are outlined in Table 9.

Table 9: Summary of change in Biodiversity Units on-site

Broad Habitat Type	Existing Value	Proposed Value	On-site Unit Change
Grassland	0.59	0.41	-0.18
Urban	0.00	0.35	+0.35
Individual Trees	0.55	0.55	0.00
Native Hedgerow	0.00	0.12	+0.12
Non-native and Ornamental Hedgerow	0.03	0.03	0.00

The proposed development will result in a **+15.23% net gain** in Habitat Units and a **+468.62% net gain** in Hedgerow Units on site.

6.1 Discussion

6.1.1 Mitigation Hierarchy

The mitigation hierarchy is the cornerstone of achieving net gain. It is a sequence of mitigation actions as described in Table 10.

Table 10: Mitigation hierarchy

Stage	In practice
Avoidance	This first stage is to avoid harm to biodiversity, for example locating to an alternative site. It is the most important stage and can ease the consent process, whereas missing this stage can lead to objections and refusal of permission to the development.
Minimise	If avoiding all adverse impacts is not possible, action is taken to minimize these effects.
Compensation	Addresses residual adverse effects, only considered after all possibilities for avoidance and minimising the effects have been implemented. Offsetting is a form of compensation that trades losses of biodiversity

	in one location with measurable gains in another. Offsetting losses of biodiversity with gains elsewhere can be within or outside of the development footprint.
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Table 11 outlines how the mitigation hierarchy has been applied to this site.

Table 11: Application of the mitigation hierarchy

Hierarchy Level	Action	Habitat on site
Avoidance	Avoid	There are no priority habitats on site that would make avoidance necessary.
Minimise	Retain	The short length of ornamental hedgerow along the southern boundary will be retained, as will all trees on site.
	Enhance	A section of grassland to the rear of the site will be enhanced and managed as other neutral grassland in moderate condition.
Compensation	On-site creation	Created habitats on site will consist of developed land; sealed surface, and the conversion of the grassland into garden curtilage.
	Off-site creation	n/a

7.0 Conclusion

A 10% increase for each unit type present is required to meet the minimum statutory requirement.

The proposed development will result in a **+15.23% net gain** in Habitat Units and a **+468.62% net gain** in Hedgerow Units on site and, therefore, meets this requirement with all trading rules satisfied.

7.1 Recommendations

In order to maximise the number of net gain units on site the following recommendation should be carried out:

Grassland

Emorsgate EM3 Special General Purpose Meadow Mixture is proposed for the area of grassland to be enhanced on site.

Ground Preparation

To prepare a seed bed first remove weeds using repeated cultivation. Then plough or dig to bury the surface vegetation, harrow or rake to produce a medium tilth, and roll, or tread, to produce a firm surface. The below provides recommendations for the sowing and maintenance for this type of grass mix.

Sowing

Seed is best sown in the autumn or spring but can be sown at other times of the year if there is sufficient warmth and moisture. The seed must be surface sown and can be applied by machine or broadcast by hand. To get an even distribution and avoid running out divide the seed into two or more parts and sow in overlapping sections. Do not incorporate or cover the seed, but firm in with a roll, or by treading, to give good soil/seed contact.

First Year Management

Most of the sown meadow species are perennial and are slow to establish. Soon after sowing there will be a flush of annual weeds, arising from the soil seed bank. These weeds can look unsightly, but they will offer shelter to the sown seedlings, are great for bugs, and they will die before the year is out. So resist cutting the annual weeds until mid to late summer, especially if the mixture contains Yellow Rattle, or has been sown with a nurse of cornfield annuals. Then cut, remove and compost. Early August is a good time. This will reveal the young meadow, which can then be kept short by grazing or mowing through to the end of March of the following year. Dig out any residual perennial weeds such as docks.

Management Once Established

In the second and subsequent years EM3 sowings can be managed in a number of ways which, in association with soil fertility, will determine the character of the grassland. The best results are usually obtained by traditional meadow management based around a main summer hay cut in combination with autumn and possibly spring mowing.

Meadow grassland is not cut from spring through to late July/August to give the sown species an opportunity to flower. After flowering in July or August take a 'hay cut': cut back with a scythe, petrol trimmer or tractor mower to c 50mm. Leave the 'hay' to dry and shed seed for 1-7 days then remove from site.

Mow the re-growth through to late autumn/winter to c 50mm and again in spring if needed.

Hedgerows

It is recommended that a diversity of hedgerow species is included in the proposed hedgerow on site. Suitable hedgerow species include:

- Hawthorn (*Crataegus monogyna*)
- Hazel (*Corylus avellana*)
- Holly (*Ilex europaeus*)
- Wild privet (*Ligustrum vulgare*)
- Field maple (*Acer campestre*)
- Blackthorn (*Prunus spinosa*)
- Guelder rose (*Viburnum opulus*)
- Wayfaring tree (*Viburnum lantana*)
- Dog rose (*Rosa canina*)
- Spindle (*Euonymus europaea*)

The hedgerow should include 5 or more woody species within a 30m length in order to be classified as **species-rich**.

Where possible no cutting should take place during peak bird nesting season, which runs from March to September inclusively. If it is necessary to cut the hedgerows during this period a suitable qualified person should check for nesting birds immediately prior to works being undertaken. Trimming hedges on a two or three year rotation, targeting different sections each year, will make sure there are always flowers for pollinators in spring and berries for birds in autumn. Hedges cut every three years can produce two and a half times as many blossoms as those cut annually. Rotational cutting can also save time and money that would be invested in annual cutting.

8.0 References

Cherryfield Ecology (2024), Ecological Appraisal Report

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Natural England (2010), Higher Level Stewardship, Farm Environment Plan (FEP) Manual, 3rd Edition. The Hedgerow Regulations (1997). [Online] <http://www.legislation.gov.uk/uksi/1997/1160/contents/made> (Accessed Sept 2020).

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