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Report prepared for: Andrew Loveridge C/O ET Planning

For the Site of: Dunn Elms Nelsons Lane Hurst Reading Berkshire RG10 0RR

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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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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 Dunn Elms Nelsons Lane Hurst Reading Berkshire RG10 0RR, 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	-0.03	-0.40%
Hedgerow Units	+0.30	+97.43%
River Units	+0.17	+12.14%

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 **-0.40% net loss** in Habitat Units, a **+97.43% net gain** in Hedgerow Units and a **+12.14% net gain** in Watercourse Units on site.

Therefore, the site does not meet the requirements for Habitat Units. To do so, a further 0.89 units will be required. To meet the trading rules, these units can be of any habitat and any distinctiveness.

This is not possible on-site and off-site compensation will be required.

1.0 Introduction

1.1 Aim

The client, Andrew Loveridge C/O ET Planning, has commissioned Cherryfield Ecology to undertake a BNG/BIA for the site of Dunn Elms Nelsons Lane Hurst Reading Berkshire RG10 0RR.

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 an assortment of buildings within a gravel yard. There are two (linked) horse paddocks with modified grassland. Ornamental hedgerows line the boundaries and ditches are located just beyond the site boundary.

The proposed development includes for the extension of the yard to provide space for an assortment of mobile homes.

1.3 Study Area

The site is 1.58 Ha in size. The national grid coordinates for the center of the site are SU 80764 72685.

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 (m/Km)	Description
Statutory sites	N/A	N/A
Granted protected species licenses	~1,521.1m, NW	Soprano pipistrelle, <i>Pipistrellus pygmaeus</i> (2016-25277, 2019-43858)
	~1,003.4m, SE	Brown long-eared, <i>Plecotus auritus</i> , & common pipistrelle, <i>Pipistrellus pipistrellus</i> (2015-8658, 2012-4899)
	~1,366.5M, NW	Common pipistrelle, <i>Pipistrellus pipistrellus</i> (2017-32001)
Priority habitat	~578.5m, all directions	Deciduous woodland
	~619.9m, NW	Traditional orchards
	~899.7m, all directions	Wood pasture and parkland BAP priority habitat

MAGiC

Magic Map

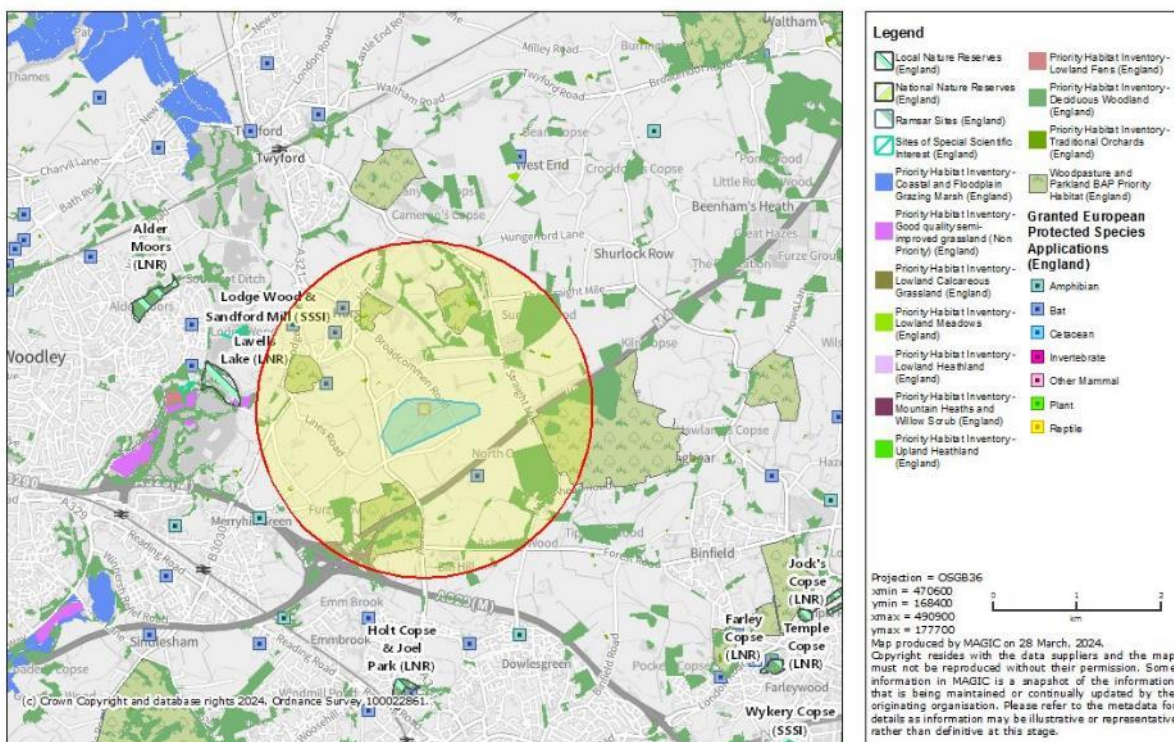


Figure 1: MAGiC

3.2 Strategic Significance

There is no LRNS for the area, and no documentation to indicate the site is located in an area of strategic significance.

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, linear and watercourse features on-site as assessed during the ecological assessment.

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

Habitat	Condition Score
Buildings/Developed Land Sealed Surface	Set score
Sparsely Vegetated Land- Ruderal/Ephemeral	Good - passes all three core criteria
Modified Grassland	Good - passes all 7 criteria
Rural Trees	Moderate - passes 4 out of 6 criteria
Non-native and Ornamental Hedgerow	Poor
Off-Site Ditches (red line boundary within 5m riparian zone)	Poor - neither ditch scores more than 5 out of 8 criteria



Figure 2: Baseline Habitats Site Plan

Table 4: Baseline Habitat Units.

UKHab Category	Area (Ha)	Habitats Units Delivered
Developed Land Sealed Surface	0.199	0.00
Sparsely Vegetated Land-Ruderal/Ephemeral	0.030	0.18
Modified Grassland	1.346	8.08
Rural Trees	0.0366	0.29
Total Biodiversity Units		8.55

Table 5: Baseline Linear Units

UKHab Category	Length (km)	Linear Units Delivered
Non-native and Ornamental Hedgerow - Southwest & southeast boundary	0.232	0.23
Non-native and Ornamental Hedgerow - Western boundary	0.079	0.08
Total Linear Units		0.31

Table 6: Baseline Watercourse Units

UKHab Category	Length (km)	Linear Units Delivered
Ditches - Southwest & southeast boundary	0.232	0.70
Ditches - Northeast boundary	0.228	0.68
Total Linear Units		1.38

5.0 Post-Development Units

Proposed site plans “Nelson Lane Proposed Rev G” were provided by the Client and used to calculate the Biodiversity Units post-development. It has been assumed that with appropriate management the proposed habitats on site can achieve the following conditions.

Table 7: Assumed Condition of Habitats Post-Development. Please see the separate Excel sheet for full condition assessments.

Habitat	Condition Score
Buildings/Developed Land Sealed Surface	Set score
Modified Grassland - Retained	Good - passes all 7 criteria
Other Neutral Grassland	Good
Rural Trees - Retained	Moderate - passes 4 out of 6 criteria
Rural Trees - New	Moderate
Non-native and Ornamental Hedgerow - Retained	Poor
Native Hedgerow	Poor
Off-Site Ditches (red line boundary within 5m riparian zone) - Retained	Poor - neither ditch scores more than 5 out of 8 criteria The riparian zone on the site side will be enhanced, reducing the riparian encroachment



Figure 3: Proposed Habitats Site Plan

The Habitat, Linear and Watercourse Units for the site post-development have been calculated using georeferenced GIS software.

Table 8: Summary of Habitat Units Post-Development

UKHab Category	Area (Ha)	Habitats Units Delivered
Developed Land Sealed Surface	0.424	0.00
Modified Grassland	0.822	4.93
Other Neutral Grassland	0.330	3.14
Rural Trees - Retained	0.0366	0.29
Rural Trees - New	0.0489	0.15
Total Biodiversity Units		8.50

Table 9: Summary of Linear Units Post-Development

UKHab Category	Length (km)	Linear Units Delivered
Non-native and Ornamental Hedgerow - Southwest & southeast boundary	0.232	0.23
Non-native and Ornamental Hedgerow - Western boundary	0.079	0.08
Native Hedgerow	0.157	0.30
Total Linear Units		0.81

Table 10: Baseline Watercourse Units

UKHab Category	Length (km)	Linear Units Delivered
Ditches - Southwest & southeast boundary - Retained	0.111	0.33
Ditches - Southwest & southeast boundary - Enhanced	0.12	0.42
Ditches - Northeast boundary - Enhanced	0.228	0.79
Total Linear Units		1.55

6.0 Results

The change in broad habitat types on site for the proposed development are outlined in Table 11.

Table 11: Summary of change in Biodiversity Units on-site

Broad Habitat Type	Existing Value	Proposed Value	On-site Unit Change
Grassland	8.08	8.07	0.00
Sparsely Vegetated Land	0.18	0.00	-0.18
Urban	0.00	0.00	0.00
Individual Trees	0.29	0.44	0.15
Native Hedgerow	0.00	0.30	+0.30
Non-native & Ornamental Hedgerow	0.31	0.31	0.00
Ditches	1.40	1.50	+0.20

The proposed development will result in a **-0.40% net loss** in Habitat Units, a **+97.43% net gain** in Hedgerow Units and a **+12.14% net gain** in Watercourse 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 12.

Table 12: 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 affects.

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 13 outlines how the mitigation hierarchy has been applied to this site.

Table 13: 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	Much of the modified grassland will be retained and will continue to be used for horse grazing. The ornamental hedgerows around the boundaries will also be retained and the occasional rural trees will be retained.
	Enhance	The grassland around the boundaries will be fenced off and enhanced to other neutral grassland and as a result the ditches around the boundaries will be enhanced due to the reduction in encroachment within the riparian zone.
Compensation	On-site creation	An extended area of developed land will be created, with a new stable building located in the paddock. A new length of short native hedgerow will be planted around the yard and new rural trees will be planted within the enhanced grassland.
	Off-site creation	It is not possible to achieve the 10% gain in Habitat Units through on-site creation/enhancement alone and off-site compensation will be required. (see Environment Bank https://environmentbank.com/ and Environmental Trading platform https://www.environmentaltradingplatform.com/ for available off-site units).

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 **-0.40% net loss** in Habitat Units, a **+97.43% net gain** in Hedgerow Units and a **+12.14% net gain** in Watercourse Units on site.

Therefore, the site does not meet the requirements for Habitat Units. To do so, a further 0.89 units will be required. To meet the trading rules, these units can be of any habitat and any distinctiveness.

This is not possible on-site and off-site compensation will be required.

7.1 Recommendations

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

Grassland

The buffer mix should be sown with a wildflower mix similar to Emorsgate EM1, EM2 or EM3 general purpose Meadow Mixture which are designed to meet NVC categories. Companies like Emorsgate also offer bespoke mixture, which means they can be tailored to ensure they contain no species that may be harm for the horses. Natural Horse Enrichment (<https://www.naturalhorseenrichment.com/>) sell horse friendly seed mixes, but they may not meet the NVC category which would be required under the metric.

The buffer strips should be fenced off to keep the horses from grazing this area and managed following traditional grassland management based around a main summer hay cut in combination with autumn and possibly spring mowing or grazing.

Meadow grassland is not cut or grazed 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 strimmer or tractor mower to c 50mm. Leave the ‘hay’ to dry and shed seed for 1-7 days then remove from site.

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

Biodiversity of the paddock can be further enhanced through good management practices, see:

[Paddocks-for-ponies-and-biodiversity-Flora-locale-advisory-note.pdf \(cieem.net\)](#) and [Managing_horse_paddocks_for_wildflowers.pdf \(magnificentmeadows.org.uk\)](#) for more information.

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

CIRIA (2020), Biodiversity Net Gain: good practice principles for development.

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JNCC (2010), Handbook for Phase 1 Habitat Survey: A technique for environmental audit. JNCC, Peterborough.

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UKHabs (2020), *UK Habitat Classification*, UKHab, [Online] <https://ukhab.org/> (Accessed 10th December 2020)