

College Lane, Hurstpierpoint

Biodiversity Net Gain

April 2024



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College Lane, Hurstpierpoint

Biodiversity Net Gain

April 2024

Report Ref: DFA24046

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CONTENTS

1	INTRODUCTION.....	1
1.1	Background.....	1
1.2	Current Policy and Guidance	1
2	METHODOLOGY.....	2
2.1	Defra Metric.....	2
3	THE SITE.....	3
3.1	Current description	3
3.2	Post development	4
4	RESULTS	5
4.1	Headline Results	5
5	DISCUSSION.....	6

TABLES

Table 1.	Summary of on-site habitats	3
Table 2.	Headline Results.....	5

FIGURES

Figure 1.	Phase 1 Habitat Map	7
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APPENDICES

Appendix 1.	Condition Sheets	8
Appendix 2.	Landscape Strategy	11

1 INTRODUCTION

1.1 Background

- 1.1.1 Derek Finnie Associates was commissioned by Earlswood Homes to undertake a Biodiversity Net Gain in relation to an area of land referred to as College Lane, Hurstpierpoint, herein referred to as the 'Site'
- 1.1.2 Earlswood Homes are preparing a full planning application for erection of residential dwellings and associated works. Hence a Biodiversity Net Gain calculation, using the Defra Statutory Metric (November 2023 version), was undertaken to provide an objective, quantitative assessment.

1.2 Current Policy and Guidance

- 1.2.1 Within Section 98 of the Environment Act 2021, there is provision for achieving a 10% Biodiversity Net Gain (BNG) within a development, with the particulars being covered under Schedule 14 of the Act.

2 METHODOLOGY

2.1 Defra Metric

- 2.1.1 The Defra Metric looks at the biodiversity value of a site prior to the proposed development by assigning values to each habitat type, the quality or condition of the habitat and the extent of that habitat. This results in a combined value for the site presented in an arbitrary figure expressed as Biodiversity Units. A similar approach is also taken for linear features within a site, such as hedgerows and rivers, where applicable.
- 2.1.2 A second calculation is then undertaken for the post development scenario based on the proposed scheme layout in the absence of detailed landscape planting plans. The difference in units pre and post development is then expressed as a percentage for habitats, hedgerows and rivers (where applicable).
- 2.1.3 If a significant increase in BNG value cannot be achieved within the Site, there is the potential to provide off site enhancements to complement on-site works. Alternatively, it possible to 'purchase' biodiversity units from a third party.

3 THE SITE

3.1 Current description

3.1.1 An 'extended' Phase 1 Habitat Survey was carried out on 8th March 2024 which followed the methodology presented by the JNCC (2010). The Phase 1 technique aims to classify each habitat into categories based on the assemblage of plant species present, with the dominant plant species for each habitat being noted. In some cases, sub-divisions or modifications of the standard categories can be made where this is useful in providing further detail.

3.1.2 The Phase 1 survey provides sufficient information to allow the habitats present to be placed into a UKHabs V2 classification category, as used in the Defra Metric.

3.1.3 Additional information was also collected during the site survey to allow the condition of the habitats identified to be assessed based on pre-determined criteria contained The Site comprises an area of improved grassland to the north, east and west of 147 and 149 College Lane.

3.1.4 The following Phase 1 habitats were encountered within, and adjacent to, the Site:

- Broad-leaved trees;
- Orchard;
- Hedgerows; and
- Improved grassland;

3.1.5 Each habitat is described in turn below and depicted on Figure 1

3.1.6 Further details of the habitat are presented *College Lane, Hurstpierpoint, Ecological Assessment*, dated April 2024, (Derek Finnie Associates Report Ref: DFA23045) and hence are not repeated here. However, in terms of the BNG Metric, a summary of the habitats is present in Table 1; Condition sheets are presented in Appendix 1.

Table 1. Summary of on-site habitats

Habitat	Condition	Area
Modified grassland	Poor	3.67
Rural Trees x 21	Poor	0.47

3.1.7 Given the sparse nature of the fruit trees within the Site, they have been assessed as individual trees rather than an orchard as the density and spacing of trees is lower than that given by Maddock (2008) for this habitat type. The trees are also absent from pre-1970 OS maps, suggesting they are relatively recent addition to the Site and are more likely to represent fruits planted in a domestic garden rather than a traditional orchard.

3.2 Post development

3.2.1 From the onset, consideration has been given to creating high quality, species rich habitats within the Site to ensure there is a long term ecological benefit as a result of the development. Within the landscape strategy for the Site, the creation of new, species rich habitats using native species wherever possible has been one of the principle drivers. These include:

- Creation of 0.125ha of species rich, wildflower grassland;
- Planting of 75 new trees including a high proportion of fruit trees;
- Creation of 200m² of scrub; and
- Planting of 500m² of species rich amenity grassland.

3.2.2 The location and extent of the habitat creation and enhancement is depicted on the Landscape Strategy drawing (reproduced at Appendix 2).

4 RESULTS

4.1 Headline Results

4.1.1 The headline results from the Biodiversity Metric for presented in Table2.

Table 2.Headline Results

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.52
	Hedgerow units	0.47
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	27.36%
	Hedgerow units	1562.08%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	1.90	2.08	0.00
Hedgerow units	10.00%	0.03	0.03	0.00
Watercourse units	10.00%	0.00	0.00	0.00

4.1.2 As can be seen from Table 2, a net increase in the biodiversity value of the Site is achieved for the habitats component (27.36%). The full Metric has been submitted as a separate Excel workbook.

5 DISCUSSION

- 5.1.1 As can be seen from Table 2, the proposed development is predicted to result in a net biodiversity gain when the habitat creation and enhancement scheme is implemented. It is proposed that a Landscape and Ecology Management Plan be prepared to ensure the long-term management of the habitats is undertaken, with appropriate monitoring and remedial works as necessary.



Legend

- Broad-leaved tree
- Hedge
- Improved grassland

Drawing Number: **Figure 1**

Title: **Phase 1 Habitat Map**

Date: **April 2024**

Project: **College Lane**

Client: **Earlswood Homes**

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Appendix 1.

Condition Sheets

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)			
UK Habitat Classification (UKHab) Habitat Type			
Grassland - Modified grassland			
On-site or off-site, site name and location	College Lane, On Iste	Survey date and Surveyor name	D Finnie, March 24
Limitations (if applicable)		Survey reference (if relating to a wider survey)	
Grid reference		Habitat parcel reference	
Habitat Description			
Improved grassland			
ukhab – UK Habitat Classification			
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	There are 6-8 vascular plant species per m² present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	No	Dominatd by Lolium whci comprises upto 80% of sward.
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 vertebrates and invertebrates to live and breed.	No	Sward relatively even due intense management through regualr mowing
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	No	No significant scrub noted within thr grassalnd itself
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes	
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)².	No	
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Yes	Bracken absent
G	There is an absence of invasive non-native plant species³ (as listed on Schedule 9 of WCA⁴).	Yes	
Essential criterion achieved (Yes or No)			No
Number of criteria passed			Three
Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved x/√	
Passes 6 or 7 criteria including passing essential criterion A	Good (3)		

Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	Yes	
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)		
Suggested enhancement interventions to improve condition score			
Footnotes			
Footnote 1 – Creeping thistle <i>Cirsium arvense</i> , spear thistle <i>Cirsium vulgare</i> , curled dock <i>Rumex crispus</i> , broad-leaved dock <i>Rumex obtusifolius</i> , common nettle <i>Urtica dioica</i> , creeping buttercup <i>Ranunculus repens</i> , greater plantain <i>Plantago major</i> , white clover <i>Trifolium repens</i> and cow parsley <i>Anthriscus sylvestris</i> . Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover. Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement. Footnote 4 – Wildlife and Countryside Act 1981 (as amended).			

Condition Sheet: INDIVIDUAL TREES Habitat Type			
Habitat Types			
Individual trees – Urban trees Individual trees – Rural trees Complete a condition sheet for each tree or block of trees.			
Please see separate Line of trees condition sheet for a line of Rural trees.			
Habitat Description			
Sparsely spread oprchatrd with 21 trees in poor health			
Individual trees (description applied to the urban or rural environment): Young trees over 7.5 cm in diameter at breast height whose canopies are not touching.			
Urban Perimeter / Linear Blocks and Groups (description applied to the urban environment only): Groups or stands of trees (size requirement as defined above) within and around the perimeter of urban land. This includes those along urban streets, highways, railways and canals, and also former field boundary trees incorporated into developments. Canopies must overlap continuously. Groups of urban trees that don't match the descriptions for woodland may be assessed within this category.			
On-site or off-site, site name and location	On site, College Road	Survey date and Surveyor name	D Finnie March 2024
Limitations (if applicable)		Survey reference (if relating to a wider survey)	
Grid reference		Habitat parcel reference	
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The tree is a native species (or at least 70% within the block are native species).	No	
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	No	No continuous canopy
C	The tree is mature (or more than 50% within the block are mature) ¹ .	No	Trees are semi-mature first appearing on 1970s OS Maps
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.	No	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Yes	Several rot holes and cracks. Deadwood sporadic throughout crowns
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes	Improved grassland beneath
Number of criteria passed		Two	
Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved *//	
Passes 5 or 6 criteria	Good (3)		
Passes 3 or 4 criteria	Moderate (2)		
Passes 2 or fewer criteria	Poor (1)	Yes	
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.			
Suggested enhancement interventions to improve condition score²			

Appendix 2.

Landscape Strategy



Landscape Vision

The landscape objectives of the Proposed Development include:

- ### Residential Areas

- Development frontages face outwards towards open space of wildflower meadow and tree planting. As a result the front gardens are a blend of native and ornamental hedges and ornamental shrub borders. These will be used to define each front garden and soften the built form. Wildflower bee lawns will be laid to the front gardens where appropriate to provide further biodiversity and a soft transition from native to formal styles.

- All strategic planting will incorporate species that are native and locally appropriate to the area; plant stock will be of local provenance where possible.

- Existing off-site trees and hedging will protect the visual amenity and landscape character as well as continuing to offer commuting and foraging opportunities for wildlife linking in with the newly planted and seeded wildflower meadows along the access road.

of functions which in turn can deliver a broad range of ecosystem benefits. In this respect the provision of new green space will be 'multifunctional'. Although not recreational, the function of the open areas each side of the access road will include the opportunity to provide community space, ecological enhancement and visual amenity improvement. All of which will benefit mental and physical health for the owner occupiers.



	1	2	3	4	%	Species	Common Name	Height	Age	Root	m ³
217	112	63	72	30		<i>Crategeus monogyna</i>	Hawthorn	60-80	1+1	BR	5 per m ²
145	71	42	48	20		<i>Corylus avellana</i>	Hazel	80-80	1+1	BR	5 per m ²
72	37	21	24	10		<i>Elderflower</i>	Elderflower	40-40	1+1	BR	5 per m ²
72	37	21	24	10		<i>Prunus spinosa</i>	Blackthorn	40-40	1+1	BR	5 per m ²
72	37	21	24	10		<i>Ilex aquifolium</i>	Holly	20-40	1+1	BR	5 per m ²
72	37	21	24	10		<i>Ligustrum vulgare</i>	Wild Privet	20-40	1+1	BR	5 per m ²
36	19	11	12	5		<i>Lonicera periclymenum</i>	Honeysuckle	80-80	1+1	BR	5 per m ²
36	19	11	12	5		<i>Rosa canina</i>	Dog rose	30-50	1+1	BR	5 per m ²

Native Scrub					
NR	ABBR	Species	Size	Root	Nr m ²
28	CSA	<i>Cornus sanguinea</i>	40-50	CG	4
106	VLA	<i>Viburnum lantana</i>	40-50	CG	4
94	VOS	<i>Viburnum opulus</i>	40-50	CG	4
94	LIG	<i>Ligustrum vulgare</i>	40-50	CG	4
41	EEA	<i>Euonymus europaeus</i>	40-50	CG	4

NR	ABBR	Species	Size	Root	Nr m ²
85	GRI	<i>Griselinia littoralis</i>	60-80	CG	4
122	ILX	<i>lexis crenata</i>	20-40	CG	4
126	LA	<i>lavender angustifolia</i> 'Hidcote'	10-20	CG	4
75	LOM	<i>Ligustrum ovalifolium</i>	60-80	CG	4
35	ROS	<i>Rosmarinus officinalis</i>	20-40	CG	4
47	SAR	<i>Sarcococca confusa</i>	20-40	CG	4
50	VMB	<i>Veronica</i> 'Midsummer Beauty'	10-20	CG	5
71	VER	<i>Veronica rakalensis</i>	10-20	CG	5
69	VRE	<i>Veronica</i> 'Red Edge'	10-20	CG	5
92	VBT	<i>Viburnum tinus</i> 'Eve Price'	60-80	CG	4

Ornamental Planting Schedule						
NR	ABBR	Species	Size	Root	NR	m ²
24	AST	Astrantha major "Large White"	9cm	CG	5	
45	BER	Bergenia cordifolia	9cm	CG	5	
62	EUP	Euphorbia amygdaloides var. robiae	9cm	CG	5	
24	GER	Geranium clarkei kashmir white	9cm	CG	5	
37	HEL	Heleborus orientalis	9cm	CG	5	
17	POT	Potentilla 'Abbotswood'	20-40	CG	5	
21	VIN	Vinca major	9cm	CG	5	



 Existing trees to remain - see tree constraints & tree protection plan

 Existing hedging to remain

 Existing boundary fence/wall

 Permeable Blockwork Driveway - see architects drawing for details

 Tarmac Driveway - see architects drawing for details

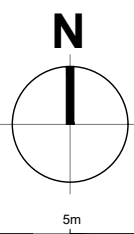
 Terrace Paving - see architects drawing for details

 New tree - See planting schedule and planning notes

 Native Hedge/Scrub - See planting schedule and planning notes

 Ornamental Hedging - See planting schedule and planning notes

 1.8m high close board fence and gate



 All Borders/Hedgerows/Tree pits to be spread with bark mulch 5-35mm Ornamental Chipped Bark Fire-resistant, in accordance with BS 4790:1987 or similar

Typical sown seed mixture for turf:
25% Dwarf Perennial Ryegrass
30% Slender Creeping Red Fescue
45% Strong Creeping Red Fescue

Wildflower Turf: WFT-Species-Rich-26 -Low
Growing Species Rich Lawn Turf (Bee Lawn)
20-80% mix (or similar seeded)

Low Maintenance Grass Seed,
Salad burnet - *Sanguisorba minor*
White campion - *Silene latifolia*
Wild carrot - *Daucus carota*
Common knapweed - *Centaurea nigra*
Lady's bedstraw - *Galium verum*
Oxeye daisy - *Leucanthemum vulgare*
Birds-foot trefoil - *Lotus corniculatus*
Black medick - *Medicago lupulina*
Ribwort plantain - *Plantago lanceolata*
Yellow rattle - *Rhinanthus minor*
Selfheal - *Prunella vulgaris*
Meadow buttercup - *Ranunculus acris*
Kidney vetch - *Anthyllus vulneraria*
Common sorrel - *Rumex acetosa*
Red campion - *Silene dioica*

Wildflower Meadow - Emorsgate EM 4: Composition

- Wild Flowers – 20%
- 0.8% *Achillea millefolium* – Yarrow
- 0.3% *Agromonia eupatoria* – Agrimony
- 1.0% *Antennaria officinalis* – Antennary
- 3.0% *Centaurea nigra* – Common Knawweed
- 0.8% *Geranium pratense* – Meadow Crane's-bill
- 1.0% *Lathyrus pratensis* – Meadow Vetchling
- 0.1% *Lentibula hepatica* – Roach Hawkbit
- 2.0% *Leucanthemum vulgare* – Oxeye Daisy
- 0.5% *Lotus corniculatus* – Bird's-foot Trefoil
- 1.6% *Mula moschata* – Musk Mallow
- 7.0% *Medicago lupulina* – Black Medick
- 3.0% *Plantago lanceolata* – Ribwort Plantain
- 0.8% *Primula veris* – Cowslip
- 1.2% *Prunella vulgaris* – Selfheal
- 0.5% *Ranunculus acris* – Common Buttercup
- 0.6% *Rumex acetosa* – Common Sorrel
- 0.2% *Sanguisorba officinalis* – Great Burnet
- 1.0% *Silvaum silvestre* – Pepper-savillage
- 0.5% *Rumex flos-cuculi* – Rampion
- 0.8% *Vicia cracca* – Tufted Vetch

Grasses – 80%
8.00% *Agrostis capillaris* – Common Bent
2.40% *Anthoxanthum odoratum* – Sweet Vernal-grass (w)
4.00% *Briza media* – Quaking Grass (w)
40.00% *Cynosurus cristatus* – Crested Dogtail
20.00% *Festuca rubra* – Red Fescue
2.80% *Alopecurus pratensis* – Meadow Foxtail (w)
2.80% *Schedonorus pratensis* – Meadow Fescue

Notes:
See planning notes on separate page

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Rev	Date	Note
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Status: FOR PLANNING SUBMISSION
NOT FOR CONSTRUCTION

Client: Earlswood Homes Ltd

Project: College Lane, Hurstpierpoint

Title: Proposed Landscaping Arrangements

Dwg Nr: CWLD-EW-CL-LA-2380-01

Scale (@A1): 1:200

Date: 18.04.24

Clive Warwick Landscape Design

Landscape Consultants
GILL VEWARW

ICKLANDSC
APEDESIGN