TECHNICAL NOTE: BIODIVERSITY NET GAIN

Revision A

31 Barkham Ride
Finchampstead

Report for:
A1 Roberts Properties Limited
31 Barkham Ride
Finchampstead
Berkshire
RG40 4EX

INTRODUCTION

AA Environmental Limited (AAe) has been commissioned by A1 Roberts Properties Limited to complete a Biodiversity Net Gain (BNG) calculation for the above site. The purpose of the assessment is to provide a comparison between the biodiversity value of the site before and after development. The BNG assessment has been completed based on the existing and proposed habitats for the site (Figures 1 and 2). This, revision includes alterations to the proposed habitat assessment, considering the comments from the Councils Ecology Officer, and updated proposed site plan.

The proposals are for the demolition of the existing dwelling, the stationing of 31 park homes and the construction of a community building and park office.

METHODOLOGY

The Ministry of Housing, Communities & Local Government released an updated National Planning Policy Framework (NPPF) in December 2024, which encourages new developments to secure measurable 'net gains' for biodiversity. The Environment Bill gained Royal Assent in November 2021, which mandates Biodiversity Net Gain (BNG) as a condition of planning permission, meaning that all future developments in England will have to provide a minimum 10% increase in biodiversity on site, once development is complete.

In order to calculate BNG for a site, existing and proposed habitats are entered into DEFRA's Statutory Biodiversity Metric and are automatically 'scored' on their relative biodiversity value and are then classified according to their condition and location, to calculate site specific 'biodiversity units'. The pre-development biodiversity unit is then compared to the proposed, post-development biodiversity unit, allowing the difference in biodiversity to be measured.

Condition assessments for the existing habitats on the site was carried on Friday 22 September 2023, following the DEFRA Statutory Metric proforma sheets and professional judgement. The results of the condition assessments were also used to determine if any retained habitats could be enhanced (copies attached at Appendix B).

NET LOSS

If the development results in a biodiversity loss then this becomes an 'offset requirement' and compensation will be required. At the moment there are two main options to compensate for the loss of biodiversity, as detailed below:

1. Identify an area of land off-site and enter into an agreement with the landowner to create and manage the site for nature conservation value.
2. Make a financial contribution via a Section 106 legal agreement to the Council (if they have a scheme in place) or another offsetting provider such as the Environment Bank.

DEFRA's Statutory Metric is the metric that underpins the Environment Act's provisions for mandatory biodiversity net gain in England.

RESULTS

Site Description

The site is located off Barkham Ride in Finchampstead, Wokingham, centred at National Grid Reference: SU 789658 and covers 1.462 hectares. The site comprised the existing property and associated grounds (garden area and well-maintained grassland areas). The site is bordered by Barkham Ride to the south, Rooks Nest Wood Country Park and Suitable Alternative Natural Greenspace (SANG) to the west, woodland to the north and Victoria Gardens residential park to the east.

Habitats

The site comprises the existing buildings and grounds (garden area and well-maintained grassland areas), with individual trees and boundary hedgerows. The buildings, garden and majority of the grassland will be replaced with the new development with associated hard and soft landscaping, to include communal greenspace, an ecological corridor with grassland and scrub planting and new trees and hedgerow planting. The majority of the existing trees and hedgerows on the site will be retained and protected.

In addition, a range of enhancement measures will be provided on the site including the provision of new roosting, nesting and sheltering opportunities for a range of species and the creation of new wildlife habitats, such as some of those recommended by the Chartered Institute of Ecology Environment and Management's published Biodiversity Net Gain Good Practice Guidance, and listed below:

- Nest boxes
- Bug hotels
- Hedgehog houses and gaps
- Bat boxes/tubes
- Log piles
- Pollinator nest sites

Details of existing and proposed habitats have been provided in Table 1.

Table 1: Habitat Areas

Existing Habitat Baseline		
Habitat	Area (ha)	Comment
Modified grassland	0.893	0.294 ha enhanced to modified grassland (moderate condition)
Developed land; sealed surface	0.343	
Vegetated garden	0.226	
Urban tree*	0.272	1x very large, 1x large, 9x medium trees & 3x small trees existing on site, with 1x very large, 7x medium and 3x small trees to be retained.
Total area (ha)**	**1.462**	
Habitat Units	**4.41**	**Taken From Headline Results**
Existing Hedgerow Baseline		
Hedgerow	Length (km)	Comment
Non-native hedgerow	0.35	0.15 km to be retained
Native hedgerow with trees	0.19	All to be retained
Total length (km)	**0.54**	
Hedgerow Units	**1.87**	**Taken From Headline Results**
Proposed Habitat Creation		
Habitat	Area (ha)	Comment
Developed land; sealed surface	0.569	
Vegetated garden	0.491	
Modified grassland (enhanced)	0.294	
Mixed scrub	0.086	
Ponds (non-priority habitat)	0.022	
Urban tree	0.260	64x new small trees to be planted within communal areas.
Urban tree (retained)	0.203	1x very large, 7x medium and 3x small trees to be retained.

Total area (ha)**	**1.462**		
Habitat Units	**5.10**	**Taken From Headline Results**	
Proposed Hedgerow Creation			
Hedgerow	Length (km)	Comment	
Native hedgerow with trees (retained)	0.19		
Non-native hedgerow (retained)	0.15		
Native hedgerow	0.12		
Native hedgerow with trees	0.02		
Total length (km	**0.48**		
Hedgerow Units	**2.18**		
Results	**Unit Change**	**Habitat**	**0.69**
		Hedgerow	**0.31**
	Percentage Change	**Habitat**	**15.55%**
		Hedgerow	**16.78%**

* Small trees within private gardens are not included within the DEFRA Statutory Metric.
** Urban Tree areas are not included within the total area calculation of the DEFRA Statutory Metric.

Biodiversity Net Gain Calculation

The assessment has resulted in an overall net gain of 0.69 habitat units, the equivalent increase of 15.55%, and an increase of 0.31 in hedgerow units, the equivalent increase of 16.78% (a copy of the Headline Results has been attached at Appendix A). In addition, other enhancement measures such as the provision of wildlife boxes, which are not factored in on the DEFRA Metric, will provide additional opportunities and benefits for local wildlife.

SUMMARY

The BNG assessment has been completed based on the existing and proposed habitats for the site (Figures 1 and 2). The proposals are for the demolition of the existing dwelling, the stationing of 31 park homes and the construction of a community building and park office.

The assessment completed demonstrates that the scheme can achieve a biodiversity net gain by enhancing existing habitats and by new planting, all of which will be managed sensitively by a management company. In addition, there are opportunities to introduce a range of other benefits, such as the provision of wildlife boxes, that will result in an overall ecological benefit in comparison to the existing on-site conditions in full compliance with National and Local Policy.

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Figures

UK HABS KEY

- Site Boundary*
- Modified Grassland
- Developed Land/Sealed Surface
- Vegetated Garden
- Hedgerow
- Individual Tree*

* Indicative Location

Existing Habitat Areas (ha)

Modified Grassland	0.893
Developed Land	0.343
Vegetated Garden	0.226
Urban Trees *	0.272
Total **	1.462

* Small trees within private gardens are not included within the Statutory Metric calculations.

** Urban Tree areas are not included within the total area calculation of the DEFRA Statutory Metric.

Existing Hedgerow Length (km)

Non-native Hedgerow	0.350
Native Hedgerow with Trees	0.190
Total	0.540

Rev.	Details	Drawn / Chkd.	Date

Project

243388
31 Barkham Ride
Finchampstead

Title

Existing Habitats Plan

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Scale	Date	Drg. No.	Rev.
As shown	13.01.25	Figure 1	
	Drawn: NAB / Chkd.: ARB		

UK HABS KEY

- Site Boundary*
- Developed Land/Sealed Surface
- Vegetated Garden
- Modified Grassland
- Mixed Scrub
- Pond (Non-priority)
- Hedgerow
- Individual Tree*

* Indicative Location

Proposed Habitat Areas (ha)

Developed Land	0.569
Vegetated Garden	0.491
Modified Grassland (Enhanced)	0.294
Mixed Scrub	0.086
Pond (Non-priority)	0.022
Urban Trees	0.260
Urban Trees (Retained)	0.203
Total *	1.462

* Urban Tree areas are not included within the total area calculation of the DEFRA Statutory Metric.

Proposed Hedgerow Length (km)

Native Hedgerow with Trees (Retained)	0.190
Non-native Hedgerow (Retained)	0.150
Native Hedgerow	0.120
Native Hedgerow with Trees	0.020
Total	0.480

Rev.			
A	Modifications to the proposed site plan	NAB ARB	09.07.25

Project

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Proposed Habitats Plan

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Scale	Date	Drg. No.	Rev.
As shown	13.01.25	Figure 2	A
	Drawn: NAB / Chkd.: ARB		

Appendix A
Headline Results

31 Barkham Ride, Finchampstead

Headline Results

Return to results menu

Scroll down for final results ⚠

On-site baseline	*Habitat units*	4.41	
	Hedgerow units	1.87	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	5.10	
	Hedgerow units	2.18	
	Watercourse units	0.00	
On-site net change (units & percentage)	*Habitat units*	0.69	15.55%
	Hedgerow units	0.31	16.78%
	Watercourse units	0.00	0.00%
Off-site baseline	*Habitat units*	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	*Habitat units*	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	0.69	
	Hedgerow units	0.31	
	Watercourse units	0.00	
Spatial risk multiplier (SRM) deductions	*Habitat units*	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	0.69
	Hedgerow units	0.31
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	15.55%
	Hedgerow units	16.78%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

Appendix B
Condition Assessment Sheets

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

UK Habitat Classification (UKHab) Habitat Type

Grassland - Modified grassland

Habitat Description

Modified grassland

ukhab – UK Habitat Classification

On-site or off-site, site name and location	On-site - 31 Barkham Ride, Finchampstead	**Survey date and Surveyor name**	22.09.23 - Katy Collins, Ecologist
		Survey reference (if relating to a wider survey)	
Limitations (if applicable)		**Habitat parcel reference**	G1 / G2
		Grid reference	SU 789658 / SU 789658

	Condition Assessment Criteria	Criterion passed (Yes or No)										Notes (such as justification)
A	There are 6-8 vascular plant species per m^2 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 m^2 (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	No									
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	No									
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes	Yes									
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	Yes									
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	No	Yes									
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Yes	Yes									
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Yes	Yes									
	Essential criterion achieved (Yes or No)	No	No									
	Number of criteria passed	4	5									

Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved ×/✓									
Passes 6 or 7 criteria including passing essential criterion A	Good (3)										
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)										
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	X	X								

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*.

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 the separate Line of trees condition sheet for a line of rural trees. You should only use the Line of trees condition assessment and record that habitat type in rural locations.

Habitat Description

Urban trees

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 should predominantly 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 - 31 Barkham Ride, Finchampstead	**Survey date and Surveyor name**	22.09.23 - Katy Collins, Ecologist
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference	SU 789658	**Habitat parcel reference**	UT1

	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).	Yes	
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).	Yes	
C	The tree is mature (or more than 50% within the block are mature)[1].	No	
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.	Yes	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No	
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes	
	Number of criteria passed	4	

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)	X
Passes 2 or fewer criteria	Poor (1)	
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.		

Suggested enhancement interventions to improve condition score[2]

Condition sheet: HEDGEROW Habitat Types

Habitat Type

Native hedgerow
Native hedgerow - associated with bank or ditch
Native hedgerow with trees
Native hedgerow with trees - associated with bank or ditch
Species-rich native hedgerow
Species-rich native hedgerow - associated with bank or ditch
Species-rich native hedgerow with trees
Species-rich native hedgerow with trees - associated with bank or ditch

Habitat Description

Native hedgerow with trees

ukhab – UK Habitat Classification

On-site or off-site, site name and location	On-site - 31 Barkham Ride, Finchampstead	**Survey date and Surveyor name**	22.09.23 - Katy Collins, Ecologist
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference	SU 789658	**Habitat parcel reference**	H2

Condition Assessment Details

A series of ten attributes, representing key physical characteristics are used for this assessment. Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria.

This assessment is based on the Hedgerow Survey Handbook[1] and Favourable Conservation Status document[2]. For further clarification please refer to the Hedgerow Survey Handbook.

Best practice would be to record the species, age, spacing and other key information about all trees present along a hedgerow within the 'Habitat Description' box, as well as other key features of the hedgerow.

Hedgerow favourable condition attributes

Attributes and functional groupings (A, B, C, D and E)		Criteria - the minimum requirements for 'favourable condition'	Criteria description	Criterion passed (Yes or No)	Notes (such as justification)
Core groups - applicable to all hedgerow types					
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	Yes	
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn *Prunus spinosa* suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	Yes	
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	Yes	
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	No	

C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	Yes	
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	No	
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website[4], as well as the BSBI website[5] where the 'Online Atlas of the British and Irish Flora'[6] contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website[7].	No	
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	Yes	
Additional group - applicable to hedgerows with trees only					
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[8]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.	Yes	
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.	Yes	

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the Statutory Biodiversity Metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees		
Category	**Category Requirements**	**Metric Score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3
Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	

Condition categories for hedgerows with trees		
Category	**Category Requirements**	**Metric score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1, C2 and E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	2

Suggested enhancement interventions to improve condition score