



Sandleford Park, Newbury

Appendix F21: Biodiversity Net Gain Assessment



Bloor Homes & The Sandleford Farm Partnership

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1st Floor, The Pavilion, Botleigh Grange Office Campus, Hedge End, Southampton, SO30 2AF

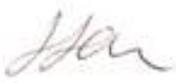
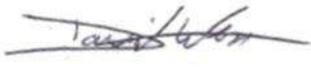
Tel: 02382 022800

Email: ecology@wyg.com



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Prepared by:		Jonathan Jackson CEnv MCIEEM Principal Ecologist
Checked By:		Tamsin Clark MCIEEM Associate Ecologist
Verified By:		David West CEnv MCIEEM Associate Ecologist

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3	14 th Feb 2019	JJ	TC	Updated as ES addendum to application 3a
4	18 th Feb 2019	JJ	TC	Updated to reflect ESa Figure 4.7 (Illustrative Layout)
5	09 th Dec 2019	DW	JJ	Updated to reflect amended valley crossing layout.
6	19 th Feb 2020	BC	DW	Net gain calculations amended to reflect an additional 20 m loss of hedgerow

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Glossary

CEnv	Chartered Environmentalist
DEFRA	Department of Food and Rural Affairs
EMMP	Ecological Mitigation and Management Plan
FEP	Farm Environment Plan
HPI	Habitats of Principle Importance
JNCC	Joint Nature Conservation Committee
MCIEEM	Full member of the Chartered Instituter of Ecology and Environmental Management
NERC	Natural Environment and Rural Communities



1.0 Introduction

1.1 Background

WYG was commissioned by Bloor Homes and The Sandleford Farm Partnership in November 2018 to prepare a Biodiversity Net Gain Assessment for Sandleford Park, Newbury (the Site).

The purpose of this assessment is to quantify the biodiversity value of the Site prior to development, and the predicted value post development. This is measured in biodiversity units calculated according to the habitats present and their size, distinctiveness and condition. Risk factors are taken into account when quantifying habitats post-development. This enables the quantitative calculation of the predicted change in biodiversity value as a result of the proposed development, with the objective of achieving a net gain in biodiversity.

This report has been prepared and updated by Jonathan Jackson CEnv MCIEEM.

1.2 Site Location

The Site is located at Sandleford Park in Newbury, West Berkshire and is centred at Ordnance Survey National Grid Reference SU 46847 64550. The survey area, hereafter referred to as the 'Site', is shown on Figure 1 and comprised of agricultural fields with areas of grassland and several copses of ancient woodland dispersed throughout. A central valley runs from the north-western corner of the Site towards the River Enborne at the Site's southern boundary.

1.3 Development Proposals

Outline planning permission for up to 1,000 new homes; 80 extra care housing units as part of the affordable housing provision; a new two-form entry primary school (D1); expansion land for Park House Academy School; a local centre to comprise flexible commercial floorspace (A1-A5 up to 2,150sq m, B1a up to 200sq m) and D1 use; the formation of new means of access onto Monks Lane; new open space including the laying out of a new country park; drainage infrastructure; walking and cycling infrastructure and other associated infrastructure works. Matters to be considered: Access.

The scheme has evolved through ecological survey and input to design; as such, wildlife corridors are retained in and around the Site. All of the woodland blocks are retained, together with the stream corridors (albeit with valley crossings), and the majority of the hedgerows and mature trees.



2.0 Methodology

The methodology for the assessment follows the Department of Food and Rural Affairs (DEFRA) guidance on Biodiversity Offsetting (DEFRA, 2012) and the Biodiversity Impact Assessment Calculator in use by Warwickshire County Council (Martland, 2014).

2.1 Habitat Assessment

Habitats on Site pre-development and to be retained, created or enhanced post-development are identified in accordance with the categories specified for a Phase 1 habitat survey (Joint Nature Conservation Committee (JNCC), 2010).

2.2 Area and Length

The area of identified habitats is calculated in ha, ignoring linear features such as hedgerows or ditches (the area should be measured to the centre line of such features). The length of linear features is measured separately in km.

2.3 Distinctiveness

Each habitat is assigned a score for distinctiveness. Distinctiveness includes parameters such as species richness, diversity, rarity (at local, regional, national and international scales) and the degree to which a habitat supports species rarely found in other habitats (Trewick *et al.*, 2010). For the purposes of this assessment, the distinctiveness categories from the Warwickshire Biodiversity Impact Assessment Calculator have been used as they allow a greater range than the DEFRA metric. These scores are provided in Table 1.

Table 1 Categories and scores for distinctiveness

Categories	Score
High (broadly aligns with Habitats of Principle Importance (HPI) described under the provisions of the Natural Environment and Rural Communities Act (NERC) 2006)	6
Medium-High	5
Medium (broadly semi-natural habitats)	4
Medium-Low	3
Low (broadly non-natural habitats but still with some biodiversity value)	2

Using the Warwickshire method, habitats are assigned a default score based on their distinctiveness within the Warwickshire region according to the local Habitat Biodiversity Audit. In the absence of comparable local data these scores have been used, except where evidence suggests a higher or lower score is appropriate.



2.4 Condition

The condition of each habitat is assessed following criteria set out in the Farm Environment Plan (FEP) Manual (Natural England, 2013), which includes detailed assessment criteria for different habitats. This is used as a guide but may be superseded where appropriate by other evidence and best ecological judgement.

Conditions within the metric are as follows:

- Good: 3
- Moderate: 2
- Poor: 1

A condition assessment using the FEP manual is determined by how many of the detailed criteria are met:

- Good condition: All criteria are met.
- Moderate condition: All but 1 criterion are met.
- Poor condition: 2 or more criteria are failed.

Low distinctiveness habitats should as standard be assigned a poor condition, unless a particular valuable or diverse example of that habitat is present. Proposed gardens within residential developments should always be assigned poor condition. Although some gardens can have high wildlife value, most will have minimal value and may just be paved or lawn. There can be no control on how these are managed in the future and so poor condition should be selected.

2.5 Risk Factors

As part of any proposed habitat creation and restoration, risk factors must be taken into account to correct for disparity, delay or risk, these are:

- Time to target condition; and
- Difficulty of restoration / creation.

To take this into account, creation of a habitat which will take many years to get to target condition or is difficult to recreate would have a reduced biodiversity value compared to the same habitat already in situ. Therefore to compensate for loss of that original habitat a larger area would be required as an offset.

Default values are provided for a range of habitats as part of the DEFRA metric. These may be altered if informed by knowledge of the Site and proposed management prescriptions.

2.6 Limitations

The impact of the change in scattered trees have not been assessed in this report. This is based on Phase 1 mapping used for the project only recording scattered trees as points rather than areas. As such, the area of habitat covered by scattered trees within the development cannot be estimated.



The masterplan (Appendix A) shows that whilst trees will be lost from areas of the proposed development that become Built environment: Buildings / hardstanding and Built environment: lawns and planting, trees will also be planted alongside roads and in community spaces. The masterplan also shows that existing scattered trees would be bolstered by new planting (shown in orange), in addition to the areas of broad-leaved woodland.

It is therefore estimated that losses of trees would be neutral in terms of biodiversity loss / gain.

It is not possible to accurately determine the ratio of Buildings / hardstanding to Gardens (lawns and planting) within the development proposals. A precautionary estimate of 30% Gardens (lawns and planting) has therefore been used. The figure is likely to be much higher than this (40%+), but to avoid potentially over-estimating the units that can be gained, 30% has been used.



3.0 Existing Habitats and Development Proposals

3.1 Non-linear Habitats

Information on the existing habitats is provided by the WYG (2018) Ecological Appraisal report (see Appendix F1 to the Environmental Statement).

3.1.1 Broad-leaved Semi-natural Woodland

There are seven main woodland blocks on Site, which form a network of semi-natural broadleaved woodland habitats in proximity to each other and largely connected by hedgerows and wide grassy, tracks and banks. The central core of woodlands is set in a confined valley system and within a mosaic of wet grassland and semi-improved acid grassland.

Table 2 Summary of broadleaved semi-natural woodland

Area	30.10ha
Distinctiveness	High: 6
Condition	Moderate: 2 The woodland units overall are in good condition, although some are deleteriously affected by the presence of pens supporting pheasant in the shooting season, trampling and invasive species. In the context of the FEP assessment, one of the criteria is therefore not met (i.e. The woodland must be free from damage (in the last five years) by stock or wild mammals), and the woodland condition is assessed as being moderate.
Proposed changes	All woodland is proposed to be retained. Furthermore, the following enhancements will be made: <ul style="list-style-type: none"> • Dirty Ground Copse (3.24ha) – installation of boardwalks over existing paths to protect ground flora from and trampling; • Slocketts Copse (3.05ha) – Removal of cotoneaster; • Barns Copse (2.97%) – Management of woodland to remove holly which is shading out ground flora; and • Ongoing woodland management is outlined in the Ecological Mitigation and Management Plan (EMMP, <i>Appendix F18</i>). <p>Creation of new areas of woodland are proposed (3.12ha).</p>

3.1.2 Wet Woodland

There is an area of wet woodland within Waterleaze Copse. The wet woodland area is located along a narrow strip bordering the River Enborne, dominated by alder. The surrounding woodland floor is typically flooded during the winter and the community has affinities towards the NVC type W6a *Alnus glutinosa-Urtica dioica woodland typical subcommunity*. The wet woodland grades to the dry acidic woodland above the floodplain in places.

**Table 3 Summary of wet woodland**

Area	1.3ha
Distinctiveness	High: 6 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Good: 3 The condition of the woodland has been assessed against the five criteria for native semi-natural woodland, as there are no separate criteria for wet woodland. Whilst there is some Himalayan balsam present (a non-native species), this does not represent more than 10% of vegetation cover. All five condition assessment criteria are therefore being met and the wet woodland has been classified as being in <i>good</i> condition.
Proposed changes	All wet woodland would be retained. Furthermore, Himalayan balsam would be removed as an enhancement. No areas of wet woodland creation are proposed.

3.1.3 Dense Scrub

There are areas of dense / scattered scrub present throughout the Site, with the stands consisting predominantly of bramble. Areas of scattered scrub are situated along the western extent of the Site and the field margins of compartments within the eastern extent of the Site. Areas of dense scrub are distributed more widely throughout the Site although confined to the eastern half of the Site.

Table 4 Summary of dense scrub

Area	1ha
Distinctiveness	Medium-low: 3 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Poor: 1 The dense scrub present is generally species poor and of limited ecological value and does not qualify under the condition criteria for scrub of high environmental value in the FEP manual. A Poor condition assessment is therefore considered appropriate.
Proposed changes	The proposals would result in the loss of 0.5ha of dense scrub with the remaining scrub being managed in the long term to enhance fruit / seed production in accordance with the EMMP, (<i>Appendix F18</i>).

3.1.4 Marshy Grassland

The majority of the wet grassland habitats are located together within the centre of the Site, encompassing several fields partitioned by hedgerows and streams, the grassland is very wet and mire-like in places. Springs and base-rich flushes emerge into the valley where the mires reach their



greatest extent and are found slightly upslope away from the stream and valley bottom. A smaller strip of wet grassland is located within a field compartment at the eastern extent of the Site.

Table 5 Summary of marshy grassland

Area	12.3ha
Distinctiveness	High: 6 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Poor: 1 The marshy grassland mainly comprises areas of Yorkshire fog dominated areas of limited ecological value. Whilst being wetter, these are more characteristic of damp semi-improved grassland than marshy grassland that meets the criteria of HPI. There is a small area of Purple Moor Grass and Rush Pastures HPI on Site (0.445 ha). This represents 16% of the known Berkshire resource of this habitat so is assessed as being of County Importance. However, as this is less than 3.62% of the marshy grassland on Site, it is not representative of the overall condition of the habitat. The marshy grassland does not meet two of the criteria for the condition assessment criteria for G07 – Purple moor-grass and rush pastures – BAP habitat, against which it should be assessed. These are: 1) the cover of undesirable species exceeds 10%; and 2) fewer than two indicator species are frequent and two are occasional. The marshy grassland is therefore considered to be in poor condition.
Proposed changes	The proposals would result in a minor loss of marshy grassland to accommodate the valley crossing (0.056 ha). The remaining habitats would be enhanced using management practices i.e. cessation of grazing and cutting for hay. This would gradually reduce nitrogen levels within the grassland. Over time this will influence plant species diversity, by decreasing the numbers of undesirable nitrophilous species e.g. thistles and docks, and allow the frequency of indicator species to increase. Approximately 1.4 ha of new marshy grassland will be created.

3.1.5 Neutral Semi-improved grassland

This habitat is predominantly confined to field compartments along the eastern boundary some of which are utilised by grazing cattle. The species recorded historically within these compartments include; false oat grass, ox-eye daisy, crested dogs-tail, cock's-foot, perennial ryegrass, yarrow, spear thistle, soft brome, meadow foxtail, common nettle, creeping thistle, common sorrel, sheep fescue, dock sp., creeping bent, groundsel and meadow buttercup.

**Table 6 Summary of neutral semi-improved grassland**

Area	21.1ha
Distinctiveness	Medium: 4 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Poor: 1 The grassland habitats are negatively affected by intensive grazing and the species composition has been influenced by agricultural improvement by fertilizer. In quantified terms, this means that the grassland supports more than 5% undesirable species and cover of wildflowers and sedges are less than 20%. The failure of achieving both these criteria mean that the grassland habitats should be classified as poor.
Proposed changes	The proposals would result in a loss of 9.4ha of neutral semi-improved grassland. The remaining habitats would be enhanced using management practices i.e. cessation of grazing and cutting for hay. There would be 21.7ha of neutral semi-improved grassland created as part of the development proposals. This would primarily be from the loss of arable fields being given over to grassland within the country park.

3.1.6 Acid Grassland: Semi-improved Grassland

The acidic grassland at the Site has generally been modified and degraded from intensive grazing and hence does not meet the 'lowland acidic grassland' HPI criteria.

**Table 7 Summary of acid semi-improved grassland**

Area	0.3ha
Distinctiveness	Medium-high: 5 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Poor: 1 The grassland habitats are negatively affected by intensive grazing and the species composition has been influenced by agricultural improvement by fertilizer. In terms of FEP the grassland fails to meet two of condition assessment criteria and is therefore considered to be in poor condition. These are as a result of the cover of undesirable species being greater than 5% and that coarse grass species e.g. Yorkshire-fog is more than 20%.
Proposed changes	A small area of acid grassland will be lost (0.03 ha). The remaining area of acid semi-improved grassland would be retained and enhanced by a cessation of grazing and the effects of inputs from nitrogenous fertiliser.

3.1.7 Tall Ruderal

Tall ruderal habitat is present within the Site boundary located throughout the Site. The largest extent is located within the area surrounding the ponds at the north eastern extent of the Site, adjacent to the A339. Species present within these areas include; common nettle, thistle sp. and white dead nettle. Saplings are also present within the aforementioned area including field maple, hawthorn, silver birch and hazel.

Table 8 Summary of tall ruderal vegetation

Area	2.6ha
Distinctiveness	Medium-low: 3 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Poor: 1 The tall ruderal habitats present are generally species poor and are of limited ecological value.
Proposed changes	The proposals would result in the loss of 2.6ha of tall ruderal vegetation with no enhancement or creation of new areas.

3.1.8 Standing Water

There are numerous ponds on the Site. Many have little emergent aquatic vegetation and are shaded by surrounding woodland habitat. Several of the waterbodies were found to be dry or almost completely devoid of water. There are larger ponds located in Waterleaze Copse, whilst these are shaded, both ponds support emergent aquatic vegetation including water mint.

**Table 9 Summary of standing water**

Area	0.2ha
Distinctiveness	High: 6 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Moderate: 2 Ponds have been assigned a moderate condition as some support non-native invasive species and therefore fail one criteria in the FEP manual.
Proposed changes	All standing water habitats would be retained and 0.25ha would be created. Furthermore, the waterbody within Waterleaze Copse (0.027ha) would be enhanced by the removal of Himalayan balsam and New Zealand pygmyweed.

3.1.9 Arable

A significant proportion of the Site is utilised for the growing of arable crops, with their agricultural use having changed regularly as recorded during previous surveys. All arable field compartments at the time of the December 2017 survey had to some degree been recently ploughed and left fallow; as such a low level of grass growth had begun to encompass several of these fields. In several fields, areas of maize have been planted for game cover. The margins provide permanent, grass strips with mixtures of tussocky and fine-leaved grasses.

Table 10 Summary of arable habitats

Area	45.4ha
Distinctiveness	Low: 2 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Poor: 1 The arable habitats within the Site are predominantly of limited ecological value.
Proposed changes	All arable habitats would be lost from the Site with land either forming part of the built environment or habitats within the country park. There would be two skylark plots created using seed mixes gathered from areas of richer arable field margins. These would be 4m x 5m each and would therefore only represent 0004ha. This is not significant in the context of the scale of this development and so has not been included in this assessment.

3.1.10 Built Form

A series of tracks are situated on the Site; one runs centrally from east to west across the entirety of the Site and another within the eastern extent of the Site running from north to south.



There are also two buildings on the Site; a stable and a pre-fab office building located within the eastern extent of the Site.

Table 11 Summary of built form

Area	0.84ha
Distinctiveness	None: 0 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Poor: 1 The buildings, associated curtilage and series of tracks on Site are of negligible ecological value.
Proposed changes	All existing built form habitats would be lost.

3.2 Linear Habitats

Information on the existing habitats is provided by the WYG (2018) Ecological Appraisal report.

3.2.1 Hedgerows

There is an extensive network across the Site which consists of a combination of species-poor, species-rich, intact and defunct hedgerows. Two hedgerows (Hedgerow A and Hedgerow E (see Appendix 2)) are considered likely to be '*important*' under the Hedgerow Regulations 1997 due to the presence of standard trees and seven woody species together with woodland indicator species in the ground layer.

**Table 12 Summary of hedges**

Area	4.61km
Distinctiveness	Medium: 4 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Moderate: 2 When considered together a suitable median average of the condition of the hedges on Site would be moderate. This is based on not all hedges being over 2m in height, not all being more than 1.5m in width and some having gaps wider than 5m.
Proposed changes	There would be 521m of hedges lost. New hedges would either be created or existing hedges would be enhanced (i.e. Hedges B, C, D, F and G). Enhancement would take the form of infilling of gaps and increasing width where necessary, both of which would increase native species diversity where possible. In total this would represent 2322m of works to hedges on Site. It is not possible to accurately estimate the amount of hedgerows created or enhanced as the works required for each hedge will only be established once works start on Site. For the basis of this assessment, all works to hedges have therefore been recorded an enhancement rather than creation. This therefore avoids the potential for over-estimating the units gained by works to hedges, as enhancement of habitats contributes less to the Habitat Mitigation Score than creation.

3.2.2 Running Water

The River Enborne is bordered by wet woodland (alder carr) which grades to elevated areas supporting damp to dry acidic woodland. The stream is shaded for much of its length as such the emergent and aquatic vegetation communities appear to be sparse. The river is structurally varied with a range of riverine features, including point bars, riffles, glides, pools and meandering bends. At several points, high earth-cliff banks have developed.

A stream tributary of the River Enborne runs through a central valley (to the south of Slocketts Copse and High Wood and to the north of Barn Copse and Dirty Ground Copse) before flowing into Waterleaze Copse. The stream bed is a mosaic of silt, bedrock and pebbles. The banks are heavily wooded in sections with dense scrub in places. The drain which flows into the stream, flows through an open marshy field with stands of rush.



Table 13 Summary of running water

Area	2.85km
Distinctiveness	High: 4 This is the default value for this habitat type and there is no reason to deviate from it.
Condition	Moderate: 2 The River Enborne habitats have been assessed in the Environmental Statement as fulfilling the criteria for HPI, but the presence of non-native invasive Himalayan balsam suggests it is of moderate condition.
Proposed changes	All running water would be retained. Furthermore, the section of the River Enborne that bounds the Site (829m) would be enhanced by the removal of Himalayan balsam.



4.0 Proposed Habitats

A summary of the proposed habitat creation on Site is provided in Table 14. This gives the target distinctiveness, target condition and time till target condition is achieved, with justification provided where required. It is anticipated that on woodland would take longer (15 years) than the minimum time until the target condition is achieved (5 years). This is based on the time taken for trees to reach semi-maturity. For all habitats types, the recommended default values for distinctiveness and difficulty of creation / restoration have been used.

Table 14 Summary of habitat creation

Habitat	Amount created (ha)	Target distinctiveness	Target condition	Time till target condition	Difficulty of creation / restoration
Woodland: Broad-leaved plantation	3.12	Medium: 4	Good: 3	15 years	Medium: 1.5
Marshy grassland	1.4	High: 6	Good: 3	5 years	High: 3
Neutral semi-improved grassland	21.80	Medium: 4	Moderate: 2	5 years	Medium: 1.5
Grassland: Semi-improved acidic grassland	0.3	Medium-High: 5	Good: 3	5 years	Medium: 1.5
Built environment: Buildings / hardstanding	21.64	None: 0	Poor: 1	5 years	Low: 1
Built environment: Gardens (lawns and planting)	10.83	Low: 2	Poor: 1	5 years	Low: 1
Wetland: Standing water	0.15	High: 6	Good: 3	5 years	Medium: 1.5



5.0 Assessment

5.1 Non-Linear Habitats

						Habitat Biodiversity Value					
Existing habitats on Site		Habitat distinctiveness		Habitat condition		Habitats to be <u>retained</u> with no change within development		Habitats to be retained and <u>enhanced</u> within development		Habitats to be <u>lost</u> within development	
Habitat description	Habitat area (ha)	Distinctiveness	Score	Condition	Score	Area (ha)	Existing value	Area (ha)	Existing value	Area (ha)	Existing value
		A	B			C	A x B x C = D	E	A x B x E = F	G	A x B x G = H
Broad-leaved semi-natural woodland	30.10	High	6	Good	3	20.84	250.08	9.26	111.12	-	-
Wet woodland	1.30	High	6	Good	3	0.00	-	1.30	23.40	-	-
Dense scrub	1.00	Medium-Low	3	Poor	1	0.00	-	0.50	1.50	0.50	1.50
Marshy grassland	12.30	High	6	Good	3	0.00	-	11.74	70.44	0.56	3.36
Neutral semi-improved grassland	20.80	Medium-High	5	Moderate	2	0.00	-	11.40	45.60	9.40	37.60
Tall ruderal	2.60	Medium-Low	3	Poor	1	0.00	-	0.00	-	2.60	7.80
Standing water	0.20	High	6	Moderate	2	0.20	2.40	0.00	-	-	-
Arable	45.40	Low	2	Poor	1	0.00	-	0.00	-	45.40	90.80
Built form	0.84	none	0	Poor	1	0.00	-	0.00	-	0.84	0.00
Acidic semi-improved grassland	0.30	Medium-High	5	Poor	1	0.00	-	0.27	1.35	0.03	0.15
Total	114.84									59.33	141.21
Site Habitat Biodiversity Value										647.10	
Habitat Impact Score										141.21	
Habitat creation on Site		Target habitats distinctiveness		Target habitat condition		Time till target condition		Difficulty of creation / restoration		Habitat biodiversity value	
Habitat description	Area (ha)	Distinctiveness	Score	Condition	Score	Time (years)	Score	Difficulty	Score	Total	
	N		O		P		Q		R	(N x O x P) / Q / R	
Broad-leaved plantation woodland	3.12	Medium	4	Good	3	15 years	1.7	Medium	1.5	14.68	
Marshy grassland	1.40	High	6	Good	3	5 years	1.2	High	3	7.00	



Neutral semi-improved grassland	21.80	Medium	4	Moderate	2	5 years	1.2	Medium	1.5	96.89	
Built form	22.03	none	0	Poor	1	5 years	1.2	Low	1	0.00	
Gardens and formal landscaping	10.83	Low	2	Poor	1	5 years	1.2	Low	1	18.05	
Standing water	0.15	High	6	Good	3	5 years	1.2	Medium	1.5	1.50	
Total	59.33									138.12	
Habitat enhancement on Site		Target habitats distinctiveness		Target habitat condition		Existing value	Time till target condition		Difficulty of creation / restoration		Habitat biodiversity value
Habitat description	<i>Area (ha)</i>	<i>Distinctiveness</i>	<i>Score</i>	<i>Condition</i>	<i>Score</i>	<i>Score</i>	<i>Time (years)</i>	<i>Score</i>	<i>Difficulty</i>	<i>Score</i>	<i>Total</i>
	N		O		P	S		Q		R	$((N \times O \times P) - S) / Q / R$
Broad-leaved semi-natural woodland	8.00	High	6	Good	3	96.00	15 years	1.7	Low	1	32.68
Marshy grassland	11.74	High	6	Moderate	2	73.80	5 years	1.2	Medium	1.5	39.13
Neutral semi-improved grassland	11.70	Medium	4	Moderate	2	46.80	5 years	1.2	Low	1	38.00
Acidic semi-improved grassland	0.27	Medium-High	5	Good	3	1.50	5 years	1.2	Low	1	2.25
Wet woodland	1.30	High	6	Good	3	23.40	5 years	1.2	Medium	1.5	2.50
Dense scrub	0.50	Medium-Low	3	Good	3	1.50	5 years	1.2	Low	1	0.00
Total	35.06										114.57
Habitat Mitigation Score										252.69	



5.2 Linear Habitats

Existing habitats on Site						Habitat Biodiversity Value						
						Habitat distinctiveness		Habitat condition		Habitats to be <u>retained</u> with no change within development		Habitats to be retained and <u>enhanced</u> within development
Habitat description	Length (km)	Distinctiveness	Score	Condition	Score	Length (km)	Existing value	Length (km)	Existing value	Length (km)	Existing value	
			A	B		C	A x B x C = D	E	A x B x E = F	G	A x B x G = H	
Hedgerows	4.61	Medium	4	Moderate	2	1.77	14.32	2.32	18.56	0.52	4.16	
Running water	3.69	High	6	Moderate	2	2.85	34.20	0.83	9.96	0.01	0.12	
Total	8.30							0.53	4.28			
Site Habitat Biodiversity Value										81.16		
Linear Impact Score										4.12		
Habitat enhancement on Site		Target habitats distinctiveness		Target habitat condition		Existing value	Time till target condition		Difficulty of creation / restoration		Habitat biodiversity value	
Habitat description	Length (km)	Distinctiveness	Score	Condition	Score	Score	Time (years)	Score	Difficulty	Score	Total	
		N	O	P		S		Q	R		((N x O x P) - S) / Q / R	
Hedgerows	2.32	Medium	4	Good	3	18.56	5 years	1.2	Low	1	7.73	
Running water	0.83	High	6	Good	3	9.96	5 years	1.2	Low	1	4.15	
Total	3.15											11.88
Linear Mitigation Score										11.88		



6.0 Summary

6.1 Habitat

The pre-development habitats have been calculated to have a biodiversity value of 647.1 units (A), of which 141.21 units will be lost as a result of the proposed development.

Proposed habitat mitigation has been calculated to have a biodiversity value of 252.69 units, resulting in a gain of 111.48 units (B), with the final development therefore achieving 758.58 units.

This represent a gain of 17.23 % (C), where: $C = B/(A/100)$.

6.2 Linear

The pre-development habitats have been calculated to have a biodiversity value of 81.16 units (A), of which 4.28 units will be lost as a result of the proposed development.

Proposed habitat mitigation has been calculated to have a biodiversity value of 11.88 units, resulting in a gain of 7.6 units (B), with the final development therefore achieving 88.92 units.

This represent a gain of 9.36% (C), where: $C = B/(A/100)$.

6.3 Net Gain

Based on these calculations it is predicted that the proposed development will achieve a **net gain** for biodiversity.



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Appendix A – The Development Proposals



Illustrative Layout

Proposed residential development at Sandleford Park, Newbury

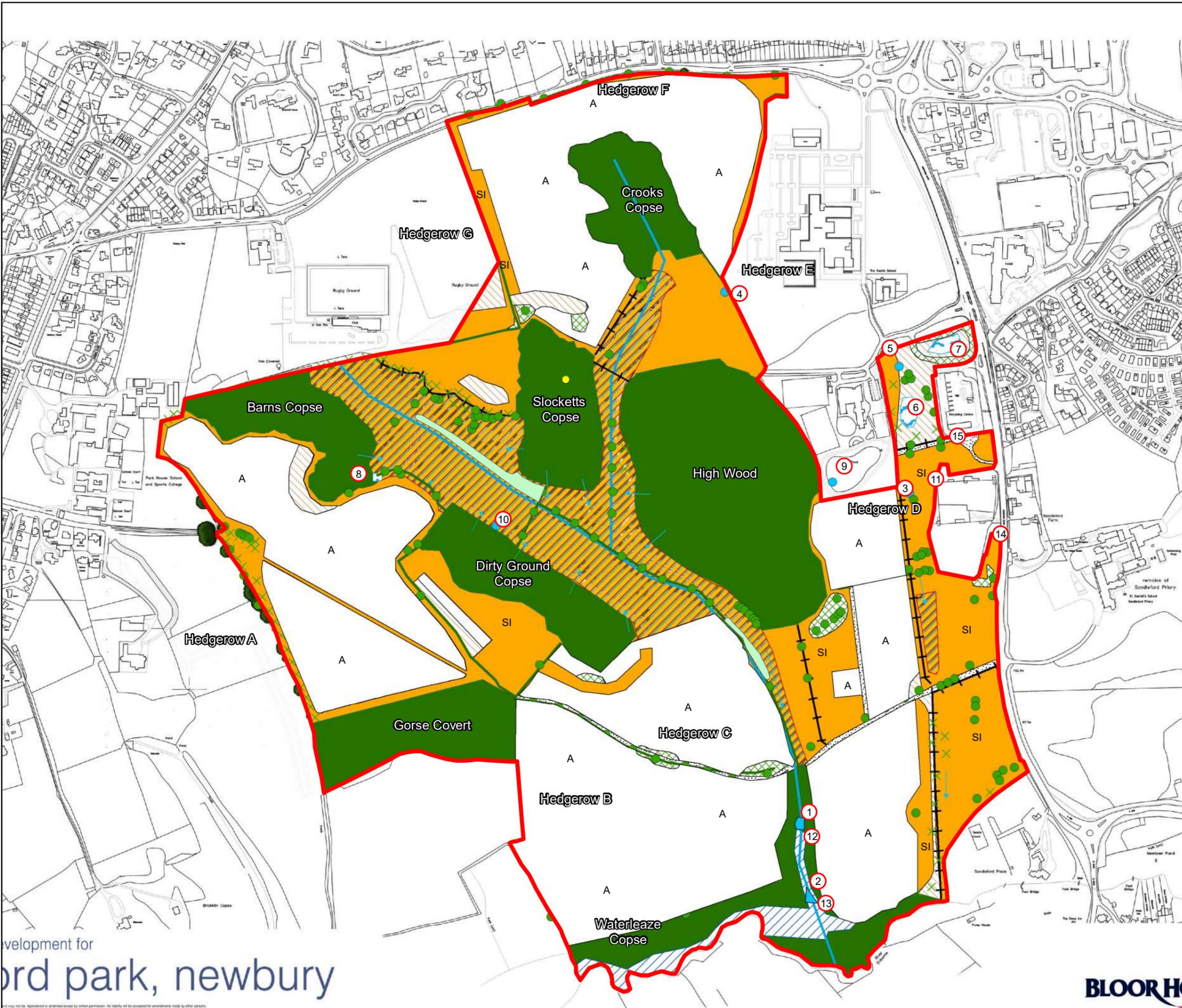
July 2018

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Appendix 2 – Phase 1 habitat map



Rev	Date	Notes
A	14/12/18	Initial map production

Legend

- Cotoneaster
- Purple Moor Grass and Rush Pastures HPI
- Target Note
- Site boundary
- Arable
- × Scattered scrub
- Scattered trees
- Pond
- Fence
- Hedgerows
- Spring and seepage points
- Standing water
- Running water
- Buildings
- Bare ground
- Dense scrub
- Dry waterbody
- Wet woodland
- Broadleaved semi-natural woodland
- Marshy grassland
- Tall ruderal
- Semi-improved grassland



Site Location & Phase 1 Habitat Plan

**Sandleford Park, Newbury
Bloor Homes & Sandleford Farm Partnership**

Scale at A3: 1:6,000	Project No: A070660-24	Drawing No: Figure 2	Revision: A
Drawn by: ben.cooke	Drawn date: 14/12/2018	Approved by: david.west	

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development for
Sandleford park, newbury



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170255 Sandleford Park Newbury Farm Partnership Phase 1 Habitat Plan