

## TECHNICAL NOTE

**Job Name:** Plot SGR1, Bicester  
**Job No:** 41436  
**Note No:** 41436/BioMetric/001  
**Date:** 5 November 2018  
**Prepared By:** Duncan McLaughlin  
**Subject:** **Biodiversity Metric Calculation**

---

### Introduction

- 1.1.1 Peter Brett Associates (PBA), now part of Stantec, was commissioned to undertake a biodiversity metric calculation for Plot SGR1, Bicester. The biodiversity metric is required to inform an outline planning application, submitted in summer 2018, for a proposed residential development with associated infrastructure, landscaping and public open-space.
- 1.1.2 The planning application was informed by *Plot SGR1, Bicester Ecological Appraisal Report* (PBA, 2018). This included a biodiversity metric calculation which assessed the value of the habitats present on site, in order to identify the value of the habitat gains that would need to be achieved through the detailed design to achieve overall biodiversity gains in habitat terms.
- 1.1.3 Comments received from the Council's Case Officer asked for the biodiversity metric to be taken a step further by demonstrating if net gain is possible based on the outline design; i.e. for an illustrative biodiversity metric to be determined for the proposed development.
- 1.1.4 The metric will be re-run at the detailed design stage to ensure confirm the final biodiversity gain for the development.

### Methodology

- 1.1.5 The Defra Biodiversity Impact Assessment calculator (v19.0) was used, along with the Guide to Warwickshire, Coventry and Solihull Biodiversity Offsetting Biodiversity Impact Assessment Calculator v19.0 For Ecological Consultants (Warwickshire County Council, Feb 2018). Cherwell District Council require all sites at NW Bicester to demonstrate whether a net gain is achievable, using this particular metric (Caroline Ford, Principal Planning Officer *pers. comm.*).
- 1.1.6 The details of existing habitats within the site used to inform the baseline for the metric have been taken from the habitat descriptions and draft biodiversity metric within the EAR (PBA, 2018).
- 1.1.7 The predicted habitats post-development are based on the current Illustrative Master Plan (Drawing Number RPC001-016). Whilst this may not provide a true reflection of the final layout and habitat composition at the time of development, it provides a useful assessment at what could be achievable with proposed habitat creation and enhancement, with reference to the commitments in the Ecological Assessment Report and in liaison with the landscape architects.

### Assumptions

- 1.1.8 The calculations have been based on the assumption that ecological mitigation and enhancement measures set out in the EAR (PBA, 2018) will be incorporated into the detailed scheme design including: tree and hedgerow planting, enhancement of retained grassland habitat, and creation of a SUDS system which will be designed for biodiversity benefit. Areas of each habitat post development have been scaled from the indicative master plan (Drawing Number RPC001-016). In addition, outside of the open space areas, it has been assumed there will be a 50/50 split in area between buildings/hardstanding and residential gardens within the residential development area.

## TECHNICAL NOTE

1.1.9 The draft biodiversity metric included in Appendix E of the EAR (PBA, 2018) gave existing semi-improved neutral grassland within the site a habitat condition score of 'Moderate'. Following a review of the metric guidance document (Warwickshire County Council, Feb 2018), for this iteration of the metric, the habitat condition score has been reduced from 'Moderate' to 'Poor', reflecting the limited diversity of this habitat, as described in the EAR.

### Results and Conclusion

- 1.1.10 The results of the biodiversity metric are set out in the tables below. The results, based on the illustrative masterplan, show **9.54 Habitat Biodiversity Units gain, 4.88 Hedgerow Units gain, and 0 Connectivity Biodiversity Units loss.**
- 1.1.11 This score has been based on the illustrative masterplan, and therefore may not reflect the final scheme. However, it provides a useful assessment of potential biodiversity net gain achievable within the site. It is anticipated that the metric will be re-run at the detailed design stage to confirm the final biodiversity gain for the proposed development.

# TECHNICAL NOTE

## Biodiversity Impact Assessment

Existing habitats on site Please enter <u>all</u> habitats within the site boundary							Habitat Biodiversity Value							
			Habitat distinctiveness		Habitat condition		Habitats to be <u>retained</u> with no change within development		Habitats to be <u>retained and enhanced</u> within development		Habitats to be <u>lost</u> within development			
code	Phase 1 habitat description	Habitat area (ha)	Distinctiveness	Score	Condition	Score	Area (ha)	Existing value	Area (ha)	Existing value	Area (ha)	Existing value		
<b>Direct Impacts and retained habitats</b>							A	B	C	D	E	F	G	H
							$A \times B \times C = D$		$A \times B \times E = F$		$A \times B \times G = H$			
A21	Woodland: Dense continuous scrub	0.02	Medium-Low	3	Moderate	2	0.00				0.02	0.12		
I22	Other: Spoil	0.01	Low	2	Poor	1	0.00				0.01	0.02		
A3	Woodland: Scattered trees	0.11	Medium	4	Good	3	0.11	1.32						
B22	Grassland: Semi-improved neutral grassland	4.48	Medium	4	Poor	1			2.37	9.48	2.11	8.44		
C31	Other: Tall ruderal	0.30	Medium-Low	3	Moderate	2	0.00				0.30	1.80		
n/a	Built Environment: Buildings/hardstanding	0.11	none	0	Poor	1	0.00				0.11	0.00		
<b>Total</b>		<b>5.03</b>				<b>Total</b>	<b>0.11</b>	<b>1.32</b>	<b>2.37</b>	<b>9.48</b>	<b>2.55</b>	<b>10.38</b>		
												$\sum D + \sum F + \sum H$		
												<b>Site habitat biodiversity value</b>	<b>21.18</b>	
												<b>Habitat Impact Score (HIS)</b>	<b>10.38</b>	

Proposed habitats on site (Onsite mitigation)			Target habitats distinctiveness		Target habitat condition		Time till target condition		Difficulty of creation / restoration		Habitat biodiversity value
code	Phase 1 habitat description	Area (ha)	Distinctiveness	Score	Condition	Score	Time (years)	Score	Difficulty	Score	
<b>Habitat Creation</b>			N	O	P		Q		R		$(N \times O \times P) / Q / R$
F22	Wetland: Inundation vegetation	0.34	High	6	Moderate	2	3 Years	1.1	Low	1	3.71
n/a	Built Environment: Buildings/hardstanding	0.96	none	0	Poor	1	3 Years	1.1	Low	1	0.00
n/a	Built Environment: Gardens (lawn and planting)	0.96	Low	2	Poor	1	3 Years	1.1	Low	1	1.75
J112	Other: Allotments	0.15	Low	2	Moderate	2	3 years	1.1	Low	1	0.55
A112	Woodland: Broad-leaved plantation	0.14	Medium	4	Good	3	32+ years	3	Medium	1.5	0.37
<b>Habitat Enhancement</b>											$((N \times O \times P) - S) / Q / R$
B22	Grassland: Semi-improved neutral grassland	2.37	Medium	4	Good	3	10 years	1.4	Low	1	13.54

	Loss	Gain	Impact
Woodland Habitat	0.12	0.37	0.25
Grassland Habitat	8.44	13.54	5.10
Wetland Habitat	0.00	3.71	3.71
Other Habitat (including Built Environment)	1.82	2.30	0.48
<b>Total</b>	<b>10.38</b>	<b>19.92</b>	<b>9.54</b>
		Trading down	0.00
			<b>9.54</b>

**TECHNICAL NOTE**  
Hedgerow Impact Assessment

Existing Hedgerow features on site					Hedgerow distinctiveness		Hedgerow Biodiversity Value					
							Hedgerow features to be retained with no change within development		Hedgerow features to be retained and enhanced within development		Hedgerow features to be lost within development	
code	Hedgerow habitat description		Feature length (km)	Distinctiveness	Score	Condition Score	Length (km)	Existing value	Length (km)	Existing value	Length (km)	Existing value
<b>Direct Impacts and retained features</b>					A		C	$A \times B \times C = D$	E	$A \times B \times E = F$	G	$A \times B \times G = H$
n/a	Hedges: species rich hedge		0.20	Medium	4	3	0.19	2.28			0.01	0.12
n/a	Hedges: non_species rich hedge		0.16	Low	2	3	0.15	0.90			0.01	0.06
Totals							0.34	3.18	0.00	0.00	0.02	0.18
Site Hedge Biodiversity Value											3.36	
Hedge Impact Score											0.18	

Proposed hedge features on site (Onsite mitigation)			Target hedge distinctiveness		Condition Score	Time till target condition		Difficulty of creation / restoration		Linear biodiversity value $(N \times O \times P) / Q / R$
code	Phase 1 habitat description	Length (km)	Distinctiveness	Score		Time (years)	Score	Difficulty	Score	
<b>Hedgerow Creation</b>			N		O					
n/a	Hedges: species rich hedge	0.59	Medium	4	3	10 years	1.4	Low	1	5.06
Hedge Mitigation Score										5.06

	HBIS = HMS - HIS
<b>Hedge Biodiversity Impact Score</b>	<b>4.88</b> Gain

**DOCUMENT ISSUE RECORD**

Technical Note No	Rev	Date	Prepared	Checked	Reviewed (Discipline Lead)	Approved (Project Director)
41436/BioMetric/001	-	02.11.18	DM	HE	HE	DH

Peter Brett Associates LLP disclaims any responsibility to the Client and others in respect of any matters outside the scope of this report. This report has been prepared with reasonable skill, care and diligence within the terms of the Contract with the Client and generally in accordance with the appropriate ACE Agreement and taking account of the manpower, resources, investigations and testing devoted to it by agreement with the Client. This report is confidential to the Client and Peter Brett Associates LLP accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.  
© Peter Brett Associates LLP 2018

**TECHNICAL NOTE**

**Site name: Plot SGR1**

**Planning reference number: to be copied from the BIA sheet**

	Habitat Area (ha)	Hedgerow impact (km)	Connectivity Features (km)	Habitat Biodiversity Value	Hedgerow Biodiversity Value	Connectivity Biodiversity Value
<b>Existing</b>						
Onsite Biodiversity Impact	2.55	0.02	0.27	21.18	3.36	3.24
Indirect Biodiversity Impact	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total habitat / linear features impacted</b>	<b>2.55</b>	<b>0.02</b>	<b>0.27</b>	<b>21.18</b>	<b>3.36</b>	<b>3.24</b>
<b>Retained / Created / Enhanced</b>						
Onsite biodiversity retained	0.11	0.34	0.27	1.32	0.00	3.24
Onsite Creation	2.55	0.59	0.00	6.38	5.06	0.00
Biodiversity retained and enhanced	2.37	0.00	0.00	23.02	0.00	0.00
<b>Total biodiversity retained/enhanced</b>	<b>5.03</b>	<b>0.93</b>	<b>0.27</b>	<b>30.72</b>	<b>5.06</b>	<b>3.24</b>
<b>Trading Down</b>	n/a	n/a	n/a	0.00	0.00	0.00
<b>Biodiversity Impact</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>9.54</b>	<b>4.88</b>	<b>0.00</b>

Habitat Impacts	Loss	Gain	Impact	%age losses	Compensatory Unit loss	Indicative Offset (ha)	WCC Offset units	WCC Offset Contribution
Woodland Habitat	0.12	0.37	0.25					
Grassland Habitat	8.44	13.54	5.10					
Wetland Habitat	0.00	3.71	3.71					
Other Habitat (incl. Built Env)	1.82	2.30	0.48					
<b>Total</b>	10.38	19.92	9.54	0.00	0.00	0.00	0.00	£0
		Trading down	0.00					
			9.54					

Hedgerow Impacts	Loss	Gain	Trading down	Impact	Unit loss	Indicative Offset (ha)	WCC Offset units	WCC Offset Contribution
Hedgerow	3.36	5.06		1.70				

**SUMMARY**

This development will result in 9.54 Habitat Biodiversity Units gain; 4.88 Hedgerow Units gain and 0 Connectivity Biodiversity Units loss