

Gavray Drive, Bicester

Appendix 5.2 - Biodiversity Impact Assessment

edp0124_r053a

1. Introduction

- 1.1 This Biodiversity Impact Assessment (BIA) has been prepared by The Environmental Dimension Partnership Ltd (EDP), in support of a new outline planning application for the development of 22.7 hectares (ha) of land north of Gavray Drive, Bicester (hereafter referred to as the 'Application Site'), on behalf of the landowners of the Application Site, namely: L&Q Estates ('the Applicant'); Charles Brown & Simon Digby; and London & Metropolitan International Developments.
- 1.2 This BIA accompanies Chapter 5 (Ecology) of the Environmental Statement submitted with the planning application and is referred to as ES Appendix 5.2. The Proposed Development comprises residential development for up to 250 dwellings including affordable housing and ancillary uses including retained Local Wildlife Site, public open space, play areas, localised land remodelling, compensatory flood storage, structural planting and access. The BIA has been undertaken to objectively assess the net biodiversity impacts of the proposals in line with local and national planning policy.

2. Methodology

- 2.1 The BIA was prepared using the Department for Environment, Food and Rural Affairs (Defra) Biodiversity Metric 2.0 (version date: 19 December 2019), by an ecologist with considerable experience of using such calculators.
- 2.2 The assessment has been undertaken based on the existing habitat information derived from the Ecological Baseline Report (report ref: edp0124_r045) and proposed habitats detailed on the Illustrative Masterplan and Open Space Parameter Plan (Drawings 239-P15 September 2021 and 239-P12 September 2021 respectively; see **Annexes EDP 1** and **EDP 2**). GIS software has been used to accurately calculate areas of habitat to be retained, enhanced and recreated and the areas used within the calculator are shown on **Plans EDP 1** and **2**.



3. Assumptions and Limitations

3.1 Various assumptions have been made for the purposes of the calculations. Where appropriate these have been added to the impact calculation table in the notes column, with the key assumptions being:

- The baseline habitats have been assessed through detailed botanical surveys. Where the habitat classification in the metric is less defined than National Vegetation Classification (NVC) habitat categories, notes have been included;
- Enhancement of retained habitats grassland through nutrient reduction, over-sowing and management as per the Ecological Management Plan (ES Appendix 5.3, ref: edp0124_r054);
- The built development is assumed to comprise 60% sealed surface and 40% vegetated gardens. Play areas are also assumed to be 100% sealed surface on a precautionary basis;
- Formal open space is assumed to consist entirely of heavily managed amenity grassland in poor condition;
- Informal open space is assumed to be planted with a species-rich wildflower grassland with pockets of native scrub and tree planting accounting for 10% of the total area;
- Native scrub planting is assumed to be targeting fairly good condition. This will be achieved through the planting of a higher value species mixture (such as a mixture of privet, dogwood, buckthorn and spindle). In addition, management will encourage a well-developed edge with tall herbs and an age range of seedlings, saplings, young shrubs and mature shrubs.; and
- The BIA calculations do not account for other protected species enhancement measures such as the provision of bird and bat boxes.

4. Results

4.1 The BIA calculations pertaining to habitat areas and linear habitat features are provided in **Appendix EDP 3**. Overall, the proposed development is expected to provide a net gain in biodiversity for both area and linear calculations, as shown in **Table EDP 4.1**.

Table EDP 4.1: Biodiversity Impact Assessment Summary

	On-site Baseline	On-site Post-Intervention	Total Net Unit Change	Total Net % Change
Habitat Units	150.96	182.34	31.38	20.79%
Linear Units	6.07	12.98	6.91	113.81%



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- 4.2 As detailed above, net gains in biodiversity are demonstrated by the BIA calculations for the development proposals. Using the Defra 2.0 Impact Calculator the results are as follows: Net Biodiversity Balance is +31.38 habitat units (net biodiversity gain of 20.79%); and +6.91 linear units (net biodiversity gain of 113.81%).
- 4.3 Whilst new habitats associated with the development parcels have not been designed in detail and the masterplan is illustrative, this BIA provides a high degree of certainty that the scheme is capable of exceeding planning policy requirements and delivering net gains in biodiversity.



Annex EDP 1
Illustrative Masterplan
(Edge Urban Design - 239-P15 September 2021)



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PLANNING

— Site boundary (22.49ha)

Rev.	Date	Description
		Land north of Gavray Drive BICESTER
		Illustrative Masterplan
Job ref: 239	Drawing number: P15	Revision: -
Scale: 1:3,500 @ A3	Date: September 2021	



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Annex EDP 2
Open Space Parameter Plan
(Edge Urban Design - 239-P12 September 2021)



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PLANNING

- Site boundary (22.49ha)
- Residential development area
- Formal/amenity green space
- Informal/natural green space
- Ecological Restoration Zone
- Conservation Target Area
- Local Wildlife Site
- SuDS feature (top of bank shown)
- Existing trees/hedgerows/scrub to be retained
- Existing Public Rights of Way
- Existing recreational routes/footpaths
- Indicative recreational routes/footpaths
- Proposed play space
- Existing watercourses/waterbodies

Rev.	Date	Description
		Land north of Gavray Drive BICESTER
Open Space Parameter Plan		
Job ref: 239	Drawing number: P12	Revision: -
Scale: 1:3,500 @ A3		Date: September 2021



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Annex EDP 3
Extracts from BIA Metric Spreadsheet

Land off Gavray Drive, Bicester

Headline Results

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On-site baseline	<i>Habitat units</i>	150.96
	<i>Hedgerow units</i>	6.07
	<i>River units</i>	0.00

On-site post-intervention (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	182.34
	<i>Hedgerow units</i>	12.98
	<i>River units</i>	0.00

Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00

Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00

Total net unit change (including all on-site & off-site habitat retention/creation)	<i>Habitat units</i>	31.38
	<i>Hedgerow units</i>	6.91
	<i>River units</i>	0.00

Total net % change (including all on-site & off-site habitat creation + retained habitats)	<i>Habitat units</i>	20.79%
	<i>Hedgerow units</i>	113.81%
	<i>River units</i>	0.00%

Land off Gavray Drive, Bicester
A-1 Site Habitat Baseline

Condense / Show Columns Condense / Show Rows
Main Menu Instructions

Ref	Habitats and areas			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline	
	Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Condition	Ecological connectivity	Strategic significance		Total habitat units	
1	Cropland	Cropland - Cereal crops	6.52	Low	N/A - Agricultural	Low	Within area formally identified in local strategy	Same distinctiveness or better habitat required	15.00	
2	Woodland and forest	Woodland and forest - Lowland mixed deciduous woodland	2.81	High	Fairly Poor	Medium	Within area formally identified in local strategy	Same habitat required	31.99	
3	Heathland and shrub	Heathland and shrub - Mixed scrub	5.06	Medium	Fairly Poor	Low	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	34.91	
4	Lakes	Lakes - Ditches	0.07	Medium	Fairly Poor	Low	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	0.48	
5	Lakes	Lakes - Ponds (Priority Habitat)	0.03	High	Poor	Low	Within area formally identified in local strategy	Same habitat required	0.21	
6	Urban	Urban - Developed land; sealed surface	0.1	V.Low	N/A - Other	Low	Within area formally identified in local strategy	Compensation Not Required	0.00	
7	Sparsely vegetated land	Sparsely vegetated land - Ruderal/Ephemeral	0.24	Low	Poor	Low	Within area formally identified in local strategy	Same distinctiveness or better habitat required	0.55	
8	Grassland	Grassland - Lowland meadows	0.82	V.High	Moderate	Medium	Within area formally identified in local strategy	Bespoke compensation likely to be required	16.60	
9	Grassland	Grassland - Other neutral grassland	2.18	Medium	Moderate	Low	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	20.06	
10	Grassland	Grassland - Other neutral grassland	3.3	Medium	Fairly Poor	Low	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	22.77	
11	Grassland	Grassland - Other neutral grassland	0.77	Medium	Poor	Low	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	3.54	
12	Grassland	Grassland - Other neutral grassland	0.57	Medium	Poor	Low	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	2.62	
13	Wetland	Wetland - Purple moor grass and rush pastures	0.07	V.High	Moderate	Medium	Within area formally identified in local strategy	Bespoke compensation likely to be required	1.42	
14	Wetland	Wetland - Fens (upland and lowland)	0.04	V.High	Moderate	Medium	Within area formally identified in local strategy	Bespoke compensation likely to be required	0.81	
15	Total site area ha			22.58					Total Site baseline	150.96

Retention category biodiversity value								Bespoke compensation agreed for unacceptable losses	Comments	
Area retained	Area enhanced	Area succession	Baseline units retained	Baseline units enhanced	Baseline units succession	Area lost	Units lost		Assessor comments	Reviewer comments
			0.00	0.00	0.00	6.52	15.00		Fields F13 and F14 (ref. drawing edp124_d130b)	
2.59			29.49	0.00	0.00	0.22	2.50		Locations as shown on drawing edp124_d130b	
3.27	0.37		22.56	2.55	0.00	1.42	9.80		Long established areas of dense continuous scrub as shown on drawing edp124_d130b, excluding more recent scrub overlying natural grassland in Fields F11 and F12 (see Ref. 12 below)	
0.07			0.48	0.00	0.00	0.00	0.00		Langford Brook (entered as ditch because streams are not an option in the Habitat Baseline)	
	0.03		0.00	0.21	0.00	0.00	0.00		Field ponds	
0.1			0.00	0.00	0.00	0.00	0.00		Section of Gavray Drive and turning head adjacent to Field F13	
	0.24		0.00	0.55	0.00	0.00	0.00		Band of tall ruderal vegetation on eastern edge of Field 13 beside Landford Brook	
	0.82		0.00	16.60	0.00	0.00	0.00		Unimproved neutral grassland (MG5c) in Field F7 and Unimproved neutral grassland (MG1c/MG4) in Field F11	
	2.11		0.00	19.41	0.00	0.07	0.64		Semi-improved neutral and marshy grassland in Fields F1, F3, F5, F6, F11 and F12	
	3.3		0.00	22.77	0.00	0.00	0.00		Poor/scrubby semi-improved neutral and marshy grassland in Fields F2, F4, F8 and F9	
	0.03		0.00	0.14	0.00	0.74	3.40		Poor semi-improved grassland (disturbed as part of railway works) in Field F6, and in Fields F10 and F15	
	0.57		0.00	2.62	0.00	0.00	0.00		Recently established scrub overlying natural grassland in Fields F11 and F12	
0.07			1.42	0.00	0.00	0.00	0.00		Small areas of marshy grassland identified as potential MG23b on eastern edge of Field F3	
0.04			0.81	0.00	0.00	0.00	0.00		Small patch of sedge swamp/fen (S7) within Field F6	
6.14	7.47	0.00	54.76	64.85	0.00	8.97	31.35			

Land off Gavray Drive, Bicester

A-2 Site Habitat Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

Post development/ post intervention habitats

Proposed habitat	Area (hectares)	Distinctiveness	Condition	Ecological	Strategic significance	Temporal multiplier	Difficulty	Habitat units delivered	Comments	
				Ecological connectivity	Strategic significance	Time to target condition/years	Difficulty of creation category		Assessor comments	Reviewer comments
Urban - Developed land; sealed surface	2.87	V.Low	N/A - Other	Low	Within area formally identified in local strategy	0	Low	0.00	Residential and roads, assumes 60% built and 40% garden	
Urban - Vegetated garden	1.92	Low	Poor	Low	Within area formally identified in local strategy	1	Low	4.26	Private gardens, assumes 60% built and 40% garden	
Urban - Amenity grassland	1.29	Low	Moderate	Low	Within area formally identified in local strategy	3	Low	5.33	Formal POS	
Grassland - Other neutral grassland	1.62	Medium	Moderate	Low	Within area formally identified in local strategy	10	Low	10.44	Informal POS (90%)	
Heathland and shrub - Mixed scrub	0.18	Medium	Moderate	Low	Within area formally identified in local strategy	3	Low	1.49	Informal POS (10%)	
Urban - Sustainable urban drainage feature	0.41	Low	Moderate	Low	Within area formally identified in local strategy	3	Medium	1.14	Attenuation ponds. SuDS with permanent water assumed 50% dry	
Urban - Artificial lake or pond	0.16	Medium	Moderate	Low	Within area formally identified in local strategy	3	Low	1.32	Attenuation ponds. SuDS with permanent water assumed 50% dry	
Grassland - Other neutral grassland	0.44	Medium	Moderate	Low	Within area formally identified in local strategy	10	Low	2.83	Within areas of encroached bramble scrub in F7	
Urban - Developed land; sealed surface	0.08	V.Low	N/A - Other	Low	Within area formally identified in local strategy	0	Low	0.00	Play areas	
Totals	8.97							26.81		

Land off Gavray Drive, Bicester
B-1 Site Hedge Baseline

Condense / Show Columns Condense / Show Rows
 Main Menu Instructions

Baseline ref	UK Habitats - existing habitats			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline Total hedgerow units	Retention category biodiversity value						Comments	
	Hedge number	Hedgerow type	length KM	Distinctiveness	Condition	Ecological connectivity	Strategic significance			Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments
1		Native Hedgerow	0.734	Low	Moderate	Low	Within area formally identified in local strategy	Same distinctiveness band or better	3.3764	0.104	0.619	0.4784	2.8474	0.011	0.0506	Intact species poor hedgerow	
2		Native Species Rich Hedgerow	0.085	Medium	Moderate	Low	Within area formally identified in local strategy	Like for like or better	0.782		0.085	0	0.782	0	0	Intact species rich hedgerow	
3		Native Species Rich Hedgerow with trees	0.187	Medium	Moderate	Low	Within area formally identified in local strategy	Like for like or better	1.7204		0.187	0	1.7204	0	0	Intact species rich hedgerow and trees	
4		Native Hedgerow	0.084	Low	Poor	Low	Within area formally identified in local strategy	Same distinctiveness band or better	0.1932		0.084	0	0.1932	0	0	Scattered Scrub	
5																	
6																	
7																	
8																	
9																	
Total Site length/KM			1.09						6.07	0.10	0.98	0.48	5.54	0.01	0.05		

Land off Gavray Drive, Bicester

B-2 Site Hedge Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Instructions

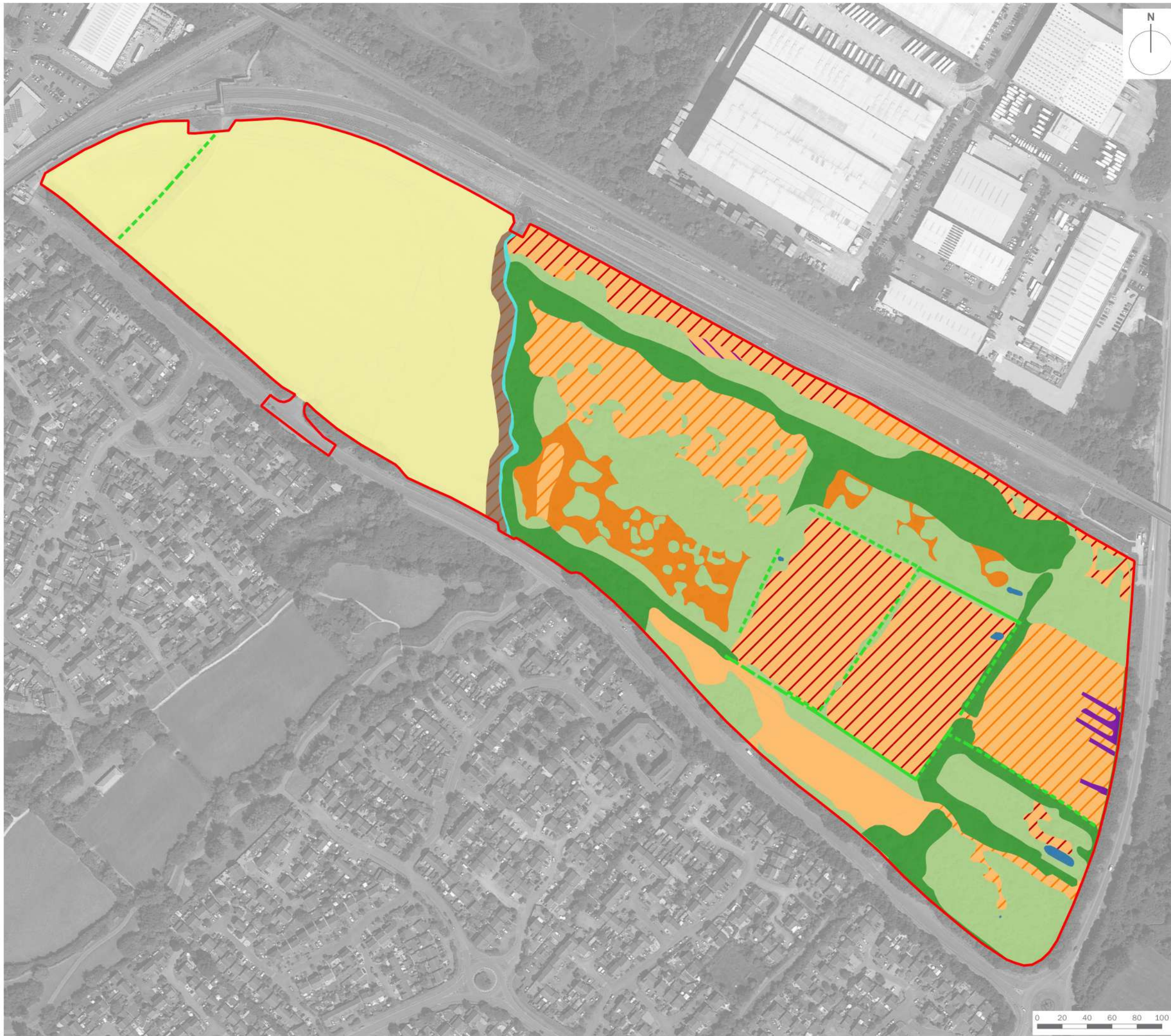
		Proposed habitats				Habitat distinctiveness		Habitat condition		Ecological connectivity		Spatial quality		Temporal multiplier	Hedge units delivered		Comments	
Baseline ref	New hedge number	Habitat type	Length km	Distinctiveness	Condition	Ecological connectivity	Ecological connectivity	Strategic significance	Strategic significance	Time to target condition/years	Hedge units delivered	Assessor comments	Reviewer comments					
1		Native Species Rich Hedgerow	0.417	Medium	Moderate	Low	Low	Within area formally identified in local strategy	Within area formally identified in local strategy	5	2.15	New hedge planting beside railway to the west of Langford Brook						
2		Native Species Rich Hedgerow	0.492	Medium	Good	Low	Low	Within area formally identified in local strategy	Within area formally identified in local strategy	10	3.19	New linear scrub planting for butterfly interest beside railway to the east of Langford Brook						
3																		
4																		
5																		
6																		
7																		
Creation Length/KM			0.91								5.34							



Plans

Plan EDP 1 Baseline Habitats
(edp0124_d178b 21 September 2021 FA/TW)

Plan EDP 2 Post Development Habitats
(edp0124_d179b 21 September 2021 FA/TW)



- Site Boundary
- Arable - Cereal Crops
- Ponds (Priority Habitat)
- Lakes (Ditches)
- Lowland Mixed Deciduous Woodland
- Mixed Scrub
- Ruderal/Ephemeral
- Lowland Meadow - Moderate Condition
- Other Neutral Grassland - Moderate Condition
- Other Neutral Grassland - Fairly Poor Condition
- Other Neutral Grassland - Poor Condition
- Wetland - Fens (Upland and Lowland)
- Purple Moor Grass and Rush Pastures
- Intact Species-poor Hedgerow
- Intact Species-rich Hedgerow
- Intact Species-rich Hedgerow and Trees

client

L&Q Estates

project title

Gavray Drive, Bicester

drawing title

Plan EDP 1: Baseline Habitats

date	21 SEPTEMBER 2021	drawn by	FA
drawing number	edp0124_d178b	checked	TW
scale	1:3,000 @ A3	QA	GY



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- Site Boundary
- Built Development
- Play Areas
- SuDS with Permanent Water
- SuDS Grassland
- Formal Open Space
- Informal Open Space
- Ponds (Priority Habitat)
- Lakes (Ditches)
- Lowland Mixed Deciduous Woodland
- Mixed Scrub
- Lowland Meadow - Good Condition
- Lowland Meadow - Fairly Good Condition
- Other Neutral Grassland - Fairly Good Condition
- Other Neutral Grassland - Moderate Condition
- Wetland - Fens (Upland and Lowland)
- Purple Moor Grass and Rush Pastures
- Lost Hedgerow
- Enhanced Hedgerow
- Newly Planted Linear Scrub
- Newly Planted Native Hedgerow
- Retained Hedgerow

client
L&Q Estates

project title
Gavray Drive, Bicester

drawing title
Plan EDP 2: Post Development Habitats

date	21 SEPTEMBER 2021	drawn by	FA
drawing number	edp0124_d179b	checked	TW
scale	1:3,000 @ A3	QA	GY