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BIODIVERSITY IMPACT ASSESSMENT

Land adjacent to Telephone Exchange
Middle Stoke
Limpley Stoke
Wiltshire
BA2 7GF

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Position: Ecological Consultant

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1.0 INTRODUCTION

Under the Environment Act 2021, all planning permissions granted in England (with a few exemptions) now need to deliver at least 10% biodiversity net gain. BNG is measured using DEFRA's statutory metric and all off-site and significant on-site habitats will need to be secured for 30 years. <https://www.gov.uk/government/collections/biodiversity-net-gain>.

A BIA using the DEFRA statutory small sites metric was conducted for the proposed development of a new dwelling and garage with associated hard surfaces, at land adjacent to telephone exchange, Middle Stoke, Limpley Stoke, Wiltshire, BA2 7GF. A 10% Biodiversity Net Gain is a mandatory requirement for the proposed development. This report assesses the BNG for the proposal and provides recommendations to achieve the BNG where the current proposal falls short of the BNG target.

Assessment Method

The assessment was undertaken in line with CIRIA Mandatory Biodiversity Net Gain in England: a guide (C776c) - Good-practice-principles-for-development. A-practical-guide.

1. The baseline habitat assessment to be completed by qualified ecologist or competent person (for small sites assessment) and within 6 months of site walkover survey.
2. Baseline habitat biodiversity value to be calculated using DEFRA statutory small sites metric (latest issue February 2024).

A baseline was established based on a Preliminary Ecological Appraisal conducted in August 2024 by Brown Fisher Environmental LLP (ref.247103PEA-MS0824_PEA)

Post development habitat condition and value calculated within the habitat creation sections of the metric.

(Post Development habitat areas, including retained and new habitats, were calculated using the proposed block plan 03 Planning-By-Design 26.06.24)

3. Results are used to assess whether the proposal meets LPA requirements for 10% Biodiversity Net Gain (BNG).
4. Where 10% BNG is not met, it is recommended that details of on-site mitigation are provided to indicate how the 10% BNG will be met.
5. Where the required 10% BNG cannot be met on-site, off-site mitigation will be required.

Existing Habitats

A baseline desktop assessment survey was completed by ecologist Alexander Billingsley on 18th September 2024, with the Preliminary Ecological Appraisal having been completed on the site by Dr Stefan Bodnar in August 2024. The existing habitats on-site are dominated by bramble scrub, with mixed scrub and scattered trees in a variety of sizes and conditions.



The proposed development site shown using Google maps satellite and Existing Block Plan (right).

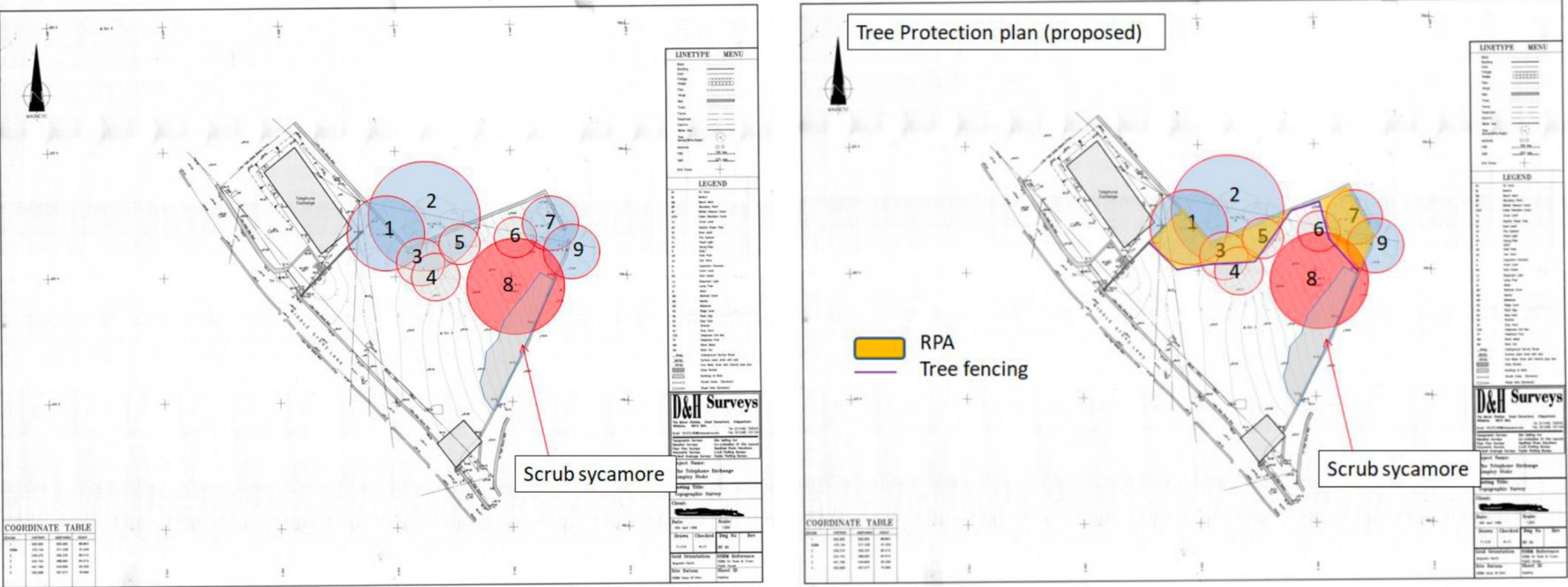
Photographic Evidence



Photographic record of the site (Dr Stefan Bodnar August 2024), the former telephone exchange to the north of the site (left), view across the site (centre) and looking north along the Middle Stoke (right)

Arboricultural Assessment

An Arboricultural Impact Assessment has been provided for the site by Brown Fisher Environmental LLP (247103ARB). This concludes that the 2no. Category B trees (Trees 1 and 2, off-site) will be retained, as will the Category C trees along the eastern boundary (Trees 7 and 9). In order to allow for the development, a total of 4no. category C trees (Trees 3, 4, 5, 6) will be removed. A large dead/dying category U ash tree (T8) will also be removed. Dead trees often provide higher biodiversity value than living trees and are not excluded from the Metric. This ash tree has therefore necessarily been included in the calculation.



Tree Location Plan (left) and Tree Protection Plan (right)

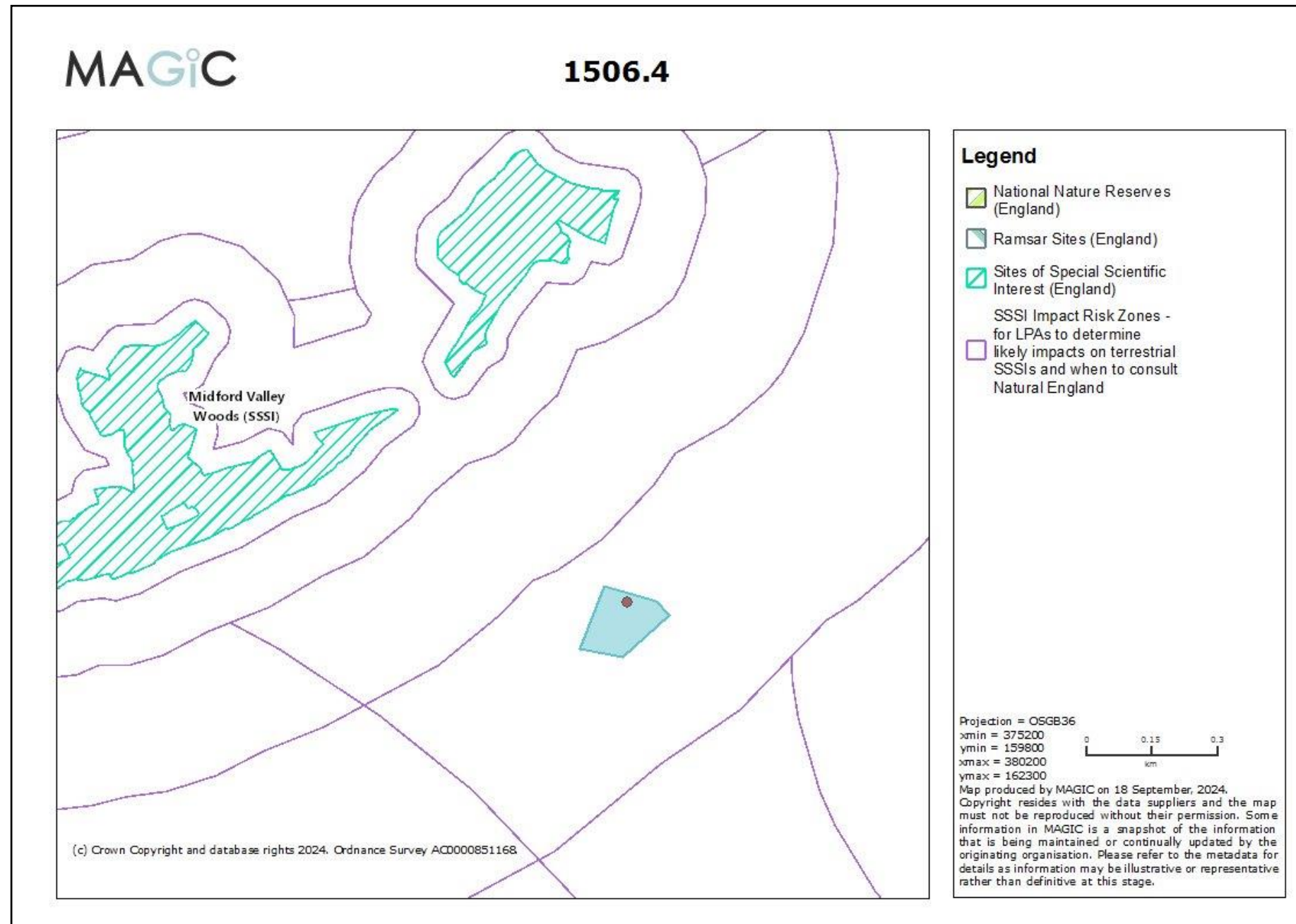
Baseline Habitat Assessment



Existing habitat map

Designated Sites and Priority Habitats

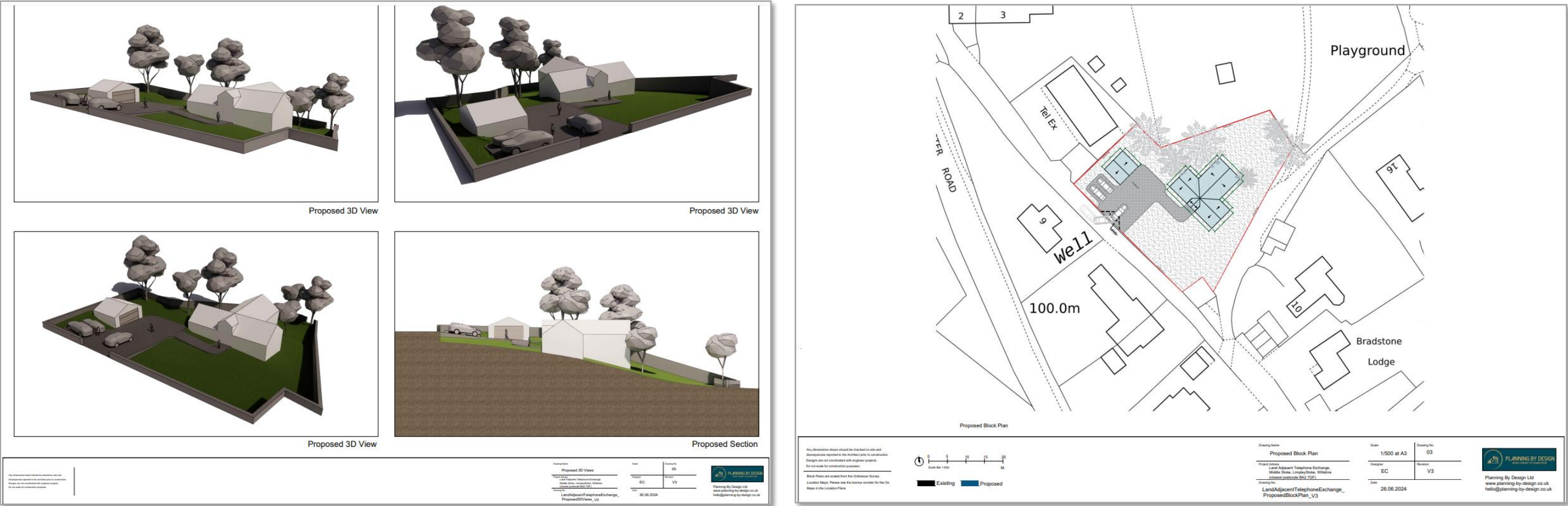
A desktop survey of the site location found there are no designated sites or priority habitats within 500m of the site. Various SSSI's are in the site's vicinity, including Midford Valley Woods approximately 730m North-West and Winsley Mines, 1300m East. The proposed development site lies within the impact risk zones for both these SSSI's.



MagicMap map showing the site location indicated by a red dot and ringed in red in relation to designated sites and priority habitats.

Proposed Development

The proposed development involves the construction of 1 new dwelling, as well as a new garage/ storage facility, with associated hard surfaces.



Proposed Development Plans

Post Development Habitat

The post-development site will largely support developed land, sealed surface and vegetated garden. A total of 4no. new (small) native trees will replace those lost on-site. In addition (and as shown in the Metric), it is proposed at this stage to introduce a further 2no. medium trees at locations across the site (to be determined). These will provide some mitigation to the loss of the large ash tree on the site (albeit dead/dying).



Post-development habitat map

Statutory Biodiversity Metric

The existing and proposed habitat data were inputted into the DEFRA statutory small sites metric on 18th September 2024. See Metric R4P 247103BNG - 1506.2, provided separately.

The following tables show the data and headline results.

Baseline habitat

1a. Baseline habitats												
Ref	Habitat		C. Strategic significance	Areas (m²)			Baseline results			Comments		
	A. Broad Habitat	B. Habitat type		D. Total Area	E. Area retained	F. Area enhance	Total habitat units onsite	Area Lost	Units lost	User comments	LPA comments	
1	Heathland and shrub	Bramble scrub	Area/compensation not in local strategy/ no local strategy	1450.00			0.58	1450.00	0.580	Dense Bramble Scrub		
2	Heathland and shrub	Mixed scrub	Area/compensation not in local strategy/ no local strategy	150.00			0.12	150.00	0.120	Non-native Scrub		
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
Trees	Individual trees	Urban/rural tree	Formally identified in local strategy	244.17	81.39		0.2246	162.78	0.1498			
				Totals (areas excl trees, green walls and intertidal)	1600.00	0.00	0.00	0.9246	1600.00	0.8498		
				Error Check 1	Areas Acceptable ✓							
				Error Check 2	Areas Acceptable ✓							
				Error Check 3	Areas Acceptable ✓							

Post-development habitat

1b. Habitats to be created									
Ref	A. Broad Habitat	B. Habitat type	Condition Assessment		D. Strategic significance	E. Total Area (m²)	Habitat units created onsite	Comments	
			Acceptable condition	C. Targeted condition				User comments	LPA comments
1	Urban	Developed land; sealed surface	N/A - Other	N/A - Other	Area/compensation not in local strategy/ no local strategy	200.00	0.0000	Building	
2	Urban	Developed land; sealed surface	N/A - Other	N/A - Other	Area/compensation not in local strategy/ no local strategy	250.00	0.0000	Hard Surface	
3	Urban	Vegetated garden	Condition Assessment N/A	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	1150.00	0.2220	Vegetated Garden	
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
Trees	Individual trees	Urban/rural tree	Moderate	Moderate	Area/compensation not in local strategy/ no local strategy	162.78	0.0498		
Totals (areas excl trees, green walls and intertidal Error Check 4)						1600.00	0.2717	Areas Acceptable ✓	

Tree Area Calculator

1d. - Tree area calculator						
Tree size (Diameter at breast height)	A. Total number of trees pre development	B. Number of trees retained (but not enhanced)	C. Number of new trees planted post development	Areas		
				Area pre development	Area retained	Area of new trees planted post
Small - DBH ≤ 30cm	7	3	4	285	122	163
Medium - DBH > 30 to ≤ 60cm	0	0	2	0	0	326
Large - DBH > 60 to ≤ 90cm	1	0	0	366	0	0
Very Large - DBH > 90cm				0	0	0
Total	8	3	6	651	122	488

2.0 RESULTS

The metric found a 0.8155 unit (62.77%) loss due to the net increase in built environment and corresponding loss of scrub, trees and other habitats. This does not meet the required 10% BNG.

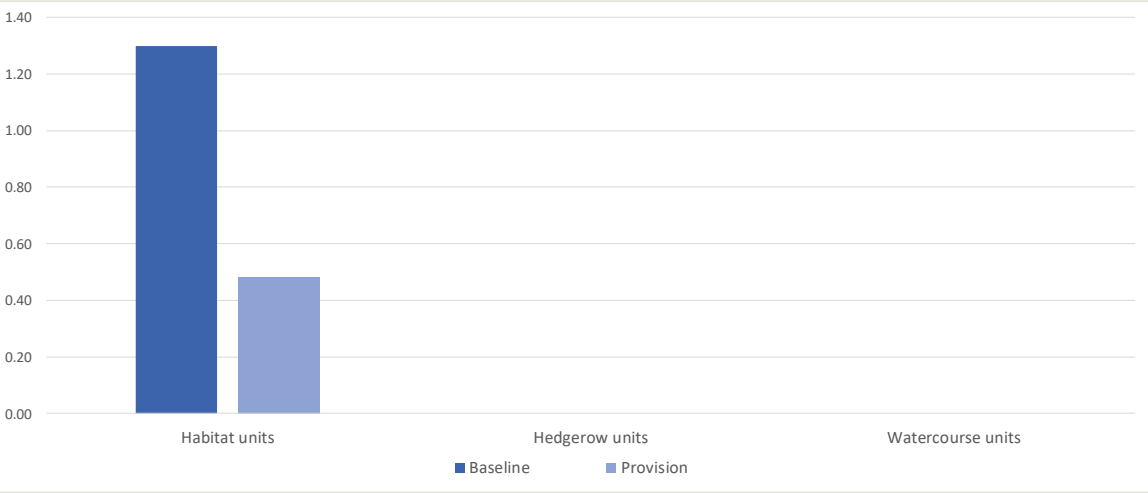
Analysis

Baseline units	1.2990
Post development value	0.4836
NET LOSS	0.8155 units (62.77%)

The proposed development will require an additional 0.9454 units to meet target.

Site Name		Middle Stoke
Sheet Name		Headline Results
Headline Results		
Headline		BNG Targets Not Met ▲
Trading Rules		Trading Rules Not Satisfied ▲
Next steps		Scheme alterations or offsite units required
Baseline Units	Habitat units	1.2990
	Hedgerow units	Zero Units Baseline
	Watercourse units	Zero Units Baseline
Post-development Units	Habitat units	0.4836
	Hedgerow units	0.0000
	Watercourse units	0.0000
Total net unit change	Habitat units	-0.8155 ▲
	Hedgerow units	0.0000
	Watercourse units	0.0000
Total net % change	Habitat units	-62.77% ▲
	Hedgerow units	% target not appropriate
	Watercourse units	% target not appropriate
Habitats units required to meet target		0.9454
Hedgerow units required to meet target		0.0000
Watercourse units required to meet target		0.0000

Chart 1 - Unit change by habitat group



Headline results from Metric R4P 247103BNG - 1560.2

Conclusion

A Biodiversity Impact Assessment, using the DEFRA statutory small sites metric, was conducted for the proposed residential development of land adjacent to the telephone exchange, Middle Stoke, Limpley Stoke, Wiltshire, BA2 7GF.

The proposed development will result in a 0.8155 units (62.77%) loss, due to the net increase in built environment and corresponding loss of vegetation predominantly moderate distinctiveness bramble scrub and trees. This does not meet the required 10% BNG. To achieve the mandatory 10% biodiversity net gain, an additional 0.9454 units are required. This requirement can be met following the above mechanisms.

Recommendations

The proposed development will result in a net biodiversity loss. A post-development value of 1.4289 units would be required to achieve the 10% gain. The current shortfall of 0.9454 units will require mitigation. This mitigation can be achieved through a variety of means – on-site, off-site and/or statutory credits:

1. On-site mitigation

This can be through:

Shared space Enhancements:

- There is no shared space proposed therefore this option is not available.

Other potential mechanisms for mitigation

- Rain gardens within private gardens
- Green roofs on buildings or reduce building footprints
- Reduce hard surface area

Design changes to the proposals, including the above recommendations, could serve to reduce the projected biodiversity net loss.

As part of this, a Landscape and Ecological Enhancement Scheme could be produced to optimise the on-site opportunities for mitigation.

However, given the nature of the proposed development, on-site mitigation is considered unlikely on its own to meet the BNG requirement.

2. Off-site mitigation

Where on-site mitigation cannot be achieved, off-site mitigation could help meet the required BNG. Any off-site mitigation will need to show the 0.9454 habitat unit gain +10% BNG for the mitigation site(s). The site could be within the ownership of the applicant or a third party however 30-year management plan for the site will be required and established through legal agreement.

3. Statutory credits

Where on-site and off-site mitigation is not available statutory credits can be purchased see <https://www.gov.uk/guidance/statutory-biodiversity-credits> The price of statutory credits is not fixed, please see link to www.GOV.uk online calculator <https://manage-biodiversity-gains.defra.gov.uk/credits-estimation/credits-tier> this can be used to check current values. Based on this, the estimated cost would be £45,600 plus VAT. Other options should be fully explored before purchasing statutory credits.

Estimated cost of statutory biodiversity credits

£45,600 (excluding VAT)

Tier	Credits	Estimated cost
A1	0.00	£0
A2	0.95	£45,600
A3	0.00	£0
A4	0.00	£0
A5	0.00	£0
H	0.00	£0
W	0.00	£0
Total estimated cost		£45,600

Extract from online statutory credits calculator (04.10.24)