

1.0 BIODIVERSITY NET GAIN METRIC CALCULATIONS

- 1.1 A high level, opportunities and constraints net gain assessment has been completed for the above-named site. Part N5 of Stratford-on-Avon District Council's (SoADC) Development Requirements Supplementary Planning Document¹ states that Warwickshire County Council are the lead authority in the matter of Biodiversity Offsetting and provide links to the Warwickshire Metric and associated guidance. Therefore, the assessment was undertaken in accordance with the Warwickshire Metric ver.19.1 and the Defra Biodiversity Metric 3.1 for comparison. The baseline habitats were assessed during the extended Phase 1 Habitat survey undertaken on 14th June 2021.
- 1.2 The assessment is based on the Indicative Framework Plan Option A (FPCR drawing ref: 9331-L-06 Rev D). Hedgerows and area-based habitats are assessed separately within the Biodiversity Metric.

Background

- 1.3 The site has been put forward within the South Warwickshire Local Plan 'Call for Sites' and comprises an area which could accommodate up to 590 new dwellings with associated access, link to the South West Shottery Relief Road (SWRR) and extensive green infrastructure linking to the new Shottery Community Park. New landscape habitats are to include woodland, native trees, public open space and drainage features.
- 1.4 Land was defined to the west of the adjacent proposed SWRR for skylark mitigation as part of the consented Land West of Shottery scheme (Planning ref: 15/03785/VARY). To accommodate the proposals, the mitigation area can be appropriately relocated so that it is within the open agricultural fields to the south of Hansell Farm. An updated Skylark Mitigation Strategy² was submitted to Stratford-on-Avon District Council (SDC) accordingly.
- 1.5 Accounting for a 24m buffer from the existing field boundaries and a 50m buffer to the woodland at the Bordon Hill Old Rifle Range LWS/Ecosite, the area of arable land required is 9ha to accommodate the required 18 skylark plots.

Legislation

- 1.6 National and local planning policies have an emphasis on ensuring that plans and projects provide net gains for biodiversity. The Government has mandated 'net gains for biodiversity'³ via Part 6 of the Environment Act, which has now received royal assent, where Schedule 14 of the Act introduces the requirement of a minimum of a 10% net gain to be applied through the planning system.
- 1.7 Whilst the Environment Act received Royal Assent in November 2021, few of its provisions came into force, and those that didn't will require secondary legislation for this to happen. Consequently, Part 6 of the Act (Nature and Biodiversity), which encompasses Schedule 14 will require secondary

¹ Stratford-on-Avon District Council (2020) *Development Requirements SPD. Final Composite Version* [Online]. Available from: <https://www.stratford.gov.uk/doc/208718/name/SPD%20word%20combined%20web.pdf> [Accessed 07/11/2022]

² Bloor Homes (Western) *Skylark Mitigation Strategy, West Shottery*.

³ GOV.UK. 2019. *Spring Statement 2019: what you need to know*. <https://www.gov.uk/government/news/spring-statement-2019-what-you-need-to-know>

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legislation before it comes into force and the anticipated timescale for this secondary legislation to be passed is late 2023.

- 1.8 It should be noted that by the time this site is ready to be put forward as a planning application, the biodiversity net gain assessment may need to be provided within the latest version of the Government's Defra Biodiversity Metric⁴. This currently comprises the Defra 3.1 metric and for comparison the results of this metric area also provided within this report. However, due to the differences in habitat condition assessment methodology, further survey work will be necessary to accurately represent baseline value and a precautionary approach has been applied for the current assessment.

2.0 WARWICKSHIRE NET GAIN METRIC CALCULATIONS

Methodology

- 2.1 The BIA calculations completed on the scheme have been calculated in accordance with the Warwickshire Biodiversity Metric ver.19.1. Hedgerows and area-based habitats are assessed separately within the Metric.
- 2.2 The results of the Phase 1 habitat survey carried out on 14th June 2021 for the proposed site boundary and the Indicative Framework Plan Option A (FPCR drawing ref: 9331-L-06 Rev D) were used for this assessment.
- 2.3 The condition assessments were undertaken using the relevant Condition Assessment Criteria within the Farm Environment Plan (FEP) Handbook⁵.
- 2.4 Unlike the Defra metric the Habitat Biodiversity Impact Score is applied only to the value of the habitats that are lost, rather than the whole of the baseline value of the site (including retained habitats).

Baseline

- 2.5 As identified within the Ecological Appraisal the site comprises six arable field compartments with poor semi-improved field margins, bound by managed native hedgerows with mature trees and associated dry ditches. Seven buildings lie within the south-east of the site with associated gardens and access. Additional habitats present include a managed species-poor semi-improved grassland compartment, small areas of broadleaved and mixed plantation woodland, a horse-grazed paddock and small areas of dense and scattered scrub at the field peripheries.
- 2.6 The biodiversity units for each habitat on the site have been calculated and are presented in Table 1 and shown on Figure 1. The metric valued the site habitat biodiversity value at 116.49 biodiversity units (BU) and the site hedgerow biodiversity value at 44.09 hedgerow units (HU).

⁴ Smith, L. (2019). *Commons Library Analysis of the Environment Bill 2019-20 – Briefing Paper Number CBP-8712*. <http://researchbriefings.files.parliament.uk/documents/CBP-8712/CBP-8712.pdf>

⁵ Natural England 2010. *Higher Level Stewardship. Farm Environment Plan (FEP) Manual*. Natural England, Peterborough.

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Table 1: Baseline Habitats – Warwickshire Biodiversity Metric

Phase 1 Habitat	BIA Habitat Type	Area (ha)	Condition	Biodiversity Units
Buildings	Built environment: Buildings/hardstanding	0.16	Poor	0.00
Hardstanding	Built environment: Buildings/hardstanding	0.33	Poor	0.00
Garden	Built environment: Gardens (lawn and planting)	0.31	Poor	0.62
Amenity grassland	Grassland: Amenity grassland	0.24	Poor	0.48
Arable	Other: Arable	47.37	Poor	94.74
Arable – Fallow	Other: Arable	3.93	Poor	7.86
Poor semi-improved grassland	Grassland: Poor semi-improved grassland	3.57	Poor	10.71
Dense scrub	Woodland: Dense continuous scrub	0.04	Poor	0.12
Broad-leaved plantation woodland	Woodland: Broad-leaved plantation	0.13	Moderate	1.04
Mixed plantation woodland	Woodland: Mixed plantation	0.10	Good	0.60
Tree planting	Woodland: Scattered trees	0.04	Moderate	0.32
Total		56.22		116.49

Initial Assessment Summary

2.7 Given the high-level nature of the proposals, with no detailed landscape details specified, the calculation has been based on the following assumptions/recommendations:

- Assumed a 70:30 split for the residential parcels (buildings/hardstanding:gardens/on-plot planting);
- LEAP assumed to be hardstanding;
- Grassland around development footprint applied a 50:50 split of amenity:wildflower grassland;
- Community park areas applied a 90:5:5 split of meadow grassland:scattered trees:scattered scrub;
- Assumed grazing paddock and nearby grassland field retained and can be enhanced;
- Structural planting applied a 50:50 split of woodland:scrub;
- SuDS features as per the Framework Plan, assumed poor condition;
- Small areas of plantation woodland are to be retained in situ;
- Margins surrounding retained arable land for skylark plots used to create areas of scattered scrub and species-rich grassland; and
- All hedgerows assumed retained except where roads are indicated for access.

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Area Habitats

- Proposals result in gain of 11.13 BU which, when taking into account the percentage uplift should only be in relation to the biodiversity value of the habitats lost (83.24 BU), equates to a 13.5% net gain.

Hedgerows

- If after accounting for required hedgerow removal, all hedgerows are retained, this results in a net loss of -1.33 hedgerow units (HU) which is -3.0%
 - If retained hedgerows that are currently in 'moderate' condition are enhanced to 'good' condition through management the proposals will result in a gain of 1.9 HU (+4.3%).

To Achieve a 10% On-Site Net Gain

Hedgerows

- 2.8 Approximately 0.8km of native species rich hedgerow planting is required to achieve a 10% net gain of 4.57 HU (+10.4%).

Opportunities and Constraints

- 2.9 Figure 2 illustrates the locations of the proposed habitats. As mentioned above, part of the arable land needs to be retained in line with the Skylark Mitigation Strategy of the adjacent site. The revised Skylark Mitigation Strategy has been approved by SoADC and Figure 2 shows the areas required, labelled as 'retained arable' within the key.
- 2.10 The proposed site itself is suitable to support breeding skylark and it is likely that additional mitigation will be required for the loss of suitable breeding habitat site. Dependant on the number of breeding pairs and territories the site supports the proposed mitigation areas may also be able to accommodate additional skylark plots. However, further breeding bird surveys would be required to inform this.
- 2.11 It should be noted that due to the recreational use of the Community Park, it may be unrealistic to have such a high cover of meadow grassland if informal areas for recreation are required. However, there may be scope to include other habitats of high biodiversity value such as orchards or a wildlife pond.
- 2.12 To achieve and maximise an on-site gain, the following is also recommended:
- Retain the areas of existing grassland, with the potential to enhance these.
 - Areas of green infrastructure should include wildflower grassland and scrub planting, managed in the long-term to be of value to wildlife. Areas of amenity grassland should be limited as far as feasibly possible.
 - Where possible, SuDS features can be over-deepened to hold areas of permanent water and planted with marginal species.
 - Provide species-rich (5+ native species / 30m), native hedgerow planting.
 - Artificial ground cover (i.e., artificial grass) should be avoided.

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3.0 DEFRA BIODIVERSITY NET GAIN METRIC CALCULATIONS

Methodology

- 3.1 The BIA calculations completed on the scheme have also been calculated in accordance with the with the Defra Biodiversity Metric 3.1⁶. Hedgerows and area-based habitats are assessed separately within the Metric.
- 3.2 The development site was mapped and divided into existing habitat criteria. Habitats were defined using the UK Habitat Classification, with further information providing habitat area, distinctiveness and condition, which are used to calculate the value of each habitat.
- 3.3 As mentioned, detailed habitat condition assessments in relation to this methodology were not undertaken at the time of the survey and best ecological judgement has been used. Further detailed survey would be required in line with latest Defra metric guidance for a more robust assessment.
- 3.4 The condition assessments were undertaken using the relevant Condition Assessment Criteria within the DEFRA Biodiversity Metric 3.1 – Technical Supplement⁷.
- 3.5 Full details of the calculation methodology are provided in Biodiversity Metric 3.1 – User Guide⁸.

Baseline

- 3.6 Baseline habitats are provided within Table 1 below. The metric valued the baseline habitats at 136.56 BU and hedgerow habitats at 45.12 HU.

Table 1: Baseline Habitats – Warwickshire Biodiversity Metric

Phase 1 Habitat	Habitat type	Area (ha)	Distinctiveness	Condition	Biodiversity units
Buildings and hardstanding	Urban: Developed land; sealed surface	0.49	V. Low	N/A - Other	0.00
Garden	Urban: Vegetated garden	0.31	Low	Condition Assessment N/A	0.62
Amenity grassland	Modified grassland	0.02	Low	Poor	0.04
	Modified grassland	0.25	Low	Moderate	1.00
Arable	Cropland: Cereal crops	32.1	Low	Condition Assessment N/A	64.20
	Cropland: Non-cereal crops	15.27	Low	Condition Assessment N/A	30.54
Arable – fallow	Grassland: Other neutral grassland	3.57	Medium	Poor	14.28
Poor semi-improved grassland	Grassland: Other neutral grassland	1.91	Medium	Poor	7.64
	Grassland: Other neutral grassland	2.03	Medium	Moderate	16.24
Dense scrub	Heathland and shrub: Mixed scrub	0.04	Medium	Poor	0.16
Broad-leaved plantation woodland	Woodland and forest: Other woodland; broadleaved	0.13	Medium	Moderate	1.04

⁶ Natural England (2022) The Biodiversity Metric 3.1 (JP039) [Online]. Available from: <http://publications.naturalengland.org.uk/publication/6049804846366720> [Accessed 04/10/2022]

⁷ Stephen Panks, Nick White, Amanda Newson *et al.* 2022. The Biodiversity Metric 3.1: Auditing and accounting for biodiversity – Technical Supplement. Natural England. Available from: <http://publications.naturalengland.org.uk/publication/6049804846366720> [Accessed 04/10/2022]

⁸ Stephen Panks, Nick White, Amanda Newson, *et al.* 2022. The Biodiversity Metric 3.1: Auditing and accounting for biodiversity – User Guide. Natural England. Available from: <http://publications.naturalengland.org.uk/publication/6049804846366720> Accessed 04/10/2022]

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Mixed plantation woodland	Woodland and forest: Other woodland; mixed	0.11	Medium	Moderate	0.80
Total		56.22			136.56

Initial Assessment Summary

- 3.7 The calculation has been undertaken in line with the assumptions detailed for the Warwickshire Metric calculation above. Targets of created habitats have been set in line with the Defra 3.1 condition assessment criteria.

Area Habitats

- Proposals result in a gain of 182.10 BU or +33.34%.

Hedgerows

- If after accounting for required hedgerow removal, all remaining retained hedgerows are just retained, this results in a deficit of -1.82 HU which is -4.02%
 - If retained hedgerows that are currently in 'moderate' condition are enhanced to 'good' condition through management the proposals will result in a gain of 1.06 HU (+2.36%).

To Achieve a 10% On-Site Net Gain

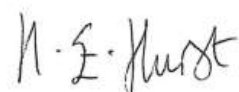
Hedgerows

- Approximately 0.45km of native species rich hedgerow planting is required to achieve a 10% net gain of 4.59 HU (+10.16%).

4.0 CONCLUSIONS

- 4.1 The results of the assessments demonstrate that the proposed outline scheme has the potential to deliver an overall biodiversity net gain with the potential to achieve at least a 10% net gain in both habitat and hedgerow units, dependent upon detailed design.
- 4.2 The site has potential to achieve net gain both in the Warwickshire Biodiversity Metric and the current Defra 3.1 metric, subject to additional condition assessment survey.
- 4.3 We trust the above is of assistance, if you have any further queries or comments please do not hesitate to contact me.

Yours sincerely



Hayley Hurst

Principle Ecologist

FPCR Environment and Design Ltd.

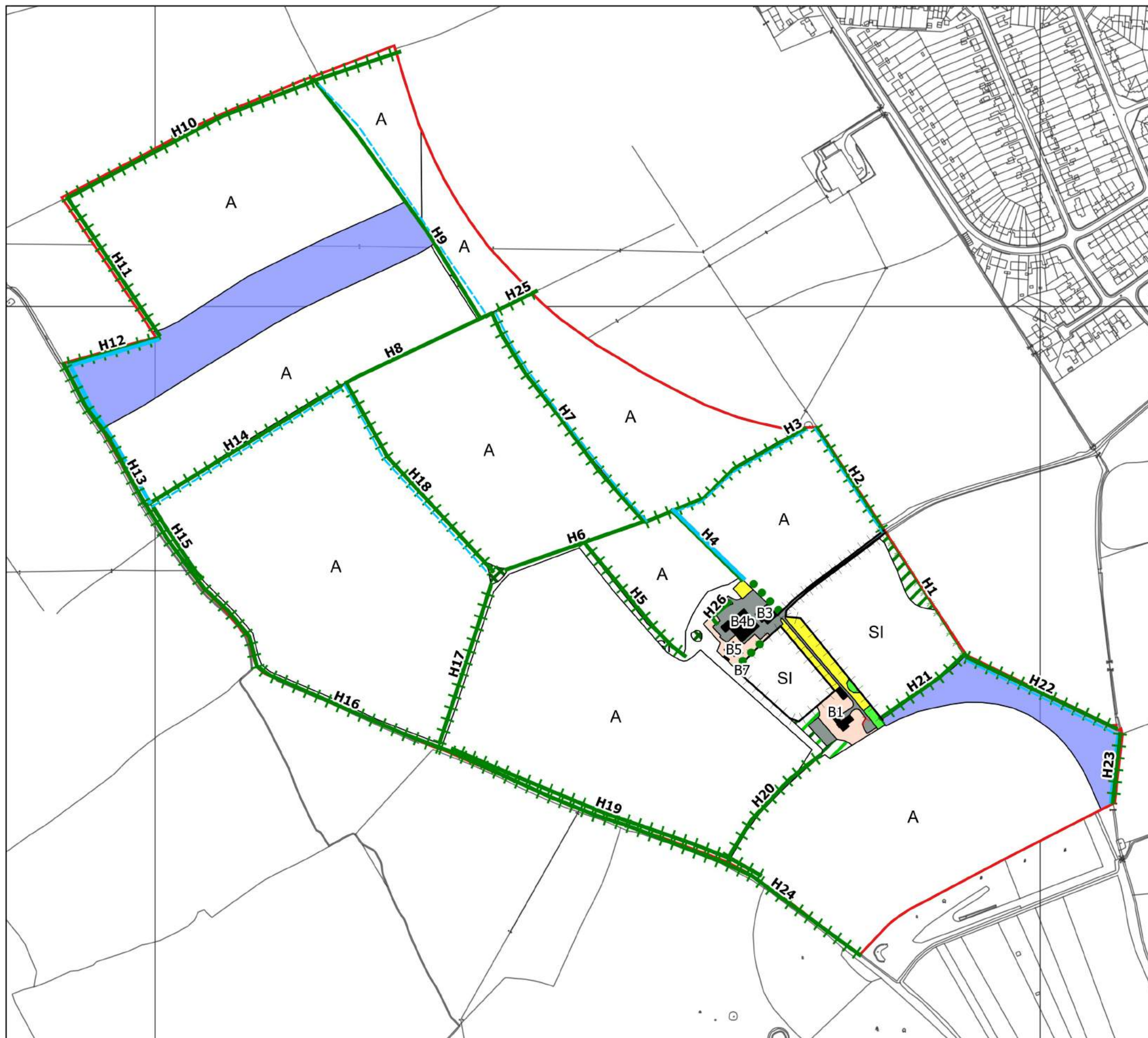
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Key

- Site Boundary
- Phase 1 Habitats**
- Broadleaved woodland - plantation
- Buildings
- Built Environment: Buildings/hardstanding
- Built Environment: Gardens (lawn and planting)
- Cultivated/disturbed land - amenity grassland
- A Cultivated/disturbed land - arable
- Mixed woodland - plantation
- Other 1
- Other 3
- SI Poor semi-improved grassland
- Scrub - dense/continuous
- Phase 1 Lines**
- Broadleaved trees
- Standing water
- Hedges: Introduced shrub
- Intact hedge - species-poor
- Hedge with trees - species-poor
- Hedge with trees - native species-rich
- Fence
- Dry ditch
- mapOS entities



client
Bloor Homes
 project
West Shottery,
Stratford-on-Avon
 drawing title
BASELINE HABITAT PLAN

scale @ A3
1:4,500
drawing / figure number
Figure 1
 drawn
HET
 issue date
8/11/2022
 rev
-

Key

- Site Boundary
- Post Development Habitats**
- Retained arable
- Built Development:Garden/Planting 70:30
- Retained buildings/hardstanding
- LEAP
- Retained garden
- Grassland: amenity/wildflower 50:50
- Community park: Meadow grassland/ scattered trees/scattered scrub 90:5:5
- Retained plantation
- SUDS
- Scattered scrub
- Retained and enhanced SI
- Structural planting: woodland/scrub 50:50
- Retained scrub
- Hedgerows**
- Lost
- Retained
- Enhanced

