



Biodiversity Net Gain Assessment Report

Spring Cottage, Greatgate Road
Winnothdale, Tean
Staffordshire, ST10 4HB

Prepared for Alistair Whiston

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Methods used to prepare this report, including those carried out in the field followed The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.

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EXECUTIVE SUMMARY

- Fauna Forest Ecology Limited was commissioned to undertake a Biodiversity Net Gain (BNG) Assessment to determine the impact on biodiversity for proposed development on land at Spring Cottage, Greatgate Road, Winnothdale, Tean, Staffordshire, ST10 4HB. The proposals are to convert an existing stable block into a residential property.
- A BNG calculation using The Statutory Metric, July 2024, was completed on 8th September 2025 to assess if the proposed development would result in a minimum 10% net gain in accordance with legal requirements.
- Results indicate the proposed development will result in a 51.75% net loss in habitats, a 18.72% net gain in hedgerows, and a 16.09% net gain in watercourse units.
- Overall, a deficit of 0.15 habitat units will need to be compensated for offsite, either on land owned by the developer or through a third party.

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1 INTRODUCTION

- 1.1 This report has been prepared by Fauna Forest Ecology Limited on behalf of Alistair Whiston in relation to land at Spring Cottage, Greatgate Road, Winnothdale, Tean, Staffordshire, ST10 4HB. It provides the results of a Biodiversity Net Gain (BNG) Assessment in support of a planning application.
- 1.2 The site is located approximately 3.9km southeast of Cheadle and 16.5km southeast of Stoke-on-Trent. It is surrounded by arable habitat with tree lines and hedgerows leading to woodlands and the wider countryside. The site is approximately 0.1135 hectares (ha) in size.
- 1.3 The proposals for the site are to convert an existing single storey brick building into a residential property with no increase to the footprint of the site.
- 1.4 This report largely follows the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance¹. The scope and objectives of this report are to:
- Calculate the baseline ecological BNG unit score by classifying habitat types and assessing their distinctiveness, condition, connectivity, and strategic significance both before and after development, in accordance with the Defra Statutory Biodiversity Metric (the 'Metric').
 - Ensure that baseline habitat conditions are classified consistently and robustly, using the data available at the time of assessment.
 - Clearly set out the methods of data collection and note any limitations.
 - Calculate baseline pre- and post-development habitat units and hedgerow units for the site, based on the current development proposals.
 - Assess whether the proposals are capable of delivering a measurable net gain in biodiversity through the Metric.
 - Propose a BNG design aimed at maximising biodiversity gains through habitat creation, enhancement, and natural succession, where feasible.
 - Prioritise achieving BNG on-site wherever possible, with off-site measures considered only where necessary.

Planning Policy and Legislation

- 1.5 BNG has been defined as 'development that leaves biodiversity in a better state than before, and an approach where developers work with local governments, wildlife groups, landowners and other stakeholders in order to support their priorities for nature conservation' (*BNG: Good Practice Principles*

¹ CIEEM (2021). Biodiversity Net Gain Report and Audit Templates Chartered Institute of Ecology and Environmental Management. Winchester, UK.

for Development)²

- 1.6 BNG became mandatory in England under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021) from February 2024 for large sites and April 2024 for small site. All sites must achieve a minimum 10% net gain in biodiversity.
- 1.7 Using a biodiversity metric means that a developer applies a standardised formula to calculate the value of the site both before and after the development in the form of biodiversity units. These vary dependent upon the habitats affected, their condition and their extent. Where necessary, the developer will then provide an offset to deliver an equivalent number of biodiversity units. Offsetting is only used to compensate for adverse impacts on the biodiversity present on the site that will be impacted once appropriate avoidance and mitigation measures have been completed. This ensures that the mitigation hierarchy as required by the National Planning Policy Framework (NPPF, 2023³) is followed.
- 1.8 The NPPF (2023) seeks to ensure that the planning system contributes to and enhances the natural and local environment, protect and enhance biodiversity and geodiversity by:
*“180. d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
185. b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”*
- 1.9 Public authorities have a specific duty under the Natural Environment and Rural Communities Act 2006 (NERC Act) to consider biodiversity and are required by central government to deliver no net loss.
- 1.10 Staffordshire Moorlands District Council implemented their local plan in September 2020. In the plan the following policies are relevant to this proposal:

Policy SS 10: “Meet housing requirements and specific needs by:

- Allowing the conversion or replacement of an existing rural building in accordance with Policy H1;*
- Allowing extensions or additional domestic outbuildings to existing dwellings provided they are appropriate in scale and design and do not have a detrimental impact on the existing dwelling and the character of the rural area. The Council will assess schemes having regard to the original dwelling, in cases where cumulative change has occurred;”*

² CIEEM, CIRIA, IEMA (2016). Biodiversity Net Gain: Good Practice principles for development.

³ Department for Levelling Up, Housing and Communities (2023). *National Planning Policy Framework*. Available at: [National Planning Policy Framework](#) (Accessed: November 2024).

“Policy DC1 Design Considerations

All development shall be well designed and reinforce local distinctiveness by positively contributing to and complementing the special character and heritage of the area in line with the Council’s Design Guide SPD. In particular, new development should:

- 1. be of a high quality and add value to the local area, incorporating creativity, detailing and materials appropriate to the character of the area;*
- 2. be designed to respect the site and its surroundings and promote a positive sense of place and identity through its scale, height, density, layout, siting, landscaping, character and appearance;”*

- 1.11 A BNG Assessment must be completed prior to works commencing to allow any planning officers the opportunity to consider the likely impacts the proposed development will have on the local biodiversity.

2 METHODOLOGY

Desk study

- 2.1 To assess the potential ecological impacts of the scheme, a search was undertaken using desktop resources including the Multi-Agency Geographic Information for the Countryside⁴ (MAGIC) resource. MAGIC was used to search for records of designated sites and ecologically important habitats within a 1km radius of the site. Google Earth⁵ was also used to study the nearby landscape. Staffordshire Ecological Record (SER) was instructed to produce ecological records within a 1km radius of the site.

Baseline habitat assessment

- 2.2 The UK Habitat Assessment was completed on 6th June by Frances Horsford BSc (Hons) MSc. Site habitats were mapped and referenced within the Preliminary Ecological Appraisal report (Fauna Forest Ecology Limited, September, 2025).

Statutory Biodiversity Metric

- 2.3 The Metric was calculated using the Defra Statutory Biodiversity Net Gain Metric (June 2024). This is provided as an Excel-based tool into which details of habitat types, their condition, and the area they cover must be entered for both pre- and post-development scenarios.
- 2.4 Areas were calculated using the surveyor's drawings and QGIS, with results expressed in hectares. Separate calculations were undertaken for hedgerows and watercourses, with their lengths measured in metres.
- 2.5 Habitat condition was assigned following guidance from the 'The Statutory Biodiversity Metric: User Guide' document⁶ which accompanies the metric. Assessment criteria were followed for each broad habitat type to determine the condition of each habitat for both onsite and offsite land.
- 2.6 The strategic significance of habitats was assessed for both pre- and post-development scenarios, taking into account the site's location, its proximity to existing areas of biodiversity interest, its inclusion within local plans such as Ecological Networks, and its position within wider habitat corridors.
- 2.7 Once all habitat types, conditions, and areas had been entered for both pre- and post-development scenarios, the Metric calculated the change in biodiversity units, including habitat, hedgerow, and river units, as well as the overall percentage gain or loss resulting from the proposals. The Metric calculations were carried out by Nathalie Cossa, BSc (Hons).

⁴ Multi-Agency Geographical Information for the Countryside (MAGIC). Crown Copyright and database rights [2015]. Ordnance Survey 100022861. Available at: <http://www.magic.gov.uk/>

⁵ https://www.google.co.uk/intl/en_uk/earth/

⁶ Natural England (2023). *The Biodiversity Metric 4.0 User Guide*.

Limitations

- 2.8 The accuracy of habitat area measurements is constrained by the method of baseline data collection and can therefore only be relied upon to a certain level of resolution. The biodiversity calculations are based on ecological assessments undertaken in 2025; consequently, if a significant period of time elapses before the project begins, changes may occur that could influence the conclusions of this report.

3 BASELINE CONDITIONS

Desk Study

- 3.1 Results from SER (received on 9th September 2025) indicate there are no statutory designated sites within 1km of the application site and there are two non-statutory designated sites within 1km of the application site, which include Ferneyhill Biodiversity Alert Site (BAS) - Several neglected heathy fields, probably semi-improved, and Lord's Coppice Ancient and Semi-Natural Woodland – Ancient Woodland inventory
- 3.2 Notable animal records returned by SER relating to species that could potentially be affected by work onsite are listed below:
- Bats: two records of common pipistrelle *Pipistrellus pipistrellus* from 2018, including one associated with the onsite building, and one record of a brown long-eared bat *Plecotus auritus* from 2018, also linked to the building on site.
 - Badger *Meles meles*: 47 records (all details are confidential).
 - Water vole *Arvicola amphibius*: two records, the most recent is from 2003, 796m from the site.
 - Birds: a variety of bird species have been recorded in recent years.
 - Great crested newt *Triturus cristatus*: two records have been returned, the most recent in 2018.

Strategic Significance

- 3.1 The habitats onsite are of low strategic significance. The area is highlighted in the local plan as countryside with no other strategic significance attached to it.⁷

Important Ecological Features

- 3.2 There are no important ecological features such as designated sites, protected and priority habitats which will influence the deliverability of BNG.

Biodiversity Units

- 3.3 The baseline habitats recorded on site comprise modified grassland, unsealed unvegetated surfaces and developed land, all of which are bordered by hedgerows. No site clearance has taken place; however, the grassland is now regularly mown, creating a relatively short sward that is maintained as a vegetated garden. A culvert also runs through the site. A summary of the baseline habitats, hedgerows and watercourses, together with their associated condition assessments, is provided in Tables 1, 2 and 3 below.

⁷ <https://www.staffsmoorlands.gov.uk/article/6300/Interactive-local-plan-map>

Table 1. Summary of baseline habitats

Baseline Habitat	Area (ha)	Condition	Description	Baseline Units
Modified grassland	0.0601	Moderate	Short sward containing 6-8 plant species per m ² . No scrub or physical damage present however an invasive non-native plant species is present on the fence line.	0.24
Artificial unvegetated, unsealed surface	0.0471	N/A - Other	Stoney area for parking and base for static caravan.	0.00
Developed land; sealed surface	0.0064	N/A - Other	A single storey brick built stable block with dual aspect pitched tiled roof.	0.00

Table 2. Summary of hedgerow habitats

Baseline Hedgerow	Length (km)	Condition	Description	Baseline Units
Non-native and ornamental hedgerow	0.039	Poor	Hedge dominated by laurel with ground flora indicative of nutrient enrichment.	0.04
Native hedgerow	0.021	Good	Hedge dominated by Prunus and hawthorn with ground flora	0.13

			indicative of nutrient enrichment.	
Native hedgerow	0.025	Poor	Gappy hedgerow dominated by hawthorn with occasional garden privet with ground flora indicative of nutrient enrichment.	0.05
Non-native and ornamental hedgerow	0.025	Poor	Hedgerow dominated by laurel and leylandii.	0.03

Table 3. Summary of watercourse habitats

Baseline Hedgerow	Length (km)	Condition	Description	Baseline Units
Culvert	0.023	Poor	Stream has been culverted along the length of the property.	0.03

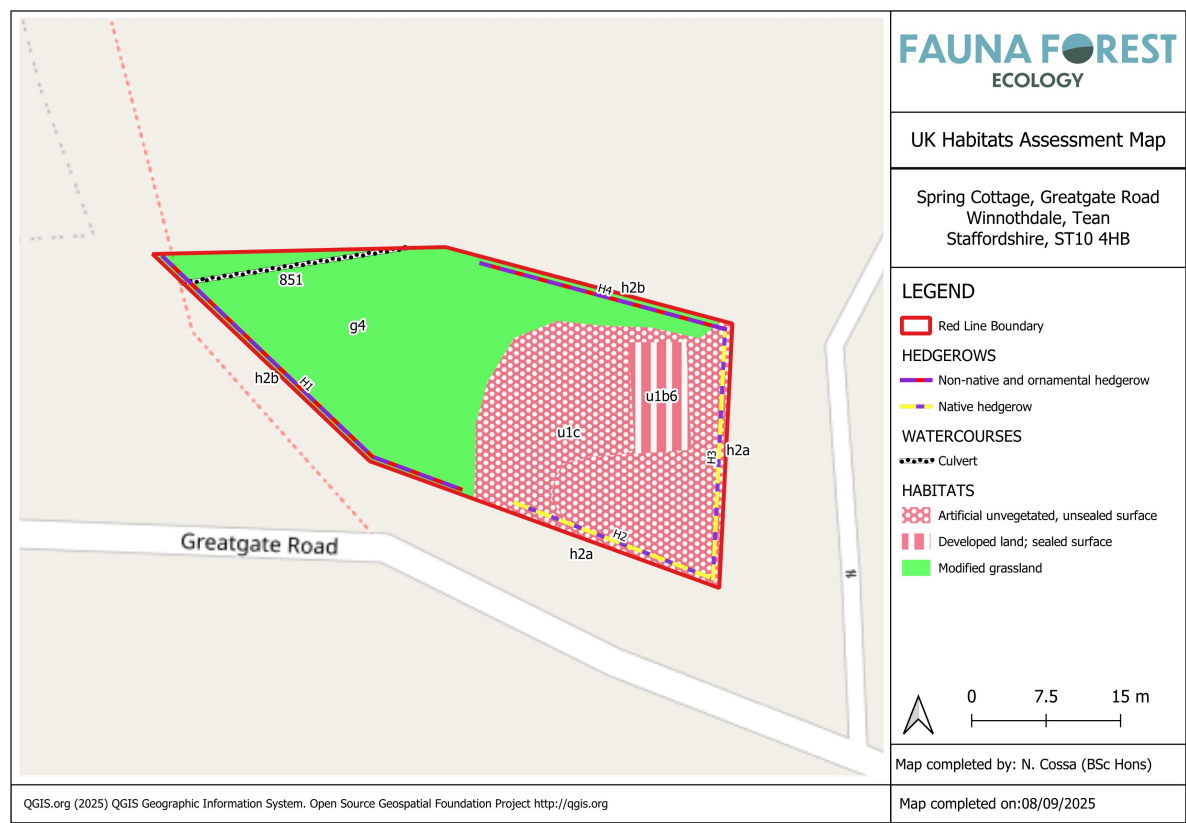


Figure 1: UK Habitat Assessment Map used as the BNG baseline

4 BNG GOOD PRACTICE PRINCIPLES FOR DEVELOPMENT

4.1 The good practice principles for biodiversity net gain are set out within Table 1.1 of Biodiversity Net Gain: Good Practice Principles for Development⁸. The principles include:

- Apply the mitigation hierarchy (avoiding, then minimising and finally compensating for any impacts and losses).
- Avoid losing biodiversity that cannot be offset elsewhere (e.g. irreplaceable habitats).
- Be inclusive and equitable (engaging stakeholders early is key).
- Address risk (mitigating for difficult and uncertain risks to achieve net gain).
- Make a measurable net gain contribution (making sure that the calculation uses an appropriate metric) and be consistent and transparent with calculations.
- Achieve the best outcomes for biodiversity (use robust credible evidence and local knowledge to inform decisions).
- Be additional (exceed existing obligations).
- Create a net gain legacy (involving stakeholders, securing funding for long-term management, allowing resilience in the net gain design, mitigating risks from other land users and supporting local-level management of net gain activities).
- Optimise sustainability (prioritising BNG and optimising the wider environmental benefits).
- Be transparent (communicate clearly and timely and share the learning with all stakeholders).

4.2 All above principles have been considered as part of the proposal. The footprint of the building is not changing and the habitats surrounding the building are being retained, albeit the garden will be managed through mowing more frequently than it was when it was used as a modified grassland. A hedgerow and part of the culvert will be enhanced.

⁸ Baker, J., Hoskin, R. and Butterworth, T. (2019) *Biodiversity Net Gain. Good Practice Principles for Development – A Practical Guide*. [Online]. Available at: [Biodiversity net gain. Good practice principles for development. A practical guide](#)

5 PROPOSED DESIGN

- 5.1 The proposed design complies with Staffordshire Moorlands District Council’s policies⁹.
- 5.2 The proposed habitats are shown in Figure 2, with details of the habitats and hedgerows to be retained, enhanced, and created set out in Tables 4–6, together with the proposed habitat management measures.

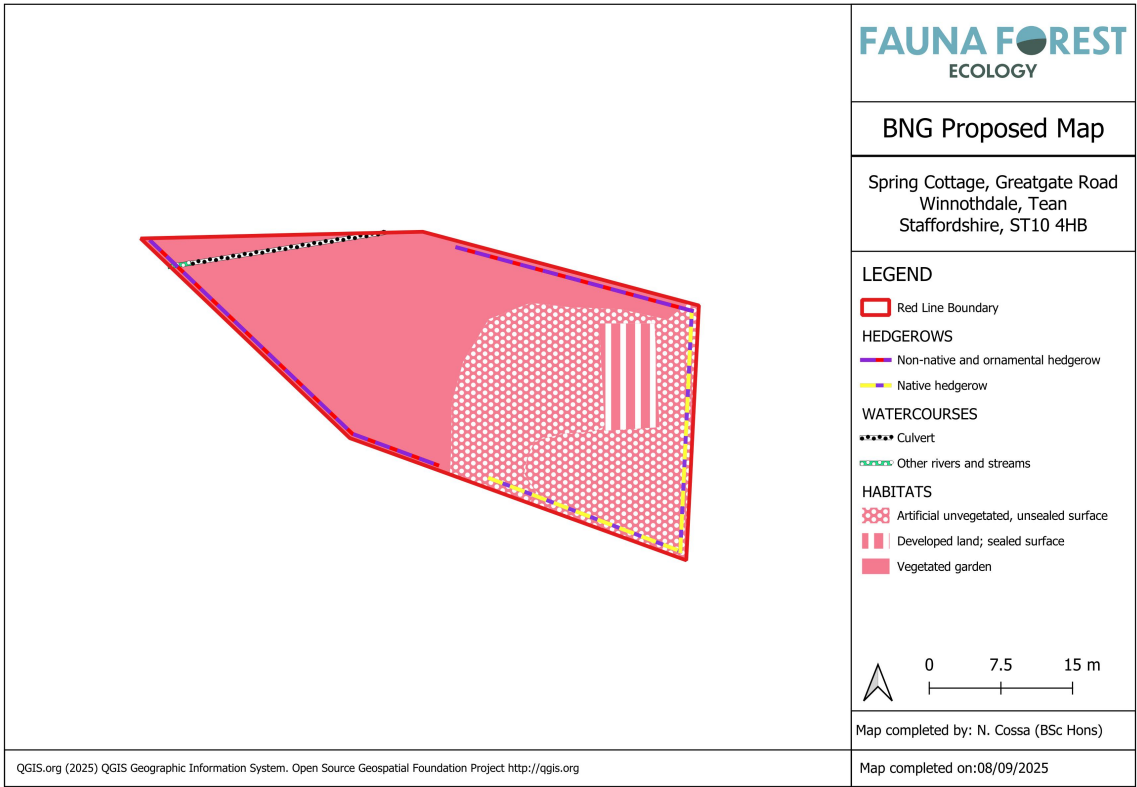


Figure 2: Proposed habitats plan

Habitat Retained

- 5.3 The building (classified as developed land with a sealed surface) will be retained, with only the internal areas converted for residential use. Additionally, the ground stone areas will remain unsealed in order to allow drainage.

Habitat Enhanced

- 5.4 No habitats are being enhanced.

⁹ https://www.staffsmoorlands.gov.uk/media/6155/Adopted-Local-Plan/pdf/c0Adopted_Local_Plan.pdf?m=1601645140880

Habitat Created

- 5.5 The modified grassland will no longer function as a field, as it is now regularly mown and maintained as a vegetated garden for residents of the converted property. No seed mix has been sown, so the species diversity remains unchanged and is consistent with grasslands typical of the local area.

Hedgerows Retained

- 5.6 Hedgerows H1, H2 and H4 will be retained. All hedgerows will be managed through sympathetic pruning to maintain a natural form, and any non-native hedgerows that require replacement in the future should be replanted with native shrubs and hedge species.

Hedgerow Enhanced

- 5.7 Hedgerow H3 will be enhanced by planting native, locally sourced hedge whips such as hawthorn *Crataegus monogyna*, dogwood *Cornus sanguinea* and hazel *Corylus avellana* to fill existing gaps, creating a denser hedgerow that will provide greater value for wildlife.

Table 4. Summary of habitat management for proposed and post-development habitats

Habitat	Retained/ Enhanced/ Created	Area (ha)	Target Condition	Units	Proposed Habitat Management
Vegetated Garden	Created	0.0601	N/A	0.12	The grassland is not being seeded so remains the same botanically but will be managed more intensely as a vegetated garden.

Table 5. Summary of hedgerow management for proposed and post-development habitats

Habitat	Retained/ Enhanced/ Created	Length (km)	Target Condition	Units	Proposed Habitat Management
Non-native and ornamental hedgerow	Retained	0.039	Poor	0.04	Retain hedgerow with aim that when it needs replacing, to prioritise using native plant species.
Native hedgerow	Retained	0.021	Good	0.13	Maintain hedgerow by sympathetic pruning and filling any gaps as and

					when necessary, with native locally source hedge whips.
Native hedgerow	Enhanced	0.025	Moderate	0.05	Enhance hedgerow by planting native locally source hedge whips in the gaps and pruning the hedge sympathetically to allow it to gain height and width.
Non-native and ornamental hedgerow	Retained	0.025	Poor	0.03	Retain hedgerow with aim that when it needs replacing, to prioritise using native plant species.

Table 6. Summary of watercourse management for proposed and post-development habitats

Habitat	Retained/ Enhanced/ Created	Length (km)	Target Condition	Units	Proposed Habitat Management
Other rivers and streams	Enhanced	0.002	Poor	0.01	Remove the culvert for a minimum of 2 metres to allow it to be out in the open, allowing marginal wetland plants to grow and protect against pollution.

6 BNG METRIC

- 6.1 The habitats proposed for retention, enhancement and creation, as set out in this report, have been entered into the metric. Table 7 presents a summary of the key results, with full details provided in Appendix A.

Table 7. Metric headline results

Baseline Habitat Units	0.24
Post Development Habitat Units	0.12
Total Net Unit Change	-0.12 (negative)
Total Net Percentage Changes	-51.75% (negative)
Baseline Hedgerow Units	0.24
Post Development Hedgerow Units	0.28
Total Net Unit Change	0.04 (positive)
Total Net Percentage Changes	18.72% (positive)
Baseline Watercourse Units	0.03
Post Development Watercourse Units	0.04
Total Net Unit Change	0.01 (positive)
Total Net Percentage Changes	16.09% (positive)

- 6.2 The assessment shows that the proposals will result in a net decrease of 0.12 habitat units, equating to an overall loss of 51.75%. To address this, a deficit of 0.15 habitat units will need to be compensated for off-site, either on land owned by the client or through a third party. In contrast, the proposals will deliver a net gain of 0.04 hedgerow units, representing an overall increase of 18.72%, with no further hedgerow units required. Similarly, a net gain of 0.01 watercourse units is achieved, equivalent to an overall increase of 16.09%, and no additional watercourse units are necessary.

Habitat Trading

- 6.3 As the modified grassland has been converted into a vegetated garden, the 0.15 habitat units required off-site will need to be delivered through the creation or enhancement of modified grassland, or through the provision of a habitat of higher distinctiveness.

Assumptions and Justifications

- 6.4 The modified grassland has been reclassified as vegetated garden, as once the building is converted to a residential property this will be its primary use, and it is expected to remain largely as lawn. The existing hedgerows are assumed to be retained, while a minimum of two metres of culvert will be removed to create a more natural, open watercourse exposed to light. In addition, the stoned areas are assumed to remain unsealed.

7 RECOMMENDATIONS

Offsetting

- 7.1 Off-site offsetting will be required for the proposal to achieve a minimum of 10% biodiversity net gain, with any off-site gains maintained for at least 30 years. Where biodiversity gains cannot be delivered entirely on-site, developers can provide them on their own land outside the development boundary, purchase off-site biodiversity units on the market, or, as a last resort, buy statutory biodiversity credits from the government, which are then used to fund habitat creation in England. This process follows the biodiversity gain hierarchy, which prioritises on-site delivery, then off-site within the same local planning authority (LPA), with off-site gains in neighbouring LPAs valued lower, and those further afield valued lower still, except for intertidal, watercourse or other linear habitats. The biodiversity metric also encourages off-site gains close to the development site so that local communities benefit directly (Defra, 2025). Further guidance is available at: <https://www.gov.uk/guidance/make-off-site-biodiversity-gains-as-a-developer>

APPENDIX A: METRIC SPREADSHEET

Spring Cottage, Winnothdale

Headline Results

Scroll down for final results ▲

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On-site baseline	Habitat units	0.24		
	Hedgerow units	0.24		
	Watercourse units	0.03		
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.12		
	Hedgerow units	0.28		
	Watercourse units	0.04		
On-site net change (units & percentage)	Habitat units	-0.12	-51.75%	On-site net gain is less than target set ▲
	Hedgerow units	0.04	18.72%	
	Watercourse units	0.01	16.09%	
Off-site baseline	Habitat units	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site net change (units & percentage)	Habitat units	0.00	0.00%	
	Hedgerow units	0.00	0.00%	
	Watercourse units	0.00	0.00%	
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-0.12		
	Hedgerow units	0.04		
	Watercourse units	0.01		
Spatial risk multiplier (SRM) deductions	Habitat units	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
FINAL RESULTS				
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-0.12		
	Hedgerow units	0.04		
	Watercourse units	0.01		
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-51.75%		Total net gain achieved is less than target set ▲
	Hedgerow units	18.72%		
	Watercourse units	16.09%		
Trading rules satisfied?		No - Check Trading Summaries ▲		
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	0.24	0.26	0.15
Hedgerow units	10.00%	0.24	0.26	0.00
Watercourse units	10.00%	0.03	0.03	0.00
No additional hedgerow units required to meet target ✓				
No additional watercourse units required to meet target ✓				