

Biodiversity Net Gain Assessment

Survey site:

Old School House Terrace, Park Lane, Old Knebworth, Hertfordshire SG3 6PR

Client:

Knebworth Estates

Survey date:

15th October 2024

Project:

This report is prepared to inform a planning application with the North Hertfordshire District Council. The proposal is described as:
The construction of a single-storey terrace of five 3-room residences for rent.

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Report Validity:

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion.

Industry Guidelines and Standards

This report has been written with due consideration to:

- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management, Construction Industry Research and Information Association & Institute of Environmental Management and Assessment (2019). Biodiversity Net Gain – Good Practice Principles for Development.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Knebworth Estates to undertake a Biodiversity Net Gain (BNG) Assessment at Old School House Terrace, Park Lane, Old Knebworth, Hertfordshire SG3 6PR (hereafter referred to as “the site”). The assessment was required to inform a planning application for the construction of a single-storey terrace of five 3-room residences for rent (hereafter referred to as “the proposed development”).

BNG change summary:

	Habitat area units	Hedgerow units	Watercourse units
Change in units	-74.04%	-32.15%	N/A
Units required for a 10% net gain	1.40 units including 0.08 units of scrub and 1.11 units of scattered trees OR 1.19 units of high distinctiveness habitat.	0.19 units including 0.14 units of native hedgerow.	N/A

Areas of Habitat

The baseline habitat value of the site is 1.66 units, comprising 0.15 units of modified grassland, 0.08 units of mixed scrub, 0.47 units of moderate condition scattered trees and 0.97 units of good condition scattered trees.

The post development habitat value of the site is 0.43 units, comprising retained modified grassland (0.04 units), moderate condition scattered trees (0.11 units) and good condition scattered trees (0.22 units) as well as 0.07 units of vegetated garden.

Hedgerows

The baseline hedgerow value of the site is 0.44 units, comprising other native hedgerow.

The post development habitat value of the site is 0.30 units, comprising retained other native hedgerow.

Recommendations to meet BNG

Recommendations for meeting BNG can be found in section 4.2 and include retaining baseline trees and hedgerow, enhancing retained grassland to neutral grassland and planting additional native hedgerow and scattered trees.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Knebworth Estates to undertake a Biodiversity Net Gain (BNG) Assessment at Old School House Terrace, Park Lane, Old Knebworth, Hertfordshire SG3 6PR (hereafter referred to as “the site”). The assessment was required to inform a planning application for the construction of a single-storey terrace of five 3-room residences for rent (hereafter referred to as “the proposed development”). A plan showing the proposed development is provided in Appendix 1.

This report should be read in conjunction with the following documents:

- Defra Statutory Biodiversity Metric for Old School House Terrace, Park Lane, Old Knebworth, Hertfordshire SG3 6PR
- Preliminary Ecological Appraisal (PEA) for Old School House Terrace, Park Lane, Old Knebworth, Hertfordshire SG3 6PR (Arbtech, October 2024).

1.2 Site Location, Geology and Landscape Context

The site is located at National Grid Reference TQ 09413 63896 and has an area of approximately 0.198ha. The site comprises a driveway, communal car park and garden area comprising a modified grass lawn, scattered trees, mixed scrub and hedgerows acting as the site boundaries. The site is situated on the edge of an arable field within a private estate in the town of Knebworth, Hertfordshire. The site used to be the car park and garden/playground area for the old school house adjacent (west). Aerial imagery shows the local landscape to have an agricultural character, with several arable fields, private estates and pockets of woodland. Knebworth train station is ~1700m east of the site. A site location plan is provided in Appendix 2.

1.3 BNG Informative

BNG is a specific, measurable outcome of project activities that deliver demonstrable and quantifiable benefits to biodiversity compared to the baseline situation. In order to achieve BNG, a project must be able to demonstrate that it has followed all 10 of the Principles of Biodiversity Net Gain (as outlined in the British Standard 8683:2021 Process for Designing and Implementing Biodiversity Net Gain).

The legalised Environment Act (2021) requires developments in England to demonstrate a measurable net gain in biodiversity and sets a target of a minimum of 10% BNG for all developments. It also stipulates that a management plan with a minimum 30-year term, should be adopted to ensure biodiversity net gain can be delivered. The requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF, 2023). The DEFRA Statutory Biodiversity Metric is the widely accepted tool used to calculate BNG. It enables the calculation of habitat value pre- and post-development in order to determine the overall change in biodiversity value as a result of the proposed development. The Biodiversity Metric has separate BNG assessments for areas of habitat, hedgerows and watercourses. The biodiversity value of a site should be maximised. However, it may not always be possible to achieve a 10% biodiversity net gain within a site and therefore the Statutory Biodiversity Metric can also account for offsite habitat creation, where land is available. Alternatively, developers can seek to provide an agreed financial contribution to an appropriate third party (such as the Local Authority, the UK Government or another landowner) to deliver the required biodiversity net gain elsewhere on their behalf.

2.0 Methodology

2.1 Baseline Biodiversity Value

The baseline BNG Calculation was informed by a PEA (Arbtech, October 2024). A baseline habitat plan is provided in Appendix 3.

Habitat Classification

The PEA classified the habitats on site according to The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023).

Habitat Area/Length

The area or length of each habitat was calculated using qGIS software. In calculating the area or length of each habitat, habitats which occur as two or more isolated parcels across the site were combined, where they were deemed to be of a similar composition and condition. Distinctions were made between habitats to be retained (i.e. left as found in baseline), enhanced (i.e. improved condition) or lost (i.e. destroyed by proposed development).

Areas of scattered trees were calculated using the Tree Helper tool within the Statutory Biodiversity Metric. Class sizes for urban trees are set out in Table 14 of the Statutory Biodiversity Metric User Guide (Natural England, 2023).

Habitat Condition

Habitat condition was assessed using the relevant condition assessment sheets found in the Statutory Biodiversity Metric User Guide (Natural England, 2023).

Strategic Significance

Strategic significance was assigned for each habitat based upon a review of the following:

- Ecological value
- Function within the landscape
- Any site or habitat allocations under The North Hertfordshire Local Plan 2011-2031 adopted on Tuesday 8 November 2022

2.2 Post Development Biodiversity Value

The post development BNG Calculation was informed by a Block Plan (Scott Associated LLP, August 2024) which is included in Appendix 1. A post development habitat plan is provided in Appendix 4a.

Habitat Classification

Proposed habitats were translated to their equivalents in the UK Habitat Classification using The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023) and the information provided within the Block Plan.

Habitat Area/Length

The area or length of each proposed habitat was calculated using qGIS software. In calculating the area or length of each habitat, habitats which occur as two or more isolated parcels across the site were combined, where they were deemed to be of similar composition and condition. Distinctions were made between habitats to be retained (i.e. left as found in baseline), enhanced (i.e. improved condition) or newly created.

Areas of scattered trees were calculated using the Tree Helper tool within the Statutory Biodiversity Metric. Class sizes for urban trees are set out in Table 14 of the Statutory Biodiversity Metric User Guide (Natural England, 2023).

Habitat Condition

Target habitat condition for each proposed habitat was determined assessed using the Temporal Multipliers Tool and the Enhancement Temporal Multipliers Tool included in the Statutory Biodiversity Metric spreadsheet as well as the relevant condition assessment sheets found in the Statutory Biodiversity Metric User Guide (Natural England, 2023). This is based on the assumption that a 30-year management plan will be adopted for the site.

Strategic Significance

Strategic significance was assigned for each proposed habitat based upon a review of the following:

- Likely ecological value
- Function within the landscape
- Any site or habitat allocations under The North Hertfordshire Local Plan 2011-2031 adopted on Tuesday 8 November 2022

2.3 Limitations

No limitations encountered during this assessment.

3.0 Results

3.1 Baseline Habitats

Table 1 details the baseline habitats present within the site along with their area/length, condition and strategic significance. A full condition assessment for each habitat (where relevant) is provided in Appendix 5a.

Table 1: Baseline Biodiversity Value

Unit type	Habitat	Area / Length	Description	Condition Assessment	Strategic Significance
Habitat area units	Developed land; sealed surface [u1b]	0.055ha	Sealed surfaces comprise the sites concrete driveway, car park and rectangular patches of hardstanding within the grass area.	N/A - Other	Low Area/compensation not in local strategy
	Modified grassland [g4]	0.075ha	The site is dominated by a modified grass lawn area on the eastern half of the site. The lawn is regularly managed and frequently mown with a short sward of approximately ~7cm. Consisting of approximately ~5 species per m2, the grass is DOMINATED by perennial ryegrass with FREQUENT creeping buttercup, white clover, Yorkshire fog and common nettle, OCCASIONAL dandelion and RARE wheat grass, greater plantain, square-stalked willowherb, bitter dock, common sow thistle, ragwort and creeping thistle. There is a significant amount of bare ground as the grass blends into the northern site boundary. The cornered edges consist of small patches of nettle and bramble.	Poor	Low Area/compensation not in local strategy
	Mixed scrub [h3h]	0.009ha	In the southeast corner of the site is a dense mixed scrub comprising ABUNDANT blackthorn and common ivy with OCCASIONAL bramble, holly and ash and RARE hornbeam and field maple.	Moderate	Moderate Location ecologically desirable but not in local strategy
	Urban tree (T01-T03, T07-T14, T16-T17) [32]	0.0529ha	There are 18no. scattered trees on site. T01-T03 are situated in the southwest corner of the site, with T04 in the middle, T05-T07 in the southeast corner and the remaining T08-T17 in a group along the northern site boundary (eastern corner) on the outer side of the fence (not boundary fence).	Moderate	Moderate Location ecologically desirable but not in local strategy
	Urban tree (T04-T06, T15) [32]	0.0733ha		Good	Moderate Location ecologically desirable but not in local strategy

Hedgerow units	Native hedgerow [h2a6]	0.067km	There are 3no. native hedgerows present on site. H1 runs along the full eastern site boundary, formed around the site fence. Standing ~3m tall, 1.5m wide and stretching ~18.8m long, this hedgerow is comprised of ABUNDANT blackthorn and common ivy, OCCASIONAL ash, common hornbeam and common hawthorn and RARE English holly. H2 runs along the western half of the northern site boundary. Standing ~1.5m tall, ~1m wide and stretching ~26.2m long, this hedgerow is DOMINATED by common hornbeam with ABUNDANT common ivy, FREQUENT common hawthorn and RARE sycamore and creeping thistle. H3 runs along the western site boundary fence, down the driveway. Standing ~1.5m tall, ~1m wide and stretching ~22.6m long, this hedgerow is DOMINATED by common ivy with FREQUENT English holly, blackthorn, sycamore and ash and RARE hawthorn and common lilac.	Good	Moderate Location ecologically desirable but not in local strategy
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3.2 Post Development Habitats

Table 2 details the post development habitats present within the site along with their area/length, condition and strategic significance. An assessment of the anticipated condition for each habitat (where relevant) is provided in Appendix 5b, which is based on the assumption that a 30 year management plan will be implemented for the site. The proposed development will result in the loss of mixed scrub, the majority of scattered trees, native hedgerow and modified grassland.

Table 2: Post Development Biodiversity Value

Unit type	Habitat	Area / Length	Description	Target Condition	Strategic Significance
Habitat area units	Developed land; sealed surface (Hardstanding) [u1b]	0.05ha	Retained areas of developed land (hardstanding) including a driveway and parking area.	N/A - Other	Low Area/compensation not in local strategy
	Modified grassland [g4]	0.02061ha	Retained areas of modified grassland for communal use.	Poor	Low Area/compensation not in local strategy
	Urban tree (T01 – T03) [32]	0.0122ha	4 retained trees to the southwest of the site including 3 small trees and 1 medium sized tree.	Moderate	Moderate Location ecologically desirable but not in local strategy
	Urban tree (T04) [32]	0.0163ha		Good	Moderate Location ecologically desirable but not in local strategy
	Developed land; sealed surface (Building) [u1b6]	0.029ha	Proposed building to comprise of no.5 residential units.	N/A - Other	Low Area/compensation not in local strategy
	Vegetated garden [232]	0.03513ha	Vegetated gardens for associated residential units.	Condition Assessment N/A	Low Area/compensation not in local strategy
Hedgerow units	Native hedgerow (H2 and H3)	0.04546km	Retained native hedgerow to the north and west of the site.	Good	Moderate Location ecologically desirable but not in local strategy

3.3 Change in Biodiversity Value of the Site

Full details are provided in the Defra Statutory Biodiversity Metric. The headline results are presented in Appendix 6.

Areas of Habitat

The baseline habitat value of the site is 1.66 units, comprising 0.15 units of modified grassland, 0.08 units of mixed scrub, 0.47 units of moderate condition scattered trees and 0.97 units of good condition scattered trees.

The post development habitat value of the site is 0.43 units, comprising retained modified grassland (0.04 units), moderate condition scattered trees (0.11 units) and good condition scattered trees (0.22 units) as well as 0.07 units of vegetated garden.

This results in a net change in biodiversity of -74.04% (i.e. a net loss).

Developed land (including buildings and hardstanding) does not provide any habitat units.

Hedgerows

The baseline hedgerow value of the site is 0.44 units, comprising other native hedgerow.

The post development habitat value of the site is 0.30 units, comprising retained other native hedgerow.

This results in a net change in biodiversity of -32.15% (i.e. a net loss).

4.0 Recommendations to Deliver BNG

4.1 Discussion

The current proposed plan results in a 74.04% net loss in habitat units and a 32.15% net loss in hedgerow units. This is less than the 10% target of biodiversity net gain.

In order to achieve the required minimum 10% net gain in biodiversity as a result of the proposed development, the provision of additional or alternative landscaping should be explored and the proposed plans amended accordingly to either achieve a 10% net gain on site or to reduce off-site compensation requirements that may be required to achieve a 10% net gain.

4.2 Landscaping

To maximise the biodiversity value of the site itself, the following alterations to the current landscaping proposals could be considered:

An example of how these recommendations can be put in place can be seen in appendix 4b.

- All trees and native hedgerow and mixed scrub currently on site will need to be retained. This is essential for meeting the 10% net gain as well as satisfying BNG trading rules.
- The retained modified grassland should instead be enhanced into 'other neutral grassland' in good condition. This can be achieved by allowing the area to naturally grow with minimal recreational disturbance and a very relaxed mowing schedule (once or twice a year). It's also important to increase the diversity of species present within these areas to include a more diverse range of grasses and forbs, this can be done by plating a high quality seed mix such as: <https://britishwildflowermeadowseeds.co.uk> or <https://www.habitataid.co.uk/products/premium-meadow-mix> (it is recommended to use seed mixes in a ratio of 5-10kg:1ha). These seeds can be managed as per manufacture's instruction to reach 'good' condition in most situations.
- An additional 7 native scattered trees will need to be planted along with 0.0125km of native hedgerow in moderate condition.
 - The trees should be planted in ecological beneficial areas such as grassland or scrub areas. Trees should be planted in a productive season (summer or spring). At least 70% of the trees should be native and should be replaced if they are heavily damaged or destroyed. Native trees can be purchased here: <https://shop.woodlandtrust.org.uk/trees>.
 - Native hedgerow is greatly beneficial for wildlife as it creates ideal areas for mammals to seek refuge and birds to create nest. This hedgerow should ideally be at least 1.5m in height and diameter across the majority of its length. The hedgerow should be free from invasive species and should have a bed of ecologically rich species. The hedgerow should be continuous relatively free from gaps. Native hedgerow can be purchased here: <https://www.hedgesdirect.co.uk/acatalog/native-hedge-plants.html>

Should these alterations be incorporated this BNG Assessment will need to be updated to accurately reflect the change in biodiversity value of the site pre- and post-development.

4.3 Biodiversity Offsetting

If the landscaping plans are not altered or if the above alterations still do not deliver a 10% net gain, the deficit will need to be delivered in a suitable offsite location i.e. biodiversity offsetting.

According to the Defra Statutory Biodiversity Metric there is a unit deficit of 1.40 habitat units and 0.19 hedgerow units, this will need to be provided to offset the loss in biodiversity and achieve a 10% biodiversity net gain.

The mechanism for securing this off-setting will need to be proposed to, and confirmed by the LPA e.g., purchasing conservation credits through a registered provider, habitat creation directly through the client owned or LPA offered land or a financial contribution towards another provider such as a local nature reserve or park. As well as the creation of new habitats, this should also secure the management of the proposed habitats to help achieve the desired condition for at least 30 years. This would be linked to the application through a planning obligation Section 106 (S106) agreement. The proposed habitat compensation should be of an appropriate distinctiveness to meet the trading rules of BNG. An ecology survey of the baseline habitat of any off-site land will be required to inform the baseline conditions of any land subject to off-site compensation measures.

4.4 Post Development

A Biodiversity Net Gain (BNG) Management Plan must be produced for the site. This should include recommendations for the implementation, management and monitoring of the site for at least 30 years.

5.0 Bibliography

- Arbtech (2024) Preliminary Ecological Appraisal for Old School House Terrace, Park Lane, Old Knebworth, Hertfordshire SG3 6PR. 15th October 2024.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- CIEEM-CIRIA-IEMA (2019) Biodiversity Net Gain – Good Practice Principles for Development.
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit.
http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- Natural England (2024). The Statutory Biodiversity Metric (JP039).
- Natural England (2024). The Statutory Biodiversity Metric User Guide (JP039).
- Natural England (2024). The Statutory Biodiversity Metric Technical Annex 1 - Condition Assessment Sheets and Methodology (JP039).
- Natural England (2024). The Statutory Biodiversity Metric Technical Annex 2 – Technical Information (JP039).
- North Hertfordshire Council (2022) The North Hertfordshire Local Plan 2011-2031. Adopted on the 8th November 2022.
- Scott Associated LLP (2024) Block Plans. August 2024.
- The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023)

Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3: Baseline Habitat Plan



Appendix 4a: Post Development Habitat Plan



Appendix 4b: recommended post development habitat plan



Appendix 5a: Habitat Condition Assessment Sheets - Baseline

Condition Sheet: INDIVIDUAL TREES Habitat Type												
Limitations (if applicable)		Habitat parcel reference										
		1-3, 14 & 16-17	7-15									
Condition Assessment Criteria		Grid reference										Notes (such as justification)
		Criterion passed (Yes or No)										
A	The tree is a native species (or at least 70% within the block are native species).	yes	yes									
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	yes	yes									
C	The tree is mature (or more than 50% within the block are mature) ¹ .	no	yes									
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	yes	yes									
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	no	yes									
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	yes	yes									
Number of criteria passed												
Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved x/✓										
Passes 5 or 6 criteria	Good (3)	yes										
Passes 3 or 4 criteria	Moderate (2)	yes										
Passes 2 or fewer criteria	Poor (1)											

Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.	no	
	Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m ² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.		
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	no	
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	yes	
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	yes	
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .	no	
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	yes	
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴).	yes	
Essential criterion achieved (Yes or No)			Notes (such as justification)
Number of criteria passed			
Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved ×/✓	
Passes 6 or 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)		
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	yes	

Condition sheet: HEDGEROW Habitat Types

Hedgerow favourable condition attributes				
Attributes and functional groupings (A, B, C, D and E)		Criteria – the minimum requirements for 'favourable condition'	Criteria description	Criterion passed (Yes or No)
Core groups – applicable to all hedgerow types				
A1	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	yes
A2	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn <i>Prunus spinosa</i> suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	yes
B1	Gap - hedge base	Gap between ground and base of canopy (<0.5 m for >90% of length)	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	yes
B2	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	no
C1	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length; · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	no
C2	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	yes
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA ²) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website ⁴ , as well as the BSBI website ⁵ where the 'Online Atlas of the British and Irish Flora' ⁶ contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website ⁷ .	yes
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	yes

Condition categories for hedgerows without trees		
Category	Category Requirements	Metric Score
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 4 failures in total; AND Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; OR Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
Score achieved:		Good

Appendix 5b: Habitat Condition Assessment Sheets - Proposed

N/A for proposed habitat types.

Appendix 6: Headline BNG Results

The Defra Statutory Biodiversity Metric is provided as a separate excel spreadsheet.

FINAL RESULTS			
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-1.23	
	Hedgerow units	-0.14	
	Watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-74.04%	Total net gain achieved is less than target set ▲
	Hedgerow units	-32.15%	Total net gain achieved is less than target set ▲
	Watercourse units	0.00%	
Trading rules satisfied?	No - Check Trading Summaries ▲		

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	1.66	1.83	1.40
Hedgerow units	10.00%	0.44	0.49	0.19
Watercourse units	10.00%	0.00	0.00	0.00

No additional watercourse units required to meet target ✓

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Validity

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion

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Version control			
Status	Issue	Name	Date
Draft	0.1	Harry Brindle BSc (Hons), Graduate ecologist	29/10/2024
Review	0.2	Katie Whitfield BSc (Hons), Graduate ecologist	04/11/2024
Review	0.3	Mel Reid BSc (Hons) MRes MRSB, Senior Consultant	06/11/2024
Final	1.0	Harry Brindle BSc (Hons), Graduate ecologist	06/11/2024
Update	1.1	Harry Brindle BSc (Hons), Graduate ecologist	08/11/2024