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Biodiversity Net Gain Assessment

Survey Site:

Orchard Farm, Dowsdale Bank, Shepeau Stow, Whaplode Drove, Spalding, PE12 0UA

Client:

Tony Dickens

Survey Date:

24/02/2026

Project:

This report is prepared to inform a planning application with the South Holland District Council. The proposal is described as:

The destruction of all barns on site and creation of 9 residential plots.

BNG assessment methodology and legislation can be found in the Arbtech Supplement: **BNG Methodology and Legislation – 2025**.

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

Version Control			
Status	**Issue**	**Name**	**Date**
Draft	0.1	Harry Keates BSc (Hons), MSc; Graduate Ecologist	24/02/2026
Reviewed	0.2	Abby Pidgenson BSc (Hons) MSc, Senior Ecologist	02/03/2026
Final	1.0	Harry Keates BSc (Hons), MSc; Graduate Ecologist	03/03/2026
Amended with different plans	1.1	Harry Keates BSc (Hons), MSc; Graduate Ecologist	17/03/2026
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Final	1.3	Harry Keates BSc (Hons), MSc; Graduate Ecologist	23/03/2026
Front page amended	1.4	Harry Keates BSc (Hons), MSc; Graduate Ecologist	25/03/2026

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Site Location and Context

A baseline habitat map is provided in **Appendix 1**, a post development habitat map in **Appendix 2**, a proposed development plan in **Appendix 3**, headline BNG results in **Appendix 4**, and condition assessments in **Appendix 5**.

The site is centred at National Grid Reference TF2950311376 and has an area of approximately 0.42ha.

The site is characterised by an agricultural farmyard, predominantly comprising of sealed surfaces and used for storage. The site is surrounded by a road to the west, an extension of the yard and associated habitats to the east and arable fields to the north and south. The wider landscape comprises large arable fields, sometimes broken up by hedge barriers, with sporadic pockets of woodland copses interspersed throughout.

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

- Statutory BNG Metric – PE12 0UA-StatutoryBiodiversityMetricCalculationTool – v1 (Arbtech Consulting Ltd., 2026)
- Proposed Plan (Swann Edwards, 2024)
- Preliminary Ecological Appraisal (PEA) – PEAPRA – Orchard Farm, PE12 0UA – v1 (Arbtech Consulting Ltd., 2026)

Executive Summary

- The current landscaping proposal generates a net gain of linear-based habitat units (+14.47%) and a net gain of area-based habitat units (+114.32%), however, the trading rules are not currently met.
- In order to achieve a +10% biodiversity net gain for area-based habitats, a further 0.1612 units must be generated. These units can comprise of any scrub habitat.
- A HMMP and BGP will need to be created for the site.

Introduction

BNG Informative		
Habitat Degradation Statement	Date reflected by BNG calculations	14th February 2026
	The baseline biodiversity value of the site is largely derived from the site as observed during the PEA field survey (Arbtech Consulting Ltd., 2026), however, evidence of habitat degradation had occurred in the form of mixed scrub between the two southernmost buildings, and an area of bramble scrub at the centre of the site (marked in blue on the left map below). These habitats were determined from provided drone footage, a screenshot of which can be found in the appendices. Therefore, the baseline biodiversity value of the site is derived from assumptions inferred from historic satellite imagery (i.e. Google Earth) and the PEA survey findings. Satellite imagery screenshots were taken from July 31st 2020 and September 21st 2025.  
Irreplaceable Habitat Statement	No irreplaceable habitats as listed under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2024) are currently present nor were present before 30th January 2020.	

<table>
<tr><td>Metric Version & Publication Date</td><td colspan="3">Statutory Biodiversity Metric Calculation Tool first published 29th November 2023 with last updates to metric tools and user guides on 3rd July 2025.</td></tr>
<tr><td>BNG Target Uplift</td><td colspan="3">+10%</td></tr>
<tr><td>National Character Area (NCA)</td><td colspan="3">46 - The Fens</td></tr>
<tr><td rowspan="9">Strategic Significance</td><td colspan="3">Greater Lincolnshire, the responsible authority for drafting the Local Nature Recovery Strategy (LNRS) for South Holland District Council, has yet to adopt a comprehensive LNRS. Greater Lincolnshire advise that their local habitat map and local plans be used, however, the local habitat map is currently not populated with areas that habitat creation is considered important. As such the local plan and a review of the local area were used to determine the strategic significance of habitats.</td></tr>
<tr><td>Habitat</td><td>Baseline / Post-Development</td><td>Justification</td></tr>
<tr><td>Modified grassland</td><td>Baseline/Post development</td><td>Low – Habitat not noted as important under the local plan.</td></tr>
<tr><td>Bramble scrub</td><td>Baseline</td><td>Low – Such a small pocket of brambles is unlikely to have had a significant impact on habitats in the wider area and this habitat is not noted as important in the local plan.</td></tr>
<tr><td>Mixed scrub</td><td>Baseline (Historic)</td><td>Low – This habitat is not noted as important in the local plan.</td></tr>
<tr><td>Line of trees</td><td>Baseline/Post development</td><td>High – Trees are sparse within the landscape so the strategic significance of this habitat is high.</td></tr>
<tr><td>Native hedgerow</td><td>Post development</td><td>High – Trees are sparse within the landscape so the strategic significance of this habitat is high.</td></tr>
<tr><td>Vegetated garden</td><td>Post development</td><td>Low – Habitat not noted as important under the local plan.</td></tr>
<tr><td colspan="4">Limitations</td></tr>
<tr><td colspan="4">Trees identified in the satellite imagery from 2020 were no longer present and had been removed between 2023 and 2025. As their condition could not be assessed, they have been set to good condition automatically and the number of trees present has been estimated as 6 with their size being estimated as medium as this is the main size present in the line of trees on site.</td></tr>
</table>

Baseline

Baseline Biodiversity Value: On-Site				
Area-Based Habitats (A-1)				
Habitat	**Area (ha)**	**Description**	**Condition Assessment**	**Strategic Significance**
Developed land, sealed surface	0.26576	Hard-standing surface which covers most of the site.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance
Developed land, sealed surface (Buildings)	0.14435	Three buildings. A fourth building was present but this was knocked down last year following the acquisition of an EPSL license and has not been included in the baseline as this would not cause any change to the baseline value over it being regular developed land, sealed surface.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance
Modified Grassland	0.02052	Sections of poor condition modified grassland sit between B2 and B3 as well as to the north of the buildings were the line of trees is situated.	***Poor****: passes 3 of 7 criteria excluding essential criterion A.* Assessed using the 'Grasslands Low Distinctiveness' habitat type condition sheet.	**Low** Strategic Significance
Bramble scrub	0.01351	A small patch of bramble scrub is present adjacent to B3. This also includes a small patch of historic bramble scrub which was identified from satellite imagery and the screenshot of the drone footage in appendix 6.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance
Mixed scrub	0.00893	Historic area of mixed scrub identified from satellite imagery and the screenshot of drone footage in appendix 6.	**Good**: Historical so could not be assessed but condition assumed to match line of trees.	**Low** Strategic Significance

Baseline Biodiversity Value: On-Site				
Linear-Based Habitats (B-1)				
Habitat	**Length (km)**	**Description**	**Condition Assessment**	**Strategic Significance**
Line of trees	0.03901	There is a line of trees located to the north of B3 along a section of sparsely vegetated land. All trees are native species and the line demonstrates a continuous canopy. All trees are in a healthy condition although there are no veteran trees. Tree species include rowan, elder and hawthorn. There were 12 trees within this habitat, all of which were small sized.	***Moderate**: passes 3 of 5 criteria.* Assessed using the 'Line of trees' habitat type condition sheet.	**Low** Strategic Significance

Post-Development

Post-Development Biodiversity Value: On-Site					
Area-Based Habitats					
	Habitat	**Area (ha)**	**Description**	**Condition Assessment**	**Strategic Significance**
Created (A-2)	Vegetated garden	0.18121	Created vegetated garden for the associated dwellings.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance
	Developed land, sealed surface	0.13720	Created hard-standing surface.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance
	Buildings	0.09691	Created dwellings.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance
	Modified grassland	0.03771	Created grassland around the site entrance and access road. This habitat has been set to poor criteria to allow for a net gain to be generated even if it does not meet moderate criteria within the 30-year period.	***Poor***: *passes 0 of 7 criteria.* Assessed using the 'Grasslands Low Distinctiveness' habitat type condition sheet.	**Low** Strategic Significance

Post-Development Biodiversity Value: On-Site					
Linear-Based Habitats					
	Habitat	**Length (km)**	**Description**	**Condition Assessment**	**Strategic Significance**
Retained (B-1)	Line of trees	0.03901	There is a line of trees located to the north of B3 along a section of sparsely vegetated land. All trees are native species and the line demonstrates a continuous canopy. All trees are in a healthy condition although there are no veteran trees. Tree species include rowan, elder and hawthorn. There were 12 trees within this habitat, all of which were small sized.	***Moderate**: passes 3 of 5 criteria.* Assessed using the 'Line of trees' habitat type condition sheet.	**Low** Strategic Significance
Created (B-2)	Native hedgerow	0.0117	Created native hedgerow by the site entrance. This habitat has been set to poor criteria to allow for a net gain to be generated even if it does not meet moderate criteria within the 30-year period.	***Poor**: passes 0 of 8 criteria.* Assessed using the 'Hedgerow' habitat type condition sheet.	**High** Strategic Significance

Change of Biodiversity Value

		Biodiversity Units		
		Area-Based	**Linear-Based**	**Watercourse-Based**
On-Site	Baseline	0.20 ❖ Mixed scrub = 0.11 ❖ Bramble scrub = 0.05 ❖ Modified grassland = 0.04	0.18 ❖ Line of trees = 0.18	-
	Post-Development	0.43 ❖ Created rural tree = 0.32 ❖ Created vegetated garden = 0.09 ❖ Created modified grassland = 0.11 ❖ Bramble scrub = 0.02	0.21 ❖ Line of trees = 0.18 ❖ Native hedgerow = 0.03	
	Net Change	+0.23	+0.03	
Off-Site	Baseline	-	-	
	Post-Development			
	Net Change			
Overall Net Change		**+114.32**	**+14.47%**	**N/A**

Results, Discussion, and Next Steps

<table>
<tr><th colspan="2">BNG Informative</th></tr>
<tr><td>Results</td><td>The current landscaping proposal generates a net gain of linear-based habitat units (+14.47%) and a net gain of area-based habitat units (+114.32%), however, the trading rules are not currently met. In line with the Statutory Biodiversity Metric User Guide (2024), any loss of a habitat must be replaced on a like-for-like or like-for-better principle. At present, trading conditions are not satisfied for the loss of bramble scrub (medium distinctiveness), and historic loss of mixed scrub (medium distinctiveness). With unmet trading conditions and a net loss, the proposal fails principal Rules 1 and 2 of BNG and is not compliant with current legislation (Environment Act 2021) and planning policies (National Planning Policy Framework, 2024).

In order to achieve a +10% biodiversity net gain for area-based habitats, a further 0.1612 units must be generated. These units can be comprised of any scrub habitat.</td></tr>
<tr><td>Recommendations and Next Steps</td><td>Based on the proposed plans, it is unlikely that net gain will be achieved by ways of habitat creation/enhancement without significant changes to the proposals on site or require unfeasible commitments off-site. As such, a financial contribution to off-site ecological enhancements (i.e. purchasing biodiversity units) within an approved scheme is required to make up the +10% net gain for area-based habitat units. The mechanism for securing this off-setting will need to be proposed to and confirmed by the LPA and would be linked to the application through a planning obligation Section 106 (s106) agreement. The proposed habitat compensation must be of an appropriate distinctiveness to meet the trading rules of BNG.

A summary as to what off-site units will be required is detailed in the table below.

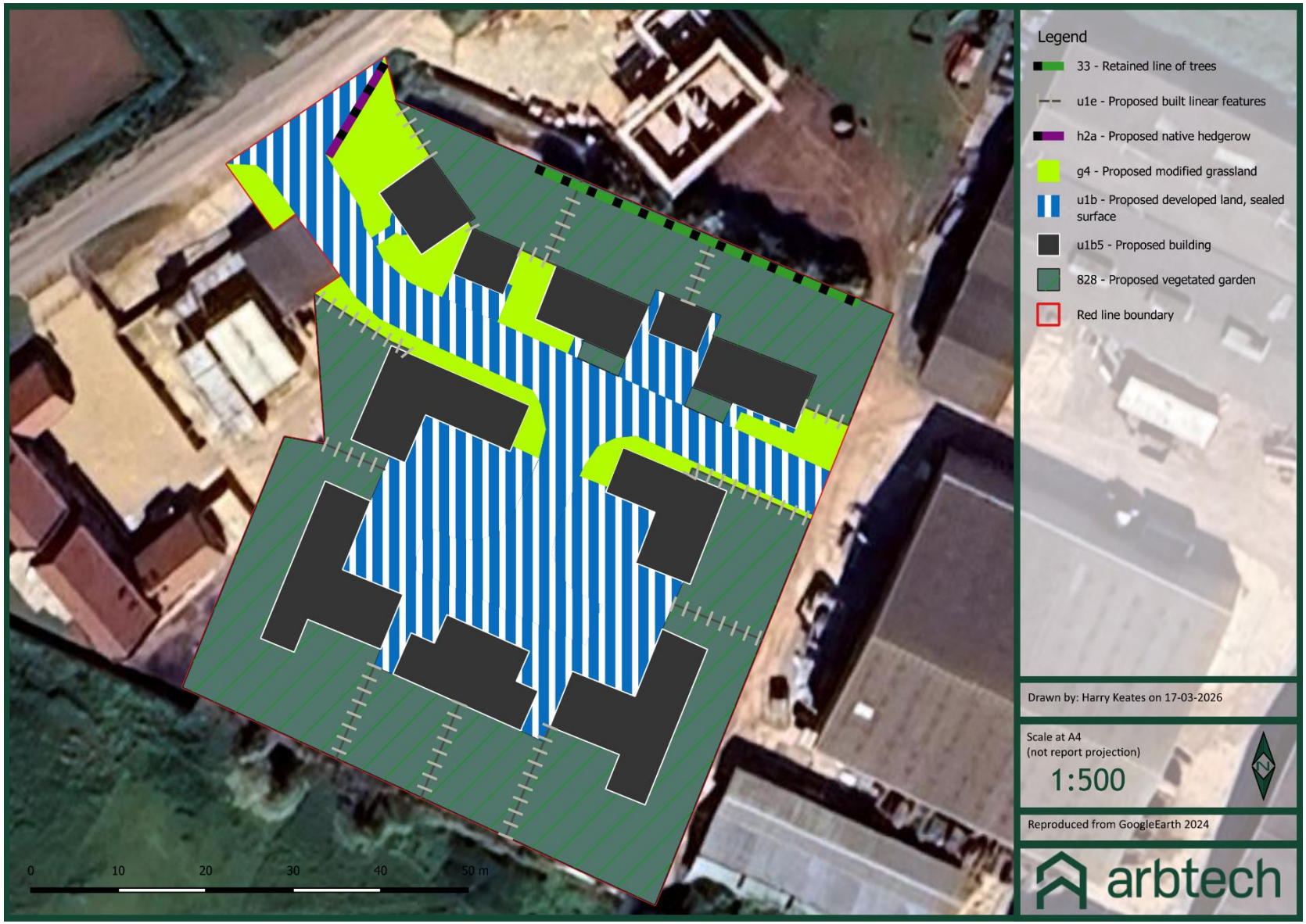
<table>
<tr><th></th><th>Distinctiveness</th><th>Broad Habitat Group</th><th>Habitat</th><th>Units Required</th></tr>
<tr><td rowspan="3">Area-Based</td><td>Medium</td><td>Heathland and shrub</td><td>Mixed scrub</td><td>0.0540</td></tr>
<tr><td>Medium</td><td>Heathland and shrub</td><td>Bramble scrub</td><td>0.1072</td></tr>
<tr><td colspan="3">Total</td><td>0.1612</td></tr>
</table>
</td></tr>
</table>

Pre-Commencement	A Biodiversity Gain Plan (BGP) and Habitat Management and Monitoring Plan (HMMP) must be produced for the site. This should include recommendations for the implementation, management and monitoring of the site for at least 30 years to ensure that biodiversity net gain is delivered. These additional requirements can only be actioned following the finalisation of the BNG assessment – be it on-site or off-site net gains sought.
BNG Mitigation Hierarchy	
Avoidance	The line of trees to the north of the site has been retained entirely.
Minimisation	Retention of treeline.
Mitigation	The area around the entrance road includes new areas of modified grassland and native hedgerow.
Offset	Offsetting will be required to meet trading rules.

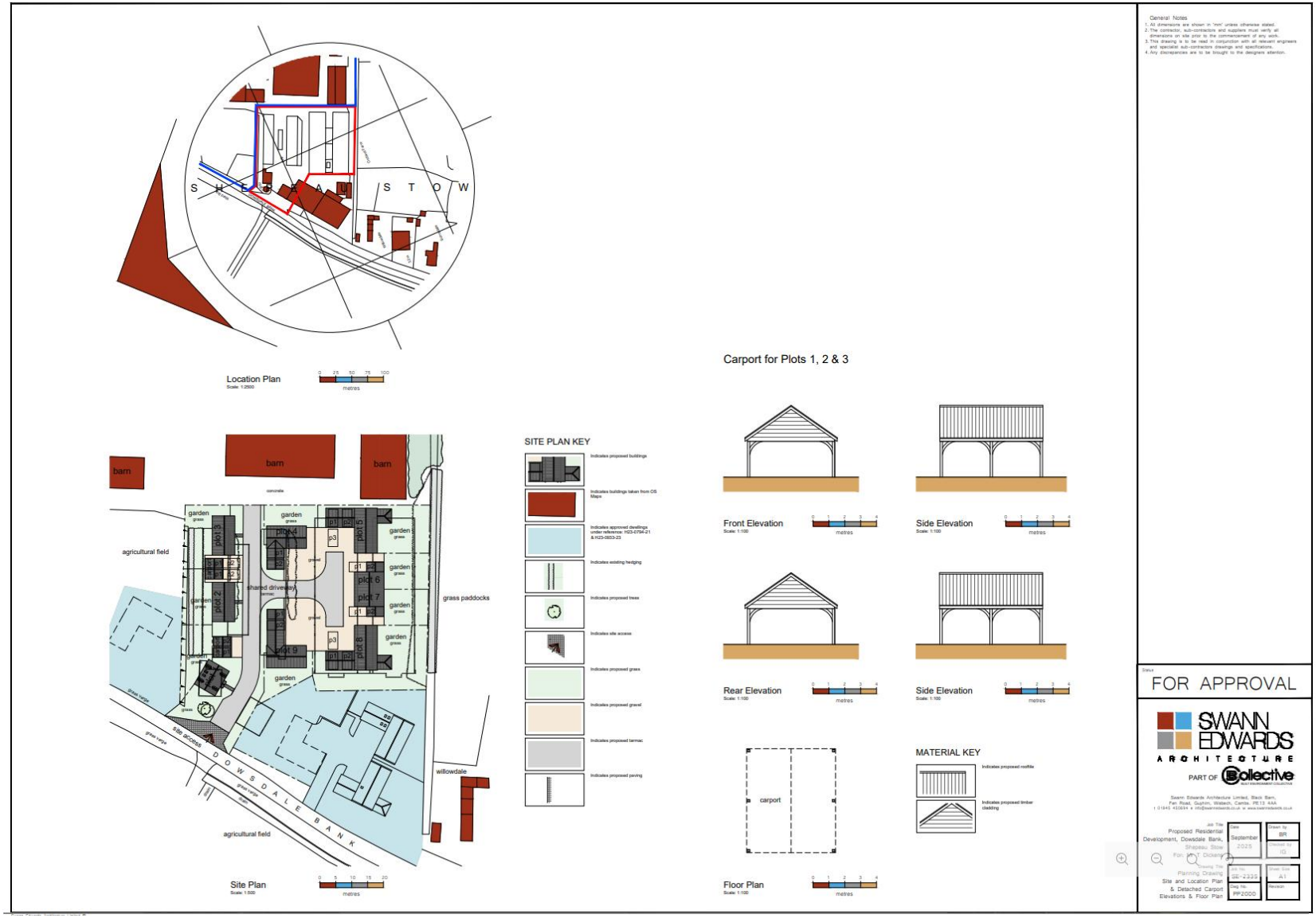
Appendix 1: Baseline Habitat Plan



Appendix 2: Post-Development Habitat Plan



Appendix 3: Proposed Development Plan



Appendix 4: Headline BNG Results

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	0.23
	Hedgerow units	0.26
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	114.31%
	Hedgerow units	144.71%
	Watercourse units	0.00%
Trading rules satisfied?	No - Check Trading Summaries ▲	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	0.20	0.22	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	0.18	0.20	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓

Input errors/rule breaks present in metric ▲

Appendix 5a: Baseline Habitat Condition Assessment Sheets

	Criteria description	Criteria passed?
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs. **Note - this criterion is essential for achieving Moderate or Good condition.** 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, 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.	N
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.	N
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y
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.	N
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	N
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y
G	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).	Y
		Total: 3/7
	Condition **Poor** due to failing essential criteria A.	

Table 5a-1: - Modified grassland condition assessment

	Criteria description	Criteria passed?
A	At least 70% of trees are native species.	Y
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Y
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	N
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice.	N
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Y
		Total:3 /5
	Condition **Moderate**.	

Table 5a-2: - Line of trees condition assessment

Appendix 5b: Post-Development Habitat Condition Assessment Sheets

	Criteria description	Criteria passed?
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs. **Note - this criterion is essential for achieving Moderate or Good condition.** 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, 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.	Y
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.	N
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	N
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.	N
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Y
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y
G	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).	N
		Total: 3/7
	Condition **Moderate**.	

Table 5b-1: - Created modified grassland condition assessment

	Criteria description	Criteria passed?
A	The tree is a native species (or at least 70% within the block are native species).	Y
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).	Y
C	The tree is mature (or more than 50% within the block are mature).	N
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.	Y
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	N
		Total: 3/6
	Condition **Moderate**.	

Table 5b-2: - Created rural trees condition assessment

	Criteria description	Criteria passed?
A1	Height >1.5 m average along length	N
A2	Width >1.5 m average along length	N
B1	Gap between ground and base of canopy <0.5 m for >90% of length	N
B2	Gaps make up <10% of total length; and No canopy gaps >5 m	N
C1	>1 m 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).	N
C2	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	N
D1	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA) and recently introduced species.	N
D2	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	
	Below criteria for hedgerow with trees only	
E1	Total gorse cover is less than 50%, with common gorse *Ulex europaeus* less than 25%.	-
E2	The cover of bracken *Pteridium aquilinum* is less than 5%.	-
		Total: 0/8
	Condition **Poor**.	

Table 5b-3: - Native hedgerow condition assessment

Appendix 6: Screenshot from drone footage



Figure 6: A screenshot from drone footage of site from 2024 prior to habitat removal. This screenshot was used to determine mixed scrub and bramble scrub habitats