BIODIVERSITY NET GAIN ASSESSMENT (BNGA)

PROJECT NAME: Land at East of Peak Hill, Spalding, Lincolnshire, PE6 0JL

PURPOSE: Prepared in order to inform a planning application

DATE: 5th December 2023

1. Introduction

1.1. Background

1.1.1. Allied Ecology has been appointed to undertake a Biodiversity Net Gain Assessment of the proposals at Land East of Peak Hill, Spalding, Lincolnshire, PE6 0JL (grid reference TF 26589 15879).

1.1.2. The site is located in Peak Hill, to the south of Cowbit, and comprises a single agricultural barn, set within an area of hardstanding, surrounded by fowl rearing pens and colonising ruderal vegetation. A strip of modified grassland is located in the southern part of the site. The settlement of Peak Hill is located to the north, with arable and other agricultural land immediately surrounding the survey area at all aspects.

1.2. Ecological Survey Work

1.2.1. This Biodiversity Net Gain Assessment has been informed by ecological survey work undertaken at the site. The site was subject to an 'extended' habitat survey in July 2023, based on standard JNCC Phase 1 Habitat Survey[1], UK Habitat Classification[2], and DEFRA 4.0 Condition Assessment Survey methodologies, in order to inform the coding of the DEFRA 4.0 Biodiversity Metric.

1.3. Basis of Reporting

1.3.1. The following Biodiversity Net Gain Assessment is intended to inform the planning application and demonstrate that the proposals can deliver a biodiversity net gain, and responds to the consultation comments received in relation to the Biodiversity Net Gain Assessment.

1.3.2. Version 4.0 of the DEFRA Biodiversity Metric has been utilised to inform the Biodiversity Net Gain Assessment throughout the masterplanning of the proposals. As such, it remains appropriate to continue to utilise this version of the metric and associated technical supplements / guides.

1 Joint Nature Conservation Committee (2010, as amended) *'Handbook for Phase 1 habitat survey: A technique for environmental audit.'*
2 UKHab Ltd (2023). *UK Habitat Classification Version 2.0 (at https://www.ukhab.org)*

2. Methodology

2.1. Habitat Survey

2.1.1. An 'extended' habitat survey was carried out in July 2023, based on standard JNCC Phase 1 Habitat Survey and UK Habitat Classification methodologies, whereby habitat types present were noted and mapped, together with an assessment of the general 'ecological value' of each habitat. A detailed species list was compiled for each habitat type, and from this the botanical composition of the site was classified into areas of similar community types. Species identification is based on the Botanical Society for the British Isles (BSBI) Checklist. This methodology provides an initial appraisal of the basic habitat types present and is translated into corresponding UK Habitat classifications detailed within the DEFRA 4.0 biodiversity calculator.

2.2. Condition Assessment Survey

2.2.1. In order to inform the coding of the DEFRA 4.0 biodiversity calculator, each of the identified habitats was assessed on site in July 2023, against the condition criteria set out within the DEFRA 4.0 technical supplements. This enables an objective assessment of the baseline conditions for each habitat present, and represents the most robust and replicable method to establish the ecological baseline for Biodiversity Net Gain purposes.

2.3. Survey Constraints

2.3.1. All of the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat survey was undertaken within the optimal season and, as such, can be relied upon to inform the planning application.

2.3.2. No overriding constraints or limitations were encountered during the survey work undertaken, such that the subsequent assessments and safeguarding recommendations are considered to be robust and proportionate.

2.4. Biodiversity Metric Calculation

2.4.1. All identified habitats within the site are measured using QGIS software, in order to accurately establish their extents (see Plan 23152-BNGA1). The identified habitats, and their extents, are coded into the DEFRA 4.0 biodiversity calculator, alongside their condition assessment information and other spatial / locally strategic information. This information generates the baseline number of 'biodiversity units' present within a site. The extents of proposed habitats are measured from the relevant landscape strategy plans / site layout details (see Plan 23152-BNGA2) and input to the DEFRA 4.0 biodiversity calculator, alongside the realistically achievable conditions that are targeted for each habitat type. Additional spatial / locally strategic information is also input, which enables the number of proposed 'biodiversity units' to be established.

2.4.2. In order to understand the 'net' biodiversity gains or losses of a project, the proposed biodiversity units are subtracted from the baseline conditions, from which a percentage change in biodiversity can be calculated.

2.4.3. In calculating the biodiversity net gains that can be delivered under the consented scheme, the mitigation hierarchy has been followed at all times. This approach aims to ensure that, in

the first instance, potential ecological harm is avoided. Where this is not always possible, such harm must be suitably reduced and only then compensated for as a last resort, when other potential design interventions have been exhausted.

3. Results

3.1. Baseline – Site Habitat Baseline

3.1.1. The status of existing habitat areas, and a summary of their current conditions, are detailed at Table 3.1 below.

Table 3.1 Baseline habitat conditions.

Ref	Habitat	Condition	Condition Assessment	Description
1	Urban: Developed land; sealed surface	N/A-Other	The DEFRA 4.0 Metric automatically assigns the condition data.	Comprises the existing building.
2	Urban: Developed land; sealed surface	N/A-Other	The DEFRA 4.0 Metric automatically assigns the condition data.	Comprises the existing hardstanding areas.
3	Sparsely vegetated land: Ruderal/Ephemeral	Poor	**Criteria Passed** C, **Criteria Failed** A, B	Located on areas of hardstanding and adjacent to fowl rearing pens.
4	Grassland: Modified Grassland	Poor	**Criteria Passed** C, D, F, G **Criteria Failed** A, B, E	This habitat is located in the southern part of the site, and represents a sown / mown grassland supporting a low diversity of species, recorded at fewer than 6-8 species per square metre.

3.1.2. Based on the extent of habitats within the site, and their current condition, existing habitats are assessed to provide **0.46** biodiversity units.

3.2. Baseline – Site Hedge Baseline

3.2.1. No hedgerows are present within the site.

3.3. Baseline – Watercourse Baseline

3.3.1. No watercourses are present within the site. As such, and in line with current guidance, watercourses are not considered further within this assessment.

3.4. Proposed – Site Habitat Creation and Enhancement

3.4.1. Details of proposed and enhanced habitat areas, and a summary of their targeted conditions, are detailed at Tables 3.2 and 3.3 below.

3.4.2. As tree are subject to specific Policies (3 and 28) within the South East Lincolnshire Local Plan, the strategic significance for all trees is selected as '*Formally identified in local strategy*'.

Table 3.2 Proposed habitat details.

Ref	Habitat	Condition	Condition Assessment	Description
1	Urban: Developed Land; Sealed Surface	N/A - Other	The DEFRA 4.0 Metric automatically assigns the condition data.	Buildings / structures.
2	Urban: Developed Land; Sealed Surface	N/A - Other	The DEFRA 4.0 Metric automatically assigns the condition data.	Areas of hardstanding, such as the driveway / parking area and solid pathways etc.
3	Urban: Vegetated Garden	Condition Assessment N/A	The DEFRA 4.0 Metric automatically assigns the condition data.	Includes private gardens / lawns.
4	Grassland: Modified grassland	Poor	**Criteria Targeted** A, C, F, G	Amenity Grassland comprising Emorsgate EM1 (or similar) comprising new roadside verges. Condition reduced on a highly precautionary basis due to likely public access.
5	Urban: Sustainable drainage system	Poor	**Criteria Targeted** B, C	Supporting a diverse range of flowering plant species and with no Schedule 9 invasive weeds. Condition reduced on a highly precautionary basis due to likely public access.
6	Individual Trees: Urban Tree	Poor	**Criteria Targeted** A, B, D, F	A total of 8 small sized trees are proposed at the southern site boundary, located outside of private gardens / hedgerows etc. within areas of open space. Condition reduced on a highly precautionary basis due to likely public access.

Table 3.3 Proposed habitat enhancements.

Ref	Current Habitat and Condition	Enhanced Habitat and Condition	Condition Assessment	Description
1	Grassland: Modified Grassland - Poor	Grassland: Modified Grassland - Moderate	**Criteria Targeted** A, C, D, E, F, G	Enhancement of the exiting / retained grassland habitat within the site, through new planting / seeding, and targeted positive ecological management. Condition reduced on a highly precautionary basis due to likely public access.

3.4.3. Based on the extent of proposed and enhanced habitats within the site, and their targeted conditions, proposed habitat areas are assessed to provide **0.82** biodiversity units.

3.5. Proposed – Site Hedge Creation

3.5.1. Details of proposed hedgerows, and a summary of their targeted conditions, are detailed at Table 3.4 below.

Table 3.4 Proposed hedgerow details.

Ref	Habitat	Condition	Condition Assessment	Description
HA	Native Hedgerow	Poor	**Criteria Targeted** A1, A2, B1, B2, C1, C2, D1, D2	New native hedgerow planting across the site.

3.5.2. Based on the extent of proposed hedgerows within the site, and their targeted conditions, retained and proposed hedgerows are assessed to provide **0.29** biodiversity units.

3.6. Trading

3.6.1. All trading rules are satisfied under the proposals.

3.7. Evaluation

3.7.1. A summary of the net biodiversity gains or losses resulting from the proposals is detailed at Table 3.5 below.

Table 3.5 Summary of Biodiversity Net Gains or Losses.

	Biodiversity Unit Change	Percentage Change
Habitats	+0.36	+78.14%
Hedgerows	+0.29	+100%

3.7.2. Greater than 10% biodiversity net gain could be achieved under the current proposals with regards habitats and hedgerows. No watercourses are present within the site.

3.7.3. Additional measures proposed, including faunal enhancements such as bat roost boxes, bird nest boxes, and new refuge features for hedgehogs, will bring forward considerable additional biodiversity net gains that are unable to be reflected within the DEFRA 4.0 biodiversity calculator.

4. Conclusions

4.1 Allied Ecology has undertaken a Biodiversity Net Gain Assessment of the proposals utilising the DEFRA 4.0 biodiversity calculator. This assessment has established that greater than 10% biodiversity net gain could be achieved under the current proposals.

Enclosed

Plan 23152-BNGA1 – Baseline Habitats
Plan 23152-BNGA2 – Proposed Habitats
Appendix 23152-1 – DEFRA 4.0 Biodiversity Headline Results Extract
DEFRA 4.0 Biodiversity Metric Excel File – **Available Upon Request**



Key:

- Site Boundary
- Urban: Developed land; sealed surface (0.1052ha)
- Urban: Developed land; sealed surface (0.2437ha)
- Sparsely vegetated land: Ruderal/ Ephemeral (0.0144ha)
- Grassland: Modified grassland (0.2161ha)

Land East of Peak Hill, Spalding, Lincolnshire, PE6 0JL

Baseline Habitats

23152-BNGA1

December 2023

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Key:

Site Boundary

Retained Habitats:

Urban: Developed land; sealed surface (0.0845ha)

Enhanced Habitats:

Grassland: Modified grassland (0.1371ha)

Newly Created Habitats:

Urban: Developed land; sealed surface (0.0703ha)

Urban: Developed land; sealed surface (0.1406ha)

Urban: Vegetated garden (0.0986ha)

Grassland: Modified grassland (0.0172ha)

Urban: Sustainable drainage system (0.0311ha)

Individual trees: Urban tree (x8 small trees, poor condition) (0.0326ha)

Native hedgerow (0.149km)

Land East of Peak Hill, Spalding, Lincolnshire, PE6 0JL

Proposed Habitats

23152-BNGA2

December 2023

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Headline Results

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On-site baseline	*Habitat units*	0.46		
	Hedgerow units	0.00		
	Watercourse units	0.00		
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.82		
	Hedgerow units	0.29		
	Watercourse units	0.00		
On-site net change (units & percentage)	*Habitat units*	0.36	78.14%	
	Hedgerow units	0.29	0.00%	On-site net gain is less than target set ⚠
	Watercourse units	0.00	0.00%	
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*	0.36		
	Hedgerow units	0.29		
	Watercourse units	0.00		
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*	0.36	
	Hedgerow units	0.29	
	Watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	78.14%	
	Hedgerow units	100.00%	
	Watercourse units	0.00%	
Trading rules satisfied?	Yes ✓		

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	0.46	0.51	0.00	Unit requirement met or surpassed ✓
Hedgerow units	10.00%	0.00	0.00	0.00	Unit requirement met or surpassed ✓
Watercourse units	10.00%	0.00	0.00	0.00	Unit requirement met or surpassed ✓

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